GCHD RESPONDS TO FLINT WATER CONCERNS

[redacted]

Henry, James

From: Cupal, Suzanne
Sent: Thursday, September 4, 2014 2:06 PM
To: Valacak, Mark; Henry, James
Cc: Hasan, Shurooq; Childs, Bonnie
Subject: RE: Legionella Cases

Mark-

I made the request to have Jim added prior to his start date...Dawn Hallwood and Shurooq Hasan have not been added to the CDIRT group yet either. I know IT is backed up. I just reminded Shurooq to add him until we know he is in the group.

Jim, thanks for your input. For the most part, the patients were admitted (for the first admission) for chronic conditions without respiratory symptoms. We agree with you about the cooling tower and we have asked about exposures to the emergency room as we don't have that information in MDSS. One of our patients is the wife of a long hospitalized patient. She could have been exposed during her visits with her husband. We know there was not emergency room exposure in this case. We are all anxious for the test results. Thank you for joining us for our meeting yesterday. We are glad you are aboard!

We will keep everyone updated as new information becomes available.

SC

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Valacak, Mark
Sent: Thursday, September 04, 2014 1:31 PM
To: Henry, James
Cc: Cupal, Suzanne
Subject: RE: Legionella Cases

Jim,

Those are all great observations and things they should look at in their environmental analysis.

Suzanne,

Jim should be added to the CDIRT email group. Thanks

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

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"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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From: Henry, James
Sent: Thursday, September 04, 2014 1:23 PM
To: Valacak, Mark
Subject: RE: Legionella Cases

Mark, Thanks for the update.

I don't know if it is a good idea to eliminate the cooling towers without lab analysis. The emergency room is located on the ground floor and as we know, cooling towers are notorious for Legionella. It would be interesting to see if the patients came through the E.R. prior to being admitted.

Some other common associations within the hospital may include a rehabilitation facility or perhaps respiratory equipment. I'd be interested to know if the patients received breathing treatments from common equipment. I think hospitals typically have a respiratory therapy department that travels with equipment between floors. I'll mention this to Suzanne, just as a couple thoughts to keep on her radar.

Thanks

Jim Henry
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From: Valacak, Mark
Sent: Thursday, September 04, 2014 9:22 AM
To: Henry, James
Subject: FW: Legionella Cases

FYI

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

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From: Hasan, Shurooq
Sent: Thursday, September 04, 2014 9:19 AM
To: GCHD-CDIRT; GCHD-CD
Subject: Legionella Cases

Hello,

I spoke with Danielle from Mclaren for updates on their progress in the investigation. They identified the location of their patients with Legionella and found them to be from the same tower, on 4 different floors. After their meeting with their engineering/environmental health services department they concluded that their cooling towers were not the source as they are located on the ground floor, while their cases were found on floors 8-12. They have hired someone to come inspect their air valves located on the 13th floor of the tower and they will update us with their results. If you have any questions please let me know. Thank you.

Shurooq

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GENESEE COUNTY HEALTH DEPARTMENT
MANAGEMENT TEAM MEETING
September 10, 2014
Minutes

PRESENT: Mark Valacak, Dawn Scharer, Toni LaRocco, Suzanne Cupal, Dr. Johnson, Dawn Hallwood, Almeta Milow, Jim Henry, Bonnie Childs, April Swartout, Tamara Brickey, Mary Sandlin

ABSENT: Joy Haynes-Hawkins,

I. REVIEW OF AGENDA

MINUTES – August 2014 minutes reviewed and approved.

II. OLD BUSINESS

- **Varnish Program** – Dr. Johnson stated that Susan Deming from the State is coming to train Dr. Johnson and the Nurses regarding the Fluoride Varnish Program. The varnish treatment helps prevent cavities in small children and can be given up to four times in a twelve month period. The Health Department can bill for this service.

  Dr. Johnson and the Nurses will be completing the Smiles for Life Module Training. Susan Deming will discuss the Babies Program with the Staff.

  Toni will have a MPH student from the University of Minnesota. She will have her work on a protocol for the Varnish Program.

  A Policy will be put together and training scheduled to start the program here at the Health Department. Suzanne has a supply of toothbrushes to give out from last years Healthy Halloween.

  A list of Dentists for children will be obtained from the Greater Flint Health Coalition. We will also try to obtain a list of Dentists for low income families to be available here at the Health Department.

- **Policy Updates:** Suzanne is working on the New Employee Policy.

- **Budgets**: Mark stated that the County Budget is balanced for next fiscal year. There will be no quarterly cuts. The Health Department contributed 2.2 million dollars to the County General Fund. We are self sufficient. Our Revenue is higher than it has ever been.

- **Staff Positions:** The Board of Commissioners approved the Leave of Absence position for Nutritionist II and Secretary. Nurse Practitioner, Kim VanSlyke accepted the part time position and will start September 22nd. There are two interviews for the IT Coordinator position on Thursday, September 11th. Toni, Tamara and Mark to conduct the interviews.

  MCH Block Grant money: Will put some of this money into Children's Special Health Care and those nurses will do FIMR.

  Nurse Family Partnership will be ending the end of December. The Health Department was not fully staffed for the program. Hurley will take over this program.

  Wise Women will get a Community Health Worker and will be housed at Burton; this worker will also recruit for Wise Women.

Healthy Start received a Grant and will get up to seven Community Health Workers through GCCARD. Two coordinator positions and a Community Health Worker will be housed here. They will coordinate with Healthy Start.

III. NEW BUSINESS

- **Code Red – April**
  - Genesee County 911 will be replacing the reverse 911 system with Code Red.
  - Staff to register their cell phone and land line on this system.
  - Supervisors can use an internal notification. April is working on a Policy/Gate Keeper system to tag staff that needs to be alerted depending on the alert.
  - This is a web-based system which is County Wide.
  - Contact information to be used to contact staff with building emergencies, closing down the department – any emergency.
  - Can use to gather information such as who can get to the Health Department at a specific time, etc.
  - In draft format.
  - Can send e-mail with this program, which cell phone company that staff are using etc.
  - Timeline – request information from staff in late October or early November.
  - Update phone tree for CDC.
  - City of Flint has been using Code Red for the Flint water issues.
  - Mark to check on changing the language in the union contracts regarding the phones that are provided by the County.
  - Try to do an All Staff Meeting in the Fall for the Health Department. Would have to be the end of October, early November.

- **Enterovirus D-68 - Suzanne**
  - Remind staff about Plans regarding Emergencies.
  - D-68 hits five to seventeen year olds.
  - Receiving calls from the media and schools.
  - The Epidemiologist and CD staff is working together on these calls.
  - It is a severe respiratory illness.
  - Using generalized guidelines to respond tooutbreaks – identify, case surveillance, education to providers and public.
  - Michigan will likely have a confirmed case soon.
  - Media release is out on D68 and Ebola Virus.
  - MDCH put out Talking Points which is very informative and useful information on the virus..

- **Training Database – Mark**
  - Required to track trainings of staff members for trainings that cost or are free.
  - The training is tracked by someone in the Department where the staff works. This may or may not be getting done. It is needed for Accreditation.
  - It is in the Access database and is not compatible with our new Windows program.
  - Suggestion was made to put on an Excel Spreadsheet. Another idea was putting the training on MITRAIN.
  - Suggestion was made to go to one central person versus a staff member in each department.

- **Clerical Coordinator Responsibilities – Mark**
  - Mark, Lisa and Mary put list together of Clerical Coordinator Responsibilities for Primary and back-up tasks in the Department.
  - Feedback on anything over-looked that needs to be added to this list, let Mark know by Friday, September 12th.

IV. STAFF REPORTS

Dr. Johnson:

- The Annual Animal Control Agenda will be out September 12th.
- Genesee County was accepted for the Real Time Beach Monitoring Grant for equipment. Real Time Beach Monitoring gives results in four hours. We are going with the Quantitative PCR Testing instead of the digital testing. EH Staff is interested in learning this testing for surface water. There is a quicker turn around for the results.
- COLA inspection is rescheduled for September 29th.
- McLaren Residents will be oriented by Family Planning at Burton and Shurooq.

Bonnie

- Will be at Hearing and Vision training September 11th in Lansing.
- STD doing well
- CD is working on D68 and chickenpox.
- Would like to have Shurooq down in the Communicable Disease area.
- Bonnie out of the office a few days in October.

Mary

- The Recycle Bin that was for Burton never arrived. When they get the Bin, Joy will send out an e-mail to all staff to start using the bins for recycling.
- Mary requested a copy of the licenses (nursing, registered dietician and sanitarian) to put in staff personnel files.

Dawn S.

- Safe Sleep Plan accepted.
- North Pointe Plan – Hamilton planning is stalled
- Hurley Plan -- meeting set with Hurley. They will be giving space at Hurley to us in the new or old hospital.
- Bus sign for 211 -- The HUB will soon be placed inside busses.
- Mom to Mom at Perani Arena is on September 27th. WIC will be advertised in event fliers and will also be at the sale to sign up participants for WIC.

Toni

- New last name is LaRocco!
- A Flu Clinic flier for employees will be going out soon with payroll.
- E Clinical Works roll out is December 1, 2014. There was a "ping" test done and the system if fast enough! There will be someone coming in from E Clinical Works to see how we do business here at the Health Department. Should be in early October. Training will occur after Thanksgiving.

Dawn H.

- The Food Staff are dealing with the "Boil Advisory" in the City of Flint for Restaurants in the Advisory area. There was no map available for the second advisory. Dawn will talk with April about getting in touch with Jennifer Boyer regarding the maps for the Advisory area. Another possibility for getting a map of the area is to work with County GIS department to find an easier way to get this type of map. We need to identify the problem and have them fix it!
- It was suggested that the Health Educators make up a brochure and give phone numbers in the brochure to let citizens know what to do in a water emergency.

Suzanne

- Received a text from Tonya who is currently in Washington, D.C. Tonya had heard that two of the places that applied for the REACH Grant received an e-mail last Thursday (9/4/14) stating that they had gotten the REACH Grant. As of this date, we have not received notification.
- Increase in Legionella cases – tried to link to the water issue in Flint but doubt that it is linked. Shurooq to map. Other possibilities being investigated.
- Chickenpox case that crossed County lines (Lapeer County) is now closed.
- Practice Plunge was great. Thanks to all who participated.
- October 9, 2014 is the SPROUT Policy Advocacy Training at the Farmer's Market from 8 a.m. to 4:30 p.m. Breakfast and lunch are provided and child care will be available.
- Healthy Menu Awards are October 21st; Food Day is October 24th, Trick or Treat is from 10-12 on Saturday, October 25th. A cooking demonstration with Hurley is October 23rd. All of these events are being held at the Farmer's Market.
- Hero Roundtable scholarships are available. Contact Adam directly
- Kathi Hasenhorl has been working on the Library. At a future meeting, Suzanne would like to take a "Field Trip" with Management Team to see the Library, which is located in the office next to the front lobby of the Health Department. Along with pamphlets, fliers and brochures are banners and display materials. Kathy is working on a sign out sheet for these materials.

Jim

- Appreciates staffs patience.
- Getting used to business in Genesee County.

Tamara

- Just returned from a government IT summit. A group of local counties are coming together to support County IT Staff.
- Taura will be out of the office for two weeks starting next Tuesday, September 16th.
- Frank has 70 hours left on the books.
- If there are IT problems, e-mail the IT problems on the IT Technical Support Form. Do not call or e-mail individuals. Tamara and Toni will try to help get support if needed.
- The T-shirts for Bottles for Babies are available for sale. They are $6 for small to extra large and $8 for 2X-3X.

Mark

- Kronos – Mark is going to request that the Health Department be the last Department to be put on Kronos with all of the other programs we are working on. It would be helpful to have a Smart Phone Application for the field staff to use.
- Dr. Jennifer Johnson, who comes from Brown University has been offered and accepted the position to work with the MSU School in Flint.
- There is a new CEO @ the Ruth Mott Foundation. Mark will schedule a meeting with key staff at the Health Department and the new CEO.
- Furlough Days for the Health Department will be the same days as Circuit Court, County Clerk/Register, Prosecutor's Office and 67th District Court.

V. DECISIONS MADE

VII. ADJOURN

Meeting was adjourned at 3:40 p.m.

Next Management Team Meeting: Wednesday, October 8, 2014

Flint

Flint flushes out latest water contamination, but repeat boil advisories show system is vulnerable

By Ron Fonger | rfonger1@mlive.com
on September 14, 2014 at 6:00 AM, updated September 14, 2014 at 10:22 AM

FLINT, MI -- The city finally flushed stubborn bacteria out of water lines on Flint's west side **last week**.

If only getting rid of the potential for more contamination and boil advisories was just as easy.

"Part of the (plan) is to be more proactive" with upgrading "an old (water distribution) system," said Flint emergency manager Darnell Earley. "We have the staff and capabilities to address this so we don't have to get to a point where we have residents boiling water" all the time.

Over the span of 22 days, three separate boil advisories were issued in Flint neighborhoods after repeat positive tests for total coliform bacteria in August and September -- a situation that a state official and a leading environmental expert at Michigan State University say is a sign that Flint's water distribution system has a shaky foundation and is vulnerable to other types of contamination as well.

City officials say that's not going to change overnight, but Earley's budget for the fiscal year that started July 1 includes roughly $11 million for water and sewer infrastructure, "the kind of thing that hasn't been done in decades," city spokesman Jason Lorenz said.

Flint's water distribution system includes hundreds of miles of water mains, many of which are more than 70 years old; nearly 4,000 fire hydrants, many of which are more than 50 years old; and more than 7,200 valves, which haven't been replaced until they have failed, according to the city's new master plan.

Flint Public Works Director Howard Croft said a broken valve may have played a part in the city's two most recent boil advisories, preventing proper flushing of transmission lines after bacteria was discovered.

"We would not want to say, 'Expect a lot of boil advisories,' ... (but) it's important we move forward with capital improvement plans," Croft said after the latest advisories were lifted.

Flint issued water boil advisories Aug. 16, Sept. 5, and Sept. 6 in three separate areas of the city, each on the west side of Flint, telling residents and businesses to boil or use bottled water until samples tested clear of total coliform bacteria.

Earley said the positive tests for total coliform were an indicator of weaknesses in the water system system but not "an actual threat to citizen safety."

Both an engineer for the state Department of Environmental Quality and Joan B. Rose, Homer Nowlin chair in water research at Michigan State University, agreed that positive total coliform tests are less of a public health threat than a warning to communities that they need to make fixes to distribution systems.

"These bacteria are an indicator that we don't have a tight system ... We have some kind of breach ," Rose said. "It should be a wake-up call to any community."

Although one Flint water sample tested positive for fecal coliform bacteria last month, Flint officials have said they believe a sampling error is to blame for that result.

Fecal contamination can lead to health problems and may arise from sources such as combined sewer overflows, leaking septic

tanks and sewer malfunctions.

In a typical year, there are fewer than three such reports of positive tests for fecal coliform bacteria in public drinking water systems, according to Mike Prysby, district engineer for the state Department of Environmental Quality.

The U.S. Environmental Protection Agency says total coliforms are a group of closely related bacteria that are usually not harmful to humans, but can cause diarrhea, cramps, nausea and vomiting.

Although not usually serious threat to a healthy person, coliform bacteria can lead to more serious problems for people with weakened immune systems, such as the very young or elderly and have been used for decades to measure the vulnerability of a water system to fecal contamination.

The positive tests can also cause residents to lose faith in the water distribution system -- something city officials want to avoid just a few months after starting to use the Flint River as the city's drinking water source.

Diane Fletcher, who lives on West McClellan Street, said she noticed a change in her water after the Flint River switch in April and worried about the latest water advisories -- even though she lives outside the advisory areas.

"I'm not very confident about it at all," Fletcher said of the city's water. "We haven't used the water to cook with, and I don't want to bathe in it, but I can't get around it."

Flint officials have said that testing shows water leaving its treatment plant meets all drinking water standards, another indication that contamination comes from the distribution system rather than the river.

"I wouldn't panic," Rose said of boil water notices. "I think it's a good idea to follow (advisories and to realize) the system is in some need of maintenance and repairs."

Related Stories

EPA tests show no bacteria in Flint water but spots need chlorine boost

DHHS provides list of steps being taken in Flint water crisis

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Ad Choices

What to Do During a Boil Water Advisory

Boil Water

- Fill a pot with water.
- Heat the water until bubbles come from the bottom of the pot to the top.
- Once the water reaches a rolling boil, let it boil for 1 minute.
- Turn off the heat source and let the water cool.
- Pour the water into a clean container with a cover for storage.

Disinfect Water

(The Center for Disease Control recommends disinfecting water only if boiling is not an option)

If tap water is clear:

- Use unscented bleach (bleach that does not have an added scent).
- Add 1/8 teaspoon (8 drops or about 0.75 milliliters) of unscented household liquid bleach to 1 gallon (16 cups) of water.
- Mix well and wait 30 minutes or more before drinking.
- Store disinfected water in clean container with a cover.

If tap water is cloudy:

- Filter water using clean cloth.
- Use unscented bleach (bleach that does not have an added scent).
- Add 1/4 teaspoon (16 drops or 1.5 milliliters) of unscented household liquid bleach to 1 gallon (16 cups) of water.
- Mix well and wait 30 minutes or more before drinking.
- Store disinfected water in clean container with a cover.

Water containers **(Containers may need to be sanitized before using them to store safe water)**

- Use unscented bleach (bleach that does not have an added scent).
- Make a sanitizing solution by mixing 1 teaspoon (5 milliliters) of unscented household liquid bleach in 1 quart (32 ounces, 4 cups, or about 1 liter) of water.
- Pour this sanitizing solution into a clean storage container and shake well, making sure that the solution coats the entire inside of the container.

What to Do During a Boil Water Advisory, cont.

- Let the clean storage container sit at least 30 seconds, and then pour the solution out of the container.
- Let empty container air dry OR rinse it with clean water that has already been made safe, if available.

Never mix bleach with ammonia or other cleaners. Open windows and doors to get fresh air when you use bleach.

Water filters

Boil tap water even if it is filtered. Most kitchen and other household water filters typically ***do not*** remove bacteria or viruses.

Preparing and cooking food

- Wash all fruits and vegetables with boiled water that has cooled or bottled water.
- Bring water to a rolling boil for 1 minute before adding food to cook.
- Use boiled water when preparing drinks, such as coffee, tea, and lemonade
- Wash food preparation surfaces with boiled water.

Feeding babies and using formula

- Breastfeeding is best. Continue to breastfeed. If breastfeeding is not an option:
- Use ready-to-use baby formula, if possible.
- Prepare powdered or concentrated baby formula with bottled water. Use boiled water if you do not have bottled water. Disinfect water for baby formula if you cannot boil your water (see above for directions on how to use bleach to disinfect water).
- Wash and sterilize bottles and nipples before use.
- If you cannot sterilize bottles, try to use single-serve, ready-to-feed bottles.

Ice

- Do not use ice from ice trays, ice dispensers, or ice makers.
- Throw out all ice made with tap water.
- Make new ice with boiled or bottled water.

Bathing and showering

Be careful not to swallow any water when bathing or showering.

Use caution when bathing babies and young children. Consider giving them a sponge bath to reduce the chance of them swallowing water.

What to Do During a Boil Water Advisory, cont.

Brushing teeth

Brush teeth with boiled or bottled water. Do not use untreated tap water.

Washing dishes

Household dishwashers generally are safe to use if the water reaches a final rinse temperature of at least 150 degrees or if the dishwasher has a sanitizing cycle.

To wash dishes by hand:

- Wash and rinse the dishes as you normally would using hot water.
- In a separate basin, add 1 teaspoon of unscented household liquid bleach for each gallon of warm water.
- Soak the rinsed dishes in the water for at least one minute.
- Let the dishes air dry completely.

Laundry

It is safe to do laundry as usual.

Pets

Pets can get some of the same diseases as people. It is a good idea to give them boiled water that has been cooled.

For more information, see or contact:

- Personal Preparation and Storage of Safe Water: CDC provides guidance on the amount of water needed for good health, as well how to prepare and store safe water before and during an emergency.
- Hygiene and Handwashing: CDC provides guidance on alternative hygienic practices when water is not available or is contaminated.
- A Guide to Water Filters: CDC maintains a guide for filters that remove *Cryptosporidium* or *Giardia*.
- EPA Safe Drinking Water Hotline: 1-800-426-4791
- Consumer Information: EPA provides information and guidance about drinking water quality, emergencies, contaminants, public health issues, and treatment and storage.

Henry, James

From: Hasan, Shurooq
Sent: Monday, September 15, 2014 11:37 AM
To: Henry, James
Subject: RE: Boil Water Advisory

Thank you! The information is very helpful.

From: Henry, James
Sent: Monday, September 15, 2014 11:36 AM
To: Hasan, Shurooq
Subject: RE: Boil Water Advisory

If the last email didn't work, hopefully this attachment will open.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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From: Hasan, Shurooq
Sent: Monday, September 15, 2014 10:52 AM
To: Henry, James
Subject: Boil Water Advisory

Hi Jim,

I am working on mapping the Legionella cases and I was wondering if you know of a map or where I could find a map highlighting the areas affected by the boil water advisory in Flint. Any information would be helpful. Thanks!

Shurooq

Shurooq Hasan, M.P.H
Epidemiologist

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Flint, MI 48502
(810) 257-3815
shasan@gchd.us

Henry, James

From: Cupal, Suzanne
Sent: Wednesday, September 17, 2014 12:15 PM
To: Henry, James
Subject: RE: municipal water/ Legionella

Thank you for the information. I will share with Bonnie and Shurooq.

Sent from my Windows Phone

From: Henry, James
Sent: 9/17/2014 11:44 AM
To: Cupal, Suzanne
Subject: municipal water/ Legionella

Suzanne,

I spoke with the Brent Wright, Superintendent at the Municipal Water Plant. He told me that they continuously test for Total Coliform. If positive then Fecal Coliform, If that is positive then E-Coli. No analysis is conducted for other types of bacteria.

Jim Henry

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Henry, James

From: Henry, James
Sent: Friday, October 17, 2014 2:57 PM
To: Valacak, Mark
Cc: Hasan, Shurooq; Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn; Swartout, April
Subject: DPW Conf Call

Hi Mark,

Below are notes from our conference call with the Flint Water DPW this morning.

October 17, 2014

GCHD Attendees
Suzanne Cupal
Bonnie Childs
April Swarthout
Dawn Hallwood
Jim Henry

DPW Attendees
Brent Wright, Superintendant
Mike Glasgow, Lab Supervisor

- W explained our concerns regarding the increase in Legionella cases and possible association with the municipal water system.
- DPW explained that water leaving the plant is safe and compliant with all the MDEQ drinking water standards. DPW has not sampled for Legionella specifically, but acknowledges that the distribution system has areas of concern. Also, DPW informed us that there are 10 routine sampling points throughout the distribution system, but they collect from many additional points. DPW is required to collect 100 coliform samples monthly and have been collecting 150-200 samples monthly, since the boil water advisories.
- DPW agreed to share the routine collection points, all data and areas concern regarding the distribution system, i.e. dead ends in the system. CD wants to compare this information with the residential locations of the Legionella cases.
- DPW explained that Mclaren has (three to five) points of entry for municipal water, but the hospital has only sampled one for Legionella. Also, Mclaren has collected samples for Legionella at various locations throughout the hospital and some sample results had counts of 23/24. DPW mentioned that they are concerned with counts over 10. McLaren has not shared this information with us.
- We are in the process of working with Mclaren and DPW to identify the elevated Legionella collection points within the hospital, so they can be compared with the room locations of the hospitalized cases. We requested that I be invited to attend the next meeting between the DPW and the McLaren Environmental Services.
- DPW was informed that GCHD will be consulting with MDEQ regarding the increase in Legionella cases corresponding with the use of the Flint River water. The DPW indicated that they would provide the contact information of their MDEQ representative.

Please let me know if you have any recommendations, questions or concerns.

Thank You

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Henry, James

From: Henry, James
Sent: Friday, October 17, 2014 4:38 PM
To: Hasan, Shurooq; Thornton, Venita; Miller, Colleen; Connolly, Stephanie
Cc: Cupal, Suzanne; Childs, Bonnie; Hallwood, Dawn
Subject: RE: Legionella Questions

Shurooq,

I like the questionnaire. I think it will give us a lot of information, especially when consolidated with our questions regarding source of residential water.

Thank you

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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From: Hasan, Shurooq
Sent: Friday, October 17, 2014 1:59 PM
To: Thornton, Venita; Miller, Colleen; Connolly, Stephanie
Cc: Cupal, Suzanne; Childs, Bonnie; Henry, James; Hallwood, Dawn
Subject: Fwd: Legionella Questions

Hi,

Attached you will find a supplement questionnaire sent by Shannon Johnson the infectious disease epidemiologist and our Legionella contact at MDCH. We are working with Shannon to combine our questions with this supplement questionnaire. If you have any suggestions or concerns please share them with us.

Thank You,

Shurooq

Begin forwarded message:

From: "Johnson, Shannon (DCH)" <JohnsonS61@michigan.gov>
Date: October 17, 2014 at 1:52:10 PM EDT
To: "Hasan, Shurooq" <shasan@gchd.us>, "Bolen, Timothy (DCH)" <BolenT1@michigan.gov>
Cc: "Cupal, Suzanne" <scupal@gchd.us>
Subject: RE: Legionella Questions

Hi Shurooq,

Great, thanks for sending that along. Attached is the extended questionnaire that we put together a number of years ago to use in conjunction with the MDSS form in order to collect additional exposure information when we're seeing a high number of cases. Perhaps once you look it over we can figure out a Genesee-specific version by combining some of the questions and adding any others that might be needed.

Thanks,
Shannon

Shannon Andrews Johnson, MPH
Infectious Disease Epidemiologist
Michigan Dept. of Community Health
201 Townsend St., CVB 5th Floor
Lansing, MI 48913
Phone: 517-335-8165
Fax: 517-335-8263

Henry, James

From: Henry, James
Sent: Friday, October 10, 2014 4:57 PM
To: Valacak, Mark
Subject: Legionella Case

Mark, Just fyi,

I spoke with Suzanne in CD. They are aware of the case regarding the individual on the ventilator at Beaumont. He was initially at Genesis, not Maclaren. I updated Suzanne with my information, i.e. the mobile home park management swab testing the ac unit and ventilation system. The resident is still waiting for the results.

Have a good weekend.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Henry, James

From: Henry, James
Sent: Thursday, October 16, 2014 12:49 PM
To: Cupal, Suzanne; Connolly, Stephanie; Hasan, Shurooq
Cc: Miller, Colleen; Thornton, Venita
Subject: RE: Legionella

Absolutely, Let me know when you want to meet.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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From: Cupal, Suzanne
Sent: Thursday, October 16, 2014 12:35 PM
To: Connolly, Stephanie; Hasan, Shurooq; Henry, James
Cc: Miller, Colleen; Thornton, Venita
Subject: RE: Legionella

Jim, see below. Could we discuss further?

Sent from my Windows Phone

From: Connolly, Stephanie
Sent: 10/16/2014 12:32 PM
To: Hasan, Shurooq; Cupal, Suzanne
Cc: Miller, Colleen; Thornton, Venita
Subject: Legionella

Hi everyone,

We received a Legionella referral from McLaren (ID # 6281222663, initals C.E., DOB 09/15/1938). There was no connection with any previous admits to McLaren. Client has a hx of heart and chronic kidney disease. The client does

live in Flint on Raskob Street in zip code 48504. No travel hx, no recent dental work, no visits to the hospital per client's nurse.

Will we be getting the additional list of questions that we should ask client's about their environment soon?

City of Flint Water Plant
Routine Distribution System Sampling Site Locations

Site ID #	Routine Site Name & Address	Up-Stream Site Name & Address	Down-Stream Site Name & Address
#1	Arby's Restaurant 3742 Davison Rd. Flint MI 48506	McDonalds Restaurant 3719 Davison Rd. Flint, MI 48506	Admiral Gas Station 3802 Davison Rd. Flint, MI 48506
#2	BP Gas Station 822 S. Dort Hwy. Flint, MI 48503	Advasure Insurance 810 S. Dort Hwy. Flint, MI 48507	Rite-Aid Pharmacy 2838 E. Court St. Flint, MI 48506
#3	Liquor Palace 3302 S. Dort Hwy. Flint, MI 48507	Mattress Savers 3124 S. Dort Hwy. Flint, MI 48507	Premier Insurance 3316 S. Dort Hwy. Flint, MI 48507
C.S.	Cedar St. Reservoir 1100 Cedar St. Flint, MI 48503	The Print Shop 1035 Ann Arbor St. Flint, MI 48503	City of Flint Service Garage 702 W. 12th St. Flint, MI 48503
#4	Taco Bell 3606 Corunna Rd. Flint, MI 48532	Rite Aid Pharmacy 3521 Corunna Rd. Flint, MI 48532	McFalls Collision 3614 Corunna Rd. Flint, MI. 48532
#5	University Market 2501 Flushing Rd. Flint, MI. 48504	Consumer Services 2702 Flushing Rd. Flint, MI. 48504	Rube's Bar 1117 N. Chevrolet Ave. Flint, MI. 48504
W.S.	West Side Reservoir 1416 Dupont St. Flint, MI 48503	Water Main Sampler 1430 Dupont St. Flint, MI 48504	Midway Market 1360 Dupont St. Flint, MI 48504
#6	Salem Housing 3216 M. L. King Blvd. Flint, MI 48505	BP Gas Station 3317 M.L. King Blvd. Flint, MI. 48505	Hinky Dinky Market 3110 M.L. King Blvd. Flint, MI. 48505
#7	Rite-Aid Pharmacy 5018 Clio Rd. Flint, MI 48504	Urban League of Flint 5005 Cloverlawn Dr. Flint, MI. 48504	Clio Coin Laundry 4930 Clio Rd. Flint, MI. 48504
#8	North Flint Automotive 6204 N. Saginaw St. Flint, MI 48505	Al & Jerry's Mini-mart 6101 N. Saginaw St. Flint, MI 48505	Hutchinson's Food & Drug 6509 N. Saginaw St. Flint, MI 48505

Normal Sampling Frequency – 100 total samples monthly (minimum)

Routine samples are usually collected on Tuesday, Wednesday and Thursday by a lab analyst, and are analyzed for chlorine residual & coliform bacteria.

Other testing:

Fluoride & Heterotrophic Bacteria testing conducted once weekly from each routine site.

Alkalinity, total hardness, calcium, pH, conductivity, & temperature are tested quarterly from each routine site.

Date	OCTOBER 2014 - Free Chlorine Residual at Bacteriological Montioring Stations (mg/l) & Heterotrophic Plate Counts (cfu/100mL)									
	1	2	3	4	5	6	7	8	CS	WR
	3742 Davison Rd.	822 S. Dort Hwy.	3302 S. Dort Hwy.	3606 Corunna Rd.	2501 Flushing Rd.	3216 MLK Blvd.	5018 Clio Rd.	6204 N. Saginaw St.	1100 Cedar St.	1416 Dupont St.
1	0.3	1.4	0.1	0.6	0.2	0.1	0.5	1.8	1.0	1.3
2	0.4	1.1	0.1	0.5	0.3	0.1	0.6	1.9	1.2	1.3
3										
4										
5										
6	0.3	1.8	0.1	0.6	0.4	0.1	0.1	1.9	1.1	2.0
7	0.3	0.1	0.1	0.3	0.1	0.1	0.2	1.8	0.5	0.2
8	0.4	0.0	0.1	0.3	0.1	0.1	0.3	1.9	1.5	0.5
9	0.3	0.0	0.1	0.5	0.1	0.2	0.1	2.2	0.5	1.5
9 (HPC)	4	38	161	4	59	> 738	8	< 2	< 2	< 2
10	0.4	0.0	0.1	0.5	0.2	0.1	0.6	2.3	1.5	1.5
11										
12										
13										
14	0.6	0.0	0.1	0.7	0.1	0.1	0.5	2.2	0.7	1.2
14 (HPC)	4	> 738	65	15	71	> 738	< 2	< 2	< 2	< 2
15	0.3	0.0	0.1	0.5	0.1	0.1	0.3	2.2	0.6	1.0
16	0.5	0.0	0.1	0.5	0.3	0.1	0.2	2.6	1.7	0.6
17				0.4						
18										
19										
20										
21	0.4	0.2	0.2	0.4	0.3	0.1	0.2	1.5	1.0	1.5
22	0.6	0.8	0.4	0.6	0.1	0.1	0.6	2.2	1.9	1.4
23	0.4	1.7	0.4	1.0	0.7	0.1	0.5	1.7	1.7	1.7
23 (HPC)	< 2	< 2	2	< 2	6	> 738	< 2	< 2	< 2	< 2
24										
25										
26										
27									1.3	1.0
28	0.4	1.7	0.9	0.8	0.7	0.1	0.6	2.0	1.5	1.4
29										
30										
31										

Henry, James

From: Cupal, Suzanne
Sent: Monday, October 20, 2014 10:04 AM
To: Childs, Bonnie; Connolly, Stephanie; Hasan, Shurooq; Thornton, Venita; Miller, Colleen
Cc: Henry, James; Hallwood, Dawn
Subject: RE: Legionella Questions

The most important question that we need to ask is whether they have well or city water if we are to illuminate the water system...then use the MDCH questionnaire.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Childs, Bonnie
Sent: Monday, October 20, 2014 9:25 AM
To: Connolly, Stephanie; Hasan, Shurooq; Thornton, Venita; Miller, Colleen
Cc: Cupal, Suzanne; Henry, James; Hallwood, Dawn
Subject: RE: Legionella Questions

Since this is from MDCH, I think we need to use the questionnaire. They are trying to determine the source. If case is unable to talk to us, we need to go to the hospital to read the chart, and/or contact a family member listed in the chart.

Bonnie M. Childs, B.S.N.,R.N.
Public Health Nursing Supervisor
Genesee County Health Department
630 S. Saginaw St, Suite 4
Flint, MI 48502
(810) 257-3156- Office
(810) 257-3530- Fax

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From: Connolly, Stephanie
Sent: Monday, October 20, 2014 8:26 AM

To: Hasan, Shurooq; Thornton, Venita; Miller, Colleen
Cc: Cupal, Suzanne; Childs, Bonnie; Henry, James; Hallwood, Dawn
Subject: RE: Legionella Questions

Hi everyone,

My concern is that the questionnaire is "lengthy." Could it be streamlined? Usually, we will call the floor where the client is hospitalized to talk with the client's nurse. We are often told that the client is not well enough to answer questions, and the nurse will ask the client the questions, and get back to us. (Also some clients are on ventilators; we may be able to talk with family members, but they may not be able to provide all of this info!!)

From: Hasan, Shurooq
Sent: Friday, October 17, 2014 1:59 PM
To: Thornton, Venita; Miller, Colleen; Connolly, Stephanie
Cc: Cupal, Suzanne; Childs, Bonnie; Henry, James; Hallwood, Dawn
Subject: Fwd: Legionella Questions

Hi,

Attached you will find a supplement questionnaire sent by Shannon Johnson the infectious disease epidemiologist and our Legionella contact at MDCH. We are working with Shannon to combine our questions with this supplement questionnaire. If you have any suggestions or concerns please share them with us.

Thank You,
Shurooq

Begin forwarded message:

> **From:** "Johnson, Shannon (DCH)" <JohnsonS61@michigan.gov>
> **Date:** October 17, 2014 at 1:52:10 PM EDT
> **To:** "Hasan, Shurooq" <shasan@gchd.us>, "Bolen, Timothy (DCH)" <BolenT1@michigan.gov>
> **Cc:** "Cupal, Suzanne" <scupal@gchd.us>
> **Subject: RE: Legionella Questions**
>
> Hi Shurooq,
>
> Great, thanks for sending that along. Attached is the extended questionnaire that we put together a number of years ago to use in conjunction with the MDSS form in order to collect additional exposure information when we're seeing a high number of cases. Perhaps once you look it over we can figure out a Genesee-specific version by combining some of the questions and adding any others that might be needed.
>
> Thanks,
> Shannon
>
> Shannon Andrews Johnson, MPH
> Infectious Disease Epidemiologist
> Michigan Dept. of Community Health
> 201 Townsend St., CVB 5th Floor

Lansing, MI 48913
Phone: 517-335-8165
Fax: 517-335-8263

Henry, James

From: Henry, James
Sent: Thursday, October 23, 2014 5:44 PM
To: Cupal, Suzanne; Valacak, Mark; Hasan, Shurooq
Cc: Johnson, M.D., Gary; Childs, Bonnie
Subject: RE: Legionnaire's Disease Cluster in Flint area
Attachments: Routine Distribution System Sampling Site Locations.docx

Mark,
Would you like me to contact Susan Bohm to let her know that I'll be our contact for DEQ?

Everyone,
I have a tentative meeting with McLaren next week. The attachment is what I have received so far from Flint DPW. Not much to work with yet, but I'll have sample results and potential areas of concern soon.

After our conversation with Flint DPW, I don't know if we can assume that the locations listed on the attachment are free of Legionella. They explained that Walgreens across from McLaren had significant counts (65) colony forming heterotrophic bacteria.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Cupal, Suzanne
Sent: Tuesday, October 21, 2014 12:05 PM
To: Valacak, Mark; Henry, James; Hasan, Shurooq
Cc: Johnson, M.D., Gary; Childs, Bonnie
Subject: RE: Legionnaire's Disease Cluster in Flint area

I agree with that. We communicate regularly.

Sent from my Windows Phone

From: Valacak, Mark
Sent: 10/21/2014 12:02 PM

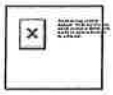
To: Cupal, Suzanne; Henry, James; Hasan, Shurooq
Cc: Johnson, M.D., Gary; Childs, Bonnie
Subject: FW: Legionnaire's Disease Cluster in Flint area

So I am thinking Jim should be our contact with the DEQ but I want to make certain you are all in agreement and contributing to that conversation.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us



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From: Bohm, Susan (DCH) [mailto:bohms@michigan.gov]
Sent: Tuesday, October 21, 2014 9:47 AM
To: Valacak, Mark; Johnson, M.D., Gary
Cc: Fiedler, Jay (DCH); Johnson, Shannon (DCH); Bolen, Timothy (DCH)
Subject: Legionnaire's Disease Cluster in Flint area

Good morning,

We have been contacted a couple of times now by the DEQ Chief of the Office of Drinking Water and Municipal Assistance, Liane Shekter Smith, about the Legionnaire's Disease cluster in the Flint area. We let her know that the cluster has been under investigation by the Genesee County Health Department for several weeks. She was concerned that an announcement was going to be made soon about the water as the source of infection; I told her the Flint water was at this point just a hypothesis. I would like to give Liane contact information of someone at the Genesee County Health Department to speak with directly about the investigation. Please let me know who that might be.

As always, should GCHD need any assistance with the investigation, we would be more than willing to assist. Thanks.

Susan Bohm, MS
Manager, Enteric & Respiratory Illnesses Epidemiology Unit
Surveillance and Infectious Disease Epidemiology
Division of Communicable Disease
Michigan Department of Community Health
201 Townsend St, 5th Flr
Lansing, MI 48933
☎ 517-335-8165 or 517-373-5508 (Cell: 517-930-3100) 517-335-8263
bohms@michigan.gov www.michigan.gov/mdch

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Henry, James

From: Bohm, Susan (DCH) <bohms@michigan.gov>
Sent: Friday, October 31, 2014 8:15 AM
To: Henry, James
Cc: Johnson, Shannon (DCH); Fiedler, Jay (DCH)
Subject: Re: Legionnaire's Disease Cluster in Flint area

Thanks for the update, Jim. I have cc'd our epidemiologist for Legionnaires' disease Shannon Johnson, and our Section Manager, Jay Fiedler.

Susan

Sent from my iPhone

On Oct 27, 2014, at 4:13 PM, Henry, James <jhenry@gchd.us> wrote:

> Good afternoon Susan
>
> Mark Valacak recommended that I be the contact person for the County. Please feel free to forward Liane my information.
>
> The Flint DPW has assured us that water leaving the plant is safe and meets all the Safe Drinking Water Act standards. The DPW primarily has challenges with the aging distribution system. The use of the Flint River and recent boil water advisories has received a lot of attention from the local media and community.
>
> I am meeting with the Flint DPW and McLaren Hosp Admin this Thursday, Oct 30. Many of our confirmed legionella cases had been admitted to McLaren Hosp prior to being diagnosed. We have nothing conclusive at this point and are still gathering information.
>
> Please let me know if you have any questions, concerns, recommendations, etc...
>
> Thanks
>
> Jim Henry
>
> Jim Henry RS, MBA
> Environmental Health Supervisor
> Genesee County Health Department www.gchd.us
> 630 S. Saginaw St., Suite 4
> Flint, MI 48502-1540
> Phone (810) 257-3618 Fax (810) 257-3125
>
> E-mail jhenry@gchd.us

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Henry, James

From: Henry, James
Sent: Wednesday, November 12, 2014 4:47 PM
To: Hasan, Shurooq; Cupal, Suzanne; Hallwood, Dawn; Childs, Bonnie
Cc: Valacak, Mark
Subject: Legionella

I have one more Legionella item.

A couple weeks ago, Mark mentioned potential concerns regarding backflow protection from unoccupied buildings, especially in the area around McLaren Hosp. The Flint DPW has informed me that they continually monitor and require backflow prevention as mandated by State Law. Backflow prevention is required primarily for commercial businesses, not residential.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
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From: Hasan, Shurooq
Sent: Wednesday, November 12, 2014 2:50 PM
To: Cupal, Suzanne; Henry, James; Hallwood, Dawn; Childs, Bonnie
Subject: Legionella

Hi,

We would like to meet Tuesday at 1:00 to discuss the legionella investigation. Please let me know if you are available. Thanks.

Shurooq

Shurooq Hasan, M.P.H
Epidemiologist
Genesee County Health Department
630 S. Saginaw Street

Flint, MI 48502
(810) 257-3815
shasan@gchd.us

Henry, James

From: Henry, James
Sent: Tuesday, November 25, 2014 5:14 PM
To: 'Russell Hudson'; Danielle Donovan
Subject: RE: Fwd: Water Chlorination and Sampling Request

Thank you. The information is greatly appreciated.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
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From: Russell Hudson [mailto:Russell.Hudson@mclaren.org]
Sent: Tuesday, November 25, 2014 4:41 PM
To: Danielle Donovan
Cc: Henry, James
Subject: Re: Fwd: Water Chlorination and Sampling Request

Jim and Danielle,

Attached is the most current Water Testing spreadsheet with the data through today. We are still waiting for the results from the 21-Nov-14 testing. We are expecting those to arrive on Tuesday 2-Dec-14.

Any questions, please feel free to contact me.

Thanks,

RUSTY

Rusty Hudson Assoc. AIA
Director of Engineering Services
McLaren Flint
(810) 342-2552 phone
(810) 342-4941 fax
russell.hudson@mclaren.org

Hi Rusty,

I just received this from Jim Henry at the Health Department. He mentioned yesterday in our conversation contacting you directly, but maybe he didn't have your contact info. Did you want to forward on your spreadsheet? Or send it to me to pass on?

Thanks!
Danielle

Danielle Donovan MS
Infection Preventionist
McLaren Flint
401 S. Ballenger Hwy.
Flint, MI 48532
Office: (810) 342-2461
Fax: (810) 342-3148
email: Danielle.Donovan@mclaren.org
>>> "Henry, James" <jhenry@gchd.us> 11/25/2014 4:16 PM >>>

Hello Danielle,

I'm not sure how I became so involved with the legionella investigation. I guess it comes with the territory of being the new guy at GCHD. Thanks for taking the time to talk with us yesterday.

Would you please provide me with chlorination and sampling activities that McLaren has conducted since our October meeting.

Thanks Jim

Jim Henry

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

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McLaren FLINT

WATER TESTING

Floor	Bldg	Room	Location	5-Sep	26-Sep	26-Sep		4-Oct	7-Oct	10-Oct		24-Oct		24-Oct	1-Nov	7-Nov	21-Nov
			results received	15-Sep		7-Oct				21-Oct		4-Nov				18-Nov	
						HOT	COLD			HOT	COLD	HOT	COLD			HOT	HOT
G	C	KITCHEN								✓	✓						
			hand sink @ pt. tray prep							<1	<1						
3	C	IV THERAPY								✓	✓						
			nourishment, east of nurse station							<1	<1						
5	C	521				✓				✓	✓						
			bath			32				<1	<1						
5	C	522			CLOSED	✓				✓	✓	✓	✓	OPEN			
			bath			[illegible]				[illegible]	[illegible]	[illegible]	[illegible]				
5	B	535								✓	✓						
			bath							<1	<1						
5	B	538										✓	✓				
			bath									<1	<1				
4	A	455								✓	✓						
			bath							<1	<1						
4	A	458										✓	✓				
			bath									<1	>1				
4	A	462										✓	✓				
			bath									<1	<1				
4	A	466								✓	✓						
			bath							<1	<1						
6	A	654								✓	✓						
			bath							<1	<1						
6	A	663								✓	✓						
			bath							<1	<1						
G	F	MR 31								✓	✓						
			X-Ray corridor, toilet rm.							<1	<1						
2	F	EMERG. DEPT.														✓	
			X-Ray corridor, toilet rm.													<1	
3	F	RECOVERY								✓	✓					✓	✓
			sink @ ice maker							<1	<1					2	
4	F	MR 24								✓	✓					✓	
			slop sink							<1	<1					1	
5	F	STAFF LOUNGE								✓	✓	✓	✓			✓	✓✓
			counter sink							5	1	24	<1			9	
			supply line, without faucet														
7	F	701								✓							
			bath							<1							
7	F	702				✓			CLOSED	✓	✓	✓✓	✓✓	OPEN		✓	
			bath			115				[illegible]	[illegible]	[illegible]	[illegible]			<1	
			supply line, without faucet									[illegible]	[illegible]				
7	F	703			CLOSED	✓				✓	✓			OPEN		✓	
			bath			[illegible]				[illegible]	[illegible]					<1	
8	F	802														✓	
			bath													<1	
8	F	816								✓							
			bath							<1							
10	F	1001								✓	✓	✓✓	✓✓			✓	✓
			bath							13	<1	21	<1			1	
			supply line, without faucet									13	<1				
10	F	1002								✓							

HYPERCHLORINATION

HYPERCHLORINATION

McLaren FLINT

WATER TESTING

			testing date	5-Sep	26-Sep	26-Sep			4-Oct	7-Oct	10-Oct		24-Oct		24-Oct	1-Nov	7-Nov	21-Nov
			results received	15-Sep		7-Oct					21-Oct		4-Nov				18-Nov	
Floor	Bldg	Room	Location			HOT	COLD				HOT	COLD	HOT	COLD			HOT	HOT
		MACH. RM. 25	AHU 4 COIL	1					HYPERCHLORINATION							HYPERCHLORINATION		
		MACH. RM. 25	AHU 5 COIL	ND														
		MACH. RM. 25	AHU 6 COIL	ND														
		MACH. RM. 25	AHU 7 COIL	1														
		MACH. RM. 25	AHU 5 COIL	ND														
		MACH. RM. 25	AHU 5 INLET	ND														
		MACH. RM. 25	AHU 4 INLET	ND														
		MACH. RM. 25	AHU 6 INLET	ND														
		MACH. RM. 25	AHU 5 COIL	ND														
		MACH. RM. 25	AHU 6 COIL	ND														
		MACH. RM. 25	AHU 4 COIL	ND														
		MACH. RM. 25	AHU 5 COIL	ND														
		MACH. RM. 25	AHU 6 COIL	ND														
		MACH. RM. 25	AHU 7 COIL	ND														
		MACH. RM. 25	AHU 5 INLET	ND														
		MACH. RM. 25	AHU 5 COIL	ND														
		MACH. RM. 25	AHU 4 INLET	ND														
		MACH. RM. 25	AHU 6 INLET	ND														
		MACH. RM. 25	AHU 5 COIL	ND														
		MACH. RM. 25	AHU 6 COIL	ND														
		BOILER RM	AFTER PUMPS															
		BOILER RM	BEFORE PUMPS															
		MACH. RM. 31									<1	<1						
7	C	MACH. RM. 2									<1	<1						
7	C	MACH. RM. 1									<1	<1						

Henry, James

From: Henry, James
Sent: Wednesday, November 26, 2014 10:07 AM
To: 'Michael Glasgow'
Subject: Water Distribution System

Good Morning Mike,

GCHD still has some questions regarding the water system relative to the Legionella cases.

- Are the locations that you test for coliform the same locations for heterotrophic?
- When and where does your office sample for heterotrophic? How long does it take to get the results?
- Does your office have the capability to identify the types of heterotrophic bacteria?
- Would you provide the spreadsheets for heterotrophic plate counts and chlorine residual for June, July, August and September?
- Would you provide a map of the known dead ends and potential pooling areas in the water system?
- Would you provide a map of how the water is distributed and typically flows throughout the system?

I don't know if you have the information requested. The information that you provide may help rule out the water system. Our goal is to identify the source, so it can be fixed.

Thank You and Happy Thanksgiving

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
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Henry, James

From: Henry, James
Sent: Tuesday, December 16, 2014 10:42 AM
To: Henry, James; 'Michael Glasgow'
Subject: RE: Water Distribution System

Mike,

Do you have some time to meet with me to discuss some of the items listed in the email below? I can come to the water plant when it's when convenient for you.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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From: Henry, James
Sent: Wednesday, November 26, 2014 10:07 AM
To: 'Michael Glasgow'
Subject: Water Distribution System

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- Would you provide a map of the known dead ends and potential pooling areas in the water system?
- Would you provide a map of how the water is distributed and typically flows throughout the system?

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Thank You and Happy Thanksgiving

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Henry, James

From: Henry, James
Sent: Thursday, January 15, 2015 11:22 AM
To: 'Danielle Donovan'
Subject: RE: Updates

Hello Danielle,

I apologize for the slow response. I hope for your holidays were nice also.

Not much to report regarding Legionella, but the water plant is obviously having issues. We are working on coordinating with the DPW to reduce health risks, especially preparing for the warmer summer months.

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
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From: Danielle Donovan [mailto:Danielle.Donovan@mclaren.org]
Sent: Thursday, January 08, 2015 8:38 AM
To: Henry, James
Subject: Updates

Hi Jim,

I hope your holidays were nice! I wondered if there were any updates in the Legionella investigation?

Thank you,
Danielle

Danielle Donovan MS
Infection Preventionist
McLaren Flint
401 S. Ballenger Hwy.
Flint, MI 48532
Office: (810) 342-2461
Fax: (810) 342-3148
email: Danielle.Donovan@mclaren.org

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Henry, James

From: Henry, James
Sent: Monday, January 26, 2015 11:57 AM
To: Cupal, Suzanne; Childs, Bonnie; Hasan, Shurooq; Johnson, M.D., Gary
Cc: Valacak, Mark
Subject: Flint Water

Quick Update,

I have had conversations with MCC, UMF and MDEQ. If I do not hear back from Howard Croft, DPW Director by the end of today, I will FOIA the information at 8am tomorrow morning.

MCC, Larry Coehler, Director of Facilities explained that MCC has conducted a round of water tests for metals, coliform and e-coli and the results were within the MCL's. They are working with a consultant and intend to conduct more extensive rounds of water sampling. They are interested in discussing recommendations from our office.

UMF, Mike Lane, Env Health and Safety explained that they have conducted extensive tests and did not find concerns, except for Lead and Alkalinity in a couple buildings, but it appears to be related to aged plumbing and stagnant water where the samples were collected. They have not tested for specific types of bacteria. Mike explained they are conducting more samples in February and interested in discussing recommendations from our office.

MDEQ, Mike Prysby and Steve Bush declined to meet with our office. They did not have any comparable information regarding other public water systems relative to Legionella or Heterotrophic bacteria. They encouraged us to conduct our investigation and mentioned that they could assist with obtaining information from the water plant. I explained that they are the regulatory agency and participation is expected.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
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From: Cupal, Suzanne
Sent: Monday, January 26, 2015 9:01 AM
To: Henry, James
Subject: RE: Information Request

Thank you. I forwarded to you the names of two individuals who may be able to provide for information because of their expertise with water systems. It is often nice to have information from a third party for perspective. Please let me know if you contact them.

Thanks.

SC

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Henry, James
Sent: Monday, January 26, 2015 8:54 AM
To: Cupal, Suzanne
Subject: FW: Information Request

Suzanne, Just FYI,

Below is the email that was sent to Howard Croft, Director of DPW. I copied Mark.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us
<< OLE Object: Picture (Device Independent Bitmap) >>

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Henry, James

From: Henry, James
Sent: Monday, January 26, 2015 8:31 AM
To: 'hcroft@cityofflint.com'
Cc: Valacak, Mark
Subject: Information Request

Good morning Howard,

I appreciate the opportunity to meet with you, Mayor Walling and the other community leaders last Friday. The Genesee County Health Department is interested in building lasting partnerships with the City.

However, over the past three months my office has made contact with the water plant on several occasions without a response. My office has requested information relative to water plant procedures, the distribution system and water monitoring. I probably should have contacted you sooner or submitted the request via the Freedom of Information Act.
If you still have time available this afternoon, I'd like to meet to discuss the requests along with the intentions and responsibilities of my office.

Please feel free to contact me anytime.
Respectfully,

Jim
Mobile (810) 404-8401

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
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Henry, James

From: Henry, James
Sent: Tuesday, January 27, 2015 1:57 PM
To: Valacak, Mark; Cupal, Suzanne
Subject: Flint Water FOIA

Mark,

Attached is a draft FOIA request. I want to clear this with you before we proceed.

Initially the water plant was cooperative, but since the beginning of November they have not responded to multiple written and verbal requests. Howard Croft has not responded the email that I sent yesterday morning, either. I have explained our responsibilities to investigate and that our intent to work together with the City to identify potential risks so they can be reduced or eliminated. I was hoping to avoid FOIA, but we are getting nowhere.

Suzanne, you did an outstanding job facilitating the conference call and explaining our activities to MDCH. Will you please review the FOIA to assure that it is complete?

FOIA Request Flint Water.doc

Thanks

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
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Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

January 27, 2015

FOIA Coordinator, City of Flint
1101 S. Saginaw Street, 3rd floor
Flint, MI 48502

RE: Flint Water Plant Information Request

Dear FOIA Coordinator,

Under provisions of the Michigan Freedom of Information Act (MCLA 15.231 et seq; MSA 4.1801 (1) et seq) please provide copies of the following:

Provide specific water testing locations and laboratory results within the City of Flint public water system for Coliform, E-coli, Heterotrophic Bacteria and Trihalomethanes from January 1, 2010 to January 27, 2015. Provide any additional water testing that has been conducted for identifying potential public health risks. Include any available mapping of the water testing areas.

Provide a map delineating the boundaries of the City of Flint water distribution system. Include any changes to the boundaries, along with corresponding dates from January 1, 2014 to January 27, 2015.

Provide a map or list of locations, detailing dead ends, pooling, low pressure and any additional areas of concern within the City of Flint water distribution system. Include any modifications to the water distribution system addressing concerns, along with corresponding dates from January 1, 2014 to January 27, 2015.

If you determine that any of the requested information is exempt from disclosure, please detail what is being withheld and cite the exemption under FOIA. I anticipate the request being filled within five working days of receipt of this letter, as provided under FOIA. Please contact me at (810) 257-3618 if there are fees associated to comply with this request.

Sincerely,

Jim Henry
Environmental Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Flint, MI 48502

Henry, James

From: Administrator
Sent: Tuesday, January 27, 2015 2:54 PM
To: Henry, James
Subject: Delivery Status Notification (Relay)
Attachments: ATT223447.txt; FOIA Request

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

ajones@cityofflint.com

Henry, James

From: Valacak, Mark
Sent: Thursday, February 5, 2015 9:29 AM
To: 'Nolden, Bryant'
Cc: Henry, James; Cupal, Suzanne
Subject: FW: FOIA Request

Commissioner Nolden,

Attached below is a copy of the FOIA request that was sent to Ms. Jones at the city of Flint on January 27, 2015. To date the city has not provided the information we requested. We did receive some monthly sampling reports but they do not provide the information we need for an investigation we are currently conducting. We have made numerous attempts to get information from the city prior to submitting the FOIA request. As the local public health agency for Genesee County we have a responsibility to investigate any unusual occurrences of communicable disease. We are currently seeing higher than normal numbers of legionnaires disease reported to us. Legionnaires is a waterborne disease that has in past outbreaks been transmitted via water supply systems, spa pools, misting systems, HVAC systems and cooling towers. We are investigating a number of possible sources. We have tried to set up a meeting with the city but not been successful in getting a response.

I would appreciate any assistance you can provide to get the city to respond to our request and cooperate in our investigation.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

Public Health

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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From: Henry, James
Sent: Tuesday, January 27, 2015 2:54 PM
To: 'ajones@cityofflint.com'
Cc: Valacak, Mark; Cupal, Suzanne
Subject: FOIA Request

Good afternoon,

Henry, James

From: Valacak, Mark
Sent: Monday, February 9, 2015 5:03 PM
To: Henry, James
Cc: Cupal, Suzanne
Subject: RE: Information Request

The city attorney contacted me today and apologized. She indicated they would normally send a 10 day extension request letter because of how much info we asked for in our letter and the time frame for the info. She said she would call me Friday with an update.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

PublicHealth

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From: Henry, James
Sent: Thursday, February 05, 2015 5:30 PM
To: 'Howard Croft'
Cc: Michael Glasgow; Brent Wright; Daugherty Johnson; 'dwalling@cityofflint.com'; Valacak, Mark; Cupal, Suzanne
Subject: Information Request

Howard,

I want to make sure there are no misunderstandings.

The Genesee County Health Department has attempted to obtain specific information regarding the Flint water distribution system from your office since November 2014. Your office has not provided a return phone call or response to emails. A FOIA request was sent electronically and mailed to your office on January 27, 2015 in attempt to obtain information. The response from your office on February 4, 2015 did not include any of the information that was requested. I am still hopeful that we can work collaboratively to protect the health of the community and resolve any issues with the Flint water supply.

Respectfully,

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us

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From: Crystal Olmstead [mailto:colmstead@cityofflint.com]
Sent: Friday, March 27, 2015 1:27 PM
To: Howard Croft
Cc: Henry, James
Subject: Health Department Meeting

Howard,

Jim wants to meet to discuss the FOIA request. We tentatively scheduled a meeting for 11, but both Jim and I are flexible on the time. Does 11 am work for you?

c

--

Crystal B. Olmstead

1101 S. Saginaw St.
Flint, MI 48502
(810) 766-7146
colmstead@cityofflint.com

Henry, James

From: Crystal Olmstead <colmstead@cityofflint.com>
Sent: Monday, March 30, 2015 1:42 PM
To: Howard Croft
Cc: Henry, James
Subject: Re: Health Department Meeting

Howard,

I met w/James today. He is going to submit another FOIA for the requested information.

c

On Mon, Mar 30, 2015 at 12:19 PM, Howard Croft <hcroft@cityofflint.com> wrote:
Crystal,

Wednesday and Thursday are the best days for me.
I will try and squeeze in another time if need be.

On Mon, Mar 30, 2015 at 9:44 AM, Crystal Olmstead <colmstead@cityofflint.com> wrote:
James,

I did not hear back from Howard. Do you want to meet w/o him?

c

On Mon, Mar 30, 2015 at 9:20 AM, Henry, James <jhenry@gchd.us> wrote:

Hello Crystal,

Are we still meeting at 11am? I can stop by your office.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

Henry, James

From: Henry, James
Sent: Tuesday, March 31, 2015 11:49 AM
To: Cupal, Suzanne
Subject: RE: Meeting/Conference call 9-10:30am on April 2, 2015

The Assistant City Attorney was very concerned and asked that I send another FOIA request, which I am working on now. Her last day with the City will be Friday, but she mentioned that her supervisor Pete Bade will be notified of our concerns.

From: Cupal, Suzanne
Sent: Tuesday, March 31, 2015 10:46 AM
To: Henry, James
Subject: RE: Meeting/Conference call 9-10:30am on April 2, 2015

I forgot to ask...any feedback from the city?

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Henry, James
Sent: Tuesday, March 31, 2015 8:33 AM
To: Cupal, Suzanne
Subject: RE: Meeting/Conference call 9-10:30am on April 2, 2015

Suzanne,

I will not be attending.

Thanks Jim

Jim Henry RS, MBA
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From: Henry, James
Sent: Thursday, April 2, 2015 4:57 PM
To: 'ajones@cityofflint.com'; 'Crystal Olmstead'; Howard Croft
Subject: FOIA Request

Good afternoon,

Please see the attached FOIA Request. Please let me know if there is confusion. I can clarify as needed.

Thanks Jim

Jim Henry RS, MBA
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Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

Henry, James

From: Howard Croft <hcroft@cityofflint.com>
Sent: Thursday, April 23, 2015 7:36 AM
To: Henry, James
Cc: Althea Jones; Mike Prysby (DEQ); David Roth
Subject: Re: FW: FOIA Request

Jim,

I had the utilities team gather this information and I believe that the documentation was sent to the legal department. I will check today and find out the status of the information and get you a response quickly.

On Wed, Apr 22, 2015 at 2:02 PM, Henry, James <jhenry@gchd.us> wrote:

Good afternoon,

Howard,

Would you please look into the attached request? I sent it on April 2, 2015 and haven't heard back.

Mike/Howard,

Would it be possible to arrange a meeting sometime soon, maybe the next time Mike conducts a site visit in Flint?

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

From: "Henry, James" <jhenry@gchd.us>
Date: March 10, 2015 at 6:40:17 PM EDT
To: Howard Croft <hcroft@cityofflint.com>, "Mike Prysby (DEQ)" <prysbym@michigan.gov>, Elizabeth Murphy <emurphy@cityofflint.com>, "Natasha Henderson" <nhenderson@cityofflint.com>, Jerry Ambrose <gambrose49@gmail.com>, Dayne Walling <dwalling@cityofflint.com>
Cc: "Valacak, Mark" <MVALACAK@gchd.us>, "Cupal, Suzanne" <scupal@gchd.us>, "Hasan, Shurooq" <shasan@gchd.us>, "Childs, Bonnie" <BCHILDS@gchd.us>, "Hallwood, Dawn" <dhallwood@gchd.us>, "Johnson, M.D., Gary" <GJOHNSON@gchd.us>
Subject: Information Request and Documentation

Hello everyone,

The Genesee County Health Department has made several written and verbal requests for specific information since October, 2014, including a Freedom of Information Act Request on January 27, 2015. The information still has not been received and the city's lack of cooperation continues to prevent my office from performing our responsibilities.

The Genesee County Health Department has the responsibility to conduct illness investigations and consider all potential sources, this is not optional. In 2014, Genesee County experienced a significant increase of confirmed Legionella illnesses relative to previous years. Legionella can be a deadly, waterborne disease that typically affects the respiratory system.

The increase of the illnesses closely corresponds with the timeframe of the switch to Flint River water. The majority of the cases reside or have an association with the city. Also, McLaren Hospital identified and mitigated Legionella in their water system. This is rather glaring information and it needs to be looked into now, prior to the warmer summer months when Legionella is at its peak and we are potentially faced with a crisis.

This situation has been explicitly explained to MDEQ and many of the city's officials. I want to make sure, in writing that there are no misunderstandings regarding this significant and urgent public health issue. The Trihalomethane issues "pale in comparison" to the potential public health risks of Legionella.

I am submitting the attached FOIA request again and requesting that the legal obligations of the request are met. If the information is not available, please let me know. In the past, I have requested to meet with the water plant staff and MDEQ regarding Legionella concerns. I did not receive a response from the water plant staff and MDEQ declined. I think it is in the best interest for all stakeholders that we meet and discuss the issues.

Respectfully,

Jim

Jim Henry
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E-mail jhenry@gchd.us

------ Original message------
From: Busch , Stephen (DEQ)
Date: Fri, Mar 13, 2015 3:47 PM
To: jhenry@gchd.us;
Cc: Prysby, Mike (DEQ);Shekter Smith, Liane (DEQ);
Subject:RE : Information Request and Documentation

Mr. Henry,

The January 27, 2015, FOIA request you provided was directed to the City of Flint, not the DEQ. The DEQ has no record of a FOIA request from your office for such information. It is our understanding that the City has responded to your FOIA request, has helped you adequately redefine your request within the City's scope of public record to address such ambiguities as "any additional areas of concern", and provided you with additional information beyond the scope of your request.

The DEQ fully recognizes the public health threat posed to individuals that contract Legionnaires' Disease with the understanding that the disease is not contracted by ingestion of potable water and therefore not regulated under the federal Safe Drinking Water Act. Your email below claims that you have explicitly explained the situation to our Department. However, since contacting our office early last October to indicate a rise in cases, we have not received any further information regarding your epidemiological investigation into this matter.

Further, conclusions that legionella is coming from the public water system without the presentation of any substantiating evidence from your epidemiologic investigation appears premature and prejudice toward that end.

It is highly unlikely that legionella would be present in treated water coming from the City of Flint water treatment plant given the treatment plant's use of ozone along with complete treatment and chlorine disinfect contact time to comply with federal surface water treatment rules for potable water. Detections of total coliform or heterotrophic bacteria in the City's public water distribution system indicate an environment where bacterial growth may be supported. However, there is no direct correlation that can be made to the presence of legionella. While total organic carbon levels in potable water may serve as a food source for bacteria growth in private plumbing system, water temperatures in the City's distribution system are below legionella growth range, and chlorine residual levels would also limit such growth.

Our office agrees that water main breaks, water leaks, and system repairs are possible vectors for legionella to enter the public water system. These should be investigated as part of your epidemiology. DEQ staff can be made available to assist GCHD and the City regarding such matters, but to date no request by GCHD for any such meeting has been received, let alone declined as alleged in your email.

If GCHD is seeking assistance to complete its epidemiological investigation regarding this matter, such resource requests should be directed to the Michigan Department of Community Health. Our Office agrees that a multi-agency partnership would be beneficial to move forward and develop a unified response. In that respect, if our Office can be of any further assistance you may contact me directly.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Henry, James

Subject: FW: Information Request and Documentation

From: Henry, James
Sent: Tuesday, March 17, 2015 11:18 AM
To: Henry, James
Subject: Re: Information Request and Documentation

Hello Mr. Busch

Thanks for your response. I'm looking forward to working with your office and hopefully the city moving forward. Based upon my experiences, I think it is necessary that my communications be candid, clear and followed up in writing whenever possible. Our goal is to successfully conduct this investigation and better protect our communities.

I appreciate the direct statements written in your email, although many are inconsistent with the investigation.

There hasn't been conclusions regarding the source of illness. Our team is gathering information and we suspect there may be several sources.

I have documented three telephone conversations with Mr. Michael Prysby, from your office on November??2014 and November??, which is different from the timeframe that you mention.

During the conversations I "explicitly explained" the details of our concerns regarding the municipal water system and requested some guidance and to meet with your office.

Mr. Prysby informed me that the concerns were discussed with you and there was no purpose to meet because no violation of the Safe Drinking Water Act has occurred.
You are correct, I did not contact your office again after these telephone conversations, but it was because of the response I received It seemed clear that your office was not interested in participation with the investigation. I documented the conversations as they occurred.
If it would help with the investigation and clarify this situation, I'll be happy to review phone records and discuss the converstions from November in detail.

My office clearly understands the perspective that no violation of the sdwa has occurred, which has been explained many times. It seems reasonable that your office would be involved, regardless if potential health risks from the municipal water are from consumption, dermal or inhalation.

I don't know how much value there would be with attempting to provide clarification regarding the other statements of your email, but I'll be happy to share the our accounts of the investigation.

My office has been working closely with MDCH and has spoken with CDC on several occasions regarding the epidemiological investigation. Also, we have been consulting with municipal water experts and recently began consulting with the USEPA. We have been informed that it is likely that small amounts of Legionella will pass through the treatment process, which is contradictory to your assessment of municipal water systems

Our team is in the process of developing plans, which may include sampling locations within the distribution system and comparing environmental and clinical samples. We also recognize the sensitive nature and want to be prepared if the evidence concludes that the municipal water is causing illnesses. Hopefully your office may be of assistance in these areas of the investigation.

If you or a representative from your office is availability to meet. I will make arrangements to accommodate your schedule. I think it would be appropriate for the city to attend meetings as well. Please let me know your earliest availability.

Respectfully
Jim.

Henry, James

From: Henry, James
Sent: Monday, January 26, 2015 1:15 PM
To: Valacak, Mark
Subject: RE: Perkins AFC 1027 W. Second St. Flint, MI

Mark,

I spoke with the Perkin's AFC consultant, Lisa Gundry. An investigation being conducted, lead by a different DHS consultant. Although they are limited to 6 residents, DHS may send us a referral requesting an inspection and a water sample. I inquired about symptoms including Pneumonia, i.e. Legionella. She was only aware of a quick onset of vomiting and diarrhea. I have a call into the DHS investigator regarding symptoms, including Pneumonia.

The consultant mentioned it is an older home and the owner was often reminded of maintenance issues, but nothing appeared to be life threatening. She mentioned that the residents who died had lived there for several years and the health care provider has been there for many years also. She does not personally suspect foul play.

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From: Henry, James
Sent: Thursday, January 22, 2015 5:50 PM
To: Valacak, Mark
Subject: RE: Perkins AFC 1027 W. Second St. Flint, MI

Mark,

To my knowledge we have not had any recent complaints, but I'll confirm with staff and our log. I think the reason we do not have an inspection report for Perkin's AFC is because DHS does not require our inspection, since limited to 6 people and the facility is hooked into municipal water and sewer. I left a message with the licensing consultant to confirm the DHS inspection requirements and discuss environmental conditions. I'll let you know as soon as I talk with DHS. If you prefer, I can get back in touch with Dr. Hunter.

Thanks Jim

Jim Henry
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From: Valacak, Mark
Sent: Thursday, January 22, 2015 11:32 AM
To: Childs, Bonnie; Cupal, Suzanne; Hasan, Shurooq; Miller, Colleen; Henry, James; Hallwood, Dawn
Subject: Perkins AFC 1027 W. Second St. Flint, MI

I got a call from Dr. Hunter he has had two deaths on after another from the Perkins AFC facility with the same symptoms and was wondering if there might be an environmental hazard (water/food, etc.) Have we had any reported cases from this facility or complaints? I check with Rachel in EH and we do not have an inspection report.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

Public Health

Please consider the environment before printing this e-mail.

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Henry, James

From: Cupal, Suzanne
Sent: Thursday, January 29, 2015 2:40 PM
To: Henry, James; Childs, Bonnie; Shurooq Hasan (shasan@gchd.us)
Subject: MDCH Response
Attachments: MDCH Response information 1.29.15.docx

Please read the attached and provide your feedback.

I have reserved the library for the meeting with Mark at 3:30pm.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Dear MDCH Colleagues,

We too appreciate the opportunity to discuss the increase in legionellosis cases in Genesee County is experiencing. As discussed during our call, we have concerns not only about legionellosis, but also the water supply. We were appreciative of the opportunity to share our investigation to date and our continued investigative work. We are also appreciative of the opportunity to request MDCH's assistance in moving our investigation forward. We look forward to continued and improved communication and collaboration and appreciate your offers of assistance.

We also appreciate your acknowledgment of the sensitive nature of our work in an environment of anxiety and suspicion. We specifically asked for your assistance in identifying someone at MDCH with expertise in type 1 water supplies and communicable disease. That was not reflected in your response. Please let us know if there is an identified resource for this at MDCH. As we indicated in our call, we continue to identify and reach out to those that can inform our investigation and provide more information regarding type 1 water supplies. The feedback they we are receiving have been very helpful in evolving our investigation.

We have met internally and collaborated on our responses below. In your response, you make reference to the scope of the outbreak. We encourage you to review the case notes in MDSS. We can carefully review our findings to date. If we are referring to this as an outbreak, we would like to request that we designate it as such and include an outbreak identifier in MDSS. We would also like to discuss criteria for inclusion for this outbreak. During our call, we informed you of our work in identifying close contacts of our cases that subsequently became cases themselves or tested positive but did not meet the case definition to be reported as a confirmed case. We also described the challenges in recording onset dates (see the notes below). You have requested line listings on a regular basis. We would like to propose regular meetings via conference call to discuss details of how we record information in MDSS as well as to share our mutual findings. Based on our experiences regarding this investigation, we would also like to make recommendations regarding the reporting process.

We look forward to our collaborative process. We want to remind you that in addition to our legionellosis investigation, we are also investigating water related issues. As we continue to learn more through this process, we hope to be in a position to share our findings with others.

Your GCHD Colleagues

Data being requested by MDCH and/or suggested data collection needs to be addressed:

1) Please provide the name of the primary point-of-contact for the overall GCHD legionellosis investigation. Shurooq Hasan

2) The current copy of the GCHD Legionnaires Disease outbreak data collection line list is requested and updates sent to MDCH on a regular basis. Let us know the time table you are proposing. We would like to request a regular meeting schedule so we can discuss our mutual findings.

3) Onset dates or estimated onset dates need to be determined for all cases. As discussed during our call, we can provide estimated onset dates. We would like your input...would you prefer we report the onset date reported by the patient, their primary care physician or the ID Physician consulting? There are differences. Please keep this in mind when reviewing the data.

4) A current map of the municipal water system needs to be obtained and cases' residences mapped in relation to the water system. As discussed in our call, we are experiencing difficulty in obtaining the information we have requested from DWP and MDEQ. We have sent the FOIA request for the current map of the municipal water system. As discussed during our call, we have mapped our cases to look for commonalities and to identify the proximity of the cases to the boil water advisories.

5) The investigation needs a Genesee-specific supplemental questionnaire beyond the MDCH supplemental form and the 6 questions in the email message dated 10/17/14. As discussed in our call, GCHD has been identifying and reaching out to individuals with expertise with type 1 water supplies. During our call, we asked specifically of anyone at MDCH has this expertise. Please let us know if you have a staff member we can consult with. Also stated during our call, we requested the assistance of MDCH in creating our Genesee specific questionnaire....the questionnaire we are currently using. We are reaching out to water experts to assist in the updating of our questionnaire. In the limited conversations we have had so far, we have learned a great deal which will inform the questions we need to ask.

6) All previous cases (since 5/1/14) and new cases should be re-interviewed as soon as possible with the new outbreak-specific questionnaire. If cases are not available, then a proxy should be interviewed, ideally someone from the same household. See me notes below...

7) To look for cases of milder illness such as Pontiac Fever, the questionnaire should ask if there are other household members who have had a similar respiratory illness. Any household contacts with legionellosis-consistent illness should also be interviewed with the outbreak-specific questionnaire. As discussed on the call in the review of our invesitgations, we have found this and, we have been reporting this... and have reported them in MDSS. This is the reason why we asked for testing of clinical samples not only of the patients, but, also of their close contacts.

8) Clinical culture specimens, in addition to urine antigen testing, should be collected from all suspect cases where individuals are seeking medical care. As discussed in our call, this is what we have requested from MDCH. In addition, we requested testing of close contacts, environmental testing of the patient home environments and potentially testing of key locations in the community with high heterotrophic plate counts. Based on the feedback from our consultations, this may be very helpful.

9) Hospitals should be queried to determine whether any previously diagnosed cases had respiratory cultures collected and whether any of these culture specimens were retained. If so, it should be requested that these samples be held until a determination on environmental testing can be made. This was discussed at our Bug Fuzz meeting on 1/22/15. We will also be requesting more information previous years legionella testing. We suspect a significant increases in the numbers of tests conducted, particularly during August/September that in

previous years. Remember, the hyperclorination done at our hospital of interest was completed 10/4/15. That may also influence the number of tests conducted.

Assistance that MDCH can provide to Genesee to aid in the outbreak investigation:

1) MDCH can provide language to GCHD for distribution to the medical community regarding the request for clinical respiratory culture collection on all suspect cases of legionellosis (Legionnaire's Disease and Pontiac Fever). What we specifically requested was the specific testing protocals for sample collection, storage and transportation of clinical samples. We also requested testing of environmental samples from patient homes and key community sites. We would like the same protocol information for this type of testing as well.

2) MDCH staff is available to conduct medical record extraction, as needed. Medical records are attached in MDSS and do not need assistance with this at this time.

3) MDCH staff can assist with data entry into MDSS, as needed. At this time, we do not need assistance with this. Please see the note below...

4) MDCH staff can help with the development of a Genesee-specific outbreak questionnaire. We welcome your participation in the revision of our Genesee specific questionnaire. We have already received some helpful feedback from our expert consultations.

5) MDCH is willing to assist with supplemental questionnaire data collection by conducting case interviews (on previously and/or newly diagnosed cases) and also by assisting with data analysis, as needed. Our CD nurses can address newly diagnosed cases. We would like to discuss MDCH assistance for conducting interviews with previously diagonosed/interviewed cases.

6) MDCH can assist with the coordination and communication with MDEQ for specific data requests by GCHD. As discussed in our call, we are requesting MDCH assistance with obtaining information from MDEQ. GCHD has sent a FOIA letter requesting the information we have not been able to obtain regarding the water system. If we do not receive the information or have other challenges we would request MDCH assistance in obtaining the information.

7) The MDCH PIO can work with the GCHD PIO to develop a coordinated public health message to respond to public and media inquiries. As discussed in our call, the water system is an extremely sensitive topic. We are very careful in crafting messages. Should we need MDCH PIO assistance, we will request it.

If there are other issues that we have not addressed where our assistance would be helpful, please do not hesitate to ask. We appreciate your efforts and recognize the delicate situation you are dealing during this investigation. We look forward to continued communication and collaboration with you.

Henry, James

From: Collins, Jim (DCH) <CollinsJ12@michigan.gov>
Sent: Friday, January 30, 2015 1:21 PM
To: Johnson, M.D., Gary; Childs, Bonnie; Cupal, Suzanne; Henry, James; Hasan, Shurooq; Valacak, Mark
Cc: Fiedler, Jay (DCH); Bohm, Susan (DCH); Bolen, Timothy (DCH); Miller, Corinne (DCH); Johnson, Shannon (DCH)
Subject: RE: Genesee Legionellosis Investigation
Attachments: Draft Clinical Guidance for Legionellosis.docx

Importance: High

Good Afternoon All,

While you all at the Genesee County Health Department are reviewing Shannon's post from a couple of days ago (Copied below. We look forward to hearing your thoughts on this as well), I thought I'd go ahead and provide some additional information that we've compiled after the conference call.

During our conversation, there was a request for information about the public health outreach to the clinical community in response to an increase in legionella infections being reported from the metropolitan Detroit area and several other states (spring/summer 2013). Specifically, we discussed the text of a health alert message that was shared with the region's hospitals via the Michigan Health Alert Netork (MIHAN) and any accompanying documentation.

I've got both to offer to you today.

I've attached the document, "**Legionellosis Guidance for Clinicians**" that was distributed with the following MIHAN message:

> **Text from SE Legionellosis increase HAN in 2013:**
> "***Subject: Legionellosis in S.E. Michigan***
>
> *Detroit City, Wayne and Macomb Counties have reported 35 cases of Legionellosis in June. This represents the highest number of Legionellosis cases for the month of June over the past decade and new cases continue to be identified in these jurisdictions. Most patients were or are still hospitalized (some in the ICU) and symptoms reported include fever, vomiting, abdominal pain, nausea and diarrhea. The CDC has also provided notification indicating an increase in Legionellosis cases in the Northeast (NY, DE, CT & PA).*
>
> *Investigations are ongoing in Southeast Michigan to determine common sources of exposure. We are asking that the clinical community assist in this investigation through accurate identification, testing and reporting of all suspect cases of Legionellosis.*
>
> Attached, please find guidance that has been prepared to assist clinicians in case evaluation and facilitate specimen collection/testing as well as an updated "Supplemental Interview Form" for local health department use in evaluating reported cases."

Please note that in the attachment, there is introductory room to offer a local assessment of the situation and the rationale behind distributing the MIHAN message. We feel that GCHD is best positioned distribute a message to the healthcare community and to provide local context to that message but are certainly available to provide assistance to either function if you'd prefer.

Again, we do look forward to hearing your thoughts on Shannon's previous post and stand ready to assist in whatever capacity might best serve the investigation.

All My Best,
Jim

Jim Collins MPH, RS
Director
Communicable Disease Division
Michigan Department of Community Health
201 Townsend St.
Lansing, MI 48913
Desk: 517-335-8586
Cell: 517-930-6932

From: Johnson, Shannon (DCH)
Sent: Tuesday, January 27, 2015 3:45 PM
To: gjohnson@gchd.us; bchilds@gchd.us; scupal@gchd.us; jhenry@gchd.us; shasan@gchd.us; mvalacak@gchd.us
Cc: Collins, Jim (DCH); Fiedler, Jay (DCH); Bohm, Susan (DCH)
Subject: Genesee Legionellosis Investigation

Greetings GCHD,

Thank you for the opportunity to speak with you this morning. After being updated on where GCHD is in the investigation process, we have identified some items that need additional details and/or may require additional data gathering efforts. In addition, we've listed areas where we can provide personnel to assist with data collection/analysis or aid in communication between the involved governmental departments during the outbreak investigation. At this point, the priorities in the public health investigation are to determine the scope of the outbreak and to define as clearly as possible the characteristics of the cases of Legionnaire's Disease and Pontiac Fever. These data will be critical to help inform and provide direction for the environmental side of the investigation.

Data being requested by MDCH and/or suggested data collection needs to be addressed:

1) Please provide the name of the primary point-of-contact for the overall GCHD legionellosis investigation.
2) The current copy of the GCHD Legionnaires Disease outbreak data collection line list is requested and updates sent to MDCH on a regular basis.
3) Onset dates or estimated onset dates need to be determined for all cases.
4) A current map of the municipal water system needs to be obtained and cases' residences mapped in relation to the water system.
5) The investigation needs a Genesee-specific supplemental questionnaire beyond the MDCH supplemental form and the 6 questions in the email message dated 10/17/14.

6) All previous cases (since 5/1/14) and new cases should be re-interviewed as soon as possible with the new outbreak-specific questionnaire. If cases are not available, then a proxy should be interviewed, ideally someone from the same household.

7) To look for cases of milder illness such as Pontiac Fever, the questionnaire should ask if there are other household members who have had a similar respiratory illness. Any household contacts with legionellosis-consistent illness should also be interviewed with the outbreak-specific questionnaire.

8) Clinical culture specimens, in addition to urine antigen testing, should be collected from all suspect cases where individuals are seeking medical care.

9) Hospitals should be queried to determine whether any previously diagnosed cases had respiratory cultures collected and whether any of these culture specimens were retained. If so, it should be requested that these samples be held until a determination on environmental testing can be made.

Assistance that MDCH can provide to Genesee to aid in the outbreak investigation:

1) MDCH can provide language to GCHD for distribution to the medical community regarding the request for clinical respiratory culture collection on all suspect cases of legionellosis (Legionnaire's Disease and Pontiac Fever).

2) MDCH staff is available to conduct medical record extraction, as needed.

3) MDCH staff can assist with data entry into MDSS, as needed.

4) MDCH staff can help with the development of a Genesee-specific outbreak questionnaire.

5) MDCH is willing to assist with supplemental questionnaire data collection by conducting case interviews (on previously and/or newly diagnosed cases) and also by assisting with data analysis, as needed.

6) MDCH can assist with the coordination and communication with MDEQ for specific data requests by GCHD.

7) The MDCH PIO can work with the GCHD PIO to develop a coordinated public health message to respond to public and media inquiries.

If there are other issues that we have not addressed where our assistance would be helpful, please do not hesitate to ask. We appreciate your efforts and recognize the delicate situation you are dealing during this investigation. We look forward to continued communication and collaboration with you.

Regards,
Shannon Johnson

Shannon Andrews Johnson, MPH
Infectious Disease Epidemiologist
Michigan Dept. of Community Health
201 Townsend St., CVB 5th Floor
Lansing, MI 48913
Phone: 517-335-8165
Fax: 517-335-8263

Legionellosis Guidance for Clinicians

Intro discussing increase in Genesee cases.

Legionella bacteria can be found in natural, freshwater environments, but they are generally present in insufficient numbers to cause disease. Water systems such as potable (drinking) water systems, whirlpool spas, and cooling towers provide the conditions needed for Legionella growth and transmission-heat, stasis, and aerosolization; therefore, these are common sources of outbreaks.

Epidemiologic Risk Factors for Legionellosis

- Recent travel with an overnight stay outside of the home (up to 14 days prior to symptom onset)
- Exposure to whirlpool spas
- Recent repairs or maintenance work on domestic plumbing
- Renal or hepatic failure
- Diabetes
- Systemic malignancy
- Smoking
- Immune system disorders
- Age > 50 years

Diagnosing Legionellosis

	Legionnaires' disease	Pontiac fever
Clinical features	Pneumonia, cough, fever	Flu-like illness (fever, chills, malaise) without pneumonia
Radiographic pneumonia	Yes	No
Incubation period	2-14 days after exposure	24-72 hours after exposure
Etiologic agent	*Legionella* species	*Legionella* species
Attack rate	< 5%	> 90%
Isolation of organism	Possible	Never
Outcome	Hospitalization common Case-fatality rate: 5-30%	Hospitalization uncommon Case-fatality rate: 0%

Source: http://www.cdc.gov/legionella/clinicians.html

Who to Test for Legionnaires' Disease

- Patients with pneumonia in the setting of a Legionellosis outbreak
- Patients who have failed outpatient antibiotic therapy
- Patients with severe pneumonia, in particular those requiring intensive care
- Immunocompromised host with pneumonia
- Patients with a travel history [Patients that have traveled away from their home within two weeks before the onset of illness.]
- Patients suspected of healthcare-associated pneumonia

Testing for Legionnaires' Disease

- Urinary antigen assay AND culture of respiratory secretions on selective media are the preferred diagnostic tests for Legionnaires' disease
- Sensitivity varies depending on the quality and timing of specimen collection as well as technical skill of the laboratory performing the test

Advantages and Disadvantages of Diagnostic Tests

Test	Advantages	Disadvantages
Culture	• Clinical & environmental isolates can be compared • Detects all species & serogroups • 100% specific	• Technically difficult • Slow (>5 days to grow) • Sensitivity highly dependent on technical skill • May be affected by antibiotic treatment
Urine Antigen	• 100% specific... • Rapid (same day)	• ...but only for *L. pneumophila* serogroup 1 (Lp1) [which may account for up to 80% of cases] • Does not allow for molecular comparison to environmental isolates
Serology	• Less affected by antibiotic treatment • 80-90% sensitive; 99% specific	• Must have paired sera • 5-10% of population has titer 1:≥256. Single acute phase antibody titers of 1: ≥256 do not discriminate between cases of Legionnaires' disease and other causes of community-acquired pneumonia.
DFA	• Can be performed on pathologic specimens • >95% specific	• 25-75% sensitive
PCR	• Rapid	• Assays vary by laboratory and are not FDA-approved

Clinical Isolates and Shipping

Isolation of Legionella from respiratory secretions, lung tissue, pleural fluid, or a normally sterile site is still an important method for diagnosis, despite the convenience and specificity of urinary antigen testing. Investigations of outbreaks of Legionnaires' disease rely on both clinical and environmental isolates. Clinical and environmental isolates can be compared using monoclonal antibody and molecular techniques. Because Legionella are commonly found in the environment, clinical isolates are necessary to interpret the findings of an environmental investigation.

The Michigan Department of Community Health state laboratory will test clinical isolates shipped to the facility free of charge. Please freeze any clinical samples collected immediately and maintain the cold chain during shipment (use of dry ice during shipping is preferable). Also, please avoid freezing and thawing of isolates. For labs shipping a clinical isolate, a BYCE plate is acceptable. NOTE: Plates do not generally travel well so a courier should be used if possible.

Treatment

Recommended treatment for Legionella pneumonia in most patients includes either a fluoroquinolone (e.g. levofloxacin 750 mg once daily) or a macrolide (e.g. azithromycin 1 gram on day one, followed by 500 mg once daily) for a total treatment duration of 10–14 days. Antibiotic regimen and treatment duration may vary depending on specific patient risk factors or comorbidities.

Reporting

Legionellosis is a reportable disease in Michigan. We are asking health care professionals to report both Legionnaires' disease and Pontiac fever cases via the Michigan Disease Surveillance System (MDSS) or directly to the Local Health Department. Physicians are requested to collect and record illness onset dates as part of the patient record. An accurate illness onset date is extremely important to determine the patient's potential environmental exposures and is vital to the investigation of an outbreak. In patients with chronic respiratory conditions, the first appearance of fever may be a useful indicator of legionellosis onset date.

For additional information, please contact:

Henry, James

From:	Henry, James
Sent:	Tuesday, February 3, 2015 6:55 PM
To:	Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Hallwood, Dawn
Cc:	Valacak, Mark; Johnson, M.D., Gary
Subject:	FW: Flint Water Update
Attachments:	Legionella control in water disinfection methods Stout 2014.pdf; MMWR Legionella in Wisconsin 2013.pdf

Flint Water Update

Today, I spoke with Dr. Joan Rose, MSU. She participated as the drinking water expert during the public meeting at the city hall dome, on January 21. She also provided the attachments above. Dr. Rose indicated that HPC is primarily looked at for the overall condition/health of the water system and typically not associated with health related issues. She mentioned that the desired levels for HPC are usually below 100 and that the > 738 levels in 40% of the locations sampled are a representation that the system needs improvement and maintenance overall.

I explained the details of our Legionella situation. She is concerned about the Flint water system as a possible source and mentioned that the DPW should be also. She, along with her colleague Dr. Janet Stout agreed to participate in a conference call with DPW to discuss Legionella concerns and possible courses of action. Dr. Stout's expertise is Legionella. She authored the attached "Legionella control in water disinfection methods." She has been involved with a situation in Pittsburg, very similar to ours. The link is to Dr. Stout's profile. http://www.specialpathogenslab.com/janet-e-stout-phd.php

I'm in the process of arranging a date and time for the conference call. I'll keep you informed. I'm trying not to be to long winded, but there is a lot of information to share.

Jim

Also, I'll be following up with the contact that Dr. Stout provided below.

Hi Jim,
Yes, I'm happy to be on a call - anything I can do to help.
In 2013, the City of Milwaukee had an uptick in cases of Legionnaires' disease. Paul Biedrzycki, the Director of Disease Control and Environmental Health at the City Health Department may be a person with which to discuss your current situation regarding Legionnaires' disease cases. I met him last year when he organized a "Legionella Prevention and Control" symposium last year – I was one of the speakers. His email address is PBIEDR@milwaukee.gov

Let me know how we can help.

Janet

Janet E. Stout, Ph.D.
Director

Special Pathogens Laboratory
1401 Forbes Ave. Suite 209
Pittsburgh, PA 15219

Henry, James

From: Joan Rose <rosejo@msu.edu>
Sent: Tuesday, February 3, 2015 9:44 AM
To: Henry, James
Subject: Re: Flint Water
Attachments: Legionella control in water disinfection methods Stout 2014.pdf; MMWR Legionella in Wisconsin 2013.pdf

Hi Jim

here are some papers. Wisconsin did an investigation in 2013. See Notes from the Field in the MMWR. I emailed Dr. Janet Stout. I will be back in touch soon.

Joan

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife
480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 2/3/2015 9:26 AM, Henry, James wrote:

> Hello Dr. Rose,
>
> Thanks for taking the time to speak with me regarding our concerns. As we discussed, any reference information regarding Legionella in Pittsburg or other public water systems would be appreciated.
>
> Also, Thanks for allowing us to tour your labs regarding QPCR.
>
> Thanks
>
> Jim
>
> Jim Henry
>
> Jim Henry RS, MBA
> Environmental Health Supervisor
> Genesee County Health Department www.gchd.us
> 630 S. Saginaw St., Suite 4

Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125

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Henry, James

From: Henry, James
Sent: Wednesday, February 4, 2015 10:42 AM
To: 'Howard Croft'
Subject: RE: Monthly Reports

Thanks Howard,

I've had a conversation with Dr. Joan Rose, MSU. We briefly discussed the increase in Legionella cases throughout the County. I explained that many of the cases do not reside in the Flint water district, about ½ do not. We also discussed Legionella found at McLaren Hospital and the likelihood of it being found in other public water systems.

She recommended that I set up a conference call with all of us, so that we can discuss concerns and move forward. I know that you are extremely busy. Do you think that you could squeeze in a conf call anytime over the next couple days or early next week?

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From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Wednesday, February 04, 2015 8:59 AM
To: Henry, James
Subject: Monthly Reports

Jim,

I have all of our monthly reporting data from May through December. When I get it into PDF form I will email it to you. I expect to complete this by the end of today.

Thank you,

--

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Henry, James

From: Joan Rose <rosejo@msu.edu>
Sent: Tuesday, February 3, 2015 11:39 AM
To: Henry, James
Subject: Re: Flint Water

Hi Jim
I spoke to Janet Stout and she has some great ideas. I think we might want to have a conf call with her and Howard Croft at the Water Utility to think about sampling. You can send her an email and then set up a time to talk to her. Her expertise is Legionella testing and she also has a colleague who work specifically on DW distribution systems.
Then I can use my conf line to set up a time for all of us to talk.

Cheers Joan

Janet E. Stout, Ph.D.
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jstout@specialpathogenslab.com Special Pathogens Laboratory
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Pittsburgh, PA 15219

Joan B. Rose
Homer Nowlin Chair in Water Research
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Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 2/3/2015 9:26 AM, Henry, James wrote:

> Hello Dr. Rose,
>
> Thanks for taking the time to speak with me regarding our concerns. As we discussed, any reference information regarding Legionella in Pittsburg or other public water systems would be appreciated.
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> Thanks
>
> Jim

Jim Henry

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Henry, James

From: Henry, James
Sent: Wednesday, February 4, 2015 1:40 PM
To: Cupal, Suzanne; Hasan, Shurooq
Subject: FW: Monthly Reports
Attachments: Aug 2014 water report.PDF; Dec 2014 water report.PDF; July 2014 water report.PDF; June 2014 water report.PDF; May 2014 water report.PDF; Nov 2014 water report.PDF; Oct 2014 water report.PDF; Sept 2014 water report.PDF

This is not what we asked for, but lets discuss at 3pm.

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From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Wednesday, February 04, 2015 1:07 PM
To: Henry, James
Subject: Re: Monthly Reports

Jim,

Here is all of the Monthly Operating data going back to May.

On Wed, Feb 4, 2015 at 10:42 AM, Henry, James <jhenry@gchd.us> wrote:

Thanks Howard,

Henry, James

From: Henry, James
Sent: Thursday, February 5, 2015 9:04 AM
To: Valacak, Mark
Subject: FW: Monthly Reports
Attachments: Aug 2014 water report.PDF; Dec 2014 water report.PDF; July 2014 water report.PDF; June 2014 water report.PDF; May 2014 water report.PDF; Nov 2014 water report.PDF; Oct 2014 water report.PDF; Sept 2014 water report.PDF

This is the response from the DPW that did not include the information that was requested.

Jim Henry
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From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Wednesday, February 04, 2015 1:07 PM
To: Henry, James
Subject: Re: Monthly Reports

Jim,

Here is all of the Monthly Operating data going back to May.

On Wed, Feb 4, 2015 at 10:42 AM, Henry, James <jhenry@gchd.us> wrote:

Thanks Howard,

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From: Henry, James
Sent: Thursday, February 05, 2015 5:30 PM
To: 'Howard Croft'
Cc: Michael Glasgow; Brent Wright; Daugherty Johnson; 'dwalling@cityofflint.com'; Valacak, Mark; Cupal, Suzanne
Subject: Information Request

Howard,

I want to make sure there are no misunderstandings.

The Genesee County Health Department has attempted to obtain specific information regarding the Flint water distribution system from your office since November 2014. Your office has not provided a return phone call or response to emails. A FOIA request was sent electronically and mailed to your office on January 27, 2015 in attempt to obtain information. The response from your office on February 4, 2015 did not include any of the information that was requested. I am still hopeful that we can work collaboratively to protect the health of the community and resolve any issues with the Flint water supply.

Respectfully,

Jim

Jim Henry

Jim Henry RS, MBA
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Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

Henry, James

From:	Henry, James
Sent:	Thursday, February 5, 2015 1:37 PM
To:	Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Hallwood, Dawn
Cc:	Valacak, Mark; Johnson, M.D., Gary
Subject:	FW: Rash Concern

I'm just keeping everyone in the loop. Below is an email from Howard Croft.

Dr. Rose has already indicated that rashes may be a result of ph or hardness of the water, but not Trihalomethanes. I find it interesting that Mr. Croft copied the person complaining about rashes in the email sent to me, but he will not respond to a simple meeting request. The monthly reports they provided contains nothing that we requested. The monthly reports were already compiled and available, but he decided to wait until after the FOIA deadline to provide them.

I had a long conversation with city councilman Herb Winfree and a city resident regarding the water. The resident has a respiratory condition that she says is advancing, because of the water. Her doctor informed her to contact us for advice. I explained Trihalomethanes and that she and her doctor need make decisions based upon her specific health conditions. The water plant will not return her phone calls, but she was very thankful that our office spoke with her. This is one example of many.

I'm thankful for Mark's involvement and hopefully Commissioner Nolden will help influence the DPW to make some better decisions.

Bonnie, has CD received any inquiries about rashes or specifically Mr. Delano Burton concerns. I'll be getting back with him shortly.

Jim

Jim Henry
Jim Henry RS, MBA
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630 S. Saginaw St., Suite 4
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E-mail jhenry@gchd.us

Henry, James

From: Henry, James
Sent: Thursday, February 5, 2015 4:59 PM
To: Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Hallwood, Dawn
Cc: Valacak, Mark; Johnson, M.D., Gary
Subject: FW: 2nd Rash Concern

I'll start working on the water hardness factsheet. This 2nd rash concern below specifically states the complainant has "a notice from a doctor asserting that her son breaks out when he is in a bath with the city water"

I would like to discuss our position regarding the city forwarding complaints to us.

Jim Henry
Jim Henry RS, MBA
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Henry, James

From: Howard Croft <hcroft@cityofflint.com>
Sent: Thursday, February 5, 2015 4:12 PM
To: Gerald Ambrose
Cc: Henry, James; Elizabeth Murphy; Brent Wright; Daugherty Johnson; Flint Mayor; Michael Glasgow
Subject: Health Concerns

Jerry,

I spoke to Jim Henry at the Genesee County Heath Department (cc'd on this email) and he is comfortable with me routing individuals to him that have spoken to doctors and want to further investigate what may be causing rashes. Jim is looking to arrange a conference call with Dr. Rose on this topic on Monday and I am looking to participate on the call with Liz and possibly Mike Glasgow.

I am keeping Mike Glasgow in the loop on communications and I have made sure that he has direct access to me going forward and is aware of the necessity to follow through on our commitments. Hopefully the Health Department can assist in directing the medical community on how to respond to individual concerns.

Thank you,

--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Genesee County Health Department
630 S. Saginaw Street
Flint, Michigan 48502
www.gchd.us

HARD WATER RASH

What is a Hard Water Rash?

- A group of spotted, pink or red skin marks that may be accompanied by itching. Hard water occurs when a water supply contains high mineral levels of iron, magnesium and calcium, which leave deposits on the body causing irritation.

What are symptoms that could occur?

- Itching
- Reddened bumps on the skin
- Dryness
- Flaking
- Lesions
- Scaling
- Warmth of affected area
- Weeping (oozing)

How is it spread?

- Scratching the rash yourself can cause the rash to spread to other areas of your body

How is it caused?

- The primary cause of hard water rash is dry skin. Minerals make it more difficult for substances to dissolve in water such as soap. When you lather and then rinse off, you may not be removing all the soap from your skin, this will cause the skin to dry out. Hard water deposits left on the skin can also cause your skin to become more irritated and susceptible to damage.

How is it diagnosed and treated?

- If you are concerned about the rash, consult your family physician for diagnosis and treatment

Washing in hard water makes it more difficult to thoroughly rinse soap and minerals off your skin. The following are tips to soothe your symptoms.

- Rinse skin carefully.
- Use a water softener
- Use moisturizing shower products.
- Thoroughly rinse soap of your body

How can Hard Water Rash be prevented?

- The best method of preventing hard water rash is to install a water softener that removes mineral deposits and allows for soap and other cleaners to rinse off easily.

If you have questions

- Contact your family physician
- Call the Genesee County Health Department, Communicable Disease Nurses, 257-1017

This fact sheet is for information only and is not meant to be used for self diagnosis or as a substitute for consultation with a health care provider. For more information, call your health care provider.
02/2015

Henry, James

From:	Henry, James
Sent:	Monday, February 9, 2015 3:59 PM
To:	'rosejo@msu.edu'; Janet Stout; Erin Dreelin
Cc:	Childs, Bonnie; Cupal, Suzanne; Hasan, Shurooq
Subject:	RE: Flint Water
Attachments:	Supplemental Legionellosis Questionnaire.doc

Dr. Rose and Dr. Stout

Genesee County Health Department is working with MDCH regarding the Legionella investigation and trying to develop a comprehensive questionnaire for interviewing our Legionella cases. I have attached the questionnaire and questions below that are currently being asked during interviews. Would you please take a look at them and provide any comments or recommendations.

Thanks
Jim

1) What kind of water do you drink? (Well vs. City)
    a. If city water, from what location?
2) Have you recently traveled/stayed in any hotels?
3) Do you use an air conditioner at home? A humidifier?
4) Do you have a pool, sauna or spa you use regularly use at home?
5) Has there been any recent remodeling in your house?
6) Do you have proper ventilation in your bathroom at home?

Jim Henry

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From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Monday, February 09, 2015 1:48 PM
To: Henry, James; Janet Stout; Erin Dreelin
Subject: Re: Flint Water

yes Enclosed is the number.

1-888-204-5984 part code 306749

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife
480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 2/9/2015 1:29 PM, Henry, James wrote:

> Dr. Rose can we still use your conference line to talk tomorrow?
>
> Jim
>
> Jim Henry
>
> Jim Henry RS, MBA
> Environmental Health Supervisor
> Genesee County Health Department www.gchd.us
> 630 S. Saginaw St., Suite 4
> Flint, MI 48502-1540
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From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Friday, February 06, 2015 12:53 PM
To: Janet Stout; Henry, James
Subject: Re: Flint Water

10 am TUES FEB 10th is good for me too.

joan

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife
480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 2/6/2015 11:40 AM, Janet Stout wrote:

Would 10am work on Tuesday?

Janet E. Stout, Ph.D.

Director

Special Pathogens Laboratory

1401 Forbes Ave. Suite 209

Pittsburgh, PA 15219

P: 412-281-5335

F: 412-281-7445

Legionella Resources:

Join SPL's email list or text Legionella to 22828

Laboratory and Consulting Services www.specialpathogenslab.com

General Information www.legionella.org

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From: Henry, James [mailto:jhenry@gchd.us]
Sent: Friday, February 06, 2015 11:34 AM
To: Janet Stout; rosejo@msu.edu
Subject: RE: Flint Water

Tuesday morning would work for me or after 3pm

Jim Henry

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

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From: Janet Stout [mailto:jstout@specialpathogenslab.com]
Sent: Friday, February 06, 2015 11:30 AM
To: rosejo@msu.edu; Henry, James
Cc: Janet Stout
Subject: RE: Flint Water

Jim and Joan,

I will be attending the Cooling Technology Institute meeting on Monday and will be pretty jammed up Monday. Any chance Tuesday would work?

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Henry, James

From:	Joan Rose <rosejo@msu.edu>
Sent:	Tuesday, February 10, 2015 11:27 AM
To:	Janet Stout; Henry, James; Erin Dreelin
Cc:	Childs, Bonnie; Cupal, Suzanne; Hasan, Shurooq
Subject:	Re: Flint Water
Attachments:	beach-bio.pdf

Here is Dr. Michael Beach's email. mbeach@cdc.gov

I am going to email him too. He and I know each other fairly well.

Here is his bio.

Joan

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On 2/10/2015 9:16 AM, Janet Stout wrote:

> Dear Jim,
> I believe the questions on your list that I have questions about are being asked to merely establish location data for the case whereabouts during the incubation period (see attached where I inserted a comment). Am I correct?
>
> Among the additional questions you stated in your email, I would only omit one – "6) Do you have proper ventilation in your bathroom at home?"
>
> Sincerely,
>
> Janet
>
> Janet E. Stout, Ph.D.
> Director

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Pittsburgh, PA 15219

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From: Henry, James [mailto:jhenry@gchd.us]
Sent: Monday, February 09, 2015 3:59 PM
To: rosejo@msu.edu; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hasan, Shurooq
Subject: RE: Flint Water

Dr. Rose and Dr. Stout

Genesee County Health Department is working with MDCH regarding the Legionella investigation and trying to develop a comprehensive questionnaire for interviewing our Legionella cases. I have attached the questionnaire and questions below that are currently being asked during interviews. Would you please take a look at them and provide any comments or recommendations.

Thanks
Jim

1) What kind of water do you drink? (Well vs. City)
    a. If city water, from what location?
2) Have you recently traveled/stayed in any hotels?
3) Do you use an air conditioner at home? A humidifier?
4) Do you have a pool, sauna or spa you use regularly use at home?
5) Has there been any recent remodeling in your house?
6) Do you have proper ventilation in your bathroom at home?

Jim Henry

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From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Monday, February 09, 2015 1:48 PM
To: Henry, James; Janet Stout; Erin Dreelin
Subject: Re: Flint Water

yes Enclosed is the number.

1-888-204-5984 part code 306749

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On 2/9/2015 1:29 PM, Henry, James wrote:

Dr. Rose can we still use your conference line to talk tomorrow?

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http://cws.msu.edu/

On 2/6/2015 9:53 AM, Henry, James wrote:

Hello Dr. Rose and Dr. Stout,

We appreciate all your help regarding the concerns with the City of Flint water. Would you be able to attend a conference call with my office and the Flint DPW on Monday, January 9th at 1:30pm? If this doesn't fit into your schedule, please feel free to propose a time that would be more convenient and we'll make it happen.

Thank you

Jim

Jim Henry

Jim Henry RS, MBA
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From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Tuesday, February 03, 2015 11:39 AM
To: Henry, James
Subject: Re: Flint Water

Hi Jim
I spoke to Janet Stout and she has some great ideas. I think we might want to have a conf call with her and Howard Croft at the Water Utility to think about sampling. You can send her an email and then set up a time to talk to her. Her expertise is Legionella testing and she also has a colleague who work specifically on DW distribution systems.

Then I can use my conf line to set up a time for all of us to talk.

Cheers Joan

Janet E. Stout, Ph.D.
Director
jstout@specialpathogenslab.com Special
Pathogens Laboratory
1401 Forbes Ave. Suite 209
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http://cws.msu.edu/

On 2/3/2015 9:26 AM, Henry, James wrote:

> Hello Dr. Rose,
>
> Thanks for taking the time to speak with me regarding our concerns. As we discussed, any reference information regarding Legionella in Pittsburg or other public water systems would be appreciated.
>
> Also, Thanks for allowing us to tour your labs regarding QPCR.
>
> Thanks
>
> Jim
>
> Jim Henry
>
> Jim Henry RS, MBA
> Environmental Health Supervisor
> Genesee County Health Department
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From: Hasan, Shurooq
Sent: Wednesday, February 11, 2015 3:37 PM
To: Cupal, Suzanne; Childs, Bonnie; Henry, James; Valacak, Mark; Johnson, M.D., Gary
Subject: MDCH Legionella Conference Call

Hello,

Shannon Johnson requested a meeting on Tuesday at 2:30 or 3:00 in order to discuss updates regarding the Legionella investigation with her team. Please let me know if you are available so I can get back to her as soon as possible. Thank you.

Shurooq

Shurooq Hasan, M.P.H
Epidemiologist
Genesee County Health Department
630 S. Saginaw Street
Flint, MI 48502
(810) 257-3815
shasan@gchd.us

Henry, James

From: Henry, James
Sent: Friday, February 13, 2015 11:09 AM
To: Cupal, Suzanne; Childs, Bonnie; Valacak, Mark; Hasan, Shurooq
Subject: RE: TV 12 water report

The request for a complete list and/or map of the residents and businesses that receive water from the City of Flint, including the franchise areas has been made to the drain office. I asked to speak with the Drain Commissioner specifically. He wasn't in, but his secretary told me that the information would be sent electronically today from the division director, John Obrien. I'll share the information once it is received.

Jim Henry
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From: Cupal, Suzanne
Sent: Friday, February 13, 2015 9:58 AM
To: Childs, Bonnie; Valacak, Mark; Henry, James; Hasan, Shurooq
Subject: RE: TV 12 water report

We don't have the list to be sure if any of our cases are receiving water from Flint.

Jim said he would check with the drain commission to get the list. Then we can check.

Sent from my Windows Phone

From: Childs, Bonnie
Sent: 2/13/2015 9:54 AM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Hasan, Shurooq
Subject: RE: TV 12 water report

Yes. MtMorris and Burton total 14 cases.

Bonnie M. Childs, B.S.N.,R.N.
Public Health Nursing Supervisor
Genesee County Health Department
630 S. Saginaw St, Suite 4
Flint, MI 48502
Office: (810) 257-3156
Email: bchilds@gchd.us FAX: (810) 257-3530

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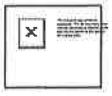
From: Valacak, Mark
Sent: Friday, February 13, 2015 9:21 AM
To: Cupal, Suzanne; Henry, James; Childs, Bonnie; Hasan, Shurooq
Subject: RE: TV 12 water report

Do any of our outside of Flint legionella cases appear on this list?

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us



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"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter
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From: Cupal, Suzanne
Sent: Friday, February 13, 2015 7:37 AM
To: Henry, James; Valacak, Mark; Childs, Bonnie; Hasan, Shurooq
Subject: RE: TV 12 water report

I forgot to mention that they got the franchise customer list from the drain commission.

Sent from my Windows Phone

From: Henry, James
Sent: 2/12/2015 8:59 PM
To: scupal@gchd.us; MVALACAK@gchd.us; BCHILDS@gchd.us; shasan@gchd.us
Subject: Re: TV 12 water report

I sent last email before completing the message. I just wanted to say that during our conf call on Tuesday, we explained the geographic areas with the majority of cases, specifically Flint, Burton and Mt. Morris. We explicitly requested the distribution system map from Howard Croft during the call, which he agreed to provide. He did not mention water be franchised to the other locations. He hung up shortly after this part of our discussion, which was ok, because it allowed for a more candid conversation with Dr. Rose and Dr. Stout.

The deliberate lack of cooperation from the city is disappointing and solidifies what can expect.

Jim

------ Original message------
From: Henry, James
Date: Thu, Feb 12, 2015 8:23 PM
To: scupal@gchd.us;MVALACAK@gchd.us;BCHILDS@gchd.us;shasan@gchd.us;
Subject: Re : TV 12 water report

Thanks Suzanne,

During our conf call Sharouq explained geographic locations of the cases that their are several cases in Burton and Mt. Morris

Happy Connecting. Sent from my Sprint Phone.

------ Original message------
From: Cupal, Suzanne
Date: Thu, Feb 12, 2015 6:17 PM
To: Henry, James;Valacak, Mark;Childs, Bonnie;Hasan, Shurooq;
Subject:TV 12 water report

The story was promoted at 6pm tonight. They named areas where water from Flint is franchised to other areas. Burton, Mt. Morris and Flint township were named.

Sent from my Windows Phone

Henry, James

From: Stickler, Lisa
Sent: Thursday, March 5, 2015 3:09 PM
To: GCHD-Management Team
Subject: mgt team 2-11-15 minutes
Attachments: 2-15-m.doc

For your information.

Lisa Stickler
Clerical Coordinator
Genesee County Health Department
630 S. Saginaw Street, Suite 4
Flint, MI 48502
Phone: 810-341-7660 Fax: 810-257-3147
lstickler@gchd.us

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GENESEE COUNTY HEALTH DEPARTMENT
MANAGEMENT TEAM MEETING - MINUTES
February 11, 2015

Present: Dawn Scharer, Almeta Milow, Dawn Hallwood, Lisa Stickler, Bonnie Childs, Suzanne Cupal, Dr. Johnson, Mark Valacak, Toni LaRocco, Jim Henry, Tamara Brickey

I. REVIEW OF AGENDA

Added to the Agenda under Old Business – Ecigarette Signage.
Added to the Agenda under New Business – MDCH Budget Cuts.

II. MINUTES – The minutes from the January meeting have been distributed.

III. OLD BUSINESS

- **Ecigarette Signage - Suzanne**
  Suzanne distributed sample of sign. Toni and Dawn S. to discuss and get back with Suzanne. Suggestion was made to make it bigger. Suzanne stated extra signs will be made up and can be given to our Community Partners.

IV. NEW BUSINESS

- **New Employee Orientation – Checklist - Suzanne**
  Suzanne asked Team to look at Checklist and please communicate with her what needs to be added/deleted by Feb. 20.

- **Protected Health Information – Policy Employee Access - Suzanne**
  Suzanne asked Team to look at Checklist and please communicate with her what needs to be added/deleted by Feb. 20. Tom will look at as well.

- **Parking Policy - Suzanne**
  Suzanne stated there have been issues with the park cards for new staff. Some are given the day they start and they do not work for 3 days. Tamara stated she can take down to the Sheriff and get them inputted into system. HR should know we have this challenge. There is a concern with staff from Burton getting into South. It was suggested all Burton staff should be able to get into South. It was suggested HR input all staff for South. Toni to send HR a request to have this done.

  Tamara stated once a position is accepted we should follow-up with a courtesy call from the Supervisor. Mark stated we have a Welcome Letter we have started sending out to new staff again. Mark stated we may need to sit down with HR regarding this. We should have the employee start the Monday after a pay day.

- **Speakers Bureau - Suzanne**
  Suzanne asked for feedback at last meeting, there was none received. She needs recommendations and list of topics by Feb. 20.

- **Parking Cards for Interns – Mark**
  Mark stated we currently have 6 cards for Interns. We can get more from HR. Asked how many we should have total, it was agreed on 10 total.

- **MDCH Budget Cuts - Mark**
  Mark stated they are merging MDCH and Department of Human Services. The State has a budget deficit. He will forward the 2015-2016 cuts that he received via email to the Team.

V. STAFF REPORTS

Lisa:
Lisa passed out information per Joy's request regarding Open Positions. Discussion followed. It was stated that the Health Education Coordinator and the Public Health Nursing Supervisor positions are closed. Lisa to give this information to Joy.

Tamara:
5 new Community Health Worker's started. 4 for Healthy Start and 1 for Wisewoman. She will send out a welcome email.

The Personal Health area staff moves will be done in stages and hope to be completed in a few weeks.

The Health Education Coordinator for Healthy Start interviews are complete and hope to pick one soon.

Jim:
Jim stated we had a conference call with Dr. Rose and Stout regarding the water and Legionella issues. Recommendations were made regarding sampling, but there are many variables. It was suggested we write a White Paper. Suzanne stated she updated the questionnaire, it has many variables as well. Jim indicated that Dr. Rose mentioned we should be skeptical of Flint DPW's consultant, because the information can be presented as if there is no problem. There are solutions to the Flint water system issues, but it will be costly. Flint DPW is stalling and inhibiting the investigation.

Suzanne:
Ann will be doing Fit Testing, please help with getting staff to complete in a timely manner.

Public Health Conference this year will be May 5. Fundraising is in process. Will need staff to participate.

The City of Swartz Creek as gone Smoke-free in all their parks. We will be helping them with signage. Crossroads Village has gone 1 year Smoke-free with designated smoking areas. The Flint Journal has done survey's regarding this as well.

We are getting tobacco signage for our buildings and other Community Partners.

Speak to Your Health Community Survey for 13/14 is completed. We are working on a Logo and moving forward for 15/16.

The GCHD Library materials are available. A sample booklet will be available soon.

The Employee Newsletter is being revamped. The Annual Report newer version is being done and the Data Book is being revamped.

The DPG area is being cleaned out and archived.

NO COOPERATION FROM MDEQ

"LEGIONELLA - NO VIOLATION OF SAFE DRINKING WATER ACT"

<dwalling@cityofflint.com>
Cc: "Valacak, Mark" <MVALACAK@gchd.us>, "Cupal, Suzanne" <scupal@gchd.us>, "Hasan, Shurooq" <shasan@gchd.us>, "Childs, Bonnie" <BCHILDS@gchd.us>, "Hallwood, Dawn" <dhallwood@gchd.us>, "Johnson, M.D., Gary" <GJOHNSON@gchd.us>
Subject: Information Request and Documentation

Hello everyone,

The Genesee County Health Department has made several written and verbal requests for specific information since October, 2014, including a Freedom of Information Act Request on January 27, 2015. The information still has not been received and the city's lack of cooperation continues to prevent my office from performing our responsibilities.

The Genesee County Health Department has the responsibility to conduct illness investigations and consider all potential sources, this is not optional. In 2014, Genesee County experienced a significant increase of confirmed Legionella illnesses relative to previous years. Legionella can be a deadly, waterborne disease that typically affects the respiratory system.

The increase of the illnesses closely corresponds with the timeframe of the switch to Flint River water. The majority of the cases reside or have an association with the city. Also, McLaren Hospital identified and mitigated Legionella in their water system. This is rather glaring information and it needs to be looked into now, prior to the warmer summer months when Legionella is at its peak and we are potentially faced with a crisis.

This situation has been explicitly explained to MDEQ and many of the city's officials. I want to make sure, in writing that there are no misunderstandings regarding this significant and urgent public health issue. The Trihalomethane issues "pale in comparison" to the potential public health risks of Legionella.

I am submitting the attached FOIA request again and requesting that the legal obligations of the request are met. If the information is not available, please let me know. In the past, I have requested to meet with the water plant staff and MDEQ regarding Legionella concerns. I did not receive a response from the water plant staff and MDEQ declined. I think it is in the best interest for all stakeholders that we meet and discuss the issues.

Respectfully,

Jim

Jim Henry
Jim Henry RS, MBA
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E-mail jhenry@gchd.us

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

January 27, 2015

FOIA Coordinator, City of Flint
1101 S. Saginaw Street, 3rd floor
Flint, MI 48502

RE: Flint Water Plant Information Request

Dear FOIA Coordinator,

Under provisions of the Michigan Freedom of Information Act (MCLA 15.231 et seq; MSA 4.1801 (1) et seq) please provide copies of the following:

Provide specific water testing locations and laboratory results within the City of Flint public water system for Coliform, E-coli, Heterotrophic Bacteria and Trihalomethanes from January 1, 2010 to January 27, 2015. Provide any additional water testing that has been conducted for identifying potential public health risks. Include any available mapping of the water testing areas.

Provide a map delineating the boundaries of the City of Flint water distribution system. Include any changes to the boundaries, along with corresponding dates from January 1, 2014 to January 27, 2015.

Provide a map or list of locations, detailing dead ends, pooling, low pressure and any additional areas of concern within the City of Flint water distribution system. Include any modifications to the water distribution system addressing concerns, along with corresponding dates from January 1, 2014 to January 27, 2015.

If you determine that any of the requested information is exempt from disclosure, please detail what is being withheld and cite the exemption under FOIA. I anticipate the request being filled within five working days of receipt of this letter, as provided under FOIA. Please contact me at (810) 257-3618 if there are fees associated to comply with this request.

Sincerely,

Jim Henry

Jim Henry
Environmental Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Flint, MI 48502

Date: Fri, Mar 13, 2015 3:47 PM
To: jhenry@gchd.us;
Cc: Prysby, Mike (DEQ);Shekter Smith, Liane (DEQ);
Subject:RE : Information Request and Documentation

Mr. Henry,

The January 27, 2015, FOIA request you provided was directed to the City of Flint, not the DEQ. The DEQ has no record of a FOIA request from your office for such information. It is our understanding that the City has responded to your FOIA request, has helped you adequately redefine your request within the City's scope of public record to address such ambiguities as "any additional areas of concern", and provided you with additional information beyond the scope of your request.

The DEQ fully recognizes the public health threat posed to individuals that contract Legionnaires' Disease with the understanding that the disease is not contracted by ingestion of potable water and therefore not regulated under the federal Safe Drinking Water Act. Your email below claims that you have explicitly explained the situation to our Department. However, since contacting our office early last October to indicate a rise in cases, we have not received any further information regarding your epidemiological investigation into this matter.

Further, conclusions that legionella is coming from the public water system without the presentation of any substantiating evidence from your epidemiologic investigation appears premature and prejudice toward that end.

It is highly unlikely that legionella would be present in treated water coming from the City of Flint water treatment plant given the treatment plant's use of ozone along with complete treatment and chlorine disinfect contact time to comply with federal surface water treatment rules for potable water. Detections of total coliform or heterotrophic bacteria in the City's public water distribution system indicate an environment where bacterial growth may be supported. However, there is no direct correlation that can be made to the presence of legionella. While total organic carbon levels in potable water may serve as a food source for bacteria growth in private plumbing system, water temperatures in the City's distribution system are below legionella growth range, and chlorine residual levels would also limit such growth.

Our office agrees that water main breaks, water leaks, and system repairs are possible vectors for legionella to enter the public water system. These should be investigated as part of your epidemiology. DEQ staff can be made available to assist GCHD and the City regarding such matters, but to date no request by GCHD for any such meeting has been received, let alone declined as alleged in your email.

If GCHD is seeking assistance to complete its epidemiological investigation regarding this matter, such resource requests should be directed to the Michigan Department of Community Health. Our Office agrees that a multi-agency partnership would be beneficial to move forward and develop a unified response. In that respect, if our Office can be of any further assistance you may contact me directly.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: "Henry, James" <jhenry@gchd.us>
Date: March 10, 2015 at 6:40:17 PM EDT
To: Howard Croft <hcroft@cityofflint.com>, "Mike Prysby (DEQ)" <prysbym@michigan.gov>, Elizabeth Murphy <emurphy@cityofflint.com>, "Natasha Henderson" <nhenderson@cityofflint.com>, Jerry Ambrose <gambrose49@gmail.com>, Dayne Walling

Henry, James

From:	Henry, James
Sent:	Tuesday, March 17, 2015 11:18 AM
To:	Henry, James
Subject:	Re: Information Request and Documentation

Hello Mr. Busch

Thanks for your response. I'm looking forward to working with your office and hopefully the city moving forward. Based upon my experiences, I think it is necessary that my communications be candid, clear and followed up in writing whenever possible. Our goal is to successfully conduct this investigation and better protect our communities.

I appreciate the direct statements written in your email, although many are inconsistent with the investigation.

There hasn't been conclusions regarding the source of illness. Our team is gathering information and we suspect there may be several sources.

I have documented three telephone conversations with Mr. Michael Prysby, from your office on November??2014 and November??, which is different from the timeframe that you mention.

During the conversations I "explicitly explained" the details of our concerns regarding the municipal water system and requested some guidance and to meet with your office.

Mr. Prysby informed me that the concerns were discussed with you and there was no purpose to meet because no violation of the Safe Drinking Water Act has occurred.
You are correct, I did not contact your office again after these telephone conversations, but it was because of the response I received It seemed clear that your office was not interested in participation with the investigation. I documented the conversations as they occurred.
If it would help with the investigation and clarify this situation, I'll be happy to review phone records and discuss the converstions from November in detail.

My office clearly understands the perspective that no violation of the sdwa has occurred, which has been explained many times. It seems reasonable that your office would be involved, regardless if potential health risks from the municipal water are from consumption, dermal or inhalation.

I don't know how much value there would be with attempting to provide clarification regarding the other statements of your email, but I'll be happy to share the our accounts of the investigation.

My office has been working closely with MDCH and has spoken with CDC on several occasions regarding the epidemiological investigation. Also, we have been consulting with municipal water experts and recently began consulting with the USEPA. We have been informed that it is likely that small amounts of Legionella will pass through the treatment process, which is contradictory to your assessment of municipal water systems

Our team is in the process of developing plans, which may include sampling locations within the distribution system and comparing environmental and clinical samples. We also recognize the sensitive nature and want to be prepared if the evidence concludes that the municipal water is causing illnesses. Hopefully your office may be of assistance in these areas of the investigation.

If you or a representative from your office is availability to meet. I will make arrangements to accommodate your schedule. I think it would be appropriate for the city to attend meetings as well. Please let me know your earliest availability.

Respectfully
Jim.

------ Original message------
From: Busch , Stephen (DEQ)

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Busch, Stephen (DEQ) [mailto:BUSCHS@michigan.gov]
Sent: Friday, March 13, 2015 3:47 PM
To: Henry, James
Cc: Prysby, Mike (DEQ); Shekter Smith, Liane (DEQ)
Subject: RE: Information Request and Documentation

Mr. Henry,

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Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: "Henry, James" <jhenry@gchd.us>
Date: March 10, 2015 at 6:40:17 PM EDT
To: Howard Croft <hcroft@cityofflint.com>, "Mike Prysby (DEQ)" <prysbym@michigan.gov>, Elizabeth Murphy <emurphy@cityofflint.com>, "Natasha Henderson" <nhenderson@cityofflint.com>, Jerry Ambrose <gambrose49@gmail.com>, Dayne Walling <dwalling@cityofflint.com>
Cc: "Valacak, Mark" <MVALACAK@gchd.us>, "Cupal, Suzanne" <scupal@gchd.us>, "Hasan, Shurooq" <shasan@gchd.us>, "Childs, Bonnie" <BCHILDS@gchd.us>, "Hallwood, Dawn" <dhallwood@gchd.us>, "Johnson, M.D., Gary" <GJOHNSON@gchd.us>
Subject: Information Request and Documentation

Hello everyone,

The Genesee County Health Department has made several written and verbal requests for specific information since October, 2014, including a Freedom of Information Act Request on January 27, 2015. The information still has not been received and the city's lack of cooperation continues to prevent my office from performing our responsibilities.

The Genesee County Health Department has the responsibility to conduct illness investigations and consider all potential sources, this is not optional. In 2014, Genesee County experienced a significant increase of confirmed Legionella illnesses relative to previous years. Legionella can be a deadly, waterborne disease that typically affects the respiratory system.

The increase of the illnesses closely corresponds with the timeframe of the switch to Flint River water. The majority of the cases reside or have an association with the city. Also, McLaren Hospital identified and mitigated Legionella in their water system. This is rather glaring information and it needs to be looked into now, prior to the warmer summer months when Legionella is at its peak and we are potentially faced with a crisis.

This situation has been explicitly explained to MDEQ and many of the city's officials. I want to make sure, in writing that there are no misunderstandings regarding this significant and urgent public health issue. The Trihalomethane issues "pale in comparison" to the potential public health risks of Legionella.

I am submitting the attached FOIA request again and requesting that the legal obligations of the request are met. If the information is not available, please let me know. In the past, I have requested to meet with the water plant staff and MDEQ regarding Legionella concerns. I did not receive a response from the water plant staff and MDEQ declined. I think it is in the best interest for all stakeholders that we meet and discuss the issues.

Respectfully,

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Henry, James

From: Cupal, Suzanne
Sent: Tuesday, March 10, 2015 9:21 PM
To: Henry, James
Subject: RE: Information Request and Documentation

Thank you for all your efforts. The saddest thing is that they have the information. We could have had it so much sooner. It is really disappointing.

Have a good night!

Sent from my Windows Phone

From: Henry, James
Sent: 3/10/2015 9:08 PM
To: scupal@gchd.us
Subject: Re: Information Request and Documentation

Me too, but I don't expect much. Hopefully, Jerry Ambrose will be reasonable and smart enough to see the significance. I've been keeping records of all correspondence. Its disappointing that these people are the leaders of the city.

Sent from my phone.

------ Original message------
From: Cupal , Suzanne
Date: Tue, Mar 10, 2015 6:54 PM
To: Henry, James;
Subject:RE : Information Request and Documentation

I hope we receive a prompt response.

Sent from my Windows Phone

From: Henry, James
Sent: 3/10/2015 6:40 PM
To: Howard Croft; Mike Prysby (DEQ); Elizabeth Murphy; Natasha Henderson; Jerry Ambrose; Dayne Walling
Cc: Valacak, Mark; Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Hallwood, Dawn; Johnson, M.D., Gary
Subject: Information Request and Documentation

Hello everyone,

The Genesee County Health Department has made several written and verbal requests for specific information since October, 2014, including a Freedom of Information Act Request on January 27, 2015. The information still has not been received and the city's lack of cooperation continues to prevent my office from performing our responsibilities.

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This situation has been explicitly explained to MDEQ and many of the city's officials. I want to make sure, in writing that there are no misunderstandings regarding this significant and urgent public health issue. The Trihalomethane issues "pale in comparison" to the potential public health risks of Legionella.

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Respectfully,

Jim

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Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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E-mail jhenry@gchd.us

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[The entire original message is not included.]

As always time has taught me it is important to stick to the facts and document everything. Phone calls should be followed up with emails confirming what was said. I agree, it sounds like CYA and a little bit of convenient pass the buck. What we have is a gray area and as you stated we could use the support and expertise of both MDCH and MDEQ along with our other partners to more quickly get to the bottom of this investigation. I loved your comment: : "Perhaps the legislation should be revisited to better address risks."

I remember in college my professor talked about the states bungling of the PBB incident where the same gray areas and a failure of state agencies to work across departments led to finger pointing, delays and poor response that ultimately cost the state more money because they had to bring in outside experts because the state people lost their credibility with the public, the governor and the legislature.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

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"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter
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From: Henry, James
Sent: Thursday, March 19, 2015 12:43 PM
To: Cupal, Suzanne; Valacak, Mark
Subject: RE: Information Request and Documentation

Mark/Suzanne

I hope my email to Mr. Busch did not sound offensive. Most of his accounts are inconsistent with the investigation. MDEQ only responded after they were informed that their lack of participation was being documented. Mr. Busch copied his boss in his email response to me, I assume as cya for not participating. I did not copy his boss in return, because my intent is not to make him look foolish or create animosity. Hopefully, we can develop a multiagency partnership as he mentioned.

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
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Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Henry, James

From: Henry, James
Sent: Thursday, March 19, 2015 4:29 PM
To: Valacak, Mark; Cupal, Suzanne
Subject: RE: Information Request and Documentation

I appreciate your comments. It seems that the state agencies would have better cohesiveness, but it's not surprising.

A few years ago, Livingston County was involved with an outbreak associated with a raw milk cow share operation just north of Howell. MDCH demanded that we close the farm and MDARD demanded that we allow it to remain open. We couldn't have a conference call without the state agencies yelling at each other. They were basically useless.

It was an interesting investigation. The cow share participants sign a contract that makes them part owner of the cows therefore, they can drink the raw milk legally. Several were diagnosed with Q-Fever and Listeriosis. It was weird how even the sick people would not cooperate, because it might be detrimental to the farm, like a cult mentality. We found out quickly that the raw milk industry is nationally well organized, prepared for litigation and well funded. Livingston County Health Department would have been financial drained had we pursued closing the farm. The farm is open and they began implementing "best management practices." They also agreed to share factsheets regarding risks associated with raw milk, but I doubt any factsheets were distributed.

The raw milk industry markets towards the immune compromised, because they claim it cures everything, Lou Gehrigs Disease, Dementia, Cancer, Depression, helps with complicated pregnancies, etc... For some reason, they failed to mention the cancer patient who died after being diagnosed with Listeriosis, who was associated with the farm. The farm is called Dairy Delight. The website features nice looking jersey cows and a petting area with newly birthed calves, perfect for spreading Q Fever. If you want to check it out I attached the link. www.dairydelight.org

Jim Henry
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From: Valacak, Mark
Sent: Thursday, March 19, 2015 1:14 PM
To: Henry, James; Cupal, Suzanne
Subject: RE: Information Request and Documentation

Henry, James

From: Cupal, Suzanne
Sent: Wednesday, March 11, 2015 12:53 PM
To: 'rosejo@msu.edu'; Wade.Tim@epa.gov
Cc: Henry, James; Hasan, Shurooq; Childs, Bonnie
Subject: RE: water quality, Flint,

Shurooq first contacted Lauri Hicks (CDC/OID/NCIRD) per Dr. Stout's suggestion. Lauri no longer works on Legionellosis and referred the email to Laurel Garrison (CDC/OID/NCIRD).

We are going to have a brief conversation tomorrow (around 11am) with J. Michael Wright, the EPA Epidemiologist we met at the meeting last Thursday. We filled him in on the topics we would cover. I don't know how much has been shared with him regarding our increase in cases. He brought up some other concerns as well, particularly lead. Tim, we would appreciate all the input we can get. We would love the opportunity to speak with you.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

-----Original Message-----
From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Wednesday, March 11, 2015 12:37 PM
To: Cupal, Suzanne; Wade.Tim@epa.gov
Subject: Re: water quality, Flint,

Suzanne
I just met up with Dr. Tim Wade at EPA. He does epi studies on water
and helps with both drinking water and rec water issues. He would be very interested in talking with you all about Flint Water and the
Legionella and other health effects. He has alot of experience and the
whole issue of environmental justice and other concerns are at the forefront of his work.
Who did you contact at CDC?
Joan

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife

480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 3/11/2015 10:43 AM, Cupal, Suzanne wrote:
> Jennifer and Laura-
>
> At GCHD, we are working on testing plans of our own and are really
> interested in the idea of a CBPR approach to testing. I hope we can
> discuss further when we meet.
>
> Suzanne
>
> Suzanne Cupal, M.P.H.
> Public Health Supervisor
> Genesee County Health Department
> 630 S. Saginaw Street
> Suite 4
> Flint, MI 48502
> (810) 768-7970
> scupal@gchd.us
>
>
> -----Original Message-----
> From: jcarrera@msu.edu [mailto:jcarrera@msu.edu]
> Sent: Tuesday, March 10, 2015 6:04 PM
> To: Laura Sullivan
> Cc: rosejo@msu.edu; Cupal, Suzanne
> Subject: Re: water quality, Flint,
>
> Hi Laura,
>
> I am free on Thursday so that would work great. As for
> shutoffs in Detroit, I was thinking more in terms of the challenges of
> getting geographic data on shutoffs from DWSD. We can certainly
> explore options for collecting data on water accessibility in Flint.
> Let me know what time would work best on Thursday and we can make it happen.
> I look forward to speaking with you.
>
> Take care,
> Jennifer
>
>
> Jennifer Carrera PhD

> Assistant Professor
> Department of Sociology
> Environmental Science and Policy Program
> 509 East Circle Drive
> Room 316 Berkey Hall
> Michigan State University
> East Lansing, MI 48824-1111
> 517-488-4587
> jcarrera@msu.edu
>
>
> Quoting Laura Sullivan <lsulliva@kettering.edu>:
>
>> Hello Jennifer,
>>
>> This is such important research; I'm excited to be introduced to you!
>> I can imagine that studying the health implications of water shutoffs
>> in Detroit is a challenge. If you would be interested in trying to
>> correlate health problems with shut-offs in Flint, it would be easier.
>> I feel certain that there are residents throughout Flint who would
> help with your study.
>> I can meet online on Thursday afternoon, if that works for you.
>> Thursdays tend to be a good day for me, if another week would be
> better.
>> LS
>>
>> On Tue, Mar 10, 2015 at 2:43 PM, <jcarrera@msu.edu> wrote:
>>
>>> Hi Joan,
>>>
>>> Thank you for this introduction! I am excited to learn more
>>> about the work that you all are doing and what I can do to help.
>>>
>>> Hi Susan and Laura,
>>>
>>> I am a new faculty member in the Department of Sociology and the
>>> Environmental Science and Policy Program at Michigan State
>>> University. I did my doctoral research in Detroit and Lowndes
>>> County, Alabama looking at access to water and sanitation issues in
>>> the United States. This year I am doing postdoctoral work with Phil
>>> Brown at Northeastern University in his Social Science Environmental
>>> Health Research Institute. I return to MSU full time this summer.
>>>
>>> Currently, I am working on understanding the health
>>> implications of impaired water access in Detroit. Much of the
>>> mobilization has focused on the likely chance of widespread
>>> diarrheal disease outbreaks. I certainly would like to measure the
>>> incidence of diarrheal events in Detroit but matching that up
>>> geographically with
> water shutoffs is challenging.
>>> Additionally, though, there are mediating factors that will likely
>>> protect against severe acute outcomes. Instead, I am interested in

>>> rethinking the conversation about what the health impacts of
>>> impaired water access are in low-income communities living in
>>> substandard housing. I am working towards developing a citizen
>>> science project with water activists in Detroit to look at water quality in the home.
>>>
>>> I have not done any work in Flint but I have heard about
>>> significant water quality concerns. Since trust is such a major
>>> issue, perhaps a citizen science/community based participatory
>>> approach would be appropriate there as well. Under such a design,
>>> residents would be responsible for collecting their own water
>>> samples so that they are not having a bunch of strangers come into
>>> their private spaces. I would love to talk with you more about this
>>> approach if it is something that you are interested in exploring.
>>>
>>> If you are not interested in that approach and have something
>>> else in mind, I would still be interested in learning more about the
>>> work that you are doing and how we might be able to work together.
>>> We should set up a time to meet online as I will be in Boston
>>> through June. I look forward to hearing from you!
>>>
>>> Take care,
>>> Jennifer
>>>
>>>
>>>
>>> Jennifer Carrera PhD
>>> Assistant Professor
>>> Department of Sociology
>>> Environmental Science and Policy Program
>>> 509 East Circle Drive
>>> Room 316 Berkey Hall
>>> Michigan State University
>>> East Lansing, MI 48824-1111
>>> 517-488-4587
>>> jcarrera@msu.edu
>>>
>>>
>>> Quoting Joan Rose <rosejo@msu.edu>:
>>>
>>> Hello Jennifer, Laura and Suzanne
>>>> I want to introduce you all to each other via email.
>>>>
>>>> Jennifer, Laura and Suzanne are on a committee with me to examine
> the
>>>> water problems in Flint MI. I told them about the work you were
> doing in
>>>> Detroit. It could be interesting to maybe extend your work to
> Flint or
>>>> maybe even expand it. They are quite interested in this area
> bringing
>>>> public health and social science together. The trust in Flint
> around

>>>> water has evaporated. It will be very challenging to get it back.
>>>>
>>>> Maybe you all can start a conversation about:: Jennifer your work
>>>> and our interest in helping Flint..
>>>>
>>>>
>>>>
>>>>
>>>>
>>>> Laura Sullivan
>>>> lsulliva@kettering.edu <mailto:lsulliva@kettering.edu> Suzanne,
>>>> Cupal, MPH, Public Health Supervisor Genesee County Health Dept
>>>>
>>>> Jennifer Carrera PhD
>>>> Assistant Professor
>>>> Department of Sociology
>>>> Environmental Science and Policy Program
>>>> 509 East Circle Drive
>>>> Room 316 Berkey Hall
>>>> Michigan State University
>>>> East Lansing, MI 48824-1111
>>>> 517-488-4587
>>>> jcarrera@msu.edu
>>>>
>>>> Joan B. Rose
>>>> Homer Nowlin Chair in Water Research Dept of Fisheries and
>>>> Wildlife
>>>> 480 Wilson Road
>>>> Natural Resources Building, Room 13 Michigan State University East
>>>> Lansing, MI 48824 rosejo@msu.edu
>>>> Phone: 517.432-4412
>>>>
>>>> http://www.fw.msu.edu/~rosejo/
>>>> http://camra.msu.edu/
>>>> http://cws.msu.edu/
>>>>
>>>>
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>
>
>
>

Henry, James

From: Wright, Michael <Wright.Michael@epa.gov>
Sent: Thursday, March 19, 2015 6:25 PM
To: Cupal, Suzanne; Henry, James; Hasan, Shurooq; Childs, Bonnie; jmikewright@yahoo.com
Subject: RE: TTHM Fact Sheet
Attachments: TTHM 3-18_MW.docx

Thanks Suzanne. Yes, my concern was that Howard would sent out that old one to the community. So, please coordinate with him on this updated version. I just spoke briefly to him. He suggested he didn't disseminate that beyond the parties involved before, since I was adamant about not sending that old version out... But, I'd make sure the final version of this is the one that's shared with him and others. I know they are also eager to get information to clinicians and the medical community.

Please find my latest edits. I think this is close.

Mike
PS Please note I'll be on travel from 3/25 through 4/1 with limited EPA mail access, so try me at yahoo if urgent or my cell. Am not in tmrw either (or any Friday as it's my off day, but don't hesitate to contact me if needed).

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, March 18, 2015 11:20 AM
To: Wright, Michael; Henry, James; Hasan, Shurooq; Childs, Bonnie
Subject: RE: TTHM Fact Sheet

Mike -

I am on vacation this week. We have a general fact sheet on the GCHD website. This sheet will provide more guidance

:hose with health issues.

Nard Croft has not shared their plans for their communications. We want to be prepared. I have copied our team so
:y are aware of your concerns.

ank you. We greatly appreciate your support and communications.

ızanne

ent from my Windows Phone

From: Wright, Michael
Sent: 3/18/2015 7:53 AM
To: Hasan, Shurooq; Henry, James; rosenman@msu.edu; Cupal, Suzanne
Subject: RE: TTHM Fact Sheet

Suzanne;
I trust that you are still in contact with Howard Croft and have informed him that a revised TTHM Fact sheet (for clinicians) is pending? I was concerned that he sent around the old version to the whole advisory committee. Do you want me to inform him of that, and/or send a more current version of the draft statement? I assume that Shurooq had a more recent version in the works as well.
Thanks for clarifying,
Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Wright, Michael
Sent: Monday, March 16, 2015 9:32 AM
To: 'Hasan, Shurooq'; Henry, James; rosenman@msu.edu; Cupal, Suzanne
Subject: RE: TTHM Fact Sheet

Shurooq:
I have not seen the revised version following Jim's input, but this still needs considerable work.
We just need to make sure it's entirely accurate, easily understood, and has the requisite citations.
Thank you for sending it along,
Mike

630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Hasan, Shurooq
Sent: Friday, March 13, 2015 1:48 PM
To: 'rosenman@msu.edu'; 'Wright, Michael'; Cupal, Suzanne; Henry, James
Subject: TTHM Fact Sheet

Hello,

I have attached the most updated version of the TTHM Fact sheet sent to us by Dr. Rose. We have adapted it to include more information regarding filter usage as well as edits that have been made by Dr. Wright. Please review the fact sheet and share with us your thoughts/edits. We really appreciate all your help in this process.

Thank You,
Shurooq

Shurooq Hasan, M.P.H
Epidemiologist
Genesee County Health Department
630 S. Saginaw Street
Flint, MI 48502
(810) 257-3815
shasan@gchd.us

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

Trihalomethanes (TTHM)

What are Trihalomethanes (TTHM)

Trihalomethanes (TTHM) are a group of chemical byproducts formed when chlorine used for water disinfection reacts with naturally occurring organic material.

Public drinking water systems often experience temporary increases in Trihalomethanes due to short-term increases in chlorine disinfection. Chlorine increases usually occur in the summer months when warmer temperatures promote the growth of bacteria and organic material.

The USEPA has set an allowable level not to exceed 80 parts per billion (ppb) or micrograms per liter (ug/L). When the level is exceeded, then the public must be notified.

Possible health risks of Trihalomethanes

Studies suggest that elevated levels of total Trihalomethanes are not an immediate health concern to most people, but those with a severely compromised immune system, pregnant women, infants or elderly may have increased risks. Concerns regarding the risks should be discussed with health care providers.

People who drink water containing Trihalomethanes in excess of the allowable level over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

How to reduce exposure to Trihalomethanes

Use bottled water or a point-of-use home water filter (faucet mount, pour through pitcher style, and plumbed-in units).

Water filters should be certified by National Sanitation Foundation (NSF), Underwriters Laboratories (UL) or the Water Quality Association (WQA) to remove Trihalomethanes (look for the seals on the box). These filters are widely available for purchase at houseware or hardware stores.

For more information, please contact your water utility department and visit the websites below.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691---,00.html

http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm

Floyd J. McCree Courts & Human Services Building ♦ 630 S. Saginaw Street, Ste. 4 ♦ Flint, Michigan 48502-1540
Burton Branch ♦ G-3373 S. Saginaw Street ♦ Burton, Michigan 48529
Main Phone 810-257-3612 ♦ Visit us at: www.gchd.us

Henry, James

From: Cupal, Suzanne
Sent: Tuesday, March 10, 2015 9:21 PM
To: Henry, James
Subject: RE: Information Request and Documentation

Thank you for all your efforts. The saddest thing is that they have the information. We could have had it so much sooner. It is really disappointing.

Have a good night!

Sent from my Windows Phone

From: Henry, James
Sent: 3/10/2015 9:08 PM
To: scupal@gchd.us
Subject: Re: Information Request and Documentation

Me too, but I don't expect much. Hopefully, Jerry Ambrose will be reasonable and smart enough to see the significance. I've been keeping records of all correspondence. Its disappointing that these people are the leaders of the city.

Sent from my phone.

------ Original message------
From: Cupal , Suzanne
Date: Tue, Mar 10, 2015 6:54 PM
To: Henry, James;
Subject:RE : Information Request and Documentation

I hope we receive a prompt response.

Sent from my Windows Phone

From: Henry, James
Sent: 3/10/2015 6:40 PM
To: Howard Croft; Mike Prysby (DEQ); Elizabeth Murphy; Natasha Henderson; Jerry Ambrose; Dayne Walling
Cc: Valacak, Mark; Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Hallwood, Dawn; Johnson, M.D., Gary
Subject: Information Request and Documentation

Hello everyone,

The Genesee County Health Department has made several written and verbal requests for specific information since October, 2014, including a Freedom of Information Act Request on January 27, 2015. The information still has not been received and the city's lack of cooperation continues to prevent my office from performing our responsibilities.

The Genesee County Health Department has the responsibility to conduct illness investigations and consider all potential sources, this is not optional. In 2014, Genesee County experienced a significant increase of confirmed Legionella illnesses relative to previous years. Legionella can be a deadly, waterborne disease that typically affects the respiratory system.

The increase of the illnesses closely corresponds with the timeframe of the switch to Flint River water. The majority of the cases reside or have an association with the city. Also, McLaren Hospital identified and mitigated Legionella in their water system. This is rather glaring information and it needs to be looked into now, prior to the warmer summer months when Legionella is at its peak and we are potentially faced with a crisis.

This situation has been explicitly explained to MDEQ and many of the city's officials. I want to make sure, in writing that there are no misunderstandings regarding this significant and urgent public health issue. The Trihalomethane issues "pale in comparison" to the potential public health risks of Legionella.

I am submitting the attached FOIA request again and requesting that the legal obligations of the request are met. If the information is not available, please let me know. In the past, I have requested to meet with the water plant staff and MDEQ regarding Legionella concerns. I did not receive a response from the water plant staff and MDEQ declined. I think it is in the best interest for all stakeholders that we meet and discuss the issues.

Respectfully,

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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[The entire original message is not included.]

As always time has taught me it is important to stick to the facts and document everything. Phone calls should be followed up with emails confirming what was said. I agree, it sounds like CYA and a little bit of convenient pass the buck. What we have is a gray area and as you stated we could use the support and expertise of both MDCH and MDEQ along with our other partners to more quickly get to the bottom of this investigation. I loved your comment: : "Perhaps the legislation should be revisited to better address risks."

I remember in college my professor talked about the states bungling of the PBB incident where the same gray areas and a failure of state agencies to work across departments led to finger pointing, delays and poor response that ultimately cost the state more money because they had to bring in outside experts because the state people lost their credibility with the public, the governor and the legislature.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

Public Health

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter
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From: Henry, James
Sent: Thursday, March 19, 2015 12:43 PM
To: Cupal, Suzanne; Valacak, Mark
Subject: RE: Information Request and Documentation

Mark/Suzanne

I hope my email to Mr. Busch did not sound offensive. Most of his accounts are inconsistent with the investigation. MDEQ only responded after they were informed that their lack of participation was being documented. Mr. Busch copied his boss in his email response to me, I assume as cya for not participating. I did not copy his boss in return, because my intent is not to make him look foolish or create animosity. Hopefully, we can develop a multiagency partnership as he mentioned.

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Henry, James

From: Henry, James
Sent: Thursday, March 19, 2015 4:29 PM
To: Valacak, Mark; Cupal, Suzanne
Subject: RE: Information Request and Documentation

I appreciate your comments. It seems that the state agencies would have better cohesiveness, but it's not surprising.

A few years ago, Livingston County was involved with an outbreak associated with a raw milk cow share operation just north of Howell. MDCH demanded that we close the farm and MDARD demanded that we allow it to remain open. We couldn't have a conference call without the state agencies yelling at each other. They were basically useless.

It was an interesting investigation. The cow share participants sign a contract that makes them part owner of the cows therefore, they can drink the raw milk legally. Several were diagnosed with Q-Fever and Listeriosis. It was weird how even the sick people would not cooperate, because it might be detrimental to the farm, like a cult mentality. We found out quickly that the raw milk industry is nationally well organized, prepared for litigation and well funded. Livingston County Health Department would have been financial drained had we pursued closing the farm. The farm is open and they began implementing "best management practices." They also agreed to share factsheets regarding risks associated with raw milk, but I doubt any factsheets were distributed.

The raw milk industry markets towards the immune compromised, because they claim it cures everything, Lou Gehrigs Disease, Dementia, Cancer, Depression, helps with complicated pregnancies, etc... For some reason, they failed to mention the cancer patient who died after being diagnosed with Listeriosis, who was associated with the farm. The farm is called Dairy Delight. The website features nice looking jersey cows and a petting area with newly birthed calves, perfect for spreading Q Fever. If you want to check it out I attached the link. www.dairydelight.org

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
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From: Valacak, Mark
Sent: Thursday, March 19, 2015 1:14 PM
To: Henry, James; Cupal, Suzanne
Subject: RE: Information Request and Documentation

Henry, James

From: Cupal, Suzanne
Sent: Wednesday, March 11, 2015 12:53 PM
To: 'rosejo@msu.edu'; Wade.Tim@epa.gov
Cc: Henry, James; Hasan, Shurooq; Childs, Bonnie
Subject: RE: water quality, Flint,

Shurooq first contacted Lauri Hicks (CDC/OID/NCIRD) per Dr. Stout's suggestion. Lauri no longer works on Legionellosis and referred the email to Laurel Garrison (CDC/OID/NCIRD).

We are going to have a brief conversation tomorrow (around 11am) with J. Michael Wright, the EPA Epidemiologist we met at the meeting last Thursday. We filled him in on the topics we would cover. I don't know how much has been shared with him regarding our increase in cases. He brought up some other concerns as well, particularly lead. Tim, we would appreciate all the input we can get. We would love the opportunity to speak with you.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

-----Original Message-----
From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Wednesday, March 11, 2015 12:37 PM
To: Cupal, Suzanne; Wade.Tim@epa.gov
Subject: Re: water quality, Flint,

Suzanne
I just met up with Dr. Tim Wade at EPA. He does epi studies on water
and helps with both drinking water and rec water issues. He would be very interested in talking with you all about Flint Water and the
Legionella and other health effects. He has alot of experience and the
whole issue of environmental justice and other concerns are at the forefront of his work.
Who did you contact at CDC?
Joan

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife

480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 3/11/2015 10:43 AM, Cupal, Suzanne wrote:
> Jennifer and Laura-
>
> At GCHD, we are working on testing plans of our own and are really
> interested in the idea of a CBPR approach to testing. I hope we can
> discuss further when we meet.
>
> Suzanne
>
> Suzanne Cupal, M.P.H.
> Public Health Supervisor
> Genesee County Health Department
> 630 S. Saginaw Street
> Suite 4
> Flint, MI 48502
> (810) 768-7970
> scupal@gchd.us
>
>
> -----Original Message-----
> From: jcarrera@msu.edu [mailto:jcarrera@msu.edu]
> Sent: Tuesday, March 10, 2015 6:04 PM
> To: Laura Sullivan
> Cc: rosejo@msu.edu; Cupal, Suzanne
> Subject: Re: water quality, Flint,
>
> Hi Laura,
>
> I am free on Thursday so that would work great. As for
> shutoffs in Detroit, I was thinking more in terms of the challenges of
> getting geographic data on shutoffs from DWSD. We can certainly
> explore options for collecting data on water accessibility in Flint.
> Let me know what time would work best on Thursday and we can make it happen.
> I look forward to speaking with you.
>
> Take care,
> Jennifer
>
>
> Jennifer Carrera PhD

> Assistant Professor
> Department of Sociology
> Environmental Science and Policy Program
> 509 East Circle Drive
> Room 316 Berkey Hall
> Michigan State University
> East Lansing, MI 48824-1111
> 517-488-4587
> jcarrera@msu.edu
>
>
> Quoting Laura Sullivan <lsulliva@kettering.edu>:
>
>> Hello Jennifer,
>>
>> This is such important research; I'm excited to be introduced to you!
>> I can imagine that studying the health implications of water shutoffs
>> in Detroit is a challenge. If you would be interested in trying to
>> correlate health problems with shut-offs in Flint, it would be easier.
>> I feel certain that there are residents throughout Flint who would
> help with your study.
>> I can meet online on Thursday afternoon, if that works for you.
>> Thursdays tend to be a good day for me, if another week would be
> better.
>> LS
>>
>> On Tue, Mar 10, 2015 at 2:43 PM, <jcarrera@msu.edu> wrote:
>>
>>> Hi Joan,
>>>
>>> Thank you for this introduction! I am excited to learn more
>>> about the work that you all are doing and what I can do to help.
>>>
>>> Hi Susan and Laura,
>>>
>>> I am a new faculty member in the Department of Sociology and the
>>> Environmental Science and Policy Program at Michigan State
>>> University. I did my doctoral research in Detroit and Lowndes
>>> County, Alabama looking at access to water and sanitation issues in
>>> the United States. This year I am doing postdoctoral work with Phil
>>> Brown at Northeastern University in his Social Science Environmental
>>> Health Research Institute. I return to MSU full time this summer.
>>>
>>> Currently, I am working on understanding the health
>>> implications of impaired water access in Detroit. Much of the
>>> mobilization has focused on the likely chance of widespread
>>> diarrheal disease outbreaks. I certainly would like to measure the
>>> incidence of diarrheal events in Detroit but matching that up
>>> geographically with
> water shutoffs is challenging.
>>> Additionally, though, there are mediating factors that will likely
>>> protect against severe acute outcomes. Instead, I am interested in

>>> rethinking the conversation about what the health impacts of
>>> impaired water access are in low-income communities living in
>>> substandard housing. I am working towards developing a citizen
>>> science project with water activists in Detroit to look at water quality in the home.
>>>
>>> I have not done any work in Flint but I have heard about
>>> significant water quality concerns. Since trust is such a major
>>> issue, perhaps a citizen science/community based participatory
>>> approach would be appropriate there as well. Under such a design,
>>> residents would be responsible for collecting their own water
>>> samples so that they are not having a bunch of strangers come into
>>> their private spaces. I would love to talk with you more about this
>>> approach if it is something that you are interested in exploring.
>>>
>>> If you are not interested in that approach and have something
>>> else in mind, I would still be interested in learning more about the
>>> work that you are doing and how we might be able to work together.
>>> We should set up a time to meet online as I will be in Boston
>>> through June. I look forward to hearing from you!
>>>
>>> Take care,
>>> Jennifer
>>>
>>>
>>>
>>> Jennifer Carrera PhD
>>> Assistant Professor
>>> Department of Sociology
>>> Environmental Science and Policy Program
>>> 509 East Circle Drive
>>> Room 316 Berkey Hall
>>> Michigan State University
>>> East Lansing, MI 48824-1111
>>> 517-488-4587
>>> jcarrera@msu.edu
>>>
>>>
>>> Quoting Joan Rose <rosejo@msu.edu>:
>>>
>>> Hello Jennifer, Laura and Suzanne
>>>> I want to introduce you all to each other via email.
>>>>
>>>> Jennifer, Laura and Suzanne are on a committee with me to examine
> the
>>>> water problems in Flint MI. I told them about the work you were
> doing in
>>>> Detroit. It could be interesting to maybe extend your work to
> Flint or
>>>> maybe even expand it. They are quite interested in this area
> bringing
>>>> public health and social science together. The trust in Flint
> around

>>>> water has evaporated. It will be very challenging to get it back.
>>>>
>>>> Maybe you all can start a conversation about:: Jennifer your work
>>>> and our interest in helping Flint..
>>>>
>>>>
>>>>
>>>>
>>>>
>>>> Laura Sullivan
>>>> lsulliva@kettering.edu <mailto:lsulliva@kettering.edu> Suzanne,
>>>> Cupal, MPH, Public Health Supervisor Genesee County Health Dept
>>>>
>>>> Jennifer Carrera PhD
>>>> Assistant Professor
>>>> Department of Sociology
>>>> Environmental Science and Policy Program
>>>> 509 East Circle Drive
>>>> Room 316 Berkey Hall
>>>> Michigan State University
>>>> East Lansing, MI 48824-1111
>>>> 517-488-4587
>>>> jcarrera@msu.edu
>>>>
>>>> Joan B. Rose
>>>> Homer Nowlin Chair in Water Research Dept of Fisheries and
>>>> Wildlife
>>>> 480 Wilson Road
>>>> Natural Resources Building, Room 13 Michigan State University East
>>>> Lansing, MI 48824 rosejo@msu.edu
>>>> Phone: 517.432-4412
>>>>
>>>> http://www.fw.msu.edu/~rosejo/
>>>> http://camra.msu.edu/
>>>> http://cws.msu.edu/
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>

Henry, James

From: Wright, Michael <Wright.Michael@epa.gov>
Sent: Thursday, March 19, 2015 6:25 PM
To: Cupal, Suzanne; Henry, James; Hasan, Shurooq; Childs, Bonnie; jmikewright@yahoo.com
Subject: RE: TTHM Fact Sheet
Attachments: TTHM 3-18_MW.docx

Thanks Suzanne. Yes, my concern was that Howard would sent out that old one to the community. So, please coordinate with him on this updated version. I just spoke briefly to him. He suggested he didn't disseminate that beyond the parties involved before, since I was adamant about not sending that old version out... But, I'd make sure the final version of this is the one that's shared with him and others. I know they are also eager to get information to clinicians and the medical community.

Please find my latest edits. I think this is close.

Mike
PS Please note I'll be on travel from 3/25 through 4/1 with limited EPA mail access, so try me at yahoo if urgent or my cell. Am not in tmrw either (or any Friday as it's my off day, but don't hesitate to contact me if needed).

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, March 18, 2015 11:20 AM
To: Wright, Michael; Henry, James; Hasan, Shurooq; Childs, Bonnie
Subject: RE: TTHM Fact Sheet

Mike -

I am on vacation this week. We have a general fact sheet on the GCHD website. This sheet will provide more guidance

for those with health issues.

Howard Croft has not shared their plans for their communications. We want to be prepared. I have copied our team so they are aware of your concerns.

Thank you. We greatly appreciate your support and communications.

Suzanne

Sent from my Windows Phone

From: Wright, Michael
Sent: 3/18/2015 7:53 AM
To: Hasan, Shurooq; Henry, James; rosenman@msu.edu; Cupal, Suzanne
Subject: RE: TTHM Fact Sheet

Suzanne;
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Thanks for clarifying,
Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Wright, Michael
Sent: Monday, March 16, 2015 9:32 AM
To: 'Hasan, Shurooq'; Henry, James; rosenman@msu.edu; Cupal, Suzanne
Subject: RE: TTHM Fact Sheet

Shurooq:
I have not seen the revised version following Jim's input, but this still needs considerable work.
We just need to make sure it's entirely accurate, easily understood, and has the requisite citations.
Thank you for sending it along,
Mike

630 S. Saginaw St., Suite 4
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Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Hasan, Shurooq
Sent: Friday, March 13, 2015 1:48 PM
To: 'rosenman@msu.edu'; 'Wright, Michael'; Cupal, Suzanne; Henry, James
Subject: TTHM Fact Sheet

Hello,

I have attached the most updated version of the TTHM Fact sheet sent to us by Dr. Rose. We have adapted it to include more information regarding filter usage as well as edits that have been made by Dr. Wright. Please review the fact sheet and share with us your thoughts/edits. We really appreciate all your help in this process.

Thank You,
Shurooq

Shurooq Hasan, M.P.H
Epidemiologist
Genesee County Health Department
630 S. Saginaw Street
Flint, MI 48502
(810) 257-3815
shasan@gchd.us

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

Trihalomethanes (TTHM)

What are Trihalomethanes (TTHM)

Trihalomethanes (TTHM) are a group of chemical byproducts formed when chlorine used for water disinfection reacts with naturally occurring organic material.

Public drinking water systems often experience temporary increases in Trihalomethanes due to short-term increases in chlorine disinfection. Chlorine increases usually occur in the summer months when warmer temperatures promote the growth of bacteria and organic material.

The USEPA has set an allowable level not to exceed 80 parts per billion (ppb) or micrograms per liter (ug/L). When the level is exceeded, then the public must be notified.

Possible health risks of Trihalomethanes

Studies suggest that elevated levels of total Trihalomethanes are not an immediate health concern to most people, but those with a severely compromised immune system, pregnant women, infants or elderly may have increased risks. Concerns regarding the risks should be discussed with health care providers.

People who drink water containing Trihalomethanes in excess of the allowable level over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

How to reduce exposure to Trihalomethanes

Use bottled water or a point-of-use home water filter (faucet mount, pour through pitcher style, and plumbed-in units).

Water filters should be certified by National Sanitation Foundation (NSF), Underwriters Laboratories (UL) or the Water Quality Association (WQA) to remove Trihalomethanes (look for the seals on the box). These filters are widely available for purchase at houseware or hardware stores.

For more information, please contact your water utility department and visit the websites below.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691---,00.html

http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

Total Trihalomethane (THM) Fact Sheet

WHAT ARE THE HEALTH ISSUES ASSOCIATED WITH THMs?

THMs are a type of disinfection by-product that are formed during the disinfection step of water treatment. Disinfection of water is critically important to prevent waterborne disease, and, therefore, is essential for the water industry to comply with the *Safe Drinking Water Act.* Health agencies including the World Health Organization support disinfection to control microorganisms. Thus, the goal for water treatment is to obtain microbial safe water while minimizing the formation of disinfection by-products.

Some studies have suggested that THMs in drinking water may be associated with fetal growth restriction and certain birth defects when consumed during pregnancy. However, there is currently insufficient evidence to establish a causal link between adverse reproductive outcomes and the THM levels found in drinking water.

Although some people who drink water containing THMs in excess of the standard over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer, no definitive links with adverse health outcomes have been established when drinking water in excess of the standard for a shorter time period.

WHAT TO DO WHEN THM LEVELS ARE HIGH?

A carefully selected bottled water (check www.nrdc.org for bottled water test results) or water that has been filtered by a home system could be used. Filtration devices can eliminate up to 95% of THMs in water as well as all other disinfection byproducts. They can also help to improve both the taste and smell of the water. As with any filtration systems, failure to maintain this type of equipment properly may make treatment ineffective and may create the potential for contamination. For more information regarding recommended filtration devices refer to www.nsf.org.

If you are concerned about THMs in tap water, please call Dr. Gary Johnson, Medical Director at the Genesee County Health Department at 810-257-3155 or gjohnson@gchd.us.

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

Total Trihalomethane (THM) Fact Sheet

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If you are concerned about THMs in tap water, please call Dr. Gary Johnson, Medical Director at the Genesee County Health Department at 810-257-3155 or gjohnson@gchd.us.

Henry, James

From: Johnson, M.D., Gary
Sent: Wednesday, March 25, 2015 10:51 AM
To: Cupal, Suzanne; Henry, James; Hasan, Shurooq; Childs, Bonnie
Subject: RE: Advisory Meeting, City of Flint

I have a Community and Environmental Health committee meeting today at 12:30pm

---

From: Cupal, Suzanne
Sent: Wednesday, March 25, 2015 8:54 AM
To: Johnson, M.D., Gary; Henry, James; Hasan, Shurooq; Childs, Bonnie
Subject: RE: Advisory Meeting, City of Flint

I am free today. I am meeting Dr. Sullivan for lunch tomorrow with Jim at 11am and have Speak meetings in the afternoon.

My team will be at the Epi conference on Friday.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Johnson, M.D., Gary
Sent: Wednesday, March 25, 2015 8:53 AM
To: Henry, James; Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie
Subject: RE: Advisory Meeting, City of Flint

Thanks, Jim. What is the current status of the meeting?

From: Henry, James
Sent: Monday, March 23, 2015 9:01 AM
To: Cupal, Suzanne; Hasan, Shurooq; Johnson, M.D., Gary; Childs, Bonnie
Subject: FW: Advisory Meeting, Cityof Flint

Hey everyone,

I received the email below and attachments from Howard Croft, DPW, late Friday afternoon.

Shurooq and I discussed a few ideas Friday morning regarding the City's FOIA response and prioritizing. We may have opportunities for environmental sampling relative to our most recent Legionella case. We should meet soon to nail down our tentative action plans.

I have requested a meeting with MDEQ this week and I intend to invite the City. I'll keep you informed.

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Friday, March 20, 2015 4:03 PM
To: Amy Hovey; Brennan Elm Park Senior Community Corporation; Carma Lewis; catherine.sheppard; cbruett; Chris Zuwala; City Of Flint; Clarence Pierce; claytons3; connie.russell; crmcclinton; ctomm; Diana Phillips; dpmgt; flintfreedom_fund; Florlisa Stebbins; gla; Jack Stock; Jackie Poplar; Henry, James; Jamie Gaskin; Jason Caya; jcurtis; jiking155; jmanse; John Waddell; johnsonreid; jwright@co.genesee.mi.us; kboles@valleyaaa.org; Kevin J. Keane; kevin.roach; khamlet; kittle.robert; kroddy; LaMonica Harris; Laura Sullivan; lisa.poma; LWatkins@flintschools.org; mcarnevale; mddst; Megan Hunter; Melissa Mays; Mike Sargent; mmelenbrink; Montel Menifee; nkopek; Norb Birchmeier; Pete Levine; rcarter; Rebecca Fedewa; repphelps@house.mi.gov; revalharris1; rstanley; Russell Hudson; sborrego; sheldonneeley; suptmarshall; Tony Martin; William Hammond
Subject: Advisory Meeting

Advisory Team,

I am writing to thank all of you for your dedicated effort in attempting to work through the challenging times that the City is faced with. We will continue to evaluate the best forum and venue moving forward but we are committed to the engagement of the community and the increased transparency and communication.

I am forwarding documents that were distributed at the recent meeting and will continue to look for and value input from this group.

Please do not hesitate to email me with requests or comments.

Thank you,

--
Howard Croft
Public Works Director

City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Henry, James

From: Hasan, Shurooq
Sent: Tuesday, March 31, 2015 9:00 AM
To: Henry, James; Childs, Bonnie
Cc: Cupal, Suzanne
Subject: RE: Legionella

Hi,

I just wanted to let you all know the CD nurses notified me that Mclaren was unable to get a positive legionella isolate from the most recent legionella case so we will not be need an environmental sample from the individual's home.

Thanks,
Shurooq

From: Henry, James
Sent: Tuesday, March 31, 2015 8:37 AM
To: Childs, Bonnie
Cc: Cupal, Suzanne; Hasan, Shurooq
Subject: Legionella

Bonnie,

Will you please let me know as soon as we receive another Legionella case, so we can move quickly regarding environmental sampling.

Thanks
Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Henry, James

From: Henry, James
Sent: Tuesday, April 7, 2015 1:33 PM
To: PRYSBYM@michigan.gov
Subject: Re: Legionella Conference Call w/ MDCH

Thank you

Sent from my phone.

------ Original message------
From: Prysby , Mike (DEQ)
Date: Tue, Apr 7, 2015 12:46 PM
To: Busch, Stephen (DEQ);Henry, James;
Cc: Benzie, Richard (DEQ);Shekter Smith, Liane (DEQ);
Subject:RE: Legionella Conference Call w/ MDCH

I am available

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Busch, Stephen (DEQ)
Sent: Tuesday, April 07, 2015 12:10 PM
To: Henry, James
Cc: Prysby, Mike (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ)
Subject: RE: Legionella Conference Call w/ MDCH

I am out of the office on Sick Leave today.

Mike Prysby will try to call in.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Tuesday, April 07, 2015 12:06 PM
To: Busch, Stephen (DEQ)
Cc: Prysby, Mike (DEQ)
Subject: Legionella Conference Call w/ MDCH

Hello Mr. Busch,

If possible would you or a representative from your office please attend the conference call that is being hosted by MDCH regarding the Legionella cases in Genesee County. Your knowledge and experiences may help us better understand the Flint municipal water system and municipal water in general, relative to Legionella. I understand that this is short notice, the meeting is today at 2:30pm and the call line is below.

1-877-873-8017
Access code: 7931338

Thank you
Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Hasan, Shurooq
Sent: Tuesday, April 7, 2015 10:25 AM
To: Henry, James
Subject: FW: Conference call line

From: Johnson, Shannon (DCH) [mailto:JohnsonS61@michigan.gov]
Sent: Monday, April 06, 2015 8:40 AM
To: Hasan, Shurooq
Subject: Conference call line

Hi Shurooq,

The conference call line for tomorrow's call from 2:30-3:30pm is:

1-877-873-8017
Access code: 7931338

Thanks,
Shannon

Shannon Andrews Johnson, MPH
Infectious Disease Epidemiologist
Michigan Dept. of Community Health
201 Townsend St., CVB 5th Floor
Lansing, MI 48913
Phone: 517-335-8165
Fax: 517-335-8263

Henry, James

From: Cupal, Suzanne
Sent: Wednesday, April 8, 2015 8:22 AM
To: 'Wright, Michael'; Henry, James
Subject: RE: Lead Water Results and FOIA Requests

Thank you for your efforts, Michael. We had a call with MDCH yesterday and they mentioned that someone from the region 5 office reached out to their environmental division. MDCH has been quite candid with us to let us know they do not have staff with type 1 municipal water supply expertise. We informed them that we had been reaching out to other agencies and wanted their cooperation and collaboration in that process..

We have spoken to the CDC and they are prepared to provide assistance. They wanted us to reach out through MDCH, which we did yesterday. We spoke with Julia Gargano and her boss Jonathan Yoder. I will be giving Jonathan a call today to let him know the results of our telephone conversation with MDCH yesterday. We hope we will be able to talk with them soon.

Jim invited DEQ to join our conversation with MDCH yesterday and they did participate in the call. It is the first time they have participated in anything we have requested of them. They shared some of the recommendation that have made to our local water folks and that was extremely helpful information. We hope the meeting gives them some perspective regarding our concerns.

Thank for your recommendations regarding the FOIA requests. We hope after talking with the CDC and EPA we will receive recommendations on sampling. We appreciate you keeping us in the loop regarding activities on your end.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Wright, Michael [mailto:Wright.Michael@epa.gov]
Sent: Tuesday, April 07, 2015 5:34 PM
To: Henry, James
Cc: Cupal, Suzanne
Subject: Lead Water Results and FOIA Requests

Suzanne and Jim:

I recently spoke with the EPA Region 5 folks. They intend to talk to the State (DEQ) folks to try and "grease the skids" with respect to data access, if nothing else. They mentioned that they saw the FOIAs and encouraged you to be as specific and targeted as possible. Because if they are No "responsive documents", then the requests may go unfilled. I told them that my expectation is that the technical panel would be privy to the water sampling done for residents as well, so I hope they also can get clarity on that. BTW, it sounded like the one elevated Lead situation is being addressed (i.e. monitored and mitigated), and they characterized it as fairly unique situation.

Lastly, I am aware of folks here locally in another EPA lab who are doing Legionella work and could possibly assist in sampling and analysis if that is still of interest? Did you have any luck w/ CDC also?
Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Wright, Michael
Sent: Thursday, April 02, 2015 7:18 PM
To: 'Henry, James'
Cc: Cupal, Suzanne
Subject: RE: Lead Water Results and FOIA Requests

PS: Not sure if you saw this or had Hannah's email.. Might be worth emailing/calling her.
Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Thursday, April 02, 2015 5:19 PM
To: Wright, Michael
Cc: Cupal, Suzanne
Subject: Lead Water Results and FOIA Requests

Mike

Please see the attachments and thanks for your assistance. The attachments labeled screenshot are the Lead results.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
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From: Wright, Michael [mailto:Wright.Michael@epa.gov]
Sent: Thursday, April 2, 2015 1:40 PM
To: Henry, James
Cc: Cupal, Suzanne
Subject: RE: TTHM Fact Sheet

Jim:
Can you share the lead results you indicated below when you send the FOIA request information.
Thanks
Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Friday, March 13, 2015 2:32 PM
To: Hasan, Shurooq; rosenman@msu.edu; Wright, Michael; Cupal, Suzanne
Subject: RE: TTHM Fact Sheet

Sharooq,

The 3rd paragraph of the fact sheet states an opinion, I recommend rewording. "a water utility is doing a good job"

Also, 3rd paragraph, I do not know if all elderly people are considered "severely immunocompromised".

The 4th paragraph of the fact sheet may be misleading. "A particular concern is if other contaminants such as lead, nitrates or pesticides are found in the water. These have been tested and are at safe levels in the drinking water."

I have lab results for lead that indicate otherwise. Maybe if the statement was written similar to the following.... "these have been tested at the plant and water leaving the plant are at safe levels"

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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E-mail jhenry@gchd.us

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From: Hasan, Shurooq
Sent: Friday, March 13, 2015 1:48 PM
To: 'rosenman@msu.edu'; 'Wright, Michael'; Cupal, Suzanne; Henry, James
Subject: TTHM Fact Sheet

Hello,

I have attached the most updated version of the TTHM Fact sheet sent to us by Dr. Rose. We have adapted it to include more information regarding filter usage as well as edits that have been made by Dr. Wright. Please review the fact sheet and share with us your thoughts/edits. We really appreciate all your help in this process.

Thank You,
Shurooq

Shurooq Hasan, M.P.H
Epidemiologist
Genesee County Health Department
630 S. Saginaw Street
Flint, MI 48502
(810) 257-3815
shasan@gchd.us

Henry, James

From: Hasan, Shurooq
Sent: Thursday, April 9, 2015 9:36 AM
To: Henry, James
Subject: FW: Questionnaire changes
Attachments: Final Genesee supplemental questionnaire 2-23-15.docx

Importance: High

From: Johnson, Shannon (DCH) [mailto:JohnsonS61@michigan.gov]
Sent: Monday, February 23, 2015 9:04 AM
To: Hasan, Shurooq; Henry, James
Cc: Bolen, Timothy (DCH); Weinberg, Meghan (DCH); Tyndall Snow, Leigh (DCH)
Subject: RE: Questionnaire changes
Importance: High

Hi Shurooq and Jim,

Here's the updated questionnaire with all the final changes. Collecting the onset dates for all the symptoms just ended up taking too much time. Please pass this along to anyone who might need it at GCHD.

Thanks!
Shannon

From: Johnson, Shannon (DCH)
Sent: Friday, February 20, 2015 4:39 PM
To: 'shasan@gchd.us'; jhenry@gchd.us
Subject: Questionnaire changes
Importance: High

Hi,

We ran through practicing the survey this afternoon and we do actually have a couple changes. Sorry about that. It takes closer to 30 minutes and we're going to go ahead and cut the "symptom start/still ill?" portion. I'll send you a FINAL final version Monday morning.

MDSS ID _____

Legionellosis Questionnaire
Genesee County, 2014-2015

Interviewer Identification

Date of Interview: _____ Interviewer's Name: _____

Health Dept.: _____ Phone Number: _____ E-mail: _____

What was the patient's outcome? ☐ *RECOVERED* ☐ *STILL ILL* ☐ *DIED* ☐ *UNK*

Patient Contact Information

Name: _____ Age: _____ Sex: ☐ M ☐ F

Street address: _____ City: _____

State: _____ Zip: _____ County: _____

Daytime Phone: _____ Evening Phone: _____

Surrogate Contact Information *<List surrogate contact information if patient is too unwell or has died>*

Name: _____

Daytime Phone: _____ Evening Phone: _____

Relationship to Patient: _____

Hello, my name is _____ and I'm calling from _____ (health department). We are investigating a cluster of respiratory illnesses in Genesee County. At this point, the source of these illnesses is still under investigation. We are hoping this interview will provide further information and answers about the illnesses. I'd like to ask you a few questions about your home and your exposures during the 2 weeks before you got sick. You do not have to answer any of the questions, but any assistance you can provide is appreciated. Do you have about 30 minutes to talk? If not now, when would be a good time for me to call back? _____

<If the case is from more than 1 month prior, the following text may be used: >

It might be helpful for you to collect documents such as a calendar, receipts, credit card or bank statements to jog your memory about your activities and where you were in the 2 weeks prior to getting sick. The only information we would ask you to share from these are dates and locations. Would you like me to call you back after you have time to collect these materials? When would be a convenient day and time for me to call you back? _____

I have that your first symptom started on *<insert onset date>* _____. Is this correct?

☐ Yes ☐ No ☐ Not sure

If no, what was the first date you started feeling sick? ____/____/____

List dates of exposure period: from ____/____/____ *to* ____/____/____ *<The exposure period includes the 2 weeks before the date of illness onset>*

MDSS ID _____

Illness Information

1.) During your illness, did you have any of the following symptoms?

	Check one:		
	YES	NO	UNK
Diagnosis of pneumonia			
Fever If yes, highest temp:_____			
Chills			
Cough			
Nausea			
Vomiting			
Diarrhea			
Aches or muscle pains			
Chest pain			
Shortness of breath			
Sore throat			
Headaches			
Other symptoms (*specify*):			

Exposure Information

2.) How long have you lived at your current residence? _____

<If they have moved since the listed exposure period, indicate that you are asking about the house they lived in prior to becoming sick>

a.) If you moved after the exposure period/illness, what was your previous residence address? _____

3.) Where did you get your tap (drinking and other household use) water from between ___/___/___ and ___/___/___ ? *<Exposure period from above>*

- ☐ 1. City of Flint Water
- ☐ 2. City of Flint Township Water
- ☐ 3. Other municipal water system
- ☐ 4. Private well
- ☐ 5. Unknown
- ☐ 6. Other _____

4.) During the last year, has the water pressure at your residence changed? ☐ Yes ☐ No ☐ Not Sure

a.) If yes, did the water pressure: ☐ Increase ☐ Decrease

b). If yes, when did the water pressure change occur? _____

MDSS ID _____

5.) During the last year, has the water quality (appearance, taste, smell) at your residence changed?
☐ Yes ☐ No ☐ Not Sure
a.) If yes, please describe the change in the water quality:_____
_____
b). If yes, when did the water quality change occur? _____

6.) Prior to your illness, did you make any recent plumbing changes or repairs at your residence?
☐ Yes ☐ No ☐ Not sure
a.) If yes, please describe the changes/repairs and give the dates the work was done.
_____
_____

7.) Prior to your illness, were there any water main breaks or other water line issues that affected the water at your residence, including boil water advisories? ☐ Yes ☐ No ☐ Not sure
a.) If yes, please describe the water main/line issues or boil water advisories and give the dates they occurred.
_____
_____

I'd like to ask you some questions about what you did during the 2 weeks **before** you got sick.
The time period I'm asking about is between ___/___/___ and ___/___/___.*<Exposure period>*
During this 2 week period, did you:

8.) Work or volunteer, either full or part time? ☐ Yes ☐ No ☐ Not sure
a.) If yes, complete the following table:

Job description	Company	Location	Any exposure to misty water?

9.) Spend any time in a hospital, doctor's office, clinic, or dentist office as a patient, visitor, employee, or volunteer? ☐ Yes ☐ No ☐ Not sure
a.) If yes, check all that apply:

Exposure	Date(s)	Reason for Visit	Name & City of Hospital/ Office/ Clinic	Name of Doctor
Inpatient ☐	Admission_____ Discharge_____			
Outpatient ☐				
Visitor ☐				
Employee ☐				
Volunteer ☐				

MDSS ID _____

10.) Visit, reside, or work in a long term care facility, nursing home, assisted living facility, or senior living facility? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table:

Exposure	Date(s)	Name & City of Facility
Resident ☐		
Visitor ☐		
Employee ☐		

11.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you spend any nights away from home (excluding healthcare settings)? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table: *<prompts: hotel, campground, cabin, cruise, second home, with family, etc.>*

Accommodation Type/Name	Address Street, City, State	Floor/Room No.	Dates of Stay	
			Arrival	Departure

12.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you visit any of the following community venues?

	Check one:					
Venue	YES	NO	UNK	Date(s)	Name of Venue	Address
Hotel (*without* staying overnight – e.g. dinner, wedding)						
Auditorium						
Barbershop or Hair salon						
Car wash						
Casino						
Church or Place of worship						
Gym or Work out facility						
Grocery store						
Home improvement store						
Spa or Nail salon						
Mall or Department store						
Movie theater						
Other (*specify*)						

MDSS ID _____

13.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you have exposure to any of the following water sources, either ***at home*** or while ***away from home***?

	Check one:				
Exposures ***at home***	YES	NO	UNK	Dates (s)	Description: Name (or Type)/Location
Shower					
Use a detachable shower head or hose					
Hot tub, whirlpool spa, Jacuzzi tub					
Sat NEAR a working hot tub or whirlpool spa but did not get in					
Steam room or wet sauna					
Humidifier (whole house or portable)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Respiratory therapy machine (e.g. nebulizer, CPAP, BiPAP, etc.)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Other (*specify*)					

Exposures ***away from home***	YES	NO	UNK	Dates (s)	Description: Name (or Type)/Location
Shower at gym, work, other location					
Use a detachable shower head or hose					
Hot tub, whirlpool spa, Jacuzzi tub					
Sat NEAR a working hot tub or whirlpool spa but did not get in					
Humidifier (whole house or portable)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Pool/splash pad/waterpark					
Recreational or cooling misters					
Steam room or wet sauna					
Decorative fountain					
Outdoor watering hose or sprinkler					
Beach, lake, pond, river, creek, etc.					
Other (*specify*)					

MDSS ID _____

Medical History

Now I'm going to ask a few questions about your medical history and health behaviors.

14.) Have you ever been told by a healthcare provider that you had any of the following conditions:

	Check one:			
Condition	YES	NO	UNK	Comments
Chronic kidney disease				
Weakened immune system (due to cancer, chemotherapy , radiation therapy, immunosuppressive meds, HIV, organ transplant, etc.)				
Diabetes				
Chronic lung disease (COPD, emphysema)				
Asthma or chronic bronchitis				
Heart disease or congestive heart failure				
Liver disease				
Other conditions (*specify*)				

15.) Health behaviors:

	Check one:			
	YES	NO	Quantity per day (packs or drinks)	Duration (years)
Are you currently a smoker?				
Are you a former smoker?				
Do you drink alcohol?				

16.) Do you know anyone else with similar symptoms? ☐ Yes ☐ No ☐ Not sure

a.) If yes, complete the following table:

Name	Phone	State of Residence	Details of Shared Exposure

Additional Comments _____

_____

_____

_____

_____

Thank you so much for taking the time to answer these questions. Do you have any questions that I can help answer? If you have any questions or remember any further details later, please contact the _____ (health department) at phone: _____.

Henry, James

From: Cupal, Suzanne
Sent: Wednesday, January 6, 2016 10:50 AM
To: 'Borowski, Julie'
Cc: Danette Hayman; Henry, James; Valacak, Mark
Subject: RE: Legionella Testing Data 2014/2015

Ms. Borowski-

The Genesee County Health Department (GCHD) is continuing the investigation of Legionella cases in our county. As part of that investigation, we are working with the Environmental Protection Agency (EPA) and the Michigan Department of Health and Human Services (MDHHS) to do a review of the water system infrastructure, Legionella case information and other relevant data. We are requesting access to the test results related to water samples collected at McLaren during 2014 and 2015 which would include sampling locations as well as the test results. We are trying to identify any potential risks to other large buildings in the community.

Your cooperation would be very much appreciated. The information would be shared with the GCHD, EPA and MDHHS team doing the review process. If you have any additional questions, please let me know.

Thank you for your prompt attention to this request.

Suzanne Cupal

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Borowski, Julie [mailto:Julie.Borowski@mclaren.org]
Sent: Friday, November 13, 2015 2:10 PM
To: Cupal, Suzanne

Cc: Hayman, Danette
Subject: RE: Summary Report

Please see our response below in blue

Julie Borowski, CPHRM
Director, Compliance, Risk Management, Medical Staff Services
McLaren-Flint
401 S. Ballenger Hwy
Flint, MI 48532

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, November 12, 2015 12:12 PM
To: Borowski, Julie
Cc: Hayman, Danette
Subject: FW: Summary Report

Julie-

I am following up my email of November 4th (see below) to see if you can provide the information requested. I would greatly appreciate an response to my email request.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Cupal, Suzanne
Sent: Wednesday, November 04, 2015 3:53 PM
To: 'Borowski, Julie'
Subject: Summary Report

Julie-

Thank you for the summary report. It was very helpful. We are working on the NORS report for CDC and have a few follow-up questions.

Is there a summary report that was completed after the increased monitoring/testing that took place after GCHD contacted the hospital in September 2014 and related to the hyperchorination that McLaren conducted after that contact (10/4/14)? The summary report from Special Pathogen that I provided is our complete summary report.. We want to demonstrate the efforts the hospital made to address those concerns. We have provided multiple responses to both The Joint Commission and CMS which demonstrate our efforts with no recommendations from either agency being received. Was a consultant engaged for that process or was this internal monitoring? Both a consultant was engaged and internal monitoring was performed.
Are you continuing to do monthly testing? Yes
Is the water safety plan complete to comply with the new ASHRAE 188 Legionella standard? Yes Have all the updates to your infrastructure been completed related to that plan? Yes A timeline would be helpful if those efforts are not yet complete.
Are you still using bottled water? Yes
Is there anything else you would like to share? Not at this time

Thank you for all your efforts to address this situation. We appreciate the cooperation. We want to complete the NORS report by 11/12/15.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
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(810) 768-7970
scupal@gchd.us

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Henry, James

From: Henry, James
Sent: Tuesday, January 12, 2016 8:43 AM
To: Cupal, Suzanne; Valacak, Mark
Subject: RE: McLaren Response

I think it needs the ransom note, i.e..

"Failure to cooperate will leave no option but to make the request through the legal system. This will open the investigation to public scrutiny. (needs wordsmithing)

From: Cupal, Suzanne
Sent: Tuesday, January 12, 2016 8:17 AM
To: Valacak, Mark; Henry, James
Subject: McLaren Response

Below if my draft response. Please share any comments.

Ms. Borowski,

The Genesee County Health Department is actively engaged in an ongoing Legionella investigation. Section 5111 of Act Number 368 of the Public Acts of 1978 provides the authority to investigate communicable diseases. The information we are requesting is critical to our investigation. Medical and epidemiological information means any of the following, in detail:

- Medical histories
- Examination results
- Findings of all associated laboratory tests
- Diagnoses
- Treatments employed
- Outcomes
- Description and source of suspected causative agents
- Any other pertinent information that is requested by the
- state or local public health authority in the course of an
- investigation

We would be happy to meet with you and your staff to discuss the specifics of our data request. We would greatly appreciate your cooperation with this investigation.

Suzanne Cupal

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Henry, James

From:	Cupal, Suzanne
Sent:	Wednesday, April 15, 2015 9:23 AM
To:	'Fiedler, Jay (DCH)'; Johnson, M.D., Gary; Henry, James; Hasan, Shurooq; Valacak, Mark
Cc:	Miller, Corinne (DCH); Collins, Jim (DCH); Bohm, Susan (DCH); Johnson, Shannon (DCH); Bolen, Timothy (DCH)
Subject:	RE: Genesee County Inquiries 4/7/2015
Attachments:	CD Contact letter for Legionella (2).doc

Jay-

Thank you for your email dated 4/9/15 and for providing an introduction to Corinne Miller. Attached is the draft letter we use when doing follow-up with a person we have not been able to reach via telephone.

We were appreciative of the summary data shared, much of which reflected our reporting during our January call. We look forward to the review of the revised questionnaire information. There a few items missing from our conversation that we would like to share, particularly for Corinne Miller's information before we speak with her. In our January call, we shared that we would be reaching out to individuals and organizations that may assist us in our Legionella investigation and understanding type 1 municipal water supplies. We have identified Dr. Joan Rose of MSU, Dr. Janet Stout of the University of Pennsylvania, Pittsburgh and J. Michael Wright, an Epidemiologist with the EPA. They have been very helpful in understanding the issues related to municipal water supplies in general and regarding Legionella specifically. They provided input into our Trihalomethanes Fact Sheet and our guidance for medical professionals and they reviewed our collaboratively revised Legionella Questionnaire.

We also shared information regarding our collaborations with one of our hospital partners. The data we presented in January along with other information shared reflected an association with one hospital system. After our conversation with them, they conducted testing and did identify Legionella in their water system. They performed hyperchlorination and followed up with additional testing. There was no subsequent presence of Legionella in those tests. They continue to monitor monthly and have a remediation plan in place should it be necessary.

While DEQ did participate in our call 4/7/15, it is the first time we have experienced collaboration and the sharing of information with them since we first contacted them last Fall. The information they provided was extremely valuable to our efforts. We have made two FOIA requests of the City of Flint as we have not be able to secure information from the Department of Water and Power (DWP) that we have requested regarding our Legionella investigation specifically and our general water investigation. Communications have been sent by the DWP regarding boil water advisories and health risks that have not been shared with the local health department or local health professionals. We are trying to prepare for future communications from the DWP so we can provide information, guidance and fact sheets when possible to our residents and the health care community.

We are appreciative of the assistance of MDHHS with the Legionella investigation and the inquiries you have made on our behalf. We will continue to notify you as we reach out to others that may assist us in addressing our Legionella investigation and in providing their expertise as we navigate the complex issues related to our aging water system.

Your GCHD Colleagues

(810) 768-7970
scupal@gchd.us

From: Wright, Michael [mailto:Wright.Michael@epa.gov]
Sent: Tuesday, April 21, 2015 9:02 AM
To: Henry, James; Cupal, Suzanne
Subject: Re: Legionella and Advisory Mtg

No problem. I'll try and pin down more specifics on that mtg, so I can make travel plans. If you hear anything further on it, please let me know.
Mike

From: Henry, James <jhenry@gchd.us>
Sent: Tuesday, April 21, 2015 9:00 AM
To: Wright, Michael; Cupal, Suzanne
Subject: RE: Legionella and Advisory Mtg

Hi Mike,

I apologize for not getting back sooner. I've been doing quite a bit of field work lately. I mentioned to Suzanne that you called and testing for Legionella is still of interest. Yes, I think it is a good idea to meet prior advisory committee meeting.

From: Wright, Michael [mailto:Wright.Michael@epa.gov]
Sent: Monday, April 20, 2015 5:09 PM
To: Cupal, Suzanne
Cc: Henry, James
Subject: Legionella and Advisory Mtg

Suzanne:
I left a voice mail with Jim last week re: this. I have a contact here at EPA who is doing monitoring and testing for legionella and seems eager to help. Not sure if I emailed you last week on this or not...I assume this is still of interest? Please send me an update and whether you want to pursue this. Also, Howard suggested that the next technical advisory mtg might be around 5/20... While I can't afford to come up in person very often, I am trying to make it up in person again. Would you guys be interested in meeting before the advisory committee meets? I haven't seen any confirmation on date/time which makes travel logistics challenging, so please keep me posted if you hear either way.

Thanks,

Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Fiedler, Jay (DCH) [mailto:FiedlerJ@michigan.gov]
Sent: Thursday, April 09, 2015 11:45 AM
To: Cupal, Suzanne; Johnson, M.D., Gary; Henry, James; Hasan, Shurooq; Valacak, Mark
Cc: Miller, Corinne (DCH); Collins, Jim (DCH); Bohm, Susan (DCH); Johnson, Shannon (DCH); Bolen, Timothy (DCH)
Subject: Genesee County Inquiries 4/7/2015

Hello,

On our update call on 4/7/15 we covered the current status of the Legionnaires' Disease outbreak investigation.

- MDCH provided a summary of information on the cases that was shared with the group.
- Current status of interviews, contacts, and completion was reviewed.
- Shannon and Shurooq discussed the remaining 7 cases that need to be contacted and agreed to talk after the call to determine which cases would be contacted by which agency.
- An initial plan was discussed regarding the number of contact attempts that would be made and sending letters to cases that did not respond or were unreachable as a final attempt before declaring them LTF.
- A letter will be formalized as part of this process.

Additional requests were made by Genesee County for MDCH to facilitate:

- Genesee County would like to speak with MDCH EH, EPA, and CDC regarding additional drinking water concerns.

Regarding these requests, I have spoken with Corinne Miller the State Epidemiologist as to how MDCH would coordinate/facilitate. The recommendation is that GCHD contact DEQ as the lead state agency regarding drinking water concerns. MDCH EH will on occasion consult with DEQ, but is brought in at the request of DEQ. DEQ would also be the first step in reaching out to EPA if additional expertise is needed. Second, it is our understanding that GCHD has already reached out to Jonathan Yoder at CDC regarding drinking water concerns. He would be the best contact at CDC for additional questions.

We will continue to be in touch regarding our assistance with the Legionnaires' Disease outbreak investigation.

Thanks. -Jay

Jay Fiedler, MS
Section Manager
Surveillance and Infectious Disease Epidemiology
Bureau of Disease Control, Prevention, and Epidemiology
Michigan Department of Community Health
201 Townsend St - PO Box 30195 - Lansing, MI 48909
P: 517.335.9516 - E: fiedlerj@michigan.gov

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Henry, James

From: Wright, Michael <Wright.Michael@epa.gov>
Sent: Tuesday, April 21, 2015 4:41 PM
To: Cupal, Suzanne; Henry, James
Subject: RE: Legionella and Advisory Mtg

Great. I definitely am... The more information I have the better..
Thanks
Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Tuesday, April 21, 2015 9:07 AM
To: Wright, Michael; Henry, James
Subject: RE: Legionella and Advisory Mtg

The community based participatory research project we mentioned is moving forward with UM-Flint as the lead. They have identified a great funding opportunity...if you are interested in more information, please let us know.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Wright, Michael [mailto:Wright.Michael@epa.gov]
Sent: Tuesday, April 21, 2015 9:02 AM
To: Henry, James; Cupal, Suzanne
Subject: Re: Legionella and Advisory Mtg

No problem. I'll try and pin down more specifics on that mtg, so I can make travel plans. If you hear anything further on it, please let me know.
Mike

From: Henry, James <jhenry@gchd.us>
Sent: Tuesday, April 21, 2015 9:00 AM
To: Wright, Michael; Cupal, Suzanne
Subject: RE: Legionella and Advisory Mtg

Hi Mike,

I apologize for not getting back sooner. I've been doing quite a bit of field work lately. I mentioned to Suzanne that you called and testing for Legionella is still of interest. Yes, I think it is a good idea to meet prior advisory committee meeting.

From: Wright, Michael [mailto:Wright.Michael@epa.gov]
Sent: Monday, April 20, 2015 5:09 PM
To: Cupal, Suzanne
Cc: Henry, James
Subject: Legionella and Advisory Mtg

Suzanne:
I left a voice mail with Jim last week re: this. I have a contact here at EPA who is doing monitoring and testing for legionella and seems eager to help. Not sure if I emailed you last week on this or not...I assume this is still of interest? Please send me an update and whether you want to pursue this. Also, Howard suggested that the next technical advisory mtg might be around 5/20... While I can't afford to come up in person very often, I am trying to make it up in person again. Would you guys be interested in meeting before the advisory committee meets? I haven't seen any confirmation on date/time which makes travel logistics challenging, so please keep me posted if you hear either way.

Thanks,
Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

Henry, James

From: Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>
Sent: Thursday, April 23, 2015 1:48 PM
To: Cupal, Suzanne; Garrison, Laurel (CDC/OID/NCIRD)
Cc: Gargano, Julia Marie W. (CDC/OID/NCEZID); Fullerton, Katie (CDC/OID/NCEZID); Kutty, Preeta (CDC/OID/NCIRD); Carpenter, Joe (CDC/OID/NCEZID); Roberts, Virginia (CDC/OID/NCEZID); Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark
Subject: Re: CDC-GCHD Call

Hi Suzanne
It was good to speak to you yesterday. I am copying Laurel on this email as the contact for the legionella program. She will coordinate with the state to make sure you have the protocols.
We are glad to assist.

Jonathan

Sent from my iPhone

On Apr 23, 2015, at 10:03 AM, "Cupal, Suzanne" <scupal@gchd.us> wrote:

> Jonathan-
>
> Thank you and your team for the opportunity to speak yesterday. We appreciate your comments about a measured response. We recognize we do not have the data we need for further action. We were grateful for the opportunity to share with you and our state colleagues our concerns based on the information we do have. We are doing everything we can to mitigate risk to our residents.
>
> We look forward to receiving the sampling protocols and advice related to syndromic surveillance. Our concerns have now been communicated which opens the door to further communication as events unfold.
>
> We are dealing with complex and confounding information. We appreciate your assistance in gathering the facts. We want to be prepared to protect the health and safety of our residents and provide appropriate information.
>
> Thank you again.
>
> Your Genesee County Colleagues
>
> Suzanne Cupal, M.P.H.
> Public Health Supervisor
> Genesee County Health Department
> 630 S. Saginaw Street
> Suite 4
> Flint, MI 48502

(810) 768-7970
scupal@gchd.us

Henry, James

From: Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>
Sent: Wednesday, April 29, 2015 9:09 PM
To: Bohm, Susan (CDC michigan.gov); Cupal, Suzanne; Fiedler, Jay (CDC michigan.gov)
Cc: Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Collins, Jim (CDC michigan.gov); Langley, Gayle E. (CDC/OID/NCIRD); Tyndall Snow, Leigh (DCH); Meghan Weinberg (CDC michigan.gov); Fialkowski, Veronica (DCH)
Subject: RE: CDC-GCHD Call, 9:00am Apr 30th

Thank you Susan and everyone for your work on this and for sharing your findings thus far. I will forward this to the rest of the group here, and we'll talk to you tomorrow at 9.
Laurel

From: Bohm, Susan (CDC michigan.gov)
Sent: Wednesday, April 29, 2015 5:28 PM
To: Garrison, Laurel (CDC/OID/NCIRD); Cupal, Suzanne; Fiedler, Jay (CDC michigan.gov)
Cc: Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Collins, Jim (CDC michigan.gov); Langley, Gayle E. (CDC/OID/NCIRD); Tyndall Snow, Leigh (DCH); Meghan Weinberg (CDC michigan.gov); Fialkowski, Veronica (DCH)
Subject: RE: CDC-GCHD Call, 9:00am Apr 30th

Hello,

Attached please find the survey data of cases interviewed by MDHHS and Genesee Co HD so far (EpiInfo analysis) and updated info on the investigation (MDHHS Prelim Stats). We've included an agenda to help guide tomorrow morning's call.

<u>Call Agenda</u>

Summarizing the Investigation/Epidemiology

- Preliminary Statistics — MDHHS (Shannon & Susan)
- Interview Data — MDHHS (Lily & Meghan)
  - EPI Info Analysis
- EPI Curve — GCHD
- Discussion of Current Investigation — All

Environmental Investigation

- Environmental Sampling Protocol — CDC
- Discussion — All

Additional Recommendations

- Additional Recommendations CDC/All

Till tomorrow then,

Susan Bohm, MS
Manager, Enteric & Respiratory Illnesses Epidemiology Unit
Surveillance and Infectious Disease Epidemiology
Division of Communicable Disease
Michigan Department of Health and Human Services
201 Townsend St, 5th Flr
Lansing, MI 48933
☎ 517-335-8165 or 517-373-5508 (Cell: 517-930-3100) 🖷 517-335-8263
✉ bohms@michigan.gov 🌐 www.michigan.gov/mdch

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From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Wednesday, April 29, 2015 1:58 PM
To: Cupal, Suzanne; Fiedler, Jay (DCH)
Cc: Bohm, Susan (DCH); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Collins, Jim (DCH); Langley, Gayle E. (CDC/OID/NCIRD)
Subject: RE: CDC-GCHD Call

Thanks, Suzanne. In just looking at this quickly, I'm wondering if you can you break down the epi curve in the following ways:
--Color code the cases with exposure to McLaren during their incubation periods
--Color code by some kind of indicator of exposure to Flint water (maybe Q.3?).
You've probably already looked at this in several different ways, and I think there are other ways to look at it as well, but perhaps that might help us. Thanks!

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, April 29, 2015 1:29 PM
To: Garrison, Laurel (CDC/OID/NCIRD); Fiedler, Jay (CDC michigan.gov)
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Collins, Jim (CDC michigan.gov); Langley, Gayle E. (CDC/OID/NCIRD)
Subject: RE: CDC-GCHD Call

I just forwarded information. Please let us know if there is anything else we can share.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502

(810) 768-7970
scupal@gchd.us

From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Wednesday, April 29, 2015 1:18 PM
To: Fiedler, Jay (CDC michigan.gov); Cupal, Suzanne
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Collins, Jim (CDC michigan.gov); Langley, Gayle E. (CDC/OID/NCIRD)
Subject: RE: CDC-GCHD Call

Hi all,
Just checking in to see whether you expect to send any epi data to help guide the discussion tomorrow. If we could review it prior to the call I think that would help facilitate the call and ensure we make the most of our time.
Thanks!
Laurel

From: Garrison, Laurel (CDC/OID/NCIRD)
Sent: Tuesday, April 28, 2015 12:18 PM
To: Fiedler, Jay (CDC michigan.gov); 'Cupal, Suzanne'
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Collins, Jim (CDC michigan.gov); Langley, Gayle E. (CDC/OID/NCIRD)
Subject: RE: CDC-GCHD Call

OK let's go ahead and plan for a call 9:00 AM on Thursday. I'm attaching our new document CDC Sampling Procedure and Potential Sampling Sites (it's not available on the website yet). Please review prior to the call and we will answer any questions then.
We can use our conference line:
Tel: 866-692-4538
Code: 84160510

From: Fiedler, Jay (CDC michigan.gov)
Sent: Tuesday, April 28, 2015 11:50 AM
To: Garrison, Laurel (CDC/OID/NCIRD); 'Cupal, Suzanne'
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Collins, Jim (CDC michigan.gov)
Subject: RE: CDC-GCHD Call

Hello,

Yes, 9:00 or 9:30 on Thursday works for us. Let us know the final details when they're decided.

Of the topics mentioned below, at this point in time it would be best to focus on:

- the current investigation,
- CDC walk-through of the environmental sampling protocol,
- and a discussion of any additional recommendations.

It's very likely that these topics will fill our allotted time. There's no need to discuss the clinical specimen collection and guidance that has already been provided to GCHD and sent to local providers. The syndromic surveillance data project

would be better handled at the local/state level and should not take away from the ongoing epi investigation that we're currently assisting GCHD with.

Thanks, and we look forward to hearing from you. –Jay

Jay Fiedler, MS
Section Manager
Surveillance and Infectious Disease Epidemiology
Bureau of Disease Control, Prevention, and Epidemiology
Michigan Department of Health and Human Services
201 Townsend St - PO Box 30195 - Lansing, MI 48909
P: 517.335.9516 - E: fiedlerj@michigan.gov

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From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Tuesday, April 28, 2015 8:00 AM
To: 'Cupal, Suzanne'; Fiedler, Jay (DCH)
Cc: Bohm, Susan (DCH); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID)
Subject: RE: CDC-GCHD Call

Great! I think we have a better chance in getting good participation if we schedule early, say 9 or 9:30? We'd like to have the state on the call as well, so let us know if that works.

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Tuesday, April 28, 2015 7:54 AM
To: Garrison, Laurel (CDC/OID/NCIRD); Fiedler, Jay (CDC michigan.gov)
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID)
Subject: RE: CDC-GCHD Call

Thursday morning works for us.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
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(810) 768-7970
scupal@gchd.us

From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Tuesday, April 28, 2015 7:29 AM
To: Cupal, Suzanne; Fiedler, Jay (CDC michigan.gov)
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID)
Subject: RE: CDC-GCHD Call

Hi Suzanne,
Yes, let's try to schedule something for this week. Would Thursday morning work for everyone?
Yes, it would be helpful to be able to review your epi curve, questionnaire results, etc. prior to the call.
Thanks,
Laurel

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Monday, April 27, 2015 3:54 PM
To: Garrison, Laurel (CDC/OID/NCIRD); Fiedler, Jay (CDC michigan.gov)
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID)
Subject: RE: CDC-GCHD Call

We were trying to coordinate schedules for Thursday (4/30) or Friday (5/1) of this week. Please let us know if we could schedule a meeting either of those days.

We have two major events next week: Our Public Health Conference 5/5/15 and the Speak To Your Health! Community Survey Data Roll-Out 5/7/15.

Jay had asked what the agenda would look like. Our suggestion would be:
A Review of the current investigation (Statistics, Questionnaire Responses, Issues Addressed, Current Concerns)
Discussion of clinical sample protocols
Discussion of environmental sampling protocols
Submission of the samples to CDC
Syndromic Surveillance Project
Suggestions for Additional Assistance .

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Monday, April 27, 2015 3:38 PM
To: Fiedler, Jay (CDC michigan.gov); Cupal, Suzanne
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID)
Subject: RE: CDC-GCHD Call

Hi Suzanne,

I met with colleagues and leadership at CDC, and we are very concerned about this Legionnaires' disease outbreak. It's very large, one of the largest we know of in the past decade, and community-wide, and in our opinion and experience it needs a comprehensive investigation. I know you all have been working on this for quite a while, but we are unclear

Cupal, Suzanne

From: Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>
Sent: Monday, April 27, 2015 3:38 PM
To: Fiedler, Jay (CDC michigan.gov); Cupal, Suzanne
Cc: Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID)
Subject: RE: CDC-GCHD Call

Hi Suzanne,

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--Generate an epi curve, map the cases, interview all cases with a hypothesis-generating questionnaire, analyze results from questionnaire (I believe this has been done, and, if so, it would be helpful to review these results with you.)
--Based on these results, determine whether we can either rule out any sources or start investigating any sources. (I believe you have started this...for example you mentioned that some cases were possibly healthcare-associated.)
--Full environmental investigation of any potential sources (We can provide information on how to collect samples, etc. if needed.)
--If the source(s) is found, provide remediation recommendations to stop the outbreak.

I know you've run into issues getting information you've requested from the city water authority and the MI Dept of Environmental Quality. Again, not knowing the full extent of your investigation it's difficult to make recommendations, and it may be difficult for us to provide the kind of detailed input needed for such an extensive outbreak from afar. If you and others at the state feel you would benefit from more intensive assistance with continuing the investigation for any reason, please let us know and we can discuss providing field assistance in the form of an Epi-Aid.

Best regards,
Laurel

Laurel Garrison, MPH
Legionellosis Surveillance & Outbreak Response
NCIRD/DBD/Respiratory Diseases Branch
Centers for Disease Control and Prevention
1600 Clifton Rd. MS C-25
Atlanta, GA 30329-4027
Tel: 404.639.3424
Fax: 404.315.4680
E-mail: lee5@cdc.gov

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Best regards,
Laurel

Laurel Garrison, MPH
Legionellosis Surveillance & Outbreak Response
NCIRD/DBD/Respiratory Diseases Branch
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1600 Clifton Rd. MS C-25
Atlanta, GA 30329-4027
Tel: 404.639.3424
Fax: 404.315.4680
E-mail: lee5@cdc.gov

From: Fiedler, Jay (CDC michigan.gov)
Sent: Monday, April 27, 2015 2:00 PM
To: Cupal, Suzanne; Garrison, Laurel (CDC/OID/NCIRD)
Cc: Kutty, Preeta (CDC/OID/NCIRD); Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Bohm, Susan (CDC michigan.gov)
Subject: RE: CDC-GCHD Call

Hello Suzanne,

Looking at our schedules, we have limited availability of our core staff here at DHHS on Friday May 8th. In order to help prioritize or to determine if we should look for an alternate meeting time, can we get an idea of what the agenda will be for this call?

Thanks. -Jay

Jay Fiedler, MS
Section Manager

Surveillance and Infectious Disease Epidemiology
Bureau of Disease Control, Prevention, and Epidemiology
Michigan Department of Health and Human Services
201 Townsend St - PO Box 30195 - Lansing, MI 48909
P: 517.335.9516 - E: fiedlerj@michigan.gov

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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Monday, April 27, 2015 11:50 AM
To: Garrison, Laurel (CDC/OID/NCIRD)
Cc: Kutty, Preeta (CDC/OID/NCIRD); Bohm, Susan (DCH); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark
Subject: RE: CDC-GCHD Call

Our team is available on Friday, May 8th at 11am if that would work for you and our state colleagues.

Thank you for your assistance.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
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(810) 768-7970
scupal@gchd.us

From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Thursday, April 23, 2015 3:03 PM
To: Cupal, Suzanne
Cc: Kutty, Preeta (CDC/OID/NCIRD); Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DCH); Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark
Subject: Re: CDC-GCHD Call

Hi Suzanne et al.,
If you are interested in discussing the Legionella action items in more detail, please let me know your availability for a conference call involving the county, state, and RDB.
Best regards,
Laurel

Laurel Garrison, MPH
Legionellosis Surveillance & Outbreak Response
NCIRD/DBD/Respiratory Diseases Branch
Centers for Disease Control and Prevention
1600 Clifton Rd., NE MS C-25
Atlanta, GA 30333
404.639.3424
Lee5@cdc.gov

Henry, James

From: Cupal, Suzanne
Sent: Friday, May 1, 2015 6:39 PM
To: Bohm, Susan (DCH); Henry, James
Cc: Fiedler, Jay (DCH); Johnson, Shannon (DCH); Hasan, Shurooq; Childs, Bonnie; Johnson, M.D., Gary
Subject: RE: Follow-up Information

Thank you for your response, Susan. Many of your reponses in red were intended. We will email Tim Bolen or designee. We appreciate the information about the CDC -EIS officer.

As shared in our call, we have a meeting with our hospital ICP partners on Thursday, 5/7. Tim Bolen will be attending. We plan to discuss clinical samples. Thank you for the update. We will be sharing the information. This is the most effective way to get this information to physicians.

We will discuss other physician communications with Dr. Johnson.

We appreciate your wishes for a Legionella free weekend. We wish you a great weekend as well.

Sent from my Windows Phone

From: Bohm, Susan (DCH)
Sent: 5/1/2015 5:14 PM
To: 'Cupal, Suzanne' (scupal@gchd.us); Henry, James
Cc: Fiedler, Jay (DCH); Johnson, Shannon (DCH)
Subject: RE: Follow-up Information

Hi Suzanne & Jim,

Thanks for forwarding your response plans for future Legionella cases. Although we didn't discuss this, in addition to the steps below, now that the weather is warming up, sending out a low-level HAN to all Genesee providers would be a good way to make sure providers are on alert to consider legionellosis and to include for them the MDHHS Legionellosis Guidance for Clinicians. Providers need to be aware that a culture specimen should be collected at the same time as the urine (for the urine antigen test) and prior to the initiation of antibiotics, if at all possible. It's likely too late once we have a positive urine antigen to then go back and try to obtain a culture specimen. We can update the guidance document to include some additional detail about specimen collection and testing to reflect that:

-If a provider orders a urine antigen test on a patient with suspect Legionellosis, a respiratory culture for legionella should be collected at the same time.

> -A bronchoalveolar lavage or tracheal aspirate are the preferred specimens collection methods. If those are not able to be done, a sputum specimen may be used, but the likelihood of recovering the bacteria may be decreased.

-The urine antigen and respiratory cultures should be tested by the hospital laboratory. In the event that a hospital lab is unable to perform a urine antigen or respiratory cultures, specimens may be sent to the state health department laboratory.
-Any clinical specimen remaining from the culture **should be frozen** and stored immediately [this would stay frozen if being sent to CDC].
-If a Legionella isolate grows, a slant or plate should shipped to the state health department laboratory overnight on cold packs. A courier is recommended for plates as they do not travel well.
(If an isolate does not grow, we will need to work with BoL to determine whether the frozen clinical specimen should be shipped to the state lab for testing, or to CDC)

Shannon contacted our lab regarding what the CDC mentioned yesterday about freezing the specimens. For the shipment of isolate slants or plates to BoL, they only need to be sent on cold packs. We believe CDC was talking about the shipment of clinical specimens, which we generally shouldn't need to do because hospital labs are capable of performing respiratory cultures. If it will help, Shannon is willing to create of flowchart to show the steps of clinical specimen collection and testing.

Here's a few comments/suggestions for your response plan in red below. Wishing you both a Legionella-free weekend!

-S

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Friday, May 01, 2015 11:10 AM
To: Bohm, Susan (DCH)
Cc: Henry, James
Subject: RE: Follow-up Information

Susan-

Based on our conversation with you yesterday, I am forwarding our plan for any future Legionella cases as the warm weather months approach.

Once we have a Legionella case identified:

- Enter the case in MDSS within 24 h of notification if not already entered by provider or lab
- Email Regional Epidemiologist with MDSS number
- Call hospital to verify that a respiratory specimen was collected for culture within 24 h of notification
- If Legionella isolate was found, verify that the hospital will send to BOL (see above for more details on this)
- Using the enhanced Legionella Disease Questionnaire, conduct interview as quickly as possible with case or proxy and upload to MDSS record when completed (We would like to review the current Legionella questionnaire with input from our state and CDC colleagues as we examine the current questionnaire data from the investigation so far...so we can make appropriate adjustments – good idea)
- Based on information collected from interview, evaluate with investigation team if environmental samples from the home should be collected. We think we have a solution for the environmental sampling. Our on-site CDC EIS Officer may be willing to assist Jim Henry with the sampling. Logistically it would be difficult for a CDC Epi-Aid team to come in and sample if these cases continue to trickle in.
- Continued analysis of existing data
- Continue conversations with our state and CDC colleagues and other experts that may assist the investigation(s).

As we shared in our conversation yesterday, Shurooq is reviewing the previous 5 years Legionella cases to examine the number of cases that live in the City of Flint vs. other areas. We will also be reviewing syndromic surveillance data for the same time frame for respiratory, skin rash and gastrointestinal illness.

Our concerns moving forward are:

- Collection of clinical samples- based on the comments from the CDC about collection of samples being an art as well as a science, we want to make sure we collect appropriate samples. The CDC has already provided a change to the protocol with the request for frozen samples. [see above]
- Collection of environmental samples- GCHD staff members have not had experience collecting these types of environmental samples – see above.
- Access to information. We have shared our concerns regarding obtaining information to assist our investigation

As always, do not hesitate connecting with us if you need additional information. We want to ensure clear and continual communication as we move forward.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Henry, James

From:	Henry, James
Sent:	Tuesday, May 12, 2015 12:24 PM
To:	Childs, Bonnie; Hasan, Shurooq; 'scupal@gchd.us'
Subject:	FW: April 2, 2015 FOIA
Attachments:	1-13 State Report.xls; 2-13 State Report.xls; 3-13 State Report.xls; 4-13 State Report.xls; 5-13 State Report.xls; 6-13 State Report.xls; 7-13 State Report.xls; 8-13 State Report.xls; 9-13 State Report.xls; 10-13 State Report.xls; 11-13 State Report.xls; 12-13 State Report.xls

Sorry for blowing up your computers, just sharing. We should meet soon to discuss plan and info.

Bonnie, do we have a new confirmed Legionella case? I can meet tomorrow morning @ 9am or Thursday @ 1:30pm.

From: David Roth [mailto:droth@cityofflint.com]
Sent: Friday, May 8, 2015 1:48 PM
To: Henry, James
Subject: Re: April 2, 2015 FOIA

Jim,

I may have figured out how to send you these documents electronically. Please confirm if you received these excel docs and are able to open them.

Dave

On Fri, May 8, 2015 at 1:38 PM, David Roth <droth@cityofflint.com> wrote:
Jim,

It appears that the state report excel documents seem to be the ones which which I am unable to attach and send in the email. These will be sent out via mail. If you have any questions please do not hesitate to contact me.

Thanks,

David

On Fri, May 8, 2015 at 1:35 PM, David Roth <droth@cityofflint.com> wrote:
Jim,

I have tried several times to send these documents to you. For whatever reasons they can't be sent by email. I will try again, but if it doesn't work I may have to mail you physical copies.

--
David B. Roth | Assistant City Attorney
City of Flint

1101 S. Saginaw Street, 3rd Floor
Flint, MI 48502
p: 810.766.7146
f: 810.232.2114
droth@cityofflint.com

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--
David B. Roth | Assistant City Attorney
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Henry, James

From: Wright, Michael <Wright.Michael@epa.gov>
Sent: Thursday, April 2, 2015 11:44 AM
To: Cupal, Suzanne; Henry, James
Subject: RE: Call

Suzanne:
I could inquire, but that sounds like it would not be a trivial undertaking. It's one thing to ask someone to review the recent Veola report to determine whether it'll reduce DBP exposures (which it should, IMO). But, you're essentially asking for someone to do even more than Veola has to date and consider all waterborne contaminants (which there are a lot and other different treatment options have competing exposure/risk tradeoffs). As for sampling, most exposure folks are using experts in certain contaminants, so you'd have to provide specific contaminants of concern/interest.

Mike

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, April 02, 2015 11:38 AM
To: Wright, Michael; Henry, James
Subject: RE: Call

Mike-

Two questions regarding EPA resources...

Is there a EPA engineer or other resource that could provide a review of our water system and provide recommendations regarding achievable ways we could mitigate risk related to communicable disease issues and heavy metals and other contaminates?

Could they provide guidance on sampling that could be done to assist in these mitigation efforts?

I would like to share our discussions regarding a community based participatory research project. We will investigate the funding opportunities you forwarded.

Thank you.
Suzanne

Sent from my Windows Phone

From: Wright, Michael
Sent: 4/2/2015 11:09 AM

To: Cupal, Suzanne
Subject: RE: Call

OK... But, to identify the expertise, etc, I may need more detail... Is this related to your legionella efforts or broader in scope?

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, April 02, 2015 11:00 AM
To: Wright, Michael
Subject: RE: Call

I would like to talk about both. We are also discussing a community based participatory research project.
Suzanne

Sent from my Windows Phone

From: Wright, Michael
Sent: 4/2/2015 10:04 AM
To: Cupal, Suzanne
Subject: RE: Call

Sure.. Are you talking about EPA $$ or time/expertise. Please let me know what areas/gaps of are of most interest beforehand though.
Thanks
Mike
J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, April 02, 2015 8:42 AM
To: Wright, Michael
Subject: Call

Mike-

Could we have a conversation today? We are looking for additional resources from the EPA and could use your guidance.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
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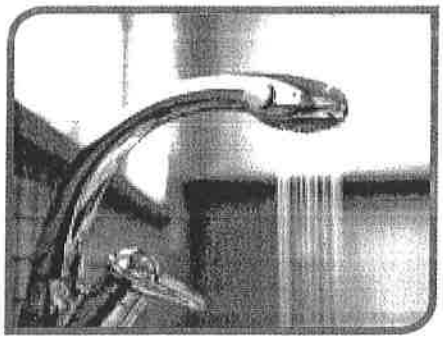
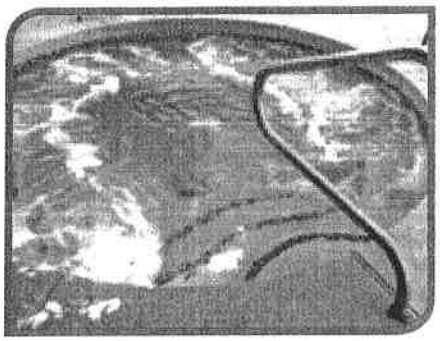
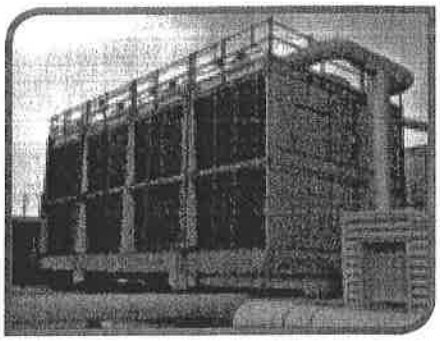
Flint, MI 48502
(810) 768-7970
scupal@gchd.us







Centers for Disease Control and Prevention

Sampling Procedure and Potential Sampling Sites

Protocol for collecting environmental samples for ***Legionella*** **culture** during a **cluster or outbreak** investigation or when **cases of disease** may be associated with a facility.

Sampling should only be performed after a thorough environmental assessment has been done and a sampling plan has been made. This protocol describes how to take standard biofilm swab, bulk water, and filter samples from commonly sampled sites. This protocol may be used in conjunction with the following tools:

LEGIONELLA **ENVIRONMENTAL ASSESSMENT FORM**

SAMPLE DATA SHEET

LEGIONELLOSIS OUTBREAK INVESTIGATION VIDEOS:

Legionella Ecology and an Introduction to Environmental Health and Engineering

Conducting and Interpreting the Environmental Assessment

How to Make a Sampling Plan

How to Sample Potable Water

How to Sample Cooling Towers

How to Sample Spas and Fountains

National Center for Immunization and Respiratory Diseases
Division of Bacterial Diseases

CDC

MATERIALS NEEDED

- ❒ Sterile plastic 1 L bottles. (Glass bottles are not recommended due to risk of breakage during transport.)
- ❒ Sterile plastic 15 mL screw top tubes (with a tube rack) for biofilm swabs.
- ❒ Disposable Dacron/polypropylene-tipped swabs with wooden or plastic stems. Do NOT use cotton-tipped swabs as they inhibit *Legionella* growth.
- ❒ Labels.
- ❒ 0.1N solution of sodium thiosulfate (Na2S2O3) (15.81 g/L in distilled water, filter sterilize, replace every 12 months).
- ❒ Pipettes and bulbs for adding 0.5 mL of 0.1N sodium thiosulfate solution into 1 L water samples.
- ❒ Sterile plastic 500 mL or 1 L bottle for testing chlorine level, pH, and temperature.
- ❒ pH test kit.
- ❒ Chlorine test kit sensitive enough to detect chlorine level below 2 ppm and up to 10 ppm (may need two kits). Free chlorine may be measured when it is known that chlorine is the method of disinfection (as opposed to monochloramine, bromine, or another disinfectant). Otherwise, measure total chlorine.
- ❒ Thermometer.
- ❒ Sample data sheet and pens.
- ❒ Large cooler, preferably with wheels. A 70 quart (66.2 L) horizontal cooler (a standard large picnic cooler) should fit twenty-five 1 L bottles, twenty-five 15 mL plastic tubes for biofilm swabs, thermometer, pH, and chlorine test kits. For sampling of a larger facility (60–100 samples total), a second cooler that holds nothing but bottles, swabs, and tubes may be needed. The cooler may be packed ahead of time and stored at ambient temperature for an unlimited time as long as the sodium thoisulfate solution is replaced every 12 months.

OPTIONAL MATERIALS

- ❒ Packing tape and scissors for sealing the cooler for mailing or air travel.
- ❒ Biohazard waste bags are useful for collecting trash.

SAFETY PRECAUTIONS

The facility should be notified in advance to turn off (but do not drain or disinfect) any aerosol-generating devices to minimize the risk to the sampling team. Persons at an increased risk of developing Legionnaires' disease if exposed to *Legionella* (e.g., immunocompromised individuals) should not accompany the sampling team.

Optional personal protective equipment (PPE):

- ❒ Gloves are useful for sampling whirlpool spa filters or other sites that may be heavily contaminated with organic material.
- ❒ Wearing a half-face air-purifying respirator equipped with an N95 filter may be appropriate in the following situations: a.) when sampling cooling towers if the fans cannot be turned off, or b.) in enclosed spaces with an aerosol-generating device that cannot be turned off. Respirators must be used in accordance with a comprehensive respiratory protection program, which includes fit testing, training, and medical clearance ahead of their use (see OSHA standard 29 CFR 1910.134). For more information about N95 respirators, visit the National Institute for Occupational Safety and Health (NIOSH) website (http://www.cdc.gov/niosh/).

SAMPLING POTABLE WATER AT THE POINTS OF USE

Note: In most situations, it's appropriate to sample only the hot water. However, there are situations where taking some cold water samples is helpful. For example, in hot climates, the cold water may be warm enough for rapid *Legionella* amplification (>77°F). Desalination may also elevate cold water temperature. Cold water could also be warm due to lack of insulation between hot and cold water pipes.

Collect one biofilm swab and one bulk water sample from each sampling site (i.e., each showerhead or faucet).

1. For showers, ask facility maintenance personnel to remove the showerhead. For faucets, ask them to remove the aerator.

Take biofilm swabs:

2. Turn on the water for a couple of seconds to moisten the pipe, and then turn it off. Insert a sterile Dacron- or polypropylene-tipped swab deep into the faucet/pipe. Try to get beyond the bend and swab around the inside surface firmly without breaking the swab stem. (If there is visible biofilm on the inside of the showerhead or faucet aerator when these are removed, they can also be swabbed.)
3. Place the swab into a 15 mL sterile plastic tube and add 3–5 mL of water from the same faucet to keep the swab tip moist during transport. Snap the wooden or plastic swab stem approximately 1 in. from the top of the tube. Add a drop of 0.1N sodium thiosulfate solution to neutralize residual disinfectants. Tighten the tube top to prevent leakage.
4. Label the tube with a unique identifier. Record the type and location of the sample on a Sample Data Sheet, and place the tube into a cooler.

Take bulk water samples:

5. After the biofilm swab is collected, turn on the water and let it run for a few minutes until the water is warm but not hot. The goal is to obtain water currently in the distribution system along with any material shed from biofilm. Avoid heating water excessively (approximately 122°F or higher) since free-floating *Legionella* will die quickly at elevated temperatures. Collect 1 L of water from the faucet into a sterile 1 L bottle, leaving a 1 in. space at the top.
6. Add 0.5 mL of 0.1N sodium thiosulfate solution to the water sample to neutralize residual disinfectants. Tighten the bottle top to prevent leakage.
7. Label the bottle with a unique identifier. Record the type and location of the sample on the Sample Data Sheet, and place it into the cooler.

Measure water parameters:

8. Run the hot water until it is as hot as it will get. Collect 100–300 mL of water in a separate plastic sampling bottle. The same bottle can be used for measuring water parameters at every sampling site. Measure temperature, pH, and chlorine level of the sample. Record all measured data on the Sample Data Sheet.

SAMPLING POTABLE WATER AT THE HOT WATER HEATERS

1. Collect a bulk water sample only; it is rare that a biofilm sample can be obtained from a hot water heater since this would require completely draining the tank.
2. Ask facility maintenance personnel to open the drain valve of the hot water heater and collect 1 L of water into a sterile 1 L bottle, leaving a 1 in. space at the top.
3. Add 0.5 mL of 0.1N sodium thiosulfate solution to the water sample to neutralize residual disinfectants. Tighten the bottle top to prevent leakage.
4. Label the bottle with a unique identifier. Record the type and location of the sample on the Sample Data Sheet, and place it into the cooler.
5. Always measure and record the temperature, pH, and chlorine level of a bulk water sample collected from a hot water heater.

SAMPLING WHIRLPOOL SPAS

1. Take biofilm swabs from inside several jets and at the water line.
2. Place each swab into a 15 mL sterile plastic tube (one swab per tube) and add 3–5 mL of water from the whirlpool spa tub to keep the swab tip moist during transport. Snap the wooden or plastic swab stem approximately 1 in. from the top of the tube. Add a drop of 0.1N sodium thiosulfate solution to neutralize residual disinfectants. Tighten the tube top to prevent leakage.
3. Label each tube with a unique identifier. Record the type and location of the sample on a Sample Data Sheet, and place the tube into a cooler.
4. If the whirlpool spa tub is not drained, collect a 1 L bulk water sample in a sterile 1 L bottle. If the pool is partially drained, a sterile 15 mL tube may be used to collect the remaining whirlpool water. If the spa has been completely drained, ask facility maintenance personnel for access to the compensation tank (for collection of overflow water) and take a bulk water sample from there.
5. Add 0.5 mL of 0.1N sodium thiosulfate solution to neutralize residual disinfectants to the 1 L water sample. Tighten the bottle top to prevent leakage.
6. Label the bottle with a unique identifier. Record the type and location of the sample on the Sample Data Sheet, and place it into the cooler.
7. Collect 100–300 mL of water from the whirlpool spa tub (or the compensation tank if drained) in a separate plastic sampling bottle. Measure temperature, pH, and free chlorine or bromine level of the sample. Record all measured data on the Sample Data Sheet.
8. It is very important to collect a filter sample from whirlpool spas. Request access to the filter (which is usually located in a separate maintenance room) from the facility maintenance personnel. Gloves should be worn due to heavy organic loads typically found in filters and the abrasive or caustic nature of some filter filling material. The methodology for filter sample collection depends on the filter type.
   a. Sand filters: Collect some sand and enough water from the filter to cover the sand and keep it moist. Collect 300–500 mL of water from the filter chamber into a sterile 1 L bottle. Use the same or a new bottle to scoop sand from the chamber, and pour the sand into the bottle making sure that it is completely covered by water.
   b. Cartridge filters: Cut a portion of the filter to fit inside a 1 L bottle and add enough water from the filter chamber to cover it and keep it moist.
   c. Diatomaceous earth filters: Collect 300–500 mL of water from the filter chamber into a sterile 1 L bottle and use a sterile swab to scrape diatom powder from the grid. Place the powder into the bottle making sure that it is completely covered by at least 1 in. of water.
   d. Add 0.5 mL of 0.1N sodium thiosulfate solution to the sample to neutralize residual disinfectants. Tighten the bottle top to prevent leakage.
   e. Label the bottle with a unique identifier. Record the type and location of the sample on the Sample Data Sheet, and place it into the cooler.

LIST OF POTENTIAL SAMPLING SITES*

Site	Approximate number of samples	Type of samples	Sample processing†
Potable water			
Incoming water main (where water enters the facility/ campus/building from the municipality)	1	1L bulk water	Concentrate
Every well and water tower that supplies water to the facility/campus/building	1 per well or water tower	1L bulk water	Concentrate
Every holding tank or cistern	1 per holding tank/ cistern	1L bulk water	Concentrate
Centralized water heater	1	1L bulk water (a biofilm swab if drained)	Direct
Expansion tank for hot water (absorbs excess water pressure caused by thermal expansion within the hot water heater)	1	1L bulk water	Concentrate
Hot and cold water returns	1 each for hot and cold	1L bulk water	Concentrate
For buildings with water softeners, special filters, and disinfection systems, sample water before and/or after these processes		1L bulk water	Concentrate
Shower	2 per shower‡	1 biofilm swab and 1L bulk water	Concentrate
Faucet	2 or 3 per faucet‡	1 biofilm swab inside the faucet, (1 biofilm swab of the inside of the aerator if visual inspection indicates that it's overgrown with biofilm), 1L bulk water	Concentrate
Whirlpool baths€ (i.e., Jacuzzis)	1	1 biofilm swab inside the jets	Concentrate
Cooling towers◊			
Make-up water (water added to replace water loss because of evaporation, drift, or leakage)	1	1L bulk water	Direct
Collection basin (an area below the tower where cooled water is collected and directed to the sump)	2	1L bulk water and a biofilm swab at the water line	Direct
Sump (a depressed chamber contiguous to the basin, where water flows to facilitate pump suction; may also be used as collection point for silt and sludge)	2	1L bulk water and a biofilm swab at the water line	Direct
Storage tank or reservoir in the system	1	1L bulk water	Direct
Drift eliminators or other surfaces that remain moist	1	1 biofilm swab	Direct
Heat sources (e.g., chillers)	1	1L bulk water	Direct

Site	Approximate number of samples	Type of samples	Sample processing[†]
Whirlpool spas			
Water in the tub	1	1L bulk water	Direct (concentrate if chlorine is detected by odor or direct testing)
Biofilm at the water line	2	Biofilm swabs (the quantity depends on the size of the tub)	Direct
Water jets	2	Biofilm swabs of several jets	Direct
Filter	1 per filter	Combination of water and a filling (sand in sand filters, diatom powder in DE filters, or polyester filling in cartridge filters) to keep the filing moist during the transport	Direct
Compensation tank	1	1L bulk water	Direct (concentrate if chlorine is detected)
Other sources			
Decorative fountains	2	1L bulk water and a biofilm swab (number of swabs dependent on size and complexity of the fixture)	Direct
Sprinkler systems	>2	1L bulk water and one or several biofilm swab(s) of the sprinkler jets	Concentrate
Safety showers and eye wash stations	2	1L bulk water and a biofilm swab	Concentrate
Humidifiers	2	Bulk water (as close to 1L as possible) and at least one biofilm swab of moist surface	Concentrate
Nebulizers, hand-powered resuscitation bags, intermittent positive pressure breathing ventilators, and other respiratory care equipment that uses water for filling or cleaning	>2	1L bulk water used to clean the device and biofilm swabs of moist surfaces	Concentrate

*This table is a list of commonly sampled sites; however, all sites need not be sampled during every outbreak. Important: Use CDC sampling procedures.

[‡]All showers and faucets in all case rooms should be sampled, along with showers and sink faucets in additional rooms. Choose rooms proximal and distal to risers or hot water heaters and on various floors based on the results of the environmental assessment. Ideally, sample at least a couple of outlets on every floor and/or wing.

[€]Whirlpool baths are filled from the tap and drained after each use.

[Ω]Not all cooling towers have all listed components. Engage an engineer or maintenance technician familiar with the facility to identify appropriate sampling sites for a particular cooling tower.

[†]This table provides general recommendations on whether a sample should be processed directly or concentrated based on the assumption that potable water samples typically contain less bacteria and fungi than non-potable water samples. For each sample, decisions about the processing strategy should be made depending on specific circumstances (e.g., a decorative fountain contains water with a strong odor of chlorine or a bulk water sample from a faucet that has no detectable chlorine level).

Henry, James

From: Hasan, Shurooq
Sent: Monday, June 1, 2015 11:32 AM
To: Cupal, Suzanne; Thornton, Venita; Ricica, Colleen; Childs, Bonnie; 'Bolen, Timothy (DCH)'; 'anewell1@hurleymc.com'; 'danielle.donovan@mclaren.org'; 'dcharle2@hurleymc.com'; Johnson, M.D., Gary; 'ehabte1@hurleymc.com'; 'yrafee1 @hurleymc.com'; July, Jori; 'kari.wanless@mclaren.org'; 'kimberly.tylenda@mclaren.org'; 'kwarden@hamiltonchn.org'; 'romara@genesys.org'; 'sharlow@genesys.org'; 'aarmor1 @hurleymc.com'; 'tsperry1@hurleymc.com'; 'Wiskur, Lori'; Henry, James
Subject: Updated Clinical Guidance for Legionellosis-Documents
Attachments: MDCH BoL Legionella Testing Protocol.pdf; MDCH BoL Test Requisition.pdf; Updated Clinical Guidance for Legionellosis_Genesee May2015 (3).docx

Hello,

The Michigan Department of Community Health Bureau of Laboratories testing protocol and requisition form were not included in the previous email. I have attached them along with the clinical guidance.

Thank You,
Shurooq

From: Hasan, Shurooq
Sent: Monday, June 01, 2015 10:56 AM
To: Cupal, Suzanne; Thornton, Venita; Ricica, Colleen; Childs, Bonnie; 'Bolen, Timothy (DCH)'; 'anewell1@hurleymc.com'; 'danielle.donovan@mclaren.org'; 'dcharle2@hurleymc.com'; Johnson, M.D., Gary; 'ehabte1@hurleymc.com'; 'yrafee1@hurleymc.com'; July, Jori; 'kari.wanless@mclaren.org'; 'kimberly.tylenda@mclaren.org'; 'kwarden@hamiltonchn.org'; 'romara@genesys.org'; 'sharlow@genesys.org'; 'aarmor1@hurleymc.com'; 'tsperry1@hurleymc.com'; 'Wiskur, Lori'; Henry, James
Subject: Updated Clinical Guidance for Legionellosis

Hello

We have updated the Legionellosis clinical guidance created to assist clinicians in case evaluation and facilitate specimen collection/testing. Also included are the Michigan Department of Community Health Bureau of Laboratories testing protocol and requisition form to be used when sending *Legionella* isolates for testing.

Please share this information with the appropriate contacts and departments within your hospital systems.

For additional information, please contact the Genesee County Health Department at 810-257-3815 or 810-257-1017.

Thank You,

Shurooq

Shurooq Hasan, M.P.H
Epidemiologist
Genesee County Health Department
630 S. Saginaw Street
Flint, MI 48502
(810) 257-3815
shasan@gchd.us

TTHM VIOLATION: CITY DEVELOPS TECHNICAL ADVISORY COMMITTEE AND BEGINS COOPERATION

Henry, James

From: Howard Croft <hcroft@cityofflint.com>
Sent: Friday, February 20, 2015 3:26 PM
To: Henry, James
Subject: Technical Committee
Attachments: Technical Advisory Team List.pdf

Jim,

I wanted to ask if you if the health department would like to add a participant to the technical committee as well as the community group ?

I am forwarding you a list of the current team members.

--

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Henry, James

From: Elizabeth Murphy <emurphy@cityofflint.com>
Sent: Monday, February 16, 2015 5:08 PM
To: Henry, James
Subject: Flint Water Advisory Committee
Attachments: Water Advisory Committee.PDF

Dear Mr. Henry,
The City of Flint is creating a Water Advisory Committee and your organization is invited to participate. Please see the attached letter for more details.

This committee is separate from the Technical Committee which Howard Croft is putting together. This group will be a two-way communication design to share information from the city and to answer community groups' questions.

We look forward to your agreement to participate by responding to Mayor@cityofflint.com by Friday, February 20, 2015.

--
Liz Murphy
Assistant to the Emergency Manager
City of Flint
810 237 2025

Henry, James

From: Henry, James
Sent: Monday, March 23, 2015 8:40 AM
To: Henry, James
Subject: Fw: Advisory Meeting
Attachments: Advisory Meeting

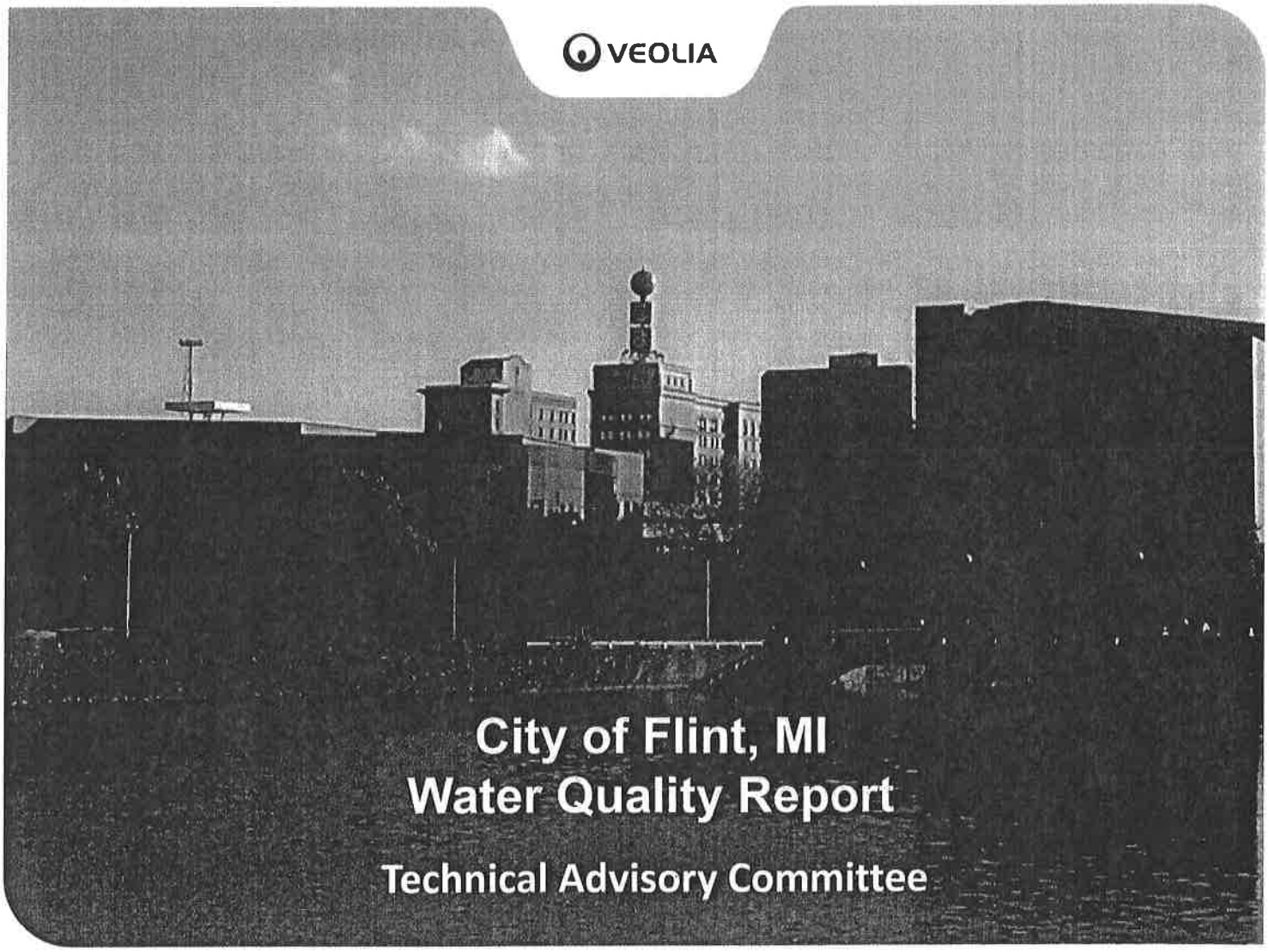
Hey everyone, I received the email below and attachments from Howard Croft, DPW, late this afternoon.

Shurooq and I talked today a few ideas around this morning regarding the City's FOIA and prioritizing issues. Hopefully, we have satisfactorily prepared and addressed the TTHM issues. We should meet soon to prioritize and nail down our internal action plans regarding Legionella. We may have opportunities for environmental sampling relative to our most recent Legionella case. I like Dr. Johnson's approach using the dry erase board for brainstorming. Once we have our unified plan, I propose bringing bring in our partners for for the final touches

I have requested to meet with MDEQ and the City this coming week. I'll keep you informed.

Sent from my phone.

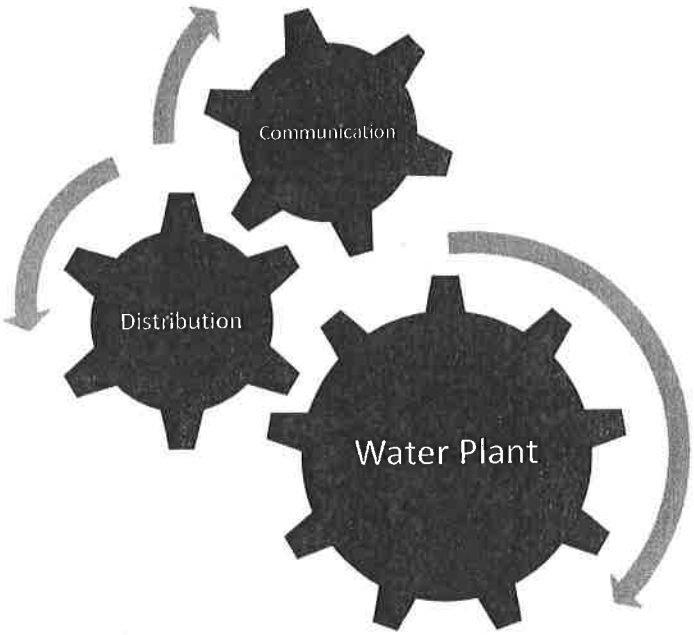
------ Original message------
From: Howard Croft
Date: Fri, Mar 20, 2015 4:02 PM
To: Amy Hovey;Brennan Elm Park Senior Community Corporation;Carma Lewis;catherine.sheppard;cbruett;Chris Zuwala;City Of Flint;Clarence Pierce;claytons3;connie.russell;crmcclinton;ctomm;Diana Phillips;dpmgt;flintfreedom_fund;Florlisa Stebbins;gla;Jack Stock;Jackie Poplar;James Henry;Jamie Gaskin;Jason Caya;jcurtis;jiking155;jmanse;John Waddell;johnsonreid;jwright@co.genesee.mi.us;kboles@valleyaaa.org;Kevin J. Keane;kevin.roach;khamlet;kittle.robert;kroddy;LaMonica Harris;Laura Sullivan;lisa.poma;LWatkins@flintschools.org;mcarnevale;mddst;Megan Hunter;Melissa Mays;Mike Sargent;mmelenbrink;Montel Menifee;nkopek;Norb Birchmeier;Pete Levine;rcarter;Rebecca Fedewa;repphelps@house.mi.gov;revalharris1;rstanley;Russell Hudson;sborrego;sheldonneeley;suptmarshall;Tony Martin;William Hammond;
Subject: Advisory Meeting



City of Flint, MI
Water Quality Report

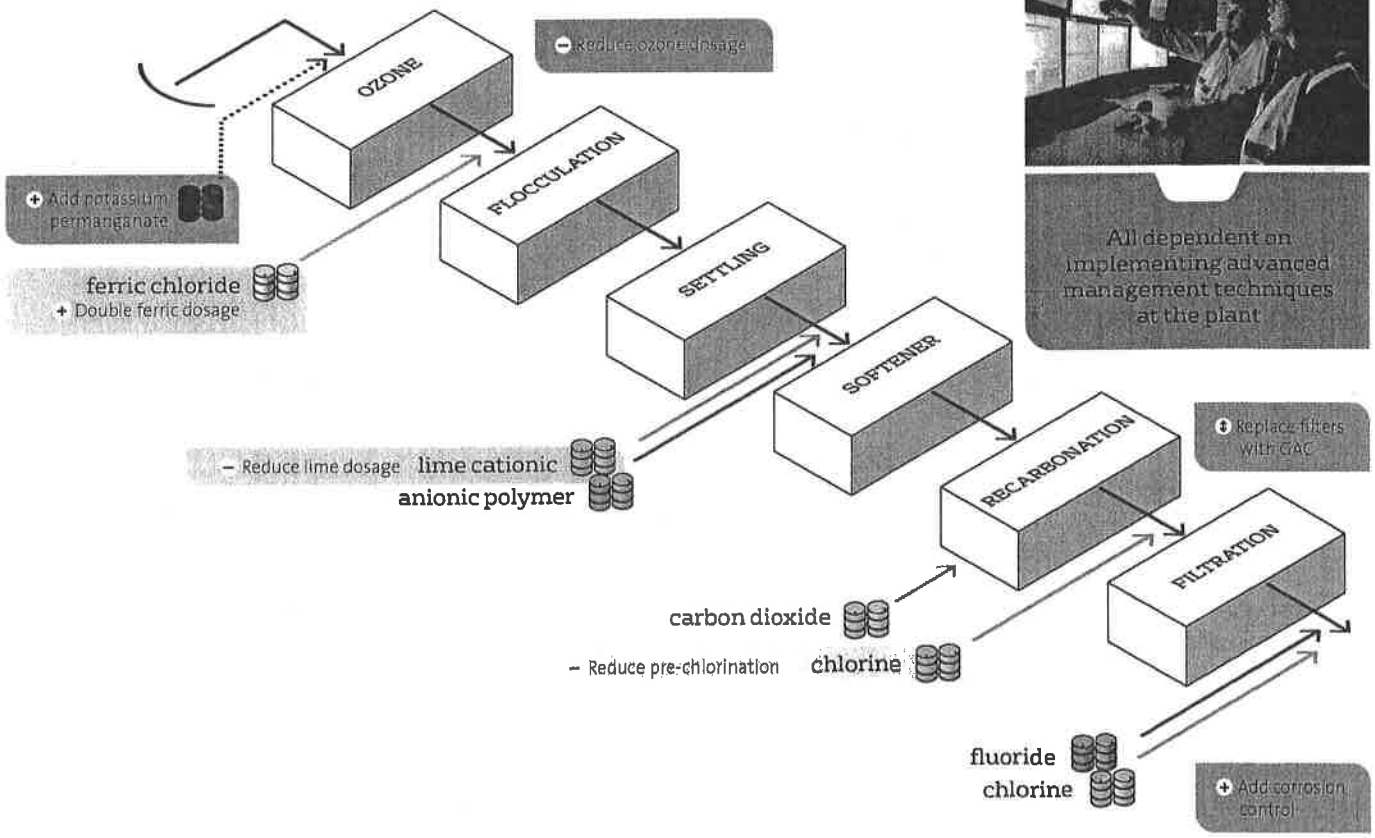
Technical Advisory Committee

Solution Involves Coordination of 3 Activities



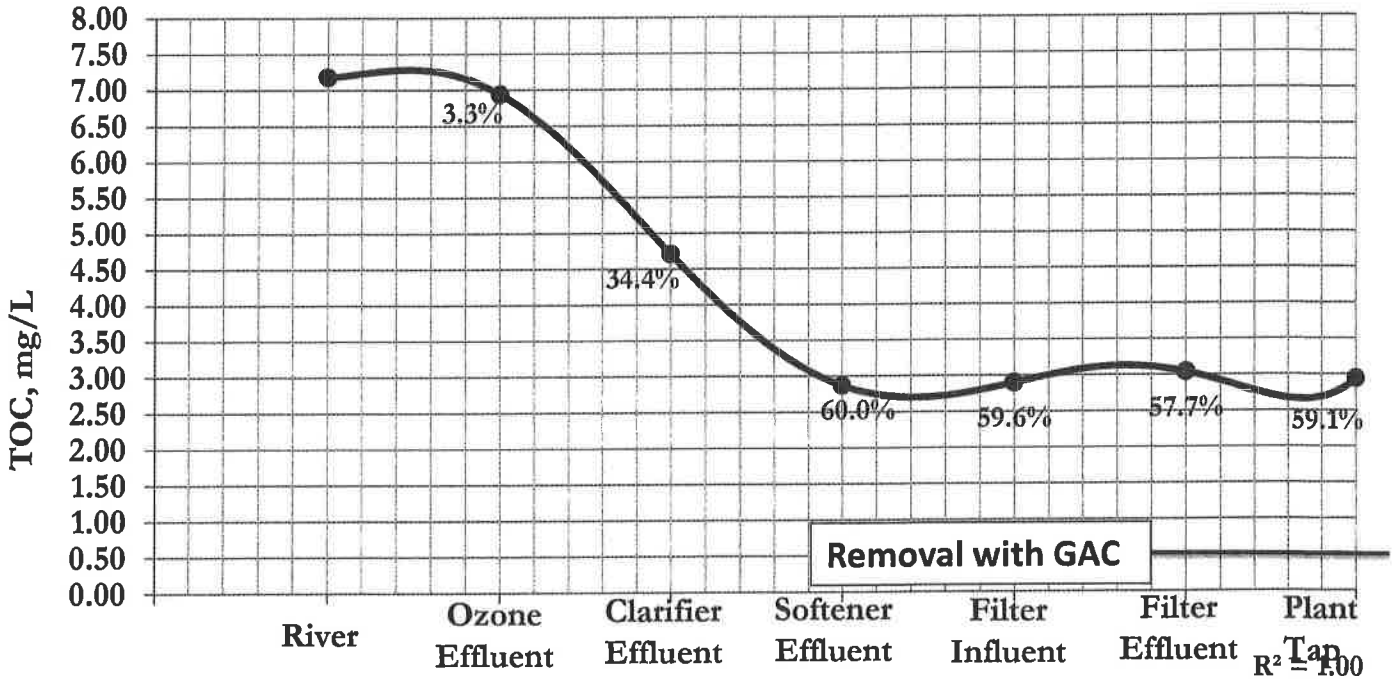
- Water plant improvements
  - *Optimize chemical dosages*
  - *Consider different chemicals*
  - *Install granulated activated carbon*
  - *Complete plant upgrades*
  - *Implement best mgt practices*
- Distribution system improvements
  - *Fix broken valves*
  - *Ask for customer feedback*
  - *Reduce tank storage*
  - *Target line flushing*
  - *Run a hydraulic model*
- Better communication with customers
  - *Engage advisory committees*
  - *More accessible utility*
  - *Make it easy to access information*
  - *Better customer communication*

Optimize Plant Processes

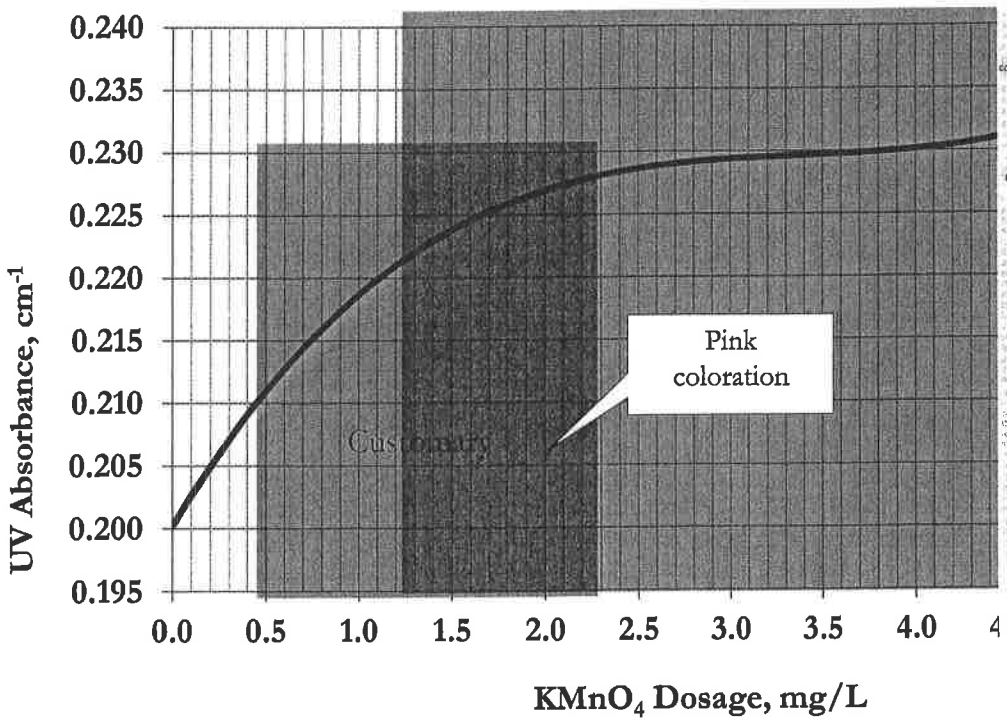


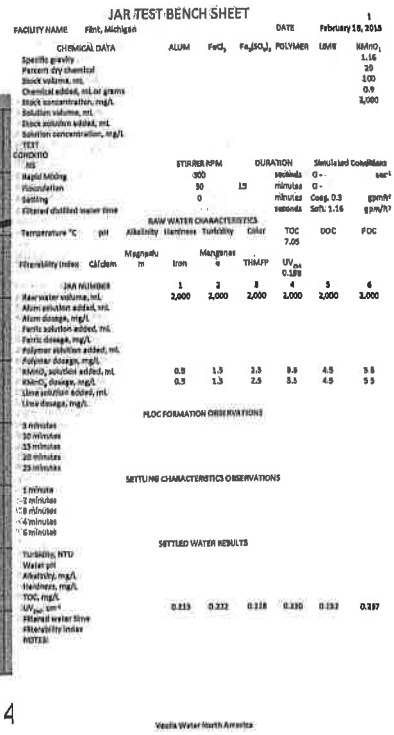
All dependent on implementing advanced management techniques at the plant

TOC Removal Efficiency Optimizing Current Plant



Potassium Permanganate Dosing Graph




JAR TEST BENCH SHEET

FACILITY NAME Flint, Michigan — DATE February 18, 2015 — 1

CHEMICAL DATA	ALUM	$FeCl_3$	$Fe_2(SO_4)_3$	POLYMER	LIME	$KMnO_4$
Specific gravity						1.16
Percent dry chemical						20
Stock volume, mL						100
Chemical added, mL or grams						0.9
Stock concentration, mg/L						2,000
Solution volume, mL						
Stock solution added, mL						
Solution concentration, mg/L						

TEST CONDITIO NS	STIRRER RPM	DURATION		Simulated Coagulants	
Rapid Mixing	300	seconds		G -	sec^{-1}
Flocculation	30	15	minutes	G -	
Settling	0	minutes		Coag. 0.3	gpm/ft^2
Filtered distilled water time		seconds		Soft. 1.16	gpm/ft^2

RAW WATER CHARACTERISTICS

Temperature °C	pH	Alkalinity	Hardness	Turbidity	Color	TOC	DOC	FOC
						7.05		

Filterability Index	Calcium	Magnesium	Iron	Manganese	THMFP	UV_{254}
						0.189

JAR NUMBER	1	2	3	4	5	6
Raw water volume, mL	2,000	2,000	2,000	2,000	2,000	2,000
Alum solution added, mL						
Alum dosage, mg/L						
Ferric solution added, mL						
Ferric dosage, mg/L						
Polymer solution added, mL						
Polymer dosage, mg/L						
$KMnO_4$ solution added, mL	0.9	1.3	1.8	2.3	4.5	9.0
$KMnO_4$ dosage, mg/L	0.9	1.3	2.5	3.5	4.5	9.0
Lime solution added, mL						
Lime dosage, mg/L						

FLOC FORMATION OBSERVATIONS

2 minutes	
10 minutes	
15 minutes	
20 minutes	
25 minutes	

SETTLING CHARACTERISTICS OBSERVATIONS

1 minute	
2 minutes	
3 minutes	
4 minutes	
5 minutes	

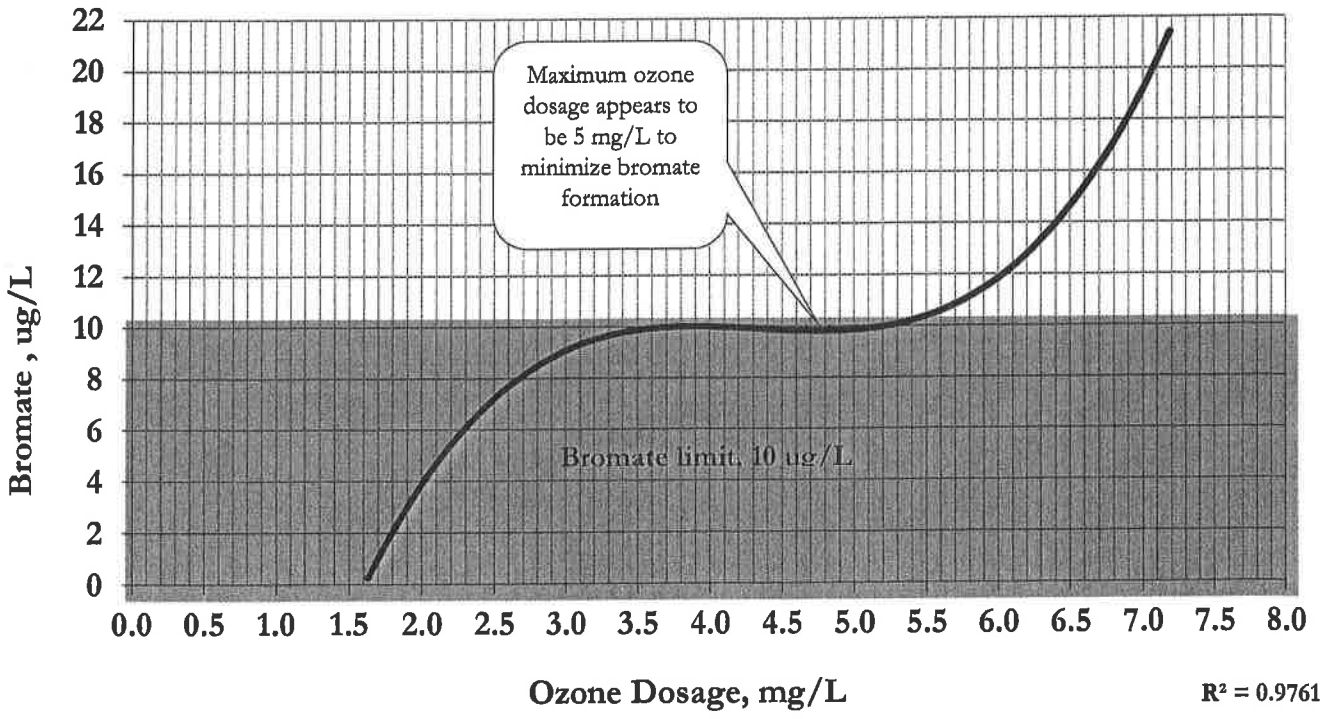
SETTLED WATER RESULTS

Turbidity, NTU						
Water pH						
Alkalinity, mg/L						
Hardness, mg/L						
TOC, mg/L						
UV_{254}, cm^{-1}	0.213	0.222	0.218	0.230	0.232	0.237
Filtered water Sive						
Filterability index						
NOTES:						

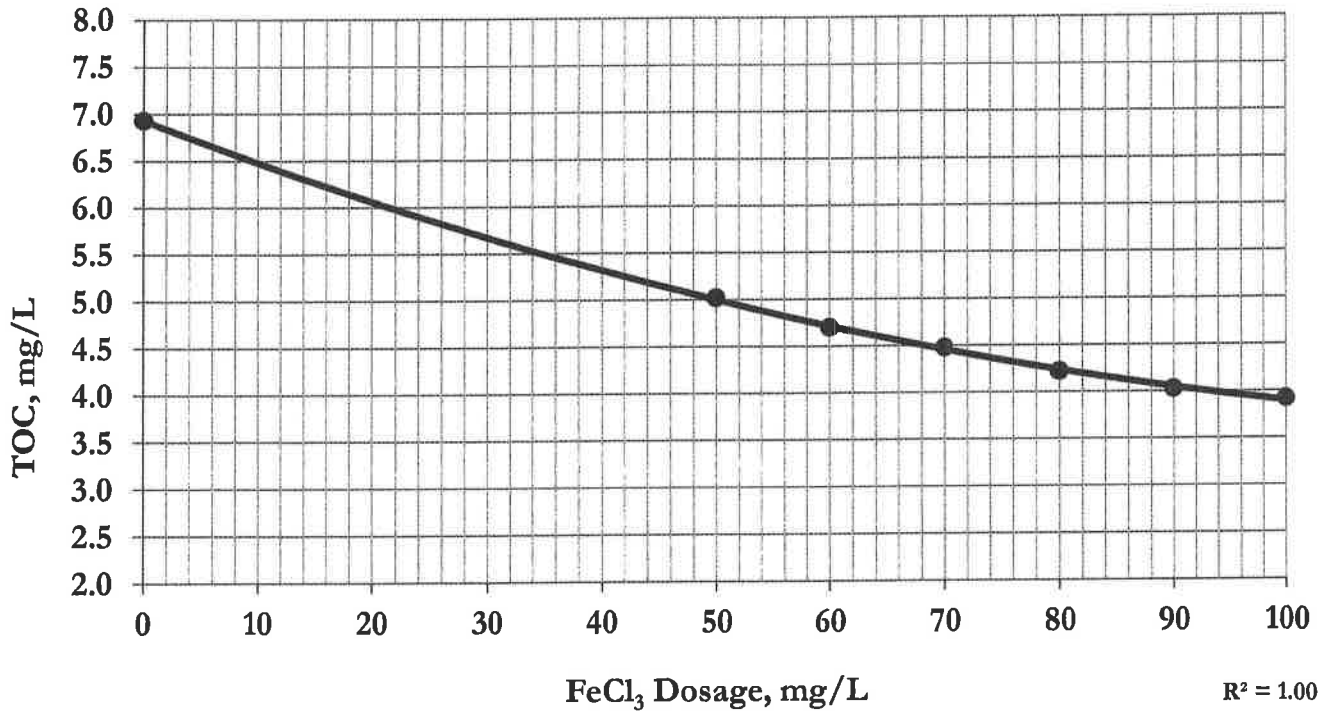
Veolia Water North America

$R^2 = 0.9753$

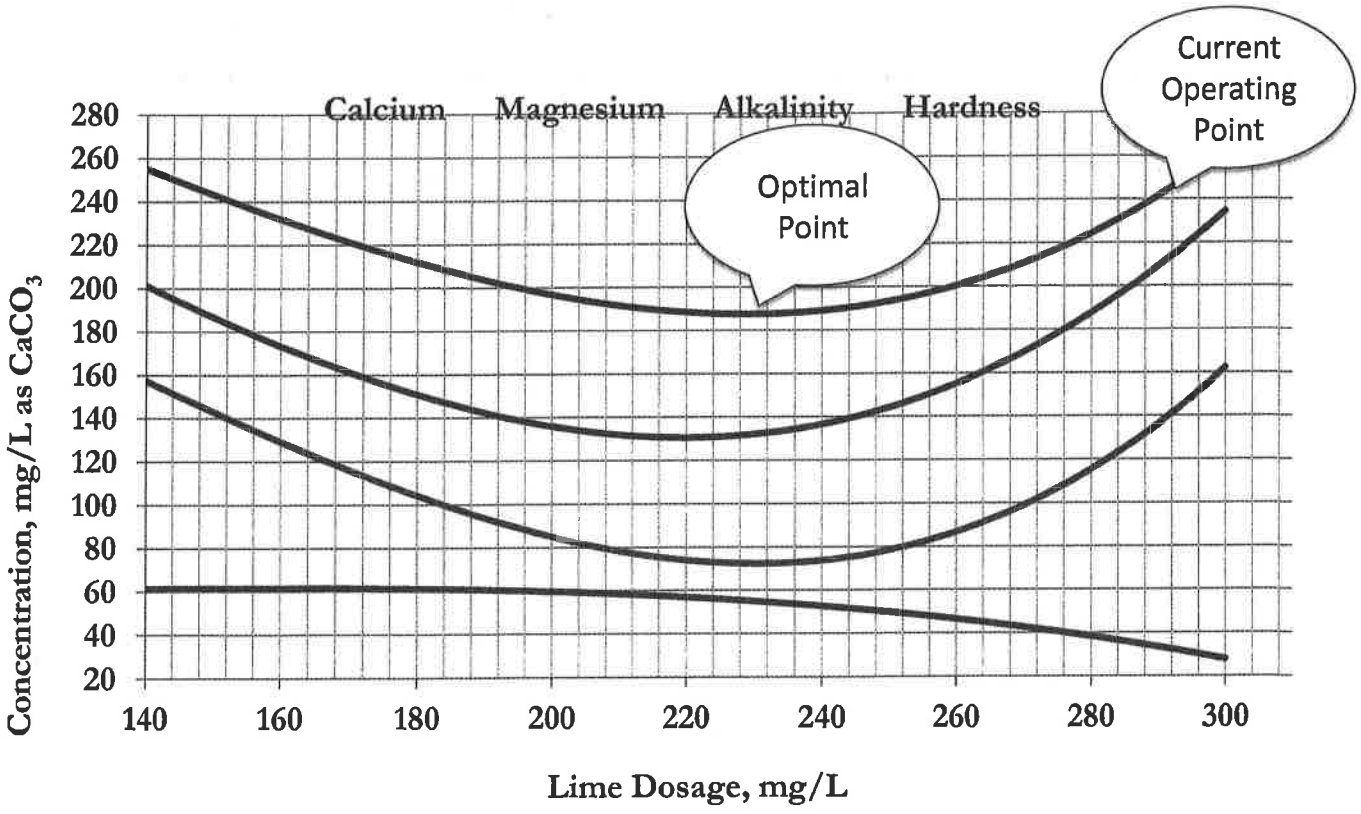
Bromate Dosing Graph



Dosage of Ferric Chloride



Lime Dosage Graph



Implement Best Management Practices

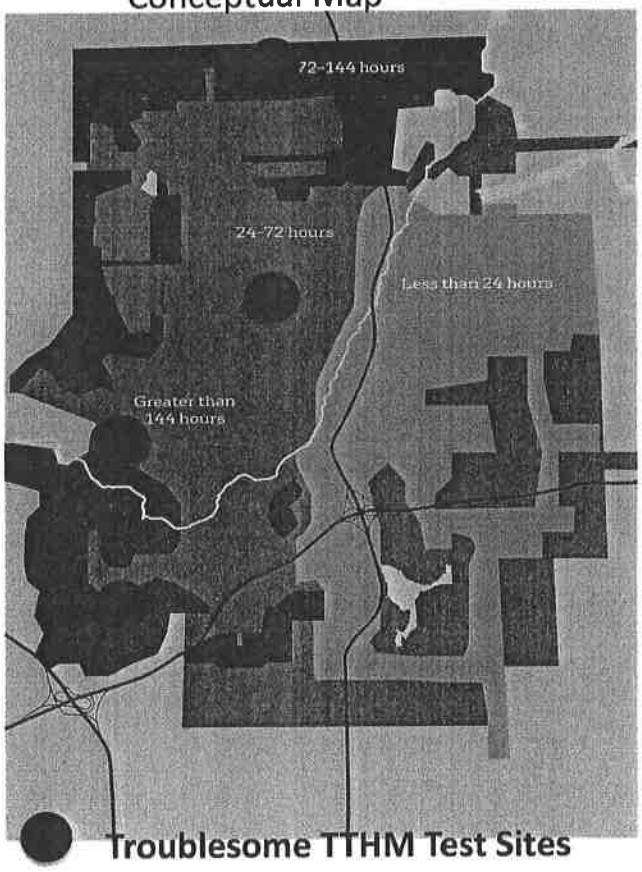
<u>Activities to Help Operators Maintain Good Water Quality</u>

- Process Control Management Plan
- Lab QA/QC Program
- Computerized Maintenance Management System
- Asset Management System
- Training and Certification Program
- Vulnerability Plan

Water Age Map

- Speed up flow of water from plant to homes – 2 weeks plant to house
  - *Find closed valves & open them*
  - *Replace broken valves*
  - *Update hydraulic model*
  - *Reduce system storage*
- Track customer complaints
  - *Test customer water*
  - *Spot flush hydrants to clean areas of stagnant water in the system*

Conceptual Map



Make It Easy to Access Information and People

Develop a proactive customer communication plan

- Create advisory committees to help direct efforts and improve flow of information
- Add additional communication personnel for the utility
- Develop a pro active communication program
- Establish a single point of contact to manage all water quality complaints
- Provide additional customer service training and tools to staff
- Expand neighborhood and community outreach
- Change monthly billing statements from card to envelope with information

VEOLIA

Questions?

Henry, James

From: Henry, James
Sent: Thursday, February 26, 2015 6:17 PM
To: Valacak, Mark; Cupal, Suzanne; Childs, Bonnie; Hasan, Shurooq; Johnson, M.D., Gary; Hallwood, Dawn
Subject: FW: City TAC Team First Meeting

Good afternoon everyone,

Below are two emails regarding Flint's Technical and Water Advisory Committees. I want to keep everyone informed and as we have discussed, the city has asked for our participation on both committees. Mark and I have discussed the requests and I will be meeting with the groups. The committees have different participants and purposes. They are scheduled to meet next Wednesday and Thursday.

- The Technical Advisory Committee (TAC) involves MDEQ, Dr. Joan Rose and Veolia consulting. The participants are listed on the email below from Howard Croft. I have not seen an agenda yet, but I think the goal of this group is to resolve some of the physical issues and get better control of the infrastructure.

- The Water Advisory Committee involves sharing information with Flint residents, businesses and community groups. I have not seen this agenda either, but the meeting will be open to the public. Below in the green font, is the second email from the Liz Murphy, Emergency Mgr Assistant. The participants for this committee were not disclosed in the email.

I'll share information moving forward.

Thanks Jim

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Wednesday, February 25, 2015 10:18 AM
To: Brent Wright; Daugherty Johnson; Dayne Walling; donna. cole; gdn2@aol.com; Howard Croft; Henry, James; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; mgavuli1@hurleymc.com; Michael Glasgow; Mike Lane; Mike Prysby (DEQ); Pete Levine; rob.nicholas@veolia.com; rosejo@msu.edu; Russell.Hudson@mclaren.org
Cc: Elizabeth Murphy; Jerry Ambrose; Natasha Henderson
Subject: City TAC Team First Meeting

Team,
We have scheduled next Wednesday March 4th as the first meeting date for the City's Technical Advisory Committee. The meeting will be at City Hall at 2:00 PM and we will have a conference number available for those who cannot make it in person. I will be sending out an official letter along with an agenda but wanted to give everyone an opportunity to get the time and date on their calendar. Thank you all for your participation.

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

City of Flint / Veolia Technical Advisory Committee

	COMPANY	NAME	TITLE	PHONE	DESIGNEE	CONTACT INFO	
1	General Motors	Randy Tanner	Head of Engineering	810-577-8552			Yes
2	MSU - Lansing	Dr. Joan Rose	Chair in Water Research	517-432-4412	Dr. Joan Rose	rosejo@msu.edu	Yes
3	Greater Flint Health Coalition	Kirk Smith	President	810-232-2228	Kirk Smith	ksmith@flint.org	Yes
4	County Drain Commissioner	Jeff Wright	Deputy Drain Commissioner	810-732-7870	John O'Brien	jfobrien@gcdcwws.com	Yes
5	U of M Flint	Michael Lane	Dir. Environmental Health & Safety	810-766-6763	Michael Lane	mjlane@umflint.edu	Yes
6	Mott Community	Larry Kohler	Executive Director		Larry Koehler	larry.koehler@mcc.edu	Yes
7	Genesys Pace Hospital	Donna Cole	Property Manager	810-606-5611	Donna Cole	donna.cole@genesys.org	Yes
8	Hurley Hospital	Melanie Gavulic	President / CEO		Norb Birchmier	mgavuli1@hurleymc.com	Yes
9	McLaren Hospital	Don Kooy	President / CEO		Russell Hudson	don.kooy@mclaren.org	Yes
10	Genesee County Medical Society	Pete Levine	Executive Director	810-733-9925	Gerald Natzke	plevine@gcms.org	Yes
11	Dept. of Environemental Quality	Mike Prysby	District Supervisor	517-290-8817	Mike Prysby	prysbym@michigan.gov	Yes
	City of Flint	Howard Croft	DPW Director	810-577-1202	Howard Croft	hcroft@cityofflint.com	Yes
	City of Flint	Daugherty Johnson	Utilities Administrator	810-577-8906	Duffy Johnson	djohnson@cityofflint.com	Yes
	City of Flint	Brent Wright	Plant Supervisor	810-787-6537	Brent Wright	bwright@cityofflint.com	Yes
	City of Flint	Mike Glasgow	Asstant Plant Supervisor		Mike Glasgow	mglasgow@cityofflint.com	Yes

Thank you for your interest in participating in the Flint Water Advisory Committee. This committee has been formed to enhance the two-way communication between the City of Flint and our residents, businesses, and organizations. The committee will be made up of about 40 people who represent a wide variety of entities. The first meeting will be held on **Thursday, March 5 from 2-4pm at the MTA Auditorium 1401 S. Dort Hwy, 48503**. This meeting will be facilitated and will be open to the public. We look forward to your attendance and participation.

Liz Murphy
Assistant to the Emergency Manager
City of Flint
810 237 2025

Henry, James

From:	Howard Croft <hcroft@cityofflint.com>
Sent:	Friday, March 20, 2015 4:03 PM
To:	Amy Hovey; Brennan Elm Park Senior Community Corporation; Carma Lewis; catherine.sheppard; cbruett; Chris Zuwala; City Of Flint; Clarence Pierce; claytons3; connie.russell; crmcclinton; ctomm; Diana Phillips; dpmgt; flintfreedom_fund; Florlisa Stebbins; gla; Jack Stock; Jackie Poplar; Henry, James; Jamie Gaskin; Jason Caya; jcurtis; jiking155; jmanse; John Waddell; johnsonreid; jwright@co.genesee.mi.us; kboles@valleyaaa.org; Kevin J. Keane; kevin.roach; khamlet; kittle.robert; kroddy; LaMonica Harris; Laura Sullivan; lisa.poma; LWatkins@flintschools.org; mcarnevale; mddst; Megan Hunter; Melissa Mays; Mike Sargent; mmelenbrink; Montel Menifee; nkopek; Norb Birchmeier; Pete Levine; rcarter; Rebecca Fedewa; repphelps@house.mi.gov; revalharris1; rstanley; Russell Hudson; sborrego; sheldonneeley; suptmarshall; Tony Martin; William Hammond
Subject:	Advisory Meeting
Attachments:	WP Upgrades.pdf; COF Water Advisory Comittee Questions & Answers _Final (1).pdf; Veolia-REPORT-Flint-Water-Quality-20150312.pdf

Advisory Team,

I am writing to thank all of you for your dedicated effort in attempting to work through the challenging times that the City is faced with. We will continue to evaluate the best forum and venue moving forward but we are committed to the engagement of the community and the increased transparency and communication.

I am forwarding documents that were distributed at the recent meeting and will continue to look for and value input from this group.

Please do not hesitate to email me with requests or comments.

Thank you,

--

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

City of Flint
Water Improvements

DATE	IMPROVEMENT	EFFECT	COST
Nov.	Increased flushing efforts (as weather permits)	Reduced time of water in the system	N/A
Nov.	Adjusted operational softening to no less than 80%	Reduce chlorine demand	N/A
Dec.	Started hydraulic modeling of distribution system	Helps to identify locations of bad valves	$80,000
Dec.	Started evaluation of different polymers	Removal of organic carbon	N/A
Dec.	Started SCADA upgrades inside of Water Plant	Improvement of internal software controls	$424,000 Budgeted
Jan.	Hired vendor to upgrade efficiency of the ozone system	Better oxidation and disinfecting	$7,200
Jan.	Started jar testing	Assists in dosage amounts and polymer aids	N/A
Feb.	Hired consultant Veolia for process review	Professional recommendations	$40,000
Feb.	Leasing a TTHM analyzer	Increased internal testing ability	$8,000
Feb.	Adjustments to reservoir level to match demand	Reduce time of water in system	N/A
Mar.	Implement process controls	Professionalism / efficiency	~$300,000
Mar.	Utilize Granulated Activated Carbon Filtering	Large reduction in TOC	$1,500,000
Mar.	Increase ferric chloride / reduce ozone feed rate / reduce lime dosage	Reduction in hardness	~$600,000
Mar.	Build hydraulic model	Assists in identifying locations of bad valves	Budgeted
Mar.	Communication program	Community awareness	~$80,000

City of Flint / Veolia Technical Advisory Committee

	COMPANY	NAME	TITLE	PHONE	DESIGNEE	CONTACT INFO	
1	General Motors	Randy Tanner	Head of Engineering	810-577-8552			Yes
2	MSU - Lansing	Dr. Joan Rose	Chair In Water Research	517-432-4412	Dr. Joan Rose	rosejo@msu.edu	Yes
3	Greater Flint Health Coalition	Kirk Smith	President	810-232-2228	Kirk Smith	ksmith@flint.org	Yes
4	County Drain Commissioner	Jeff Wright	Deputy Drain Commissioner	810-732-7870	John O'Brien	jfobrien@gcdcwws.com	Yes
5	U of M Flint	Michael Lane	Dir. Environmental Health & Safety	810-766-6763	Michael Lane	mjlane@umflint.edu	Yes
6	Mott Community	Larry Kohler	Executive Director		Larry Koehler	larry.koehler@mcc.edu	Yes
7	Genesys Pace Hospital	Donna Cole	Property Manager	810-606-5611	Donna Cole	donna.cole@genesys.org	Yes
8	Hurley Hospital	Melanie Gavulic	President / CEO		Norb Birchmier	mgavulli1@hurleymc.com	Yes
9	McLaren Hospital	Don Kooy	President / CEO		Russell Hudson	don.kooy@mclaren.org	Yes
10	Genesee County Medical Society	Pete Levine	Executive Director	810-733-9925	Gerald Natzke	plevine@gcms.org	Yes
11	Dept. of Environemental Quality	Mike Prysby	District Supervisor	517-290-8817	Mike Prysby	prysbym@michigan.gov	Yes

	City of Flint	Howard Croft	DPW Director	810-577-1202	Howard Croft	hcroft@cityofflint.com	Yes
	City of Flint	Daugherty Johnson	Utilities Administrator	810-577-8906	Duffy Johnson	djohnson@cityofflint.com	Yes
	City of Flint	Brent Wright	Plant Supervisor	810-787-6537	Brent Wright	bwright@cityofflint.com	Yes
	City of Flint	Mike Glasgow	Asstant Plant Supervisor		Mike Glasgow	mglasgow@cityofflint.com	Yes

City of Flint

Water Advisory Committee
Questions & Answers

March 19, 2015

* CITY HALL, 1101 S. SAGINAW STREET , RM S105, FLINT, MICHIGAN 48502 (810) 766-7135 Fax (810) 766-7249 *

CITY OF FLINT

Department of Public Works

Dayne Walling
Mayor

Gerald Ambrose
Emergency Manager

Howard Croft
Director

TO: City of Flint Residents

FROM: Department of Public Works

RE: **Water Advisory Committee Questions**

DATE: March 19th, 2015

Prelude

As the City continues to work diligently to improve water quality and to address rates, we have looked to increase communication and transparency. At our first Water Advisory Committee Meeting there were 61 questions posed by the participants. We have taken the opportunity to answer all sixty-one questions individually.
The responses are broken into the categories in which they were posed as follows;

- Affordability
- Quality
- Safety
- Sustainability
- Miscellaneous

These responses will be posted on the City website. If there is a question that has been missed, please present your question at one of the committee meeting.

AFFORDABILITY QUESTIONS

1. **Will the water rates go down once the infrastructure is repaired? What type of bill reduction can we look forward to?**

   The infrastructure repairs will be ongoing annually. The City is currently in the process of evaluating what the rates will be for the upcoming year.

2. **What is the City of Flint going to do about the high costs, fees etc. that we're charged and have to pay for water we are afraid to use for anything? Drinking, cooking, cleaning, bathing, etc. Can our bills be reduced? When?**

   Local and State officials are working diligently to find ways to keep the system solvent while also addressing the high costs.

3. **This meeting is window dressing, it is not getting to the heart of the matter.**

   Industry experts agree that the solutions being presented and acted upon are the correct measures to take in order to improve the quality of water and to address the infrastructure needs.

   These meetings are an opportunity for more direct dialogue between residents and City officials.

4. **In 2007 my average bill was $35. Now it averages $170 in Flint. However, in Grand Blanc now averages $45. Why?**

   One of the more significant reasons is the fact that there are significant "fixed costs" that are a part of running the system and making repairs. The City has 15,000 fewer users than we had ten years ago to fund an antiquated system. The County has grown in population and users to support a much newer system that needs less maintenance.

5. **Cost is significant barrier for many families – how can the costs (in a sustainable way) be lowered or adjusted for lower income families?**

   Efforts are being made locally and at the state level to keep the system solvent while trying to address the high costs.

6. **Is the State of Michigan willing to subsidize the costs of our water over and above the recent gift of 2 million dollars?**

   City and State officials continue to work diligently to determine where there may be funding sources that can be ascertained for support.

7. **How has the KWA family, friends, board members, land owners profited from the pipeline construction, main. And operation. Who will provide the oversight and the transparency?**
   The City currently holds three seats on the KWA board and there are regular public board meetings each month. These meetings are the venue for the public to ask questions pertaining to all KWA issues such as this.

8. **Notification of bad quality = transparency. Not notified until Jan. 3**
   The City followed DEQ regulations for a tier two violation which calls for notification to be given within 30 days of the notice. The notice is dated December 16th and the mailing did occur January 3rd. Our intention is to become more transparent and consistent going forward which is one of the reasons we have developed the advisory committees.

9. **Notification requirements are set by the Michigan DEQ.**

   The City followed DEQ regulations for a tier two violation which calls for notification to be given within 30 days of the notice. The notice is dated December 16th and the mailing did occur January 3rd. Our intention is to become more transparent and consistent going forward which is one of the reasons we have developed the advisory committees.

10. **Shut-off nonpaying customers quicker, prosecute water theft and fraud.**
    There are current policies in place and the City continues to evaluate them for effectiveness.

    There is also a task force in place that is actively pursuing water theft and fraud with the intent being to ensure that everyone is paying for water they receive.

11. **Where are we at on getting money to fix the bad valves?**
    The City has budgeted $60,000 annually to cycle and repair bad valves. We are looking at raising this line item in the budget to increase the number of valves that we can address. In addition, we have developed a hydraulic model that will allow us to better determine the likelihood of the area where bad valves exist.

12. **There are established affordability rate programs in the US today that serves multiple economic objectives. I have a contact that has developed Affordability Rate programs and as we meet today is meeting in Washington, DC at a Congressional briefing with Detroit US Rep Conyers for City of Detroit.**

    We welcome any and all information that can assist with the current rates. I recommend that you forward that information to a City official and ask that it is delivered to the Treasurer or the DPW Director.

13. **Reduce deposit tenants need to pay to get water on.**

    This policy is currently under review as we go forward into the budget development.

14. **Flint pays one of the highest rates for water/sewer in the country. Does Flint still plan on implementing the 6% increase for the 2015 budget year?**

    This is currently under review and the new rates will be determined in the coming weeks.

15. **What will you do to help people with high bills who have health problems and have been forced to buy bottled water?**
    Every possible effort is being made to address the high rates.

16. **Will there be bill reductions for citizens that have not been able to use their water due to health reasons and other issues?**
    There is no rebate planned but significant effort is going into improving the water quality and addressing the rates.

17. **How can the committee assist in passing information on to Flint residents through our networks and be consistent with messages?**
    We are working to create increased lines of communication through multiple avenues including this advisory committee. One of our goals of the committee is to hear new suggestions and ideas and create a consistent message being delivered. In addition to a new webpage that the City is developing that is dedicated to water I would suggest contacting the City's Public Information Officer and providing information about your specific group.

QUALITY QUESTIONS

18. **Beyond just the water quality – a level of consistency is desired. For businesses that use water – we use a filtration system but the levels of pH are erratic. This makes it difficult to keep the filter working. Is consistency being addressed? When can we expect improvements?**

    The pH level of water leaving the plant is fairly stable and is normally in the range of 7.5 – 8.5 S.U. Other quarterly testing throughout the city at 25 sites has been in the same range as water leaving the treatment plant. If you are measuring pH outside of this range, you should contact the Water Plant and have it independently tested, or have it independently tested yourself.

19. **If my water is brown and smells of rotten eggs, how can you tell me to give that to my kids? Safe on paper is not what is coming from my pipes?**

    If your water is brown or has unusual odors, you should contact the water plant to have a sample of your water collected. I would not advise consuming any water that has unusual color. Water can also be effected by household plumbing and service lines that run from the curb box to the house. The City routinely tests for lead and copper within households.

20. Does River water vs Lake water really matter?

Lake water will require less treatment steps to meet drinking water standards. Lake water will also be more consistent, as river water parameters can change from day-to-day.

21. When will we see these actions take place?

The City has been implementing measures to improve the water quality of water since November of 2014. We have already started the engineering process for the most recent recommendations that have been made.

22. I would like to know if you all checked Camp LeJeune health studies to see what TTHM does in the short term and what will you be doing for the people when and if this happen they develop anything from drinking water.

We have not checked the Camp Lejeune health studies, we continue to follow all EPA and DEQ regulatory procedures to provide safe quality water.

23. What determined the 4 hour time frame to test water and be able to capture a problem before it reached the public?

The 4 hour time frame is referring to bacteria testing performed at the treatment plant. , This was determined by water plant staff. Regulations only require one test per day. Other treatment processes are monitored continuously, hourly or daily.

24. When there is a break that will possibly cause poor water quality how difficult is it to notify residents so they will know to be aware and how will we be notified?

The City is in the process of developing an enhanced notification procedures to alert the potentially impacted area when there is a main break. The new procedures will be made available on the City website.

25. Why not add charcoal at end? Put it in beginning so don't need all chemicals.

When charcoal is used in water treatment, it is only useful for a limited time. If charcoal is used at the start of the treatment process, it will be "used" up very quickly resulting in more use of charcoal. It is more economical to place it at the end of the process so it will last longer.

26. You keep saying Water is safe. Yet daily citizens complain rashes, hair falling out and discolor. Water not safe. Why can't we go back to Detroit while you work on river? Sue McCormick said we could go on for 30-60 days. Stop charging for water we cannot use.

Currently, the water meets all Federal and State standards, and is safe to the best of our knowledge. The City will continue to look into and test water anywhere that there is a report of an issue.

27. How long will it take to get state approval for process enhancement?

Anywhere from 30 -120 days depending on the type of process change

28. It is my understanding that the Governor weighed in with $2million to address in part the concerns. What will it take to bring the Flint system to state of the arts quality?

The $2 million dollar grant was targeted at two shovel ready projects;

a) Decommissioning of the incinerator
b) Leak detection on the distribution system

The cost to replace pipe is approximately $1 million dollars per mile. There are ~600 miles of distribution main and another ~500 miles of sanitary and another ~500 miles of sewer. At this rate, it would amount to 1.6 billion dollars to replace the system.

29. Is the Flint River "dirtier" than other rivers used for drinking water?

The Flint River is not necessarily "dirtier" than other rivers used for drinking water. There are rivers that are "cleaner" and others that could be considered "dirtier". It all depends on what chemical or microbiological parameters we are discussing.

In any event, the Flint River water is a suitable water source for a public water supply, with proper treatment. Otherwise, the State DEQ would not have approved the switch in water sources. Finished water from Flint's Water Treatment Plant has consistently met all standards. The only quality issues have been associated with water at the point of usage, not from the plant itself.

30. Will switch to KWA change the problem with the distribution system?

No.

31. There is much discussion regarding TTHMS, but what about pseudomas and legionella and other water borne pathogens?

Each step of our water treatment process contributes to removing water borne pathogens. We use ozone, primary settling, chemical softening, and finally chlorine to remove these pathogens. The combination of treatment can provide 99.99% removal.

SAFETY QUESTIONS

32. What is being used as the disinfectant? Have chloramines been used? Will they potentially be used to disinfect in the future?

Currently chlorine gas is used as our disinfectant. Chloramines have not been used, and would have to be approved by the DEQ for use. Chloramines are a much weaker disinfectant, and may not be strong enough for our distribution system issues.

33. What are we going to do about Toxic Soil and toxins that the EPA doesn't test for? That seeps into our water.

Substances in the soil generally do not "seep into" water systems, even though a leak in a pipe, because the system is under pressure. At a pipe break or leak site, water passes out of the pipe, and into the soil, not the other way around. City policy makers can make determinations to increase testing for any chemical or toxin, should there be any questionable areas.

34. How often will the City check thoroughly for contamination?

The river water and finished drinking water is monitored quarterly for a large number of contaminants, including numerous organic chemicals (petroleum based), pesticides, herbicides, PCB's, and metals.

35. What are we going to do for citizens that are not able to use the water for health reasons?

Health questions have been presented to the Technical Advisory Committee members which includes the EPA, DEQ, and Hospitals for recommendations.

36. How soon can we have the unnecessary, caustic, fluoride stropped? It increases costs and health risks.

The use of fluoride was voted in by the residents years ago. Another vote would have to be initiated to remove the use of fluoride.

37. Can we get the fluoride turned off?

The use of fluoride was voted in by the residents years ago. Another vote would have to be initiated to remove the use of fluoride. The City adds fluoride at very low levels as a preventative measure for tooth decay. It is not considered caustic.

38. What can be expected when the KWA water is received in 2016? Will we be reanalyzing what the new water will mean regarding safety?

We will have to meet the same drinking water regulations, and thorough testing will be conducted. Testing requirements will be set by the MDEQ.

SUSTAINABIITY QUESTIONS

39. You spoke of valves being shut off, doesn't water just sit there and gather bacteria? How can you decrease some of the miles of pipe?

The Master Plan land use map gives us a chance to envision areas of town that are projected to not be populated in the future. This information is critical to determining where we may have an opportunity to reduce miles of existing pipe.

40. Is there a long term plan for infrastructure updates?

Through the Master Planning process along with engineered water reliability studies, the City has developed a Capital Improvement Plan that is designed to regularly invest in the infrastructure.

41. How could this be financed with limited city funds?

The City allocates a certain amount of funding annually to make routine repairs to the system. Larger repairs are considered capital improvements which is a different annual allocation, and more significant capital projects tend to look at the states Drinking Water Revolving Fund for resources.

42. Why haven't we brought in the army corps of engineers to fix our pipes?

The City, along with local engineering firms and local contractors is capable of designing and effectuating repairs. The capital expense is what is largely needed to maintain infrastructure. The Army Corps of Engineers has no direct jurisdiction over either the water distribution system or the wastewater collection system. Their jurisdiction is over navigable streams, such as the Flint River itself. In addition, the funding of their projects generally must be authorized by the U.S. Congress.

43. How can you ensure the water is safe to drink once it leaves the plant and it takes 2-3 weeks circulating in the pipes?

Samples are collected throughout the city regularly to assure that the water is safe. At least 100 samples a month are collected for bacteria testing, and 25 samples are collected quarterly and analyzed for certain water quality parameters.

44. Will Flint City be treating the water from Lake Huron?

Yes.

45. What are you going to do to help people with high levels of lead and iron?

The City conducts routine volunteer testing of homes for lead and iron. Most cases of high iron are related to service lines or household plumbing.

46. Will the crumbling infrastructure poison our KWA water? If not, why?

We would expect to still see occasional instances of "brown" or "yellow" water due to the status of our distribution system, and corroded home and building leads.

47. How do you deal with GM Contamination from the river?

There is always a concern of contamination in the river. Where our water treatment plant is located, there are no significant industrial sites upstream of our plant. Most of our water can be viewed as coming from Holloway Reservoir.

48. How is the bacteria eliminated since it takes 2-3 weeks to reach the homes?

We attempt to add enough chlorine at the treatment plant so that a small amount still remains in the water to continuously provide a level of disinfection.

49. Flint River Huge asset – clean it up and use it. Won't it save us money?

We are evaluating the purchase of equipment that will allow us to test water farther upstream to better prepare for treatment when it enters the plant. The Flint River will serve as the City's permanent backup supply of water.

50. Once KWA water arrives will it require a different treatment process than what the consultant is recommending for Flint River water and will state approval be required?

Yes, there will be differences in the treatment of water being delivered from KWA. The City is actively engaged in the evaluation process of how to properly treat water from Lake Huron.

51. Exactly how bad is our infrastructure: i.e. our pipe network? How costly to repair?

The cost to replace pipe is approximately $1 million dollars per mile. There are ~600 miles of distribution main and another ~500 miles of sanitary and another ~500 miles of sewer. At this rate, it would amount to 1.6 billion dollars to replace the system.

52. We've heard all the problems. Can we have some real solutions that will truly help the citizens?

Several industry experts agree that the solutions being presented and acted upon are the correct measures to take in order to improve the quality of water and to address the infrastructure needs.

53. Why did they tear down the United Way building? Pollution?

We will have to research that answer, it is not utility related.

54. What type of time frame are we looking at for the infrastructure repairs?

Infrastructure repairs and maintenance occur constantly and continuously, whether it is pipes underground, plants and pump stations above ground, or the roads on the ground. In a larger system, the work is never finished. Certain recommendations for treatment related projects are anticipated to be installed by late June.

MISCELLANEOUS

55. Is or has there been consideration for tiered services and rates for the poor, elderly, people on fixed incomes. How will the rates (under KWA) be determined, fixed, and reported? As well, how will fees be determined?

The system has revenue requirements that are necessary in order to stay solvent, City officials are continuously looking for solutions to properly charge all of the users on the system.

56. Need better online access for landlords to manage utility and tax payments.

This request will be forwarded to the Treasurer for appropriate follow up.

57. For about a year people have been complaining about water quality. Why has it taken this long to bring in a consultant and identify steps to make the water better?

The City of Flint has been working diligently on the water issues all along. A consultant was brought in to assure both the public and the City that appropriate actions have been and are being taken, and to see if there might be additional measures to enhance the process.

Much of the work that the City has undertaken has been with professional engineers and includes consultation with the DEQ. This work is largely chronicled on the City website and will continue through the implementation of the KWA.

58. **Can you provide more info on Veolia and their expertise/experience with municipal water systems?**

There is significant information available about Veolia that can be found online. The City's Purchasing Department can answer questions regarding the qualifications that the City requested in our RFP and what was presented by Veolia to meet those requirements.

59. **Special phone number for professionals to use. Also add customer service workers to answer phone calls.**

The City is working diligently to provide the best possible customer service for all residents, vendors, and professionals. If you feel that you have not received good service, we would like to know so that we can address it.

60. **Why hold meeting in obscure location with limited seating? It should have been publicized better to allow for residents. It should have been held at City Hall to more residents could have attended and microphones were available.**

Many residents voiced an interest in holding these events outside of City Hall. When that occurs we have to contend with venues that are sometimes booked or others that may have restrictions or limitations.

61. **I am very concerned about the use of chlormines as an alternative disinfectant. Is this being used currently and if not, is it being considered for future use?**

Currently chlorine gas is used as our disinfectant. Chloramines have not been used, and would have to be approved by the DEQ for use. Chloramines are a much weaker disinfectant, and may not be strong enough for our distribution system issues. The use of chloramines has been discussed as a way to combat TTHM's.

Gerald Ambrose
Emergency Manager

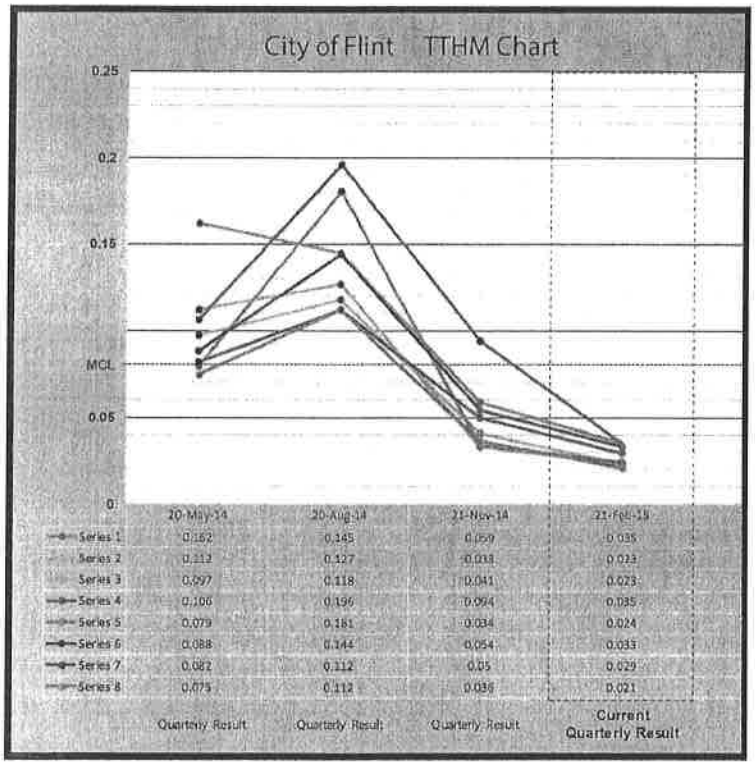
Dayne Walling
Mayor

Natasha Henderson
City Administrator

Members of the Flint Health Care Community,

The safety and quality of Flint's water has been in the news for months. We have worked hard to address these issues and have succeeded in bringing Flint's water to within the state's safety guidelines on all measures, including TTHM (total trihalomethanes). Excess TTHM triggered the initial letter to our customers earlier this year.

Even though Flint water now meets the standards and is testing at significantly below the state's allowable contamination levels, we are required to send out another letter to residents because the *annual* quarterly testing average is not yet below the state's allowable average.



The letter – a draft of which is enclosed for your information – includes legally required language recommending that residents who have severely compromised autoimmune systems, an infant in their household or who are elderly should contact their physician. This is standard language from the U.S. Environmental Protection Agency (EPA), which is included in every water quality or water related report the City publishes, regardless of whether there are specific health or quality concerns. It is used by other municipalities nationwide. We failed to alert you in advance of the first letter we were required to send out earlier this year, and we won't make that mistake again. We have also enclosed a fact sheet and Frequently Asked Questions to help you respond to any inquiries you may receive from patients.

Flint tests for TTHM – a byproduct of the water chlorination process – at eight different sites in the city. When we began using the Flint River as a source in April of 2014, our first round of quarterly testing for TTHM was conducted in May. At that time, only two testing sites were below the allowable maximum; in August, every site was above the allowable maximum.

City Hall
1101 S. Saginaw Street - Flint, Michigan 48502
810-766-7346 FAX: 810-766-7218 www.cityofflint.com

Gerald Ambrose
Emergency Manager

Dayne Walling
Mayor

Natasha Henderson
City Administrator

The City, with the help of LAN engineering, developed an Operation Evaluation Report (OER), which contained an action plan to address the issue. That plan was implemented, including upgrading the ozone treatment process at the Water Treatment Plant (WTP), increasing water main/hydrant flushing to decrease stagnation, performing small-scale testing of treatment to identify areas of improvement, and applying overall improvements to the WTP through operational changes and to the distribution system through water-circulation modeling.

Because the public notice is based on an annual average of quarterly results, a notice was not required until November, at which time all but one testing site was below the allowable levels. Our most recent testing in February showed that every testing site was well below state allowable levels. (See the graph in this letter outlining our progress.)

We have taken many steps to continue to improve the safety and quality of Flint's water, including bringing in international urban water system consultants, Veolia North America, and establishing two advisory committees: a Citizens Advisory Committee and a Technical Advisory Committee made up of representatives from the University of Michigan, Michigan State University, Kettering University, Mott Community College, Michigan Department of Environmental Quality, U.S. Environmental Protection Agency, Genesys, Hurley and McLaren Hospitals and local health officials including the Genesee Medical Society, Greater Flint Health Coalition and the Genesee County Public Health Department.

We have also established a hotline 810-787-6537 and a place for continuing updates on the city's website http://cityofflint.com/?p=6251. In addition, we encourage residents who are concerned about their water to report it immediately so that we can arrange for on-site testing. We have offered this for more than a month, however, to date only a few residents have requested it. All residents wishing to have their water tested can call the hotline or send an email to flintwater@cityofflint.com.

While Flint's water system may still be challenged with aesthetic quality issues, such as discoloration or odor, we assure you the *safety* of the water meets all state standards. You should also know that the City publishes its monthly tests for a wide variety of water treatment components, including chloride levels, on its website at cityofflint.com/?page_id=5643.

We urge you to contact the City of Flint Water Treatment Plant with any specific questions or concerns. We will do our absolute best to get you the answers you need.

Sincerely,

City Hall
1101 S. Saginaw Street - Flint, Michigan 48502
810-766-7346 FAX: 810-766-7218 www.cityofflint.com

Henry, James

From: Howard Croft <hcroft@cityofflint.com>
Sent: Friday, February 20, 2015 3:26 PM
To: Henry, James
Subject: Technical Committee
Attachments: Technical Advisory Team List.pdf

Jim,

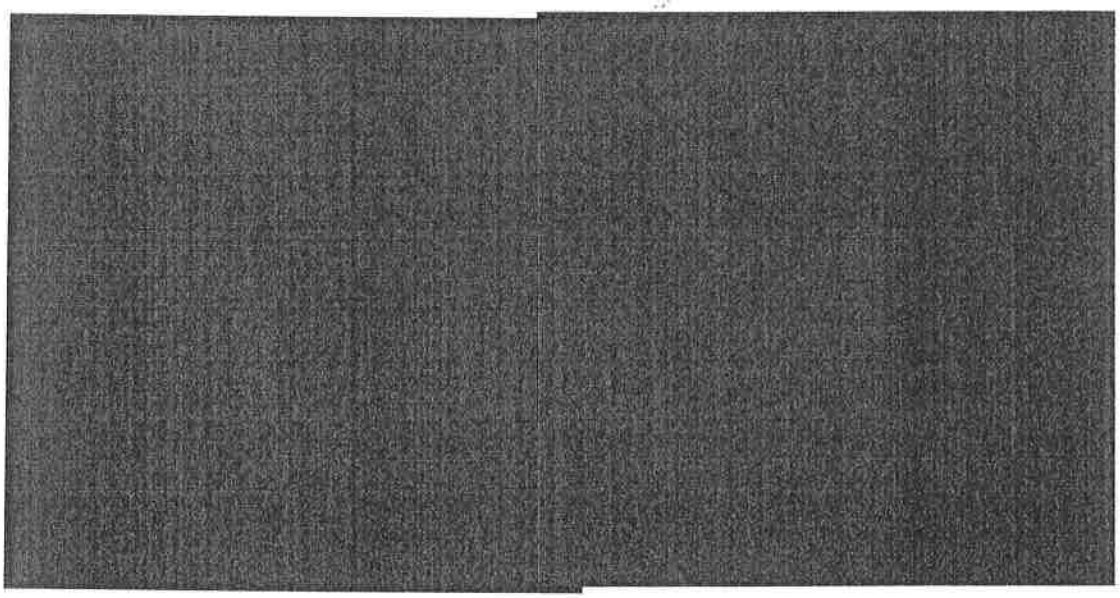
I wanted to ask if you if the health department would like to add a participant to the technical committee as well as the community group ?

I am forwarding you a list of the current team members.

--

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

GCHD BOARD OF HEALTH MEETINGS



Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson. M.D., M.P.H., Medical Director

BOARD OF HEALTH
MINUTES
March 10, 2015 @ 1:30 pm

I. CALL TO ORDER

Chairperson Kay Doerr called the meeting to order.

II. ROLL CALL

Present:
Kay Doerr
Brenda Clack
Ted Henry

Others:
Mark Valacak, Health Officer, GCHD
Dr. Gary Johnson, Medical Director, GCHD
Lisa Stickler, Clerical Coord., GCHD
Toni LaRocco, GCHD
April Swartout, GCHD
Xinvue Pan, Hurley Medical Center, Resident
Hiad Hadid, Hurley Medical Center, Resident
Lamonica Harris, Public

III. MINUTES – February 10, 2015

Action Taken – Motion by Ms. Clack, supported by Mr. Henry to approve the minutes of February 10, 2015 (Copy filed with official minutes).

IV. PUBLIC COMMENT

GCHD Emergency Preparedness Workplan – April Swartout presented the GCHD Emergency Preparedness Workplan for Public Comment. There were no comments.

V. NEW BUSINESS

A. 2015 BOH Member Terms– Distributed to BOH members.

No Action needed. It was announced Mr. Nolden had to resign from BOH.

B. Health Department Bills – February 2015 – attached to the agenda for payment consideration was a list of the Health Department bills for February 2015 in the total amount of $108,626.01. (Copy filed with official minutes)

Action Taken – Motion by Mr. Henry supported by Ms. Clack to approve payment of the Health Department bills for February 2015 in the amount of $108,626.01.

MOTION CARRIED.

VI. CONTRACTS AND AGREEMENTS

A. Michigan Department of Community Health (MDCH) Amendment #1.

MDCH Amendment #1 – attached to the agenda for the Board's consideration was the MDCH Amendment #1 in the amount of $129,433.00 for the period October 1, 2014 through September 30, 2015. For the purpose of authorization for revising information in Attachment 1, Attachment III and incorporate Attachment IV to decrease the Department's Agreement from $5.675,994.00 to $5,546,561.00. (Copy filed with official minutes).

Action taken - Motion by Ms. Clack supported by Mr. Henry to accept the MDCH Amendment #1.

MOTION CARRIED.

VII. OLD BUSINESS

"Old Business" to be changed to "Carry-Over Business".

VIII. COMMUNICATIONS

A. Reported Communicable Diseases – February 2015– attached to the agenda for the Board's information was Reported Communicable Diseases – February 2015 Report. (Copy filed with official minutes.)

B. Monthly Report – January 2015 – attached to the agenda for the Board's information was the January 2015 Monthly Report. (Copy filed with official minutes.)

IX. LEARNING COMMUNITY

A. Breast and Cervical Cancer Program – Toni LaRocco presented. (Copy of slide presentation is filed with official minutes.)

X. OTHER BUSINESS

Mr. Henry asked if anything more happening with the Nurses pay? Mr. Valacak stated information has been collected on salary ranges. He is meeting with Human Resources on Thursday, March 12. Mark will keep the BOH Members informed.

XI. HEALTH OFFICER'S REPORT

Mr. Valacak stated the following:

Handed out flyer regarding the "Save the Date" 2015 Public Health Conference to be held May 5. Lisa will email this flyer to the BOH Members.

The Health Department will be having Immunization Clinics in the schools in conjunction with Kindergarten Round-up. This also gives us an opportunity to use our Point of Distribution (POD) sites.

The Health Department is investigating working with the Summer Youth Program in Genesee County to offer a job opportunity for someone to do data entry in our Environmental Health Division – Water Program.

The Environmental Health Division passed their Type II Accreditation visit, all perimeters were met.

March 2015

Mr. Henry asked the status on the water issues with the City of Flint. Mr. Valacak stated our Environmental Health Supervisor, Jim Henry, sits on the Advisory Board Committee, there is nothing new to report.

Ms. Doerr asked about the Affordable Care Act and if it is challenging for us. Mr. Valacak stated we want a fast track. A State Exchange implemented would be ideal. The Joint Exchange is being looked at.

Mr. Henry asked if the Health Department is involved in the DHS and Section 8 housing. Mr. Valacak stated no.

XII. ADJOURN

Meeting adjourned at 3:14pm.

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Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

BOARD OF HEALTH
Agenda

April 14, 2015 @ 1:30 PM **NO MEETING/NO QUORUM**

I.	CALL TO ORDER	
II.	ROLL CALL	
III.	MINUTES – March 10, 2015	attachment
IV.	PUBLIC COMMENT	
V.	NEW BUSINESS	
	A. Health Department Bills – March 2015	attachment
VI.	CONTRACTS AND AGREEMENTS	
	A. Michigan State University Affiliation - Agreement	attachment
	B. Daniel Kruger - Contract	attachment
	C. Bendle Public Schools - Amendment	attachment
	D. Genesee Health System (Tobacco) - Contract	attachment
VII.	CARRY-OVER BUSINESS	
	A. Nurses Salary Range - Update	
VIII.	COMMUNICATIONS	
	A. Reported Communicable Diseases – March 2015	attachment
	B. Monthly Report – February 2015	attachment
	C. April GCHD Newsletter	attachment
IX.	LEARNING COMMUNITY	
	A. Type II Water and Arsenic Program – Jim Henry	handout
X.	OTHER BUSINESS	
XI.	HEALTH OFFICER'S REPORT	

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

BOARD OF HEALTH
MINUTES
May 12, 2015 @ 1:30 pm

I. CALL TO ORDER

Chairperson Kay Doerr called the meeting to order.

II. ROLL CALL

Present:
Kay Doerr
Dr. Carravallah
Brenda Clack
Ted Henry

Others:
Mark Valacak, Health Officer, GCHD
Dr. Gary Johnson, Medical Director, GCHD
Lisa Stickler, Clerical Coord., GCHD
Jim Henry, Supervisor, GCHD
Hilda McShane, Marketing Specialist, GCHD
Lamonica Harris, Public

III. MINUTES – No April 2015 minutes to distribute.

IV. PUBLIC COMMENT

V. NEW BUSINESS

A. Health Department Bills – April 2015 – attached to the agenda for payment consideration was a list of the Health Department bills for April 2015 in the total amount of $96,582.84. (Copy filed with official minutes)

Action Taken – Motion by Ms. Clack supported by Mr. Henry to approve payment of the Health Department bills for April 2015 in the amount of $96,582.84.

MOTION CARRIED.

B. Added to Agenda: Raising Tobacco Selling Age to 21. Ms. Doerr asked for support from the Board to raise the tobacco selling age to 21. Discussion followed.

Action Taken – Motion by Ms. Clack supported by Mr. Henry to support raising tobacco selling age to 21.

VI. CONTRACTS AND AGREEMENTS

A. Infogroup Incorporated - Contract.

Infogroup Inc. – attached to the agenda for the Board's consideration was the Infogroup Inc. Contract in the amount of $29,999.00, funding account: 221.00.00.6131.46205.000, funding source: Blue Cross Blue Shield and Community Foundation of Greater Flint for the period March 3, 2015 through December 30, 2015. For the purpose of providing a marketing list and data collection. (Copy filed with official minutes).

Action taken - Motion by Mr. Henry supported by Ms. Clack to accept the Infogroup Inc. Contract.

MOTION CARRIED.

VII. CARRY-OVER BUSINESS

A. Suggestion to have follow-up Rabies information for the next few months. (Dr. Johnson to provide information).

May 2015 B. Suggestion to have follow-up monthly updates on City of Flint Water (Jim Henry to provide this information to Mark). Jim Henry also to share information with Commissioner Clack.

VIII. COMMUNICATIONS

A. Reported Communicable Diseases – April 2015– attached to the agenda for the Board's information was Reported Communicable Diseases – April 2015 Report. (Copy filed with official minutes.)

B. Monthly Report – March 2015 – attached to the agenda for the Board's information was the March 2015 Monthly Report. (Copy filed with official minutes.)

IX. LEARNING COMMUNITY

A. Type II Water and Arsenic Program – Jim Henry presented. (Copy of slide presentation is filed with official minutes.)

X. OTHER BUSINESS

Added to the Agenda: Contacting BOH Members. It was decided Lisa will text BOH Members around 9:00am the day of the meetings to ask for confirmation of attendance.

Ms. Doerr stated on the County website it is hard to maneuver as far as applying for jobs.

Ms. McShane introduced herself and stated she will be improving communication with the public.

XI. HEALTH OFFICER'S REPORT

Mr. Valacak stated the following:

The 9th Annual Public Health Conference was May 5. We received positive feedback. The Bronze Bowtie Award went to Ms. E. Hill De Loney. Beth Hacket from GISD was honored as well, in memorandum. Some MSU candidates attended and were impressed with the Conference.

We are extending services out to the community. The Crim Foundation received a grant from C.S. Mott for work in the Flint Schools.

Healthy Start and WIC staff are there on a rotating basis. We may eventually have as a satellite there for WIC services.

We are looking at making Hurley Medical Center a satellite, WIC is moving forward on this.

WIC services are held at the Farmer's Market on the 2nd floor.

We are recruiting sites for Immunization clinics, along with Kindergarten Roundup. Flu clinics will be coming up soon as well.

Regarding the Immunization Waiver Program, as of June 1, 2015 clients can still get the form, but with the Philosophical Waiver they will have to go the Health Department for a counseling session.

XII. ADJOURN

Meeting adjourned at 3:14pm.

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Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

BOARD OF HEALTH
MINUTES
June 9, 2015 @ 1:30 pm

I. CALL TO ORDER

Vice-Chairperson Commissioner Brenda Clack called the meeting to order.

II. ROLL CALL

Present:
Commissioner Brenda Clack
Dr. Laura Carravallah
Commissioner Ted Henry

Others:
Mark Valacak, Health Officer, GCHD
Dr. Gary Johnson, Medical Director, GCHD
Lisa Stickler, Clerical Coord., GCHD
Jim Henry, Supervisor, GCHD
Toni LaRocco, Director, GCHD
Bonnie Childs, Supervisor, GCHD

III. MINUTES – May 12, 2015

Action Taken – Motion by Mr. Henry supported by Dr. Carravallah to approve the minutes of May 12, 2015 (Copy filed with official minutes).

MOTION CARRIED.

IV. PUBLIC COMMENT

V. NEW BUSINESS

A. Health Department Bills –May 2015 – attached to the agenda for payment consideration was a list of the Health Department bills for May 2015 in the total amount of $111,347.32. (Copy filed with official minutes)

Action Taken – Motion by Dr. Carravallah supported by Mr. Henry to approve payment of the Health Department bills for May 2015 in the amount of $111,347.32.

MOTION CARRIED.

VI. CONTRACTS AND AGREEMENTS

A Hope Network New Passages-Connexion - Contract.

Hope Network New Passages-Connexion – attached to the agenda for the Board's consideration was the Hope Network New Passages-Connexion Contract in the amount of $5,000.00, funding account: 221.00.00.6235.28680.000, funding source: Genesee Health system, for the period June 1, 2015 through September 30, 2015. For the purpose of providing tobacco sales compliance checks. (Copy filed with official minutes).

Action taken - Motion by Dr. Carravallah supported by Mr. Henry to accept the Hope Network New Passages-Connexion Contract.

MOTION CARRIED.

B. Hurley Medical Center - Contract

Hurley Medical Center – attached to the agenda for the Board's consideration was the Hurley Medical Center Contract in the amount of $121,683.00, funding account: 221.00.00.6090.23405.000, funding source: HRSA-Maternal & Child Health Bureau, for the period June 1, 2015 through March 31, 2016. For the purpose of continuing the Healthy Start Initiative. (Copy filed with official minutes).

Action taken - Motion by Mr. Henry supported by Dr. Carravallah to accept the Hurley Medical Center Contract.

MOTION CARRIED.

C. Reverence Home Health & Hospice - Contract

Reverence Home Health & Hospice – attached to the agenda for the Board's consideration was the Reverence Home Health & Hospice Contract in the amount of $105,615.00, funding account: 221.00.00.6090.23405.000, funding source: HRSA-Maternal & Child Health Bureau, for the period June 1, 2015 through March 31, 2016. For the purpose of continuing the Healthy Start Initiative. (Copy filed with official minutes).

Action taken - Motion by Mr. Henry supported by Dr. Carravallah to accept the Reverence Home Health & Hospice Contract.

MOTION CARRIED.

D. Sue Ann Savas - Contract

Sue Ann Savas – attached to the agenda for the Board's consideration was the Sue Ann Savas Contract in the amount of $30,960.00, funding account: 221.00.00.6090.23405.000, funding source: HRSA-Maternal & Child Health Bureau, for the period June 1, 2015 through March 31, 2016. For the purpose of continuing the Healthy Start Initiative. (Copy filed with official minutes).

Action taken - Motion by Mr. Henry supported by Dr. Carravallah to accept the Sue Ann Savas Contract.

MOTION CARRIED.

VII. CARRY-OVER BUSINESS

A. Rabies Follow-up – Dr. Gary Johnson

Dr Johnson distributed an "Animal Bite Report" form to the Board for their information. No more updates at this time.

B. City of Flint Water Update – Mark Valacak

June 2015

Jim Henry distributed meeting minutes from the May 20 meeting of the Technical Advisory Committee and the City of Flint Water Improvements form. Jim stated the City of Flint is currently in compliance. They are installing more water meters and valves. The City of Flint web page is a great source for information. Jim stated the Health Department's Marketing Specialist, Hilda McShane, is working with the City of Flint on social media. Ms. Clack asked what time of day the testing is done, Jim stated he will find out.

VIII. COMMUNICATIONS

A. Reported Communicable Diseases – May 2015– attached to the agenda for the Board's information was Reported Communicable Diseases – May 2015 Report. (Copy filed with official minutes.)

B. Monthly Report – April 2015 – attached to the agenda for the Board's information was the April 2015 Monthly Report. (Copy filed with official minutes.)

IX. LEARNING COMMUNITY

A. Family Planning – Bonnie Childs presented. (Copy of slide presentation filed with official minutes.)

X. OTHER BUSINESS

A. Letter of Thanks – Ms. E. Hill De Loney

Mr. Valacak presented the letter to the Board. (Copy filed with official minutes.)

B. Dr. Carravallah thanked everyone for their efforts on the water issues in the City of Flint.

XI. HEALTH OFFICER'S REPORT

Mr. Valacak stated the following:

Mr. Valacak asked Jim Henry to talk about the Drinking Water Proposal. Jim stated the Health Department is working with U of M and MSU on a 5 year grant to work on water drinking issues. It will break the City into 4 quadrants to test water. We plan to work on making changes to the Safe Water Drinking Act. The response is due in November.

We are working on a MCIR Region 4 Grant. MALPH received funds for the Immunization Initiative to improve rates. An RFP has been submitted. The response is due next week. We will continue to work with the "Be Wise Immunize" campaign. We have seasonal events coming up, school time, and will have a media campaign and marketing.

XII. ADJOURN

Meeting adjourned at 3:06pm.

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

BOARD OF HEALTH
MINUTES
July 14, 2015 @ 1:30 pm

I. CALL TO ORDER

Chairperson Kay Doerr called the meeting to order.

II. ROLL CALL

Present:
Kay Doerr
Dr. Laura Carravallah
Commissioner Brenda Clack
Commissioner Ted Henry

Others:
Mark Valacak, Health Officer, GCHD
Dr. Gary Johnson, Medical Director, GCHD
Lisa Stickler, Clerical Coord., GCHD
Jim Henry, Supervisor, GCHD
Dawn Hallwood, Supervisor, GCHD
Meggan Shell, Hurley, Resident
Nadine P., Hurley, Resident
Lamonica Harris, Public

III. MINUTES – June 9, 2015

Action Taken – Motion by Mr. Henry supported by Ms. Clack to approve the minutes of June 9, 2015 (Copy filed with official minutes).

MOTION CARRIED.

IV. PUBLIC COMMENT

V. NEW BUSINESS

A. Health Department Bills –June 2015 – attached to the agenda for payment consideration was a list of the Health Department bills for June 2015 in the total amount of $192,056.96. (Copy filed with official minutes)

Action Taken – Motion by Ms. Clack supported by Mr. Henry to approve payment of the Health Department bills for June 2015 in the amount of $192,056.96.

MOTION CARRIED.

VI. CONTRACTS AND AGREEMENTS

A McLaren Regional Medical Center-Residents - Contract.

McLaren Regional Medical Center-Residents – attached to the agenda for the Board's consideration was the McLaren Regional Medical Center-Residents Contract in the amount of $5,250.00, funding account: 221.00.00.6255.28670.000, funding source: Miscellaneous Revenue, for the period July 1, 2015 through June 30, 2016. For the purpose of providing a community medicine rotational training for second and third year residents. (Copy filed with official minutes).

Action taken - Motion by Ms. Clack supported by Mr. Henry to accept the McLaren Regional Medical Center-Residents Contract.

MOTION CARRIED.

VII. CARRY-OVER BUSINESS

A. City of Flint Water Update – Mark Valacak/Jim Henry

July 2015

Jim Henry distributed information from an email from Howard Croft, City of Flint. It was suggested Mr. Croft come to one of the BOH meetings. Jim stated he would request this. Mr. Henry asked if we request septic permits for Out buildings? Jim stated no. Discussion followed. Jim stated he would look into possibly start charging for this service. Jim stated the City of Flint offers tours of their facilities. Jim will let the BOH members know the next date for a tour.

VIII. COMMUNICATIONS

A. Reported Communicable Diseases – June 2015– attached to the agenda for the Board's information was Reported Communicable Diseases – June 2015 Report. (Copy filed with official minutes.)

B. Monthly Report – May 2015 – attached to the agenda for the Board's information was the June 2015 Monthly Report. (Copy filed with official minutes.)

IX. LEARNING COMMUNITY

A. Body Art – Dawn Hallwood presented. (Copy of slide presentation filed with official minutes.)

Mr. Henry asked for a list of businesses in Genesee County. Dawn to get information for him.

X. OTHER BUSINESS

Mr. Henry shared information on a puppy mill he did an inspection on. He stated Animal Control said it was a health issue. Mr. Valacak stated this should be handled through Animal Control then through the State level.

XI. HEALTH OFFICER'S REPORT

Mr. Valacak stated the following:

Mr. Valacak stated the joint grant with U of M-Flint with our Nurse Practitioner (NP) and U of M-Flint School of Nursing is moving forward. It is a 3 year federal grant. Our new NP, Sandy Manssur will provide primary care. We will have a clinic at the Health Department along with Wellness Services. If there is a positive HIV it will be referred to our NP and she will provide care and support services and

follow-up. Approximately 40% are not getting care. Dr. Gulick will be our supporting physician. Dr. Carravallah asked if we will have trainee's go through the clinic. Mr. Valacak stated this may be possible and will take a look at doing this.

We are applying for a grant through U of M-Ann Arbor for stroke prevention.

Genesee Health Plan's "Be Wise Immunize" campaign is in progress. We are using this as an "umbrella theme" to promote Back to School/Flu season/shingles HPV. We are looking at having another "drive thru" immunization clinic. TB testing will be held at Kettering University and U of M-Flint.

The State changed the law on the Philosophical Waiver for Immunizations. The public now has to come into the Health Department for an education session. Last year we had approximately 1,100 waviers.

Mr. Henry asked about Healthplus and how it affects the County. Mr. Valacak stated the Health Department will be hiring one previous employee and looking at hiring other candidates. Healthplus has their Medicaid through Molina now. This will affect our lead screening program. We receive $25.00 bonus per screening. We will have negotiations with Molina to continue this.

Ms. Doerr shared information regarding a park in Mundy township. It will be funded in honor of a soldier. Looking at making it accessible. It is off Hill Rd., behind Home Depot.

XII. ADJOURN

Meeting adjourned at 3:10pm.

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Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

BOARD OF HEALTH
Agenda

August 11, 2015 @ 1:30 PM **MEETING CANCELLED**

I. CALL TO ORDER

II. ROLL CALL

III. MINUTES – July 2015

IV. PUBLIC COMMENT

V. NEW BUSINESS

A. Health Department Bills – July 2015 attachment

VI. CONTRACTS AND AGREEMENTS

A. attachment

VII. CARRY-OVER BUSINESS

A. Flint City Water Update (Mark Valacak)

VIII. COMMUNICATIONS

A. Reported Communicable Diseases – July 2015 attachment

B. Monthly Report – June 2015 attachment

IX. LEARNING COMMUNITY

A. handout

X. OTHER BUSINESS

XI. HEALTH OFFICER'S REPORT

XII. ADJOURN

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Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

BOARD OF HEALTH
Agenda
September 15, 2015 @ 1:30 PM

MEETING CANCELLED

I.	CALL TO ORDER		
II.	ROLL CALL		
III.	MINUTES – July 2015 (August meeting cancelled)		attachment
IV.	PUBLIC COMMENT		
V.	NEW BUSINESS		
	A.	Health Department Bills – July/August 2015	attachment attachment
VI.	CONTRACTS AND AGREEMENTS		
	A	Wellness Services Lease Agreement	attachment
VII.	CARRY-OVER BUSINESS		
	A.	Flint City Water Update (Howard Croft-City of Flint)	
VIII.	COMMUNICATIONS		
	A.	Reported Communicable Diseases – July/August 2015	attachment attachment
	B.	Monthly Report – June/July 2015	attachment attachment
IX.	LEARNING COMMUNITY		
	A.	Women, Infants and Children (WIC)	handout
X.	OTHER BUSINESS		
XI.	HEALTH OFFICER'S REPORT		
XII.	ADJOURN		

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Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

BOARD OF HEALTH
MINUTES
October 13, 2015 @ 1:30 pm

I. CALL TO ORDER

Chairperson Kay Doerr called the meeting to order.

II. ROLL CALL

Present:
Kay Doerr
Commissioner Brenda Clack
Commissioner Ted Henry
Dr. Laura Carravallah

Others:
Mark Valacak, Health Officer, GCHD
Dr. Gary Johnson, Medical Director, GCHD
Lisa Stickler, Clerical Coord., GCHD
Jim Henry, Supervisor, GCHD
Toni LaRocco, Supervisor, GCHD
Lamonica Harris, Public

III. MINUTES – July 2015

Action Taken – Motion by Dr. Carravallah supported by Mr. Henry to approve the minutes of July 2015 (Copy filed with official minutes).

MOTION CARRIED.

IV. PUBLIC COMMENT

V. NEW BUSINESS

A. Health Department Bills –Aug./Sept. 2015 – attached to the agenda for payment consideration was a list of the Health Department bills for Aug./Sept. 2015 in the total amount of $204,126.19/$183,903.30. (Copy filed with official minutes)

Action Taken – Motion by Ms. Clack supported by Mr. Henry to approve payment of the Health Department bills for Aug./Sept. 2015 in the amount of $204,126.19/$183,903.30.

MOTION CARRIED.

VI. CONTRACTS AND AGREEMENTS

A. Bendle Public Schools - Contract.

Bendle Public Schools - Contract – attached to the agenda for the Board's consideration was the Bendle Public Schools - Contract in the amount of $45,229.56.00, funding account: 221.00.00.6020.23185.000, funding source: State Participation, for the period October 1, 2015 through September 30, 2016. For the purpose of continuing to provide WIC services. (Copy filed with official minutes).

Action taken - Motion by Ms. Doerr supported by Dr. Carravallah to accept the Bendle Public Schools - Contract.

MOTION CARRIED.

B. Reverence Home Health & Hospice - Amendment.

Reverence Home Health & Hospice - Amendment – attached to the agenda for the Board's consideration was the Reverence Home Health & Hospice - Amendment in the amount of $125,615.00, funding account: 221.00.00.6090.23405.000, funding source: Federal Participation, for the period June 1, 2015 through March 31, 2016. For the purpose of increasing budget by $20,000.00 to continue the Healthy Start Initiative. (Copy filed with official minutes).

Action taken - Motion by Mr. Henry supported by Ms. Clack to accept the Reverence Home Health & Hospice - Amendment.

MOTION CARRIED.

VII. CARRY-OVER BUSINESS

Oct 2015

A. City of Flint Water Update – Howard Croft

Mr. Croft gave a Flint Water Update. Distributed City of Flint 3rd Quarter Water Quality Report and City of Flint Technical Advisory Committee-Weekly Report.

VIII. COMMUNICATIONS

A. Reported Communicable Diseases – Aug./Sept. 2015 – attached to the agenda for the Board's information was the Reported Communicable Diseases – Aug./Sept. 2015 Reports. (Copy filed with official minutes.)

B. Monthly Reports – July/Aug. 2015 – attached to the agenda for the Board's information was the July/Aug. 2015 Monthly Reports. (Copy filed with official minutes.)

C. BOH Member Terms – Ms. Stickler passed out current Board of Health Members Terms.

Ms. Doerr stated we need a 5th member and she had sent a letter to Commissioner Curtis requesting this.

IX. LEARNING COMMUNITY

A. WIC – Dawn Scharer –no presentation (not enough time).

X. OTHER BUSINESS

Ms. Doerr asked for more clarification as a Board, what is our role as Board of Health members?
Mr. Valacak presented on Detroit/Flint water politics and the Health Department's role.

Oct 2015

Ms. Clack distributed a flyer regarding the 2015 Annual Blanket Drive.

XI. HEALTH OFFICER'S REPORT

Mr. Valacak stated the following:

SPROUT received funding for a grant for childhood obesity prevention.

XII. ADJOURN

Meeting adjourned at 4:14 pm.

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Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

BOARD OF HEALTH
MINUTES
November 10, 2015 @ 1:30 pm

I. CALL TO ORDER

Chairperson Kay Doerr called the meeting to order.

II. ROLL CALL

Present:
Kay Doerr
Commissioner Ted Henry
Dr. Laura Carravallah

Others:
Mark Valacak, Health Officer, GCHD
Dr. Gary Johnson, Medical Director, GCHD
Jim Henry, Supervisor, GCHD
Lisa Stickler, Clerical Coord., GCHD
Jim Milanowski, GHP

III. MINUTES – October 2015

Action Taken – Motion by Dr. Carravallah supported by Mr. Henry to approve the minutes of October 2015 (Copy filed with official minutes).

MOTION CARRIED.

IV. PUBLIC COMMENT

V. NEW BUSINESS

A. Health Department Bills – October 2015 – attached to the agenda for payment consideration was a list of the Health Department bills for October 2015 in the total amount of $337,299.23. (Copy filed with official minutes)

Action Taken – Motion by Mr. Henry supported by Dr. Carravallah to approve payment of the Health Department bills for October 2015 in the amount of $337,299.23.

MOTION CARRIED.

VI. CONTRACTS AND AGREEMENTS

A. MDEQ-Environmental Health Services - Contract.

MDEQ-Environmental Health Services - Contract – attached to the agenda for the Board's consideration was the MDEQ-Environmental Health Services – Contract in the amount of $86,940.00 (Non-Community Water Supply), $600.00 (Long-Term Drinking Water Monitoring), $5,200.00 (Swimming Pools), $225.00 (Campgrounds), for the period October 1, 2015 through September 30, 2016, Funding Account 221.00.00.6310.23155.000. For the purpose of rendering certain technical services to the above areas.. (Copy filed with official minutes).

Action taken - Motion by Mr. Henry supported by Dr. Carravallah to accept the Bendle Public Schools - Contract.

MOTION CARRIED.

VII. CARRY-OVER BUSINESS

A. City of Flint Water Update – Jim Henry

Nov 2015

Mr. Henry gave a Flint Water Update. Dr. Carravallah asked for references on the Lead in the Water Frequently Asked Questions sheets. Jim Henry to supply these to her. Mr. Valacak also to share report regarding Legionella.

VIII. COMMUNICATIONS

A. Genesee Health Plan Presentation – Jim Milanowski - Mr. Milanowski handed out his Powerpoint Presentation and discussed. He stated there will be a flu/immunization Forum on December 10.

B. Reported Communicable Diseases – October 2015 – attached to the agenda for the Board's information was the Reported Communicable Diseases – October 2015 Reports. (Copy filed with official minutes.)

C. Monthly Reports – September 2015 – attached to the agenda for the Board's information was the September 2015 Monthly Reports. (Copy filed with official minutes.)

IX. LEARNING COMMUNITY

None.

X. OTHER BUSINESS

Dr. Carravallah stated the Turri Conference is coming up. It will be focused on Alcohol Syndrome. She requested the Health Department to ask these questions to new and pregnant moms – When was your last drink? Mark to talk with Toni LaRocco. Dr. Carravallah to get information to Mr. Valacak.

XI. HEALTH OFFICER'S REPORT

Mr. Valacak stated the following:

- Shared Certificate of Recognition from Flint Housing Commission was awarded to Mark Valacak, Dawn Scharer and Tamara Brickey.

- Working on a joint grant proposal with U of M research project to look at people requesting immunization waivers and why.
- Received a letter of thanks from U of M Nursing Program: They were up for accreditation and received full accreditation. It stated it was wonderful working with the Health Department.
- Under our Emergency Response Protocols, we have written their program into ours.
- We received 1st place for the second year in a row in the GFHC-Fall for Fitness Challenge.

XII. ADJOURN

Meeting adjourned at 3:50 pm.

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Genesee County Health Department

Genesee County
Health Department

Mark Valacak. M.P.H.. Health Officer
Gary K. Johnson. M.D., M.P.H., Medical Director

BOARD OF HEALTH
MINUTES
December 15, 2015 @ 1:30 pm

I. CALL TO ORDER

Chairperson Kay Doerr called the meeting to order.

II. ROLL CALL

Present:
Kay Doerr
Commissioner Ted Henry
Dr. Laura Carravallah

Others:
Mark Valacak, Health Officer, GCHD
Dr. Gary Johnson, Medical Director, GCHD
Jim Henry, Supervisor, GCHD
Lisa Stickler, Clerical Coord., GCHD
Jon Care, BOC Office
Lamonica Harris, Public

III. MINUTES – November 2015

Correction – under Other Business:
~~Dr. Carravallah stated the Turri Conference is coming up. It will be focused on Alcohol Syndrome~~.
Should of read:
Dr. Carravallah stated at the October 28, 2015 Tuuri Conference the focus was on Alcohol Syndrome.

Action Taken – Motion by Dr. Carravallah supported by Mr. Henry to approve the minutes of November 2015 (Copy filed with official minutes).

MOTION CARRIED.

IV. PUBLIC COMMENT

None.

V. NEW BUSINESS

A. Health Department Bills – November 2015 – attached to the agenda for payment consideration was a list of the Health Department bills for November 2015 in the total amount of $131,326.75. (Copy filed with official minutes)

Action Taken – Motion by Mr. Henry supported by Ms. Doerr to approve payment of the Health Department bills for November 2015 in the total amount of $131,326.75.

MOTION CARRIED.

VI. CONTRACTS AND AGREEMENTS

A. Priority Children Contract.

Priority Children Contract – attached to the agenda for the Board's consideration was the Priority Children Contract in the amount of $35,949.00, for the period October 1, 2015 through September 30, 2016, Funding Account 221.00.00.6135.23185.000. For the purpose of continuing the Local Leadership Group. (Copy filed with official minutes).

Action taken - Motion by Ms. Doerr supported by Dr. Carravallah to accept the Priority Children Contract.

MOTION CARRIED.

B. Local Leadership Group Contract

Local Leadership Group Contract – attached to the agenda for the Board's consideration was the Local Leadership Group Contract in the amount of $11,000.00, for the period October 1, 2015 through September 30, 2016, Funding Account 221.00.00.6135.23185.000. For the purpose of performing work for the Home Visiting Hub Grant. (Copy filed with official minutes).

Action taken - Motion by Ms. Doerr supported by Dr. Carravallah to accept the Local Leadership Group Contract

MOTION CARRIED.

VII. CARRY-OVER BUSINESS

A. City of Flint Water Update – Jim Henry

Dec 2015

Mr. Jim Henry gave a brief update. Dr. Carravallah stated at the Genesee County Medical Society they are writing a letter to support the Emergency Declaration that will go to the Board of Commissioners. Mr. Ted Henry stated it needs to state specific details. Mr. Valacak stated what is needed is health education, lead testing ages redone and nutrition education. Dr. Carravallah stated the Health Department needs to take the lead. Suggested a committee be coordinated with Mark Edwards, Jim Henry and an EPA person on it. Discussion followed.

VIII. COMMUNICATIONS

B. Reported Communicable Diseases – November 2015 – attached to the agenda for the Board's information was the Reported Communicable Diseases – November 2015 Reports. (Copy filed with official minutes.)

C. Monthly Reports – FY14/15 Annual/October 2015 – attached to the agenda for the Board's information was the FY14/15 Annual/October 2015 Monthly Reports. (Copy filed with official minutes.)

IX. LEARNING COMMUNITY

Dec 2015

Mr. Valacak gave updates: The Mayor of Flint will announce at a Press Conference today the Declaration State of Emergency on to the county level then state then to the federal level.

X. OTHER BUSINESS

Ms. Stickler distributed Per Diem checks to Board members.

XI. HEALTH OFFICER'S REPORT

None.

XII. ADJOURN

Meeting adjourned at 3:40 pm.

R:\Groups\Admin\BOH\BOH 2015\12-15-m.doc

GCHD AND UM-F DEVELOP GRANT PROPOSAL FOR RISK ASSESSMENT OF FLINT WATER SYSTEM

Henry, James

From: Wright, Michael <Wright.Michael@epa.gov>
Sent: Monday, May 18, 2015 5:38 PM
To: Cupal, Suzanne; Henry, James
Cc: Mike Wright
Subject: RE: Legionella and Advisory Mtg

Hi Suzanne:
I've been meaning to follow-up with you to see if you and/or Jim wanted to meet about your CBRP or any other issues while I'm in town. I thought you said yes, but didn't think we settled on a time. I think my late morning is open as of now as I'll be driving up from Ann Arbor, or over lunch could work before the Technical advisory mtg on Weds. Please cc my yahoo account w/ a response as I likely won't be checking email while on the road.
Mike
PS: My cell is 513 470 5783 as well.

J. Michael Wright, ScD
U.S. Environmental Protection Agency
National Center for Environmental Assessment
26 W. Martin Luther King Drive (MS-A110)
Cincinnati, OH 45268
513 569 7922 (phone)
513 487 2539 (fax)

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Tuesday, April 21, 2015 9:07 AM
To: Wright, Michael; Henry, James
Subject: RE: Legionella and Advisory Mtg

The community based participatory research project we mentioned is moving forward with UM-Flint as the lead. They have identified a great funding opportunity...if you are interested in more information, please let us know.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502

Descriptive Title: Research to Action-Empowering Urban Communities with Aging Infrastructure to Characterize and Address Potential Contamination of Their Drinking Water

Submission Title:

Opportunity ID: PA-12-153

Opportunity Title: Research to Action: Assessing and Addressing Community Exposures to Environmental Contaminants (R01)

Agency Name: National Institutes of Health

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OMB Number: 4040-0001
Expiration Date: 06/30/2016

APPLICATION FOR FEDERAL ASSISTANCE

SF 424 (R&R)

3. DATE RECEIVED BY STATE

State Application Identifier

1. TYPE OF SUBMISSION

[ ] Pre-application [X] Application [ ] Changed/Corrected Application

4. a. Federal Identifier

b. Agency Routing Identifier

2. DATE SUBMITTED

Applicant Identifier
15-PAF07367

c. Previous Grants.gov Tracking ID

5. APPLICANT INFORMATION

Organizational DUNS: 073133571

Legal Name: Regents of the University of Michigan
Department:
Division:
Street 1: 3003 S. State St
Street 2:
City: Ann Arbor
County/Parish: Washtenaw
State: MI: Michigan
Province:
Country: USA: UNITED STATES
ZIP / Postal Code: 481091274

Person to be contacted on matters involving this application
Prefix: Ms.
First Name: Colleen
Middle Name: L
Last Name: Vogler
Suffix:
Position/Title: Project Representative
Street 1: Research & Sponsored Projects, Wolverine Tower
Street 2: 3003 S. State St
City: Ann Arbor
County/Parish:
State: MI: Michigan
Province:
Country: USA: UNITED STATES
ZIP / Postal Code: 48109-1274
Phone Number: 734-647-2179
Fax Number:
Email: clv@umich.edu

6. EMPLOYER IDENTIFICATION *(EIN) or (TIN)*: 38-6006309

7. TYPE OF APPLICANT: H: Public/State Controlled Institution of Higher Education
Other (Specify):
Small Business Organization Type [ ] Women Owned [ ] Socially and Economically Disadvantaged

8. TYPE OF APPLICATION:
[X] New [ ] Resubmission
[ ] Renewal [ ] Continuation [ ] Revision

If Revision, mark appropriate box(es).
[ ] A. Increase Award [ ] B. Decrease Award [ ] C. Increase Duration [ ] D. Decrease Duration
[ ] E. Other (specify):

Is this application being submitted to other agencies? Yes [ ] No [X] What other Agencies?

9. NAME OF FEDERAL AGENCY:
National Institutes of Health

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:
TITLE:

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:
Research to Action-Empowering Urban Communities with Aging Infrastructure to Characterize and Address Potential Contamination of Their Drinking Water

12. PROPOSED PROJECT:

Start Date	Ending Date
6/1/2016 4:00:00 AM	5/31/2021 4:00:00 AM

13. CONGRESSIONAL DISTRICT OF APPLICANT
MI-012

14. PROJECT DIRECTOR/PRINCIPAL INVESTIGATOR CONTACT INFORMATION

Prefix: Dr. First Name: Martin Middle Name: Mark
Last Name: Kaufman Suffix:
Position/Title: Professor
Organization Name: Regents of the University of Michigan
Department: Earth and Resource Science Division: Flint Off of Res & Sponsor Pgm
Street 1: 516 Murchie Science
Street 2:
City: Flint County/Parish:
State: MI: Michigan Province:
Country: USA: UNITED STATES ZIP / Postal Code: 48502-1950
Phone Number: 810-762-3355 Fax Number:
Email: martyk@umich.edu

15. ESTIMATED PROJECT FUNDING

a. Total Federal Funds Requested	$2,781,192.00
b. Total Non-Federal Funds	$0.00
c. Total Federal & Non-Federal Funds	$2,781,192.00
d. Estimated Program Income	$0.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES [ ] THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:

DATE:

b. NO [X] PROGRAM IS NOT COVERED BY E.O. 12372; OR

[ ] PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. By signing this application, I certify (1) to the statements contained in the list of certifications* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances * and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

[X] I agree

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.*

18. SFLLL or other Explanatory Documentation

19. Authorized Representative

Prefix: Mr. First Name: Daryl Middle Name: C
Last Name: Weinert Suffix:
Position/Title: Associate Vice President for Research
Organization: Regents of the University of Michigan
Department: Research & Sponsored Projects Division:
Street 1: 3003 S. State St
Street 2:
City: Ann Arbor County/Parish: Washtenaw
State: MI: Michigan Province:
Country: USA: UNITED STATES ZIP / Postal Code: 481091274
Phone Number: 734-647-2179 Fax Number:
Email: clv@umich.edu

Signature of Authorized Representative Completed on submission to Grants.gov

Date Signed Completed on submission to Grants.gov

20. Pre-application

21. Cover Letter Attachment

OMB Number: 4040-0010
Expiration Date: 9/30/2016

Project/Performance Site Location(s)

Project/Performance Site Primary Location

[ ] I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Regents of the University of Michigan
DUNS Number: 073133571
Street 1: 303 E Kearsley
Street 2: 516 Murchie Science Building
City: Flint
County:
State: MI: Michigan
Province:
Country: USA: UNITED STATES
ZIP / Postal Code: 48520-1950
Project/Performance Site Congressional District: MI-012

Project/Performance Site Location 1

[ ] I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Michigan State University
DUNS Number: 1932471450000
Street 1: 509 E Circle Dr
Street 2:
City: East Lansing
County:
State: MI: Michigan
Province:
Country: USA: UNITED STATES
ZIP / Postal Code: 48824-1111
Project/Performance Site Congressional District:

Project/Performance Site Location 2

[ ] I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Bridges into the Future, Inc
DUNS Number: 962655770
Street 1: PO Box 949
Street 2:
City: Flint
County:
State: MI: Michigan
Province:
Country: USA: UNITED STATES
ZIP / Postal Code: 48501
Project/Performance Site Congressional District:

Project/Performance Site Location 3

[ ] I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Genesee County Health Department
DUNS Number: 619259146
Street 1: 630 S Saginaw St
Street 2:
City: Flint
County:
State: MI: Michigan
Province:
Country: USA: UNITED STATES
ZIP / Postal Code: 48502-1540
Project/Performance Site Congressional District:

Additional Location(s):

RESEARCH & RELATED Other Project Information

OMB Number: 4040-0001
Expiration Date: 6/30/2016

1. * Are Human Subjects Involved? [X] Yes [ ] No

1.a If YES to Human Subjects

Is the Project Exempt from Federal regulations? [ ] Yes [X] No

If yes, check appropriate exemption number. [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6

If no, is the IRB review Pending? [X] Yes [ ] No

IRB Approval Date:

Human Subject Assurance Number: 00004969

2. * Are Vertebrate Animals Used? [ ] Yes [X] No

2.a. If YES to Vertebrate Animals

Is the IACUC review Pending? [ ] Yes [ ] No

IACUC Approval Date:

Animal Welfare Assurance Number

3. * Is proprietary/privileged information included in the application? [ ] Yes [X] No

4.a. * Does this Project Have an Actual or Potential Impact – positive or negative - on the environment? [ ] Yes [X] No

4.b. If yes, please explain:

4.c. If this project has an actual or potential impact on the environment, has an exemption been authorized or an environmental assessment (EA) or environmental impact statement (EIS) been performed? [ ] Yes [ ] No

4.d. If yes, please explain:

5. Is the research performance site designated, or eligible to designated, as a historic place? [ ] Yes [X] No

5.a. If yes, please explain:

6. * Does this project involve activities outside the United States or partnerships with international collaborators? [ ] Yes [X] No

6.a. If yes, identify countries:

6.b. Optional Explanation:

7. Project Summary/Abstract	PROJ_SUMMARY_Kaufman_M_ResearchtoAction(f).pdf
8. Project Narrative	PROJ_NARR_Kaufman_M_ResearchtoAction(f).pdf
9. Bibliography & References Cited	REFERENCES_Cite_Kaufman_M_ResearchtoAction.pdf
10. Facilities & Other Resources	RES_FACIL_Kaufman_M_ResearchtoAction.pdf
11. Equipment	Equipment_Kaufman_M_ResearchtoAction.pdf
12. Other Attachments	

PROJECT SUMMARY/ABSTRACT

As our nation's urban water systems continue to age beyond their projected service lives, the public health risks associated with their deterioration are increasing. Lead (Pb), and bacteria linked with gastrointestinal (GI) illness, are found in tap-water that has travelled through aging and neglected drinking water distribution systems. This project uses community-engaged research and grassroots tap-water testing to investigate the quality of household tap-water and pinpoint those sections of a city's sprawling and aging water distribution system that pose the greatest threat to public health. The findings of this five-year study will inform the national dialog on aging urban infrastructure, as well as offer a blueprint to help cash-strapped cities optimize limited resources while addressing the public health risks associated with aging infrastructure. Finally, the study's findings will offer a framework for effecting constructive community engagement and bi-directional communication between grassroots citizens, public health agencies, municipal water departments, and city government.

The **specific aims** of this project are to: **1)** Identify and address potential public health issues associated with Flint Michigan's aging drinking water distribution infrastructure; **2)** Empower Flint's grassroots community to protect their health through participation, education, and training in evaluating their own tap-water quality; and **3)** Establish a sustainable, bi-directional communication structure involving grassroots community members, city officials, and the county health department, which will allow for transparency and productive dialogue on drinking water quality issues and support a continuing partnership to prioritize corrective actions and minimize public health risks.

The study's **research design and methods** are based on the community-based participatory research (CBPR) model and a "research to action" process that is iterative in that it is regularly refined based on input from the grassroots community, analytical results of tap-water samples, and ongoing project evaluation by community advisors. This continual refinement ensures that the project focus is continually trained on geographical areas of the water system that raise the greatest concerns. Regular community dialog will be maintained through Town Hall meetings, Community Forums, Focus Groups, and Door-to-Door surveys. More than 4,000 household tap-water samples will be analyzed for lead (Pb), pH (which affects lead's ability to leach from pipe material), hardness, total organic carbon (a proxy for total trihalomethanes), and heterotrophic bacteria count.

As our nation's urban water systems continue to age beyond their projected service lives, the public health risks associated with their deterioration are increasing. Lead (Pb), and bacteria associated with gastrointestinal (GI) illness, are found in tap-water that has travelled through aging and neglected drinking water distribution systems. This project uses community-engaged research and grassroots tap-water testing to (1) investigate public health risks posed by various sections of a city's (Flint, Michigan) sprawling water distribution system and (2) help local authorities prioritize system upgrades to optimize allocation of limited resources and reduce risks to public health.

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RESOURCES AND FACILITIES

The resources and facilities in which the project work will be performed will contribute to the probability of this project's success. The research team has complementary and relevant expertise as well as the necessary support, instrumentation, and physical resources available to support their efforts.

Project resources include institutional support from two respected research universities (the University of Michigan-Flint and Michigan State University), the participation and support of the local county health department (Genesee County Health Department), as well as the participation and support of key Flint Community Leaders, who each belong to an extensive network of religious and community organizations throughout the city. Through this partnership, we have the cooperation of large churches with facilities that can accommodate more than 300 people for Town Halls, which will take place on the north and south sides of Flint.

Finally, the project will benefit from the unique resources available through the University of Michigan-Flint's Geographic Information Systems Center (GISC), which has established connections with local government (city and county), as well as Flint-focused project expertise.

Equipment

The Principal Investigator and GIS professional (both at UM-Flint) have the necessary equipment available to carry out the proposed project activities. The only equipment required are those housed within the University of Michigan-Flint's (UM-Flint's) Geographical Information Systems Center (GISC).The UM-Flint GISC has advanced GIS computing capability and a staff with expertise in GIS mapping and analyses related to environmental contamination, urban planning, transportation, and community health. Moreover, the UM-Flint GISC has the specific GIS software needed for various aspects of this project.

The University of Michigan system, including campuses in Ann Arbor, Flint, and Dearborn, has a comprehensive GIS site licensing agreement with Environmental Systems Research Institute (ESRI), the supplier of ArcInfo GIS software.

Henry, James

From: Kaufman, Marty <martyk@umflint.edu>
Sent: Monday, January 4, 2016 12:13 PM
To: Stephen Gasteyer; 'Mary Hall'; Cupal, Suzanne; 'Sarah Bailey'; 'Jennifer Carrera'; Henry, James; Mcdonnell, Sara; Rosencrants, Troy; revalharris1@hotmail.com; revaco@comcast.net; patricksanders67@comcast.net; eldersanders@att.net; cpyd442 @yahoo.com
Cc: Lossing, David
Subject: Materials for tomorrow's meeting on NIEHS proposal
Attachments: NIEHS_Original_proposal_Research_to_Action_2015.pdf; NIEHS_Reviewer Concerns_Proposed Revisions.docx

Hi all:

Happy New Year.

Attached are the text of the first NIEHS proposal, and a table outlining some possible responses to the NIEHS reviews of this proposal.

We will discuss the changes we'll want to make for the re-submission at tomorrow's meeting in 502 of the Murchie Science Building on the UM-Flint campus @ 10:00 A.M.

Regards,

Marty

Marty Kaufman, Ph.D.
Professor and Chair
Department of Earth and Resource Science University of Michigan-Flint

v

Weakness noted by reviewers	Proposed Revision	Revision Locations
		SF 424 (R&R)
PROPOSED PROJECT LENGTH / OVERALL COST. Unclear why 5 years is needed for proposed study; a shorter period may be sufficient. [Program Officer noted that 5-year projects are rarely funded; 3-year projects are more often approved)	Project length reduced from 5 years to 3 years. Overall project cost reduced from ~$2.8 million to ~$1.8 million.	**Project Summary/Abstract** **Budget and Cost sections**
		PHS 398 Research Plan
PROPOSED PROJECT LENGTH / OVERALL COST. Unclear why 5 years is needed for proposed study; a shorter period may be sufficient.	Project length reduced from 5 years to 3 years; increased tap-water sampling frequency/number of samples collected from each household per year; reduced number of households sampled.	**RESEARCH STRATEGY** **3.4 Project Timeframe**
HUMAN SUBJECTS **Protection of Human Subjects** plan is underdeveloped; door-to-door survey requires informed consent. Need details on door-to-door survey questions and informed consent. **Inclusion of Women & Minorities** needs details; lacks enrollment table. **Inclusion of Children section**; exclusion not adequately justified.	*Human Subjects Protection Plan* fully described with details on informed consent. Proposed door-to-door survey questions and informed consent documents attached. *Inclusion of Women & Minorities* section includes enrollment table. *Inclusion of Children* section revised to include detailed justification for exclusion.	**Research Plan** **Human Subjects** ◦ Section 5 ◦ Section 6 ◦ Section 7
APPROACH--Methodology: Water Sampling. Two water samples (per season) may not adequately assess contamination; since contamination is likely intermittent.	Drinking water sampling plan revised to increase frequency of sampling per season from 2 events per season to 6 events per season (i.e., bimonthly sampling). "Test fewer homes more frequently."	**Research Strategy** **Project Timeframe**
Methodology: Water Sampling -- too many people collecting samples may compromise sample quality.	To accommodate increased sampling frequency (see above), fewer households will be sampled. Also, quality assurance plan will be included.	**Research Strategy** **Project Timeframe** **Work Plan** Budget documents --all
Methodology: Concerns regarding survey (e.g., necessity of measuring perception of risks), and GIS mapping of areas of concern possibly negatively affecting property values.	Clarify need for measuring perception of risks (e.g., need to understand community perception of risks to address misconceptions in educational phase). Address concern regarding property values in Human Subjects sections.	**Research Strategy** **Human Subjects sections**
Project Organization: Need shared leadership plan whereby co-investigators share decision-making authority with the community advisory council and council is involved in all project components.	Community Advisory Council role clarified for each component of the project; Shared Leadership Plan / Project Organizational chart included.	**Research Strategy** **Project Timeframe**
No mention of CBO collaborating environment.	CBO ability to fully support the project through collaboration fully described (network of community organizations included)	**Research Strategy** **Project Timeframe**
Not clear if school district agreed to testing in schools.	*Remove School Testing* from study.	**Research Strategy** **Project Timeframe**

Weakness noted by reviewers	Proposed Revision	Revision Locations
More detail needed on outreach, training, and educational activities.	Outreach, training, and educational activities details added.	**Research Strategy** **Project Timeframe**
Need to clarify homeowner vs city responsibilities with respect to lead service lines and pipes.	City's jurisdiction noted.	**Research Strategy**
Need methodology, power calculation, proposals for pilot testing and validation	Methodology, power calculation, pilot testing and validation fully explained.	**Research Strategy**
Water sampling. Risk of compromised sample quality with so many community members collecting samples.	Sampling oversight and quality assurance further explained. ??Reduce number of community members collecting samples?? See how Virginia Tech handled this??	**Research Strategy**
BROADER IMPACTS. Inadequate explanation of how the specific aims will be accomplished to achieve a framework that will impact communities beyond Flint.	Rewrite	***Abstract.*** *Introduction.* *Cover Letter.*
INNOVATION. How does this move the field forward?	Rewrite – incorporate two new datasets to help identify areas of greatest risk / EPA Region 5 consultants added to Project Team.	**Abstract** **Project Summary** **Research Strategy**
Significance. Reference to diarrheal deaths unclear.	*Remove reference to diarrheal deaths.* Also remove project component comparing spatial distribution of water sample bacterial results against spatial distribution of hospital admissions w/codes that would include waterborne illnesses.	**Research Strategy**
Spatial Analysis: De-identified data. Unclear how de-identified data that is GIS mapped will not disclose the location of results; this poses threat of decreased property values in areas identified as "high risk" of water contamination.	Clarify explanation of de-identified data.	**Research Strategy** **Human Subjects**
Spatial Analysis: Research strategy for spatial analysis is absent.	Research strategy for spatial analysis described.	**Research Strategy**
Incorrect Citation for Kollock et al 2012 ~~Hansen,~~ Kollock, D.A., Flage, L., Chazdon, S., Paine, N., & Higgins, L. (2012). Ripple effect mapping: A "radiant" way to capture program impacts. Journal of Extension, 50(5). Retrieved from http://www.joe.org/joe/2012october/tt6.php	*Correct citation* for Kollock et al 2012. Kollock, D.H., Flage, L., Chazdon, S., Paine, N., & Higgins, L. (2012). Ripple effect mapping: A "radiant" way to capture program impacts. *Journal of Extension*, 50(5). Retrieved from http://www.joe.org/joe/2012october/tt6.php	**BIBLIOGRAPHY AND REFERENCES**
Incorrect Biosketch form. One biosketch on pre-2015 NIH form (all other biosketches on "pilot" NIH form approved through August 2015).	All biosketches now on NIH form approved through 10/31/2018.	**BIOSKETCHES**
ALSO NEED TO INCLUDE if resubmission • Introduction to Application • Progress Report		**PHS 398** **Research Plan** Sections (1 and 4)

Henry, James

From:	Kaufman, Marty <martyk@umflint.edu>
Sent:	Friday, December 18, 2015 11:27 AM
To:	Mary Hall; Cupal, Suzanne; Sarah Bailey; Jennifer Carrera; Stephen Gasteyer; Henry, James; Mcdonnell, Sara; Rosencrants, Troy; revalharris1@hotmail.com; revaco@comcast.net; patricksanders67 @comcast.net; eldersanders@att.net; cpyd442@yahoo.com
Cc:	Lossing, David
Subject:	NIEHS grant news - Community Based Research
Attachments:	NIEHS_Original_RESEARCH_STRATEGY_2016.docx

Hi all:

Since our deadline for re-submission of the NIEHS community action grant is Jan. 20, we need to have a team meeting in early January. The week of the 4th would be best. I've attached a copy of the original research strategy document. Based on the follow-up discussions with the program officer at NIEHS, several items will change in the revision, and we'll need to discuss. These items are:

1. Project Length/Cost: Project length reduced from 5 years to 3 years; Project costs will be reduced accordingly Need to revise Project Timeline (Section 3.4 of Research Strategy document) and corresponding text. All budget documents/consulting agreements will need to be revised.

2. Statistical Design: Need details on the statistical design of the research study, including methods used to analyze data, and power calculations.

3. Community Advisory Council: Need shared a leadership plan where co-investigators share decision-making authority with the community advisory council and the council is involved in all project components. We also need details on how the community advisory council (CAC) will be continuously informed of project findings. So far, we have four original members of CAC -- we'll need to recruit a few more CAC members to show wider representation (if possible)

4. Protection of Human Subjects: We need the following sample documents: Sample Recruitment documents: oral script, written documents (e.g., flyers, postcards) Sample Written informed consent document; Sample Survey Instrument -- Copy of the survey instrument for door-to-door survey (final survey instrument needed for IRB review)

Please review the current research strategy document (attached), and come to our next meeting with suggestions/revisions.

Please send me your availability for the week of Jan. 4; the meeting will be where we have met before -- in the 5th floor conference room of the Murchie Science Building (rm 502 in the west side of building). Free parking for guests is available on the top floor of the Mill Street Parking Structure.

Regards and Happy Holidays,

Marty

Marty Kaufman, Ph.D.
Professor and Chair
Department of Earth and Resource Science University of Michigan-Flint _____

RESEARCH STRATEGY

Research to Action: **Empowering urban communities to assess and address exposures to drinking water contaminants associated with deteriorating water infrastructure**

1.0 SIGNIFICANCE

As our nation's drinking water infrastructure ages beyond its projected service life, public health risks associated with its deterioration increase. These risks are greatest in post-industrial cities (e.g., Cleveland, Detroit, Flint, Pittsburgh) where a combination of economic decline, population loss, and decreasing tax revenue has led to oversized and neglected water infrastructure. In poorly maintained and neglected areas of a water distribution system, various conditions (e.g., pipe breaks, dead-end pipes, stagnant water, and low water pressure) encourage growth of bacteria associated with gastrointestinal (GI) illnesses. Finally, the disinfectant chemicals used to discourage bacterial growth in drinking water form byproducts (e.g., trihalomethanes) pose further health risks.

Pathogens. Deteriorating water distribution systems are particularly vulnerable to pathogen intrusion. This vulnerability occurs through increasingly frequent pipe ruptures, leakage, and other consequences of deterioration as pipelines approach the end of their service lives (NRC, 2005). Correlations between waterborne disease outbreaks and distribution system deficiencies have been well documented in the United States and in developing countries (Craun and Calderon, 2001; Lee and Schwab, 2005; Ercumen et al., 2014). More than 140 known microorganisms are recognized as waterborne pathogens. Studies show that, compared to the general population, "sensitive subpopulations" are more likely to be infected and experience increased morbidity and mortality following exposure to microbial pathogens (Gerba et al., 1996; Nwachuku and Gerba, 2006). Sensitive populations include the elderly, the very young, the chronically ill, recipients of immune-suppressive therapies, and pregnant women (Reynolds, et al., 2008). According to the U.S. Environmental Protection Agency (2000), "other factors, such as socioeconomic status or lifestyle, may have indirect effects. People with low incomes, for example, may not have the same access to health care as those in higher socioeconomic groups." Total diarrheal deaths in aged populations (>74 years old) are about 50% compared to less than 5% in those between the ages of 5 and 24 (Lew et al., 1991). As the median age of the U.S. population steadily increases, so too will the overall size of the nation's sensitive subpopulation. Total sensitive subpopulations comprise up to 25% of the total United States population.

From 1971 to 2002, the U.S. experienced 764 documented outbreaks of waterborne disease associated with drinking water, with 12% caused by chemicals, 14% by bacteria, 19% by protozoa, and 8% by viral pathogens (Reynolds et al., 2008). Although these outbreaks are known to have resulted in 575,457 cases of illness and 79 deaths, the extent of waterborne disease is estimated to be much higher. For example, Morris and Levin (1995) estimate that 7 million people become ill and more than 1,000 die each year as a result waterborne microbial infections. Another estimate from Colford et al. (2006) states that as many as 11.69 million cases of acute gastro-intestinal (GI) illness occur each year and may be attributable to drinking tap water in the United States.

Areas with deteriorating water distribution infrastructure are prone to frequent water main ruptures as well as associated GI illness among water consumers. A study in Norway from 2003 to 2004 showed that breaks and maintenance work in the water distribution systems caused an increased risk of GI illness among water consumers (Nygard et. al 2007). In the United States, an estimated 745 to

850 water mains rupture each day (Folkman, 2012). A ten-year (1993 to 2004) study of aging water infrastructure in Atlanta, Georgia, found that the 1.7 million people served by the water utilities had almost three million total emergency department visits, 164,937 of them for GI illness. The results suggest that drinking water contamination in the distribution system may contribute to the burden of endemic GI illness (Tinker et al., 2009).

The three major periods of water pipe installation in the United States are shown in Table 1 below. Given the predicted lifespan of each pipe installation, pipe laid during the 1880s and 1920s has either reached, or is rapidly approaching, its expiration date. Flint's pipe system was laid during the 1920s and is thus nearing the end of its useful life. Over the past 2 years, Flint has experienced from 200 to 400 water main breaks per year (Maloney, 2015).

Table 1. Major pipe installations in the U.S. and their lifespans Source: AWWA, 2001

Laid	Predicted Lifespan	In Need of Replacement
1880s	90 to150 years	1970s to 2030
1920s	100 years	2020s
1950s+	75 years	2025+

Lead (Pb). In addition to pathogens, the toxic heavy metal, lead (Pb) continues to be a significant waterborne contaminant. In older water distribution systems, lead pipes and solder can—under certain conditions--introduce varying amounts of Pb into drinking water. While water constitutes a relatively minor source of daily lead intake for adults, it may be a greater source of lead exposure for children and bottle-fed infants (WHO, 2011; Pfadenhauer et al. 2014). According to the EPA, 20% of the lead exposure of children can be attributed to lead-contaminated water (Hilgenkamp, 2005), and the concentration of lead in water is correlated with Blood Lead Levels (BLL) in children (Lanphear et al., 1998). Homes built before 1986 (i.e., the majority of houses in urban areas) are likely to have lead water pipes, fixtures, and solder. Lead can enter the water supply from pipes, pipe joints, galvanic corrosion, and the improper practice of grounding electrical devices to water pipes. In addition, brass or chrome-plated brass faucets and fixtures leach significant amounts of lead into the water (EPA, 2015).

Study Population. The population of Flint, Michigan, offers an ideal setting to employ community-engaged research addressing the public health risks associated with deteriorating drinking water infrastructure. Flint's neglected water infrastructure is similar to that of most post-industrial cities; yet, Flint is small enough to support cost-effective and representative participatory research. Moreover, community awareness of Flint's drinking water infrastructure is currently at an all-time high.

A Flint resident displays a container of discolored tap-water at a city meeting in January 2015.
Source: *Steve Carmody, Michigan Public Radio*

In the mid-1960s, Flint had more than 200,000 residents and its water system consisted of over 1,500 miles of pipes. Today, with fewer than 100,000 residents (U.S. Census Bureau, 2013), Flint uses only 600 miles of pipe (City of Flint, 2015). Given the age and size of its system, as well as decreased numbers of users, Flint water customers pay some of the highest water rates in the state (Smith, 2015).

Over the past year, the high price and poor quality of Flint's drinking water has led to community outrage, as well

as state and national attention. While the City of Flint has declared the water safe to drink, many Flint residents disagree. Some refuse to even bathe or wash clothes in it, blaming the water for rashes and bouts with diarrhea and vomiting. In a city where 62% of residents are minorities and more than 40% live below the poverty level (U.S. Census Bureau, 2013), the City's unsatisfactory response to residents' concerns raises questions about public health disparities.

Using the currently high level of community awareness as a catalyst, we intend to partner with Flint's grassroots community to address public health issues stemming from the city's aging water distribution system—especially as this system affects the quality of drinking water in disadvantaged areas.

2.0 INNOVATION

The proposed project uses a combination of full community-engagement, grassroots citizen science, as well as combined public health, social science, and geographical analysis of data. The project is innovative in that it uses citizen science to address an important gap in available water quality data as well as to empower a grassroots community to engage with local government to prioritize corrective actions to protect public health.

- **Addressing an important gap in available water quality data.** Our proposed project is designed to address a significant gap in available data on drinking water quality. Where there are currently extensive data available on the quality of water leaving any given city's treatment plant, there is very little data available on the quality of water coming out of individual taps throughout these cities. Under the Safe Drinking Water Act of 1974 (SDWA; amended in 1986 and 1996), the EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. Regular water testing for compliance to these standards is performed by the municipal utility primarily at the water treatment plant—long before the water reaches a consumer's tap. As such, the results of regulatory compliance testing do not fully reflect the quality of tap water that has travelled throughout an older city's sprawling and deteriorating water distribution infrastructure.

  We will address this gap by conducting comprehensive grass-roots tap-water sampling throughout Flint, Michigan's sprawling drinking water distribution system. This extensive point-of-use (i.e., tap water) testing data will be used to effectively pinpoint areas within the water distribution system that pose the highest public health risks.

- **Using "citizen science" to empower Flint's grassroots community.** Through community-engagement and "citizen science" we will help close the current gap between the City and the grassroots community in terms of perceptions of Flint's drinking water quality. As both sides have access to the same scientific evidence, misconceptions should be minimized and research results should provide a framework for moving forward to address water quality issues. Natural resources research has demonstrated that when the public is actively involved with, or uses a natural resource, the condition of the resource improves (Kellert et al., 2000). For example, when the public is permitted access to streams (e.g., fishing, canoeing) that were formerly fenced off (as is typical of urban streams), the water quality in the stream improves (Carr, et. al., 2012). We believe a similar dynamic applies here, when underrepresented populations are permitted to test their own tap water quality.

- **Organizing, comparing, and mapping tap-water quality data using geographic information systems (GIS).** The finer geographic scale (i.e., individual homes and businesses) used for data collection and risk assessment will provide comprehensive information to local public health authorities about potential waterborne illnesses and lead exposure. The use of geographic information systems (GIS) with spatial analysis capabilities will allow us to organize large amounts of tap-water data and produce maps of areas of the city with posing the highest public health risks. Pinpointing high risk areas in this way will allow us to develop proactive intervention strategies to reduce human exposures to lead and bacterial contamination. Moreover, it will allow the County Health Department to respond effectively to waterborne GI illness outbreaks and potential waterborne lead exposures. Finally, by gathering, mapping, and comparing comprehensive tap-water sampling data against water system data, we can offer guidance to the City Water Department on how to prioritize upgrades to the water distribution system based on public health concerns.

3.0 APPROACH

Our research approach involves: 1) empowering the grassroots community collect scientific data on the quality of their drinking water, and engage in an ongoing dialog with researchers and public health officials to better recognize and understand conditions that pose a threat to drinking water quality, 2) monitoring the changing attitudes and knowledge of grassroots citizens as they learn about and take action to improve the quality of Flint's drinking water, and 3) developing and implementing a strategy to translate and disseminate research findings to grassroots community members and city officials–in a way that enables both parties to work together to address areas of highest public health risk within Flint's drinking water distribution system.

Our research is driven by **two hypotheses**:

- While all people who live and work in deindustrialized cities with deteriorating water distribution systems are likely exposed to drinking water contaminants that can lead to significant negative health effects—the disadvantaged populations within these cities face the greatest health threat from infrastructure-related contaminants in drinking water.
- When disadvantaged populations are engaged in research and educated about the public health risks associated with their water distribution system, their responses to those risks will change. In a situation where "knowledge is power," citizens will be empowered to partner with city officials and address the areas of greatest public health risk.

Our first hypothesis stems from an understanding of the typical landscape of disadvantaged neighborhoods within deindustrialized cities. Vacant lots and structures predominate. Neighborhoods feature numerous vacant lots where houses, commercial structures, and industrial facilities once stood — as well as abandoned houses and commercial/industrial structures that have yet to be demolished. Most municipal pipes that once distributed water to these structures are still in place — yet neglected. As a result, dead end pipes, pipe breaks, stagnant water, and low water pressure are common. Currently occupied structures are typically more than 50 years old and many are owned by absentee landlords. As a result, lead water pipes and solder may be common on many occupied properties.

Our second hypothesis is based a central tenet of environmental hazard theory, that is, as people learn more about a hazard within their environment, their responses to that hazard will change (Burton et. al., 1978).

Our **specific aims** are to:

Aim 1. Identify and address potential public health issues associated with Flint's aging drinking water distribution infrastructure.

Aim 2. Empower Flint's grassroots community to protect their health through participation, education, and training in evaluating their own tap-water quality.

Aim 3. Establish a sustainable, bi-directional communication structure involving grassroots community members, city officials, and the county health department, which will allow for transparency and productive dialogue on drinking water quality issues and support a working partnership that can prioritize corrective actions and minimize public health risks.

Conceptual framework

Community-based participatory research. Our approach to community engagement is based on the principles of participatory research (Cornwall and Jewkes, 1995) or "doing science together" (Fortmann 2008). While the researchers provide a context for the discussion (e.g., linkage between water quality, water distribution infrastructure, and public health), community residents will be engaged through a process that not only solicits information from them, but through which residents develop further research questions, identify indicators, participate in analysis (as is appropriate), and provide meaning to the findings. We are committed to research that is carried out "in partnership with" (not "on") Flint's grassroots community. Our collaboration with Elder Sarah Bailey is central to meeting this commitment. She has extensive experience organizing communities in Flint and is fully embedded with existing community networks and coalitions of Flint residents carrying out public health research. Moreover, Elder Bailey is an expert in implementing community-based participatory research (CBPR) and building the capacity of community-based organizations and community members to participate as equal partners in research.

Research to action. We will begin with a broad community engaged **research** effort involving information gathering, community input, and limited grassroots tap-water sampling. Based on the findings of this first year of research, we will develop and implement a *Public Health Action Plan,* consisting of further research, education, and continuing community dialogue. The middle years of the project will involve an iterative process in which a feedback loop is established between the project's *research*, *public health action,* and *evaluation* components (refer to Figure 1 below). Throughout the project, researchers and community members will meet quarterly to evaluate progress toward specific aims, assess the changing attitudes of participants, and refine project focus accordingly.

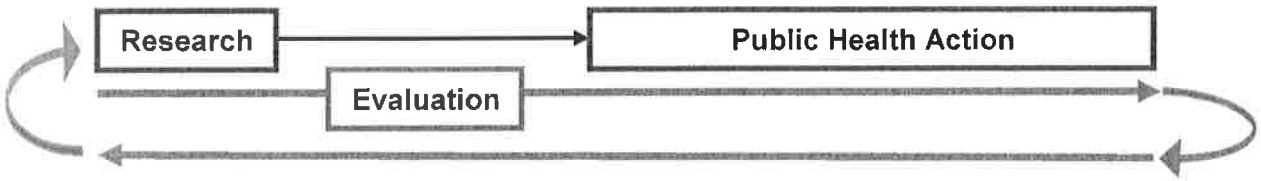

Figure 1. Research-to-action iterative process

3.1 Research Component

The research component consists of the collection, analysis, and comparison of public health and drinking water information gathered from the county health department, the city water department, historical sources, as well as dialogue with Flint's grassroots community. Together these tasks support the first half of our *first specific aim*, which is to identify potential public health issues associated with Flint's aging drinking water distribution infrastructure. The public action component of this project supports the second half of that first aim – which is to "address" the issues we identify through our research.

The entire "research to action" process is iterative in that "addressing identified issues" will include developing and repeatedly refining an evidence-based research strategy to ensure that we train our efforts on areas of the water system that have the highest likelihood of posing a public health risk. Refinement of our research strategy will be informed by (1) our prior research results, (2) input from the grassroots community, as well as (3) formal evaluations by our project's Community Advisory Council.

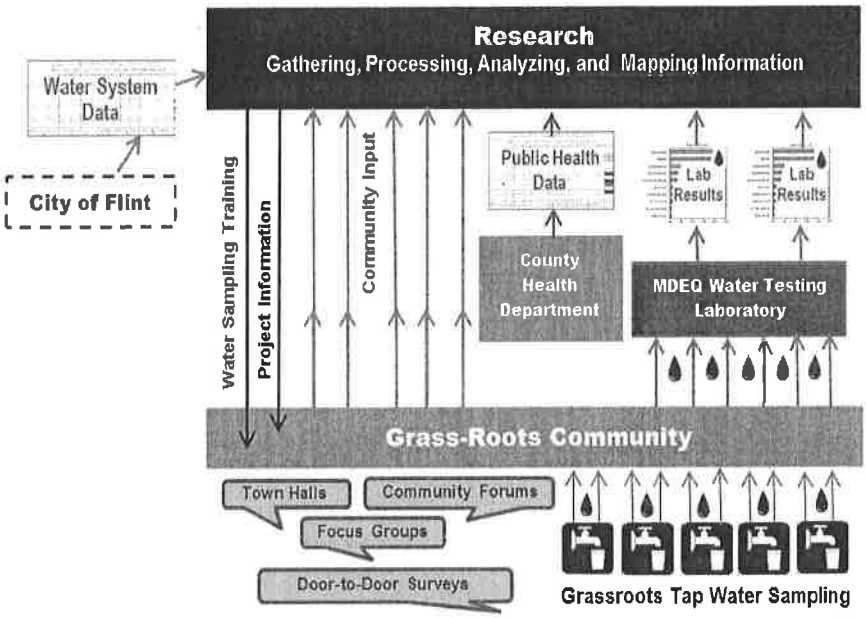

Figure 2. Community-engaged research component

Community engagement: *Town Hall* meetings (>300 participants) and *Community Forums* (~35 participants) will help researchers engage residents to identify and specify water and health issues in their communities. Brief surveys and notes from these meetings will inform the questions used for subsequent *Focus Groups (~12 participants)*. Finally, the analyzed results of *Focus Groups* will be used to construct questions for *Door-to-Door Surveys*.

The *Focus Groups* (12 participants) will employ "ripple effect mapping" (Kollock, et al. 2012) to conceptually map drinking water access and impairment, and the individual, household, and community impacts. This mapping technique uses appreciative inquiry to elicit the positive and negative changes from a given event or intervention for individuals, neighborhoods, and broader (city wide) impacts and beyond (Kollock, et al. 2012; Emery, 2013; Hansen, et al. 2012). This will allow smaller groups of community residents to identify (1) relationships between water, infrastructure, and health, and (2) the impact of interventions (including our actions). *Door to Door Surveys,* recorded by trained community members, will provide quantitative household level data on individual resident's perceptions of water accessibility, water quality, health, and trustworthiness of water authorities. By replicating the first survey (with a second survey in Years 3 and 4), we will be able to record changes over the life the project. The results of all community engagement methods will be reported back to the community, who will be encouraged to identify the meaning of the findings and recommend further action.

3.2 Public Health Action Component

The overall goal of the *Public Health Action* component is to translate our research findings into community-engaged actions to help Flint residents assess and address their water quality concerns. As such, the *Public Health Action* component supports our first two specific aims.

Based on evidence gathered during the first year of the project, we will develop a ***Public Health Action Plan*** in partnership with community partners. The *Action Plan* will outline a strategy to focus our research efforts, and translate and disseminate research findings to the grassroots community, city officials, and policymakers to support action that will ultimately minimize waterborne contaminants and reduce the adverse health impacts associated with old and deteriorating water distribution infrastructure. Throughout the project, the *Public Health Action Plan* will be revised to continually incorporate knowledge gained through the research component of the project and more clearly pinpoint areas of Flint at greatest risk of drinking-water-related adverse health effects.

This Plan will include:

- Developing and implementing community-based communication and outreach programs to educate community members about the potential for exposure to bacteria or lead in their drinking water, associated health risks, and steps they can take to reduce their risk. A variety of training, education, and outreach activities will be offered to support citizens in assessing and addressing health risks. Culturally sensitive communications will address scientific literacy within the community by focusing on knowledge gaps and misconceptions identified during Town Hall meetings, Community Forums, Focus Groups, and Door-to-Door Surveys. Outreach will include training on proper tap water testing and interpretation of results.

- Developing informational materials and risk communication strategies to educate local government agencies about potential public exposures to waterborne contamination, associated public health risks, and the economic burden resulting from such exposures. Information will include recommendations for the City of Flint to take specific preventative actions..

3.3 Evaluation Component

Formal evaluations will be performed on a quarterly basis to assess ongoing processes and progress toward achieving the project's specific aims and expected outcomes. Evaluations will provide the systematic feedback needed to consistently strengthen the project throughout its lifecycle. Quarterly evaluations will be conducted together with the project's *Community Advisory Council* and facilitated by the project team's Lead Community Participation Coordinator, Elder Sara Bailey. At project completion, a final evaluation will be conducted to assess the overall effectiveness and impact of the project. Initial project benchmarks and metrics are outlined in Section 4.4.

The ***Community Advisory Council*** will consist of 14 individuals representing a cross-section of Flint—including residents of each quadrant of the city, representatives of the city's religious communities, as well as secular organizations and agencies. The 4 community leaders who participated in the development of the original project design will form the basis of this *Council* with remaining members recruited during the first quarter of Year 1. Once established, the *Council* will finalize initial project benchmarks and agree on qualitative measures to evaluate progress.

3.4 Project Timeframe

This project will take 5 years to complete and include the major elements outlined in the figure below (Figure 3) and described in the text that follows.

Project Component	TASK	YR ONE				YR TWO				YR THREE				YR FOUR				YR FIVE			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Team Meeting	Monthly: Organizational matters and status of project elements	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Evaluation	Quarterly: Evaluation of Progress toward Specific Aims & Benchmarks	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
	YEAR 1																				
Community-Engaged Research	1. INTRODUCE PROJECT TO GREATER FLINT COMMUNITY	TH																			
	2. OBTAIN HISTORICAL DATA--Public Health & Water Departments																				
	3. OBTAIN & RECORD COMMUNITY CONCERNS & PERCEPTIONS	CF→	FG→	S		→															
	4. PROCESS, MAP & ANALYZE GATHERED INFORMATION																				
	OUTPUT: GIS Map Layers and Results of Spatial Analyses																				
	OUTPUT: Preliminary Tap-Water Sample Siting Plan (6 months)																				
	OUTPUT: Community History of Flint Water System complete																				
	5. GRASSROOTS TAP-WATER TRAINING / SAMPLING																				
	OUTPUT: Tap-Water Sampling Results from 180 sites (2 seasons)																				
	OUTPUT: YEAR 1 Research Report																				
	♦ YEAR 1 PROGRESS REPORT submitted to NIEHS				♦																
	YEAR 2																				
Public Health Action *including* Research	— *continue* SURVEY ON COMMUNITY CONCERNS & PERCEPTIONS						S														
	1. PRESENT YEAR 1 TAP-WATER RESULTS					TH															
	2. PRESENT RESULTS OF YEAR 1 TOWN HALL & FOCUS GROUPS						CF														
	3. DEVELOP INITIAL *PUBLIC HEALTH ACTION PLAN*																				
	OUTPUT: YEAR 2 Tap-Water Sample Siting Plan (12 months)																				
	4. DEVELOP EDUCATIONAL STRATEGY & MATERIALS																				
	5. YEAR 2 GRASSROOTS TAP-WATER SAMPLING / EDUCATION																				
	OUTPUT: Tap-Water Sampling Results from 360 sites over 4 seasons																				
	♦ YEAR 2 PROGRESS REPORT submitted to NIEHS								♦												
	YEAR 3																				
Public Health Action *including* Research	1. MAP & ANALYZE RESULTS from Years 1 and 2																				
	OUTPUT: GIS Map Layers and Results of Spatial Analyses																				
	OUTPUT: YEAR-3 Tap-Water Sample Siting Plan (12 months)																				
	2. PRESENT YEAR 2 TAP-WATER RESULTS									TH											
	3. EVALUATE CHANGES IN COMMUNITY KNOWLEDGE & PERCEPTIONS									CF→	FG→	S	→								
	4. YEAR GRASSROOTS TAP-WATER SAMPLING / EDUCATION																				
	OUTPUT: Tap-Water Sampling Results from 360 sites over 4 seasons																				
	OUTPUT: Refined PUBLIC HEALTH ACTION PLAN																				
	♦ YEAR 3 PROGRESS REPORT submitted to NIEHS												♦								
	YEAR 4																				
Public Health Action *including* Research	— *continue* SURVEY ON CHANGES IN KNOWLEDGE & PERCEPTIONS														S						
	1. PRESENT YEAR 3 TAP-WATER RESULTS													TH		CF					
	OUTPUT: YEAR-4 Tap-Water Sample Siting Plan (12 months)																				
	2. YEAR 4 TAP-WATER SAMPLING / EDUCATION																				
	OUTPUT: Tap-Water Sampling Results from 360 sites over 4 seasons																				
	♦ YEAR 4 PROGRESS REPORT submitted to NIEHS																♦				
	YEAR 5																				
Public Health Action	1. PRESENT YEAR 4 TAP-WATER RESULTS																	TH			
	1. COMPLETE ANALYSIS OF ALL PROJECT DATA																				
	3. COMMUNITY ASSESSMENT OF PROJECT IMPACT																			FG	
	2. REPORT FINDINGS & RECOMMENDATIONS TO COMMUNITY																			CF	
	♦ FINAL PROGRESS REPORT submitted to NIEHS																				♦

CF = COMMUNITY FORUM; 1 forum in each of 4 quadrants of city; 40 per Forum. **Benchmark = 160 total participants in each annual set**

FG = FOCUS GROUPS; 3 focus groups in each of 4 quadrants of city; 12 per Focus Group. **Benchmark = 144 total participants in each annual set**

S = Door-to-Door SURVEYS; 100 surveys in each of 4 quadrants of city; **Benchmark: 400 total participants over each 2-year survey event**

TH = TOWN HALLS >300 participants / Town Hall; one on north side of city; one on south side ; **Benchmark: >600 total participants in each annual set**

Figure 3. Project Timeline

YEAR 1: Development of *Community History of Flint Water System*

Year 1 will involve gathering the preliminary tap-water sampling data and historical information necessary to develop our *Public Health Action Plan,* while also engaging the wider community in further developing research questions, indicators, and methods for addressing those questions. Sources and types of information gathered will include:

- **Flint Residents:** Through *Town Hall* meetings, *Community Forums, Focus Groups*, and *Door-to-Door Surveys* discussions with residents will be used to illuminate local history and current knowledge of the water system. These histories will be cross-tabulated with information from the official sources listed below – noting similarities and differences. The output will be a document—*Community History of Flint Water System*—that creates a "common locally legitimized version of water history" and provides the foundation for research going forward.
- **City of Flint, Water Department**: Dates and locations of drinking water main breaks; installation dates for sections of the drinking water distribution system and sewer/stormwater system; dates and locations of *sewer* pipe breaks (to check for potential infiltration inflow).
- **Genesee County Health Department**: Dates and general locations of GI illnesses in Flint (based on "procedure code" data from hospitals/health clinics as well as public school data on reported illnesses linked to student absences) and, prior tap-water testing results from individual citizens.

Processing, analysis, and mapping of gathered data will include content analyses of community input, GIS analyses to identify potential correlations between various sets of data and finally geographic mapping to identify areas of Flint with the highest numbers of water quality issues and concerns (e.g., over-sampling will be recommended in areas that have demonstrated high rates of pipe ruptures).

Preliminary grassroots tap-water sampling will involve training brigades of community members to collect tap-water samples from 45 sites identified in each quadrant of the city, maintain strict chain-of-custody, and submit samples to the Michigan Department of Environmental Quality (MDEQ) for analysis of the following drinking water parameters: pH [acidic water can leach lead from pipes]; heterotrophic bacteria; hardness; and total organic carbon (a proxy for total trihalomethanes [TTHM] a byproduct of water treatment). Our first-year sampling effort will be limited to two seasons (6 months), 180 sites citywide, and 720 total collected samples.

YEARS 2, 3, and 4

Development and Implementation of the initial Public Health Action Plan. Based on research findings from the first year and in partnership with the community, we will establish an educational strategy and materials to inform the grassroots community of ongoing research results and potential public health risks (e.g., lead, heterotrophic bacteria). We will also set up a structure for continuous refinement of our Grassroots Tap-Water Sampling Plan to ensure that these efforts are focused on geographic areas of greatest concern throughout the project.

Historical Reporting. During the second year, we will engage the grassroots community in interpreting historical results through *Town Halls* and *Community Forums*.

Comprehensive Grassroots Tap-Water Testing. During each year (Years 2, 3, and 4), community member brigades will collect 1,440 tap-water samples from 45 sites in each quadrant of the city (two times in each of four seasons), maintain strict chain-of-custody, and submit samples to the MDEQ for analysis of pH; heterotrophic bacteria; hardness; and total organic carbon (a proxy for TTHM). Sampling sites will be determined based on review of Year 1 sampling and historical results. Wherever elevated results are reported, UM-Flint researchers will conduct follow-up sampling to verify results.

Tap-Water Testing in Schools. Using the same sampling protocol performed in households (two sets of samples collected during each season), The UM-Flint community outreach coordinator will train teachers (train-the-trainer) on sampling methods and assist in tying tap-water sampling into a larger lesson plan for their classroom. The teachers will work with their students to collect the samples from school taps and create educational materials that translate the results. (UM-Flint has used a similar approach with schools during previous environmental projects).

Continuing Community Engagement. The *Door-to-Door Surveys* will extend into Year 2, and *Community Forums* will be held to inform interested residents of findings to date and solicit additional feedback. In Years 3 and 4, *Focus Groups* will be replicated. These groups will provide narratives and discourses on the changes in water quality, access, and public health, as well as develop the framework for discussions with local authorities. Likewise, the *Door-To-Door Survey* will be replicated in years 3 and 4 and the data will be analyzed to assess changes in the averages and deviations from the mean by quadrant in reported water quality, access, health implications, and communication with authorities.

YEAR 5: Comprehensive Evaluation and Reporting

In Year 5, analysis of data will be completed and community engagement activities will largely focus on interpreting results from Years 1 through 4. *Community Forums* and *Town Hall Meetings* will be held to discuss findings and trends. *Focus Groups* will be held to evaluate the overall community impact of the project and develop a final list of indicators of water quality, access, and public health and a means of continued collection of indicators.

3.5 Key Investigators

Our project represents a partnership between Flint community leaders, university researchers (University of Michigan-Flint and Michigan State University), and public health officials (Genesee County Health Department)—with committed support and cooperation from local government (i.e., the Director of the City of Flint Public Works, which oversees the city's water system).
Our project team offers cross-disciplinary and complementary expertise and training in water systems, water quality, public health, and community-based participatory research. Moreover, all team members have worked in the Flint community and many have established deep roots throughout the community.

Principal investigator. Martin M Kaufman, PhD, has expertise in water resources, statistics, and environmental health, and geographic information systems (GIS). As long-time Chair of the Earth Resource Science Department at the UM-Flint, he has established leadership experience as well as the authority to commit specialized resources to this project—including the resources of UM-Flint's GIS

Center, which is housed in his department. The proposed project is an extension of Dr. Kaufman's more than 30 years of broad research and practical experience relating to water quality issues in post-industrial urban environments similar to and including Flint's environment. This experience includes GIS analysis of water distribution systems, including flow capacity. For the past 20 years, he has taught on the UM- Flint, therefore, much of his research has involved extensive collaboration with community organizations in Flint, the site of our proposed research. He is currently Co-Principal Investigator on a multi-university, interdisciplinary U.S. Department of Justice grant investigating crime reduction within a portion of the Flint community.

Co-PI. Elder Sarah Bailey, CEO, Bridges into the Future, has a broad background in community health, with specific training and expertise in community-based participatory research (CBPR). She has coordinated community engagement in several research projects involving the Flint community, including the "REACHOUT to reduce high blood pressure" project, and the PRAISE (Prepare to ReAct to Immediately to Stroke through Education) project funded through an NIH grant. Elder Bailey is both a local and national leader and expert in implementing CBPR and building the capacity of community-based organizations (CBOs) and community members to participate as equal partners in research. She is a founding member of several local and national networks of community-based organizations including the Community-Based Organization Partners (CBOP) of Flint; the National Community-Based Organization Network (NCBON). She is currently partnering with the University of Michigan Hospital's, Neurology Department, Stroke Program in a community research effort to determine the effectiveness of stroke prevention methods in Flint's African American community.

Consultants. Michigan State University. Stephen Gaster, PhD, has a broad background in social science research, with specific training and expertise in community-based participatory research and development evaluation, including work on the impacts of neighborhood greening programs in Flint, Michigan. **Jennifer Carrera, PhD,** brings a robust, multidisciplinary background and broad methodological skills. Her research uses an environmental justice perspective to focus on differential access to environmental resources and its impact on the wellbeing of individuals in marginalized communities. Her appointment at MSU is part of the campus-wide Global Water Initiative intended to deepen, enrich, and foster collaboration across MSU's expansive water scholarship on campus.

Consultants. Genesee County Health Department. Suzanne Cupal, MPH, will coordinate the in-house activities of Genesee County Health Department throughout the course of the 5-year project, including the work related to the water testing, community outreach, epidemiological review and other surveillance, as well as the creation of educational materials. She offers a broad background in community health, with specific training and expertise in community health analysis, community organizing, media relations, curricula development, program planning and evaluation, and community capacity building. As Public Health Supervisor at the Genesee County Health Department (GCHD), Ms. Cupal has reached out to a variety of water system experts during the department's research of current issues with the Flint water system. GCHD has strong relationships with the Michigan Department of Health and Human Services, the Centers for Disease Control and Prevention (CDC), and the Environmental Protection Agency (Region 5).

3.6 Dissemination Plan

Throughout the project, findings will be regularly disseminated through Town Halls, Community Forums, County Health Department events, as well through the activities of various community organizations (e.g., churches, schools, and neighborhood groups). The various forms of print and social media that may be used to inform community members of events as well as disseminate project findings will be determined during Year 1, based on community input.

Broader dissemination of findings will be accomplished through presentations at academic and professional conferences (Figure 3) and publication in peer-reviewed journals.

Annual Conference	Project Year				
	1	2	3	4	5
	# Presentations				
American Public Health Association	1	3	5	2	1
American Sociological Association*		1	1	1	
American Water Resources Association			2		2
American Water Works Association		2	1	2	
Society of Public Health Educators♦			1		
Association of American Geographers				2	2

Figure 3. National Conferences: poster and paper presentations°

° Except where indicated, presentation topics are to be determined (TBD)

* Environment & Technology *or* Medical Sociology sessions

♦ *Genesee County Health*

3.7 Expected Final Outcomes

Our primary expected outcome is a sustainable bi-directional communication structure between Flint's grassroots community, city officials, and the county health department by the end of the five-year project. The purpose of this structure is to facilitate transparency, regular input, and timely response with respect to community concerns about drinking water quality. Given the continued engagement of the grassroots community throughout the research project, we expect citizens to gain a deeper understanding of Flint's water quality issues and an informed perspective on associated public health risks. Moreover, we expect Flint's local government agencies to have an increased understanding of citizen's concerns and willingness to assist the City in addressing public health issues related to the City's deteriorating water infrastructure.

3.8 Broader Impacts

The findings of our five-year study will inform the national dialog on drinking water quality and aging infrastructure as major cities across the country are currently at a similar crossroads with respect to deterioration of water infrastructure. Moreover, this report will offer a blueprint to help cash-strapped cities optimize limited resources while addressing the public health risks associated with aging infrastructure. Finally, our report will offer a framework for effecting constructive community engagement and bi-directional communication between grassroots citizens, public health agencies, municipal water departments, and city government.

Henry, James

From: Henry, James
Sent: Tuesday, December 22, 2015 10:42 AM
To: Henry, James
Subject: FW: Flint timeline
Attachments: _Flint Drinking Water Events Timeline.pdf

From: Ladouceur, Anita (DEQ) [mailto:LADOUCEURA@michigan.gov]
Sent: Wednesday, December 2, 2015 6:47 AM
To: Henry, James
Subject: Flint timeline

Hi Jim:

I thought you would find this DEQ document of interest.

Anita

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
FLINT DRINKING WATER EVENTS TIMELINE

Date	Event	Attachment
Pre-1967	Flint Water Treatment Plant in operation using Flint River for drinking water	1
Post-1967	Flint switched to Detroit Water and Sewerage Department for drinking water	None
January 2006	Discussions regarding Karegnondi Water Authority, *Preliminary Long-Term Water Supply for Genesee County*	2
June 25, 2009 September 2009	*Lake Huron Water Supply Study* *Karegnondi Water Authority* Executive Summary and Preliminary Engineering Report	3
March 2013	*Analysis of the Flint River as a Permanent Water Supply for the City of Flint*; Prepared for: City of Flint dated July 2011	4
April 2013	Flint notifies Detroit Water and Sewerage Department of contract discontinuation and joins the Karegnondi Water Authority	5
April 2013	Detroit Water and Sewerage Department sets termination of Flint water service contract to April 17, 2014	6
June 2013	Flint notifies the Department of Environmental Quality of intent to operate Flint Water Treatment Plant full time using Flint River for drinking water	7
April 2014	The Michigan Department of Environmental Quality issues Flint Water Treatment Plant construction permits for full time operation enhancements	9
May 2014	Flint stops purchasing Detroit Water and Sewerage Department water. Starts using the City of Flint Water Treatment Plant and Flint River for drinking water	10
August 2014	Flint *E. coli* bacteria violation, localized system Boil Water Advisory	11
September 2014	Disinfection Byproducts compliance communication; the Michigan Department of Environmental Quality requests preemptive Operational Evaluation	12
September 2014	Flint total coliform bacteria violation, localized system Boil Water Advisory	13

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
FLINT DRINKING WATER EVENTS TIMELINE

Date	Event	Attachment
October 2014	General Motors announces decision to stop using Flint River as source for production water	14
December 16, 2014	Disinfection Byproducts quarterly violation begins	15
December 31, 2015	1st 6-month round of lead and copper monitoring ends. Results due from Flint to Michigan Department of Environmental Quality on January 10, 2015	None
January 21, 2015	City of Flint Public Meeting regarding disinfection byproducts and bacteria	17
February 26, 2015	E-mail from United States Environmental Protection Agency to Michigan Department of Environmental Quality regarding elevated lead sample	18
February 27, 2015	E-mail from United States Environmental Protection Agency to Michigan Department of Environmental Quality inquiring about Optimized Corrosion Control Treatment	19
February 27, 2015	Michigan Department of Environmental Quality response to United States Environmental Protection Agency email with statement regarding optimized corrosion control program	20
March 5, 2015	2nd Disinfection Byproducts quarterly violation notice	21
March 30, 2015	Michigan Department of Environmental Quality notifies Flint of Lead/Copper Monitoring Results.	16
April 3, 2015	Long Term 2 Enhanced Surface Water Treatment Rule Letter	22
April 6, 2015	Flint proposes installation of Granular Activated Carbon Filter media to reduce disinfection byproducts	23
April 23, 2015	United States Environmental Protection Agency e-mail to Michigan Department of Environmental Quality regarding corrosion control treatment	24
April 24, 2015 May 1, 2015	Michigan Department of Environmental Quality responds to United States Environmental Protection Agency regarding corrosion control treatment	25

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
FLINT DRINKING WATER EVENTS TIMELINE

Date	Event	Attachment
April 27, 2015	United States Environmental Protection Agency provided bottles to 212 Browning for lead/copper analyses	26
May 6, 2015	Lead service line replaced at 212 Browning. United States Environmental Protection Agency on-site	27
May 28, 2015	Internal United States Environmental Protection Agency e-mail regarding results at 212 Browning	29
June 9, 2015	3rd Disinfection Byproducts quarterly violation notice	30
June 10, 2015	Semi-Annual Conference call with United States Environmental Protection Agency	31
June 30, 2015	E-mail from United States Environmental Protection Agency scheduling conference call on July 21, 2015 regarding elevated lead result and concerns regarding corrosion control	32
June 30, 2015	2nd 6-month round of lead and copper monitoring ends. Results due from Flint to Michigan Department of Environmental Quality on July 10, 2015	None
July 9, 2015	Michigan Department of Environmental Quality informed that United States Environmental Protection Agency draft internal memo is on ACLU website	33
July 14, 2015	Michigan Department of Environmental Quality issues construction permit to Flint for Granular Activated Carbon filter media W151055	34
July 21, 2015	Conference call with United States Environmental Protection Agency (Lead and Copper Rule implementation and Flint) during which it informs Michigan Department of Environmental Quality its interpretation of Lead and Copper Rule	35
July 24, 2015	Michigan Department of Environmental Quality e-mail and draft letter 90th percentile lead determination = 11 parts per billion and City of Flint requirement to add corrosion control treatment	36

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
FLINT DRINKING WATER EVENTS TIMELINE

Date	Event	Attachment
July 28, 2015	Michigan Department of Environmental Quality received blood lead level information from Michigan Department of Health and Human Services indicating that results since the switch to the Flint River are consistent with past years seasonal variations	37
August 4, 2015	Meeting with city representatives at Governor's office	38
August 17, 2015	Michigan Department of Environmental Quality notifies Flint of lead/copper monitoring results and requires City to install corrosion control treatment	39
August 23, 2015	Michigan Department of Environmental Quality notified by an external party that a water quality study was about to begin in Flint	40
September 2, 2015	Disinfection Byproducts return to compliance	43
September 11, 2015	United States Environmental Protection Agency e-mail confirming that Michigan Department of Environmental Quality was never sent the draft June 24, 2015 memo	44
September 21, 2015	Meeting with Congressional representatives, legislators, United States Environmental Protection Agency and Michigan Department of Environmental Quality to discuss issues with water quality in Flint	45
September 22, 2015	Meeting/Conference call with Michigan Department of Health and Human Services, Genesee County Health Department, and Michigan Department of Environmental Quality to discuss lead education/outreach	46
September 24, 2015	Hurley Children's Hospital data reveals elevated blood lead levels in Flint children	47
September 24, 2015	Michigan Department of Health and Human Services response affirms State blood lead level data is more comprehensive than Hurley Hospital data	None

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
FLINT DRINKING WATER EVENTS TIMELINE

Date	Event	Attachment
September 25, 2015	Flint issues Lead Advisory regarding drinking water	48
October 1, 2015	State Chief Medical Officer confirms Hurley blood lead level data	None
October 1, 2015	Genesee County Health Department issues "Do Not Drink" Advisory	49
October 2, 2015	Michigan Department of Environmental Quality and Michigan Department of Health and Human Services press conference. Governor's Flint Action Plan announced.	50
October 2, 2015	Genesee County Health Department school screening water samples collected for lead analysis	51
October 8, 2015	Governor Press Conference: Flint to reconnect to Great Lakes Water Authority/Detroit Water and Sewerage Department	52
October 15, 2015	State Legislature authorizes a $9 million to assist the City of Flint to pay for the return to the Detroit water system and to fund staff at schools to gauge lead exposure	None
October 16, 2015	First weekly coordination meeting held between the City of Flint and state agencies	None
October 16, 2015	Michigan Department of Environmental Quality meets with Flint Schools Superintendent and Genesee County Health Department	None
October 16, 2015	Flint switches back to Detroit Water and Sewerage Department for water	53
October 21, 2015	Governor Snyder announces formation of Flint Water Task Force to complete an After Action Review	None
October 28, 2015	Michigan Department of Environmental Quality issues construction permit for additional corrosion control treatment	54
October 30, 2015	Michigan Department of Environmental Quality letter to Flint regarding corrosion control treatment operation	55

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
FLINT DRINKING WATER EVENTS TIMELINE

Date	Event	Attachment
November 3, 2015	United States Environmental Protection Agency Memorandum regarding "Lead and Copper Rule Requirements for Optimal Corrosion Control Treatment for Large Drinking Water Systems"	56
November 4, 2015	United States Environmental Protection Agency Memorandum regarding "Transmittal of Final Report – High Lead at Three Residences in Flint, Michigan"	57
Mid-Late 2016	Planned connection to Karegnondi Water Authority (Lake Huron water to Flint Water Treatment Plant)	None

Henry, James

From: Henry, James
Sent: Thursday, December 3, 2015 12:24 PM
To: LaRocco, Toni; 'MVALACAK@gchd.us'; McShane, Hilda; Brickey, Tamara; 'scupal@gchd.us'; Swartout, April; Stickler, Lisa
Subject: FW: Flint timeline
Attachments: _Flint Drinking Water Events Timeline.pdf

FYI,

Attached is MDEQ's timeline. I wasn't forwarded the corresponding attachments. It appears that MDEQ has missed a few items. I doubt they want our help filling in the blanks.

From: Ladouceur, Anita (DEQ) [mailto:LADOUCEURA@michigan.gov]
Sent: Wednesday, December 2, 2015 6:47 AM
To: Henry, James
Subject: Flint timeline

Henry, James

From: Henry, James
Sent: Tuesday, January 12, 2016 11:42 AM
To: Henry, James
Subject: FW: next week
Attachments: Instructions for Evaluation Worksheet.doc

From: Ladouceur, Anita (DEQ) [mailto:LADOUCEURA@michigan.gov]
Sent: Wednesday, December 2, 2015 9:48 AM
To: Henry, James; Dodds, Sheryl
Cc: Dorcy, Kristofer (DEQ)
Subject: RE: next week

Hi Jim:

Attached are our worksheet instructions. Please do me the courtesy of letting me know which files you have an issue with. Your concerns need to be addressed prior to the evaluation next week. I know you brought up the same concern last year, and I can't remember what specifically you had an issue with.

Please contact me with specifics.

Thanks,
Anita

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Wednesday, December 02, 2015 9:24 AM
To: Ladouceur, Anita (DEQ); Dodds, Sheryl
Cc: Dorcy, Kristofer (DEQ)
Subject: RE: next week

What is the process?

From: Ladouceur, Anita (DEQ) [mailto:LADOUCEURA@michigan.gov]
Sent: Wednesday, December 2, 2015 9:23 AM
To: Henry, James; Dodds, Sheryl

MDHHS DECLARES LEGIONNAIRE OUTBREAK OVER

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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From: Collins, Jim (DCH) [mailto:CollinsJ12@michigan.gov]
Sent: Thursday, June 4, 2015 3:17 PM
To: Garrison, Laurel (CDC/OID/NCIRD)
Cc: Cupal, Suzanne; Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Weinberg, Meghan (DCH); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (DCH); Bohm, Susan (DCH)
Subject: Flint, Michigan - Legionellosis Outbreak Investigation Summary

Good Afternoon,

As we enter summer (finally) here in Michigan, I wanted to share a summary of the analysis of the data around this past year's increase in legionella cases identified in proximity to the city of Flint. As you'll recall, while there were no clinical specimens available for testing from the 45 cases included in the investigation, there was a significant outreach to gather more patient information from cases. I've attached an executive summary of the investigation and analysis to this post.

Please feel free to contact us is you have any questions,
Jim

Jim Collins MPH, RS
Director, CD Division
MDHHS
Desk: 517-335-8586
Cell: 517-930-6932

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From: Collins, Jim (DCH) [mailto:CollinsJ12@michigan.gov]
Sent: Monday, June 8, 2015 11:31 AM
To: Garrison, Laurel (CDC/OID/NCIRD); Henry, James; Cupal, Suzanne
Cc: Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Weinberg, Meghan (DCH); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (DCH); Bohm, Susan (DCH); Johnson, M.D., Gary; Wright, Michael; Prysby, Mike (DEQ); Connolly, Stephanie; Bolen, Timothy (DCH)
Subject: Communicable Disease Investigation Communications

Good Morning All,

I'd like to take a moment to comment on the most recent legionella exchange based on my conversation with some of CDC's team leadership this morning.

First, I want to emphasize that we are excited to see, and continue to support, the more aggressive approach being taken by our Genesee County Health Department colleagues toward gathering epidemiologic and clinical information from the most recent incident cases of legionellosis. The Michigan Department of Health and Human Services (DHHS) continues to offer resource and informational support as requested. I'd ask that you work with our team in that area, including Shannon Johnson, Jay Fiedler and Susan Bohm as well as your Regional Epidemiologist, Tim Bolen.

Relative to communications around the investigation, I believe that CDC is in agreement that their involvement really should be at the request of the State, rather than the local health department. To be clear, we do value the skills and resources of our CDC colleagues, but we also recognize that their involvement needs to have some structure. At this point, further CDC participation would have to be in the form of an Epi-Aid request from our State Epidemiologist, Corinne Miller. On numerous occasions in the past, we've taken advantage of this level of availability from the CDC. However, relative to the current investigation, we have not seen any information that would rise to the level of warranting an Epi-aid request. Therefore, I want to reinforce the necessity that investigation communications from the Genesee County Health Department need to be directed to staff at the MDHHS.

Thank you all for you interest and contributions to this effort to date. I'm sure that we'll continue to improve on our data collection as we move forward and that this will put us in a position to better define the current case evaluations.

Jim
Jim Collins MPH, RS
Director, CD Division
MDHHS
Desk: 517-335-8586
Cell: 517-930-6932
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Henry, James

From: Henry, James
Sent: Monday, June 8, 2015 3:10 PM
To: 'MVALACAK@gchd.us'
Cc: 'scupal@gchd.us'
Subject: FW: Communicable Disease Investigation Communications

Mark, I just want to share a couple thoughts.

The MDCH Legionella Executive Summary seems rather bold and premature, i.e. "The outbreak is over; the last reported case occurred in March, 2015. The lack of clinical *Legionella* isolates precludes our ability to link cases to an environmental source." This is exactly where we have been focusing our efforts. We have been planning with MDCH and CDC how to improve the process of isolating the bacteria. Currently, there are two sputum samples at McLaren lab. Hopefully, MDCH will step up.

I would have called Jim Collins, personally about the Executive Summary, but we have realized the importance of documenting conversations, especially regarding this investigation. There has been a lot of finger pointing and miscommunications, which continues even in the email below from Jim Collins, today. I think us reaching out to CDC and EPA was appropriate. We were not gaining much ground with the state agencies and now the warmer weather is upon us. Suzanne did an outstanding job communicating, at all levels.

CDC has made it clear that their expert team is willing to assist, especially with isolating the clinical and environmental samples. Based upon the email below, MDCH will decide when/if CDC assists. There appears to be something else going on here, perhaps a territorial issue.

I have concerns about MDCH's lack of ability to assist with the collection of environmental samples. CDC has offered their EH division as consultants and possibly to cover lab costs. I do not have the same assurance with MDCH. I have reviewed the environmental sampling protocols and we 'll cross that bridge when appropriate, but I'd like to be better prepared.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Henry, James

From: Bohm, Susan (DCH) <bohms@michigan.gov>
Sent: Thursday, June 4, 2015 4:11 PM
To: Cupal, Suzanne; Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark
Cc: Johnson, Shannon (DCH); Fiedler, Jay (DCH); Collins, Jim (DCH); Bolen, Timothy (DCH)
Subject: Legionellosis Outbreak Data Analysis Summary
Attachments: 20150604 Legionellosis Analysis Summary_Final.pdf

Hello!

Attached please find the final legionellosis data analysis summary for your records.

Regards,

Susan Bohm, MS
Manager, Enteric & Respiratory Illnesses Epidemiology Unit
Surveillance and Infectious Disease Epidemiology
Division of Communicable Disease
Michigan Department of Health and Human Services
201 Townsend St, 5th Flr
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Legionellosis Outbreak — Genesee County, June 2014–March 2015

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Working Case Definitions

Confirmed Legionnaires' Disease (LD) – meets the CDC clinical and laboratory case definition for confirmed LD and illness occurred since June 1, 2014 in residents of Genesee County or those who had visited the Flint area in 2 weeks prior to their illness onset date.

Suspected LD – meets the CDC clinical and laboratory case definition for suspected LD and illness occurred since June 1, 2014 in residents of Genesee County or those who had visited the Flint area in 2 weeks prior to their illness onset date.

Confirmed Pontiac Fever (PF) – meets the CDC clinical and laboratory case definition for confirmed PF and illness occurred since June 1, 2014 in residents of Genesee County or those who had visited the Flint area in 2 weeks prior to their illness onset date.

Data Sources

1. Legionellosis Case Report Form in Michigan Disease Surveillance System (MDSS)
2. Medical record review from:
    a. McLaren Medical Center; Flint, MI
    b. Hurley Medical Center; Flint, MI
    c. Genesys Regional Medical Center; Grand Blanc, MI
3. Patient interview using Genesee County-specific Legionellosis Questionnaire

Epidemiology

Number of lab-confirmed cases of Legionnaires' Disease: 45

Number of Pontiac fever cases: 1 with positive Ag test but asymptomatic (not included in analysis)

Geographic distribution:

45/46 Genesee Co (27 Flint, 6 Mt. Morris, 4 Burton, 2 Flint Twp, 1 Flushing, 1 Byron, 1 Davison, 1 Linden, 1 Otisville, 1 Vienna Twp)

1/46 Saginaw County (1 Chesaning)

Age range: 26-94 years

Average age (median): 62.1 years (63 years)

% Males: 51% (23/45)

Range of illness onset dates (n=45): 6/6/14- 3/9/2015

Number (%) of deaths: 15.6% (7/45)

Date outbreak-specific survey completed and approved for use: 2/23/15

Number of cases interviewed: 29 completed + one partial (63% complete; 95.7% in total attempted/completed)

MDHHS: 19 completed / 30 contacted Genesee: 10 completed / 15 (1 status unknown)

Number (%) of cases hospitalized: 45/46 (97.8%). Number in ICU: 22/45 (48.8%)

Number (%) of cases hospitalized at McLaren: 18/45 (40%)

Number (%) of cases hospitalized at Hurley: 14/45 (31%)

Number (%) of cases hospitalized at Genesys: 6/45 (13.3%)

Number (%) of cases hospitalized at other hospitals outside Flint: 7/45 (15.6%)

Number (%) of cases who had been hospitalized in 2-weeks prior to onset: 19/45 (37.8%)

Number (%) of cases who had only a short-term visit to a hospital/healthcare facility in 2-weeks prior to onset: 8/45 (17.8%)

Number (%) of cases who had been hospitalized or who had a short-term visit to a hospital/healthcare facility in 2-weeks prior to onset: 27/45 (60%)

Number (%) of cases who work outside the home: 8/46 (17.4%) [min of 72% were at home]

Number (%) of cases who are retired: 20 (43.5%)

Number (%) of cases who are unemployed: 7/46 (15.2%)

Number (%) of cases who are disabled: 6/46 (13%)

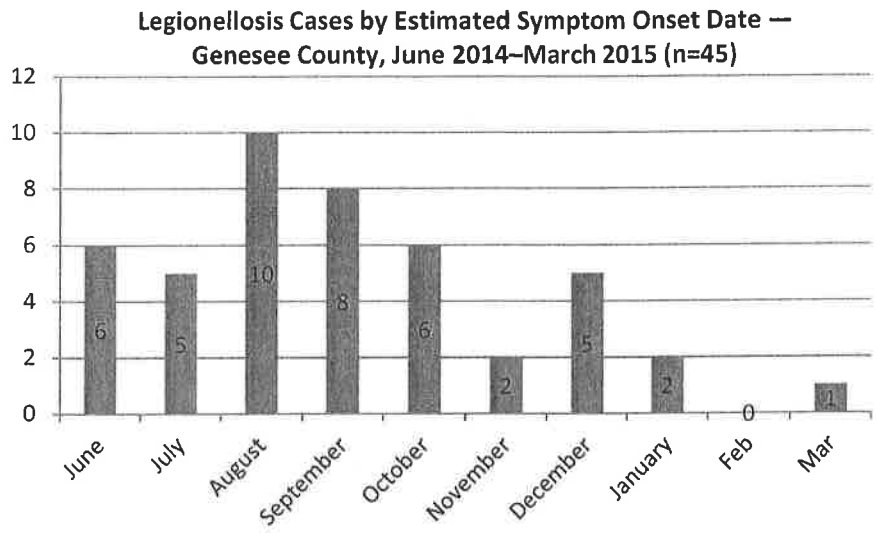
Number (%) of cases whose occupation status is unknown: 5/46 (10%)

Number (%) of cases with ≥1 co-morbidity: 25/29 interviewed (86%)

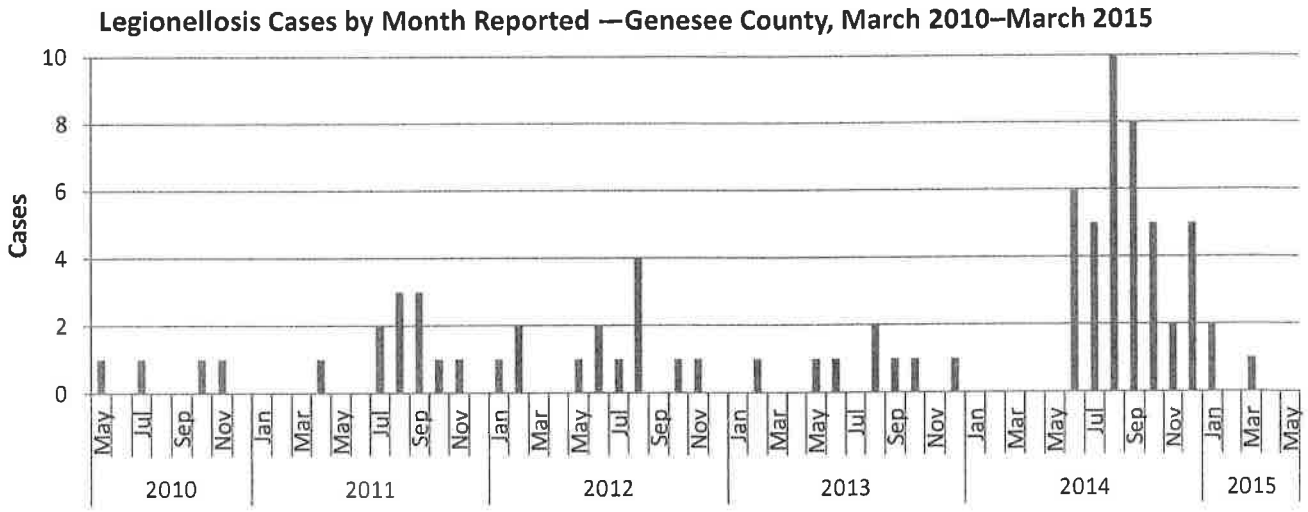
Number (%) of cases who are current or former smokers: 24/29 interviewed (83%)

Epi Curves

Current Outbreak



Five-year History



Surveillance & Infectious Disease Epidemiology

Cases by Residence Water Source

Residence water source refers to the source of tap water at patient's home residence during the 14 days before symptom onset and was determined by patient interview and verified by City of Flint water distribution map.

Water Source at Residence	Total N=45	
	n	%
City of Flint water	21	47
City of Flint Township water	3	7
Other municipal water system	4	9
Private well	7	16
Unknown	10	22

For the remainder of the analysis, water source at home residence was stratified by:

- **Flint water at residence** (N=21)
- **Other water at residence**, which includes City of Flint Township, other municipal water, private well or unknown (N=24)

Healthcare Exposure

A person was defined as having a healthcare exposure if they visited a hospital or clinic in Flint, Michigan as an inpatient, outpatient, or visitor during the 14 days prior to their symptom onset date.

Healthcare Exposure by Residence Water Source

	Total N=45		Healthcare exposure N=27		No known healthcare exposure N=18	
	n	%	n	%	n	%
City of Flint Water	21	47	13	48	8	44
Other water at residence	24	53	14	52	10	56

Healthcare Exposures by Healthcare Location; Visit Type, and Residence Water Source (Table)

Healthcare exposure in 2 wks prior to onset	Residence on city water		Residence NOT on city water	
	Cases	Interviews missing	Cases	Interviews missing
Hospitalized at McLaren*	5	2	8	2
Hospitalized and Outpatient at McLaren	0		1	
Hospitalized and Visited McLaren; Outpatient at different Flint clinic	1		0	
Hospitalized at McLaren and Outpatient at different Flint clinic	1		0	
Outpatient at McLaren	3	1	1	1
Visited McLaren	0		1	
Hospitalized at McLaren and Hurley**	1		0	
Visited McLaren and Hurley	0		1	
Hospitalized at Hurley	1	1	1	1
Visited Hurley	1		1	
No known Flint healthcare exposure	8	4	11***	3
Total	21	8	24	7

* McLaren Flint Medical Center; Flint, MI. Hospital water is supplied by City of Flint.
**Hurley Medical Center; Flint, MI. Hospital water is supplied by City of Flint.
*** 3 of the 11 cases visited clinics outside of Flint as an outpatient.

Cases admitted (overnight) to a hospital during the 2 weeks prior to onset:

9/21 (43%) cases **on City of Flint water** with a hospital admission during the 2 weeks prior to onset.
8/21 (38%) admission to McLaren hospital
1/21 (5%) admission to Hurley

10/24 (42%) cases **NOT on City of Flint water** with a hospital admission during the 2 weeks prior to onset.
9/24 (38%) admission to McLaren hospital
1/25 (4%) admission to Hurley

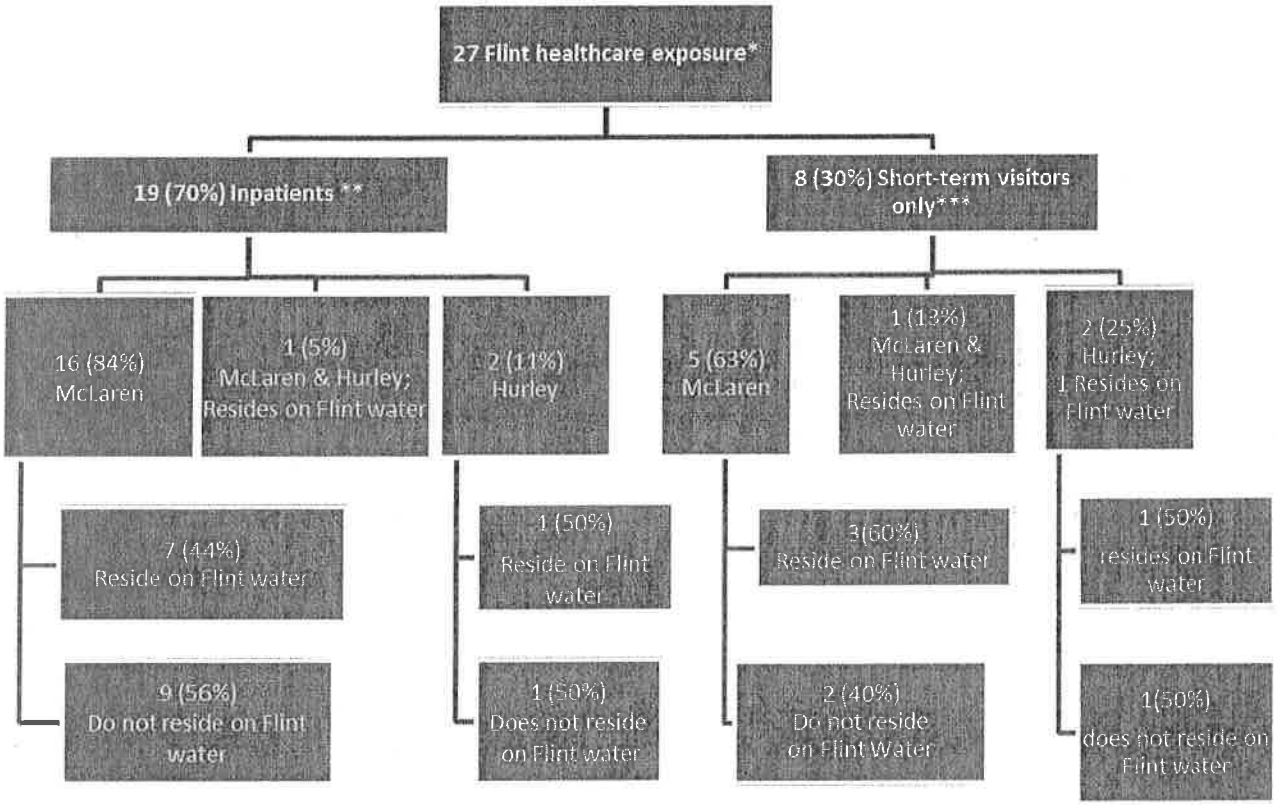
Cases with **any** hospital exposure during the 2 weeks prior to onset:

13/21 (62%) cases **on City of Flint water** with any hospital exposure during the 2 weeks prior to onset.
11/21 (52%) admission, outpatient, or visit to McLaren*
3/21 (14%) admission or visit to Hurley*
*Percentages do not total due to cases with multiple exposures

14/24 (58%) cases **NOT on City of Flint water** with any hospital exposure during the 2 weeks prior to onset.
13/24 (54%) admission, outpatient, or visit to McLaren*
3/24 (13%) admission or visit to Hurley*
*Percentages do not total due to cases with multiple exposures

Overall:
17/45 (38%) Hospitalized at McLaren (overnight) during the 2 weeks prior to onset.
23/45 (51%) Any exposure to McLaren during the 2 weeks prior to onset.

Healthcare Exposures by Healthcare Location, Visit Type, and Residence Water Source (Graph)



*Flint healthcare exposure = Inpatient, outpatient or visitor to McLaren Flint Hospital or Hurley Medical Center during 14 days prior to symptom onset date.

**Inpatient = overnight stay at McLaren Flint Hospital or Hurley Medical Center during 14 days prior to symptom onset date.

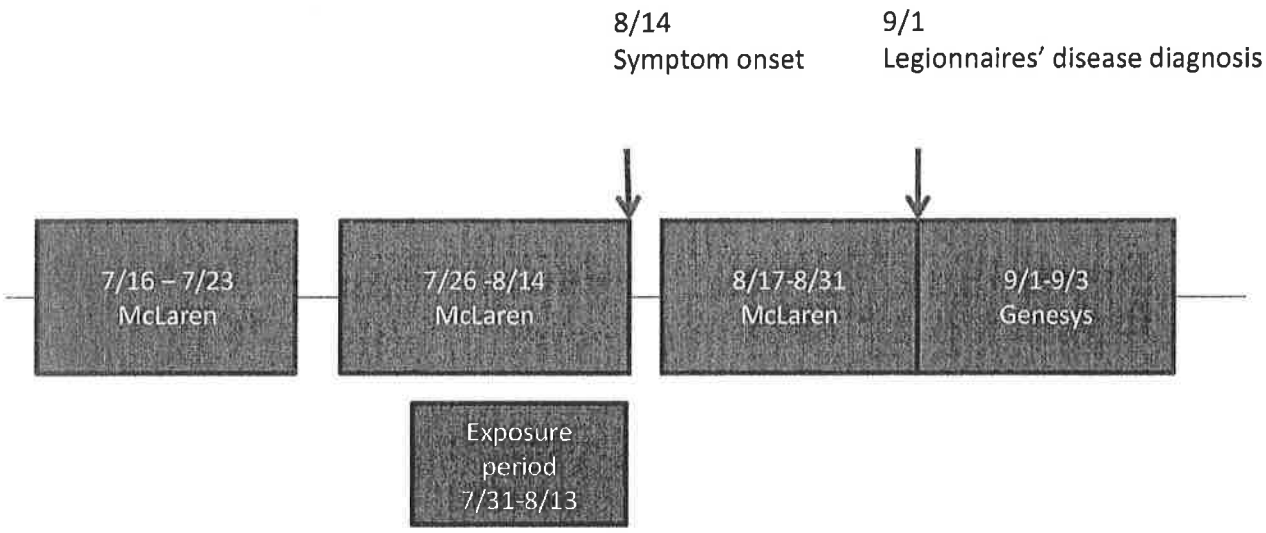
***Short-term visitors = outpatient or visitor to McLaren Flint Hospital or Hurley Medical Center during 14 days prior to symptom onset date.

Hospitalized Cases By Length of Stay and Residence Water Source

Location	Length of Stay*		
	N	Median (days)	Range
McLaren	16	2	0.5–14
City of Flint water at patient residence	7	2	0.5–7
Other water at patient residence	9	5	1–14
Hurley	2	1.5	1–2
City of Flint water at patient residence	1	1	
Other water at patient residence	1	2	
McLaren and Hurley; Residence on Flint water	1	5	
McLaren		3	
Hurley		2	
Total	19	3	0.5–14

* Length of stay = Number of days hospitalized during 14 days prior to symptom onset date.

Timeline of the One Patient Hospitalized During Entire Exposure Period



Legionellosis Questionnaire Results

Data were obtained from patient interviews using the Legionellosis Questionnaire.
Column percentages are displayed. The denominators are based on the number of patients interviewed.

Interview Status by Healthcare Exposure

Interview status (as of May 21, 2015)	Total (N=45)		Healthcare Exposure (N=27)		No Known Healthcare Exposure (N=18)	
	N	%	N	%	N	%
Complete interview	29	64	19	70	10	56
Partial interview	1	2	0	0	1	6
Refused	1	2	1	4	0	0
Unable to contact	14	31	7	26	7	39

Interview Status by Residence Water Supply

Interview status (as of May 21, 2015)	Total (N=45)		Flint water at residence (N=21)		Other water at residence (N=24)	
	N	%	N	%	N	%
Complete interview	29	64	12	57	17	71
Partial interview	1	2	1	5	0	0
Refused	1	2	0	0	1	4
Unable to contact	14	31	8	38	6	25

Surveillance & Infectious Disease Epidemiology

Water Changes at Residence

Question Prompts:

Q4. During the last year, has the water pressure at your residence changed?

Q5. During the last year, has the water quality (appearance, taste, smell) at your residence changed?

Q6. Prior to your illness, did you make any recent plumbing changes or repairs at your residence?

Q7. Prior to your illness, were there any water main breaks or other water line issues that affected the water at your residence, including boil water advisories?

	Flint Water at Residence (N=13)		Other Water Source at Residence (N=17)		Total (N=30)	
	n	%	n	%	n	%
Q4. Noticed changes in water pressure	2	15	1	6	**3**	**10**
Healthcare exposure	2		1		**3**	
No known healthcare exposure	0		0		**0**	
Q5. Noticed changes in water quality	10	77	0	0	**10**	**33**
Healthcare exposure	7		0		**7**	
No known healthcare exposure	3		0		**3**	
Q6. Made recent plumping changes or repairs at residence	1	8	2	12	**3**	**10**
Healthcare exposure	1		2		**3**	
No known healthcare exposure	0		0		**0**	
Q7. Experienced water main breaks or water line issues that affected residence	6	46	0	0	**6**	**20**
Healthcare exposure	5		0		**5**	
No known healthcare exposure	1		0		**1**	

Surveillance & Infectious Disease Epidemiology

Work and Travel

Question Prompts:

Q8. During this 2 week period (exposure period), did you work or volunteer, either full or part time?

Q10. Visit, reside, or work in a long term care facility, nursing home, assisted living facility, or senior living facility?

Q11. In the 2 weeks before you before you got sick, did you spend any nights away from home (excluding healthcare settings)?

	Healthcare Exposure		No Reported Healthcare Exposure		
	Flint water at residence N=9	**Other water at residence N=10**	**Flint water at residence N=4**	**Other water at residence N=7**	**TOTAL N=30**
Q8. Work outside of the home, n (%)	1 (11)	0 (0)	1 (25)	3 (43)	**5 (17)**
Contractor/painter	1	0	0	0	
Construction	0	1	0	0	
HR technician	0	0	0	1	
Industrial painter	0	0	0	1	
Welder	0	0	0	1	
Q8. Volunteer outside of the home, n (%)	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Q10. Reside or visit an assisted living facility or rehab facility, n (%)	0 (0)	3 (30)*	0 (0)	0 (0)	**3 (10)**
Q11. Spend nights away from home, n (%)	0 (0)	0 (0)	0 (0)	2 (29)**	**2 (7)**

* Patients visited three different locations; none on City of Flint Water

1. Three night stay in rehab facility; Flushing, MI
2. Visited assisted living facility; Flint, MI
3. Visited rehab facility; Grand Blanc, MI

**Patients stayed in two different hotels outside of Flint and stayed ≤2 nights each.

Surveillance & Infectious Disease Epidemiology

Community Exposures

Question prompt:

Q12. In the 2 weeks before you before you got sick (_____to _____), did you visit any of the following community venues?

n (%)	Healthcare Exposure		No Reported Healthcare Exposure		Total N=30
	Flint water at residence N=9	Other water at residence N=10	Flint water at residence N=4	Other water at residence N=7	
Hotel but did not stay overnight	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Auditorium	0 (0)	1 (10)	0 (0)	0 (0)	**1 (3)**
Barbershop or Hair salon (different locations)	2 (22)	2 (20)	1 (25)	2 (29)	**7 (23)**
Salon on Flint water supply	0	1	0	0	
Salon not on Flint water supply	1	1	0	2	
Unknown location	1	0	1	0	
Car Wash (different locations)	1 (11)	1 (10)	1 (25)	2 (29)	**5 (17)**
Car wash on Flint water supply	0	0	1	0	
Car wash not on Flint water supply	0	1	0	2	
Unknown location	1	0	0	0	
Casino (different locations, outside Flint)	1 (11)	1 (10)	0 (0)	1 (14)	**3 (10)**
Place of worship	3	2	1	2 (29)	**8 (27)**
St. John Vianney; on Flint water supply	2	0	0	0	
Places not on Flint water supply	0	1	1	2	
Unknown location	1	0	0	0	
Gym or Work-out facility	1 (11)	0 (0)	0 (0)	0 (0)	**1 (3)**
Grocery Store	6 (67)	6 (60)	2 (50)	6 (86)	**20 (67)***
Stores on Flint water supply:					
Save-a-Lot (Dort Hwy, Flint)	1	0	0	0	**1**
Aldi (Center St, Burton)	0	0	0	2	**2**
Kroger (Richfield Rd, Flint)	0	0	0	1	**1**
Kroger (Davison Rd, Flint)	1	0	0	0	**1**
Stores not on Flint water:					
Aldi (Pierson Rd, Flushing)	1	1	0	0	**1**
Aldi (Corunna Rd, Flint)	0	1	0	0	**1**
Kroger (Saginaw Rd, Mount Morris)	0	2	0	0	**2**

	Healthcare Exposure		No Reported Healthcare Exposure		
	Flint water at residence N=9	Other water at residence N=10	Flint water at residence N=4	Other water at residence N=7	Total N=30
Grocery stores, not on Flint water (continued)					
Kroger (State Rd, Davison)	1	0	0	1	**2**
Kroger (Pierson Rd, Flushing)	1	0	0	0	**1**
Kroger (Corunna Rd, Flint)	1	0	1	0	**2**
Meijer (Center Rd, Flint)	1	0	0	4	**5**
Meijer (Birch Run Rd, Birch Run)	0	0	0	1	**1**
Meijer (M21, Corunna)	0	1	0	0	**1**
Meijer (Swartz Creek, MI)	0	1	0	0	**1**
Meijer (Pierson Rd, Flint)	2	0	0	0	**1**
Walmart (Linden Rd, Clio)	0	1	0	1	**2**
Walmart (Court St, Burton)	0	0	0	1	**1**
Walmart (Corunna Rd, Flint)	0	0	1	0	**1**
Other	1	2	0	0	**3**
Home improvement store; none on Flint water supply	3 (33)	0 (0)	2 (50)	3 (43)	**8 (27)****
Lowes (Mansour Blvd, Flint)	1	0	0	0	**1**
Lowes (Court St, Burton)	1	0	0	0	**1**
Home Depot (Corunna Rd, Flint)	1	0	0	0	**1**
Home Depot (Pierson Rd, Flushing)	1	0	0	0	**1**
Home Depot (Court St, Burton)	0	0	1	1	**2**
Menards (Linden Rd, Clio)	0	0	0	1	**1**
Menards (Court St, Davison)	0	0	0	1	**1**
Unknown	0		1	0	**1**
Spa or nail salon	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Mall or Department store	0 (0)	1 (10)	0 (0)	0 (0)	**1 (3)**
Movie Theater	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**

* Do not sum to 20 because people visited multiple locations.

** Do not sum to 8 because people visited multiple locations.

Surveillance & Infectious Disease Epidemiology

Community Exposures by Location of Healthcare Exposure

	Healthcare Exposure (N=17)								No known healthcare exposure (N=12)		TOTAL	
	Hurley		McLaren		McLaren & Hurley		**Total**					
	n	%	n	%	n	%	**n**	**%**	n	%	**n**	**%**
Auditorium	0	0.00	1	5.88	0	0.00	**0**	**0.00**	0	0.00	**1**	**3.45**
Barbershop	1	5.88	2	11.76	1	5.88	**4**	**23.53**	3	25.00	**7**	**24.14**
Car Wash	1	5.88	0	0.00	1	5.88	**2**	**11.76**	3	25.00	**5**	**17.24**
Casino	1	5.88	0	0.00	0	0.00	**1**	**5.88**	2	16.67	**3**	**10.34**
Church	0	0.00	4	23.53	1	5.88	**5**	**29.41**	3	25.00	**8**	**27.59**
Gym	1	5.88	0	0.00	0	0.00	**1**	**5.88**	0	0.00	**1**	**3.45**
Grocery	1	5.88	9	52.94	1	5.88	**11**	**64.71**	9	75.00	**20**	**68.97**
Home Improvement Store	0	0.00	3	17.65	0	0.00	**3**	**17.65**	4	33.33	**7**	**24.14**
Spa/Nail Salon	0	0.00	0	0.00	0	0.00	**0**	**0.00**	0	0.00	**0**	**0.00**
Mall	0	0.00	0	0.00	1	5.88	**1**	**5.88**	1	8.33	**2**	**6.90**
Movie Theater	0	0.00	0	0.00	0	0.00	**0**	**0.00**	0	0.00	**0**	**0.00**

Surveillance & Infectious Disease Epidemiology

Water Exposures in the Home

Question prompt:

Q13. In the 2 weeks before you got sick (___/___/___ to ___/___/___), did you have exposure to any of the following water sources, either ***at home*** or while ***away from home***?

	Healthcare Exposure		No Reported Healthcare Exposure		
	Flint water at residence N=9	**Other water at residence N=10**	**Flint water at residence N=3***	**Other water at residence N=7**	**TOTAL N=29***
Shower	8 (89)	10 (100)	2 (75)	7 (100)	**27 (93)**
Use a detachable shower head or hose	2 (22)	2 (20)	1 (33)	3 (43)	**8 (28)**
Hot tub, whirlpool spa, Jacuzzi tub	0 (0)	0 (0)	1 (33)	1 (14)	**2 (7)**
Sat NEAR hot tub or whirlpool spa	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Steam room or wet sauna	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Humidifier	2 (22)	2 (20)	0 (0)	2 (29)	**8 (28)**
Respiratory therapy machine	4 (44)	2 (20)	0 (0)	0 (0)	**6 (21)**
CPAP	1	0	0	0	
Nebulizer	3	2	0	0	

* Number decreased compared to previous tables because of the one partial interview.

Water Exposures Outside of the Home

	Healthcare Exposure		No Reported Healthcare Exposure		
	Flint water at residence N=9	**Other water at residence N=10**	**Flint water at residence N=3**	**Other water at residence N=7**	**TOTAL N=29**
Use a detachable shower head or hose	1 (11)	0 (0)	0 (0)	0 (0)	**1 (3)**
Hot tub, whirlpool spa, Jacuzzi tub	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Sat NEAR hot tub or whirlpool spa	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Humidifier	0 (0)	0 (0)	1 (33)	0 (0)	**1 (3)**
Pool/splash pad/waterpark (different locations)	1 (11)	1 (10)	0 (0)	1 (14)	**3 (10)**
Recreational or cooling misters	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Steam room or wet sauna	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**
Decorative fountain	1 (11)	0 (0)	0 (0)	0 (0)	**1 (3)**
Outdoor watering hose or sprinkler	2 (22)	0 (0)	1 (33)	2 (29)	**5 (17)**
Beach, lake, pond, river, creek, etc.	1 (11)	0 (0)	0 (0)	1 (14)	**2 (7)**

Self-reported Comorbidities by Healthcare Exposure and Residential Water Supply

	Healthcare Exposure		No Reported Healthcare Exposure		
	Flint water at residence N=9	Other water at residence N=10	Flint water at residence N=3	Other water at residence N=7	TOTAL N=29
≥1 comorbidity	8 (89)	10 (100)	2 (67)	5 (71)	**25 (86)**
Chronic kidney disease	3 (33)	6 (60)	1 (33)	1 (14)	**11 (38)**
Immunocompromised	1 (11)	4 (40)	2 (67)	2 (29)	**9 (31)**
Diabetes	4 (44)	4 (40)	1 (33)	3 (43)	**12 (41)**
Chronic lung disease	3 (33)	6 (60)	1 (33)	2 (29)	**12 (41)**
Asthma or chronic bronchitis	3 (33)	2 (20)	1 (33)	1 (14)	**7 (24)**
Heart disease or congestive heart failure	4 (44)	5 (50)	1 (33)	2 (29)	**12 (41)**
Liver disease	0 (0)	0 (0)	0 (0)	0 (0)	**0 (0)**

Number of Self-reported Comorbidities by Healthcare Exposure and Healthcare Location

Comorbidities are self-report from interviews, hospital exposure from medical records

	Healthcare Exposure (N=19)								No known healthcare exposure (N=10)		TOTAL N=29	
	Hurley N=1		McLaren N=15		McLaren & Hurley N=3		**Total**					
	n	%	n	%	n	%	**n**	**%**	n	%	**n**	**%**
≥1 comorbidity	1	5.88	14	82.35	3	5.88	**18**	**94.12**	7	75.00	**25**	**86.21**
0 comorbid conditions	0	0.00	1	5.88	0	0.00	**1**	**5.88**	3	25.00	**4**	**13.79**
1 comorbid conditions	1	5.88	6	35.29	0	0.00	**7**	**41.18**	3	25.00	**10**	**34.48**
2 comorbid conditions	0	0.00	2	11.76	0	0.00	**2**	**11.76**	1	8.33	**3**	**10.34**
3 comorbid conditions	0	0.00	2	5.88	1	0.00	**3**	**5.88**	1	25.00	**4**	**13.79**
4 comorbid conditions	0	0.00	3	23.53	2	5.88	**5**	**29.41**	1	8.33	**6**	**20.69**
5 comorbid conditions	0	0.00	1	5.88	0	0.00	**1**	**5.88**	0	0.00	**1**	**3.45**
6 comorbid conditions	0	0.00	0	0.00	0	0.00	**0**	**0.00**	1	8.33	**1**	**3.45**

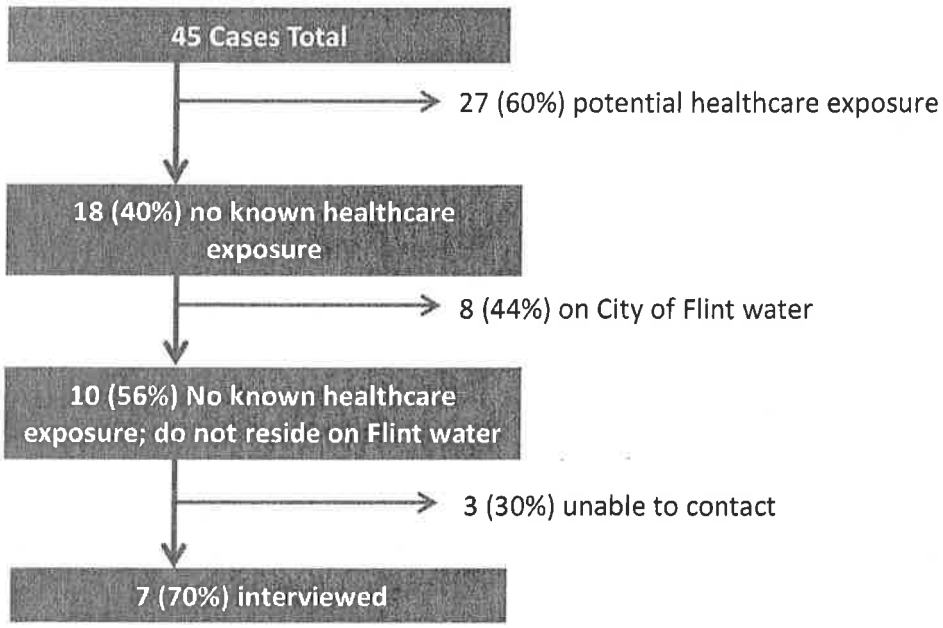
Patient-reported Health Behaviors by Healthcare Exposure and Residential Water Supply

	Healthcare Exposure		No Reported Healthcare Exposure		
	Flint water at residence N=9	Other water at residence N=10	Flint water at residence N=3	Other water at residence N=7	TOTAL N=29
Former or current smoker, n (%)	8 (89)	6 (60)	3 (100)	7 (100)	24 (83)
Median packs per day (range)	1 (0.15–2)	1 (0.5–2)	1 (0.14–3.5)	1 (0.21–3.5)	1 (0.14–3.5
Median years (range)	35 (25–45)	32.5(20–48)	30	30 (15–35)	30 (15–48)
Drinks alcohol, n (%)	4	2	0	3	9 (31)
Median drinks per day (range)	2	0.15 (0.1–0.2)	n/a	1 (0.2–2)	1 (0.1–2)
Median years (range)	1	51 (45–57)	n/a	UNK	45 (1–57)

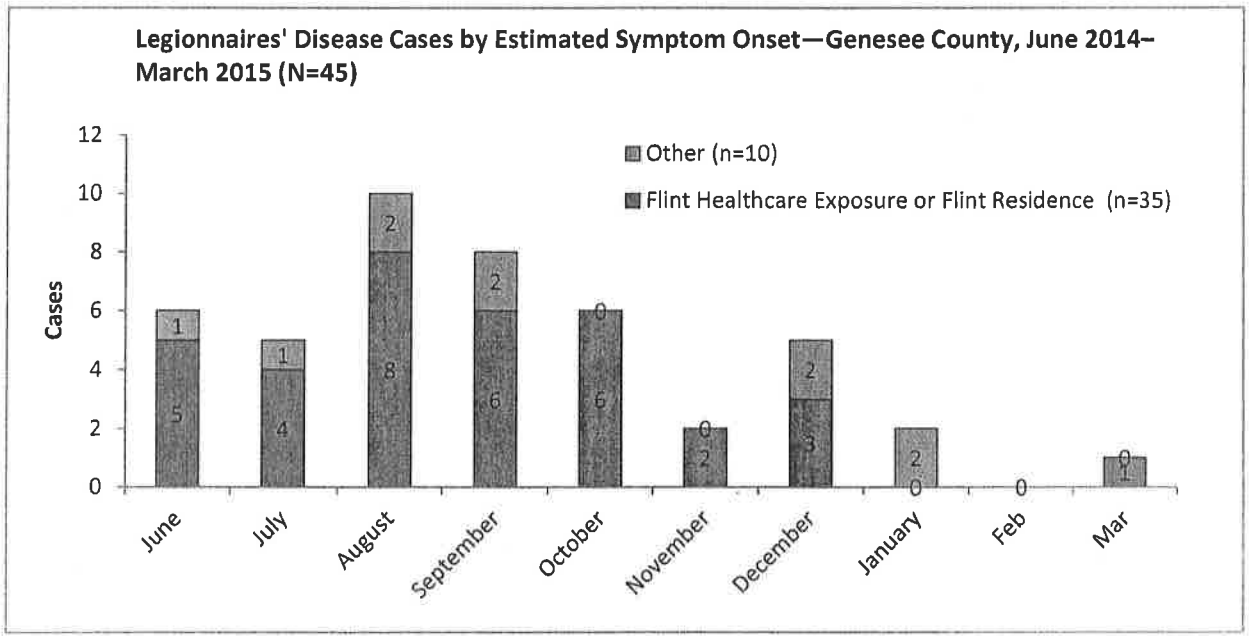
Surveillance & Infectious Disease Epidemiology

Cases with No Known Healthcare Exposure and Residence not on Flint Water Supply

Case Flow-chart

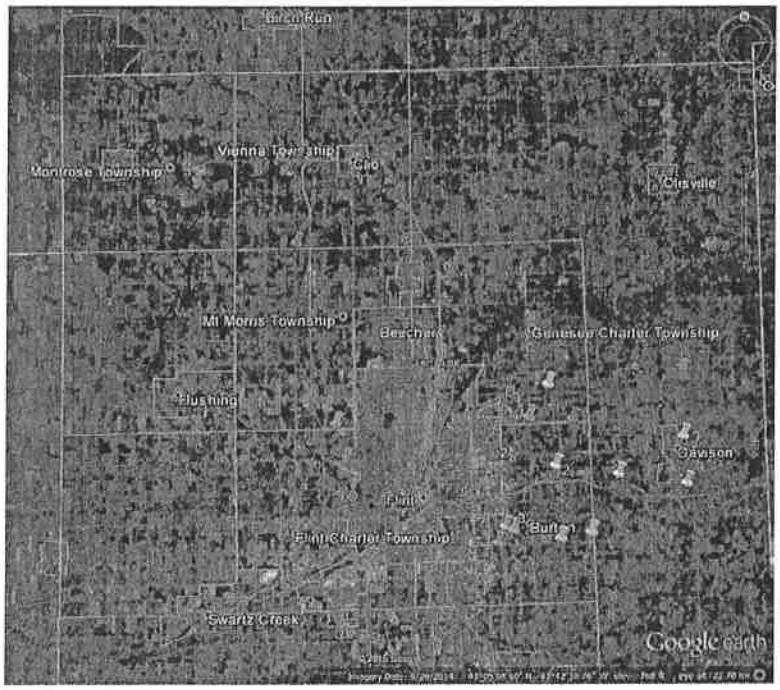


Epi Curve



Map of Community Exposures

We mapped the community locations visited by the 10 cases with unknown exposures (no known healthcare exposure and do not reside on Flint water supply) during the 14 days prior to symptom onset. Pins are color-coded by case. With exception of 2 grocery stores, none of the cases reported visiting the same locations. The majority of community locations were located outside of Flint or in Flint but were not supplied by City of Flint water.



Same map, zoomed in

Potential Exposures

Epi Info Case ID	Symptom Onset Date	Exposure	Notes
3	6/14/2014	Potential occupational	48-year-old male who is a painter and works inside of large industrial tanks with exposure to misty water. He reports wearing an air hood and using an air compressor. He cleaned a tank containing stagnant water 8 days prior to illness onset
16	7/6/2014	Unknown	47-year-old female who did not report any healthcare visits or community exposures to locations supplied by Flint water.
15	8/23/2014	Potential community (Flint water)	68-year-old male who reported visiting Flint grocery store that is supplied by City of Flint water. He spent 2 nights at hotel outside of Flint during exposure period.
32	8/23/2014	Potential community (Flint water)	Not interviewed with Legionellosis questionnaire. While hospitalized, 31-year-old female reported staying in a Flint motel, which is supplied by City of Flint water, during her exposure period.
10	9/18/2014	Unknown	48-year-old male who works as a welder and lives in a trailer park community with his 65 year old mother, who also had a positive Legionella urinary antigen test but was asymptomatic. The mother was tested while son was hospitalized.
36	9/19/2014	Unknown	Not interviewed
20	12/7/2014	Potential Healthcare	69-year-old female who was hospitalized 10 days for cancer treatment at McLaren and discharged the day before her exposure period began.
38	12/20/2014	Unknown	Not interviewed
18	1/1/2015	Potential community (Flint water)	48 year old male who visited two Flint grocery stores that are supplied by City of Flint water. Had a outpatient visit to a Clinc that borders Flint water
22	1/6/2015	Unknown	62 year old male with no reported exposures to locations on Flint water.

Surveillance & Infectious Disease Epidemiology

Summary of December and January Cases

Cases with unknown exposure may represent sporadic cases; however, cases in December and January are rare. The table below summarizes the 4 cases with symptom onset during December 2014–January 2015 that did not report a healthcare exposure or residence on Flint water supply.

Epi Info Case ID	Age (years), Sex	Symptom onset date	Legionellosis diagnosis date	Medical History	History of Smoking and Alcohol use	Notes
20	69, F	12/7/14	12/11/14	Metastatic ovarian cancer, recently diagnosed brain stem mass	Quit smoking 20 years ago (smoked for 30 years); Does not drink	Patient was hospitalized in McLaren for whole brain radiation 11/14/14–11/21/14 (prior to exposure period). Patient died.
38	71, M	12/20/14	12/25/14	Diabetes, prostate cancer, hypertension	Denied smoking and alcohol use	Not interviewed.
18	48, M	1/1/15	1/16/15	COPD, CAD	Smoker (1 pack per day for >35 years); Chronic alcohol abuse	Patient reports visiting two Flint grocery stores that are supplied by City of Flint water. He had an outpatient visit to a practice that is not on Flint water. He is unemployed.
22	62, M	1/6/15	1/13/15	Diffuse large cell B lymphoma that relapsed 10/7/14. Bone marrow transplant in last year but not on immunosuppressive meds at time of symptom onset.	Smoker (60-80 pack year history for 35 years); 1–2 drinks per week	No reported exposures to Flint water in community. Patient spent one night at hotel outside of Flint during exposure period.

Henry, James

From:	Hudson, Russell <Russell.Hudson@mclaren.org>
Sent:	Monday, June 15, 2015 2:01 PM
To:	Henry, James
Subject:	McLaren Flint policies
Attachments:	Water Mgmt Incl Legionella Prevent.pdf; Water Supply Failure (Code W).pdf

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

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McLaren FLINT	Policy Title: Water Management Including Legionella Prevention	
Effective Date: 2/01 Review Dates: 12/16 Revised: 12/04, 4/07, 11/10, 5/14, 12/14	Oversight Level: Level 2	Policy No: EG-101
McLaren Flint Business Unit: Engineering	Functional Responsibility for the Policy: Engineering Department	

Objective: To ensure safe water management for McLaren Flint

Scope: All departments, units, clinics and facilities under the direction of McLaren Flint

Definitions: McLaren Flint shall provide a potable water supply for drinking, food preparation, hand washing, and personal hygiene for patients, visitors, and employees.

Provisions:

A. When potable (drinking) water is not available, a potable supply will be furnished. Engineering shall establish sources for potable water per policy and arrange for supplies in times of water interruption (See Engineering Procedure Manual).

B. If there is a break in the water system to the facility, the municipal water supplier is responsible for testing the water. As a precaution, a copy of the city's report shall be obtained and reviewed by engineering to confirm results.

C. If there is a potential internal or external contamination of the water system within the facility and the need for testing is evident, water samples shall be collected by a third-party consultant and sent to a licensed laboratory for analysis.

D. All construction areas with new plumbing fixtures shall have water samples collected by a third-party consultant and sent to a licensed laboratory for analysis prior to use.

E. If a disruption of service is planned or occurs spontaneously, Engineering shall notify Infection Control and the managers of the affected area, establish a potable water source, and conduct water testing if required. The Infection Preventionist, along with area managers, shall notify and educate staff, patients, and visitors as to the source and use of the temporary potable water supply.

F. Only potable water can be used for drinking, food preparation, handwashing, and personal hygiene. In the event of a water shortage or disruption in service, an alcohol-based hand rinse may be used temporarily until access to a potable water source has been established. Alcohol-based hand rinses shall not replace hand washing on a permanent basis.

G. Anti-siphon valves shall be installed on faucets used for dialysis to prevent backflow and contamination during use.

H. Incoming potable water contains chlorine for continued disinfecting. McLaren Flint may inject additional chlorine to reduce or remove microbe colonization within the water system. Chlorine levels are checked twice per week to assure levels are adequate for prevention of Legionella growth (1-2 mg/L while remaining within standards of the Environmental Protection Agency.) These records are maintained by Engineering Services and are made available to the Infection Control Coordinator upon request.

I. Environmental Services shall flush all showers and faucets of all plumbing fixtures at the time of routine cleaning. Faucets shall be wiped with a disinfectant during the daily cleaning. Aerators containing sediment that has compromised the output and cannot be properly cleaned shall be reported to Engineering for service.

J. Cooling tower water management shall be treated for microbial growth using approved chemical disinfectants. Treatment schedules shall be dictated by the type of disinfectant and recommended concentration. Cooling tower maintenance and treatment records shall be maintained by Engineering. Testing, treatment, and documentation shall be maintained by Engineering.

K. Water system shall be flushed with chlorine or monochloramine on at a minimum of twice a year basis. During system flushing bottled water and coolers of ice shall be made available to floors for patient and staff use. (See the Engineering Procedure Manual for a detailed reference to the hyperchlorination process.)

L. Water management issues shall be reported to the Environment of Care Committee quarterly. In case of abnormal events or trends, the Infection Control Coordinator shall be consulted for recommendation.

Administrative Responsibility: Infection Control, Engineering Services

References: Association for Professionals in Infection Control and Epidemiology, Inc. APIC Text of Infection Control and Epidemiology: Principles and Practice; 2014, Chapter 84

Engineering Procedure Manual

APPROVAL:

Donald Kooy
President and CEO

McLaren FLINT	Policy Title: Water Supply Failure (Code W)	
Effective Date: 4/2015 Reviewed: Revised:	Oversight Level: Level 2	Policy No: EG-105
McLaren Flint Business Unit: Engineering Department	Functional Responsibility for the Policy: Director of Engineering	

Objective: McLaren Flint Hospital campus will be able to prepare for, respond to, and recover from a total or partial interruption of McLaren Flint's normal water supply.

Scope: This policy applies to McLaren Flint Hospital, the adjacent outpatient sites and all immediate grounds.

Policy: A water supply failure can be categorized as one of multiple types of system disruptions:

1. Visibly Discolored Water
2. Water Boil Advisory
3. Scheduled Interruption of Water Supply
4. Emergency Loss of Water Supply

Visibly Discolored Water

Visibly discolored water can be defined when the appearance of potable water, specifically, is iron-tinted and or yellow in color. There are two major sources that can cause water to be discolored – flow changes in the municipal distribution system caused by a main leak, valve failure or an open fire hydrant, and/or a flow change to the internal water system of the building. Discolored water is not a health threat even though it is not very appealing to drink. Even very low levels of iron can color the water.

1. Engineering Services shall recommend the affected area run water continuously (or flush) for a minimum of five (5) minutes or until it clears of the discoloration. If water does not clear within five (5) minutes contact Engineering Services via a work order using AIMS, the Computerized Maintenance Management System (CMMS).

2. In the event that the five (5) minute flush is not successful, Engineering Services will investigate the cause of the discoloration, which may include contacting the City of Flint or appropriate municipality to determine if discoloration is externally caused.

3. Based on information gathered from the municipality or knowledge of the source, Engineering Services will determine if a Code W shall be announced.

Boil-Water Advisory

A boil-water advisory or boil-water order is a public health advisory or directive given by government or health authorities to consumers when a community's drinking water is, or could be, contaminated by pathogens.

1. Boil Advisory notification received from the City of Flint, Flint Township, Genesee County Health Department or another governmental agency, such as the EPA.

2. Engineering Services is to establish and maintain direct contact with the governmental agency to determine location/boundaries of the advisory, estimate the duration of the advisory and provide a status report.

3. Engineering Services shall direct a Code W to be announced over head, with duration and details, if known.

4. Communications will immediately begin notification of critical departments by direct phone call and shall document the contact. (see Attachment A)

5. The Incident Commander and /or Nursing Supervisor with Administration shall determine if the HIC (Hospital Incident Command) is needed for communication management purposes. If so a Code Triage alert shall be announced overhead and paged to all HIC.

6. Engineering Services will shut off the water source to ice machines and drinking fountains, following the Engineering Services Ice Machine policy. The remaining ice in the ice machines shall not be used for human consumption. The ice may be utilized within ice packs. Signs shall be posted indicating the inability to use these units.

7. Distribution of potable water and the appropriate dispensing apparatus to departments for drinking purposes and hand-washing shall be conducted by Engineering Services.

8. Departmental-specific procedures including alternate hand washing protocols are instituted.

9. The sanitary sewer system (toilets, urinals and drains) may still be used.

10. All affected departments shall enact departmental-specific water conservation procedures. If deemed necessary, Engineering Services shall enact the "Extreme Conservation Procedures" of the Disaster Internal/External Engineering policy.

Scheduled Interruption of Water Supply

A scheduled interruption of water supply includes a total loss or reduced volume of the municipal water supply. The loss may be internally created or by a municipality. Prior notice will be given to all areas affected.

1. All attempts will be made to provide a minimum of 48 hour notice to the affected areas or buildings.

2. Engineering Services is to establish and maintain direct contact with the governmental agency to determine the area affected and estimate the duration of the interruption and provide status reports as necessary.

3. Administration and Engineering shall determine if the HIC (Hospital Incident Command) is necessary for communication management. If so the HCC will be set up ahead of the scheduled interruption.

4. Distribution of potable water and the appropriate dispensing apparatus to departments for drinking purposes and hand-washing shall be conducted by Engineering Services.

5. Engineering services will contact the bottled water supplier to increase the bottled potable water supply and dispensing apparatus available for drinking use and hand washing prior to the interruption to maintain a minimum of fifty (50) 5-gallon bottles at the hospital during the water interruption.

6. Engineering Services will shut off the water source to ice machines and drinking fountains, following the Engineering Services Ice Machine policy. The remaining ice in the ice machines may be dispensed and used. Signs shall be posted indicating the inability to use these units once the ice has been completely dispensed.

7. All affected departments shall enact departmental-specific water conservation procedures. If deemed necessary, Engineering Services shall enact the "Extreme Conservation Procedures" of the Disaster Internal/External Engineering policy.

8. If water shut down duration is anticipated to be greater than four (4) hours, Engineering Services will contract to provide portable sanitary toilets for staff and visitor use.

9. The sanitary sewer system (toilets, urinals and drains) may not be used.

10. Code W shall be announced overhead with duration and details.

11. Engineering Services shall update a Code W status report every hour to staff via an overhead page.

12. Engineering Services shall contact the State of Michigan Fire Marshal.

13. Engineering Services will institute a fire watch for affected areas.

14. In the event of a prolonged interruption or unforeseen emergency Administration shall initiate a code triage alert.

<u>Emergency Loss of Water Supply</u>

An emergency loss of water supply includes a total loss or reduced municipal water supply, with no prior notice. The loss may be internally created or by a municipality.

1. Engineering Services is to establish and maintain direct contact with the governmental agency to determine the area affected and estimate the duration of the interruption and provide status reports as necessary.

2. Engineering Services shall contact the State of Michigan Fire Marshal.

3. Engineering Services will institute a fire watch for affected areas.

4. All affected departments shall enact the departmental-specific water conservation procedures. If deemed necessary, Engineering Services shall enact the "Extreme Conservation Procedures" of the Disaster Internal/External Engineering policy.

5. Administration and Engineering shall determine if the HIC (Hospital Incident Command) is necessary for communication management. If so a code triage alert will be announced.

6. Code W shall be announced overhead with duration and details.

7. Engineering Services shall update a Code W status report every hour to staff via an overhead page.

8. Communications will immediately begin notification of critical departments by direct phone call and shall document the contact. (see Attachment A)

9. All affected departments shall enact the departmental-specific water conservation procedures. If deemed necessary, Engineering Services shall enact the "Extreme

Condition Conservation" procedures of the Disaster Internal/External Engineering policy.

10. Distribution of potable water and the appropriate dispensing apparatus to departments for drinking purposes and hand-washing shall be conducted by Engineering Services.

11. Engineering services will contact the bottled water supplier to supplement the potable water supply and dispensing apparatus available for drinking use to maintain a minimum of fifty (50) 5-gallon bottles at the hospital.

12. Engineering Services will shut off the water source to ice machines and drinking fountains, following the Engineering Services Ice Machine policy. The remaining ice in the ice machines may be dispensed and used. Signs shall be posted indicating the inability to use these units once the ice has been completely dispensed.

13. If water shut down duration is anticipated to be greater than four (4) hours, Engineering Services will contract to provide portable sanitary toilets for staff and visitor use.

14. The sanitary sewer system (toilets, urinals and drains) may not be used.

Definitions:

Boil-water advisory : a public health advisory or directive given by government or health authorities to consumers when a community's drinking water is, or could be, contaminated by pathogens

Code W: a water supply failure/Interruption

Emergency loss of water supply: a total loss or reduced municipal water supply, with no prior notice. The loss may be internally created or by a municipality.

Fire Watch: a person or persons assigned to an area for the purpose of protecting the occupants from fire or similar emergencies. (NFPA 101, *Life Safety Code*, §3.3.77, 2000 edition)

Municipal Water: water originating from a ground or surface water source (raw water) which is purified through a treatment process, stored and distributed using a distribution system network of pumping stations and underground piping to the user.

Potable water: water suitable for drinking and hand washing.

Scheduled interruption of water supply: a total loss or reduced municipal water supply. The loss may be internally created or by a municipality. Prior notice will be given to all areas affected.

Visibly discolored water: when the appearance of potable water, specifically, is iron-tinted and or yellow in color. There are two major sources that can cause water to be discolored – flow changes in the municipal distribution system caused by a main leak, valve failure or an open fire hydrant, and/or a flow change to the internal water system of the building. Discolored water is not a health threat even though it is not very appealing to drink. Even very low levels of iron can color the water.

Provisions:

The City of Flint provides municipal water and monitors the quality of water provided to McLaren Flint Hospital, Ballenger MRI, Surgery and Endoscopy Center, McLaren Imaging Center, Barbara Ann Karmanos-McLaren Flint Cancer Center and Proton Beam.

Flint Township provides municipal water to Medical Education, Beech Hill Centre, McLaren

Corporate Offices, McLaren Health Plan, and the McLaren Hospitality House.

250 gallons of potable water are stored on site and stock is checked periodically.

Administrative Responsibility: McLaren Flint Director of Engineering has overall administrative responsibility for this policy.

Exception Provisions: McLaren Flint Incident Commander, State of Michigan Fire Marshal, McLaren Flint Director of Engineering, Vice President of Ancillary and Support Services and/or Chief Executive Officer may supersede any or all of the above noted directives with expressed written documentation.

References or Appendices: Extreme Condition Conservation procedures, Disaster Internal/External policy

Departmental Contact Numbers - Attachment A

APPROVAL:

Donald Kooy
President and CEO

McLaren FLINT	Policy Title: Water Management Including Legionella Prevention	
Effective Date: 2/01 Review Dates: 12/16 Revised: 12/04, 4/07, 11/10, 5/14, 12/14	Oversight Level: Level 2	Policy No: EG-101
McLaren Flint Business Unit: Engineering	Functional Responsibility for the Policy: Engineering Department	

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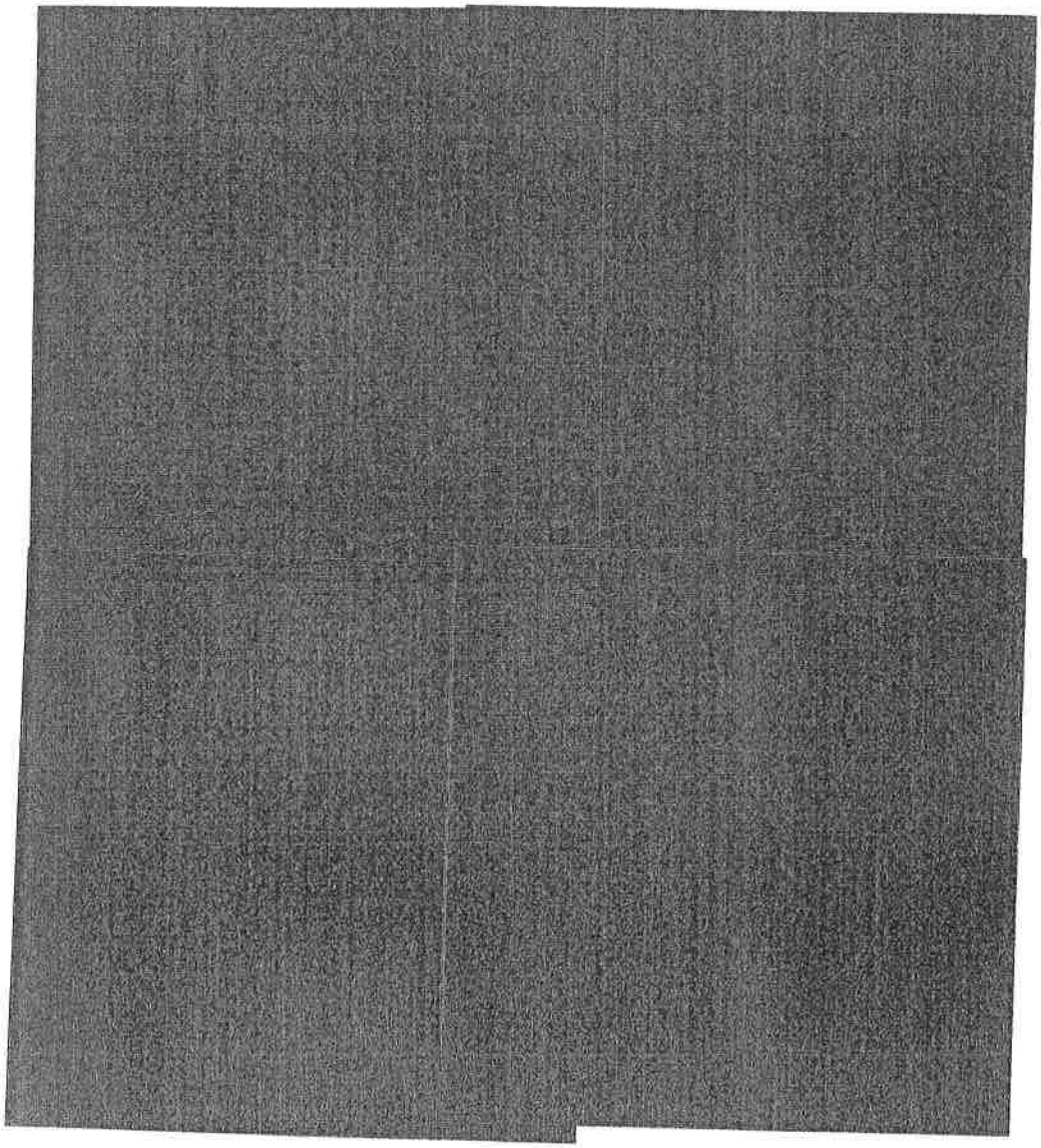
G. Anti-siphon valves shall be installed on faucets used for dialysis to prevent backflow and contamination during use.

GCHD

INTERVENTION



Henry, James

From: Henry, James
Sent: Tuesday, June 30, 2015 12:39 PM
To: Hudson, Russell
Cc: 'scupal@gchd.us'
Subject: Legionella Update

Good afternoon Rusty,

Recently, GCHD has seen an increase of Legionella cases, as expected with the warmer weather. Currently and similar to last year, the majority of the confirmed cases in Genesee County have an association with McLaren Hospital. Most case scenarios involve admittance to the hospital and after discharge, return and diagnosis of legionella.

The efforts to mitigate Legionella within the hospital water system are appreciated. Although, hyperchlorination has had limited success, the Genesee County Health Department is requesting a more aggressive approach for mitigation.

The company below, Special Pathogens Laboratory, are experts that specialize in Legionella. They have been successful at mitigation with many diverse organizations throughout the United states, including other hospitals in Michigan. They have been a great resource for my office during our investigation and you may want to consider contacting them. Dr. Janet Stout, Director is off this week, but I spoke with Kim Carden, this morning and she would be a good point of contact. kcarden@specialpathogenslaboratory.com

Special Pathogens Laboratory, www.specialpathogenslab.com
1401 Forbes Ave. Suite 209
Pittsburgh, PA 15219
(412) 281-5335

Please keep me informed of your efforts and feel free to contact me any time.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Hudson, Russell [mailto:Russell.Hudson@mclaren.org]
Sent: Monday, June 15, 2015 2:01 PM
To: Henry, James
Subject: McLaren Flint policies

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

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Henry, James

From: Hudson, Russell <Russell.Hudson@mclaren.org>
Sent: Friday, July 3, 2015 11:45 AM
To: kcarden@specialpathogenslaboratory.com
Cc: Henry, James; Wheeler, Brent
Subject: McLaren Flint,

Kim,

My name is Rusty Hudson, I am the Director of Engineering Services at McLaren Flint, Flint Michigan. As you may know from conversations with Jim Henry of the Genesee County Health Department, our community and our hospital has experienced an increase in Legionella cases over the past year. Jim provided me with your name (and that of Dr. Janet Stout) as a "great resource" during their investigation.

I would like to talk with you regarding our efforts and our future plans to mitigate Legionella within the hospital water system and what additional opportunities we may consider.

I leaving shortly for the weekend, but will return on Monday. Feel free to return my email with some times in which we may talk or you can reach me at the number below.

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Henry, James

From: Connolly, Stephanie
Sent: Thursday, July 2, 2015 10:31 AM
To: Childs, Bonnie; Cupal, Suzanne; Henry, James
Cc: Kremlick, Denise
Subject: Legionella

Today, we received two more legionella cases from McLaren. We don't have complete information on both at this time. One client died on 06/30/2015; he was 83; lived in City of Flint; was previously admitted at McLaren 06/16 to 06/23 for swelling in his right shoulder; this client was discharged home to daughter's residence on 06/23/2015, but was subsequently placed at the Medilodge of Montrose for a few days before his re-admit to McLaren on 06/30/2015. I hesitate to interview the family since the client's death just occurred; I would like to wait until the beginning of next week to do this interview. The other case is a female, and Kim is just entering this case; we don't have notes on it yet.

Also, of importance, McLaren received a positive sputum culture from MDCH; this sputum culture was reported as negative from McLaren, but MDCH is giving a preliminary identification of Legionella pneumophila. I believe this is the first SPUTUM positive for legionella.

Henry, James

From: Henry, James
Sent: Wednesday, July 8, 2015 10:11 AM
To: 'MVALACAK@gchd.us'; 'scupal@gchd.us'
Subject: McLaren / Legionella Update

Good Morning,

We are at 11 cases since May; one in May, seven in June and three already in July. 10 of the cases have had associations with McLaren. The other one was admitted to Hurley, 3 months prior to diagnosis, but resides in Flint approximately two miles north of McLaren. We still do not have a clinical isolate, there is currently one at McLaren Lab. I do not know if MDHHS, is actively assisting with the process. here has been one recent death of an 83yo male with underlying medical conditions, but he was admitted to McLaren for an injured shoulder from a fall.

In the correspondence below, I made a request that McLaren take a more aggressive approach for mitigation and provided the contact information for the consultant in Pittsburg, Special Pathogens Lab, Dr. Janet Stout. McLaren has made contact with Dr. Stout and is pursuing further action. Also, McLaren will be conducting the monthly sampling soon, which I'll request that samples be provided to MDHHS to eventually compare with clinical isolates.

Thanks Jim

------ Original message------
From: Hudson , Russell
Date: Tue, Jul 7, 2015 4:02 PM
To: James Henry;
Subject:RE: Legionella Update

Jim, I had a great phone conversation with Dr. Janet Stout, she and I talked for over 45 minutes. We are to talk later this week or in a couple weeks (she is out of town next week) with a larger group (conference call).

I am excited that she will be a great resource…and may lead our group towards some resolutions.

Rusty Hudson, Assoc. AIA

Director, Engineering Services

McLaren Flint

russell.hudson@mclaren.org

(810) 342-2552 office

Henry, James

From: Henry, James
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(412) 281-5335

Please keep me informed of your efforts and feel free to contact me any time.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
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Subject: Legionella Update

Good afternoon Rusty,

Recently , GCHD has seen an increase of Legionella cases, as expected with the warmer weather. Currently and similar to last year, the majority of the confirmed cases in Genesee County have an association with McLaren Hospital. Most case scenarios involve admittance to the hospital and after discharge, return and diagnosis of legionella.

The efforts to mitigate Legionella within the hospital water system are appreciated. Although, hyperchlorination has had limited success, the Genesee County Health Department is requesting a more aggressive approach for mitigation.

The company below, Special Pathogens Laboratory, are experts that specialize in Legionella. They have been successful at mitigation with many diverse organizations throughout the United states, including other hospitals in Michigan. They have been a great resource for my office during our investigation and you may want to consider contacting them. Dr. Janet Stout, Director is off this week, but I spoke with Kim Carden, this morning and she would be a good point of contact. kcarden@specialpathogenslab.com

Special Pathogens Laboratory, www.specialpathogenslab.com
1401 Forbes Ave. Suite 209
Pittsburgh, PA 15219
(412) 281-5335

lease keep me informed of your efforts and feel free to contact me any time.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

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Henry, James

From: Henry, James
Sent: Friday, July 10, 2015 11:32 AM
To: Howard Croft
Cc: 'MVALACAK@gchd.us'; 'scupal@gchd.us'; 'GJOHNSON@gchd.us'
Subject: RE: Water Quality Update

Howard, Thanks for the update. I'm copying Mark, Dr. Johnson and Suzanne to keep them informed of your activities.

We haven't been receiving customer complaints regarding water quality for quite some time, several months. We still have concerns regarding Legionella and have been seeing an increase with the warmer weather, as expected. Currently, the 11 confirmed cases in Genesee County all have some association with the Flint water system, but in general, most of the exposures appear to be limited to a specific establishment.

Also, I'm interested to meet with the small group at the water treatment plant.

Thanks Jim
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
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From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Thursday, July 9, 2015 10:33 AM
To: Aaron Dionne; Amy Hovey; Brennan Elm Park Senior Community Corporation; Carma Lewis; catherine.sheppard; cbruett; Chris Zuwala; City Of Flint; Clarence Pierce; claytons3; connie.russell; crmcclinton; ctomm; Diana Phillips; dpmgt; flintfreedom_fund; Florlisa Stebbins; gla; Jack Stock; Jackie Poplar; Henry, James; Jamie Gaskin; Janet Van De Winkle; Jason Caya; jcurtis; jiking155; jmanse; John Waddell; johnsonreid; jwright@co.genesee.mi.us; kboles@valleyaaa.org; Kevin J. Keane; kevin.roach; khamlet; kittle.robert; kroddy; LaMonica Harris; Laura Sullivan; lisa.poma; LWatkins@flintschools.org; mcarnevale; mddst; Megan Hunter; Melissa Mays; Mike Sargent; mmelenbrink; Montel Menifee; nkopek; Norb Birchmeier; Pete Levine; rcarter; Rebecca Fedewa; repphelps@house.mi.gov; revalharris1; rstanley; Russell Hudson; sborrego; sheldonneeley; suptmarshall; Tony Martin; William Hammond
Cc: Michael Glasgow; Elizabeth Murphy
Subject: Water Quality Update

Water Advisory Committee,

Several months have passed since our last meeting and I am writing to update everyone on the most recent events surrounding water and our future plans.

The highly recommended Granulated Activated Carbon installation has started this week and is expected to be in use very soon. This filter change has been recognized by a range of experts as having a significant impact on water quality and should ensure good test results in our August testing cycle subsequently removing the City from Violation status.

In addition to the filter change, many of our other initiatives are either completed or are in motion.

1. We now have an easy to locate webpage dedicated to water that provides recent and past information to the public and helps to maintain transparency. This can be found at the City of Flint website under the heading RESIDENTS and then WATER.

2. We increased our normal valve testing fivefold and have now identified where the majority of inoperable valves are located throughout the City.

3. A system wide leak detection process has been approved and is scheduled to start in August and is expected to take 10 – 14 weeks to complete.

4. The contract has been signed to replace residential water meters citywide and this process will begin in early August.

5. Chemical dosing and jar testing has continued which has allowed us to monitor and respond to changing conditions with increased accuracy.

6. Our hydraulic model continues to be populated with data and will be a useful tool in helping to pinpoint irregularities within the system.

7. We have maintained a close relationship with the schools and hospitals in order to support all residential questions and concerns.

8. We continue to offer free water tests to anyone requesting this service – please contact us via email at or phone 810-787-6537.

These initiatives are a portion of the increased efforts to provide quality water and to enhance our transparency and customer service.

Please let us know if you are interested in meeting or participating in small groups of six to eight people to visit the Treatment Plant with the opportunity to ask any questions of our staff. If you are interested in being a part of a scheduled visit please respond to me via email and we will work to make the arrangements.

Please visit the City website frequently for updated information and we look forward to our next correspondence with everyone.

Thank you,

--

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street

Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Henry, James

From: Connolly, Stephanie
Sent: Monday, July 13, 2015 12:01 PM
To: Cupal, Suzanne; Henry, James
Cc: Childs, Bonnie; Kremlick, Denise
Subject: Legionella

Hi all,

We received another McLaren legionella referral today. This particular client has not been a McLaren inpatient since 2013. She was admitted 07/09 and discharged on 07/11/2015. A sputum was collected, but was contaminated, so, it will not be run by the McLaren lab. The client lives on Bermuda Lane in Mt.Morris. She says that she gets her water from the Beecher water supply, but that she does drink bottled water. She states that there was a water line break on her street, but that was two months ago. I will complete her questionnaire and scan into MDSS. Thankfully, this lady sounds like she is doing well.

Henry, James

From: Kremlick, Denise
Sent: Tuesday, July 14, 2015 10:15 AM
To: Cupal, Suzanne; Henry, James
Cc: LaRocco, Toni; Connolly, Stephanie; Childs, Bonnie
Subject: 2 new Legionellosis cases

Just a heads up: we received two new Legionella Urinary antigens:

1. Per note from Mclaren IC, Patient was admitted 7/12/2015 for healthcare acquired pneumonia COPD exacerbation renal insufficiency had previous admission from 6/26/2015 to 7/1/2015 for respiratory failure, CHF, COPD. P.c. to Mclaren IC, they will fax medical record.
2. Admitted to Genesys 7/13/15, previous admissions to Genesys for aortic valve replacement.

Henry, James

From: Connolly, Stephanie
Sent: Monday, July 20, 2015 3:51 PM
To: Cupal, Suzanne; Henry, James
Cc: Childs, Bonnie; Kremlick, Denise
Subject: Legionella

Hi everyone,

We received a legionella result from Genesys today (just admitted today). The client is an 85 year old male with a past medical hx of leukemia; the last chemo was one month ago. The client has a remote hx of diverticulitis. He did smoke for 20 years but quit a long time ago. His current residence is in Burton. I called Genesys and spoke to his nurse. She states client will not be able to do a phone interview because he is extremely hard of hearing, and is weak. I was given the number for two of his daughters. They apparently know that his diagnosis is pneumonia, but probably don't know about the legionella diagnosis.

Henry, James

From: Henry, James
Sent: Thursday, July 30, 2015 4:39 PM
To: Johnson, M.D., Gary; GCHD-CDIRT
Subject: RE: Legionella Inquiries Update

Dr. J

Thanks for setting up the meeting. Below is my recent email correspondence with the Environmental Health Director at McLaren. In summary, I had requested that the hospital be more aggressive with Legionella mitigation and provided the contact information for Dr. Janet Stout, Special Pathogens Laboratory. They are working with the consultant and changing some procedures other than hyper chlorination. I'll get an update from the hospital before our meeting next Tuesday.

July 22, 2015

Jim,

Yes we have had two more Legionella cases this month. We are working with Clinical Pathogens (Dr. Stout's group), she and I have talked for a better part of one hour on Tuesday July 7 , then she was a conference all week long last week, so we are holding a conference call with a larger group (she, her technical advisor and our McLaren "water committee") on Friday.

To date no one from MDHHS has contacted me regarding our water samples. Let me present this to our committee. What/who would we be comparing our samples to?

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Wednesday, July 22, 2015 2:05 PM
To: Hudson, Russell
Subject: RE: Legionella

Hi Rusty,

We have seen a few more Legionella cases with associations with the hospital. I was wondering how thing are progressing and if you're working with Dr. Janet Stout's group. Also, MDHHS has inquired about obtaining the hospital's positive legionella water samples to compare with clinical isolates. I do not know where you stand on this, but will you let me know if you want to provide the water samples for comparison.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
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From: Hudson, Russell [mailto:Russell.Hudson@mclaren.org]
Sent: Tuesday, July 7, 2015 4:02 PM
To: Henry, James
Subject: RE: Legionella Update

Not a problem, Jim. I had a great phone conversation with Janet Stout, she and I talked for over 45 minutes. We are to talk later this week or in a couple weeks (she is out of town next week) with a larger group (conference call).

I am excited that she will be a great resource...and may lead our group towards some resolutions.

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

From: James Henry [mailto:jhenry@gchd.us]
Sent: Tuesday, June 30, 2015 12:39 PM
To: Hudson, Russell
Cc: scupal@gchd.us
Subject: Legionella Update

Good afternoon Rusty,

Recently, GCHD has seen an increase of Legionella cases, as expected with the warmer weather. Currently and similar to last year, the majority of the confirmed cases in Genesee County have an association with McLaren Hospital. Most case scenarios involve admittance to the hospital and after discharge, return and diagnosis of legionella.

The efforts to mitigate Legionella within the hospital water system are appreciated. Although, hyperchlorination has had limited success, the Genesee County Health Department is requesting a more aggressive approach for mitigation.

The company below, Special Pathogens Laboratory, are experts that specialize in Legionella. They have been successful at mitigation with many diverse organizations throughout the United states, including other hospitals in Michigan. They have been a great resource for my office during our investigation and you may want to consider contacting them. Dr.

Janet Stout, Director is off this week, but I spoke with Kim Carden, this morning and she would be a good point of contact. kcarden@specialpathogenslaboratory.com

Special Pathogens Laboratory, www.specialpathogenslab.com
1401 Forbes Ave. Suite 209
Pittsburgh, PA 15219
(412) 281-5335

Please keep me informed of your efforts and feel free to contact me any time.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
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There will be a C-DIRT meeting in the EOC on Tues, August 4th at 10:30am concerning public inquiries of persons diagnosed with legionella.

Henry, James

From: Connolly, Stephanie
Sent: Thursday, August 6, 2015 12:28 PM
To: Cupal, Suzanne; Henry, James; Johnson, M.D., Gary
Cc: Childs, Bonnie; Kremlick, Denise
Subject: Legionella

We received two additional cases of Legionella this am from McLaren. Both of the cases had a hx of previous recent admissions to McLaren. Denise has been able to interview her client. She was being treated for a kidney condition and had been given immunosuppressive meds. My client's previous admit was for heart & renal problems, and I'm still awaiting the notes on this one.

Henry, James

From: Kremlick, Denise
Sent: Friday, July 31, 2015 11:26 AM
To: Cupal, Suzanne; Childs, Bonnie; Connolly, Stephanie; Henry, James
Subject: New Legionella

We received a new Legionella report from McLaren. Client was initially hospitalized at Lapeer on 7/6 and diagnosed with pneumonia. He was transferred to Mclaren for persistent Atrial fibrillation. Sputum was ordered but not yet obtained.

Henry, James

From: Kremlick, Denise
Sent: Friday, July 31, 2015 8:18 AM
To: Cupal, Suzanne; Childs, Bonnie; Connolly, Stephanie; Henry, James
Subject: Another Legionella

We received a Legionella report yesterday from Mclaren. Client was hospitalized there for open heart surgery from 7-12 through 7-21. She developed tachypnea and a cough and was advised by her nurse to return to Mclaren, which she did on 7-28. She was dx with pneumonia and staff is attempting to obtain sputum.

Genesee County Health Department
630 S. Saginaw Street
Flint, Michigan 48502
www.gchd.us

Legionellosis

What is Legionellosis

Legionellosis is a respiratory condition caused by a type of bacteria called Legionella. The Legionella bacteria are found naturally in the environment, usually in water. The bacteria grow best in warm water like the kind found in:

- Hot tubs
- Cooling Towers
- Hot water tanks
- Large plumbing systems
- Decorative fountains

What are symptoms that could occur?

- Cough
- Shortness of breath
- High fever
- Muscle aches
- Headaches

These symptoms usually occur 2 to 14 days after being exposed to the bacteria.

How is it spread?

People get Legionellosis when they breathe in a mist or vapor (small droplets of water in the air) containing the bacteria. One example might be from breathing in droplets sprayed from a hot tub or pool that has not been properly cleaned and disinfected. The bacteria are **not** spread from one person to another person.

How is it diagnosed and treated?

- Primary care provider evaluation and laboratory evaluation
- Treatment with antibiotics.

Are there complications?

- Like other respiratory illnesses, individuals with other health issues are at greater risk of complications.

How can Legionellosis be prevented?

- Because high water temperatures make it hard to maintain the disinfectant levels needed to kill germs like *Legionella*, making sure that the hot tub or pool has the right disinfectant and pH levels is essential.

Should the sick individual be isolated?

A person diagnosed with Legionellosis in the workplace is not a threat to others who share office space or other areas with him or her. However, if you believe that your workplace was the source of the person's illness, contact your local health department.

When can the individual return to the general population?

- With the approval of their physician.

If I have any other questions, whom can I contact?

- Call the Genesee County Health Department at 257-3612

This fact sheet is for information only and is not meant to be used for self diagnosis or as a substitute for consultation with a health care provider. For more information, call your health care provider.

07/2015

Henry, James

From: Cupal, Suzanne
Sent: Thursday, August 6, 2015 4:41 PM
To: Henry, James
Subject: RE: Dr. Stout

Thank you for the update.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Henry, James
Sent: Thursday, August 06, 2015 3:58 PM
To: Cupal, Suzanne
Subject: RE: Dr. Stout

I'm not sure who was requesting about legionella sampling, but according to the news article it was probably the son.

The person that I spoke with at Dr. Souts office said she'll get back with me regarding her schedule and availability. If I do not hear back today, I'll get back in touch.

I'm leaving office to meet staff in the field regarding a complicated property for a septic, but I'll be back later.

Jim.

From: Cupal, Suzanne
Sent: Thursday, August 6, 2015 1:23 PM
To: Henry, James
Subject: RE: Dr. Stout

I am at Burton for the Speak survey meeting.

Two more cases today. One is April's friend's mother.

I hope we can connect with Dr. Stout. I would like to hear her take on the situation...

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4

Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Henry, James
Sent: Thursday, August 06, 2015 1:18 PM
To: Cupal, Suzanne
Subject: RE: Dr. Stout

Not yet. I just stopped by your office, you must have just left.

From: Cupal, Suzanne
Sent: Thursday, August 6, 2015 12:59 PM
To: Henry, James
Subject: Dr. Stout

Have you heard back from her regarding a meeting next week?

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Henry, James

From: Kremlick, Denise
Sent: Friday, August 7, 2015 11:33 AM
To: Childs, Bonnie; Connolly, Stephanie; Cupal, Suzanne; Henry, James; Johnson, M.D., Gary
Subject: 8-7-15 Legionella

We received a Legionella report from Mclaren this am. Client was hospitalized at McLaren from 7-22-15 through 7-31-15 for GI issues and was also dx at that time with hyperparathyroid and hypercalcemia. She developed nausea, abdominal pain, fever and chills and a productive cough on 8-4 and was readmitted 8-6 and diagnosed with hospital acquired pneumonia. Her condition worsened on 8-6 and she is now in ICU on a vent.

Henry, James

From: Henry, James
Sent: Friday, August 7, 2015 11:29 AM
To: GCHD-CDIRT
Subject: Dr. Stout Meeting and McLaren Update

Good morning,

Dr. Janet Stout can meet next Monday, August 10th @ 2pm, in the EOC. I can push the time back a little later on Monday, if necessary. The linked article regarding New York's outbreak is very informative and apparently Dr. Stout has involvement with that situation, also. http://www.livescience.com/51755-what-is-legionnaires-disease.html

McLaren does treat the cooling tower water. They contract with NALCO http://www.nalco.com for treatment and monitor of the cooling tower coils, water inlets/outlets for Legionella, which have all been negative. McLaren's EH Director did not know the processes or chemicals that NALCO uses, but it includes a combination of biocides. He mentioned that he can get more information, if we want.

McLaren does not suspect the cooling towers because of the negative results. Also, because they are located on the roofs of smaller buildings, which would be equivalent to the 2nd and 3rd floors. It's a long distance for the air to travel to the 9th, 10th, 11th, 12th floors, where the illnesses have occurred. McLaren thinks that if the cooling towers were a problem, then more illnesses should have occurred on the floors in between, since the air passes there first.

McLaren resampled the water sytem locations within the hospital (not the cooling towers). The late July samples were all negative, confirming the early July negative results. This is confusing and hasn't happened previously. The hospital indicted that they did not hyperchlorinate or do anything different that would have caused the negative results.

I find it interesting that McLaren adds Chlorine, daily to the hospital drinking water system. They base the amount on the City's water Chlorine level entering the hospital. The EPA drinking water MCL for Chlorine is 4ppm. (3-4 drops per gallon of water). I'm guessing that the hospital and the City may exceed the level occasionally.

If this update is confusing, please let me know.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
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Henry, James

From: Janet Stout <jstout@specialpathogenslab.com>
Sent: Monday, August 10, 2015 8:16 AM
To: Henry, James
Cc: Janet Stout
Subject: Re: Meeting Today at 2pm

Oops - sent that before I completed the address:

Hampton Inn Flint/Grand Blanc
6060 Rashelle Drive
Flint, MI 48507

See you soon!

Janet

Sent from my smartphone on the Verizon Wireless 4G LTE network.

From: Janet Stout
Sent: Monday, August 10, 2015 8:13 AM
To: Henry, James
Cc: Janet Stout
Subject: Re: Meeting Today at 2pm

Thanks, Jim.

I'll call you from the hotel. It's the Hampton Inn

Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.

From: Henry, James
Sent: Monday, August 10, 2015 8:08 AM
To: Janet Stout
Subject: Meeting Today at 2pm

Hello Dr. Stout, We are looking forward to meeting with you today.

630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

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Henry, James

From: Valacak, Mark
Sent: Monday, August 10, 2015 9:16 AM
To: Cupal, Suzanne; Childs, Bonnie; LaRocco, Toni; Johnson, M.D., Gary; Connolly, Stephanie; Henry, James
Subject: Fwd: legionella numbers for Genesee County

I spoke to her Friday

Sent from my iPhone

Begin forwarded message:

> **From:** "Langer, Jessica X. -ND" <Jessica.X.Langer.-ND@abc.com>
> **Date:** August 7, 2015, 4:03:06 PM EDT
> **To:** "Valacak, Mark" <MVALACAK@gchd.us>
> **Subject: RE: legionella numbers for Genesee County**
>
> Thank you for this information. I really appreciate your assistance.
>
> Jessica
>
> ---
>
> **From:** Valacak, Mark [mailto:MVALACAK@gchd.us]
> **Sent:** Friday, August 07, 2015 4:01 PM
> **To:** Langer, Jessica X. -ND
> **Subject:** RE: legionella numbers for Genesee County
>
> We are going beyond using the normal case report form in order to try and see if we can find any common threads. Many of our cases have co-morbidity and so it is a challenge and sometimes we are interviewing relatives because for example, the patient is intubated. We are also looking at some environmental samples and clinical samples and consulting with our state colleagues and some consultants with knowledge in this area. We have not yet identified a specific source.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

PublicHealth

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"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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From: Langer, Jessica X. -ND [mailto:Jessica.X.Langer.-ND@abc.com]
Sent: Friday, August 07, 2015 3:14 PM
To: Valacak, Mark
Subject: RE: legionella numbers for Genesee County

Thank you for getting back to me. Do you happen to know if infection control is looking into the source? When does the County Health Department decide to look into the source during these instances? Thank you again for your help.

Best,

Jessica Langer, MD
ABC News Medical Unit
Cell 949-677-4637

From: Valacak, Mark [mailto:MVALACAK@gchd.us]
Sent: Friday, August 07, 2015 3:08 PM
To: Langer, Jessica X. -ND
Subject: legionella numbers for Genesee County

Legionella case numbers for Genesee County Michigan

May: 1
June: 7
July: 13
August: 3 through August 7th

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

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Henry, James

From:	Henry, James
Sent:	Tuesday, August 11, 2015 12:12 PM
To:	Janet Stout (jstout@specialpathogenslab.com)
Cc:	'scupal@gchd.us'
Subject:	Flint water and contact Information
Attachments:	Tech Committee Presentation - Veolia.pdf; Main Breaks from Leak Report Info (1).xlsx

Hello Dr. Stout, Thanks for meeting with us yesterday. I'm excited that there may be swift resolution to the Legionella issue.

Attached is the Powerpoint. Slide #10 shows the area of slow moving water, McLaren is in the orange, >144 hours.

The other attachment is water main breaks, just to give you an idea of what's happening and maybe contributing to water risks. The spreadsheet only has info to Nov. 17, 2014. I'm guessing it was withheld intentionally, or the City lost track. The trend on the spreadsheet shows significantly more breaks in the colder months. Howard Croft, Flint DPW Director told me verbally, that there were more break by May 2015, than they had experienced all 2014. Maybe the harder / more corrosive river water is taking a toll on the aged infrastructure.

Below are contacts for the MDEQ and City.

Thanks Jim

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

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Howard Croft

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City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
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WATER MAIN BREAKS

Date	Location of Leak	Total Address	Leak Description
1/4/2013	1700 N. Averill Ave.	1700 N. Averill Ave.,Flint, MI	Clean break
1/6/2013	2715 N. Averill Ave.	2715 N. Averill Ave.,Flint, MI	Clean break
1/7/2013	2041 N. Averill Ave.	2041 N. Averill Ave.,Flint, MI	Clean break
1/15/2013	2923 Agree Ave.	2923 Agree Ave.,Flint, MI	Clean break
1/31/2013	E. Atherton Rd. & Red Arrow Rd.	E. Atherton Rd. & Red Arrow	Clean break
3/26/2013	2500 N. Averill Ave.	2500 N. Averill Ave.,Flint, MI	2" dia hole
6/3/2013	737 E. Alma Ave.	737 E. Alma Ave.,Flint, MI	1" dia hole
11/12/2013	3312 Buick St.	3312 Buick St.,Flint, MI	2" dia hole
1/6/2014	2002 E. Court St.	2002 E. Court St.,Flint, MI	Clean break
1/7/2014	N. Averill Ave. & McClure Ave.	N. Averill Ave. & McClure Ave	Clean break
1/8/2014	3505 Comanche Ave.	3505 Comanche Ave.,Flint, M	Clean break
1/8/2014	5610 Glenn Ave.	5610 Glenn Ave.,Flint, MI	Clean break
1/9/2014	2959 Henry St.	2959 Henry St.,Flint, MI	Clean break
1/9/2014	3517 Esther St.	3517 Esther St.,Flint, MI	Clean break
1/9/2014	6400 Selby St.	6400 Selby St.,Flint, MI	Clean break
1/10/2014	1946 S. Averill Ave.	1946 S. Averill Ave.,Flint, MI	Clean break
1/10/2014	Dolphaine Ln. & Huggins St.	Dolphaine Ln. & Huggins St.,F	hydrant lead
1/11/2014	2817 Lippincott Blvd.	2817 Lippincott Blvd.,Flint, MI	Clean break
1/13/2014	5402 Leslie Dr.	5402 Leslie Dr.,Flint, MI	Service line
1/13/2014	Gibson St. & Gainey Ave.	Gibson St. & Gainey Ave.,Flin	Split tee
1/14/2014	1406 Bent Dr.	1406 Bent Dr.,Flint, MI	Clean break
1/15/2014	5710 Glenn Ave.	5710 Glenn Ave.,Flint, MI	Clean break
1/16/2014	2501 S. Dort Hwy.	2501 S. Dort Hwy.,Flint, MI	Clean break
1/16/2014	410 Grace St.	410 Grace St.,Flint, MI	hole in mechanical b
1/18/2014	DuPont St. & Copeman Blvd.	DuPont St. & Copeman Blvd.,	Clean break
1/18/2014	Lippincott Blvd. & Chelan St.	Lippincott Blvd. & Chelan St.,F	Split at pipe bell
1/18/2014	Lippincott Blvd. & Chelan St.	Lippincott Blvd. & Chelan St.,F	Split at pipe bell
1/21/2014	Buick St. & E. Gillespie Ave.	Buick St. & E. Gillespie Ave.,F	Clean break
1/22/2014	1905 McPhail St.	1905 McPhail St.,Flint, MI	Clean break
1/22/2014	3825 Woodrow Ave.	3825 Woodrow Ave.,Flint, MI	Clean break
1/22/2014	402 E. Atherton Rd.	402 E. Atherton Rd.,Flint, MI	Clean break
1/23/2014	3514 Winona St.	3514 Winona St.,Flint, MI	Clean break
1/23/2014	Harrison St. & E. First St.	Harrison St. & E. First St.,Flint	Clean break
1/24/2014	1330 DuPont St.	1330 DuPont St.,Flint, MI	Clean break
1/24/2014	4214 Winona St.	4214 Winona St.,Flint, MI	Clean break
1/25/2014	1601 Crestbrook Ln.	1601 Crestbrook Ln.,Flint, MI	Clean break
1/27/2014	102 W. Flint Park Blvd.	102 W. Flint Park Blvd.,Flint, M	Clean break
1/27/2014	2902 McClure Ave.	2902 McClure Ave.,Flint, MI	Corp break
1/27/2014	Harrison St. & E. First St.	Harrison St. & E. First St.,Flint	Clean break
1/28/2014	410 E. Newall St.	410 E. Newall St.,Flint, MI	Clean break
1/29/2014	Gladwyn St. & Cadillac St.	Gladwyn St. & Cadillac St.,Flir	Clean break
1/29/2014	Woodbridge St. & Stevenson St.	Woodbridge St. & Stevenson	Split tee
1/30/2014	2917 Cheyenne Ave.	2917 Cheyenne Ave.,Flint, MI	Clean break
1/30/2014	Bennett Ave. & Bennett Ct.	Bennett Ave. & Bennett Ct.,Fli	Split at pipe bell
1/30/2014	Corunna Rd. & Darling St.	Corunna Rd. & Darling St.,Flir	Clean break
1/31/2014	1421 Kearsley Park Blvd.	1421 Kearsley Park Blvd.,Flin	Clean break
1/31/2014	Pitkin Ave. & N. Dexter St.	Pitkin Ave. & N. Dexter St.,Fli	Clean break
1/31/2014	White St. & Iroquois Ave.	White St. & Iroquois Ave.,Flint	Clean break
2/1/2014	1611 Colorado Ave.	1611 Colorado Ave.,Flint, MI	Clean break
2/3/2014	2952 Clement St.	2952 Clement St.,Flint, MI	Clean break
2/3/2014	3808 Dakota Ave.	3808 Dakota Ave.,Flint, MI	Clean break

2/4/2014	1602 Concord St.	1602 Concord St.,Flint, MI	valve face
2/4/2014	2722 Mackin Rd.	2722 Mackin Rd.,Flint, MI	Split at pipe bell
2/4/2014	302 W. Home Ave.	302 W. Home Ave.,Flint, MI	Clean break
2/4/2014	313 E. Home Ave.	313 E. Home Ave.,Flint, MI	Clean break
2/4/2014	975 Johnson Ave.	975 Johnson Ave.,Flint, MI	Clean break
2/4/2014	S. Ballenger Hwy. & Whitney Ave.	S. Ballenger Hwy. & Whitney ,	Clean break
2/5/2014	1705 Montclair Ave.	1705 Montclair Ave.,Flint, MI	Clean break
2/5/2014	1917 Utah Ave.	1917 Utah Ave.,Flint, MI	Clean break
2/5/2014	S. Franklin Ave. & E. Second St.	S. Franklin Ave. & E. Second	partial break
2/6/2014	1201 Burlington Dr.	1201 Burlington Dr.,Flint, MI	Clean break
2/6/2014	2509 Burns St.	2509 Burns St.,Flint, MI	Clean break
2/6/2014	Richfield Rd. & N. Franklin Ave.	Richfield Rd. & N. Franklin Av	Clean break
2/7/2014	1737 Leith St.	1737 Leith St.,Flint, MI	Clean break
2/8/2014	1701 Pennsylvania Ave.	1701 Pennsylvania Ave.,Flint,	Clean break
2/8/2014	5612 Griggs Dr.	5612 Griggs Dr.,Flint, MI	Clean break
2/10/2014	1631 Pennsylvania Ave.	1631 Pennsylvania Ave.,Flint,	Split at pipe bell
2/10/2014	2106 Cartier St.	2106 Cartier St.,Flint, MI	Clean break
2/10/2014	3906 Joyner St.	3906 Joyner St.,Flint, MI	Clean break
2/10/2014	3917 W. Kearsley St.	3917 W. Kearsley St.,Flint, MI	Clean break
2/10/2014	5713 Edwards St.	5713 Edwards St.,Flint, MI	Clean break
2/11/2014	1317 Mann Ave.	1317 Mann Ave.,Flint, MI	Split at pipe bell
2/11/2014	2518 Prospect St.	2518 Prospect St.,Flint, MI	Split at pipe bell
2/11/2014	314 W. Paterson St.	314 W. Paterson St.,Flint, MI	Clean break
2/11/2014	3608 Dakota Ave.	3608 Dakota Ave.,Flint, MI	Clean break
2/12/2014	1721 Pennsylvania Ave.	1721 Pennsylvania Ave.,Flint,	Clean break
2/12/2014	1857 S. Averill Ave.	1857 S. Averill Ave.,Flint, MI	Clean break
2/12/2014	401 Carton St.	401 Carton St.,Flint, MI	Clean break
2/12/2014	601 E. Dewey St.	601 E. Dewey St.,Flint, MI	Split at pipe bell
2/13/2014	2202 Maybury Ave.	2202 Maybury Ave.,Flint, MI	Clean break
2/13/2014	238 W. Witherbee St.	238 W. Witherbee St.,Flint, M	Clean break
2/13/2014	4226 Wisner St.	4226 Wisner St., Flint, MI	Clean break
2/14/2014	3202 Larchmont St.	3202 Larchmont St.,Flint, MI	Clean break
2/14/2014	N. Chevrolet Ave. & Prospect St.	N. Chevrolet Ave. & Prospect	Spiral break
2/15/2014	2807 N. Averill Ave.	2807 N. Averill Ave.,Flint, MI	hole in mechanical b
2/15/2014	4068 N. Dort Hwy.	4068 N. Dort Hwy.,Flint, MI	Lead joint
2/17/2014	1920 Wolcott St.	1920 Wolcott St.,Flint, MI	Pipe bell clean breal
2/17/2014	E. Pasadena Ave. & Esther St.	E. Pasadena Ave. & Esther St	Split at pipe bell
2/18/2014	Pitkin Ave. & Newcombe St.	Pitkin Ave. & Newcombe St.,F	Split at pipe bell
2/19/2014	W. Fifth Ave. & Garland St.	W. Fifth Ave. & Garland St.,Fl	Tapping saddle
2/20/2014	3105 Cherokee Ave.	3105 Cherokee Ave.,Flint, MI	Clean break
2/20/2014	901 Markham St.	901 Markham St.,Flint, MI	Split at pipe bell
2/20/2014	E. Carpenter Rd. West of Alfred St.	E. Carpenter Rd. West of Alfr	Clean break
2/21/2014	326 White St.	326 White St.,Flint, MI	Clean break
2/21/2014	711 Welch Blvd.	711 Welch Blvd.,Flint, MI	4" hole
2/22/2014	1009 S. Franklin Ave.	1009 S. Franklin Ave.,Flint, M	Clean break
2/22/2014	Pettibone Ave. & Brunswick Ave.	Pettibone Ave. & Brunswick A	Clean break
2/24/2014	2948 Concord St.	2948 Concord St.,Flint, MI	Clean break
2/24/2014	718 Frank St.	718 Frank St.,Flint, MI	Clean break
2/24/2014	G-3299 Cheyenne Ave.	G-3299 Cheyenne Ave.,Flint,	Clean break
2/24/2014	W. Home Ave. & Baldwin Blvd.	W. Home Ave. & Baldwin Blvc	4" hole
2/24/2014	W. Home Ave. & Glenn Ave.	W. Home Ave. & Glenn Ave.,I	Clean break
2/25/2014	2210 Canniff St.	2210 Canniff St.,Flint, MI	Clean break

2/25/2014	3202 Lawndale Ave.	3202 Lawndale Ave.,Flint, MI	Clean break
2/26/2014	2113 Calumet St.	2113 Calumet St.,Flint, MI	Clean break
2/26/2014	2618 Norbert St.	2618 Norbert St.,Flint, MI	Split at pipe bell
2/26/2014	3113 Lippincott Blvd.	3113 Lippincott Blvd.,Flint, MI	Clean break
2/26/2014	430 W. Baltimore Blvd.	430 W. Baltimore Blvd.,Flint, I	Clean break
2/26/2014	Fulton St. & E. Parkway Ave.	Fulton St. & E. Parkway Ave.,I	Clean break
2/27/2014	1357 Lapeer Rd.	1357 Lapeer Rd.,Flint, MI	Service line
2/27/2014	3315 Mallery St.	3315 Mallery St.,Flint, MI	Clean break
2/28/2014	2742 Raskob St.	2742 Raskob St.,Flint, MI	Service line
2/28/2014	G-3370 S. Dort Hwy.	G-3370 S. Dort Hwy.,Flint, MI	Clean break
3/1/2014	1010 Victoria Ave.	1010 Victoria Ave.,Flint, MI	hole in mechanical b
3/1/2014	2213 Illinois Ave.	2213 Illinois Ave.,Flint, MI	Service line
3/1/2014	3829 Woodrow Ave.	3829 Woodrow Ave.,Flint, MI	Clean break
3/3/2014	145 E. Foss Ave.	145 E. Foss Ave.,Flint, MI	Clean break
3/3/2014	3723 Dakota Ave.	3723 Dakota Ave.,Flint, MI	Clean break
3/3/2014	413 E. Genesee St.	413 E. Genesee St.,Flint, MI	Clean break
3/3/2014	E. Bundy Ave. & Premier St.	E. Bundy Ave. & Premier St.,F	Clean break
3/3/2014	Fulton St. & E. Lyndon Ave.	Fulton St. & E. Lyndon Ave.,F	Clean break
3/3/2014	Rosedale Ave. & Horton Ave.	Rosedale Ave. & Horton Ave.,	hole in mechanical b
3/4/2014	1518 Avenue B	1518 Avenue B,Flint, MI	Clean break
3/4/2014	1941 Hosler St.	1941 Hosler St.,Flint, MI	Clean break
3/4/2014	3106 W. Court St.	3106 W. Court St.,Flint, MI	Split at pipe bell
3/4/2014	3116 Pencombe Pl.	3116 Pencombe Pl.,Flint, MI	Clean break
3/4/2014	3514 Foster St.	3514 Foster St.,Flint, MI	Split at pipe bell
3/5/2014	2320 Miller Rd.	2320 Miller Rd.,Flint, MI	Split at pipe bell
3/5/2014	2522 Woodrow Ave.	2522 Woodrow Ave.,Flint, MI	Clean break
3/5/2014	932 Markham St.	932 Markham St.,Flint, MI	Split at pipe bell
3/5/2014	Irene Ave. & Miller Rd.	Irene Ave. & Miller Rd.,Flint, M	Clean break
3/6/2014	1016 Harmon St.	1016 Harmon St.,Flint, MI	Split at pipe bell
3/6/2014	2502 Branch Rd.	2502 Branch Rd.,Flint, MI	Clean break
3/6/2014	527 E. Genesee St.	527 E. Genesee St.,Flint, MI	Clean break
3/6/2014	Meida St. & Mannhall Ave.	Meida St. & Mannhall Ave.,Fli	Split at pipe bell
3/7/2014	Iroquois Ave. & W. Dayton St.	Iroquois Ave. & W. Dayton St.	Clean break
3/8/2014	1723 Dorothy Dr.	1723 Dorothy Dr.,Flint, MI	Clean break
3/8/2014	3415 Western Rd.	3415 Western Rd.,Flint, MI	Clean break
3/8/2014	5806 Griggs Dr.	5806 Griggs Dr.,Flint, MI	Clean break
3/10/2014	E. Dewey St. & N. Saginaw St.	E. Dewey St. & N. Saginaw St	Split at pipe bell
3/10/2014	Kelso St. & Robert T. Longway Blvd.	Kelso St. & Robert T. Longwa	Clean break
3/11/2014	147 E. Home Ave.	147 E. Home Ave.,Flint, MI	Clean break
3/11/2014	2732 Clio Rd.	2732 Clio Rd.,Flint, MI	Clean break
3/11/2014	3610 Wisner St.	3610 Wisner St.,Flint, MI	Pipe bell clean breal
3/11/2014	Baldwin Blvd. & W. Marengo Ave.	Baldwin Blvd. & W. Marengo /	Clean break
3/12/2014	613 White St.	613 White St.,Flint, MI	Pipe bell clean breal
3/13/2014	1919 Clifford St.	1919 Clifford St.,Flint, MI	Clean break
3/13/2014	2108 Berkley St.	2108 Berkley St.,Flint, MI	2" dia hole
3/13/2014	2326 Berkley St.	2326 Berkley St.,Flint, MI	Clean break
3/13/2014	Cook St. & Oklahoma Ave.	Cook St. & Oklahoma Ave.,Fli	Clean break
3/14/2014	1309 Blanchard Ave.	1309 Blanchard Ave.,Flint, MI	Clean break
3/14/2014	5410 Kermit St.	5410 Kermit St.,Flint, MI	Corp break
3/14/2014	E. Boulevard Dr. & Grandy St.	E. Boulevard Dr. & Grandy St.	valve failure
3/15/2014	3509 Comanche Ave.	3509 Comanche Ave.,Flint, M	Clean break
3/15/2014	Fenton Rd. & Remington Ave.	Fenton Rd. & Remington Ave.	valve failure

3/15/2014	Remington Ave. & Fenton Rd.	Remington Ave. & Fenton Rd.	valve face
3/17/2014	948 Leland St.	948 Leland St.,Flint, MI	Clean break
3/17/2014	Iroquois Ave. & W. Taylor St.	Iroquois Ave. & W. Taylor St.,	Clean break
3/17/2014	Massachusetts Ave. & James P. Cole E	Massachusetts Ave. & James	Split at pipe bell
3/18/2014	1421 Delaware Ave.	1421 Delaware Ave.,Flint, MI	Split at pipe bell
3/18/2014	1922 Maryland Ave.	1922 Maryland Ave.,Flint, MI	Clean break
3/18/2014	Harrison St. & E. First St.	Harrison St. & E. First St.,Flint	Clean break
3/19/2014	3307 Mason St.	3307 Mason St.,Flint, MI	Clean break
3/20/2014	1375 Lavender Ave.	1375 Lavender Ave.,Flint, MI	Clean break
3/20/2014	Prospect St. & Forest Hill Ave.	Prospect St. & Forest Hill Ave	Split at pipe bell
3/21/2014	2740 Clio Rd.	2740 Clio Rd.,Flint, MI	Clean break
3/21/2014	411 W. Dartmouth St.	411 W. Dartmouth St.,Flint, M	Clean break
3/24/2014	1034 E. Holbrook Ave.	1034 E. Holbrook Ave.,Flint, M	Clean break
3/24/2014	2603 Lewis St.	2603 Lewis St.,Flint, MI	Clean break
3/24/2014	3714 Wisner St.	3714 Wisner St.,Flint, MI	Clean break
3/24/2014	902 E. Austin Ave.	902 E. Austin Ave.,Flint, MI	Clean break
3/24/2014	Lewis St. & Maryland Ave.	Lewis St. & Maryland Ave.,Flir	Clean break
3/25/2014	1407 Greenway Ave.	1407 Greenway Ave.,Flint, MI	Clean break
3/25/2014	2718 Begole St.	2718 Begole St.,Flint, MI	Clean break
3/25/2014	906 Lomita Ave.	906 Lomita Ave.,Flint, MI	mechanical joint
3/25/2014	E. Hamilton Ave. & E. Boulevard Dr.	E. Hamilton Ave. & E. Bouleva	Clean break
3/25/2014	Horton Ave. & E. Pierson Rd.	Horton Ave. & E. Pierson Rd.,	Clean break
3/26/2014	1110 Lomita Ave.	1110 Lomita Ave.,Flint, MI	Clean break
3/26/2014	1509 Crestbrook Ln.	1509 Crestbrook Ln.,Flint, MI	Clean break
3/26/2014	2319 Brownell Blvd.	2319 Brownell Blvd.,Flint, MI	Clean break
3/26/2014	2808 Brownell Blvd.	2808 Brownell Blvd.,Flint, MI	Clean break
3/26/2014	Lewis St. & Maryland Ave.	Lewis St. & Maryland Ave.,Flir	Clean break
3/28/2014	145 E. Alma Ave.	145 E. Alma Ave.,Flint, MI	Clean break
3/28/2014	306 W. Pasadena Ave.	306 W. Pasadena Ave.,Flint, I	Clean break
3/29/2014	2718 Norbert St.	2718 Norbert St.,Flint, MI	Split at pipe bell
3/31/2014	111 E. Myrtle Ave.	111 E. Myrtle Ave.,Flint, MI	Split at pipe bell
3/31/2014	2004 DuPont St.	2004 DuPont St.,Flint, MI	Clean break
3/31/2014	Pontiac St. & Copeman Blvd.	Pontiac St. & Copeman Blvd.,	Clean break
4/1/2014	3710 Burgess St.	3710 Burgess St.,Flint, MI	3" dia hole
4/1/2014	Burgess St. & Sonny St.	Burgess St. & Sonny St.,Flint,	valve face
4/1/2014	Forest Hill Ave. & Sonny St.	Forest Hill Ave. & Sonny St.,F	Clean break
4/1/2014	Harvard St. & E. Russell Ave.	Harvard St. & E. Russell Ave.,	Clean break
4/2/2014	1926 Corunna Rd.	1926 Corunna Rd.,Flint, MI	Clean break
4/2/2014	912 Vosburg St.	912 Vosburg St.,Flint, MI	Clean break
4/2/2014	Herrick St. & Stocker Ave.	Herrick St. & Stocker Ave.,Flir	Clean break
4/3/2014	1452 Broadway Blvd.	1452 Broadway Blvd.,Flint, MI	3" split
4/3/2014	1600 Nebraska Ave.	1600 Nebraska Ave.,Flint, MI	Split at pipe bell
4/3/2014	1616 Root St.	1616 Root St.,Flint, MI	Previous repair failu
4/4/2014	1818 Carmanbrook Pkwy.	1818 Carmanbrook Pkwy.,Flir	mechanical joint
4/4/2014	Clifford St.	Clifford St.,Flint, MI	Clean break
4/7/2014	2521 Woodrow Ave.	2521 Woodrow Ave.,Flint, MI	Pipe bell clean breal
4/7/2014	3715 Marmion Ave.	3715 Marmion Ave.,Flint, MI	Clean break
4/7/2014	E. Foss Ave. & Industrial Ave.	E. Foss Ave. & Industrial Ave.	Clean break
4/8/2014	DuPont St. & Bagley St.	DuPont St. & Bagley St.,Flint,	Clean break
4/8/2014	Mason St. & W. Baker St.	Mason St. & W. Baker St.,Flin	3" split
4/9/2014	3101 Bryn Mawr Pl.	3101 Bryn Mawr Pl.,Flint, MI	Clean break
4/9/2014	Carton St. & N. Saginaw St.	Carton St. & N. Saginaw St.,F	Clean break

4/10/2014	3805 Fenton Rd.	3805 Fenton Rd.,Flint, MI	Clean break
4/10/2014	5413 Edwards St.	5413 Edwards St.,Flint, MI	Corp break
4/10/2014	944 Pettibone Ave.	944 Pettibone Ave.,Flint, MI	Previous repair failu
4/11/2014	1210 DuPont St.	1210 DuPont St.,Flint, MI	Clean break
4/11/2014	Pitkin Ave. & Bingham St.	Pitkin Ave. & Bingham St.,Flin	Split tee
4/12/2014	3310 Beecher Rd.	3310 Beecher Rd.,Flint, MI	Clean break
4/12/2014	3420 Pitkin Ave.	3420 Pitkin Ave.,Flint, MI	3" dia hole
4/12/2014	3817 W. Court St.	3817 W. Court St.,Flint, MI	Clean break
4/14/2014	1811 M. L. King Ave.	1811 M. L. King Ave.,Flint, MI	Clean break
4/14/2014	Chestnut St. & W. Austin Ave.	Chestnut St. & W. Austin Ave.	Clean break
4/14/2014	Mackin Rd. & McIntosh Dr.	Mackin Rd. & McIntosh Dr.,Fli	Clean break
4/14/2014	Ninth Ave.	Ninth Ave.,Flint, MI	2" dia hole
4/16/2014	116 Bruce St.	116 Bruce St.,Flint, MI	Clean break
4/16/2014	151 E. Hamilton Ave.	151 E. Hamilton Ave.,Flint, MI	Clean break
4/16/2014	2574 Nolen Dr.	2574 Nolen Dr.,Flint, MI	Clean break
4/16/2014	906 W. Ridgeway Ave.	906 W. Ridgeway Ave.,Flint, M	Service line
4/17/2014	629 E. McClellan St.	629 E. McClellan St.,Flint, MI	Previous repair failu
4/17/2014	Bennett Ave. & Iowa Ave.	Bennett Ave. & Iowa Ave.,Flin	Clean break
4/17/2014	M. L. King Ave. & W. Philadelphia Blvd.	M. L. King Ave. & W. Philadel	Clean break
4/18/2014	Chippewa St. & Career Alliance parking	Chippewa St. & Career Allianc	2" split
4/19/2014	W. Court St. & Beach St.	W. Court St. & Beach St.,Flint	Clean break
4/22/2014	600 Bloor Ave.	600 Bloor Ave.,Flint, MI	Clean break
4/23/2014	Chippewa St. & Mary St.	Chippewa St. & Mary St.,Flint,	4" split
4/25/2014	E. Lorado Ave. & Harvard St.	E. Lorado Ave. & Harvard St.,	Clean break
4/28/2014	Gainey Ave. & Cumings Ave.	Gainey Ave. & Cumings Ave.,	Clean break
4/29/2014	(bike path) W. Boulevard Dr.	(bike path) W. Boulevard Dr.,I	Clean break
4/30/2014	5100 W. Boulevard Dr.	5100 W. Boulevard Dr.,Flint, M	Clean break
5/3/2014	2702 E. Court St.	2702 E. Court St.,Flint, MI	old stub
5/24/2014	Van Slyke Rd. & W. Hemphill Rd.	Van Slyke Rd. & W. Hemphill	Tapping saddle
5/29/2014	123 Bruce St.	123 Bruce St.,Flint, MI	3/4" lead corp
6/5/2014	5322 Glenn Ave.	5322 Glenn Ave.,Flint, MI	Clean break
6/10/2014	Robert T. Longway Blvd. & N. Vernon A	Robert T. Longway Blvd. & N.	Clean break
6/23/2014	2308 Iroquois Ave.	2308 Iroquois Ave.,Flint, MI	1" dia hole
7/7/2014	North St. & E. Gillespie Ave.	North St. & E. Gillespie Ave.,F	Split at pipe bell
7/10/2014	Woodbridge St. & Stevenson St.	Woodbridge St. & Stevenson	Clean break
7/11/2014	1713 Leith St.	1713 Leith St.,Flint, MI	Split pipe
7/12/2014	W. Twelfth St. & Fenton Rd.	W. Twelfth St. & Fenton Rd.,F	Corp break
7/14/2014	1037 E. Alma Ave.	1037 E. Alma Ave.,Flint, MI	Clean break
7/17/2014	3609 DuPont St.	3609 DuPont St.,Flint, MI	hole in pipe
7/18/2014	2400 Hills St.	2400 Hills St.,Flint, MI	hole in pipe
7/18/2014	900 E. Carpenter Rd.	900 E. Carpenter Rd.,Flint, MI	Split at pipe bell
7/21/2014	2341 S. Dort Hwy.	2341 S. Dort Hwy.,Flint, MI	Split at pipe bell
7/22/2014	N. Franklin Ave. & Illinois Ave.	N. Franklin Ave. & Illinois Ave	Clean break
7/22/2014	Pitkin Ave. & Bingham St.	Pitkin Ave. & Bingham St.,Flin	2" dia hole
7/23/2014	Kellar Ave. & W. Dartmouth St.	Kellar Ave. & W. Dartmouth S	Clean break
7/29/2014	Cecil Dr. & Hathaway Dr.	Cecil Dr. & Hathaway Dr.,Flint	fire hydrant
7/29/2014	Richfield Rd. & Term St.	Richfield Rd. & Term St.,Flint,	2" split
8/8/2014	Fenmore Dr. & Oxley Dr.	Fenmore Dr. & Oxley Dr.,Flint	mechanical joint
8/9/2014	500 Harrison St.	500 Harrison St.,Flint, MI	3/4" corp
8/13/2014	900 Beach St.	900 Beach St.,Flint, MI	2" lead corp
8/14/2014	E. Baltimore Blvd. & Horton Ave.	E. Baltimore Blvd. & Horton A	fire hydrant
8/18/2014	2810 Parkside Dr.	2810 Parkside Dr.,Flint, MI	Service line

8/18/2014	513 Mary St.	513 Mary St.,Flint, MI	10" split
8/20/2014	2345 Lapeer Rd.	2345 Lapeer Rd.,Flint, MI	Split pipe
8/20/2014	919 Fremont St.	919 Fremont St.,Flint, MI	Split at pipe bell
8/23/2014	1410 Leith St.	1410 Leith St.,Flint, MI	Service line
8/25/2014	600 E. McClellan St.	600 E. McClellan St.,Flint, MI	4" hole
8/29/2014	Flushing Rd. & DuPont St.	Flushing Rd. & DuPont St.,Fli	2" dia hole
9/8/2014	1912 Corunna Rd.	1912 Corunna Rd.,Flint, MI	Split at pipe bell
9/9/2014	1776 S. Dort Hwy.	1776 S. Dort Hwy.,Flint, MI	Split at pipe bell
9/13/2014	3902 Coggins Ave.	3902 Coggins Ave.,Flint, MI	Split at pipe bell
9/21/2014	3701 Lorraine Ave.	3701 Lorraine Ave.,Flint, MI	3" dia hole
9/21/2014	Winifred Dr. & Levern St.	Winifred Dr. & Levern St.,Flint	Clean break
9/26/2014	Marja St. & W. Mott Ave.	Marja St. & W. Mott Ave.,Flint	4" split
10/10/2014	1636 Montana Ave.	1636 Montana Ave.,Flint, MI	3/4" lead corp
10/24/2014	2890 Robert T. Longway Blvd.	2890 Robert T. Longway Blvd	mechanical joint
10/25/2014	1800 Missouri Ave.	1800 Missouri Ave.,Flint, MI	2" dia hole
11/3/2014	6230 Hathaway Dr.	6230 Hathaway Dr.,Flint, MI	Clean break
11/3/2014	Eldon Baker Dr. & Shawnee Ave.	Eldon Baker Dr. & Shawnee A	Clean break
11/6/2014	1617 Kensington Ave.	1617 Kensington Ave.,Flint, M	Split pipe
11/12/2014	1016 W. Ridgeway Ave.	1016 W. Ridgeway Ave.,Flint,	Clean break
11/17/2014	3220 Richfield Rd.	3220 Richfield Rd.,Flint, MI	Split at pipe bell

Pipe Size	Pipe Material	Cause of Leak
12" dia.	Cast Iron	Wintertime conditions
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6" dia.	Cast Iron	pipe failure
6" dia.	Cast Iron	pipe failure
6" dia.	Cast Iron	Water hammer
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6" dia.	Cast Iron	Pressure fluctuation
6" dia.	Cast Iron	pipe failure
8" dia.	Cast Iron	Water hammer

Henry, James

From: Janet Stout <jstout@specialpathogenslab.com>
Sent: Tuesday, August 11, 2015 12:54 PM
To: Henry, James
Cc: Cupal, Suzanne; Janet Stout
Subject: Re: Flint water and contact Information

Thanks, Jim!

Things are going well here at McLaren today.

I'll be in touch.

Sincerely,

Janet

Janet E. Stout, PhD
Director
Special Pathogens Laboratory

Sent from my smartphone on the Verizon Wireless 4G LTE network.

From: Henry, James
Sent: Tuesday, August 11, 2015 12:12 PM
To: Janet Stout
Cc: scupal@gchd.us
Subject: Flint water and contact Information

Hello Dr. Stout, Thanks for meeting with us yesterday. I'm excited that there may be swift resolution to the Legionella issue.

Attached is the Powerpoint. Slide #10 shows the area of slow moving water, McLaren is in the orange, >144 hours.

The other attachment is water main breaks, just to give you an idea of what's happening and maybe contributing to water risks. The spreadsheet only has info to Nov. 17, 2014. I'm guessing it was withheld intentionally, or the City lost track. The trend on the spreadsheet shows significantly more breaks in the colder months. Howard Croft, Flint DPW Director told me verbally, that there were more break by May 2015, than they had experienced all 2014. Maybe the harder / more corrosive river water is taking a toll on the aged infrastructure.

Below are contacts for the MDEQ and City.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us

630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Michael Prysby, P.E. MDEQ
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817
PRYSBYM@michigan.gov

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Henry, James

From: Janet Stout <jstout@specialpathogenslab.com>
Sent: Thursday, August 13, 2015 8:52 AM
To: Cupal, Suzanne
Cc: Henry, James; Frank Sidari
Subject: Re: Water

Thanks!!!

Janet

Sent from my smartphone on the Verizon Wireless 4G LTE network.

From: Cupal, Suzanne
Sent: Thursday, August 13, 2015 8:51 AM
To: Janet Stout
Cc: Henry, James; Frank Sidari
Subject: RE: Water

If they agree, yes.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Janet Stout [mailto:jstout@specialpathogenslab.com]
Sent: Thursday, August 13, 2015 8:49 AM
To: Cupal, Suzanne
Cc: Henry, James; Janet Stout; Frank Sidari
Subject: Re: Water

Good morning,
In the event that we don't hear from Hurley before frank leaves this morning (leaving by noon), would you be willing to collect the sample for us? We'd send you the bottle, instructions and return shipping label.

Thanks,

Janet

Janet E. Stout, PhD
Director
Special Pathogens Laboratory

Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.

From: Cupal, Suzanne
Sent: Wednesday, August 12, 2015 1:23 PM
To: Janet Stout
Cc: Henry, James
Subject: RE: Water

I spoke with Ann. She has shared all the information with their staff again and made the request to provide the sample. She is not sure you will get an answer today, but, hopefully by tomorrow morning.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Janet Stout [mailto:jstout@specialpathogenslab.com]
Sent: Wednesday, August 12, 2015 11:03 AM
To: Cupal, Suzanne
Cc: Janet Stout
Subject: Re: Water

Suzanne,
You can tell her that I can sign their standard nondisclosure if they send it over.

Our team leaves tomorrow morning, so the sample needs to be collected today or tomorrow morning.

Thanks.

Janet

Sent from my smartphone on the Verizon Wireless 4G LTE network.

From: Cupal, Suzanne
Sent: Wednesday, August 12, 2015 10:57 AM
To: Janet Stout
Subject: RE: Water

I will let her know and find out if they would provide a sample. They will want some form of an agreement. If you like, I can connect you directly.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502

Henry, James

From: Hudson, Russell <Russell.Hudson@mclaren.org>
Sent: Friday, August 14, 2015 3:55 PM
To: Janet Stout; Frank Sidari; Henry, James
Subject: Legionella Communication to staff at McLaren Flint
Attachments: Special Update August 14, 2015.pdf; WATER HYPERCLORINATION 20150814.pdf

Janet, Frank and Jim,

For your information.

Attached please find the SPECIAL UPDATE from today which has been distributed to the employees of McLaren Flint and posted throughout the hospital.. This highlights the steps being taken starting today.

In addition, we are performing a Hyperchlorination on the hot water system of the Central and South Buildings of the hospital tonight through tomorrow morning. That documentation is attached and was sent out to staff via email and will be posted.

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

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From: Hudson, Russell [mailto:Russell.Hudson@mclaren.org]
Sent: Tuesday, July 7, 2015 4:02 PM
To: Henry, James
Subject: RE: Legionella Update

Not a problem, Jim. I had a great phone conversation with Janet Stout, she and I talked for over 45 minutes. We are to talk later this week or in a couple weeks (she is out of town next week) with a larger group (conference call).

I am excited that she will be a great resource...and may lead our group towards some resolutions.

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

From: James Henry [mailto:jhenry@gchd.us]
Sent: Tuesday, July 07, 2015 1:41 PM
To: Hudson, Russell
Subject: RE: Legionella Update

Sorry Rusty, I noticed it was different email than Janet Stout, but I was pretty sure Kim said "laboratory" not "lab".

From: Hudson, Russell [mailto:Russell.Hudson@mclaren.org]
Sent: Tuesday, July 7, 2015 7:40 AM
To: Henry, James
Subject: RE: Legionella Update

I heard back from Janet Stout, late yesterday...we will be touching base soon.

PS The email that worked was kcarden@specialpathogenslab.com (not ...laboratory.com)

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

Henry, James

From: Hudson, Russell <Russell.Hudson@mclaren.org>
Sent: Wednesday, July 22, 2015 2:39 PM
To: Henry, James
Subject: RE: Legionella

Jim,

Yes we have had two more Legionella cases this month. We are working with Clinical Pathogens (Dr. Stout's group), she and I have talked for a better part of one hour on Tuesday July 7 , then she was a conference all week long last week, so we are holding a conference call with a larger group (she, her technical advisor and our McLaren "water committee") on Friday.

To date no one from MDHHS has contacted me regarding our water samples. Let me present this to our committee. What/who would we be comparing our samples to?

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Wednesday, July 22, 2015 2:05 PM
To: Hudson, Russell
Subject: RE: Legionella

Hi Rusty,

We have seen a few more Legionella cases with associations with the hospital. I was wondering how thing are progressing and if you're working with Dr. Janet Stout's group. Also, MDHHS has inquired about obtaining the hospital's positive legionella water samples to compare with clinical isolates. I do not know where you stand on this, but will you let me know if you want to provide the water samples for comparison.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

McLaren FLINT

WATER TESTING

				1 1	1 2	1 3		1 4		1 5		1 6		1 7	1 8	1 9	1 10												1 11	1 12	2 1	2 2	2 3	2 4
			testing date	1-Sep	1-Sep	15-Sep		29-Sep		10-Oct		25-Oct		7-Nov	21-Nov	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	19-Dec	15-Jan	28-Jan	1-Mar	29-Apr	8-Nov	1-Jul
			results received	22-Sep	15-Sep	29-Sep		7-Oct		21-Oct		4-Nov		18-Nov	5-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	29-Jan	12-Feb	14-Mar	8-May	19-Jun	
Floor	Bldg	Room	Location			HOT	COLD	HOT	COLD	HOT	COLD	HOT	COLD	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
G	C	KITCHEN								✓	✓																									
			hand sink @ pt. tray area							41	41																									
3	C	IV THERAPY								✓	✓																									
			nourishment, east of nurse station							41	41																									
5	C	521						✓		✓	✓																									
			bath					41		41	41																									
5	C	522				✓	✓	✓		✓	✓	✓	✓																		✓	✓	✓	✓	✓	
			bath				41																								41					
5	B	535								✓	✓																									
			bath							41	41																									
5	B	MED LIBR TOIL																													✓	✓	✓	✓	✓	
			toilet room																												41					
5	B	538										✓	✓																							
			bath									41	41																							
4	A	455								✓	✓																									
			bath							41	41																									
4	A	458										✓	✓																							
			bath									41	41																							
4	A	462										✓	✓																							
			bath									41	41																							
4	A	466								✓	✓																									
			bath							41	41																									
6	A	654				✓	✓			✓	✓																				✓	✓	✓	✓	✓	
			bath			41	41			41	41																									
6	A	663								✓	✓																									
			bath							41	41																									
G	F	MR 31								✓	✓																									
			X-Ray corridor, toilet rm.							41	41																									
2	F	EMERG. DEPT.												✓																						
			X-Ray corridor, toilet rm.											41																						
3	F	RECOVERY								✓	✓			✓	✓															✓						
			sink @ ice maker							41	41			41	41															41						
4	F	MR 24								✓	✓			✓	✓																					
			clean sink							41	41			41	41																					
5	F	STAFF LOUNGE								✓	✓	✓	✓	✓	✓																					
			counter sink							41	41	41	41	41	41																					
			supply line, without faucet																																	
7	F	701								✓																										
			bath							41																										
7	F	702						✓		✓	✓	✓	✓	✓																✓						
			bath							41	41	41	41	41																41						
			supply line, without faucet																																	
7	F	703				✓	✓	✓		✓	✓			✓																						
			bath				41							41																						
8	F	802												✓																						
			bath											41																						
8	F	816								✓																										
			bath							41																										
10	F	1001								✓	✓	✓	✓	✓	✓	✓														✓	✓	✓	✓	✓	✓	
			bath							41	41	41	41	41	41	41																41				
			supply line, without faucet									41	41																							
10	F	1002								✓																										
			bath							41																										
10	F	1012										✓	✓	✓																						
			bath									41	41	41																						
10	F	1014										✓	✓	✓																						
			bath									41	41	41																						
11	F	1101								✓						✓																				
			bath							41						41																				
11	F	1106								✓						✓																				
			bath							41						41																				
11	F	1112								✓																										
			bath							41																										
11	F	1117								✓						✓																				
			bath							41						41																				

McLaren FLINT

WATER TESTING

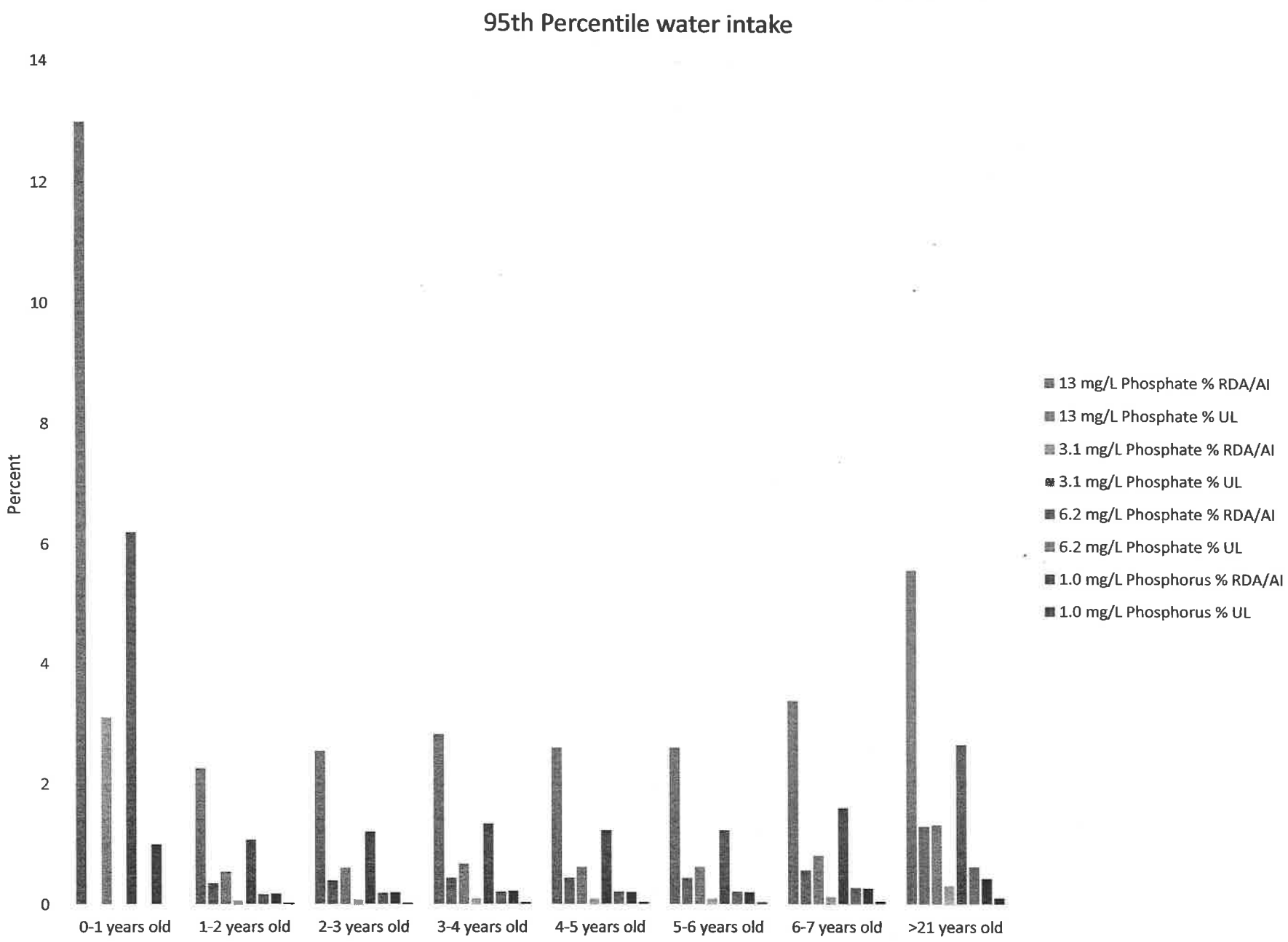
				1/1	1/2	1/3		1/4		1/5		1/6		1/7	1/8	1/9	1/10											1/11	1/12	2/1	2/2	2/3	2/4
			testing date	5-Sep	5-Sep	15-Sep		18-Sep		19-Oct		21-Oct		7-Nov	21-Nov	9-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	19-Dec	15-Jan	28-Jan	3-Mar	29-Apr	8-Jun	7-Jul
			results received	12-Sep	12-Sep	26-Sep		7-Oct		22-Oct		4-Nov		28-Nov	2-Dec	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	28-Jan	13-Feb	16-Mar	6-May	19-Jun	
Floor	Bldg	Room	location			HOT	COLD	HOT	COLD	HOT	COLD	HOT	COLD	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
11	F	1120								✓						✓																				
			bath							✓																										
12	F	1201								✓						✓																				
			bath							✓																										
12	F	1202								✓	✓																									
			bath																																	
12	F	1221														✓																				
			bath																																	

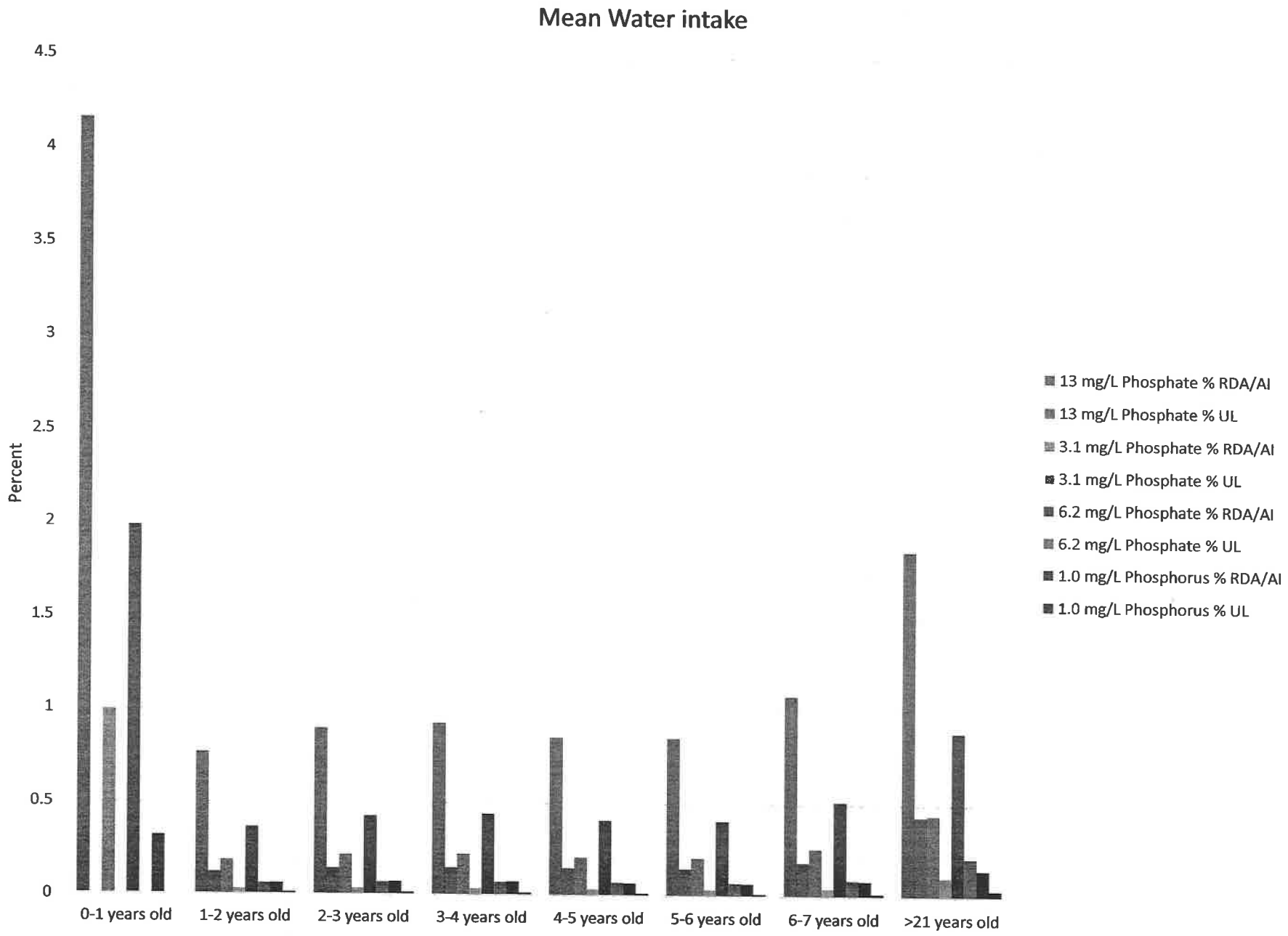
McLaren FLINT

WATER TESTING

				1 1	1 2	1 3		1 4		1 5		1 6		1 7	1 8	1 9	1 10													1 11	1 12	2 1	2 2	2 3	2 4
			testing date	1-Sep	1-Sep	13-Sep		19-Sep		10-Oct		25-Oct		7-Nov	21-Nov	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	19-Dec	11-Jan	26-Jan	5-Mar	29-Apr	8-Jun	2-Jul
			results received	12-Sep	15-Sep	26-Sep		7-Oct		21-Oct		4-Nov		18-Nov	2-Dec	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	7-Jan	28-Jan	11-Feb	16-Mar	8-May	19-Jun	
Floor	Wing	Room	Location			HOT	COLD	HOT	COLD	HOT	COLD	HOT	COLD	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
8	A	MACH. RM. 14	AHU 21 COIL	NO																															
13	C	7-NORTH ROOF	AHU 15 COIL	NO																															
13	F	MACH. RM. 25	AHU 4 COIL																																
13	F	MACH. RM. 25	AHU 5 COIL	NO																															
13	F	MACH. RM. 25	AHU 6 COIL	NO																															
13	F	MACH. RM. 25	AHU 7 COIL																																
13	F	MACH. RM. 25	AHU 1 INLET	NO																															
13	F	MACH. RM. 25	AHU 4 INLET	NO																															
13	F	MACH. RM. 25	AHU 6 INLET	NO																															
13	F	MACH. RM. 25	AHU 3 COIL	NO																															
13	F	MACH. RM. 25	AHU 2 COIL		NO																														
13	F	MACH. RM. 25	AHU 4 COIL		NO																														
13	F	MACH. RM. 25	AHU 3 COIL		NO																														
13	F	MACH. RM. 25	AHU 6 COIL		NO																														
13	F	MACH. RM. 25	AHU 7 COIL		NO																														
13	F	MACH. 25	AHU 5 INLET		NO																														
13	F	MACH. RM. 25	AHU 5 COIL		NO																														
13	F	MACH. RM. 25	AHU 8 INLET		NO																														
13	F	MACH. RM. 25	AHU 8 COIL		NO																														
G	B	BOILER RM	AFTER PUMPS				<5									<5	<5	<5	<5	<5	2998	<5	<5	<5	<5	<5	<5	<5	<5	2998						
G	B	BOILER RM	BEFORE PUMPS				<5																												
G	F	MACH. RM. 31								<5	<5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	2998	<5	<5	<5						
F	C	MACH. RM. 2								<5	<5																								
G	C	CAFETERIA	water dispenser at ice machine																																
F	C	MACH. RM. 1								<5	2998					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	2998						
G	B	BIOMED BED REF																																	

PHASE II


95th Percentile water intake
Percent
14
12
10
8
6
4
2
0
0-1 years old
1-2 years old
2-3 years old
3-4 years old
4-5 years old
5-6 years old
6-7 years old
>21 years old
13 mg/L Phosphate % RDA/AI
13 mg/L Phosphate % UL
3.1 mg/L Phosphate % RDA/AI
3.1 mg/L Phosphate % UL
6.2 mg/L Phosphate % RDA/AI
6.2 mg/L Phosphate % UL
1.0 mg/L Phosphorus % RDA/AI
1.0 mg/L Phosphorus % UL


Mean Water intake
Percent
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0-1 years old
1-2 years old
2-3 years old
3-4 years old
4-5 years old
5-6 years old
6-7 years old
>21 years old
13 mg/L Phosphate % RDA/AI
13 mg/L Phosphate % UL
3.1 mg/L Phosphate % RDA/AI
3.1 mg/L Phosphate % UL
6.2 mg/L Phosphate % RDA/AI
6.2 mg/L Phosphate % UL
1.0 mg/L Phosphorus % RDA/AI
1.0 mg/L Phosphorus % UL

Henry, James

From: Henry, James
Sent: Friday, August 7, 2015 11:29 AM
To: GCHD-CDIRT
Subject: Dr. Stout Meeting and McLaren Update

Good morning,

Dr. Janet Stout can meet next Monday, August 10th @ 2pm, in the EOC. I can push the time back a little later on Monday, if necessary. The linked article regarding New York's outbreak is very informative and apparently Dr. Stout has involvement with that situation, also. http://www.livescience.com/51755-what-is-legionnaires-disease.html

McLaren does treat the cooling tower water. They contract with NALCO http://www.nalco.com for treatment and monitor of the cooling tower coils, water inlets/outlets for Legionella, which have all been negative. McLaren's EH Director did not know the processes or chemicals that NALCO uses, but it includes a combination of biocides. He mentioned that he can get more information, if we want.

McLaren does not suspect the cooling towers because of the negative results. Also, because they are located on the roofs of smaller buildings, which would be equivalent to the 2nd and 3rd floors. It's a long distance for the air to travel to the 9th, 10th, 11th, 12th floors, where the illnesses have occurred. McLaren thinks that if the cooling towers were a problem, then more illnesses should have occurred on the floors in between, since the air passes there first.

McLaren resampled the water sytem locations within the hospital (not the cooling towers). The late July samples were all negative, confirming the early July negative results. This is confusing and hasn't happened previously. The hospital indicted that they did not hyperchlorinate or do anything different that would have caused the negative results.

I find it interesting that McLaren adds Chlorine, daily to the hospital drinking water system. They base the amount on the City's water Chlorine level entering the hospital. The EPA drinking water MCL for Chlorine is 4ppm. (3-4 drops per gallon of water). I'm guessing that the hospital and the City may exceed the level occasionally.

If this update is confusing, please let me know.

Thanks Jim
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4

Henry, James

From:	Henry, James
Sent:	Friday, August 14, 2015 4:36 PM
To:	GCHD-CD
Subject:	Fw: Legionella Communication to staff at McLaren Flint
Attachments:	WATER HYPERCLORINATION 20150814.pdf; Special Update August 14, 2015.pdf

Please see attachments. I'm off today, but want to share info timely.

Also, below is a brief update. Dr. Stout met with us earlier this week. She spoke of installing secondary treatment, more than introducing chlorine. Potentially getting the situation under control within three weeks. She mentioned that Legionella can be transmitted by aspiration, not only inhalation. Meaning that drinking Legionella contaminated water is also a source of respiratory exposure. I'll forward any information that I receive regarding Dr. Stout's assessment of McLaren water.

Have a good weekend.

Jim

Sent from my phone.

------ Original message------
From: Hudson , Russell
Date: Fri, Aug 14, 2015 3:54 PM
To: Janet Stout;Frank Sidari;Henry, James;
Subject: Legionella Communication to staff at McLaren Flint

Janet, Frank and Jim,

For your information.

Attached please find the SPECIAL UPDATE from today which has been distributed to the employees of McLaren Flint and posted throughout the hospital.. This highlights the steps being taken starting today.

In addition, we are performing a Hyperchlorination on the hot water system of the Central and South Buildings of the hospital tonight through tomorrow morning. That documentation is attached and was sent out to staff via email and will be posted.

Rusty Hudson, Assoc. AIA

Director, Engineering Services

McLaren Flint

russell.hudson@mclaren.org

(810) 342-2552 office

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Henry, James

From: Janet Stout <jstout@specialpathogenslab.com>
Sent: Wednesday, August 19, 2015 10:43 AM
To: Cupal, Suzanne
Cc: Henry, James; Janet Stout; Danette Hayman
Subject: Re: Testing Update

Hi Suzanne,
Remediation (hyperchlorination) was completed Friday/Saturday in the main hospital building where the majority of patients with a diagnosis of Legionellosis were housed.

Given that the incubation period for Legionnaires' disease is generally 2-10 days, there is the possibility that both community and healthcare-acquired cases could continue to be diagnosed over the next week or two following these actions.

The hospital has acted aggressively to address the concerns of the Health Department. We are presently working with the hospital to expedite both short and long-term approaches to prevention.

I believe Danette had called you after our on-site visit last week. I have copied her on this message and she will continue to update you on our progress.

Thanks for your support during this challenging time.

Sincerely,

Janet

Janet E. Stout, PhD
Director
Special Pathogens Laboratory

Sent from my smartphone on the Verizon Wireless 4G LTE network.

From: Cupal, Suzanne
Sent: Wednesday, August 19, 2015 10:17 AM

Henry, James

From: Janet Stout <jstout@specialpathogenslab.com>
Sent: Wednesday, September 23, 2015 9:31 AM
To: Henry, James; rosejo@msu.edu; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn; Janet Stout
Subject: Re: Flint Water

Hi James and All,
Very interesting and disappointing about the CDC.

Your group at the Health Department have and continue to work on behalf of the residents of Flint to hold people accountable and to promote transparency. The reduction in cases is testament to your efforts.

Keep up the good work!

There is a lead leaching expert at Virginia Tech - Marc Edwards.

Sincerely,

Janet

Janet

Janet E. Stout, PhD
Director
Special Pathogens Laboratory

Tel. 412-281-5335

Sent from my smartphone on the Verizon Wireless 4G LTE network.

From: Henry, James
Sent: Tuesday, September 22, 2015 2:58 PM
To: rosejo@msu.edu; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn
Subject: RE: Flint Water

We started out same as last year, cases gradually increasing as weather warmed up. It appeared that we were on track for the same trend as last year and we anticipated an increase number of cases. McLaren Hospital was sticking out like a sore thumb. Dr. Stout's group began working with McLaren in early August. I think we have had only two cases since mid-August and none have been associated to McLaren. This is a significant decrease for this same time last year. Thank you for your help.

Regarding CDC, On June 4, 2015, MDHHS wrote a memo claiming the "outbreak is over." I attached it for your reading pleasure, in summary, the memo included, no conclusive source and the illnesses had discontinued. This was incorrect. There were cases throughout the winter and April, May and June. we anticipated an increase number of cases. We questioned the memo and MDHHS explained, in writing that any contact with CDC will be made by them. The memo was wrong and politically charged. CDC is not involved.

We are now having potential issues with Lead. Earlier this year the City started treating the water with Ferric Acid, (without phosphate) to reduce the amount of Chlorine, hence TTHM. It was effective, but now the water is corrosive and appears to be leaching Lead. There is some EBL data that supports this. We are developing education materials and advisories. Also, working closely with the City, physicians and community.

If you have knowledge or experience in this area, please feel free to share it with us.

Thanks

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Henry, James

From: Cupal, Suzanne
Sent: Thursday, September 24, 2015 10:55 AM
To: 'rosejo@msu.edu'; Henry, James; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Hallwood, Dawn
Subject: RE: Flint Water

We met with Marc Edwards last week. We have reviewed his website. He has shared his data.

We greatly appreciate your support and expertise.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Thursday, September 24, 2015 10:30 AM
To: Henry, James; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn
Subject: Re: Flint Water

Henry
You are all doing such a good job. As you probably know Congressman Kildee is getting involved and Howard is trying to set up a meeting to invite Marc Edwards to the meeting. Below is Marc's web site (you probably have seen it). I know Marc well. Unfortunately I am already committed on the date he is proposing. I do not understand why there is not more attention paid to the people of Flint their health and the wholesomeness of their water. Joan

Flintwaterstudy.org

Henry, James

From: Joan Rose <rosejo@msu.edu>
Sent: Thursday, September 24, 2015 10:30 AM
To: Henry, James; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn
Subject: Re: Flint Water

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Flintwaterstudy.org

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife
480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 9/22/2015 2:58 PM, Henry, James wrote:

> We started out same as last year, cases gradually increasing as weather warmed up. It appeared that we were on track for the same trend as last year and we anticipated an increase number of cases. McLaren Hospital was sticking out like a sore thumb. Dr. Stout's group began working with McLaren in early August. I think we have had only two cases since mid-August and none have been associated to McLaren. This is a significant decrease for this same time last year. Thank you for your help.

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If you have knowledge or experience in this area, please feel free to share it with us.

Thanks

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

To: Henry, James
Subject: McLaren Flint policies

Rusty Hudson, Assoc. AIA

Director, Engineering Services

McLaren Flint

russell.hudson@mclaren.org

(810) 342-2552 office

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(810) 768-7970
scupal@gchd.us

From: Janet Stout [mailto:jstout@specialpathogenslab.com]
Sent: Wednesday, August 12, 2015 10:51 AM
To: Cupal, Suzanne
Cc: Janet Stout
Subject: Fw: Water

Hi Suzanne,
The email that I sent to the facility Director is below and explains the intent of the sampling. The reason for the request as well as the fact that the facilities would not be named are in the email.

Do you suppose the engineer did not forward the email to the ICP?

Thanks for your help - sorry you got involved as this is pure science and unrelated to the Legionella work we are doing at McLaren.

Sincerely,

Janet

Janet E. Stout, PhD
Director
Special Pathogens Laboratory

Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.

From: Janet Stout <jstout@specialpathogenslab.com>
Sent: Monday, August 3, 2015 10:17 PM
To: Nbirchm1@hurleymc.com
Cc: Janet Stout
Subject: Water

Dear Mr. Birchmeier,
My name is Janet Stout and I was given your name by Rusty Hudson at McClaren Flint. He and I connected because of my long history of working in the field of Legionella prevention and control. Through my contact with Rusty, I have learned of the changes of water sources for some sections of the city - some facilities being on a water system that was served by the lake and some now receiving water from the river.

I am contacting you because of my microbiology research interests and work that I am doing with the University of Pittsburgh School of Civil & Environmental Engineering. We have a student that is studying bacterial communities using molecular methods. I asked Rusty if I could have a liter of the incoming cold water for this analysis. I would really like to also have cold water from other local hospitals that receive water from the lake or the river.

I will be in Flint next week and was wondering if we could have a liter of your source water for study. The identity of the facilities is confidential and would never be named. This is strictly for scientific study.

I look forward to hearing from you and answering any questions you might have about this request.

Sincerely,

Janet E. Stout, PhD
Director
Special Pathogens Laboratory

Henry, James

From:	Henry, James
Sent:	Friday, August 14, 2015 4:45 PM
To:	GCHD-CDIRT
Subject:	Fw: Legionella Communication to staff at McLaren Flint
Attachments:	Special Update August 14, 2015.pdf; WATER HYPERCLORINATION 20150814.pdf

Sent from my phone.

------ Original message------
From: Hudson , Russell
Date: Fri, Aug 14, 2015 3:54 PM
To: Janet Stout;Frank Sidari;Henry, James;
Subject: Legionella Communication to staff at McLaren Flint

Janet, Frank and Jim,

For your information.

Attached please find the SPECIAL UPDATE from today which has been distributed to the employees of McLaren Flint and posted throughout the hospital.. This highlights the steps being taken starting today.

In addition, we are performing a Hyperchlorination on the hot water system of the Central and South Buildings of the hospital tonight through tomorrow morning. That documentation is attached and was sent out to staff via email and will be posted.

Rusty Hudson, Assoc. AIA

Director, Engineering Services

McLaren Flint

russell.hudson@mclaren.org

(810) 342-2552 office

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McLaren
FLINT

SPECIAL UPDATE

Over the past several weeks, there has been an increase in the number of Legionella cases throughout Genesee County. Although a clear source for this increase has not been specifically identified, McLaren Flint is taking proactive and precautionary measures to ensure that we are implementing all recommended practices and safety measures in the prevention and elimination of Legionella in the water system at our facility. In this initiative, we are working in partnership with the Genesee County Health Department and have engaged with leading experts in this field.

Beginning Friday, August 14, we are taking the following steps:

1. Adding additional chlorine to our water supply, while still maintaining levels well within safe drinking standards;
2. Providing bottled water for drinking while we are implementing specific measures. Patients will receive bottled water with all meals, and it will also be available on the unit throughout the day. Employees will also have access to bottled water for drinking purposes.
3. Implementing hyperchlorination of our water system to reinforce the routine, twice-a-year hyperchlorination process that was last implemented in April.
4. Continuing surveillance testing of our water to ensure consistent quality standards.

We understand these implementations may interrupt daily routines and appreciate your support as we work together to maintain a healthy environment for our patients, visitors and staff.

As additional resources, we are including with this update information outlining frequently asked questions and facts about Legionella.

For any further information, please contact Infection Control at (810) 342-2290.

Frequently Asked Questions about Legionnaires' Disease

What is Legionnaires' disease?

Legionnaires' disease is a lung infection (pneumonia) caused by a bacterium named Legionella pneumophila. The name Legionella pneumophila was derived from the original outbreak at the 1976 American Legion Convention in Philadelphia. Pneumophila means "lung loving" in Greek.

Where do Legionella bacteria come from?

Legionella are natural inhabitants of water and can be detected in rivers, lakes, and streams. The bacteria are commonly found in the water systems of buildings and households, but pose little risk to healthy adults and children. One type of Legionella species (L. longbeachae) has been found in potting soil.

What are the most common symptoms?

Legionnaires' disease can have symptoms like many other forms of pneumonia, so it can be hard to diagnose at first. Signs of the disease can include: a high fever, chills, cough, and confusion. Some people may also suffer from muscle aches and headaches. Symptoms usually begin two to 10 or 14 days after being exposed to the bacteria

Is Legionnaires' disease contagious?

Legionnaires' disease is not contagious. No special precautions, or isolation of the patient is necessary. The disease is transmitted via drinking water not by infected persons. It requires direct exposure to the bacteria - usually by aerosolized water mist that is inhaled or aspiration.

Who is at greatest risk for contracting Legionnaire's disease?

People at risk for contracting Legionnaires' disease following exposure to water that contains Legionella are usually 65 years or older, smokers, patients with chronic lung disease, and those with weakened immune systems. People who have had a bone marrow or solid organ transplant have the greatest risk of contracting Legionella pneumonia.

How is Legionnaires' disease treated?

Many antibiotics are highly effective against Legionella bacteria. The two most effective antibiotics are levofloxacin and azithromycin.

Legionella Facts

1. Legionnaires' disease is a form of bacterial pneumonia caused by the bacteria Legionella found in building water systems.
2. Legionella bacteria are naturally found in municipal cold water, but can grow in high numbers in warm water after entering a building's hot water system.
3. How much Legionella grows depends on the temperature. The ideal temperature range is between 95 and 110 degrees.
4. Brown water events and water pressure changes in pipes can increase Legionella in building water systems.
5. Legionnaires' disease causes a small percentage, only about 2 to 5% of the average 600,000 pneumonia cases that require hospitalization each year.
6. Even if the bacteria enter the lungs, either by inhalation or aspiration drinking water or water droplets, the majority of persons exposed won't become ill. The likelihood for illness is greatest for persons with chronic lung disease (smokers, COPD), those taking high dose steroids, diabetics, patients who have had transplants or persons with compromised immune systems, i.e., cancer treatments.
7. Not all antibiotics are effective against Legionnaires' disease. Two that are very effective are levofloxacin or azithromycin.
8. Diagnosis of Legionnaires' disease requires a specific test—urine antigen—which must be ordered by a physician. Cases are often missed when physicians don't consider Legionnaires' disease as a possible illness. It is often not diagnosed and is under reported for these reasons.
9. Rapid diagnosis and effective treatment are key to minimizing the severity of the disease and in preventing mortality.
10. Approaches to preventing exposure of at risk patient populations to Legionella bacteria in water include:
    - Using sterile water with equipment such as nasogastric and endotracheal tubes, TEE probes, etc.
    - Providing bottled water for drinking when cases of hospital-acquired Legionnaires' disease have been identified and until after water is treated to control Legionella.
    - Since there is no person-to-person spread of Legionella bacteria, disease prevention is accomplished by additional treatment of the warm water system to control and prevent the growth of Legionella.

Source: Special Pathogens Laboratory, Pittsburgh, PA

WATER HYPER-CHLORINATION

On **Friday August 14**, McLaren Flint will perform a **HOT WATER** hyper-chlorination of the hospital water system in the **South ("F") and Central ("A") Buildings only**, as a part of our on-going maintenance.

This procedure will start at 8:00 PM (2000) on Friday August 14 and may last until 9:00 AM (0900) on Saturday August 15.

5 gallon bottled water delivery will occur to all patient care areas on Friday August 14 starting at 6:00 PM (1800). If you not received water for your area by 9:00 PM (2100) on Friday, please place a FLT Engineering Request work order in the AIMS system (by clicking on the "Red Phoenix Firebird" on your Novell desktop) or contact Engineering Services at 22551.

The **HOT WATER** will have a temporary chlorine odor (similar to a swimming pool) during the procedure.

A zip lock bag will be placed over the sink faucet during the time of the chlorination, please refrain from using the faucet during this time.

Drinking fountains are still available for use, ice machines are still available for use. All toilets will be fully functional.

Please be assured that is a pro-active measure taken by McLaren Flint Engineering Services and is a part of our routine maintenance.

During this time, you will see increased activity from McLaren Flint Engineering Services personnel. They will be running faucets and checking water lines.

After 9:00 AM (0900) on Saturday, if you notice a **smell of chlorine to the water**, continue to run water through the fixtures for 5-10 minutes to flush the system in your area.

After 9:00 AM (0900) on Saturday, if notice a **discoloration of the water**, continue to run water through the fixtures for 5 minutes to flush the system in your area.

As always, thank you for your patience,

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

EXECUTIVE SUMMARY

Special Pathogens Laboratory (SPL) was contacted by McLaren Flint Health Care to assist the hospital in responding to an increase in the incidence of Legionnaires' disease due to *Legionella pneumophila*, serogroup 1. The Genesee County Health Department had also been in contact with the hospital regarding cases of Legionnaires' disease in patients that had been diagnosed and treated at the hospital. This increase in cases had been observed over the past year when water quality in Flint was adversely affected when the city switched from Detroit water to the Flint River last year.

SPL was asked to provide consultation services, including an on-site risk assessment, review of the facility's current Legionella policy, and development of a Water Safety Plan for the facility.

Assessments of McLaren Flint Hospital buildings were performed from August 11 – 13, 2015. The assessment including collection of samples for *Legionella* culture from distal hot water sites, distal cold water sites, hot water heaters, a hot water return, and the cold water entries. Physicochemical measurements, including pH, temperature, and free chlorine, were also taken.

Legionella pneumophila serogroup 1 was detected across all systems, with the majority of hot water distal sites (water outlets) showing some level of positivity.

McLaren Flint Hospital Administration, Infectious Diseases, Facilities Engineering and Infection Control acted aggressively to address the potential risk for hospital-acquired Legionnaires' disease. Staff worked with SPL to expedite both short and long-term approaches to prevention. This included recommendations for rapid identification and treatment of cases as well as recommendations regarding options for installation of secondary water treatment (disinfection).

The hospital staff performed a "shock" hyperchlorination disinfection in Buildings F, A, and B/C. The hyperchlorination disinfection for Building F Upper System was completed on August 14-15, 2015 and re-sampled for *Legionella* on August 17, 2015.

The "post-disinfection" culture results showed that *Legionella* concentrations were significantly lower—indicating the hyperchlorination disinfection was a successful short-term remediation which temporarily reduced *Legionella*.

Long-term secondary disinfection with monochloramine was recommended in patient care areas because of its proven efficacy and ability to rapidly reduce *Legionella* in hospital hot water systems. A Water Safety Plan is being developed to provide on-going risk management and to comply with the new ASHRAE 188 Legionella standard.

These efforts have resulted in successfully reducing *Legionella* in the hospital water systems. No cases of healthcare-acquired Legionnaires' disease were identified following these measures.

Henry, James

From: Henry, James
Sent: Thursday, September 17, 2015 4:40 PM
To: Cupal, Suzanne
Subject: RE: Bug Fuzz Meeting

Suzanne, I can't meet in the afternoon on 10/1, but can bounce my schedule around most other days. Here's my 2 cents, which I'll convey at some point.

MDHHS wants a lot of information for an outbreak investigation which they, alone, determined to be over in May. Following that determination, they discontinued communications with our office regarding the ongoing Legionella outbreak. The State's political agenda and inability to cooperate interdepartmentally interfered and prolonged our investigation, which resulted in additional illnesses and possibly deaths. I agree we should wrap this up with McLaren and all stakeholders. Recommendations in the final report should Include:

1. Initiate better communication and cooperation interdepartmentally at the State level with the development of a committee to make it happen.
2. Public health should be the top priority of MDHHS leadership.

I wonder if Tim Collin's, ***Director*** recognizes how absurd it was to claim the "outbreak is over." Although you won't be recognized, your leadership has brought upon this resolution. Thank you, sincerely!

Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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From: Cupal, Suzanne
Sent: Thursday, September 17, 2015 11:49 AM
To: 'Fiedler, Jay (DCH)'; Rygiel, Christine; Bohm, Susan (DCH); Collins, Jim (DCH); Johnson, M.D., Gary; Bolen, Timothy

(DCH)
Cc: Johnson, Shannon (DCH); Childs, Bonnie; Kremlick, Denise; Connolly, Stephanie; Henry, James
Subject: RE: Bug Fuzz Meeting

I just heard back from McLaren. They want the meeting to be the week of the September 28th. They would also like the meeting to be face to face at their facility. Please share your availability the week of September 28th.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Fiedler, Jay (DCH) [mailto:FiedlerJ@michigan.gov]
Sent: Wednesday, September 16, 2015 4:52 PM
To: Cupal, Suzanne; Rygiel, Christine; Bohm, Susan (DCH); Collins, Jim (DCH); Johnson, M.D., Gary; Bolen, Timothy (DCH)
Cc: Johnson, Shannon (DCH); Childs, Bonnie; Kremlick, Denise; Connolly, Stephanie
Subject: RE: Bug Fuzz Meeting

Hello,

Here are some initial thoughts on things we like to discuss with McLaren:

1. Mapping of hospital exposures of McLaren cases – are these clustered in one part of hospital? Some description of this would be helpful
2. Environmental testing results – when, from which locations in hospital? Just from the water system or other areas?
3. Has the testing identified any areas that are requiring additional measures and how are they treating and monitoring these areas? How frequently?
4. A summary of the measures that have been implemented to protect patients and staff including when the measures were implemented.

In terms of sending out the summary report of last year to the Bug Fuzz meeting, is that something that we could do or would you like it to come from your side?

Thanks. -Jay

Jay Fiedler
517.335.9516

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Tuesday, September 15, 2015 6:19 PM
To: Fiedler, Jay (DCH) <FiedlerJ@michigan.gov>; Christine Rygiel <crygiel@gchd.us>; Bohm, Susan (DCH) <bohms@michigan.gov>; Collins, Jim (DCH) <CollinsJ12@michigan.gov>; Johnson, M.D., Gary <GJOHNSON@gchd.us>; Bolen, Timothy (DCH) <BolenT1@michigan.gov>
Cc: Johnson, Shannon (DCH) <JohnsonS61@michigan.gov>; Childs, Bonnie <BCHILDS@gchd.us>; Kremlick, Denise <DKREMLIC@gchd.us>; Connolly, Stephanie <sconnolly@gchd.us>
Subject: RE: Bug Fuzz Meeting

Danette Hayman would like to put together an agenda so they can come prepared to answer our questions. Please forward any items you would like to see added. We can then send out that agenda to everyone before the meeting.
Thank you.
Suzanne

Sent from my Windows Phone

From: Fiedler, Jay (DCH)
Sent: 9/15/2015 3:26 PM
To: Cupal, Suzanne; Christine Rygiel; Bohm, Susan (DCH); Collins, Jim (DCH); Johnson, M.D., Gary; Bolen, Timothy (DCH)
Cc: Johnson, Shannon (DCH); Childs, Bonnie; Kremlick, Denise; Connolly, Stephanie
Subject: RE: Bug Fuzz Meeting

OK.

The report from last year has been finalized. I think that this could be sent out now. It's a nice product that represents a lot of work from GCHD and DHHS. It would set the stage for us to release a summary of the current activity.
We will work on getting a more polished summary of current activity out for review and distribution.
Some availability on our end for a call next week with McLaren: Tues 9/22: 9-11; Thurs 9/24: 9-10, 1-2; Fri 9/25: 9-11, 3-4
And for the last item, we're going to touch base with our lab to get some of the specifics from their end and then we can put together a draft of that information for us to discuss.

-Jay

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Monday, September 14, 2015 6:06 PM
To: Fiedler, Jay (DCH) <FiedlerJ@michigan.gov>; Christine Rygiel <crygiel@gchd.us>; Bohm, Susan (DCH) <bohms@michigan.gov>; Collins, Jim (DCH) <CollinsJ12@michigan.gov>; Johnson, M.D., Gary <GJOHNSON@gchd.us>; Bolen, Timothy (DCH) <BolenT1@michigan.gov>
Cc: Johnson, Shannon (DCH) <JohnsonS61@michigan.gov>; Childs, Bonnie <BCHILDS@gchd.us>; Kremlick, Denise <DKREMLIC@gchd.us>; Connolly, Stephanie <sconnolly@gchd.us>
Subject: RE: Bug Fuzz Meeting

Thank you, Jay.
Regarding 1.) agreed. When we next meet for Bug Fuzz we should provide a more formal presentation.
2.) agreed. This should also be part of the presentation.
3.) I spoke with Danette Hayman of McLaren this afternoon. She is trying to identify some dates before the end of this month for us to meet.
4.) When are you available to discuss?

Sent from my Windows Phone

From: Fiedler, Jay (DCH)
Sent: 9/14/2015 4:59 PM
To: Cupal, Suzanne; Christine Rygiel; Bohm, Susan (DCH); Collins, Jim (DCH); Johnson, M.D., Gary; July, Jori; Bolen, Timothy (DCH)
Cc: Johnson, Shannon (DCH); Childs, Bonnie; Kremlick, Denise; Connolly, Stephanie
Subject: RE: Bug Fuzz Meeting

Thanks for the follow-up Suzanne,

I had a couple of notes from the meeting on things that need to be done as well:

1) Share the summary report of last year's enhanced surveillance with the three hospitals.
2) Formalize the summary of June-August 2015 and share that with GCHD and the three hospitals.
3) Schedule a meeting/call with GCHD, MDHHS, and McLaren (EH and ICP) to talk about their internal findings and remediation activities.
4) Develop a plan/summary regarding the clinical isolates including when we plan to test and when we will be to be able to provide more information (or further recommendations).

Let us know what you think. Thanks. –Jay

Jay Fiedler, MS
Section Manager
Surveillance and Infectious Disease Epidemiology
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201 Townsend St - PO Box 30195 - Lansing, MI 48909
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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Monday, September 14, 2015 9:19 AM
To: Ann Newell <anewell1@hurleymc.com>; Christine Rygiel <crygiel@gchd.us>; Cupal, Suzanne <scupal@gchd.us>; Danette Hayman <danette.hayman@mclaren.org>; Denise Charles <dcharle2@hurleymc.com>; Dr. Habte-Gabr <ehabte1@hurleymc.com>; Dr. Rafee <yrafee1@hurleymc.com>; Erik Naugle <erik.naugle@mclaren.org>; Erin Parker <erin.parker@genesys.org>; Johnson, M.D., Gary <GJOHNSON@gchd.us>; July, Jori <jjuly@gchd.us>; Kari Wanless <kari.wanless@mclaren.org>; Kim Tylenda <kimberly.tylenda@mclaren.org>; Kim Warden <kwarden@hamiltonchn.org>; Lori Wiskur <lori.wiskur@genesys.org>; Rachel O'Mara <romara@genesys.org>; Sue Forrest <sue.forrest@mclaren.org>; Sue Harlow <sharlow@genesys.org>; Bolen, Timothy (DCH) <BolenT1@michigan.gov>; Tony Armor <aarmor1@hurleymc.com>; Traci Sperry <tsperry1@hurleymc.com>
Cc: Johnson, Shannon (DCH) <JohnsonS61@michigan.gov>; Fiedler, Jay (DCH) <FiedlerJ@michigan.gov>; Childs, Bonnie <BCHILDS@gchd.us>; Kremlick, Denise <DKREMLIC@gchd.us>; Connolly, Stephanie <sconnolly@gchd.us>
Subject: Bug Fuzz Meeting

As a follow up to the Bug Fuzz meeting last Friday, I am forwarding some website information regarding the Joint Commission/ASHRAE guidelines Ann referenced for your review. Please note that Dr. Stout and Dr. Yu of Special Pathogens Laboratory helped write these guidelines.

We will be connecting with each medical center this week to try and gather specifics on the information that is needed by each organization. We will reach out to City of Flint and DEQ and request they attend the next proposed meeting.

Just a reminder, DEQ has the authority for type 1 water. Specific type 1 water compliance questions should be directed to them. GCHD can provide general information, but, specific questions regarding the Joint Commission guidelines should be directed to that agency.

Please feel free to contact me at any time. Christine Rygiel's telephone number is 810-257-3815 and her email is crygiel@gchd.us.

Please visit:
JointCommission.org
Ashe.org
Legionella.org

From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Tuesday, September 22, 2015 10:32 AM
To: Henry, James; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hasan, Shurooq
Subject: Re: Flint Water

Hello Everyone

I have been hearing rumors about the *Legionella* cases this summer and that Flint has seen another increase. Can you provide me with any update? Is CDC going to get involved now?

Hope you are all doing ok.

Joan

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife
480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 2/9/2015 3:58 PM, Henry, James wrote:

Dr. Rose and Dr. Stout

Genesee County Health Department is working with MDCH regarding the Legionella investigation and trying to develop a comprehensive questionnaire for interviewing our Legionella cases. I have attached the questionnaire and questions below that are currently being asked during interviews. Would you please take a look at them and provide any comments or recommendations.

Thanks

Jim

Henry, James

From: Henry, James
Sent: Tuesday, September 22, 2015 2:59 PM
To: rosejo@msu.edu; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn
Subject: RE: Flint Water
Attachments: 20150529 Executive Summary_v3.docx

We started out same as last year, cases gradually increasing as weather warmed up. It appeared that we were on track for the same trend as last year and we anticipated an increase number of cases. McLaren Hospital was sticking out like a sore thumb. Dr. Stout's group began working with McLaren in early August. I think we have had only two cases since mid-August and none have been associated to McLaren. This is a significant decrease for this same time last year. Thank you for your help.

Regarding CDC, On June 4, 2015, MDHHS wrote a memo claiming the "outbreak is over." I attached it for your reading pleasure, in summary, the memo included, no conclusive source and the illnesses had discontinued. This was incorrect. There were cases throughout the winter and April, May and June. we anticipated an increase number of cases. We questioned the memo and MDHHS explained, in writing that any contact with CDC will be made by them. The memo was wrong and politically charged. CDC is not involved.

We are now having potential issues with Lead. Earlier this year the City started treating the water with Ferric Acid, (without phosphate) to reduce the amount of Chlorine, hence TTHM. It was effective, but now the water is corrosive and appears to be leaching Lead. There is some EBL data that supports this. We are developing education materials and advisories. Also, working closely with the City, physicians and community.

If you have knowledge or experience in this area, please feel free to share it with us.

Thanks

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Henry, James

From: Joan Rose <rosejo@msu.edu>
Sent: Tuesday, September 22, 2015 5:30 PM
To: Henry, James
Subject: Re: Flint Water

Oh I see. Wow yes a problem. I was thinking of the water. Thanks

Sent from my iPhone

On Sep 22, 2015, at 2:17 PM, "Henry, James" <jhenry@gchd.us> wrote:

> Sorry, (EBL) means Elevated Blood Level. Any level of Lead I in blood is a concern, 5 micrograms per deciliter is the action level.
>
> ---
>
> **From:** Joan Rose [mailto:rosejo@msu.edu]
> **Sent:** Tuesday, September 22, 2015 3:36 PM
> **To:** Henry, James
> **Subject:** Re: Flint Water
>
> Oh wow. Still very politically charged Is EBL stand for environmental lead? What's the B? I ran into Marc Edwards post doc. Just been screening the web site. Talk to you soon.
>
> Sent from my iPhone
>
> On Sep 22, 2015, at 11:58 AM, "Henry, James" <jhenry@gchd.us> wrote:
>
>> We started out same as last year, cases gradually increasing as weather warmed up. It appeared that we were on track for the same trend as last year and we anticipated an increase number of cases. McLaren Hospital was sticking out like a sore thumb. Dr. Stout's group began working with McLaren in early August. I think we have had only two cases since mid-August and none have been associated to McLaren. This is a significant decrease for this same time last year. Thank you for your help.
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Henry, James

From: Janet Stout <jstout@specialpathogenslab.com>
Sent: Wednesday, September 23, 2015 9:31 AM
To: Henry, James; rosejo@msu.edu; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn; Janet Stout
Subject: Re: Flint Water

Hi James and All,
Very interesting and disappointing about the CDC.

Your group at the Health Department have and continue to work on behalf of the residents of Flint to hold people accountable and to promote transparency. The reduction in cases is testament to your efforts.

Keep up the good work!

There is a lead leaching expert at Virginia Tech - Marc Edwards.

Sincerely,

Janet

Janet

Janet E. Stout, PhD
Director
Special Pathogens Laboratory

Tel. 412-281-5335

Sent from my smartphone on the Verizon Wireless 4G LTE network.

From: Henry, James
Sent: Tuesday, September 22, 2015 2:58 PM
To: rosejo@msu.edu; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn
Subject: RE: Flint Water

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Thanks

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
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Phone (810) 257-3618 Fax (810) 257-3125
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From: Joan Rose [mailto:rosejo@msu.edu]
Sent: Tuesday, September 22, 2015 10:32 AM
To: Henry, James; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hasan, Shurooq
Subject: Re: Flint Water

Hello Everyone

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Hope you are all doing ok.

Joan

Joan B. Rose

Henry, James

From: Joan Rose <rosejo@msu.edu>
Sent: Thursday, September 24, 2015 10:30 AM
To: Henry, James; Janet Stout; Erin Dreelin
Cc: Childs, Bonnie; Cupal, Suzanne; Hallwood, Dawn
Subject: Re: Flint Water

Henry
You are all doing such a good job. As you probably know Congressman Kildee is getting involved and Howard is trying to set up a meeting to invite Marc Edwards to the meeting. Below is Marc's web site (you probably have seen it). I know Marc well. Unfortunately I am already committed on the date he is proposing. I do not understand why there is not more attention paid to the people of Flint their health and the wholesomeness of their water. Joan

Flintwaterstudy.org

Joan B. Rose
Homer Nowlin Chair in Water Research
Dept of Fisheries and Wildlife
480 Wilson Road
Natural Resources Building, Room 13
Michigan State University
East Lansing, MI 48824
rosejo@msu.edu
Phone: 517.432-4412

http://www.fw.msu.edu/~rosejo/
http://camra.msu.edu/
http://cws.msu.edu/

On 9/22/2015 2:58 PM, Henry, James wrote:

> We started out same as last year, cases gradually increasing as weather warmed up. It appeared that we were on track for the same trend as last year and we anticipated an increase number of cases. McLaren Hospital was sticking out like a sore thumb. Dr. Stout's group began working with McLaren in early August. I think we have had only two cases since mid-August and none have been associated to McLaren. This is a significant decrease for this same time last year. Thank you for your help.
>
> Regarding CDC, On June 4, 2015, MDHHS wrote a memo claiming the "outbreak is over." I attached it for your reading pleasure, in summary, the memo included, no conclusive source and the illnesses had discontinued. This was incorrect. There were cases throughout the winter and April, May and June. we anticipated an increase number of cases. We questioned the memo and MDHHS explained, in writing that any contact with CDC will be made by them. The memo was wrong and politically charged. CDC is not involved.
>
> We are now having potential issues with Lead. Earlier this year the City started treating the water with Ferric Acid, (without phosphate) to reduce the amount of Chlorine, hence TTHM. It was effective, but now the water is corrosive and appears to be leaching Lead. There is some EBL data that supports

this. We are developing education materials and advisories. Also, working closely with the City, physicians and community.

If you have knowledge or experience in this area, please feel free to share it with us.

Thanks

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Henry, James

From:	Cupal, Suzanne
Sent:	Thursday, September 24, 2015 11:36 AM
To:	'Fiedler, Jay (DCH)'; Rygiel, Christine; Bohm, Susan (DCH); Collins, Jim (DCH); Johnson, M.D., Gary; Bolen, Timothy (DCH)
Cc:	Johnson, Shannon (DCH); Childs, Bonnie; Kremlick, Denise; Connolly, Stephanie; Henry, James
Subject:	RE: Bug Fuzz Meeting

Just a follow-up email to my email of 9/17/15. McLaren would like a face to face meeting the week of September 28th. Could you please share your availability?

Regarding the items Jay forwarded, following is what we know:

1. Mapping of hospital exposures of McLaren cases – are these clustered in one part of hospital? Some description of this would be helpful This information was shared in one of our previous calls. The cases were located on different floors in one tower of the hospital. We cannot confirm this information for the most recent cases yet as we are now communicating with risk management. We hope to have an update at this meeting.
2. Environmental testing results – when, from which locations in hospital? Just from the water system or other areas? The hospital was working with a consulting firm doing testing on a monthly basis in various areas of the hospital as a result of our concerns as of last year. Special Pathogens group did much more extensive testing when they began consulting. We have asked for those results, but, have not received them. We hope they will be shared at this proposed meeting. Eric did mention at the Bug Fuzz meeting that the test results differed between the two consultants. We are looking forward to hearing about the results as we anticipate more accurate testing from the new consultants because of their expertise. We did request they retain the environmental samples.
3. Has the testing identified any areas that are requiring additional measures and how are they treating and monitoring these areas? How frequently? They recently hypercholinated and have begun treating with monochloromine. They are testing monthly and upgrades are being made to their infrastructure. We hope for an update on this with specific details at the proposed meeting.
4. A summary of the measures that have been implemented to protect patients and staff including when the measures were implemented. They are treating previously hospitalized patients who are symptomatic preemptively. Their staff has been receiving additional education regarding Legionella. They are using bottled water (concerns about aspiration). They are monitoring water temperatures.
   We look forward to an update at the proposed meeting.

Please let me know your availability. We are anxious to meet with them to get these updates.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502

(810) 768-7970
scupal@gchd.us

From: Fiedler, Jay (DCH) [mailto:FiedlerJ@michigan.gov]
Sent: Wednesday, September 16, 2015 4:52 PM
To: Cupal, Suzanne; Rygiel, Christine; Bohm, Susan (DCH); Collins, Jim (DCH); Johnson, M.D., Gary; Bolen, Timothy (DCH)
Cc: Johnson, Shannon (DCH); Childs, Bonnie; Kremlick, Denise; Connolly, Stephanie
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2. Environmental testing results – when, from which locations in hospital? Just from the water system or other areas?
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4. A summary of the measures that have been implemented to protect patients and staff including when the measures were implemented.

In terms of sending out the summary report of last year to the Bug Fuzz meeting, is that something that we could do or would you like it to come from your side?

Thanks. -Jay

Jay Fiedler
517.335.9516

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Tuesday, September 15, 2015 6:19 PM
To: Fiedler, Jay (DCH) <FiedlerJ@michigan.gov>; Christine Rygiel <crygiel@gchd.us>; Bohm, Susan (DCH) <bohms@michigan.gov>; Collins, Jim (DCH) <CollinsJ12@michigan.gov>; Johnson, M.D., Gary <GJOHNSON@gchd.us>; Bolen, Timothy (DCH) <BolenT1@michigan.gov>
Cc: Johnson, Shannon (DCH) <JohnsonS61@michigan.gov>; Childs, Bonnie <BCHILDS@gchd.us>; Kremlick, Denise <DKREMLIC@gchd.us>; Connolly, Stephanie <sconnolly@gchd.us>
Subject: RE: Bug Fuzz Meeting

Danette Hayman would like to put together an agenda so they can come prepared to answer our questions. Please forward any items you would like to see added. We can then send out that agenda to everyone before the meeting.
Thank you.
Suzanne

Sent from my Windows Phone

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Subject: RE: Bug Fuzz Meeting

OK.

The report from last year has been finalized. I think that this could be sent out now. It's a nice product that represents a lot of work from GCHD and DHHS. It would set the stage for us to release a summary of the current activity.
We will work on getting a more polished summary of current activity out for review and distribution.
Some availability on our end for a call next week with McLaren: Tues 9/22: 9-11; Thurs 9/24: 9-10, 1-2; Fri 9/25: 9-11, 3-4
And for the last item, we're going to touch base with our lab to get some of the specifics from their end and then we can put together a draft of that information for us to discuss.

-Jay

From: Cupal, Suzanne [mailto:scupal@gchd.us]
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To: Fiedler, Jay (DCH) <FiedlerJ@michigan.gov>; Christine Rygiel <crygiel@gchd.us>; Bohm, Susan (DCH) <bohms@michigan.gov>; Collins, Jim (DCH) <CollinsJ12@michigan.gov>; Johnson, M.D., Gary <GJOHNSON@gchd.us>; Bolen, Timothy (DCH) <BolenT1@michigan.gov>
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Subject: RE: Bug Fuzz Meeting

Thank you, Jay.
Regarding 1.) agreed. When we next meet for Bug Fuzz we should provide a more formal presentation.
2.) agreed. This should also be part of the presentation.
3.) I spoke with Danette Hayman of McLaren this afternoon. She is trying to identify some dates before the end of this month for us to meet.
4.) When are you available to discuss?

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Thanks for the follow-up Suzanne,

I had a couple of notes from the meeting on things that need to be done as well:

1) Share the summary report of last year's enhanced surveillance with the three hospitals.
2) Formalize the summary of June-August 2015 and share that with GCHD and the three hospitals.
3) Schedule a meeting/call with GCHD, MDHHS, and McLaren (EH and ICP) to talk about their internal findings and remediation activities.
4) Develop a plan/summary regarding the clinical isolates including when we plan to test and when we will be to be able to provide more information (or further recommendations).

Let us know what you think. Thanks. –Jay

Jay Fiedler, MS
Section Manager
Surveillance and Infectious Disease Epidemiology

Bureau of Disease Control, Prevention, and Epidemiology
Michigan Department of Health and Human Services
201 Townsend St - PO Box 30195 - Lansing, MI 48909
P: 517.335.9516 - E: fiedlerj@michigan.gov

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To: Ann Newell <anewell1@hurleymc.com>; Christine Rygiel <crygiel@gchd.us>; Cupal, Suzanne <scupal@gchd.us>; Danette Hayman <danette.hayman@mclaren.org>; Denise Charles <dcharle2@hurleymc.com>; Dr. Habte-Gabr <ehabte1@hurleymc.com>; Dr. Rafee <yrafee1@hurleymc.com>; Erik Naugle <erik.naugle@mclaren.org>; Erin Parker <erin.parker@genesys.org>; Johnson, M.D., Gary <GJOHNSON@gchd.us>; July, Jori <jjuly@gchd.us>; Kari Wanless <kari.wanless@mclaren.org>; Kim Tylenda <kimberly.tylenda@mclaren.org>; Kim Warden <kwarden@hamiltonchn.org>; Lori Wiskur <lori.wiskur@genesys.org>; Rachel O'Mara <romara@genesys.org>; Sue Forrest <sue.forrest@mclaren.org>; Sue Harlow <sharlow@genesys.org>; Bolen, Timothy (DCH) <BolenT1@michigan.gov>; Tony Armor <aarmor1@hurleymc.com>; Traci Sperry <tsperry1@hurleymc.com>
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Please feel free to contact me at any time. Christine Rygiel's telephone number is 810-257-3815 and her email is crygiel@gchd.us.

Please visit:
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Ashe.org
Legionella.org

Suzanne

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scupal@gchd.us

Henry, James

From:	Cupal, Suzanne
Sent:	Tuesday, September 29, 2015 12:38 PM
To:	'Fiedler, Jay (DCH)'; Rygiel, Christine; Bohm, Susan (DCH); Collins, Jim (DCH); Johnson, M.D., Gary; Bolen, Timothy (DCH)
Cc:	Johnson, Shannon (DCH); Childs, Bonnie; Kremlick, Denise; Connolly, Stephanie; Henry, James
Subject:	RE: Meeting with McLaren

I spoke with Julie Borowski at McLaren today. She will forward a report of what McLaren has done, testing by Special Pathogens Laboratories, remediation activities, etc. (including the agenda questions I forwarded from MDHHS and GCHD) by the end of this week. We can review the information and they will answer any specific questions that remain unanswered after that review.

I will follow up with her on Friday to make sure we received the information.

Suzanne

Julie's contact information is below:
Julie Borowski, CPHRM
Director- Compliance, Risk Management, Medical Staff Services
McLaren- Flint
(810) 342-2097
Julie.borowski@mclaren.org

Suzanne Cupal, M.P.H.
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Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Henry, James

From: Cupal, Suzanne
Sent: Tuesday, October 13, 2015 8:30 AM
To: Henry, James; Valacak, Mark
Subject: RE: Legionella
Attachments: 20150604 Legionellosis Analysis Summary_Final.pdf; Copy of Legionella.xlsx

Attached is the report the state sent to the CDC regarding Legionella from June of 2014-March of 2015. The summary matches our findings. Also attached is the current data for Legionella from May of 2015 to the present. Please let me know if you have any questions. As you can see from the report, the majority of cases since May of 2015 are associated with one hospital system.

We did not have access to Arc GIS last year, but, Shurooq did a crude map of cases with Google maps. There was no distinct distribution pattern among the cases. About ½ were City of Flint and the other ½ outside the city.

Let me know if you need more information.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Henry, James
Sent: Monday, October 12, 2015 12:14 PM
To: Valacak, Mark; Cupal, Suzanne
Subject: Re: Legionella

We have a chronological order events, including activities from our state "partners." It needs some final updates. (McLaren Activities). Regarding specific time line for cases. I don't think' it has been put together, but should be easy to compile. Bonnie has been very active with Legionella in MDSS.

Jim

Sent from my phone.

------ Original message------
From: Valacak, Mark
Date: Mon, Oct 12, 2015 11:25 AM
To: Cupal, Suzanne;Henry, James;
Subject:FW: Legionella

Have we mapped or time lined the legionella cases?

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

PublicHealth

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Mona Hanna-Attisha [mailto:MHanna1@hurleymc.com]
Sent: Monday, October 12, 2015 10:33 AM
To: Valacak, Mark; Brickey, Tamara
Cc: Jenny LaChance
Subject: Legionella

I have a list of all the Hurley cases of Legionella since the water switch, but i don't have the ones from the other hospitals (I know McLaren had a bunch). We were hoping with Edwards group to sample their water for legionella DNA - this is part of his NSF grant. It kinda needs to be done soon before the water switches. Do you guys have all the reported cases of Legionella from Flint or from the county and we can remove the non-Flint people?

Thanks! Mona

Mona Hanna-Attisha MD MPH

Director, Pediatric Residency Program

Hurley Children's Hospital at Hurley Medical Center

Assistant Professor, Department of Pediatrics and Human Development

Michigan State University College of Human Medicine

Office: 810-262-7257

mhanna1@hurleymc.com

	Referral date	Hospital	Previous admitted?	If so, when?	Incubation period met?
1	8-May	B	B	29-Apr	9
2	1-Jun	B	A	1-Mar	92
3	2-Jun	B			
4	14-Jun	B	B	23-May	22
5	22-Jun	B	B	13-Jun	9
6	24-Jun	A			
7	26-Jun	B	B	16-Jun	10
8	27-Jun	B			
9	1-Jul	B	B	23-Jun	8
10	2-Jul	B	B	18-Jun	14
11	6-Jul	B	B	28-Jun	8
12	10-Jul	B	B	24-Jun	16
13	13-Jul	B			
14	14-Jul	B	B	1-Jul	13
15	14-Jul	C			
16	20-Jul	C			
17	21-Jul	B	A	13-Jul	8
18	28-Jul	C			
19	29-Jul	B			
20	30-Jul	B	B	21-Jul	9
21	31-Jul	B	Lapeer	20-Jul	11
22	6-Aug	B	B	30-Jul	7
23	6-Aug	B	B	23-Jul	14
24	7-Aug	B	B	31-Jul	7
25	10-Aug	B	B	2-Aug	8
26	12-Aug	B			
27	16-Aug	Beaumont	B	8-Jul	39
28	17-Aug	B	B	11-Aug	6
29	18-Aug	B	B	7-Aug	11
30	18-Aug	A	A	4-Jul	45
31	3-Sep	C			
32	8-Sep	C	C	31-Aug	8
33	11-Sep	A	B	1-Sep	10
34	14-Sep	A			
35	16-Sep	A			
36	17-Sep	B			
37	18-Sep	C			
38	18-Sep	Owosso			
39	22-Sep	C			
40	24-Sep	C			
41	28-Sep	B			

updated 9/29/2015

Flint water?
Y
Y
Y
Y
Y
Y
Y
Y
Flint address
Flint address
Y
Y

		Previously
Hospital	Number of cases	Any hospital (fits incubation period)*
A	5	2 (1)
B	26	19 (11)
C	8	1 (1)
Out of county	2	1 (0)
Total	41	23

*Incubation period is defined as 2 days - 10 days

**Based on Legionella Questionaire answer and patients address

Hurley
McLaren
Genesys
Other ?

2-10day incubation

admitted?	
Own hospital (fits incubation period)*	Flint Water**
1 (0)	4
17 (11)	7
1 (1)	0
1 (0)	1
20	12

GCHD DECLARATION OF EMERGENCY

Genesee County Board of Commissioners

1101 BEACH STREET, ROOM 312 FLINT, MICHIGAN 48502

TELEPHONE: (810) 257-3020
FAX: (810) 257-3008

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October 1, 2015

Public Health Emergency Declaration for People Using the Flint City Water Supply with the Flint River as the Source

The County is issuing an Emergency Advisory recommending that people not drink the water coming from the City of Flint using the Flint River as the water source unless:

> It has been tested to assure it does not contain elevated levels of lead.
>
> It is being filtered through a National Sanitation Foundation (NSF) approved filter certified to remove lead that meets ANSI standard 53.

Findings reported in the Detroit Free Press September 30, 2015 indicate that Governor Snyder has publically acknowledged that Flint's water supply "appears" to have problems. Snyder has conceded that "it appears that (water) lead levels could be higher or have increased," and that there are "probably things that weren't fully understood when the switch was made." This is in direct contrast to previous reports from the State that downplayed the severity of the situation and conflicted with local data released by researchers at Hurley Medical Center.

Young children are most vulnerable to leads effects, because prior to age six, their brain and central nervous system are still forming and easily susceptible to damage. For an adult to suffer significant health effects, exposure to lead would have to be sustained and more intense. Most adults who are affected by lead have been exposed in an occupational setting, such as working as a house painter or in a battery recycling plant.

Pregnant women are at special risk because the lead they absorb crosses the placenta and enters the fetus.

It's important to remember that there is no known safe level of lead in a human body, Experts now use a reference level of 5 micrograms per deciliter to identify children with blood lead levels that are much higher than most children's levels. This new level is based on the U.S. population of children ages 1-5 years who are in the highest 2.5% of children when tested for lead in their blood.

Lead in water can contribute to a child's blood lead level. The Michigan Department of Environmental Quality, who regulates municipal water supplies, has assured us that the water leaving the Flint Water Plant meets all Federal and State requirements. The City of Flint has a documented problem with lead in its drinking water due to service and household lines that may contain lead or lead solder which can leach lead because of the corrosivity of the water since changing to the Flint River as the source supply. Generally, those who are most vulnerable

to leads health effects from exposure to unfiltered tap water are the very youngest children. For this reason, if you are not sure about the lead content in your tap water, it's best to either use a filter that has been found to be effective for reducing or eliminating lead, or to use bottled water instead. Water filters should be National Sanitation Foundation (NSF) certified to remove lead and meet ANSI standard 53. If these options are not available to you, then it's best to let the water run for at least five minutes before using it for either drinking or cooking purposes. Always use cold water instead of hot water for drinking and cooking.

It's especially important to avoid using untested or unfiltered tap water for mixing infant formula unless you can assure your water is lead free.

When leaded gasoline was in widespread use in this country, the lead came out the tail pipe and was deposited in yards near the roads. That lead may still be in those yards. In addition, lead paint continues to be a major source of childhood lead poisoning and can be found in homes built before 1978 when lead paint was banned in the U.S. and may be a hazard inside and outside the home especially where paint is worn or flaking.

There are many other potential sources of lead exposure, including:

- "Home remedies" and cosmetics imported from other countries
- Tamarind or chili-based candies from Mexico
- Stained glass windows
- Fishing sinkers
- Firing ranges
- Old, deteriorated mini-blinds
- Bean pots and painted ceramics
- Crystal decanters
- Lead crystal glassware

Since no safe level has been identified it is in everyone's interest to reduce exposure to lead as much as possible. Recommendations on ways to reduce lead exposure can be found on the Genesee County Health Department website www.gchd.us and Center for Disease Control and Prevention website: http://www.cdc.gov/nceh/lead/tips.htm .

Recent data provided by Hurley researchers has indicated a significant increase in blood lead levels in children after the switch to Flint River water. The County Health Officer has requested that MDHHS provide specific data to support their claim that state data is more comprehensive and does not show a significant increase. To date the state has failed to provide the requested data by the September 30, 2015 deadline in our previous request to the state.

COUNTY OF GENESEE

BY: _____ Date: 10-1-15

Jamie W. Curtis, Chairperson
Board of Commissioners

BY: Brenda Clack Date: 10-1-15

Brenda Clack, Chairperson
Human Services Committee
Board of Commissioners

BY: Bryant W. Nolden Date: 10-1-15

Bryant W. Nolden, Vice Chairperson
Board of Commissioners

GENESEE COUNTY HEALTH DEPARTMENT

BY: Mark Valacak Date: 10-1-15

Mark Valacak, M.P.H.
Health Officer

MDEQ WITHHOLDS WATER RESULTS FROM FLINT SCHOOLS AND GCHD

Henry, James

From: Ladouceur, Anita (DEQ) <LADOUCEURA@michigan.gov>
Sent: Tuesday, September 29, 2015 9:17 AM
To: Henry, James
Subject: Pb/Cu sampling at schools

Hi Jim:

I just wanted to give you a heads-up. Steve Bush, from our office, just talked to me about sampling for Pb/Cu at schools on a community water supply. He asked if you were the contact for the noncommunity program. It sounds like some of the schools that are on community water supplies want to test for Pb/Cu.

Steve is going to contact you to see if you or your staff are willing to collect the samples and/or provide instruction to the schools on how to do it (first-draw samples collected after a minimum of 6 hours stagnation).

Just wanted to let you know.

Anita

Henry, James

From: Busch, Stephen (DEQ) <BUSCHS@michigan.gov>
Sent: Tuesday, September 29, 2015 2:55 PM
To: Henry, James
Subject: School List
Attachments: Copy of 2015-2016 FCS Telephone Address Lists.pdf

Jim,

Attached is a list of school buildings provided by Superintendent Tawwab. A conference call appointment for 4:00 this afternoon will follow with a call in number.

Here is a link of the instructions DEQ provides to Community water systems.
http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf

If you have similar instructions you provide to NTNCWS school systems please let us know.

Any assistance GCHD can provide is appreciated and our office will help with bottles and logistics on transport.

Thanks.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Pallone, Maggie (DEQ) [mailto:PalloneM@michigan.gov]
Sent: Tuesday, September 29, 2015 3:12 PM
To: Sitko, Anthony M
Cc: Tawwab, Bilal; FARRIS SHARRECE; Lisa Ermak; Busch, Stephen (DEQ); Tommasulo, Karen (DEQ); Pallone, Maggie (DEQ)
Subject: RE: MDEQ Water Testing for Flint Community Schools

We would like to have this call at 4:00.

Conference call info: 1-888-251-2909
Access Code: 8426781

Please let me know if you have any questions.

Thanks!
Heather Feuerstein for Maggie Pallone
Management Assistant to
Maggie Pallone, Deputy Director and
Brad Wurfel, Communications Director
Department of Environmental Quality
517.284.6715

From: Sitko, Anthony M [mailto:tsitko@flintschools.org]
Sent: Tuesday, September 29, 2015 1:23 PM
To: Pallone, Maggie (DEQ)
Cc: Tawwab, Bilal; FARRIS SHARRECE; Lisa Ermak
Subject: MDEQ Water Testing for Flint Community Schools
Importance: High

Greetings, Maggie,

Thank you for taking the time to talk with me this afternoon regarding water testing for our schools. Please find the attached list of sites within the Flint Community Schools at which Superintendent Tawwab would like water tested.

Per our discussion on the phone this afternoon, the list of school buildings is attached and I will be available between 3:00PM and 5:00PM for a conference call with yourself and the identified other parties.

I await your reply on the time for the conference call.

Regards,
Tony

<Lead_Copper_Sampling_Instructions_329915_7.pdf>

<Flint School List.pdf>

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From: Sitko, Anthony M [mailto:tsitko@flintschools.org]
Sent: Wednesday, September 30, 2015 11:10 AM
To: Henry, James; Busch, Stephen (DEQ); Tawwab, Bilal; Lisa Ermak
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: RE: MDEQ Water Testing for Flint Community Schools

Thank you.

We ask that the GCHD staff collecting samples please report to the main office of each school site to sign in as visitors and present GCHD identification. Principals will identify the selected fountains and direct you to their locations.

Respectfully,
Tony

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Wednesday, September 30, 2015 10:07 AM
To: Busch, Stephen (DEQ); Tawwab, Bilal; Sitko, Anthony M
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: RE: MDEQ Water Testing for Flint Community Schools

Got it, Thanks

GCHD staff will collect samples Friday morning, if it works for the schools. I will follow up with more detailed information.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us
<image001.png>

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Busch, Stephen (DEQ) [mailto:BUSCHS@michigan.gov]
Sent: Wednesday, September 30, 2015 9:31 AM
To: Henry, James; btawwab@flintschools.org; tsitko@flintschools.org
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: RE: MDEQ Water Testing for Flint Community Schools

A school based sampling instruction sheet is attached. We will provide copies to the Genesee County Health Department with sampling units.

A sheet should be completed for each sample. As discussed yesterday the plan is to collect 3 samples from each facility.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Pallone, Maggie (DEQ)
Sent: Tuesday, September 29, 2015 5:16 PM
To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ)
Subject: FW: MDEQ Water Testing for Flint Community Schools

Steve-
Can you work on putting together the quick info they will need?
Thanks,
Maggie

From: Sitko, Anthony M [mailto:tsitko@flintschools.org]
Sent: Tuesday, September 29, 2015 5:15 PM
To: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Cc: Tawwab, Bilal <btawwab@flintschools.org>; Lisa Ermak <lermak@byrumfisk.com>
Subject: RE: MDEQ Water Testing for Flint Community Schools

Greetings Maggie,

Mr. Tawwab our Superintendent has a principal meeting tomorrow morning with our district principals.

If at all possible it would be good for us to be able to present them with the information needed (protocols) to prepare for the County Health Department to get the water samples from the schools on Thursday and/or Friday.

Mr. Tawwab would like to get them a memo communication in the morning to this effect. Therefore, please send the needed information that we discussed in the conference call as early as you can tomorrow for this important communication to our district principals.

Thanking you in advance,
Tony

Henry, James

From: Sitko, Anthony M <tsitko@flintschools.org>
Sent: Thursday, October 1, 2015 2:52 PM
To: Henry, James
Cc: Busch, Stephen (DEQ); Tawwab, Bilal; Lisa Ermak; Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: Re: MDEQ Water Testing for Flint Community Schools

Good Afternoon,

Thank you for the assistance. The principals of the schools were informed of the sampling taking place on Friday morning and are expecting the visit.

Regards,
Tony

Sent from my iPhone

On Oct 1, 2015, at 1:53 PM, "Henry, James" <jhenry@gchd.us> wrote:

> Good afternoon, below is the message that I sent to GCHD staff today. Please let me know if there are questions or concerns.
>
> Thanks Jim
>
> Attached is the school list w/assignments and sampling protocol. If the school locations are more geographical convenient for someone else, please feel free to switch.
> **Plan**
> - Report to GCHD tomorrow morning at regular scheduled time to pick up the water bottles and forms.
> - Report to first school office w/identification (approx. 8:30am). They will have designated three sample locations per school. The school will have followed their part of the sampling protocol.
> - Follow our part of the sampling protocol. Be very specific when identifying the location on the MDEQ sample form i.e. classroom numbers, NSEW, ect.
> - Return to office with samples. MDEQ will pick up samples for analysis.
>
> Let me know if there are questions/concerns. Thanks for helping to expedite the schools sampling.
>
> Thanks Jim
>
> Jim Henry RS, MBA
> Environmental Health Supervisor
> Genesee County Health Department www.gchd.us
> 630 S. Saginaw St., Suite 4
> Flint, MI 48502-1540
> Phone (810) 257-3618 Fax (810) 257-3125
> E-mail jhenry@gchd.us
> <image001.png>
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FLINT COMMUNITY SCHOOLS
Expect More. Achieve More.

923 E. Kearsley Street ' Flint, MI 48503
Phone: (810) 760-1000 / Fax (810) 760-7601
www.flintschools.org

SCHOOL INFORMATION
2015-2016

SCHOOL	PHONE	FAX	ADDRESS	PRINCIPAL	
SECONDARY SCHOOLS					
Northwestern High School	760-1780	760-6809	G-2138 W. Carpenter Rd., 48505	Tim Green	ANDREW
Accellerated Learning Academy (ALA)	760-8500	760-6809	G-2138 W. Carpenter Rd., 48505	Eddie Thomas	
Southwestern Classical Academy	760-1400	760-7772	1420 W. Twelfth St., 48507	Cheryl Tate	DAWN
ELEMENTARY SCHOOLS					
Brownell K-2 STEM Academy	760-1643	760-1538	6302 Oxley Dr., 48504	Darryl Grace	ANDREW
Doyle Ryder Elementary	760-5266	760-5118	1040 N. Saginaw St., 48503	Robert Bueche	BILL
Durant-Tuuri-Mott Elementary	760-1594	760-7729	1518 University Ave., 48504	Shelly Umphrey	BILL
Eisenhower Elementary	760-1607	760-7457	1235 Pershing St., 48503	Rachel Turner	TONY
Freeman Elementary	760-1797	760-6882	4001 Ogema St., 48507	Anita Miller	TONY
Holmes 3-6 STEM Academy	760-1968	760-1624	6602 Oxley Dr., 48504	Anna Johnson	ANDREW
Neithercut Elementary	760-1359	760-5133	2010 Crestbrook Ln., 48507	Debra Jackson-Noble	BRIAN
Pierce Elementary	760-1386	760-7147	1101 W. Vernon Dr., 48503	Shalonda Byas	SHERYL
Potter Elementary	760-1813	760-5156	2500 N. Averill Ave., 48506	Gretchen Shafer	BRIAN
OTHER BUILDINGS					
Administration Building	760-1000	760-7601	923 E. Kearsley St., 48503		JIM
Central Kitchen	760-1073	760-7073	305 Walnut , 48503		TINA

Drinking Water Lead & Copper Sampling Instructions

Dear Resident:

Thank you for helping to monitor for lead and copper in your drinking water. It is important that you follow these instructions so that we may collect an accurate measurement of the lead and copper in your drinking water. This sample is supposed to represent the water you would typically drink and the faucet from where you would drink the water. Call your water supply if you have any questions.

1. Select a faucet in the KITCHEN or BATHROOM that is commonly used for drinking. DO NOT sample from a laundry sink or a hose spigot as these samples cannot be used by your utility.

2. Flush the COLD water for at least 5 minutes. Let the water sit for at least 6 hours **before** you plan to collect the sample. If you have a single handle faucet, turn it to the COLD side. DO NOT use this faucet again until it is sampled.

3. Wait at least 6 hours before collecting your sample but we do not recommend sampling if the faucet has sat idle for more than 12 hours.

4. Fill the sample bottle to the neck with the "first draw" of COLD water from the faucet that you flushed at least 6 hours previous.

5. Please answer the following questions:

a) Did you flush the water for at least 5 minutes and let it sit unused for 6 hours before you filled the bottle? ☐ Yes ☐ No

b) What date and time did you **flush the faucet**? Date _____ Time _____ P.M.

c) What date and time did you **fill the bottle**? Date _____ Time _____ A.M.

d) Did you fill the bottle from the same faucet that was flushed 6 hours before? ☐ Yes ☐ No
If NO, please explain: _____

e) Which faucet did you use to fill the bottle? ☐ Kitchen ☐ Main Bathroom ☐ Other
If OTHER, please describe: _____

f) Is this faucet connected to a home treatment device such as a water softener, a reverse osmosis unit, an iron removal device OR is any kind of additive used in the home? ☐ Yes ☐ No
If YES, please describe: _____

Your Printed Name _____

Your Address _____

_____

Your Signature _____

6. Attach this form to the bottle and leave it outside your front door for pick-up.

If you have any questions call:

Water Supply: _____

Manager or Water Operator: _____

Phone: _____

Or contact:

Michigan Department of Natural Resources & Environment

DNRE contact: _____

Phone: _____

Thanks again for your help. Information on this year's lead and copper monitoring will be printed in the *Consumer Confidence Report* that will be made available to you by July 1 of next year. We will send you the results within 30 days of receiving them. Contact your utility if you have any questions.

Henry, James

From: Henry, James
Sent: Tuesday, October 6, 2015 2:26 PM
To: 'MVALACAK@gchd.us'
Subject: RE: Flint Schools

No answer or response from George Krisztian. His office phone greeting provides his cell phone number, 517-204-0381. I left messages on both phones, 20 minute ago. I left my both my desk and cell number. I wanted to give him time to reply, before I let you know.

I'm confused regarding who the director is, Julia Piper or George Krisztian. I guess it makes it easier to pass the buck, if two people are equally responsible. ☺

From: Henry, James
Sent: Tuesday, October 6, 2015 2:02 PM
To: 'MVALACAK@gchd.us'
Subject: FW: Flint Schools

FYI , I just received this response from Mike Prysby. I will make contact with George now and get back with you.

From: Prysby, Mike (DEQ) [mailto:PRYSBYM@michigan.gov]
Sent: Tuesday, October 6, 2015 1:49 PM
To: Henry, James
Cc: Krisztian, George (DEQ)
Subject: RE: Flint Schools

Jim,

I will refer you to our Drinking Water Laboratory Director – Mr. George Krisztian for the status of the lead sample results from the Flint schools. George's contact number is 517-335-8812

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Tuesday, October 06, 2015 12:31 PM
To: Prysby, Mike (DEQ)
Subject: Flint Schools

Mike, do you have water results for Flint schools?

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Henry, James

From: Henry, James
Sent: Wednesday, October 7, 2015 10:42 AM
To: Sitko, Anthony M; Busch, Stephen (DEQ); Tawwab, Bilal; Lisa Ermak
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); 'MVALACAK@gchd.us'
Subject: RE: MDEQ Water Testing for Flint Community Schools

Please refer all inquiries regarding the Flint school water results to MDEQ. The results have not been shared with GCHD.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Henry, James
Sent: Thursday, October 1, 2015 1:53 PM
To: 'Sitko, Anthony M'; Busch, Stephen (DEQ); Tawwab, Bilal; Lisa Ermak
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: RE: MDEQ Water Testing for Flint Community Schools

Good afternoon, below is the message that I sent to GCHD staff today. Please let me know if there are questions or concerns.

Thanks Jim

Attached is the school list w/assignments and sampling protocol. If the school locations are more geographical convenient for someone else, please feel free to switch.

Plan

- Report to GCHD tomorrow morning at regular scheduled time to pick up the water bottles and forms.
- Report to first school office w/identification (approx. 8:30am). They will have designated three sample locations per school. The school will have followed their part of the sampling protocol.
- Follow our part of the sampling protocol. Be very specific when identifying the location on the MDEQ sample form i.e. classroom numbers, NSEW, ect.
- Return to office with samples. MDEQ will pick up samples for analysis.

Let me know if there are questions/concerns. Thanks for helping to expedite the schools sampling.

Get the Best Price—Guaranteed
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Snyder supports switching Flint water system back to Detroit

JEFF KAROUB, Associated Press

Published: October 8, 2015, 10:17 am | Updated: January 20, 2016, 11:52 am

Gov. Snyder holds a press conference regarding lead in the water supply in Flint. (Oct. 8, 2015)

FLINT, Mich. (AP) — Gov. Rick Snyder is calling for Flint to get its water from Detroit's system again to address a public health emergency over lead in the water supply.

The governor announced Thursday that he will ask state lawmakers for $6 million, half of the $12 million need to reconnect with the Great Lakes Water Authority through next summer. Then Flint would transition to a new regional water authority.

Snyder says Flint will provide $2 million and the Charles Stewart Mott Foundation has committed $4 million.

The announcement came a day after local experts in health, water and science recommended that Flint reconnect to Detroit's water system while it awaits a new pipeline to Lake Huron.

Flint has a public health emergency due to corrosive water leaching lead from old pipes.

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Henry, Jar

From: Henry, James
Sent: Sunday, October 18, 2015 7:11 PM
To: Valacak, Mark
Subject: Fw: Flint Schools

Importance: High

Mark,

I apologize for the length of this message.

Below is a brief chronological summary of Friday's meeting with MDEQ regarding Flint schools sampling.

Also, below is a MDEQ email that I received on Saturday. I have not agreed to anything, which may be implied or interpreted from the email.

I'm sending this now, because I have a busy schedule on Monday. I'm meeting at Forest Waste with EPA, MDEQ and Brown Well Drilling regarding residential well replacements.

Flint School Sampling Meeting
Friday, Oct 16, 2015

Present :
Leanne Shekter-Smith, MDEQ
George Krisztian, MDEQ,
Karen Tommasulo, PIO MDEQ
Jim Henry, GCHD

Discussion:

- MDEQ apologized for not releasing school lead results in a timely manner.
- MDEQ requested GCHD to conduct comprehensive flint school sampling. (hundreds of samples).
- MDEQ explained that they can now offer transparency and partnership per Dan Wyant.
- GCHD explained the request will be discussed with Mark Valacak, prior to any decisions and reimbursement of services will be requested.
- GCHD provided a brief summary detailing the historical lack of cooperation from state agencies regarding the Flint water investigations, including the cost to Genesee County that resulted from withholding the jail results.
- MDEQ explained that the Governor prohibited releasing all Genesee County lead results until after the press conference.
- MDEQ indicated only 300K is allocated for school sampling, which is intended for two MDEQ FTEs.
- MDEQ requested that GCHD provide a list of anticipated costs.
- MDEQ proposed weekly stakeholder meetings.
- MDEQ proposed a phone discussion with GCHD on Monday, Oct 19.

MDEQ Proposed Initial Activities
On Wednesday , Oct 21, LARA plumbers to visit the three elem schools w/elevated lead:

- Assess plumbing/fixtures and make simple repairs (aerators, ect...)
- Plan and develop timelines for extensive plumbing repairs
- Determine the water fixture sampling plan (the closest fixture to the water main must be sampled first and so on...)
- Flush fixtures for five minutes at end of school day, so sampling can occur the following morning.

On Thursday, Oct 22, GCHD is requested to sample the three elem schools in morning before schools starts and before any water is used.(6-7am) No flushing toilets, no food prep, no hand washing, etc..

- Three samples per fixture.
- Take the 1st draw sample then flush 30 seconds, take 2nd sample, then flush 2 minutes, take 3rd sample.

Mark, I often have disagreements with state agencies, but no intention to create animosity. Below is a list of some concerns.

- MDEQ was surprised when I mentioned reimbursement. MDEQ has 300k and is capable of sampling. I think it should be an immediate deal breaker unless our costs are covered.
- We are busy and short staffed. I believe in stepping up when these situations occur, but MDEQ has other options for sampling. I don't want to compromise meeting our other programs requirements.
- The state continues to demonstrate that their values conflict with ours. I doubt that they had a public health epiphany. Its an organizational cultural difference. I accepted their apology, but they are still politically driven regardless of what they say. The state has no congruency with "transparency" and "partnership." I'm disappointed and don't trust this group.
- The proposed weekly meetings are not intended for partnership and decision making, instead a venue for MDEQ to give instruction.
- We will be guilty by association for the state's complacencies and incompetence. They will selectively share the school's water result with the community.
- At the end of this project the state will walk away and we'll be here cleaning up the mess. We will be anyway, but at least we will not have created it.
- We are trusted by the Flint community and don't know if we should compromise that.

Thanks Jim

------ Original message------
From: Krisztian , George (DEQ)
Date: Sat, Oct 17, 2015 1:25 PM
To: Dayne Walling (dwalling@cityofflint.com);Natasha Henderson (nhenderson@cityofflint.com);Dykema, Linda D. (DHHS);'Howard Croft';Edgerton, Shelly (LARA);Wells, Eden (DHHS);Tommasulo, Karen (DEQ);Henry, James (jhenry@gchd.us);
Cc: Sygo, Jim (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);
Subject: Weekly Coordination Meetings

Greetings everyone,

As per our discussion yesterday at City Hall, I am sending out an e-mail to the group so that we can have a convenient distribution list for everyone involved in the weekly coordination meetings.

I was able to meet with Jim Henry at the GCHD yesterday and I am happy to report that it appears that he will be able to join our group. Jim and the GCHD will certainly be valuable partners as we move forward with our task.

I would like to suggest that we continue to meet on Friday's if that is feasible. I think that Friday will work nicely as it will allow us to have a fresh retrospective on the week that just passed and allow us to plan for the upcoming week. I think the 10:00 AM time slot worked well as it allows folks in Lansing to get into the office to take care of some details before heading out and it allows sufficient time in the afternoon to get additional work done.

I would like to get a tour of the Flint Water Treatment Plant scheduled for next week if possible. It could either occur in conjunction with the weekly coordination meeting or it could potentially be scheduled for a different day. It would probably be most efficient to link it with the weekly meeting. I

would like to bring Eric Shaw with me for the tour. Eric would take video of the tour as part of the message that we (all of the partners) are moving forward.

Please respond to the group if you have additional staff to be included in the cc line. Also respond to the group if I inadvertently excluded anyone from the "To" line.

Perhaps Sean and Mary Beth can work together to get the weekly coordination meetings scheduled.

Thanks to all!

George

George L. Krisztian

Flint Action Plan Coordinator

Laboratory Director

Michigan Department of Environmental Quality

Desk ph (517) 284-6719

Cell ph (517) 204-0381

Henry, James

From: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Sent: Thursday, October 8, 2015 3:10 PM
To: Sitko, Anthony M; Tawwab, Bilal
Cc: Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Henry, James; Krisztian, George (DEQ); Wyant, Dan (DEQ)
Subject: MDEQ Water Testing for Flint Community Schools
Attachments: Flint Community Schools Testing Results Initial Screen.pdf

Mr. Tawwab and Mr. Sitko,
Attached are the initial sampling results from 13 schools that were tested last week. I apologize that we didn't get these to you earlier today. George Krisztian from our office has been named the Flint Water Action Coordinator and will be reaching out tomorrow to discuss next steps for the lead exposure testing. This will involve inspecting all of the plumbing in each of the schools and drawing samples from each of the faucets.

If you have any questions, George is cc'd on this email.

Thank you,

Maggie Pallone

Maggie Pallone
Deputy Director
Policy and Legislative Affairs
Department of Environmental Quality
517-599-6190 (cell)
PalloneM@michigan.gov

Flint Community Schools Testing Results - Initial Screen October 2, 2015

ANALYTE	RESULT (mg/L)	Address	Sample Description	Collection Date
Lead	0.004	1040 N SAGINAW ST	3RD FLOOR CAFETERIA	02-Oct-15
Lead	0.007	1040 N SAGINAW ST	1ST FLOOR FTN	02-Oct-15
Lead	0.009	1040 N SAGINAW ST	2ND FLOOR LOWER FTN	02-Oct-15
Lead	0.001	1101 W VERNON DR PIERCE ELEMENTARY	CUSTODIAN OFFICE DRINKING FOUNTAIN	02-Oct-15
Lead	0.003	1101 W VERNON DR PIERCE ELEMENTARY	None Provided	02-Oct-15
Lead	0.008	1101 W VERNON DR PIERCE ELEMENTARY	DRINKING FOUNTAIN MAIN HALL	02-Oct-15
Lead	0.009	1420 W TWELFTH	DRINKING FOUNTAIN	02-Oct-15
Lead	0.015	1420 W TWELFTH	DRINKING FTN BY RM 3	02-Oct-15
Lead	0.007	1420 W TWELFTH ST	ACROSS FROM CAFETERIA DRINKING FTN	02-Oct-15
Lead	0.005	1518 UNIVERISTY AVE	GYM/POOL DRINKING FTN	02-Oct-15
Lead	0.001	1518 UNIVERSITY AVE	3RD FLOOR FOUNTAIN	02-Oct-15
Lead	0.002	1518 UNIVERSITY AVE	2ND FLOOR FOUNTAIN	02-Oct-15
Lead	0.001	2010 CRESTBROOK SCHOOL	LOWER DRINK FTN	02-Oct-15
Lead	0.002	2010 CRESTBROOK SCHOOL	HIGH DRINK FTN	02-Oct-15
Lead	0.001	2500 N AVERILL SCHOOL	HIGH DRINK FTN SO ENTRANCE	02-Oct-15
Lead	Not detected	2500 N AVERILL SCHOOL	HIGH DRINK FTN ACROSS FRM TEACH	02-Oct-15
Lead	0.004	305 WALNUT ST	KITCHEN FOOD PREP SINK	02-Oct-15
Lead	0.006	305 WALNUT ST	DRINKING FTN	02-Oct-15
Lead	0.009	305 WALNUT ST CENTRAL KITCHEN	KITCHEN FOOD PREP	02-Oct-15
Lead	0.002	923 E KEARSLEY	1ST FL DRINK FTN	02-Oct-15
Lead	0.005	923 E KEARSLEY	2ND FL BTN 207 & WMS RSTRM	02-Oct-15
Lead	0.003	923 E KEASLEY ADMIN	BASEMENT ADMIN	02-Oct-15
Lead	0.002	BROWNELL S T E M ACADEMY	DRINK FOUNTAIN ROOM 12	02-Oct-15
Lead	0.005	BROWNELL S T E M ACADEMY	DRINK FTN GYM BATHRM	02-Oct-15
Lead	0.031	BROWNELL S T E M ACADEMY	DRINK FOUNTAIN RM 6 & 7	02-Oct-15
Lead	0.003	EISENHOWER ELEMENTARY	FOUNTAIN GYM	02-Oct-15
Lead	0.016	EISENHOWER ELEMENTARY	FOUNTAIN ROOM 209	02-Oct-15
Lead	0.028	EISENHOWER ELEMENTARY	FOUNTAIN ROOM 102	02-Oct-15
Lead	0.003	FREEMAN ELEMENTARY	FOUNTAIN NORTH END OF BLDG	02-Oct-15
Lead	0.008	FREEMAN ELEMENTARY	FOUNTAIN MIDDLE AT SCHOOL	02-Oct-15
Lead	0.101	FREEMAN ELEMENTARY	FOUNTAIN SO END OF BLDG	02-Oct-15
Lead	0.002	HOLMES S T E M ACADEMY	DRINK FOUNTAIN D114	02-Oct-15
Lead	Not detected	HOLMES S T E M ACADEMY	DRINK FOUNTAIN BLUE HALLWAY C109	02-Oct-15
Lead	Not detected	HOLMES S T E M ACADEMY	DRINKING FOUNTAIN OFFICE	02-Oct-15
Lead	0.002	NORTHWESTERN HIGH SCHOOL	DRINKING FTN LIBRARY NORTH	02-Oct-15
Lead	0.004	NORTHWESTERN HIGH SCHOOL	DRINK FOUNTAIN CAFE WEST	02-Oct-15
Lead	0.010	NORTHWESTERN HIGH SCHOOL	DRINK FTN LIBRARY SOUTH	02-Oct-15

Michigan Department Environmental Quality

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www.flintschools.org

SCHOOL INFORMATION
2015-2016

SCHOOL	PHONE	FAX	ADDRESS	PRINCIPAL
SECONDARY SCHOOLS				
Northwestern High School	760-1780	760-6809	G-2138 W. Carpenter Rd., 48505	Tim Green
Accellerated Learning Academy (ALA)	760-8500	760-6809	G-2138 W. Carpenter Rd., 48505	Eddie Thomas
Southwestern Classical Academy	760-1400	760-7772	1420 W. Twelfth St., 48507	Cheryl Tate
ELEMENTARY SCHOOLS				
Brownell K-2 STEM Academy	760-1643	760-1538	6302 Oxley Dr., 48504	Darryl Grace
Doyle Ryder Elementary	760-5266	760-5118	1040 N. Saginaw St., 48503	Robert Bueche
Durant-Tuuri-Mott Elementary	760-1594	760-7729	1518 University Ave., 48504	Shelly Umphrey
Eisenhower Elementary	760-1607	760-7457	1235 Pershing St., 48503	Rachel Turner
Freeman Elementary	760-1797	760-6882	4001 Ogema St., 48507	Anita Miller
Holmes 3-6 STEM Academy	760-1968	760-1624	6602 Oxley Dr., 48504	Anna Johnson
Neithercut Elementary	760-1359	760-5133	2010 Crestbrook Ln., 48507	Debra Jackson-Noble
Pierce Elementary	760-1386	760-7147	1101 W. Vernon Dr., 48503	Shalonda Byas
Potter Elementary	760-1813	760-5156	2500 N. Averill Ave., 48506	Gretchen Shafer
OTHER BUILDINGS				
Administration Building	760-1000	760-7601	923 E. Kearsley St., 48503	
Central Kitchen	760-1073	760-7073	305 Walnut , 48503	

Henry, James

From: Valacak, Mark
Sent: Tuesday, October 6, 2015 1:16 PM
To: Henry, James
Subject: RE: Water sample results

Thanks, I agree that's why I sent a communication to Dr. Wells at the state and copied you.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

PublicHealth

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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From: Henry, James
Sent: Tuesday, October 06, 2015 1:12 PM
To: Valacak, Mark
Cc: Johnson, M.D., Gary; Brickey, Tamara; Hallwood, Dawn
Subject: RE: Water sample results

Mark, I removed the state recipients from this email.

Today, I left a voice message and email for Mike Prysby, MDEQ. (no response) He oversees Flint water and he picked up Flint school's water on Friday. He told me explicitly the results would be expedited and available Monday, per Julia Piper, MDEQ Lab Director. it's probably safe to assume elevated lead was identified at some school locations and MDEQ is not communicating. This is unacceptable.

The state agencies continue to put our communities at risk. MDDHS, similarly done this by declaring the Legionella outbreak was over, when it wasn't. Over the past year, I have received a lot of written correspondence from MDEQ and MDHHS that demonstrates their incompetence and complacencies. They prioritize politics before public health. I will be happy to compile the **facts** in draft white paper.

Jim

From: Wells, Eden (DHHS) [mailto:WellsE3@michigan.gov]
Sent: Tuesday, October 6, 2015 1:08 PM
To: Valacak, Mark
Cc: Brickey, Tamara; Henry, James; Johnson, M.D., Gary; Miller, Mark (DHHS); Moran, Susan (DHHS)
Subject: Re: Water sample results

Hi Mark,

I do not have a schedule about the results of the tests you are asking about, am still trying to find out---will ask at this afternoon's update if I do not hear; however, and I know Sue Moran and our Director agree, once we know of any confirmed DEQ water testing data that we will want to communicate immediately with you and coordinate any necessary messaging, if any needed.

Eden

From: Valacak, Mark <MVALACAK@gchd.us>
Sent: Tuesday, October 6, 2015 12:27 PM
To: Wells, Eden (DHHS)
Cc: Brickey, Tamara; Henry, James; Johnson, M.D., Gary; Miller, Mark (DHHS); Moran, Susan (DHHS)
Subject: RE: Water sample results

Yes, I know DEQ was here Friday to pick up some of the samples and I believe some were delivered to them by county staff.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,
630 S. Saginaw St. Suite 4 Flint, MI 48502-1540
Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

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From: Wells, Eden (DHHS) [mailto:WellsE3@michigan.gov]
Sent: Tuesday, October 06, 2015 12:25 PM
To: Valacak, Mark
Cc: Brickey, Tamara; Henry, James; Johnson, M.D., Gary; Miller, Mark (DHHS); Moran, Susan (DHHS)
Subject: Re: Water sample results

Hi Mark,

Just to be clear before I check--this would be DEQ sampling within city--correct? I do know that I have a meeting with DEQ this afternoon- not sure if they have results for what you are asking about for that meeting- but I can find out right away.

Eden

From: Valacak, Mark <MVALACAK@gchd.us>
Sent: Tuesday, October 6, 2015 12:08 PM
To: Wells, Eden (DHHS)
Cc: Brickey, Tamara; Henry, James; Johnson, M.D., Gary
Subject: RE: Water sample results

I would like to know what is going on as for as the water sampling being done by the state. Initially we were told we would have results Monday or
Tuesday morning by the latest now we are getting a run around about when results will be available.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,
630 S. Saginaw St. Suite 4 Flint, MI 48502-1540
Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us
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From: Wells, Eden (DHHS) [mailto:WellsE3@michigan.gov]
Sent: Monday, October 05, 2015 4:57 PM
To: Valacak, Mark; Johnson, M.D., Gary
Cc: Miller, Mark (DHHS); Moran, Susan (DHHS)
Subject: Touching Base

Good afternoon, Mark and Gary,

I had hoped that our MDHHS folks could catch up with you this morning; I tried to call also, but I know that you are both are so busy, so I thought I would just drop an email. Please let us know if you have any needs for data, analytic assistance, "boots on the ground" or anything else we can do to assist in the Flint Water response. My cell is 517-230-5827 if needed.

Warm Regards,

Eden

Eden V. Wells, MD, MPH, FACPM
Chief Medical Executive
Michigan Department of Health and Human Services
201 Townsend St., 5th Floor CVB

Lansing, MI 48913

Henry, James

From:	Brickey, Tamara
Sent:	Wednesday, October 7, 2015 3:53 PM
To:	Henry, James
Subject:	RE: Technical Committee Agenda and Number

Ah, gotcha. I saw Howard's name attached and thought I missed a meeting request.

From: Henry, James
Sent: Wednesday, October 07, 2015 3:49 PM
To: Brickey, Tamara
Subject: RE: Technical Committee Agenda and Number

Tamara,

To clarify, this is a committee that I have been involved with since the inception, last year. We worked with the ecoli, boil water advisories, TTHM, legionella, lead, ect...

From: Brickey, Tamara
Sent: Wednesday, October 7, 2015 3:42 PM
To: Henry, James
Subject: RE: Technical Committee Agenda and Number

Thank you Jim, I was unaware until now. Please fill me in on anything I should know.

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147
tbrickey@gchd.us

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From: Henry, James
Sent: Wednesday, October 07, 2015 12:04 PM
To: Hallwood, Dawn; Brickey, Tamara; 'MVALACAK@gchd.us'
Subject: FW: Technical Committee Agenda and Number

Just FYI, I will be attending this meeting today at 2pm.

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Tuesday, October 6, 2015 4:54 PM
To: Amy Hovey; Andy Leavitt; Brent Wright; Darren Lytle; Dayne Walling; donna. cole; edwardsm; Gerald (Jed) Natzke; Howard Croft; Henry, James; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Michael Wright; Mike Lane; Mike Prysby (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; schock.michael@epa.gov; Sean Kammer; Stephen Busch (DEQ); Warren Green; wellse3@michigan.gov
Subject: Technical Committee Agenda and Number

Team,

We are looking forward to a very productive meeting on Wednesday with those in attendance and those calling in.

I am sending a brief document that includes an agenda and an anticipated attendance list as we expect most of the meting to be good discussion.

Below is the call in information for those that cannot make it:

Number: (641) 715-3580

Access Code: 373-510

Thank you,
--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Henry, James

From: Henry, James
Sent: Tuesday, October 6, 2015 2:26 PM
To: 'MVALACAK@gchd.us'
Subject: RE: Flint Schools

No answer or response from George Krisztian. His office phone greeting provides his cell phone number, 517-204-0381. I left messages on both phones, 20 minute ago. I left my both my desk and cell number. I wanted to give him time to reply, before I let you know.

I'm confused regarding who the director is, Julia Piper or George Krisztian. I guess it makes it easier to pass the buck, if two people are equally responsible. ☺

From: Henry, James
Sent: Tuesday, October 6, 2015 2:02 PM
To: 'MVALACAK@gchd.us'
Subject: FW: Flint Schools

FYI , I just received this response from Mike Prysby. I will make contact with George now and get back with you.

From: Prysby, Mike (DEQ) [mailto:PRYSBYM@michigan.gov]
Sent: Tuesday, October 6, 2015 1:49 PM
To: Henry, James
Cc: Krisztian, George (DEQ)
Subject: RE: Flint Schools

Jim,

I will refer you to our Drinking Water Laboratory Director – Mr. George Krisztian for the status of the lead sample results from the Flint schools. George's contact number is 517-335-8812

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Tuesday, October 06, 2015 12:31 PM
To: Prysby, Mike (DEQ)
Subject: Flint Schools

Mike, do you have water results for Flint schools?

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Henry, James

From: Henry, James
Sent: Wednesday, October 7, 2015 10:42 AM
To: Sitko, Anthony M; Busch, Stephen (DEQ); Tawwab, Bilal; Lisa Ermak
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ); 'MVALACAK@gchd.us'
Subject: RE: MDEQ Water Testing for Flint Community Schools

Please refer all inquiries regarding the Flint school water results to MDEQ. The results have not been shared with GCHD.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Henry, James
Sent: Thursday, October 1, 2015 1:53 PM
To: 'Sitko, Anthony M'; Busch, Stephen (DEQ); Tawwab, Bilal; Lisa Ermak
Cc: Pallone, Maggie (DEQ); Wurfel, Brad (DEQ)
Subject: RE: MDEQ Water Testing for Flint Community Schools

Good afternoon, below is the message that I sent to GCHD staff today. Please let me know if there are questions or concerns.

Thanks Jim

Attached is the school list w/assignments and sampling protocol. If the school locations are more geographical convenient for someone else, please feel free to switch.

Plan

- Report to GCHD tomorrow morning at regular scheduled time to pick up the water bottles and forms.
- Report to first school office w/identification (approx. 8:30am). They will have designated three sample locations per school. The school will have followed their part of the sampling protocol.
- Follow our part of the sampling protocol. Be very specific when identifying the location on the MDEQ sample form i.e. classroom numbers, NSEW, ect.
- Return to office with samples. MDEQ will pick up samples for analysis.

Let me know if there are questions/concerns. Thanks for helping to expedite the schools sampling.

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Snyder supports switching Flint water system back to Detroit

JEFF KAROUB, Associated Press

Published: October 8, 2015, 10:17 am | Updated: January 20, 2016, 11:52 am

Gov. Snyder holds a press conference regarding lead in the water supply in Flint. (Oct. 8, 2015)

FLINT, Mich. (AP) — Gov. Rick Snyder is calling for Flint to get its water from Detroit's system again to address a public health emergency over lead in the water supply.

The governor announced Thursday that he will ask state lawmakers for $6 million, half of the $12 million need to reconnect with the Great Lakes Water Authority through next summer. Then Flint would transition to a new regional water authority.

Snyder says Flint will provide $2 million and the Charles Stewart Mott Foundation has committed $4 million.

The announcement came a day after local experts in health, water and science recommended that Flint reconnect to Detroit's water system while it awaits a new pipeline to Lake Huron.

Flint has a public health emergency due to corrosive water leaching lead from old pipes.

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Henry, Jan

From: Henry, James
Sent: Sunday, October 18, 2015 7:11 PM
To: Valacak, Mark
Subject: Fw: Flint Schools

Importance: High

Mark,

I apologize for the length of this message.

Below is a brief chronological summary of Friday's meeting with MDEQ regarding Flint schools sampling.

Also, below is a MDEQ email that I received on Saturday. I have not agreed to anything, which may be implied or interpreted from the email.

I'm sending this now, because I have a busy schedule on Monday. I'm meeting at Forest Waste with EPA, MDEQ and Brown Well Drilling regarding residential well replacements.

Flint School Sampling Meeting
Friday, Oct 16, 2015

Present :
Leanne Shekter-Smith, MDEQ
George Krisztian, MDEQ,
Karen Tommasulo, PIO MDEQ
Jim Henry, GCHD

Discussion:

- MDEQ apologized for not releasing school lead results in a timely manner.
- MDEQ requested GCHD to conduct comprehensive flint school sampling. (hundreds of samples).
- MDEQ explained that they can now offer transparency and partnership per Dan Wyant.
- GCHD explained the request will be discussed with Mark Valacak, prior to any decisions and reimbursement of services will be requested.
- GCHD provided a brief summary detailing the historical lack of cooperation from state agencies regarding the Flint water investigations, including the cost to Genesee County that resulted from withholding the jail results.
- MDEQ explained that the Governor prohibited releasing all Genesee County lead results until after the press conference.
- MDEQ indicated only 300K is allocated for school sampling, which is intended for two MDEQ FTEs.
- MDEQ requested that GCHD provide a list of anticipated costs.
- MDEQ proposed weekly stakeholder meetings.
- MDEQ proposed a phone discussion with GCHD on Monday, Oct 19.

MDEQ Proposed Initial Activities
On Wednesday , Oct 21, LARA plumbers to visit the three elem schools w/elevated lead:

- Assess plumbing/fixtures and make simple repairs (aerators, ect...)
- Plan and develop timelines for extensive plumbing repairs
- Determine the water fixture sampling plan (the closest fixture to the water main must be sampled first and so on...)
- Flush fixtures for five minutes at end of school day, so sampling can occur the following morning.

On Thursday, Oct 22, GCHD is requested to sample the three elem schools in morning before schools starts and before any water is used.(6-7am) No flushing toilets, no food prep, no hand washing, etc..

- Three samples per fixture.
- Take the 1st draw sample then flush 30 seconds, take 2nd sample, then flush 2 minutes, take 3rd sample.

Mark, I often have disagreements with state agencies, but no intention to create animosity. Below is a list of some concerns.

- MDEQ was surprised when I mentioned reimbursement. MDEQ has 300k and is capable of sampling. I think it should be an immediate deal breaker unless our costs are covered.
- We are busy and short staffed. I believe in stepping up when these situations occur, but MDEQ has other options for sampling. I don't want to compromise meeting our other programs requirements.
- The state continues to demonstrate that their values conflict with ours. I doubt that they had a public health epiphany. Its an organizational cultural difference. I accepted their apology, but they are still politically driven regardless of what they say. The state has no congruency with "transparency" and "partnership." I'm disappointed and don't trust this group.
- The proposed weekly meetings are not intended for partnership and decision making, instead a venue for MDEQ to give instruction.
- We will be guilty by association for the state's complacencies and incompetence. They will selectively share the school's water result with the community.
- At the end of this project the state will walk away and we'll be here cleaning up the mess. We will be anyway, but at least we will not have created it.
- We are trusted by the Flint community and don't know if we should compromise that.

Thanks Jim

------ Original message------
From: Krisztian , George (DEQ)
Date: Sat, Oct 17, 2015 1:25 PM
To: Dayne Walling (dwalling@cityofflint.com);Natasha Henderson (nhenderson@cityofflint.com);Dykema, Linda D. (DHHS);'Howard Croft';Edgerton, Shelly (LARA);Wells, Eden (DHHS);Tommasulo, Karen (DEQ);Henry, James (jhenry@gchd.us);
Cc: Sygo, Jim (DEQ);Wyant, Dan (DEQ);Thelen, Mary Beth (DEQ);
Subject: Weekly Coordination Meetings

Greetings everyone,

As per our discussion yesterday at City Hall, I am sending out an e-mail to the group so that we can have a convenient distribution list for everyone involved in the weekly coordination meetings.

I was able to meet with Jim Henry at the GCHD yesterday and I am happy to report that it appears that he will be able to join our group. Jim and the GCHD will certainly be valuable partners as we move forward with our task.

I would like to suggest that we continue to meet on Friday's if that is feasible. I think that Friday will work nicely as it will allow us to have a fresh retrospective on the week that just passed and allow us to plan for the upcoming week. I think the 10:00 AM time slot worked well as it allows folks in Lansing to get into the office to take care of some details before heading out and it allows sufficient time in the afternoon to get additional work done.

I would like to get a tour of the Flint Water Treatment Plant scheduled for next week if possible. It could either occur in conjunction with the weekly coordination meeting or it could potentially be scheduled for a different day. It would probably be most efficient to link it with the weekly meeting. I

would like to bring Eric Shaw with me for the tour. Eric would take video of the tour as part of the message that we (all of the partners) are moving forward.

Please respond to the group if you have additional staff to be included in the cc line. Also respond to the group if I inadvertently excluded anyone from the "To" line.

Perhaps Sean and Mary Beth can work together to get the weekly coordination meetings scheduled.

Thanks to all!

George

George L. Krisztian

Flint Action Plan Coordinator

Laboratory Director

Michigan Department of Environmental Quality

Desk ph (517) 284-6719

Cell ph (517) 204-0381

Henry, James

From: Pallone, Maggie (DEQ) <PalloneM@michigan.gov>
Sent: Thursday, October 8, 2015 3:10 PM
To: Sitko, Anthony M; Tawwab, Bilal
Cc: Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Henry, James; Krisztian, George (DEQ); Wyant, Dan (DEQ)
Subject: MDEQ Water Testing for Flint Community Schools
Attachments: Flint Community Schools Testing Results Initial Screen.pdf

Mr. Tawwab and Mr. Sitko,
Attached are the initial sampling results from 13 schools that were tested last week. I apologize that we didn't get these to you earlier today. George Krisztian from our office has been named the Flint Water Action Coordinator and will be reaching out tomorrow to discuss next steps for the lead exposure testing. This will involve inspecting all of the plumbing in each of the schools and drawing samples from each of the faucets.

If you have any questions, George is cc'd on this email.

Thank you,

Maggie Pallone

Maggie Pallone
Deputy Director
Policy and Legislative Affairs
Department of Environmental Quality
517-599-6190 (cell)
PalloneM@michigan.gov

Flint Community Schools Testing Results - Initial Screen October 2, 2015

ANALYTE	RESULT (mg/L)	Address	Sample Description	Collection Date
.ead	0.004	1040 N SAGINAW ST	3RD FLOOR CAFETERIA	02-Oct-15
.ead	0.007	1040 N SAGINAW ST	1ST FLOOR FTN	02-Oct-15
.ead	0.009	1040 N SAGINAW ST	2ND FLOOR LOWER FTN	02-Oct-15
.ead	0.001	1101 W VERNON DR PIERCE ELEMENTARY	CUSTODIAN OFFICE DRINKING FOUNTAIN	02-Oct-15
.ead	0.003	1101 W VERNON DR PIERCE ELEMENTARY	None Provided	02-Oct-15
.ead	0.008	1101 W VERNON DR PIERCE ELEMENTARY	DRINKING FOUNTAIN MAIN HALL	02-Oct-15
.ead	0.009	1420 W TWELFTH	DRINKING FOUNTAIN	02-Oct-15
.ead	0.015 ✓	1420 W TWELFTH	DRINKING FTN BY RM 3	02-Oct-15
.ead	0.007	1420 W TWELFTH ST	ACROSS FROM CAFETERIA DRINKING FTN	02-Oct-15
.ead	0.005	1518 UNIVERISTY AVE	GYM/POOL DRINKING FTN	02-Oct-15
.ead	0.001	1518 UNIVERSITY AVE	3RD FLOOR FOUNTAIN	02-Oct-15
.ead	0.002	1518 UNIVERSITY AVE	2ND FLOOR FOUNTAIN	02-Oct-15
ead	0.001	2010 CRESTBROOK SCHOOL	LOWER DRINK FTN	02-Oct-15
ead	0.002	2010 CRESTBROOK SCHOOL	HIGH DRINK FTN	02-Oct-15
ead	0.001	2500 N AVERILL SCHOOL	HIGH DRINK FTN SO ENTRANCE	02-Oct-15
ead	Not detected	2500 N AVERILL SCHOOL	HIGH DRINK FTN ACROSS FRM TEACH	02-Oct-15
ead	0.004	305 WALNUT ST	KITCHEN FOOD PREP SINK	02-Oct-15
ead	0.006	305 WALNUT ST	DRINKING FTN	02-Oct-15
ead	0.009	305 WALNUT ST CENTRAL KITCHEN	KITCHEN FOOD PREP	02-Oct-15
ead	0.002	923 E KEARSLEY	1ST FL DRINK FTN	02-Oct-15
ead	0.005	923 E KEARSLEY	2ND FL BTN 207 & WMS RSTRM	02-Oct-15
ead	0.003	923 E KEASLEY ADMIN	BASEMENT ADMIN	02-Oct-15
ead	0.002	BROWNELL S T E M ACADEMY	DRINK FOUNTAIN ROOM 12	02-Oct-15
ead	0.005	BROWNELL S T E M ACADEMY	DRINK FTN GYM BATHRM	02-Oct-15
ead	0.031 ✓	BROWNELL S T E M ACADEMY	DRINK FOUNTAIN RM 6 & 7	02-Oct-15
ead	0.003	EISENHOWER ELEMENTARY	FOUNTAIN GYM	02-Oct-15
ead	0.016 ✓	EISENHOWER ELEMENTARY	FOUNTAIN ROOM 209	02-Oct-15
ead	0.028 ✓	EISENHOWER ELEMENTARY	FOUNTAIN ROOM 102	02-Oct-15
ead	0.003	FREEMAN ELEMENTARY	FOUNTAIN NORTH END OF BLDG	02-Oct-15
ead	0.008	FREEMAN ELEMENTARY	FOUNTAIN MIDDLE AT SCHOOL	02-Oct-15
ead	0.101 ✓	FREEMAN ELEMENTARY	FOUNTAIN SO END OF BLDG	02-Oct-15
ead	0.002	HOLMES S T E M ACADEMY	DRINK FOUNTAIN D114	02-Oct-15
ead	Not detected	HOLMES S T E M ACADEMY	DRINK FOUNTAIN BLUE HALLWAY C109	02-Oct-15
ead	Not detected	HOLMES S T E M ACADEMY	DRINKING FOUNTAIN OFFICE	02-Oct-15
ead	0.002	NORTHWESTERN HIGH SCHOOL	DRINKING FTN LIBRARY NORTH	02-Oct-15
ead	0.004	NORTHWESTERN HIGH SCHOOL	DRINK FOUNTAIN CAFE WEST	02-Oct-15
ead	0.010	NORTHWESTERN HIGH SCHOOL	DRINK FTN LIBRARY SOUTH	02-Oct-15

Michigan Department Environmental Quality

FLINT COMMUNITY SCHOOLS

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923 E. Kearsley Street • Flint, MI 48503
Phone: (810) 760-1000 / Fax: (810) 760-7601
www.flintschools.org

SCHOOL INFORMATION
2015-2016

SCHOOL	PHONE	FAX	ADDRESS	PRINCIPAL
SECONDARY SCHOOLS				
Northwestern High School	760-1780	760-6809	G-2138 W. Carpenter Rd., 48505	Tim Green
Accellerated Learning Academy (ALA)	760-8500	760-6809	G-2138 W. Carpenter Rd., 48505	Eddie Thomas
Southwestern Classical Academy	760-1400	760-7772	1420 W. Twelfth St., 48507	Cheryl Tate
ELEMENTARY SCHOOLS				
Brownell K-2 STEM Academy	760-1643	760-1538	6302 Oxley Dr., 48504	Darryl Grace
Doyle Ryder Elementary	760-5266	760-5118	1040 N. Saginaw St., 48503	Robert Bueche
Durant-Tuuri-Mott Elementary	760-1594	760-7729	1518 University Ave., 48504	Shelly Umphrey
Eisenhower Elementary	760-1607	760-7457	1235 Pershing St., 48503	Rachel Turner
Freeman Elementary	760-1797	760-6882	4001 Ogema St., 48507	Anita Miller
Holmes 3-6 STEM Academy	760-1968	760-1624	6602 Oxley Dr., 48504	Anna Johnson
Neithercut Elementary	760-1359	760-5133	2010 Crestbrook Ln., 48507	Debra Jackson-Noble
Pierce Elementary	760-1386	760-7147	1101 W. Vernon Dr., 48503	Shalonda Byas
Potter Elementary	760-1813	760-5156	2500 N. Averill Ave., 48506	Gretchen Shafer
OTHER BUILDINGS				
Administration Building	760-1000	760-7601	923 E. Kearsley St., 48503	
Central Kitchen	760-1073	760-7073	305 Walnut , 48503	

Henry, James

From: Valacak, Mark
Sent: Tuesday, October 6, 2015 1:16 PM
To: Henry, James
Subject: RE: Water sample results

Thanks, I agree that's why I sent a communication to Dr. Wells at the state and copied you.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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From: Henry, James
Sent: Tuesday, October 06, 2015 1:12 PM
To: Valacak, Mark
Cc: Johnson, M.D., Gary; Brickey, Tamara; Hallwood, Dawn
Subject: RE: Water sample results

Mark, I removed the state recipients from this email.

Today, I left a voice message and email for Mike Prysby, MDEQ. (no response) He oversees Flint water and he picked up Flint school's water on Friday. He told me explicitly the results would be expedited and available Monday, per Julia Piper, MDEQ Lab Director. it's probably safe to assume elevated lead was identified at some school locations and MDEQ is not communicating. This is unacceptable.

The state agencies continue to put our communities at risk. MDDHS, similarly done this by declaring the Legionella outbreak was over, when it wasn't. Over the past year, I have received a lot of written correspondence from MDEQ and MDHHS that demonstrates their incompetence and complacencies. They prioritize politics before public health. I will be happy to compile the **facts** in draft white paper.

Jim

From: Wells, Eden (DHHS) [mailto:WellsE3@michigan.gov]
Sent: Tuesday, October 6, 2015 1:08 PM
To: Valacak, Mark
Cc: Brickey, Tamara; Henry, James; Johnson, M.D., Gary; Miller, Mark (DHHS); Moran, Susan (DHHS)
Subject: Re: Water sample results

Hi Mark,

I do not have a schedule about the results of the tests you are asking about, am still trying to find out---will ask at this afternoon's update if I do not hear; however, and I know Sue Moran and our Director agree, once we know of any confirmed DEQ water testing data that we will want to communicate immediately with you and coordinate any necessary messaging, if any needed.

Eden

From: Valacak, Mark <MVALACAK@gchd.us>
Sent: Tuesday, October 6, 2015 12:27 PM
To: Wells, Eden (DHHS)
Cc: Brickey, Tamara; Henry, James; Johnson, M.D., Gary; Miller, Mark (DHHS); Moran, Susan (DHHS)
Subject: RE: Water sample results

Yes, I know DEQ was here Friday to pick up some of the samples and I believe some were delivered to them by county staff.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,
630 S. Saginaw St. Suite 4 Flint, MI 48502-1540
Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

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From: Wells, Eden (DHHS) [mailto:WellsE3@michigan.gov]
Sent: Tuesday, October 06, 2015 12:25 PM
To: Valacak, Mark
Cc: Brickey, Tamara; Henry, James; Johnson, M.D., Gary; Miller, Mark (DHHS); Moran, Susan (DHHS)
Subject: Re: Water sample results

Hi Mark,

Just to be clear before I check--this would be DEQ sampling within city--correct? I do know that I have a meeting with DEQ this afternoon- not sure if they have results for what you are asking about for that meeting- but I can find out right away.

Eden

From: Valacak, Mark <MVALACAK@gchd.us>
Sent: Tuesday, October 6, 2015 12:08 PM
To: Wells, Eden (DHHS)
Cc: Brickey, Tamara; Henry, James; Johnson, M.D., Gary
Subject: RE: Water sample results

I would like to know what is going on as for as the water sampling being done by the state. Initially we were told we would have results Monday or
Tuesday morning by the latest now we are getting a run around about when results will be available.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,
630 S. Saginaw St. Suite 4 Flint, MI 48502-1540
Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us
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From: Wells, Eden (DHHS) [mailto:WellsE3@michigan.gov]
Sent: Monday, October 05, 2015 4:57 PM
To: Valacak, Mark; Johnson, M.D., Gary
Cc: Miller, Mark (DHHS); Moran, Susan (DHHS)
Subject: Touching Base

Good afternoon, Mark and Gary,

I had hoped that our MDHHS folks could catch up with you this morning; I tried to call also, but I know that you are both are so busy, so I thought I would just drop an email. Please let us know if you have any needs for data, analytic assistance, "boots on the ground" or anything else we can do to assist in the Flint Water response. My cell is 517-230-5827 if needed.

Warm Regards,

Eden

Eden V. Wells, MD, MPH, FACPM
Chief Medical Executive
Michigan Department of Health and Human Services
201 Townsend St., 5th Floor CVB

Lansing, MI 48913

Henry, James

From: Brickey, Tamara
Sent: Wednesday, October 7, 2015 3:53 PM
To: Henry, James
Subject: RE: Technical Committee Agenda and Number

Ah, gotcha. I saw Howard's name attached and thought I missed a meeting request.

From: Henry, James
Sent: Wednesday, October 07, 2015 3:49 PM
To: Brickey, Tamara
Subject: RE: Technical Committee Agenda and Number

Tamara,

To clarify, this is a committee that I have been involved with since the inception, last year. We worked with the ecoli, boil water advisories, TTHM, legionella, lead, ect...

From: Brickey, Tamara
Sent: Wednesday, October 7, 2015 3:42 PM
To: Henry, James
Subject: RE: Technical Committee Agenda and Number

Thank you Jim, I was unaware until now. Please fill me in on anything I should know.

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147
tbrickey@gchd.us

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From: Henry, James
Sent: Wednesday, October 07, 2015 12:04 PM
To: Hallwood, Dawn; Brickey, Tamara; 'MVALACAK@gchd.us'
Subject: FW: Technical Committee Agenda and Number

Just FYI, I will be attending this meeting today at 2pm.

From: Howard Croft [mailto:hcroft@cityofflint.com]
Sent: Tuesday, October 6, 2015 4:54 PM
To: Amy Hovey; Andy Leavitt; Brent Wright; Darren Lytle; Dayne Walling; donna. cole; edwardsm; Gerald (Jed) Natzke; Howard Croft; Henry, James; Jamie Gaskin; Jason Lorenz; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Michael Wright; Mike Lane; Mike Prysby (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Bincsik; rosejo@msu.edu; Russell Hudson; Samir Matta; schock.michael@epa.gov; Sean Kammer; Stephen Busch (DEQ); Warren Green; wellse3@michigan.gov
Subject: Technical Committee Agenda and Number

Team,

We are looking forward to a very productive meeting on Wednesday with those in attendance and those calling in.

I am sending a brief document that includes an agenda and an anticipated attendance list as we expect most of the meting to be good discussion.

Below is the call in information for those that cannot make it:

Number: (641) 715-3580

Access Code: 373-510

Thank you,
--
Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Henry, James

From: Henry, James
Sent: Tuesday, November 3, 2015 12:57 PM
To: Henry, James
Subject: FW: Flint Water and School Sampling Meeting

Mark,

This is a brief summary of my meeting last Friday 10/30with MDEQ, MDHHS, DLARA, and Flint City. I intended to update you at our 1pm meeting Friday and/or Monday, but they were cancelled. I'll provide more details at today's meeting.

As we discussed, MDEQ stopped communicating with me after Tuesday 10/27. This is the same day that the lab analysis for Freeman Elementary was completed. Also, I was not invited to this MDEQ coordination meeting.

Friday, Oct 30, 2015

Present :
Jim Henry, GCHD
George Krisztian, MDEQ
Karen Tommasulo, (PIO) MDEQ
Dayne Walling, Flint
Natasha Henderson, Flint
Howard Croft, Flint
Shelly Edgerton, LARA

TeleConf:
Linda Dykema, MDHHS

Discussion:

- MDEQ explained that water sampling for lead at Freeman Elementary was completed on Saturday 10/24 by DLARA and MDEQ staff. Sampling at the other schools will take place over the next several weekends.

- MDEQ explained that the water results from Freeman Elementary are not being released until further review and additional sampling is conducted.
- MDEQ explained that the water results from Freeman Elementary are consistent with the previous elevated levels that were collected by GCHD.
- GCHD explained that all inquiries regarding the schools will be directed to MDEQ, since the results are being withheld..
- MDEQ is requesting that GCHD staff are phased in to conduct sampling, which may include charter, parochial and daycares centers. Reimbursement for GCHD was discussed.
- MDEQ explained that lead mitigation will be the school's responsibility, since funding is not available for mitigation.
- MDHHS explained that blood testing results from the upcoming event at GCHD, Burton Clinic on Friday, Nov 5th could possibly be released Monday 11/9 or11/10
- Flint City requested an update from MDEQ regarding the engineered plan submittal to add phosphate at the water plant. MDEQ Indicated plans were approved on Wednesday evening 10/28. The City indicated that they were not informed of the approval and disappointed that there was no urgency to review should have been considered a priority but the review took nine days
- There was a general discussion regarding the unprecedented amount of phosphate proposed to be add at the plant and the potential health risks.

My Observations:

MDEQ controls all school water results and determines what to share and when. (so much for the promise of transparency from George Krizstian). I don't know what they found at Freeman Elementary, but it must be significant. MDEQ is going back to reevaluate, make plumbing corrections and resample. There is no oversight or accountability that MDEQ will report the actual exposure that may have occurred.
They are concerned because if there are a lot of EBL from FreemanThey have the ability to resample after corrections the corrections are made and then share the reduced level results.

The state wants to conduct household lead investigations for all EBLs. This is not intended to address the health risks but to demonstrate other potential sources of exposures exsist.

Thanks Jim

From: Henry, James
Sent: Friday, October 30, 2015 9:36 AM

Henry, James

From: Henry, James
Sent: Friday, November 6, 2015 4:37 PM
To: 'MVALACAK@gchd.us'
Subject: FW: Request for Disclosure of Official Files

Mark,

The FOIA response below is ridiculous and I question whether it is legal. The only reason why the Freeman School report will be available Monday is because of our FOIA. I'll reluctantly withdraw the FOIA when we get the school report.

This morning, George Krisztian told me that he has been instructed to withhold the Freeman School results from us until the FOIA deadline, December 2. He explained that he understands our responsibility and will share them anyway. I don't know MDEQ realizes that we'd get the results from the City, MDHHS or Schools after they are shared anyway.

- I'll have staff visit the Flint schools, meet with administrators and make sure that consumption of water is not an option.
- We'll continue to offer our assistance to collect water for MDEQ
- MDEQ can hold the results for as long as they want, because we'll have confirmed there is no further risk to the students.

MDEQ reminds me of a stubborn 2yr old child. Instead of doing what is right, they'll willfully take another spanking just to be defiant.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Genesee County
Health Department

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Henry, James

From: DEQFOIA <DEQFOIA@michigan.gov>
Sent: Friday, November 6, 2015 1:38 PM
To: Henry, James
Subject: Request for Disclosure of Official Files

Mr. Jim Henry
Genesee County Health Department
630 S. Saginaw Street, Suite 4
Flint, MI 48502-1540

Dear Mr. Henry:

SUBJECT: Request for Disclosure of Official Files

This notice is issued in response to your request for information under the Freedom of Information Act, 1976 PA 442, as amended (FOIA), received on November 6, 2015. You have requested the following information: Freeman Elementary School, Flint (FOIA 0731-16).

Your request will be forwarded to the **Executive Division**

Due to time constraints and limited resources, it is necessary to issue a 10-business day extension until December 2, 2015, as permitted under Section 5(2)(d) of the FOIA.

The Department of Environmental Quality's website contains the policy and procedure, public written summary, and several online databases.

Susan Vorce, FOIA Coordinator
Department of Environmental Quality
800-662-9278

The DEQ strives to continually improve its customer service to FOIA requestors. To provide input for improvements to the FOIA process, please complete this survey: https://www.surveymonkey.com/s/foiaprocess

Henry, James

From: Henry, James
Sent: Monday, November 9, 2015 11:32 AM
To: 'MVALACAK@gchd.us'
Subject: FW: Flint Schools
Attachments: Flint School List.pdf; Lead - Flint Water Fact Sheet.pdf; Lead_and_your_Body_-_Flint_-_no_background_504124_7.pdf

Mark,

Below is an email that I sent to our staff this morning. I think it's a good idea to make a friendly visit to the schools regardless of water results. It will give us some assurance that the kids are being protected and since MDEQ is not cooperating, we will not have to be concerned about the water results being shared in a timely manner.

I haven't heard anything further from MDEQ regarding our assistance for sampling schools. I will talk with George again, today.

Thanks Jim

From: Henry, James
Sent: Monday, November 9, 2015 9:47 AM
To: Hallwood, Dawn; Dodds, Sheryl; Hungerford, Brian; Hough, Bill; Pavone, Anthony; Schacher, Andrew; Henry, James; Moore, Tina
Cc: Ptaszenski, Rachel; Boulton, Mary
Subject: FW: Flint Schools

Hello everyone,

Within the next couple days please revisit the school(s) where you collected water for lead testing. Stop at the front office and if possible speak with the administrator to inquire about the school's activities to prevent consumption of water from the Flint municipal supply.

Please take a cursory walk through the school, preferably with the administrator. Drinking fountains should be inaccessible or turned off and posted "Do Not Drink", but signage alone is not enough. Water for any food prep must be previously filtered (NSF approved for lead), bottled water or from an another approved source. Also, please share the attached factsheets with the school administrator or the front office staff. I'll print copies of the factsheets and put them in your boxes.

Since the schools are licensed by us, it should be ok to document your visit with the paper version of Food Service Establishment Report Form. For uniformity, please make the following statement or something very similar on the form. **"Prohibit consumption of water from the Flint municipal supply until approved by the Genesee County Health Department."** Have the school sign the report, basically documenting our visit and give them their copy. Please give the original white copy to me.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4

Henry, James

From: Valacak, Mark
Sent: Monday, November 9, 2015 2:52 PM
To: Henry, James
Subject: FW: Request for Disclosure of Official Files

FYI

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

Public Health

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From: Bell, Celeste [mailto:CBell@co.genesee.mi.us]
Sent: Monday, November 09, 2015 2:34 PM
To: Valacak, Mark
Subject: RE: Request for Disclosure of Official Files

Yes, they are. In fact, depending on how the FOIA request was sent, they probably could take it out another day, e.g., received by email or fax on Nov. 6 gets them an additional day which takes extension out to Dec. 3. Vets Day and Thanksgiving holidays don't count toward the 5 plus 10 days.

Best regards,
Celeste

Celeste D. Bell | Chief Assistant Prosecuting Attorney-Civil Division | Genesee County Courthouse | 900 South Saginaw Street, Ste. 100 | Flint, MI 48502 | ☎ (810) 257-3050 | 🖷 (810) 257-2715 | cbell@co.genesee.mi.us

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From: Valacak, Mark [mailto:MVALACAK@gchd.us]
Sent: Monday, November 09, 2015 2:04 PM

Henry, James

From: Valacak, Mark
Sent: Monday, November 9, 2015 2:52 PM
To: Henry, James
Subject: FW: Request for Disclosure of Official Files

FYI

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

Public Health

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"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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Best regards,

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From: Valacak, Mark [mailto:MVALACAK@gchd.us]
Sent: Monday, November 09, 2015 2:04 PM
To: Bell, Celeste
Subject: FW: Request for Disclosure of Official Files

Celeste,

We have not been getting timely communication from the MDEQ on the sampling that they have done of water here is Flint. Jim Henry of my staff did a FOIA and below is their response. Can you verify that they are in compliance with their automatic extension request? Jim was very specific in what he requested which I copied and included below:

"The Genesee County Health Department is requesting all MDEQ laboratory water results for Freeman Elementary School located in Flint MI. In your response, please include all water results, but specifically the results for lead from the water samples collected on 10/24/2015 and 10/31/2015 at Freeman Elementary School located in Flint MI.

If necessary, please consider this a FOIA request.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us"

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

PublicHealth

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From: Henry, James
Sent: Friday, November 06, 2015 4:37 PM
To: 'MVALACAK@gchd.us'
Subject: FW: Request for Disclosure of Official Files

Mark,

The FOIA response below is ridiculous and I question whether it is legal. The only reason why the Freeman School report will be available Monday is because of our FOIA. I'll reluctantly withdraw the FOIA when we get the school report.

This morning, George Krisztian told me that he has been instructed to withhold the Freeman School results from us until the FOIA deadline, December 2. He explained that he understands our responsibility and will share them anyway. I don't know MDEQ realizes that we'd get the results from the City, MDHHS or Schools after they are shared anyway.

- I'll have staff visit the Flint schools, meet with administrators and make sure that consumption of water is not an option.
- We'll continue to offer our assistance to collect water for MDEQ
- MDEQ can hold the results for as long as they want, because we'll have confirmed there is no further risk to the students.

MDEQ reminds me of a stubborn 2yr old child. Instead of doing what is right, they'll willfully take another spanking just to be defiant.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4

ANALYTE	RESULT (mg\L)	Sample Location	Sample Description	Site Code	Site Code Description
Lead	0.010	Classroom 12	CF022	P1	First Primary draw of 125 milliliters
Lead	0.003	Classroom 12	CF022	P2	Second Primary draw of 125 milliliters
Lead	0.001	Classroom 12	CF022	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Classroom 12	CF022	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.004	Classroom 12	CF021	P1	First Primary draw of 125 milliliters
Lead	0.007	Classroom 12	CF021	P2	Second Primary draw of 125 milliliters
Lead	0.000	Classroom 12	CF021	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Classroom 12	CF021	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.009	Classroom 5	CF009	P1	First Primary draw of 125 milliliters
Lead	0.002	Classroom 5	CF009	P2	Second Primary draw of 125 milliliters
Lead	0.002	Classroom 5	CF009	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Classroom 5	CF009	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.102	Classroom 11	CF015	P1	First Primary draw of 125 milliliters
Lead	0.326	Classroom 11	CF015	P2	Second Primary draw of 125 milliliters
Lead	0.014	Classroom 11	CF015	F01	Flush Sample taken 30 Seconds after Second
Lead	0.011	Classroom 11	CF015	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.003	Classroom 11	CF016	P1	First Primary draw of 125 milliliters
Lead	0.003	Classroom 11	CF016	P2	Second Primary draw of 125 milliliters
Lead	0.005	Classroom 11	CF016	F01	Flush Sample taken 30 Seconds after Second
Lead	0.004	Classroom 11	CF016	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.009	Classroom 21	CF027	P1	First Primary draw of 125 milliliters
Lead	0.007	Classroom 21	CF027	P2	Second Primary draw of 125 milliliters
Lead	0.000	Classroom 21	CF027	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Classroom 21	CF027	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.012	Classroom 6	CF010	P1	First Primary draw of 125 milliliters
Lead	0.004	Classroom 6	CF010	P2	Second Primary draw of 125 milliliters
Lead	0.002	Classroom 6	CF010	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Classroom 6	CF010	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.009	Classroom 21	CF028	P1	First Primary draw of 125 milliliters
Lead	0.002	Classroom 21	CF028	P2	Second Primary draw of 125 milliliters
Lead	0.001	Classroom 21	CF028	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Classroom 21	CF028	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.023	Classroom 19	CF024	P1	First Primary draw of 125 milliliters
Lead	0.003	Classroom 19	CF024	P2	Second Primary draw of 125 milliliters
Lead	0.004	Classroom 19	CF024	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Classroom 19	CF024	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.005	Community Room	KC003	P1	First Primary draw of 125 milliliters
Lead	0.002	Community Room	KC003	P2	Second Primary draw of 125 milliliters
Lead	0.000	Community Room	KC003	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Community Room	KC003	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.009	Classroom 19	CF023	P1	First Primary draw of 125 milliliters
Lead	0.009	Classroom 19	CF023	P2	Second Primary draw of 125 milliliters
Lead	0.001	Classroom 19	CF023	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Classroom 19	CF023	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.015	Hallway	DW002	P1	First Primary draw of 125 milliliters
Lead	0.006	Hallway	DW002	P2	Second Primary draw of 125 milliliters
Lead	0.004	Hallway	DW002	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Hallway	DW002	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.002	Classroom 9	CF012	P1	First Primary draw of 125 milliliters
Lead	0.004	Classroom 9	CF012	P2	Second Primary draw of 125 milliliters
Lead	0.002	Classroom 9	CF012	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Classroom 9	CF012	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.040	Hallway	DW001	P1	First Primary draw of 125 milliliters
Lead	0.006	Hallway	DW001	P2	Second Primary draw of 125 milliliters

ANALYTE	RESULT (mg\L)	Sample Location	Sample Description	Site Code	Site Code Description
Lead	0.004	Hallway	DW001	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Hallway	DW001	F02	Flush Sample taken 2 minutes after First Flush

ANALYTE	RESULT (mg\L)	Sample Location	Sample Description	Site Code	Site Code Description
Lead	0.014	Classroom 15	CF018	P1	First Primary draw of 125 milliliters
Lead	0.005	Classroom 15	CF018	P2	Second Primary draw of 125 milliliters
Lead	0.002	Classroom 15	CF018	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Classroom 15	CF018	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.010	Classroom 15	CF017	P1	First Primary draw of 125 milliliters
Lead	0.014	Classroom 15	CF017	P2	Second Primary draw of 125 milliliters
Lead	0.002	Classroom 15	CF017	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Classroom 15	CF017	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.017	DHHS Office	CF029	P1	First Primary draw of 125 milliliters
Lead	0.012	DHHS Office	CF029	P2	Second Primary draw of 125 milliliters
Lead	0.002	DHHS Office	CF029	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	DHHS Office	CF029	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.013	Classroom 4	CF008	P1	First Primary draw of 125 milliliters
Lead	0.006	Classroom 4	CF008	P2	Second Primary draw of 125 milliliters
Lead	0.001	Classroom 4	CF008	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Classroom 4	CF008	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.007	Classroom 3	CF007	P1	First Primary draw of 125 milliliters
Lead	0.006	Classroom 3	CF007	P2	Second Primary draw of 125 milliliters
Lead	0.003	Classroom 3	CF007	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Classroom 3	CF007	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.027	Classroom 10	CF014	P1	First Primary draw of 125 milliliters
Lead	0.007	Classroom 10	CF014	P2	Second Primary draw of 125 milliliters
Lead	0.004	Classroom 10	CF014	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Classroom 10	CF014	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.036	Classroom 14	CF026	P1	First Primary draw of 125 milliliters
Lead	0.030	Classroom 14	CF026	P2	Second Primary draw of 125 milliliters
Lead	0.017	Classroom 14	CF026	F01	Flush Sample taken 30 Seconds after Second
Lead	0.004	Classroom 14	CF026	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.005	Classroom 17	CF019	P1	First Primary draw of 125 milliliters
Lead	0.003	Classroom 17	CF019	P2	Second Primary draw of 125 milliliters
Lead	0.001	Classroom 17	CF019	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Classroom 17	CF019	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.000	Classroom 14	CF025	P1	First Primary draw of 125 milliliters
Lead	0.003	Classroom 14	CF025	P2	Second Primary draw of 125 milliliters
Lead	0.003	Classroom 14	CF025	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Classroom 14	CF025	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.009	Classroom 10	CF013	P1	First Primary draw of 125 milliliters
Lead	0.018	Classroom 10	CF013	P2	Second Primary draw of 125 milliliters
Lead	0.003	Classroom 10	CF013	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Classroom 10	CF013	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.013	Classroom 17	CF020	P1	First Primary draw of 125 milliliters
Lead	0.004	Classroom 17	CF020	P2	Second Primary draw of 125 milliliters
Lead	0.005	Classroom 17	CF020	F01	Flush Sample taken 30 Seconds after Second
Lead	0.003	Classroom 17	CF020	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.016	Classroom 2	CF006	P1	First Primary draw of 125 milliliters
Lead	0.003	Classroom 2	CF006	P2	Second Primary draw of 125 milliliters
Lead	0.001	Classroom 2	CF006	F01	Flush Sample taken 30 Seconds after Second
Lead	0.001	Classroom 2	CF006	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.002	Classroom 7	CF011	P1	First Primary draw of 125 milliliters
Lead	0.000	Classroom 7	CF011	P2	Second Primary draw of 125 milliliters
Lead	0.002	Classroom 7	CF011	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Classroom 7	CF011	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.057	Proposed Pre K	CF031	P1	First Primary draw of 125 milliliters
Lead	0.003	Proposed Pre K	CF031	P2	Second Primary draw of 125 milliliters

ANALYTE	RESULT (mg\L)	Sample Location	Sample Description	Site Code	Site Code Description
Lead	0.002	Proposed Pre K	CF031	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Proposed Pre K	CF031	F02	Flush Sample taken 2 minutes after First Flush

ANALYTE	RESULT (mg\L)	Sample Location	Sample Description	Site Code	Site Code Description
Lead	0.010	Proposed Pre K	CF030	P1	First Primary draw of 125 milliliters
Lead	0.003	Proposed Pre K	CF030	P2	Second Primary draw of 125 milliliters
Lead	0.007	Proposed Pre K	CF030	F01	Flush Sample taken 30 Seconds after Second
Lead	0.000	Proposed Pre K	CF030	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.012	Classroom 1	CF004	P1	First Primary draw of 125 milliliters
Lead	0.007	Classroom 1	CF004	P2	Second Primary draw of 125 milliliters
Lead	0.004	Classroom 1	CF004	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Classroom 1	CF004	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.005	Classroom 1	DW005	P1	First Primary draw of 125 milliliters
Lead	0.003	Classroom 1	DW005	P2	Second Primary draw of 125 milliliters
Lead	0.003	Classroom 1	DW005	F01	Flush Sample taken 30 Seconds after Second
Lead	0.002	Classroom 1	DW005	F02	Flush Sample taken 2 minutes after First Flush
Lead	0.002	Proposed Pre K	CF030	CA1	First Sequential Sample
Lead	0.001	Proposed Pre K	CF030	CA2	Second Sequential Sample
Lead	0.000	Proposed Pre K	CF030	CA3	Third Sequential Sample
Lead	0.000	Proposed Pre K	CF030	CA4	Forth Sequential Sample
Lead	0.000	Proposed Pre K	CF030	CA5	Fifth Sequential Sample
Lead	0.000	Proposed Pre K	CF030	CA6	Sixth Sequential Sample
Lead	0.000	Proposed Pre K	CF030	CA7	Seventh Sequential Sample
Lead	0.000	Proposed Pre K	CF030	CA8	Eigth Sequential Sample
Lead	0.000	Proposed Pre K	CF030	CA9	Ninth Sequential Sample
Lead	0.000	Proposed Pre K	CF030	CA10	Tenth Sequential Sample
Lead	0.062	Classroom 11	CF015	CB1	First Sequential Sample
Lead	0.008	Classroom 11	CF015	CB2	Second Sequential Sample
Lead	0.008	Classroom 11	CF015	CB3	Third Sequential Sample
Lead	0.007	Classroom 11	CF015	CB4	Forth Sequential Sample
Lead	0.007	Classroom 11	CF015	CB5	Fifth Sequential Sample
Lead	0.007	Classroom 11	CF015	CB6	Sixth Sequential Sample
Lead	0.007	Classroom 11	CF015	CB7	Seventh Sequential Sample
Lead	0.006	Classroom 11	CF015	CB8	Eigth Sequential Sample
Lead	0.006	Classroom 11	CF015	CB9	Ninth Sequential Sample
Lead	0.006	Classroom 11	CF015	CB10	Tenth Sequential Sample
Lead	0.002	Classroom 21	CF027	CC1	First Sequential Sample
Lead	0.000	Classroom 21	CF027	CC2	Second Sequential Sample
Lead	0.000	Classroom 21	CF027	CC3	Third Sequential Sample
Lead	0.000	Classroom 21	CF027	CC4	Forth Sequential Sample
Lead	0.000	Classroom 21	CF027	CC5	Fifth Sequential Sample
Lead	0.000	Classroom 21	CF027	CC6	Sixth Sequential Sample
Lead	0.000	Classroom 21	CF027	CC7	Seventh Sequential Sample
Lead	0.000	Classroom 21	CF027	CC8	Eigth Sequential Sample
Lead	0.000	Classroom 21	CF027	CC9	Ninth Sequential Sample
Lead	0.000	Classroom 21	CF027	CC10	Tenth Sequential Sample

Note: Results of "Not Detected" have been converted to a numerical value of zero to allow for ease of sorting

Results in RED exceed 15 ppb
1 ppb = 0.001 mg\L

Henry, James

From: Henry, James
Sent: Tuesday, November 10, 2015 9:25 AM
To: 'MVALACAK@gchd.us'; LaRocco, Toni; Brickey, Tamara; McShane, Hilda; Hallwood, Dawn; Swartout, April; Stickler, Lisa; 'scupal@gchd.us'
Subject: Freeman Elem Report

Attached is the link to the Freeman Elem water report. When you open the link there are details of sample results at the bottom of the page. I'll withdraw the FOIA Request.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_73946---,00.html

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Genesee County
Health Department

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Henry, James

From: Henry, James
Sent: Tuesday, November 10, 2015 1:05 PM
To: Krisztian, George (DEQ); VORCES@michigan.gov
Cc: 'MVALACAK@gchd.us'
Subject: RE: Freeman, Brownell and Eisenhower

Hello George and Susan,
Please withdraw GCHD's Freedom of Information Act request for Freeman Elementary School, Flint (FOIA 0731-16).

George, Thanks for following up with me. Just as a reminder, GCHD would like to assist MDEQ with collecting water samples at the Flint Schools and other locations within the City of Flint, as needed. I have confirmed staff availability and our finance department calculated $92/hr. for reimbursement. GCHD staff are required to be paid overtime (1.5 x 92) 138/hr. when working outside the hours between 8-5pm. Please let me know if you would like our assistance.

Also, just as an FYI, I am having GCHD staff visit all Flint schools to confirm that consumption of water is being prevented.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Mr. Jim Henry
Genesee County Health Department
630 S. Saginaw Street, Suite 4
Flint, MI 48502-1540

Dear Mr. Henry:

Henry, James

From: DEQFOIA <DEQFOIA@michigan.gov>
Sent: Tuesday, November 10, 2015 1:11 PM
To: Henry, James
Subject: Request for Disclosure of Official Files

Mr. Jim Henry
Genesee County Health Department
630 S. Saginaw Street, Suite 4
Flint, MI 48502-1540

Dear Mr. Henry:

SUBJECT: Request for Disclosure of Official Files

This notice is issued in response to your request for information under the Freedom of Information Act, 1976 PA 442, as amended (FOIA), received on November 6, 2015. You have requested the following information: Freeman Elementary School, Flint (FOIA 0731-16).

Pursuant to your request, this notice is to confirm that your FOIA is **canceled**. If you need this information in the future, you must submit a new FOIA.

Susan Vorce, FOIA Coordinator
Department of Environmental Quality
800-662-9278
deqfoia@michigan.gov

MDEQ WITHHOLDS MORE SCHOOL LEAD RESULTS GCHD FOIA

Henry, James

From: Henry, James
Sent: Wednesday, October 14, 2015 7:05 PM
To: Miller, Mark (DHHS); Krisztian, George (DEQ)
Cc: 'MVALACAK@gchd.us'
Subject: George Krisztian, Lab Director DEQ / Flint Schools

I appreciate the urgency and I'll be back in touch in the morning. I'm hesitant to commit GCHD resources and I want to discuss this further with Mark Valacak.

On several occasions GCHD has experienced lack of cooperation to the point of hindrance from state agencies relative to Flint water investigations. We need a better partnership. I acknowledge that our roles are different. Also, that resources and politics have influence on public health, but this is unacceptable. I apologize that my comments may be misdirected.

Respectfully,
Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Miller, Mark (DHHS) [mailto:millerm1@michigan.gov]
Sent: Wednesday, October 14, 2015 12:13 PM
To: Henry, James
Cc: Krisztian, George (DEQ)
Subject: George Krisztian, Lab Director DEQ

Jim, if you get a chance can you give George a holler to discuss further school testing? Mark V. said you'd be point on any further school testing.

He's at cell: 517 2040381 or krisztiang@michigan.gov

Thanks in advance.

Mark Miller
Director, Local Health Services
Michigan Department of Health & Human Services
201 Townsend, 6th Floor
Lansing MI 48913
(517) 335-8032
millerm1@michigan.gov

Henry, James

From: Krisztian, George (DEQ) <krisztiang@michigan.gov>
Sent: Saturday, October 17, 2015 1:26 PM
To: Dayne Walling (dwalling@cityofflint.com); Natasha Henderson (nhenderson@cityofflint.com); Dykema, Linda D. (DHHS); 'Howard Croft'; Edgerton, Shelly (LARA); Wells, Eden (DHHS); Tommasulo, Karen (DEQ); Henry, James
Cc: Sygo, Jim (DEQ); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ)
Subject: Weekly Coordination Meetings

Importance: High

Greetings everyone,

As per our discussion yesterday at City Hall, I am sending out an e-mail to the group so that we can have a convenient distribution list for everyone involved in the weekly coordination meetings.

I was able to meet with Jim Henry at the GCHD yesterday and I am happy to report that it appears that he will be able to join our group. Jim and the GCHD will certainly be valuable partners as we move forward with our task.

I would like to suggest that we continue to meet on Friday's if that is feasible. I think that Friday will work nicely as it will allow us to have a fresh retrospective on the week that just passed and allow us to plan for the upcoming week. I think the 10:00 AM time slot worked well as it allows folks in Lansing to get into the office to take care of some details before heading out and it allows sufficient time in the afternoon to get additional work done.

I would like to get a tour of the Flint Water Treatment Plant scheduled for next week if possible. It could either occur in conjunction with the weekly coordination meeting or it could potentially be scheduled for a different day. It would probably be most efficient to link it with the weekly meeting. I would like to bring Eric Shaw with me for the tour. Eric would take video of the tour as part of the message that we (all of the partners) are moving forward.

Please respond to the group if you have additional staff to be included in the cc line. Also respond to the group if I inadvertently excluded anyone from the "To" line.

Perhaps Sean and Mary Beth can work together to get the weekly coordination meetings scheduled.

Thanks to all!
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 204-0381

Henry, James

From: Krisztian, George (DEQ) <krisztiang@michigan.gov>
Sent: Monday, October 19, 2015 7:44 AM
To: Edgerton, Shelly (LARA); Henry, James
Cc: Dayne Walling (dwalling@cityofflint.com); Natasha Henderson (nhenderson@cityofflint.com); Dykema, Linda D. (DHHS); Howard Croft; Tommasulo, Karen (DEQ); Sygo, Jim (DEQ); Wyant, Dan (DEQ); Thelen, Mary Beth (DEQ); Wells, Eden (DHHS)
Subject: Sample Information Form
Attachments: EQP 2300 32CC.zip

Importance: High

Good morning everyone,

In an effort to simplify the sampling procedure we have modified our standard sample information form so that it is customized to the school sampling that we are doing. Our standard form does not have the newly created 32CC analysis code.

Please review the attached spread sheet and comment as you see fit. We will need to finalize this either today or tomorrow so that Jim's group is ready to roll after the plumbing evaluations are done.

In order to expedite the process this will be a single part form, samplers will need to make copies of the forms if they want one.

We can also modify the form further after the first three schools depending what we learn from that experience.

Thank you!
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 204-0381

Henry, James

From: Shekter Smith, Liane (DEQ) <SHEKTERL@michigan.gov>
Sent: Monday, October 19, 2015 4:55 PM
To: Poy, Thomas; Dykema, Linda D. (DHHS); Madziar, Joseph (LARA); Henry, James
Cc: Krisztian, George (DEQ); Sygo, Jim (DEQ); Busch, Stephen (DEQ); Cook, Pat (DEQ); Prysby, Mike (DEQ)
Subject: DRAFT DELIBERATIVE. Working Draft - School Sampling Protocol
Attachments: Working Draft - Collecting Water Samples at Schools 10_19_15.docx

Please see attached.

Your comments by COB Tuesday (tomorrow) would be appreciated. Sooner would be better!

Liane

DRAFT – WORK IN PROGRESS

Protocol for Collecting Water Samples at Schools for Lead Analysis

The following is a step-by-step procedure to ensure samples are collected in a systematic, consistent manner to provide meaningful results. By following the below procedures school and health officials will have information to be able to identify and correct sources that contribute lead into drinking water. The recommended procedures are:

- With the assistance from Department of Licensing and Regulatory Affairs (LARA) staff, conduct an on-site assessment of the building plumbing to identify plumbing components of concern and prioritize sample sites.
- Genesee County Health Department staff collects the samples from prioritized sites and in the sequence recommended by LARA.
- Genesee County Health Department staff submits the samples and appropriate paperwork to the DEQ certified drinking water laboratory.
- Laboratory performs analysis and informs DEQ-ODWMA staff of the results.
- DEQ informs DHHS of test results, and they jointly interpret the results.
- DHHS staff relays the results to school officials and confers on any follow-up or corrective remedies that may be needed.

Step 1 – Prepare for On-Site Assessment

In order to assist LARA staff to identify and prioritize sample sites, school staff should compile, collect, and review any records pertaining to the building plumbing. This includes building permits, plumbing permits, as built plans, and information about the service line and all potable water pipes, fixtures and appurtenances within the building. At a minimum, a diagram of each floor layout should be provided. In addition, answers to the following questions will help streamline the on-site assessment process.

- When was the facility built?
- Have new buildings or additions been added? If so, when were they added? If built since 1986, were lead-free plumbing and solder used?
- When were the most recent plumbing repairs made and where were they located?
- What are the potable water pipes in your facility made of and what is their location? Options include: lead, brass, copper, plastic, galvanized metal and other materials. What materials were used to solder the potable water pipes in your system? Are brass taps, fittings or valves used? Note the locations.
- How many of the following outlets provide water for consumption: Bubblers, ice makers, water coolers and kitchen taps. Note their location. Include taps that might be used for making coffee or preparing formula.
- What brands and models of water coolers (cooled drinking fountains) provide water in your facility and what is their location?
- Do faucets have accessible screens and have they been cleaned?
- Can you detect any signs of corrosion, such as leaks, rust-colored water or stains?
- Is any electrical equipment grounded to water pipes?

- Are there any records of previous water testing?

Step 1 – Arrange for On-site Assessment with LARA Staff

LARA staff will contact school officials/staff and set a date and time for the assessment. A school representative familiar with the building layout and plumbing system should accompany LARA staff as they conduct the assessment. A room reserved for records review should also available.

Step 3 – Prioritize Sample Sites and Sampling Sequence

It is recommended that all faucets, taps and outlets that are used regularly by students and staff for drinking, cooking, making coffee or food preparation will be sampled. High priority sites would include:

- Drinking Fountains (both bubblers and water cooler style).
- Kitchen Sinks, faucets or taps.
- Breakroom, classroom, teachers' lounge or other sinks known to be or visibly used for consumption (water glasses or coffeemaker and/or cups are nearby).

LARA staff will assign a sample site Identification (ID) number for each sample site and the order in which each site is to be sampled. This number will reflect the type of tap/outlet and location. Sites closest to the service line are to be collected first, then in a sequence as they get farther from the service line until the site the farthest away is sampled last. This will minimize the chance that the piping is not flushed by a downstream or other sample location prior to collecting the samples at that site.

LARA staff will also identify any water coolers that should have been removed under the Lead Contamination Control Act (LCCA) in 1988. The LCCA mandated the repair, replacement or recall and refund of drinking water coolers with lead-lined water tanks. LARA staff will confirm that there are no recalled water coolers on-site. Any coolers that should have been removed will be marked for removal or replacement.

Step 4 - Labelling the Sample Sites and Preparing Labels for the Bottles

Coding Scheme for Water Outlets

A drinking water bubbler (DW) on the 2nd floor (02) of the middle school (MID), the 15th outlet counted, might be coded as follows.

- MID- 02- DW-015
- DW= drinking water bubbler
- WC = water cooler (chiller unit)
- CF = classroom faucet
- KC = kitchen faucet, cold
- KH = kitchen faucet, hot
- EC = home economics room, cold
- EH = home economics room sink, hot
- BF = bathroom faucet
- NS = nurse's office sink
- SC = service connector

In addition to the unique outlet code, a unique sample identifier is necessary since more than one sample will be taken from an outlet. A flush sample would also require a unique identifier. The first draw (P), flush (F1) and flush (F2) samples taken for the above outlet would be MID-02- DW-015-P-01, MID- 02- DW-015-F-01 and MID-02-DW-015-F-02.

- P = primary (first draw) sample
- F = flush
- 01 = first flush sample at 30 seconds
- 02 = second flush sample at 2 minutes

Step 5 – Prior to Sample Collection

Once LARA staff has labelled each outlet, school personnel should ensure that the labels are maintained. Even after the initial sampling, it will be important to keep a record of each tap designation so that any future or follow-up sampling can be correlated to the correct outlet.

Also, since drinking water has not been consumed from taps within the school buildings for several weeks, it is important to flush the taps the afternoon prior to the day of sampling. That is, after school is out for the day, school personnel should run each tap for several minutes to clear the faucet.

Step 6 – Collect the Samples

After the sites and order of collection have been determined by LARA staff, and the taps flushed by school personnel, samples can be collected by Genesee County Health Department staff. In addition, make sure to inform all other staff including teachers, maintenance staff, parents and students of the sampling plans and for the need to not use any of the outlets or water in the building the morning of sampling. Samples must be collected before school opens in the morning. Use of bathrooms, etc. would draw fresh water through the piping system and alter the effects of stagnation.

Each outlet should be labelled and posted **"DO NOT USE"** so that no water is used before sampling occurs. The sample sequence will be determined by LARA so that sampling will occur closest to the water main/service line provided by the city.

Sampling containers will be provided to Genesee County Health Department staff from the Michigan Department of Environmental Quality Drinking Water Laboratory.

1. Three samples will be collected from each designated sample site. There will be three 125 milliliter (ml) samples collected at each outlet. Sample units for this evaluation/survey will be designated 32CC.

2. Collect all water samples before any water is used. Ideally, the water should sit in the pipes unused for at least 8 hours but not more than 18 hours before a sample is collected.

3. Samples should not be collected the morning after a vacation, weekend or holiday. These results will not be representative because of the extended contact time with the water

4. The three samples from each site are to be collected at first draw, after a 30 second flush, and a 2 minute flush as follows:

    a. After the appropriate 8 – 18 hour stagnation time, place the first bottle under the tap, open the tap to produce a slow, steady "pencil thin" flow and fill the bottle to the appropriate level.
    b. Turn off tap. Cap, label bottle, and record sample information on sample recordkeeping/chain of custody form.
    c. Turn on tap as before and after 30 seconds, fill the second bottle.

d. Turn off tap. Cap, label bottle, and record sample information on sample recordkeeping/chain of custody form.
e. Turn on tap as before and after 2 minutes, fill the third bottle.
f. Turn off tap. Cap, label bottle, and record sample information on sample recordkeeping/chain of custody form.

5. Make sure to mark the bottles as "first draw", "30 sec flush" or "2 min flush" and also indicate this information on the sample submission form.

6. Assign an appropriate sample Identification (ID) number to each sample collected. Record this number (including the flush time) on the sample container and submission form.

7. Collect the remainder of the samples from all designated sites in the pre-determined order as recommended by LARA.

8. Deliver or ship the samples to the lab as instructed.

How to Collect an Initial (First Draw) Sample

- Make sure you have clean hands.
- Complete the sample recording form.
- Only use containers (125 ml) supplied by the DEQ laboratory.
- Containers should not be opened until you are ready to collect the sample.
- Sampling containers that have been compromised in any way, e.g., by being touched on the threads or the interior surfaces, must not be used.
- Keep food and drink away from the sample and its container.
- Make sure no water has been withdrawn from the tap or water fountain before you collect the sample.
- Place the container under the faucet or drinking water fountain that is being tested and collect 125 ml of water.
- If a faucet is being tested make sure you turn on the cold water tap.
- Turn on the water and fill the container without allowing any water to run down the drain.
- Close the container according to the instructions from your certified lab.
- Make sure the container is labeled with the same information from your sample recording form.
- Prepare the container for shipping according to the DEQ lab's instructions.
- Samples must be delivered to the lab within 14 days of collection for proper testing.

How to Collect Flush Samples

Before the first flush sample is collected, allow the water to run down the drain for 30 seconds. Then collect a sample using the same protocol as above.

Before the second flush sample is collected, allow the water to run down the drain for 2 minutes. Then collect a sample using the same protocol as above.

DRAFT

Step 6 - Laboratory performs analysis

Samples delivered to the DEQ Drinking Water Laboratory will be analyzed in accordance with the Laboratory Services Standard Operating Procedure Document SOP #800 Revision #4 Effective Date 10/2015.

Applicable analytical methods will be in accordance with Method for Determination of Metals in Environmental Samples, Supplement I, U.S. Environmental Protection Agency, Method 200.8, 1999 Revision 5.5.

All Method Detection Limits shall be performed according to the Code of Federal Regulations 40 CFR, Part 136, Appendix B.

Analytical quality control will be in accordance with SOP #800 Revision #4.

Step 7 – Laboratory reports results to DEQ – ODWMA and DHHS staff

DRAFT

I should have enough staff (minimally six)to assist with sampling the schools between 5-8am, before school starts. I'm still working with my financial people regarding an appropriate hourly figure, which I should have by the end of today.

Did the sampling go as planned at Freeman? Any concerns with the plumbing? Please let me know the next anticipated actions and timeframes.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Genesee County
Health Department

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From: Krisztian, George (DEQ) [mailto:krisztiang@michigan.gov]
Sent: Tuesday, October 20, 2015 11:45 AM
To: Dykema, Linda D. (DHHS); Edgerton, Shelly (LARA); Howard Croft (hcroft@cityofflint.com); Henry, James; Natasha Henderson (nhenderson@cityofflint.com); Dayne Walling (dwalling@cityofflint.com)
Subject: I have a new cell Phone

Please note that I have a new cell phone. My new number is (517) 420-5897. Please update your records to reflect this change.

Thank you
George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

Henry, James

From: Henry, James
Sent: Friday, October 23, 2015 11:20 AM
To: 'MVALACAK@gchd.us'
Subject: FW: Flint Schools

Mark,

I realize this is good public health work and I would normally jump at the opportunity to help. If we proceed, which I think we should, I will explain that GCHD must have influence on all decision making.

Our credibility is at stake and I do not trust MDEQ will do what's right if we run into unforeseen issues. Rhetorically, what will the state do if this process identifies many children with elevated blood. (Hide it? Blame paint?)

It's easy for the state ... apologize, claim inexperience, reassign some top people and stay 60 miles away in Lansing. We will be left here dealing with the long term impacts of their unethical decisions, complacencies and incompetence.

I swear my glass is ½ full. I'll work on the getting a good number to bill for our services and survey staff for availability.

Thanks Jim

From: Henry, James
Sent: Friday, October 23, 2015 10:39 AM
To: 'Howard Croft'; Thelen, Mary Beth (DEQ); Wells, Eden (DHHS); Krisztian, George (DEQ); Tommasulo, Karen (DEQ); Dayne Walling (dwalling@cityofflint.com); Natasha Henderson (nhenderson@cityofflint.com); Edgerton, Shelly (LARA); Dykema, Linda D. (DHHS); Sygo, Jim (DEQ); Wyant, Dan (DEQ); Sean Kammer (skammer@cityofflint.com); Shaler, Karen (DEQ)
Cc: 'MVALACAK@gchd.us'
Subject: Flint Schools

Hello,

As you may know, Genesee County Health Department (GCHD) has respectfully declined the request to conduct the sampling at the Flint schools. GCHD is reconsidering this decision and is in the process of determining the feasibility.

I will be in contact with George to further discuss details.

Thank you
Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Henry, James

From: Henry, James
Sent: Monday, October 26, 2015 9:32 AM
To: GCHD-EH
Subject: Overtime Flint Schools

Please let me know if anyone is interested in overtime for collecting water at the Flint Schools.

Tentatively, each sampling event would require approximately six people between 5-8am, before schools starts. I'll have more information when I'm updated from the Freeman Elem sampling by LARA/MDEQ that was scheduled for this past weekend. There are 12 schools left and this may expand to the parochials, charters, and childcare facilities.

For clarification, I don't have the best sentiments for MDEQ regarding this situation, but this is good public health work and if you have the availability I would encourage you to participate.

Thanks Jim

From: Miller, Mark (DHHS)
Sent: Thursday, October 22, 2015 2:58 PM
To: Krisztian, George (DEQ)
Subject: RE: Sampling School water systems- update from DEQ, resources for GCHD to collect samples

Great.

So for each sampling event, they'd need about 6 people, for about 2-3 hrs. Probably something like 5-8 AM I'll bet, before school starts. So you're talking about 18 hrs. of time for each event. If you do have somebody on site, that would take care of the shipping, and if the sampler and/or LHD doesn't have to be involved in receiving results or reporting, then they wouldn't need resources for that.....

How many events?

From: Henry, James
Sent: Monday, October 26, 2015 8:18 AM
To: GCHD-EH
Subject: FW: review please

Please let me know if the attached list is accurate regarding your county vehicle. If yes, just respond with "yes." If not, let me know the corrections.

Thanks Jim

From: Stickler, Lisa
Sent: Thursday, October 22, 2015 2:12 PM
To: Henry, James
Subject: review please

Henry, James

From: Krisztian, George (DEQ) <krisztiang@michigan.gov>
Sent: Tuesday, October 27, 2015 8:49 AM
To: Henry, James
Subject: RE: Sampling

Hi Jim,

That's great news! Once I get that I will work on things on this end.

The sampling went exceptionally well at Freeman. Things went about 95% according to plan. We had a couple of lessons learned that we are incorporating moving forward.

The plan is to do the other two elementary schools that had high results this weekend. Hopefully we can get the contractual issues worked out in time for that sampling, if not we should be fine for the other 10 schools from the original group of 13. I expect that there will be a fair number of schools and daycare facilities that will follow after the initial 13.

It took just over 3 hours to do the first school with 3 teams of 2 plus a timer. We spent a good half hour just on the first sample as we discussed the protocol as a group. After that it went very smoothly. With three teams we found there was a fair amount of downtime waiting for the other teams so we figure that the best approach will be to sample two schools simultaneously using 2 teams of three. The would be a timekeeper (likely a staff person from DLARA so that there is a source to ask about the plumbing evaluations) and the 2 samplers. We anticipate that it will take a single team doing an entire school approximately 6 hours for the sampling assuming that there are ~ 30 sampling locations in the building.

We have set up the paperwork so that a great deal of it is pre-filled and we are minimizing the amount that the samplers will need to fill in.

I think the smoothest way to do this will be to phase out DEQ staff while phasing in GCHD staff. That way the knowledge transfer will be more complete.

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Tuesday, October 27, 2015 8:26 AM
To: Krisztian, George (DEQ)
Subject: Sampling

Hi George,

To: 'MVALACAK@gchd.us'
Subject: FW: Water Collection Protocol for Schools

Mark,

Just FYI, attached is the final draft school sampling protocol. It details LARA's plumbing assessment. I received this on Tuesday and wanted to speak with MDEQ regarding a couple issues before I shared this with our team. I have not heard back from MDEQ.

Jim

From: Krisztian, George (DEQ) [mailto:krisztiang@michigan.gov]
Sent: Tuesday, October 27, 2015 2:22 PM
To: Henry, James
Subject: Water Collection Protocol for Schools

Hi Jim,

Please see the attached. This is the draft protocol for collecting water samples at schools. This is the process that was used this past weekend at Freeman elementary with a couple of tweaks that we added. We met yesterday to discuss how the process went and there were some suggestions that were incorporated into this version in an effort to smooth out a couple of minor bumps.

George

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Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

Henry, James

From: Henry, James
Sent: Tuesday, November 3, 2015 4:53 PM
To: George Krisztian (DEQ) (krisztiang@michigan.gov)
Cc: 'MVALACAK@gchd.us'
Subject: Water Results Freeman Elementary

George,

The Genesee County Health Department is requesting all MDEQ laboratory water results for Freeman Elementary School located in Flint MI. In your response, please include all water results, but specifically the results for lead from the water samples collected on 10/24/2015 and 10/31/2015 at Freeman Elementary School located in Flint MI.

If necessary, please consider this a FOIA request.

Thanks Jim

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Henry, James

From: Krisztian, George (DEQ) <krisztiang@michigan.gov>
Sent: Tuesday, November 3, 2015 5:41 PM
To: Henry, James
Cc: Valacak, Mark
Subject: RE: Water Results Freeman Elementary

Hi Jim,

The samples that were collected last Saturday (10/31/15) will not be going on the instrument until tomorrow (11/04/15). The ICP/MS operator is on vacation this week and the supervisor (who is serving as the backup) was at training on Monday and Tuesday. I have asked the supervisor to make those samples a priority and we will be sending all of the results out together along with a rather in depth document that explains what the results mean. The samples from 10/24/15 are an incomplete picture of the plumbing system and so it is important that these results all go out together.

I am hoping to either have a conference call or a meeting in Flint with all the partners to review the results and discuss how we will present the information to the public. The people that I would like to coordinate with on this is the Mayor's Office, the Superintendent's Office, **GCHD**, DLARA and DHHS.

I can submit your e-mail to the FOIA coordinator if you like but I can assure you that you will be getting these results faster outside of the FOIA process.

Please let me know if you would like to withdraw your FOIA request as I am obligated to submit it to the FOIA coordinator tomorrow unless you tell me otherwise. I do not know a lot of details about how the FOIA process works so I would be submitting your e-mail to the coordinator and then the process would go from there.

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

Henry, James

From: Henry, James
Sent: Thursday, November 5, 2015 5:28 PM
To: krisztiang@michigan.gov
Cc: Valacak, Mark; VORCES@michigan.gov
Subject: Re: Data Request Update

Thanks George,

Let's talk tomorrow. You are free to share the results with Mark and I, so we can determine if an immediate risk exists and appropriate action.

I don't know if you have had communications with school administration regarding the recent sampling. It may be appropriate to have GCHD staff visit Freeman School tomorrow to verify that consumption of water is not an option.

Thanks Jim

Sent from my phone.

------ Original message------
From: Krisztian, George (DEQ)
Date: Thu, Nov 5, 2015 4:43 PM
To: Henry, James;
Cc: Valacak, Mark;Vorce, Susan (DEQ);
Subject: Re: Data Request Update

Hi Jim,

I'll discuss this with you tomorrow at the meeting. Your FOIA has been submitted and is undergoing the official process. You are free to withdraw your request at any time. Please note that you will be receiving the requested information external to your official FOIA request and it will be given to you faster.

George

Sent from my iPhone

On Nov 5, 2015, at 3:59 PM, Henry, James <jhenry@gchd.us> wrote:

> Hi George,
>
> Since the switch to the Flint River, we have faced many challenges to obtain information regarding potential health risks from the municipal water system. During our meeting at my office on October 16, we discussed that laboratory information would only be shared with Mark and I until we jointly determined a reasonable time and appropriate method to share information.
>
> The Public Health Emergency Declaration by Mark relieved some of the immediate risk, but unless water has been shut off at the main at the Flint Schools, I don't think there's assurance that potential exposure has been eliminated. I do not want to request information through FOIA, but it is our responsibility to protect the community. Please provide the results in accordance with the Freedom of Information Act, which is no later than Tuesday 11/10/2015 at 4:53 PM.

Henry, James

From: Krisztian, George (DEQ) <krisztiang@michigan.gov>
Sent: Thursday, November 5, 2015 10:40 AM
To: Henry, James
Cc: Valacak, Mark; Vorce, Susan (DEQ)
Subject: Data Request Update

Hi Jim,

I did not receive an e-mail from you indicating that you would like to withdraw your FOIA request so I have submitted it to our FOIA Coordinator, Susan Vorce. It will take approximately 3 weeks to process your request through the FOIA process.

We are close to having all of the data packaged and we hope to have that completed by the end of this week. We are tentatively looking to have a coordinated rollout of the data for all of the partners next Monday, November 9, 2015.

Please note that you will be getting the requested information faster and for free external to the FOIA process so you may want to consider withdrawing your request but that is a decision for you and Mark to make.

Our weekly Friday meeting in Flint has been confirmed so I hope to see you tomorrow at the Mayor's office.

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

Henry, James

From: Henry, James
Sent: Thursday, November 5, 2015 3:59 PM
To: Krisztian, George (DEQ)
Cc: Valacak, Mark; Vorce, Susan (DEQ)
Subject: RE: Data Request Update

Hi George,

Since the switch to the Flint River, we have faced many challenges to obtain information regarding potential health risks from the municipal water system. During our meeting at my office on October 16, we discussed that laboratory information would only be shared with Mark and I until we jointly determined a reasonable time and appropriate method to share information.

The Public Health Emergency Declaration by Mark relieved some of the immediate risk, but unless water has been shut off at the main at the Flint Schools, I don't think there's assurance that potential exposure has been eliminated. I do not want to request information through FOIA, but it is our responsibility to protect the community. Please provide the results in accordance with the Freedom of Information Act, which is no later than Tuesday 11/10/2015 at 4:53 PM.

Hopefully, we can discuss this further tomorrow.

Thanks Jim

Jim Henry RS, MBA
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From: Krisztian, George (DEQ) [mailto:krisztiang@michigan.gov]
Sent: Thursday, November 5, 2015 10:40 AM
To: Henry, James
Cc: Valacak, Mark; Vorce, Susan (DEQ)
Subject: Data Request Update

Hi Jim,

I did not receive an e-mail from you indicating that you would like to withdraw your FOIA request so I have submitted it to our FOIA Coordinator, Susan Vorce. It will take approximately 3 weeks to process your request through the FOIA process.

We are close to having all of the data packaged and we hope to have that completed by the end of this week. We are tentatively looking to have a coordinated rollout of the data for all of the partners next Monday, November 9, 2015.

Please note that you will be getting the requested information faster and for free external to the FOIA process so you may want to consider withdrawing your request but that is a decision for you and Mark to make.

Our weekly Friday meeting in Flint has been confirmed so I hope to see you tomorrow at the Mayor's office.

George

George L. Krisztian
Flint Action Plan Coordinator
Laboratory Director
Michigan Department of Environmental Quality
Desk ph (517) 284-6719
Cell ph (517) 420-5897

Henry, James

From: Henry, James
Sent: Friday, November 6, 2015 10:39 AM
To: Pavone, Anthony
Cc: Hallwood, Dawn; Valacak, Mark
Subject: Freeman Elem

Tony,

Please visit Freeman Elem asap. Meet with the school administrator to discuss the activities conducted to prevent consumption of water. Drinking fountains should be inaccessible, signage is not enough. Please take a cursory walk through the school. There is no need to elaborate regarding the lack of water results, but if asked it would be ok to indicate we don't have them yet and your visit is precautionary.

Thanks Jim

Sent from my phone.

MDEQ PROVIDES CITY OFFER TO REVIEW GCHD FILES

Henry, James

From: Henry, James
Sent: Thursday, November 19, 2015 4:09 PM
To: LaRocco, Toni; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; 'scupal@gchd.us'; Swartout, April; Henry, James; 'MVALACAK@gchd.us'
Subject: Forwarding Email From Flint City

Just an FYI,

The City has forwarded the email below to me twice within the past week. The MDEQ communications director apparently wants to offer us some assistance, but he's communicating with the City administrator. The offer is ambiguous and it seems that the MDEQ communications director would be able to communicate a little better. We are pretty easy to reach.

I'm passing the information along in case anyone wants to decipher it and follow up.

Thanks Jim

---------- Forwarded message ----------
From: **Wurfel, Brad (DEQ)** <WurfelB@michigan.gov>
Date: Tue, Nov 10, 2015 the on 1:14 PM
Subject: Introduction RE offer to help Flint with health records
To: "jtruscott@truscottrossman.com" <jtruscott@truscottrossman.com>, "nhenderson@cityofflint.com" <nhenderson@cityofflint.com>

Natasha, Thanks for taking a few minutes the other day.

Wanted to connect you to John Truscott, a friend and colleague who has a client interested in offering pro bono help to the Genesee County Health Department with health records management. Not my arena, proper, but I know you're connected locally and would know how to refer this invitation.

JT's cell is 517-420-0551. I provided him your phone number as well, as you mentioned willingness to help get him properly connected locally.

Thanks!

b

Brad Wurfel

Communications Director

Michigan Department of Environmental Quality

517-284-6713

517-230-8006 cell

Henry, James

From: Henry, James
Sent: Friday, November 20, 2015 9:37 AM
To: LaRocco, Toni; Valacak, Mark
Cc: McShane, Hilda; Swartout, April; Brickey, Tamara
Subject: RE: MCSC announces Julie Calley as next Board Chairperson

This is backdoor politics at it's best or worst, depending how you want to view it.

- The Lieutenant Governor's wife, Julie Calley is the chair of MCSC, which is a highly influential division of MDHHS.
- John Truscott happens to be the communication chair of MCSC. Who coincidentally is friends with MDEQ's communication director, Brad Wurfel.
- Brad Wurfel is persistent with the Flint city administrator about providing assistance to GCHD, through his friend's public relation business, TruscottRossman.
- MDEQ doesn't communicate the offer with us,(whatever it may be) because we'd see through it in a second.

This is an attempt for the state/Governor Snyder to control the situation indirectly through MCSC (which is MDHHS) to achieve their desired outcome. I'm ok with their damage control efforts until it impacts our public health responsibilities, which often times it does.

Jim

From: LaRocco, Toni
Sent: Thursday, November 19, 2015 5:00 PM
To: Valacak, Mark
Cc: McShane, Hilda; Swartout, April; Brickey, Tamara; Henry, James
Subject: Re: MCSC announces Julie Calley as next Board Chairperson

What is this?

Toni LaRocco MS, RN
Director of Nursing Services
Genesee County Health Department

On Nov 19, 2015, at 4:32 PM, Valacak, Mark <MVALACAK@gchd.us> wrote:

> Speaking of john Truscott...
>
> Mark Valacak, MPH, Health Officer
> Genesee County Health Department,
>
> 630 S. Saginaw St. Suite 4 Flint, MI 48502-1540
>
> Phone 810-257-3588 Fax 810 257-3147
> E-mail mvalacak@gchd.us
>
> <image001.jpg>

Henry, James

From: LaRocco, Toni
Sent: Thursday, November 19, 2015 4:17 PM
To: McShane, Hilda
Cc: Swartout, April; Henry, James; Brickey, Tamara; Stickler, Lisa; Cupal, Suzanne; Valacak, Mark
Subject: Re: Forwarding Email From Flint City

Tell me why we would want to have some outside person come in and help with our medical records…

Toni LaRocco MS, RN
Director of Nursing Services
Genesee County Health Department

On Nov 19, 2015, at 4:15 PM, McShane, Hilda <hmcshane@gchd.us> wrote:

You are mostly right.

From: Swartout, April
Sent: Thursday, November 19, 2015 4:14 PM
To: LaRocco, Toni; Henry, James
Cc: Brickey, Tamara; McShane, Hilda; Stickler, Lisa; Cupal, Suzanne; Valacak, Mark
Subject: RE: Forwarding Email From Flint City

If this is the individual I'm thinking of, John Truscott is part of a PR firm, maybe based out of Lansing. I also think he was a press secretary or similar position for John Engler.

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: LaRocco, Toni
Sent: Thursday, November 19, 2015 4:12 PM
To: Henry, James
Cc: Brickey, Tamara; McShane, Hilda; Stickler, Lisa; Cupal, Suzanne; Swartout, April; Valacak, Mark
Subject: Re: Forwarding Email From Flint City

Huh

Toni LaRocco MS, RN
Director of Nursing Services
Genesee County Health Department

Henry, James

From: Valacak, Mark
Sent: Thursday, November 19, 2015 4:33 PM
To: McShane, Hilda; Swartout, April; Brickey, Tamara; LaRocco, Toni; Henry, James
Subject: FW: MCSC announces Julie Calley as next Board Chairperson

Speaking of john Truscott...

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

Public Health

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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From: MI Community Service Commission [mailto:MCSC@govsubscriptions.michigan.gov]
Sent: Thursday, November 19, 2015 4:03 PM
To: Valacak, Mark
Subject: MCSC announces Julie Calley as next Board Chairperson

Michigan Community Service Commission

Press Release

FOR IMMEDIATE RELEASE: November 19, 2015

CONTACT: Jessi Adler, 517-230-9923

MCSC announces Julie Calley as next Board Chairperson

Executive Committee members also announced

LANSING – The Michigan Community Service Commission (MCSC) this week announced the election of Julie Calley, Michigan's Second Lady, as the new board chairperson during the MCSC's board meeting on Nov. 19 at the Lansing Center. Also announced were the 2015-2016 Executive Committee members.

The full MCSC executive committee for 2015-2016 is:

- Board Chairperson, Julie Calley
- Board Vice Chairperson, Rob Collier
- Past Board Chairperson, Carolyn Bloodworth
- Board Development Chairperson, Diana Algra
- Outreach and Awards Chairperson, Rob Collier
- Communication Chairperson, John Truscott
- Continuous Improvement Chairperson, Bob Kolt
- Youth Initiative Co-Chairperson, Mike Hill
- Youth Initiative Co- chairperson, Judy Watson-Olson

"We'd like to congratulate Julie on her new role as board chair to help the Michigan Community Service Commission continue moving forward," said Ginna Holmes, executive director of MCSC. "The Commission has a long-standing tradition of Michigan's first and second families playing integral roles in our work and we are excited that Julie has agreed to continue that as our new chair. I'm also pleased to welcome our new executive committee members. Their leadership and expertise in their respective fields is a great addition to the work of the MCSC and we look forward to their contributions."

Calley has been an MCSC board member since 2011. She is an Ionia County commissioner and serves on the Ionia County Community Mental Health Board Authority, the Community Corrections Board, the Tax Allocation Board and the Board of Public Works. Prior to her time in the public sector, she spent a decade employed in residential and commercial property management. She is a youth leader for multiple programs within her hometown church and has previously worked with Junior Achievement. Julie holds a bachelor's degree in Business Management from Northwood University.

###

BACKGROUND

The **Michigan Community Service Commission** (MCSC) utilizes service as a strategy to address the state's most pressing issues and empowers volunteers to strengthen communities. The MCSC's signature programs are Michigan's AmeriCorps, Mentor Michigan, Volunteer Michigan, and the Governor's Service Awards. Since 1991, the MCSC has

granted more than $100 million to communities for volunteer initiatives. These funds have leveraged more than $85 million in local funds and engaged more than one million people in service. In 2014-2015, the MCSC is funding 25 Michigan's AmeriCorps programs at more than 300 service sites, and providing assistance to more than 250 mentoring organizations statewide through Mentor Michigan. The MCSC is also funding My Brother's Keeper –Michigan grantees. The MCSC is part of the Michigan Department of Health and Human Services.

- MCSC Press Release - New MCSC Executive Committee.pdf

Questions?
Contact Us

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This email was sent to mvalacak@gchd.us using GovDelivery, on behalf of: Michigan Dept of Health & Human Services · 235 S. Grand Ave W. · Lansing, MI 48909 · 1-855-275-6424

(http://www.progressmichigan.org/)

Progress Michigan (http://www.progressmichigan.org/)

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Navigation

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Document: Top Snyder Adviser Warned About Deadly

Legionnaires Outbreak in March 2015

WP Greet Box icon (https://progressmichigan.actionkit.com/donate/power_progress_in_michigan/) Defend working families x

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FOR IMMEDIATE RELEASE

News from Progress Michigan

February 3, 2016

Contact: Hugh Madden, 734-250-2070, hugh@progressmichigan.org (mailto:hugh@progressmichigan.org)

Document: Top Snyder Adviser Warned About Deadly Legionnaires Outbreak in March 2015

Email to Harvey Hollins shows officials concerned about Flint River as source of drinking water 10 months before state went public

LANSING — An email obtained by Progress Michigan shows that Harvey Hollins, a principal adviser to Governor Rick Snyder, was aware of an uptick in Legionnaires disease in Genesee County and that a county health official was attributing the cases directly to the Flint River as the source of drinking water in Flint.

The email, sent to Hollins by former DEQ Communications Director Brad Wurfel, was sent on March 13, 2015 ten months prior to Governor Snyder informing the public. Governor Snyder claimed he had only recently been informed of the outbreak at his press conference in January.

"For months the public has been asking Governor Snyder what he knew and when he knew it regarding the Flint crisis and this email shows that one of his top aides was aware nearly a year ago that county health officials were concerned that the switch to the Flint River could be potentially deadly," **said Lonnie Scott, executive director of Progress Michigan**. "If you thought it was bad last week when the administration was trucking in clean water for state employees while denying Flint residents' claims that the water was bad, the fact that they potentially ignored information about people dying as a result of the switch is beyond comprehension. Are we to believe that a top staffer with years of experience would not inform Governor Snyder of a possibly deadly situation? Either the governor is covering up his knowledge of this crisis or his governing culture does not allow for important information to flow from his top advisers to his desk."

Bullet points in the email report "a significant uptick – more than all the cases in the last five years or more combined," as well as the fact that the uptick occurred at the point where the city switched to the Flint River as a source of drinking water.

Progress Michigan was not able to obtain emails showing whether or not Hollins informed the governor as the governor's office is exempt from Michigan's Freedom of Information Act (FOIA).

"How many times is the Governor allowed to say that he didn't know before we get to legitimately ask who the hell is running this state? This is just the latest example of why we need FOIA reform to end the exemption that shields the governor's office and legislature," **Scott continued**. "Until the public is able to review all of the documents related to the Flint Water Crisis, we will not know exactly why this crisis occurred and how it can be addressed going forward. The governor needs to order the release of all of the emails related to Flint from his staff immediately."

A copy of the email exchange can be found below or at this link (http://act.progressmichigan.org/go/296?ak_proof=1&t=1&akid=.107728.aPuc73).

###

Wurfel to Hollins Email – Legionnaires (https://www.scribd.com/doc/297679613/Wurfel-to-Hollins-Email-Legionnaires) by progressmichigan (https://www.scribd.com/user/23572717/progressmichigan)

Harvey Hollins tapped to lead Flint water effort

John Wisely, Detroit Free Press *7:46 p.m. EST December 17, 2015*

(Photo: Detroit Free Press)

Harvey Hollins, a former vice president of Wayne State University, has been tapped by Gov. Rick Snyder to coordinate the state's response to the Flint water crisis.

Snyder named Hollins this week after a task force recommended a single person or entity to lead the follow-up needed after lead was found in Flint's drinking water system. Experts concluded that the lead leached into the system from old pipes after the city began using Flint River water as its source supply. The city was under state emergency management when the switch was made.

"Harvey is well-versed in the issues and the challenges faced by our cities and will be effective in this role," Snyder said in a letter to a task force appointed to review the crisis. Hollins currently serves as Snyder's director of urban initiatives.

In October, Snyder rolled out a plan to conduct additional water and blood tests in Flint, expedite improvements to the city's water system and increase lead education for residents. Because the responses will come from several state departments, Hollins will coordinate them and inform the task force on their progress.

Snyder also agreed to a task force recommendation that "a readily understood dashboard should be developed that reports on the goals, timelines and assignments,"

DETROIT FREE PRESS

Flint water mystery: How was decision made?

(http://www.freep.com/story/news/politics/2015/11/21/snyders-top-aide-talked-flint-water-supply-alternatives/76037130/)

Snyder created the task force in the wake of the Flint crisis, which saw lead levels rise in Flint drinking water and eventually in the blood of children.

In April 2013, Flint voted to join the newly formed Karegnondi Water Authority, which plans to draw water from Lake Huron and pipe it across Michigan's Thumb to Flint's water treatment plant. The day after the vote, the Detroit Water and Sewerage Department terminated a decades-long contract with Flint to supply water. Detroit gave the city one year to get a new source. The Karegnondi pipeline isn't scheduled for completion until 2016.

DETROIT FREE PRESS

When did state know kids in Flint were lead poisoned?

(http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/12/17/flint-water-lead/77365380/)

Flint switched to the Flint River water in April 2014 and almost immediately residents complained of foul smelling and tasting water. The city and the Michigan Department of Environmental Quality initially insisted the water was safe, but by September 2014, doctors had already detected a spike in the amount of lead seen in blood samples drawn from Flint children.

Experts found that the water leaving Flint's treatment plant was lead-free, but it was picking up lead from aging pipes in the system. Detroit had solved the problem by adding corrosion control chemicals to the water it sold to Flint, but the City of Flint wasn't adding them.

DETROIT FREE PRESS

Flint mayor declares state of emergency over water

(http://www.freep.com/story/news/local/michigan/2015/12/15/flint-declares-water-state-emergency/77349944/)

Flint

DEQ spokesman also resigns over Flint water crisis, says city 'didn't feel like we cared'

By Emily Lawler | elawler@mlive.com
on December 30, 2015 at 6:30 AM, updated December 30, 2015 at 3:20 PM

LANSING, MI — Michigan Department of Environmental Quality spokesperson Brad Wurfel has joined **director Dan Wyant** in resigning after a task force cited department failures in addressing the Flint water crisis.

Wurfel in an email to contacts on Tuesday night said he had been honored to serve under Wyant and was joining his boss in resigning.

"I have greatly appreciated my time as Communications Director at the DEQ, but I am looking forward to pursuing new opportunities in the new year. I tendered my resignation today as well," Wurfel said.

What that email didn't mention was Flint water. Wurfel said in an interview with MLive that the people of Flint were front and center while the DEQ worked on the water issue, but that got lost in a mix of technical communications and what the media picked up.

"The human element got lost in the press account, even if it was there personally," Wurfel said.

Wurfel said he and his wife, former Gov. Rick Snyder spokeswoman Sara Wurfel, have a 3-year-old son. Brad Wurfel has spent a lot of time in Flint over the past few months and knows the Flint parents have genuine fears and concerns over the water's effect on their children.

"I'm a person. I'm a parent. You can't not pick that up," Wurfel said.

"They didn't feel like we cared. I care a lot. It's been on the front on my mind for months now." - Brad Wurfel

But, he said, maybe that concern didn't come across in departmental communications.

In a letter to Gov. Rick Snyder, the Flint Water Advisory Task Force pegged the "substance and tone" of the department's communications as one of three failures, along with failing to correctly interpret lead and copper rule and a regulatory failure.

"Throughout 2015, as the public raised concerns and as independent studies and testing were conducted and brought to the attention of MDEQ, the agency's response was often one of aggressive dismissal, belittlement, and attempts to discredit these efforts and the individuals involved," noted the task force's letter. "We find both the tone and substance of many MDEQ public statements to be completely unacceptable."

Wurfel said he hadn't seen the task force's work but acknowledged that he'd do many things differently if going back were an option.

"There's no denying it, the Department of Communications could have been better," Wurfel said.

He said the department was doing its best with highly technical information that frequently changed. When the department

FLINT WATER

Some Flint homes still show lead too high for water filters

Attorney General warns website raising money for Flint Water crisis

Report: Ex-Flint EM Darnell Earley subpoenaed on Congressional water crisis hearing

Detroit Pistons sport 'FlintNOW' pregame shirts as city faces water crisis

Gov. Rick Snyder 'incompetent,' 'morally bankrupt,' say D's following Legionnaire's revelations

All Stories

realized it looked like it had made a mistake, it admitted that. But he apologized to the people of Flint.

"They didn't feel like we cared. I care a lot. It's been on the front on my mind for months now ... the human aspect of this isn't lost on me," Wurfel said.

*Emily Lawler is a Capitol/Business reporter for MLive. You can reach her at **elawler@mlive.com**, subscribe to her on **Facebook** or follow her on Twitter: **@emilyjanelawler**.*

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Ad Choices

Thelen, Mary Beth (DEQ)

From:	Wurfel, Brad (DEQ)
Sent:	Friday, March 13, 2015 6:49 PM
To:	Hollins, Harvey (GOV)
Cc:	Wyant, Dan (DEQ)
Subject:	Part II
Attachments:	FOIA Request Flint Water.doc
Importance:	High

OK D-

This is the second issue I mentioned earlier today.
In December, our staff became peripherally aware that the hospitals in Genesee were seeing an uptick in Legionnaires cases.

Legionnaires is a water-borne illness. It essentially is a type of pneumonia caused by a bacteria. It is treated with antibiotics. Untreated, it can be deadly. It most often manifests in nursing homes and assisted living facilities, because the transmission is through water vapor getting into lungs – via air conditioners, vaporizers or low-flow shower heads that produce a lot of misting. You can drink water with this bacteria in it and not get sick – it has to enter the lungs in vapor.

I don't have any details on the cases, but here is what I understand to this point:

- More than 40 cases reported since last April. That's a significant uptick – more than all the cases in the last five years or more combined.
- April / May is usually the start of Legionnaires season – it proliferates in warmer months – but April also is the point at which the city switched to the Flint River as a source.
- County Health Departments are supposed to perform epidemiological tracebacks on all confirmed cases of this disease, to locate the source and address it. Genesee County Health had not done this work as of November. At a January meeting with area hospitals, MDCH, DEQ and others, Nick Lyon reportedly directed the county health folks, in terms not uncertain, to get this done as a priority. As I'm sitting here today, it still is not done to my knowledge.
- My counterparts at MDCH informed me today that they cannot step in unless they are invited or unless the outbreak is multi-county. They've not been invited until, I believe, today. That may be in part because of the email string and letter I've enclosed here, which was unknown to MDCH until I shared it over to them.

The email thread below is best read bottom-to-top, and read prior to reading the enclosed FOIA to the city.

Essentially, Jim Henry with Genesee County Health is putting up the flare. He's made the leap formally in his email that the uptick in cases is directly attributable to the river as a drinking water source – this is beyond irresponsible, given that is his department that has failed to do the necessary traceback work to provide any conclusive evidence of where the outbreak is sourced, and it also flies in the face of the very thing a drinking water system is designed to do.

DEQ did not receive this FOIA, which appears designed to buttress his position in the email -- that sections of the water delivery system may be harboring this bacteria. We think it would be highly unlikely that anything would be found around the plant, where the water is treated. Most often, this bacteria forms at the building / residential point in the system. Legionnaires is NOT among the 90 water contaminants screened in the Safe Drinking Water Act, but in the absence of action by county health, our staff are now considering taking samples from various points in the system and working with DCH's lab to test for it, if for no other reason than to rule it out.

Regardless, the accusation is serious and the nature of the communication leaves me thinking we would be advantaged to bring together all the agencies asap to share what information we have and develop a response / screening strategy before the weather gets warm again.

I realize these are long emails. Thanks for your patience.
b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
517-230-8006 cell

From: Shekter Smith, Liane (DEQ)
Sent: Thursday, March 12, 2015 8:41 AM
To: Wurfel, Brad (DEQ); Sygo, Jim (DEQ); Howes, Sarah (DEQ)
Cc: Shaler, Karen (DEQ); Benzie, Richard (DEQ); Devereaux, Tracy Jo (DEQ); Busch, Stephen (DEQ)
Subject: FW: Information Request and Documentation
Importance: High

The district received this late Tuesday.

Steve Busch has indicated that the district has not received a meeting request from Jim Henry or the Genesee County Health Department as indicated in his email below.

The FOIA is specifically directed to the City of Flint not the DEQ.

While the change in source may have created water quality conditions that could provide additional organic nutrient source to support legionella growth, there is no evidence or confirmation of legionella coming directly from the Water Treatment Plant or in the community water supply distribution system at this time.

Seems like the next step is to communicate with DCH and possibly develop a joint strategy/response. Not sure who in Exec wants to take the lead on this. Steve Busch and Mike Prysby will continue to be lead for us on this. They have been in contact with DCH recently but only to learn that little progress has been made in identifying a source or sources for the illnesses.

EMAIL FROM DEQ TO HENRY SENT THIS AFTERNOON:

Mr. Henry,

The January 27, 2015, FOIA request you provided was directed to the City of Flint, not the DEQ. The DEQ has no record of a FOIA request from your office for such information. It is our understanding that the City has responded to your FOIA request, has helped you adequately redefine your request within the City's scope of public record to address such ambiguities as "any additional areas of concern", and provided you with additional information beyond the scope of your request.

The DEQ fully recognizes the public health threat posed to individuals that contract Legionnaires' Disease with the understanding that the disease is not contracted by ingestion of potable water and therefore not regulated under the federal Safe Drinking Water Act. Your email below claims that you have explicitly explained the situation to our Department. However, since contacting our office early last October to indicate a rise in cases, we have not received any further information regarding your epidemiological investigation into this matter.

Further, conclusions that legionella is coming from the public water system without the presentation of any substantiating evidence from your epidemiologic investigation appears premature and prejudice toward that end.

It is highly unlikely that legionella would be present in treated water coming from the City of Flint water treatment plant given the treatment plant's use of ozone along with complete treatment and chlorine disinfect contact time to comply with federal surface water treatment rules for potable water. Detections of total coliform or heterotrophic bacteria in the City's public water distribution system indicate an environment where bacterial growth may be supported. However, there is no direct correlation that can be made to the presence of legionella. While total organic carbon levels in potable water may serve as a food source for bacteria growth in private plumbing system, water temperatures in the City's distribution system are below legionella growth range, and chlorine residual levels would also limit such growth.

Our office agrees that water main breaks, water leaks, and system repairs are possible vectors for legionella to enter the public water system. These should be investigated as part of your epidemiology. DEQ staff can be made available to assist GCHD and the City regarding such matters, but to date no request by GCHD for any such meeting has been received, let alone declined as alleged in your email.

If GCHD is seeking assistance to complete its epidemiological investigation regarding this matter, such resource requests should be directed to the Michigan Department of Community Health. Our Office agrees that a multi-agency partnership would be beneficial to move forward and develop a unified response. In that respect, if our Office can be of any further assistance you may contact me directly.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: "Henry, James" <jhenry@gchd.us>
Date: March 10, 2015 at 6:40:17 PM EDT
To: Howard Croft <hcroft@cityofflint.com>, "Mike Prysby (DEQ)" <prysbym@michigan.gov>, Elizabeth Murphy <emurphy@cityofflint.com>, "Natasha Henderson" <nhenderson@cityofflint.com>, Jerry Ambrose <gambrose49@gmail.com>, Dayne Walling <dwalling@cityofflint.com>
Cc: "Valacak, Mark" <MVALACAK@gchd.us>, "Cupal, Suzanne" <scupal@gchd.us>, "Hasan, Shurooq" <shasan@gchd.us>, "Childs, Bonnie" <BCHILDS@gchd.us>, "Hallwood, Dawn" <dhallwood@gchd.us>, "Johnson, M.D., Gary" <GJOHNSON@gchd.us>
Subject: Information Request and Documentation

Hello everyone,

The Genesee County Health Department has made several written and verbal requests for specific information since October, 2014, including a Freedom of Information Act Request on January 27, 2015. The information still has not been received and the city's lack of cooperation continues to prevent my office from performing our responsibilities.

The Genesee County Health Department has the responsibility to conduct illness investigations and consider all potential sources, this is not optional. In 2014, Genesee County experienced a significant increase of confirmed Legionella illnesses relative to previous years. Legionella can be a deadly, waterborne disease that typically affects the respiratory system.

The increase of the illnesses closely corresponds with the timeframe of the switch to Flint River water. The majority of the cases reside or have an association with the city. Also, McLaren Hospital identified and mitigated Legionella in their water system. This is rather glaring information and it needs to be looked into now, prior to the warmer summer months when Legionella is at its peak and we are potentially faced with a crisis.

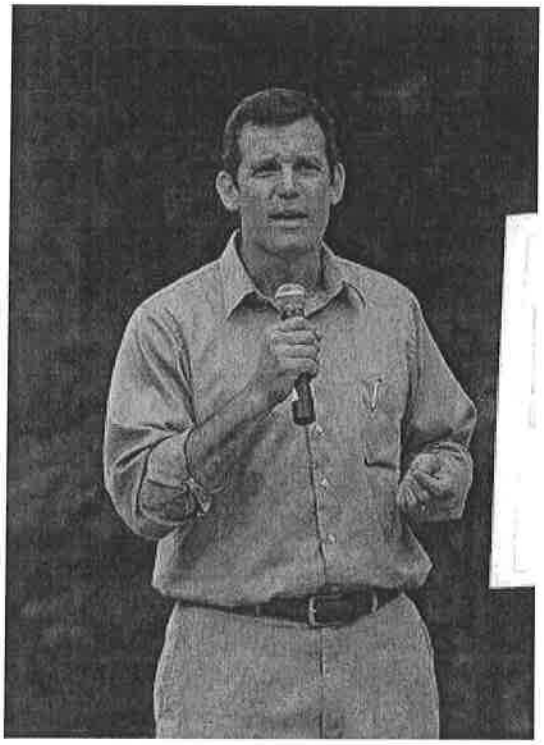
This situation has been explicitly explained to MDEQ and many of the city's officials. I want to make sure, in writing that there are no misunderstandings regarding this significant and urgent public health issue. The Trihalomethane issues "pale in comparison" to the potential public health risks of Legionella.

I am submitting the attached FOIA request again and requesting that the legal obligations of the request are met. If the information is not available, please let me know. In the past, I have requested to meet with the water plant staff and MDEQ regarding Legionella concerns. I did not receive a response from the water plant staff and MDEQ declined. I think it is in the best interest for all stakeholders that we meet and discuss the issues.

Respectfully,

Jim

Jim Henry
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us



Henry, James

From:	Brickey, Tamara
Sent:	Friday, November 20, 2015 12:01 AM
To:	Henry, James
Cc:	McShane, Hilda; Swartout, April; LaRocco, Toni; Stickler, Lisa; Cupal, Suzanne; Valacak, Mark
Subject:	Re: Forwarding Email From Flint City

Sorry as I am jumping in after the fact... But that is so strange. Everyone and their mom seems to have Mark's cell number recently, and this is the only person who can't get in touch with us? Also, it makes zero sense that we would want some unknown individual "managing" our records.

I just hear sirens going off.

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147

Sent from my iPhone

On Nov 19, 2015, at 4:21 PM, Henry, James <jhenry@gchd.us> wrote:

> My friend's uncle's brother knows a guy who wants to help. This is the type of stuff that doesn't stop with MDEQ and he is just another MDEQ administrator who has become a political puppet.
>
> ---
>
> **From:** McShane, Hilda
> **Sent:** Thursday, November 19, 2015 4:17 PM
> **To:** Swartout, April; LaRocco, Toni; Henry, James
> **Cc:** Brickey, Tamara; Stickler, Lisa; Cupal, Suzanne; Valacak, Mark
> **Subject:** RE: Forwarding Email From Flint City
>
> They don't want to help with communication, they want our information.
>
> ---
>
> **From:** Swartout, April
> **Sent:** Thursday, November 19, 2015 4:14 PM
> **To:** LaRocco, Toni; Henry, James
> **Cc:** Brickey, Tamara; McShane, Hilda; Stickler, Lisa; Cupal, Suzanne; Valacak, Mark
> **Subject:** RE: Forwarding Email From Flint City
>
> If this is the individual I'm thinking of, John Truscott is part of a PR firm, maybe based out of Lansing. I also think he was a press secretary or similar position for John Engler.

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: LaRocco, Toni
Sent: Thursday, November 19, 2015 4:12 PM
To: Henry, James
Cc: Brickey, Tamara; McShane, Hilda; Stickler, Lisa; Cupal, Suzanne; Swartout, April; Valacak, Mark
Subject: Re: Forwarding Email From Flint City

Huh

Toni LaRocco MS, RN
Director of Nursing Services
Genesee County Health Department

On Nov 19, 2015, at 4:08 PM, Henry, James <jhenry@gchd.us> wrote:

Just an FYI,

The City has forwarded the email below to me twice within the past week. The MDEQ communications director apparently wants to offer us some assistance, but he's communicating with the City administrator. The offer is ambiguous and it seems that the MDEQ communications director would be able to communicate a little better. We are pretty easy to reach.

I'm passing the information along in case anyone wants to decipher it and follow up.

Thanks Jim
---------- Forwarded message ----------
From: **Wurfel, Brad (DEQ)** <WurfelB@michigan.gov>
Date: Tue, Nov 10, 2015 the on 1:14 PM
Subject: Introduction RE offer to help Flint with health records
To: "jtruscott@truscottrossman.com" <jtruscott@truscottrossman.com>, "nhenderson@cityofflint.com" <nhenderson@cityofflint.com>
Natasha, Thanks for taking a few minutes the other day.

Wanted to connect you to John Truscott, a friend and colleague who has a client interested in offering pro bono help to the Genesee County Health Department with health records management. Not my arena, proper, but I know you're connected locally and would know how to refer this invitation.

JT's cell is 517-420-0551. I provided him your phone number as well, as you mentioned willingness to help get him properly connected locally.

Thanks!

b

Brad Wurfel

Communications Director

Michigan Department of Environmental Quality

517-284-6713

517-230-8006 cell

Henry, James

From: Howard Croft <hcroft@cityofflint.com>
Sent: Thursday, November 19, 2015 10:50 AM
To: Henry, James
Subject: Fwd: Introduction RE offer to help Flint with health records

Jim,

Thanks for the kind words yesterday, here is an offer that cam form Brad Wurfel at DEQ that I wanted to forward to you.

---------- Forwarded message ----------
From: **Natasha Henderson** <nhenderson@cityofflint.com>
Date: Thu, Nov 12, 2015 at 4:29 PM
Subject: Fwd: Introduction RE offer to help Flint with health records
To: Howard Croft <hcroft@cityofflint.com>

Thanks,

Natasha L. Henderson, City Administrator
City of Flint, Michigan
1101 S. Saginaw St.
Flint, MI 48502
Email: nhenderson@cityofflint.com
Phone: (810) 237-2057
www.cityofflint.com

---------- Forwarded message ----------
From: **Wurfel, Brad (DEQ)** <WurfelB@michigan.gov>
Date: Tue, Nov 10, 2015 at 1:14 PM
Subject: Introduction RE offer to help Flint with health records
To: "jtruscott@truscottrossman.com" <jtruscott@truscottrossman.com>, "nhenderson@cityofflint.com" <nhenderson@cityofflint.com>

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b

Brad Wurfel

Communications Director

Michigan Department of Environmental Quality

517-284-6713

517-230-8006 cell

--

Howard Croft
hcroft@cityofflint.com

Henry, James

From: Natasha Henderson <nhenderson@cityofflint.com>
Sent: Friday, November 13, 2015 10:40 AM
To: Henry, James
Subject: Fwd: Introduction RE offer to help Flint with health records

Thanks,

Natasha L. Henderson, City Administrator
City of Flint, Michigan
@Samsung Galaxy Note 4

---------- Forwarded message ----------
From: "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
Date: Nov 10, 2015 1:14 PM
Subject: Introduction RE offer to help Flint with health records
To: "jtruscott@truscottrossman.com" <jtruscott@truscottrossman.com>, "nhenderson@cityofflint.com" <nhenderson@cityofflint.com>
Cc:

Natasha,

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JT's cell is 517-420-0551. I provided him your phone number as well, as you mentioned willingness to help get him properly connected locally.

Thanks!

b

MDEQ INTERFERES WITH PUBLIC EDUCATION

Henry, James

From:	Henry, James
Sent:	Thursday, December 10, 2015 3:18 PM
To:	Bruneau, Michelle (DHHS)
Cc:	Groetsch, Kory J. (DHHS); Gray, Jennifer (DHHS); 'scupal@gchd.us'; 'MVALACAK@gchd.us'; LaRocco, Toni; Brickey, Tamara; Lytle, Darren (Lytle.Darren@epa.gov); Swartout, April; Stickler, Lisa; McShane, Hilda; Selig, Suzanne (sselig@umflint.edu)
Subject:	RE: 12/9 Meeting and phosphate fact sheet
Attachments:	Aerator.jpg; County Bldg - Result Before Cleaning Aerator.PDF; County Bldg - Result After Cleaning Aerator.pdf

The attachments help clarify the importance of aerator maintenance and the need for communication.

The additional phosphate began yesterday. http://www.mlive.com/news/flint/index.ssf/2015/12/flint_officials_say_theyre_boo.html#incart_email

We have not posted the fact sheet as a courtesy to this MDHHS team, exclusively. We greatly appreciate the assistance relative to the toxicological assessments. However; the delays in communication to the community, due to the state's bureaucracy is unacceptable. This process is compromising our relationship and needs to be expedited. Below are some recommendations for the factsheet from our partners at EPA.

A few thoughts:

1. Under "Learn About Phosphate", wondering if the term "salt" will concern people on low-sodium or salt-restricted diets? We agree it's a proper term.
2. Second bullet under "Why is there...", this kind of misses the solder issue, which is probably widespread. I would suggest something like: "Homes built before 1987 are more likely to have lead service lines, lead pipes, and 50% or more leaded solder. Brass valves and faucets may have lead, and older faucets are likely to have higher lead contents.
3. Last bullet same section might say "Pipes, brass fixtures and fittings, and solder...."

Darren and Mike

Darren A. Lytle, Ph.D., P.E.
Branch Chief (Acting)
U.S. Environmental Protection Agency
26 West Martin Luther King Dr.
Cincinnati, Ohio 45268
Phone: (513) 569-7432
Fax: (513) 487-2543
email: lytle.darren@epa.gov

From: Bruneau, Michelle (DHHS) [mailto:BruneauM@michigan.gov]
Sent: Thursday, December 10, 2015 2:09 PM
To: Henry, James
Cc: Groetsch, Kory J. (DHHS); Gray, Jennifer (DHHS)
Subject: phosphate fact sheet

Word on the street is you should have the phosphate fact sheet by tomorrow barring any additional crazy.
Sorry for the delay.

><{{{'> www.michigan.gov/eatsafefish <'}}}><

Michelle Bruneau, MA
Project Manager & Health Educator
Michigan Department of Health & Human Services
201 Townsend, 4th Fl
Lansing, MI 48913
Direct: (517) 335-8984
Toll free: 1-800-648-6942
Fax: (517) 335-8800
bruneaum@michigan.gov

Henry, James

From: Bruneau, Michelle (DHHS) <BruneauM@michigan.gov>
Sent: Thursday, December 10, 2015 3:43 PM
To: Henry, James
Cc: Groetsch, Kory J. (DHHS); Gray, Jennifer (DHHS); Cupal, Suzanne; Valacak, Mark; LaRocco, Toni; Brickey, Tamara; Lytle.Darren@epa.gov; Swartout, April; Stickler, Lisa; McShane, Hilda; sselig@umflint.edu; Dykema, Linda D. (DHHS)
Subject: RE: 12/9 Meeting and phosphate fact sheet

Hi Jim, et al:

We greatly appreciate your (limited) patience and understand your frustration with this process. Now that I've been made aware of the expectations of 'business as usual' in our communications office despite the urgency of the situation, delays on this order should hopefully no longer occur. I will begin the approval signatory process much sooner, and ensure it's expedited as much as possible.

Thanks for forwarding the EPA's comments –

In our discussion with the DEQ, we hashed out the issue of using the term brass faucets vs faucets and decided to err on the side of more general, and therefore inclusive, because some faucets may be lined with brass internally or be a different color than what people may expect when hearing the term brass...

Also, per the solder issue, again, we'd prefer to remain inclusive of all types of solder because of the unknown/hard to know age/type/etc of solder and under which regulatory definition they fell, because according to the attached, even as late as 2014, "lead-free" products could still contain 8% lead.

And, most depressing is the fact that, like many things, companies are left to self-regulate their lead-free status (now 0.25% lead), so again, I vote for inclusivity. http://www.nsf.org/newsroom_pdf/Lead_free_certification_marks.pdf

If you're OK with it as is; I'm OK with it.

><{{{'> www.michigan.gov/eatsafefish <'}}}><

Michelle Bruneau, MA
Michigan Department of Health & Human Services
Project Manager & Health Educator
(517) 335-8984
bruneaum@michigan.gov

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Thursday, December 10, 2015 3:18 PM
To: Bruneau, Michelle (DHHS)
Cc: Groetsch, Kory J. (DHHS); Gray, Jennifer (DHHS); scupal@gchd.us; MVALACAK@gchd.us; LaRocco, Toni; Brickey, Tamara; Lytle.Darren@epa.gov; Swartout, April; Stickler, Lisa; McShane, Hilda; sselig@umflint.edu
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Darren and Mike

Darren A. Lytle, Ph.D., P.E.
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26 West Martin Luther King Dr.
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Phone: (513) 569-7432
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Sorry for the delay.

><{{{'> www.michigan.gov/eatsafefish <'}}}><

Michelle Bruneau, MA
Project Manager & Health Educator
Michigan Department of Health & Human Services
201 Townsend, 4th Fl
Lansing, MI 48913
Direct: (517) 335-8984

The **Bath Time Poster** on the website is currently not the approved version. I am attaching the approved version, and I had requested the website be updated yesterday, as well.
Not Correct: http://www.michigan.gov/documents/deq/2015-12-04_-_Bath_Time_Poster_WEB_VERSION_509163_7.pdf
Correct is attached.

- Michelle

><{{{'> www.michigan.gov/eatsafefish <'}}}><

Michelle Bruneau, MA
Michigan Department of Health & Human Services
Project Manager & Health Educator
(517) 335-8984
bruneaum@michigan.gov

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Wednesday, January 06, 2016 7:31 PM
To: Bruneau, Michelle (DHHS) <BruneauM@michigan.gov>
Cc: Groetsch, Kory J. (DHHS) <GroetschK@michigan.gov>; Gray, Jennifer (DHHS) <GrayJ@michigan.gov>; LaRocco, Toni <tlarocco@gchd.us>; Brickey, Tamara <tbrickey@gchd.us>; MVALACAK@gchd.us; McShane, Hilda <hmcshane@gchd.us>; Swartout, April <ASWARTOUT@gchd.us>; scupal@gchd.us; Stickler, Lisa <STICKLER@gchd.us>; Dykema, Linda D. (DHHS) <DykemaL@michigan.gov>; Lytle.Darren@epa.gov; sselig@umflint.edu
Subject: RE: Factsheets, Lead and Gloves

Michelle and everyone;

Based upon Jen's reasoning below, GCHD is comfortable with promoting proper handwashing, only (no gloves) for homeowner lead abatement activities. Homeowners need to be reminded and informed of proper procedures with emphasis on finger tips.

GCHD needs to get the attachments out to the community. Michelle, do you still want to remove the MDHHS logo, since your office has not shared these publically? Will you please provide versions that will allow us to remove the MDHHS logo and edit content. Also, If your budget is still available, please reconsider providing the financial assistance to help with printing, outreach, ect...

Please review the two attached phosphate documents and please correct me, if the following statements are inaccurate.

- The "2015-11-13" is much more appropriate for our community, which MDHHS toxicology team created.
- The "Adding Extra Phosphate to Flint Water" is much less appropriate for our community, which MDEQ manipulated the original document and prevented it from being communicated.

My intent is not to be critical, insensitive or to point blame. We all recognize the invaluable contributions from the MDHHS toxicology team relative to these communications. The MDEQ actions have public health consequences and they must discontinue. I propose that we move forward with this team, exclusively i.e. the recipients of this email.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor

Henry, James

From: Bruneau, Michelle (DHHS) <BruneauM@michigan.gov>
Sent: Thursday, January 7, 2016 9:48 AM
To: Henry, James
Cc: Groetsch, Kory J. (DHHS); Gray, Jennifer (DHHS); LaRocco, Toni; Brickey, Tamara; Valacak, Mark; McShane, Hilda; Swartout, April; Cupal, Suzanne; Stickler, Lisa; Dykema, Linda D. (DHHS); Lytle.Darren@epa.gov; sselig@umflint.edu
Subject: RE: Factsheets, Lead and Gloves

My apologies – the bath time poster is now correct on the website. My computer's cache hadn't updated.

><{{{'> www.michigan.gov/eatsafefish <'}}}><

Michelle Bruneau, MA
Michigan Department of Health & Human Services
Project Manager & Health Educator
(517) 335-8984
bruneaum@michigan.gov

From: Bruneau, Michelle (DHHS)
Sent: Thursday, January 07, 2016 8:28 AM
To: 'Henry, James' <jhenry@gchd.us>
Cc: Groetsch, Kory J. (DHHS) <GroetschK@michigan.gov>; Gray, Jennifer (DHHS) <GrayJ@michigan.gov>; LaRocco, Toni <tlarocco@gchd.us>; Brickey, Tamara <tbrickey@gchd.us>; MVALACAK@gchd.us; McShane, Hilda <hmcshane@gchd.us>; Swartout, April <ASWARTOUT@gchd.us>; scupal@gchd.us; Stickler, Lisa <STICKLER@gchd.us>; Dykema, Linda D. (DHHS) <DykemaL@michigan.gov>; Lytle.Darren@epa.gov; sselig@umflint.edu
Subject: RE: Factsheets, Lead and Gloves

Hello Jim:

The following documents have been publically released by the MDHHS Communications office. The Phosphate and Aerator fact sheet were added to the website yesterday:

Adding Extra Phosphate to Flint Water
http://www.michigan.gov/documents/deq/Adding_Extra_Phosphate_to_Flint_Water_-_MDHHS_FINAL_509878_7.pdf?20160107075028

I hear your concerns, but I do feel some improvements had been made to wording since our original version – not just in areas edited by MDEQ. Based on a quick media search, it doesn't appear that the term phosphoric acid is really making it into the news, but I still feel that message is important to convey, but maybe not – you would know better than I since you're within the community. Given we're operating under an emergency management structure overseen by Michigan State Police now, let me talk to my supervisor and see what can be done. I have no problem giving you my original file for you to work with as you see fit, but I also fear putting out multiple versions of the same document may be confusing.

Clean Your Aerator (Per my email on 12/23, this was approved just not posted til yesterday.)
http://www.michigan.gov/documents/deq/deq-flintw-MDHHS_Clean_Your_Aerator_-_FINAL_510046_7.PDF?20160107075028

Genesee County Health Department

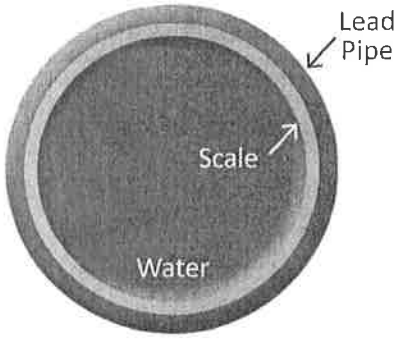
Frequently Asked Questions About

Adding Phosphate to Flint Water

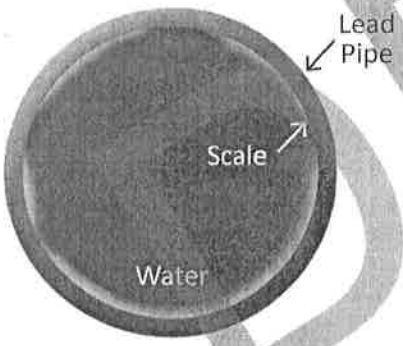
MDHHS
Michigan Department of Health & Human Services

Why is phosphate being added to our water?

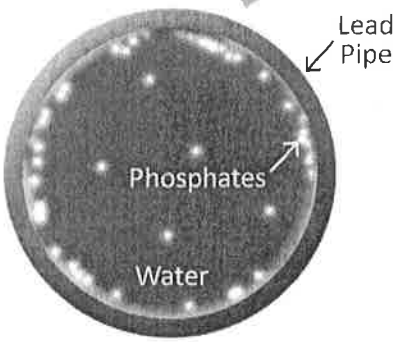
- Water pipes in homes built before 1986 could have lead in them. Brass faucets and certain kinds of solder could also have lead in them.
- The lead found in tap water in the City of Flint is from these older pipes, solder, and faucets.



- Over the years, minerals that are in our water had built up on the inside of pipes, keeping the water from actually touching the lead pipes. This is called scale.
- This scale helped to keep a lot of lead out of our water.



- Because of the cleaning products added to the Flint River water, some of the scale was cleaned from the pipes that bring the water to our homes.
- This has let the water touch the pipes again and pick up the lead that is in them.



- By adding extra phosphate to the water, the scale will be able to build back up faster than just waiting for it to happen again naturally.

Learn About Phosphate

- **Phosphorus is a natural mineral that your body needs. Along with calcium, it works to keep your bones strong and healthy.**
- **Phosphate is a type of salt that has phosphorus in it.**
- **Phosphate is being added to the water in the City of Flint to help put the scale back on the pipes.**
- **The City of Flint has calculated how much phosphate is needed to help coat the pipes without getting too much in your drinking water.**
- **The levels of phosphate in your drinking water will be safe for everyone - but continue to use filtered water until the Genesee County Health Department Advisory is lifted.**
- **Using the filter will protect your family from lead in your water until the scale can be rebuilt.**

DRAFT

If you have questions about the phosphate being added to City of Flint water, please call the Flint Water Department at 810-787-6537.

If you have questions about phosphates and your health, please call MDHHS at 1-800-648-6942.

v. 11/13/2015

Genesee County Health Department

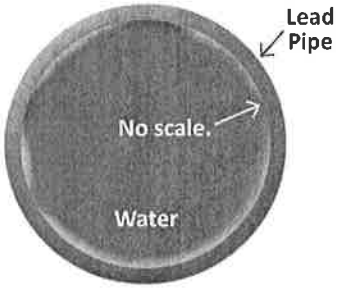
Adding Phosphate to Flint Water

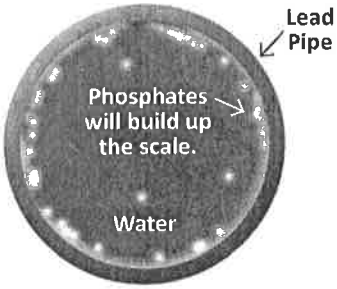
MDHHS
Michigan Department of Health & Human Services

Why is there lead in some homes' water?

- Lead pipes, solder, and faucets used to be common. We now know that lead can harm our health.
- Homes built before 1987 are more likely to have lead service lines and pipes. Some faucets and certain kinds of solder could also have lead in them, even those installed recently.
- The lead found in tap water in homes around Michigan is likely from these older pipes, solder, and faucets.
- Replacing old pipes, service lines, and faucets is the only sure way to limit the lead in your tap water.
- New pipes and solder should meet EPA lead-free standards.

Why are we putting phosphate in the water?





- Over the years, minerals in our water have built up inside our water pipes.
- This mineral build-up is called scale.
- This scale helps to keep a lot of lead from the pipes out of our water.
- If something happens to the scale and the water can touch the pipes, lead can get into the water.
- Adding phosphate to the water helps build and maintain scale by collecting on the sides of the pipes and sticking to the metal.

Learn About Phosphate

- **Phosphorus is a natural mineral that your body needs. It works with calcium to keep your bones strong and healthy.**
- **Phosphate is a type of salt that has phosphorus in it.**
- **Although there already is phosphate in the Detroit drinking water, extra phosphate is being added to the water in the City of Flint to help put more scale in the pipes.**
- **The City of Flint, MDEQ, and the EPA worked together to find how much more phosphate is needed in the water going to Flint homes.**
- **Most people likely already eat and drink more phosphate in everyday food than the very small amount that will be found in the tap water.**
- **Continue to use water filters that remove lead until the Genesee County Health Department's Public Health Emergency Declaration is removed.**

What is Phosphoric Acid?

Although there is already some phosphate in the water we get from Detroit, Flint plans to add more to help build up and maintain the scale faster. To get the phosphate needed for this to work, the City of Flint Water Plant will be adding something called *phosphoric acid* to the city's water. Phosphoric acid is a common food ingredient in things like cola or juice.

The phosphoric acid will quickly dissolve in the water and break down into two parts - hydrogen and phosphate. Hydrogen will become a part of the water and the leftover phosphate will settle out and stick to the walls of the pipes - building up scale like in the picture above.

If you have questions about the phosphate being added to City of Flint water, please call the City of Flint Water Plant at 810-787-6537.

If you have questions about phosphate and your health, please call MDHHS at 1-800-648-6942.

v. 12/03/2015

Genesee County Health Department

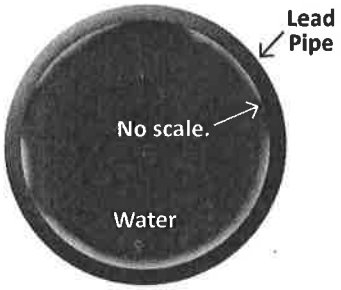
Adding Phosphate to Flint Water

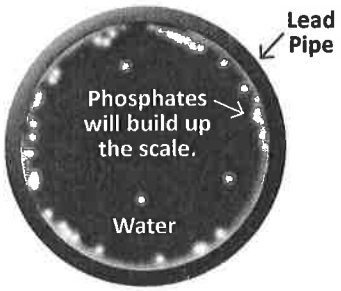
MDHHS
Michigan Department of Health & Human Services

Why is there lead in some homes' water?

- Lead pipes, solder, and faucets used to be common. We now know that lead can harm our health.
- Homes built before 1987 are more likely to have lead service lines and pipes. Some faucets and certain kinds of solder could also have lead in them, even those installed recently.
- The lead found in tap water in homes around Michigan is likely from these older pipes, solder, and faucets.
- Replacing old pipes, service lines, and faucets is the only sure way to limit the lead in your tap water.
- New pipes and solder should meet EPA lead-free standards.

Why are we putting phosphate in the water?





- Over the years, minerals in our water have built up inside our water pipes.
- This mineral build-up is called scale.
- This scale helps to keep a lot of lead from the pipes out of our water.
- If something happens to the scale and the water can touch the pipes, lead can get into the water.
- Adding phosphate to the water helps build and maintain scale by collecting on the sides of the pipes and sticking to the metal.

Learn About Phosphate

- **Phosphorus is a natural mineral that your body needs. It works with calcium to keep your bones strong and healthy.**
- **Phosphate is a type of salt that has phosphorus in it.**
- **Although there already is phosphate in the Detroit drinking water, extra phosphate is being added to the water in the City of Flint to help put more scale in the pipes.**
- **The City of Flint, MDEQ, and the EPA worked together to find how much more phosphate is needed in the water going to Flint homes.**
- **Most people likely already eat and drink more phosphate in everyday food than the very small amount that will be found in the tap water.**
- **Continue to use water filters that remove lead until the Genesee County Health Department's Public Health Emergency Declaration is removed.**

What is Phosphoric Acid?

Although there is already some phosphate in the water we get from Detroit, Flint plans to add more to help build up and maintain the scale faster. To get the phosphate needed for this to work, the City of Flint Water Plant will be adding something called *phosphoric acid* to the city's water. Phosphoric acid is a common food ingredient in things like cola or juice.

The phosphoric acid will quickly dissolve in the water and break down into two parts - hydrogen and phosphate. Hydrogen will become a part of the water and the leftover phosphate will settle out and stick to the walls of the pipes - building up scale like in the picture above.

If you have questions about the phosphate being added to City of Flint water, please call the City of Flint Water Plant at 810-787-6537.

If you have questions about phosphate and your health, please call MDHHS at 1-800-648-6942.

v. 12/03/2015

Genesee County Health Department

Keeping Your Home Lead-Safe

Clean Your Aerators

MDHHS
Michigan Department of Health & Human Services

What can you do to keep your home lead-safe?

- Homes built before 1987 are more likely to have lead service lines and pipes. Some faucets and certain kinds of solder could also have lead in them, even those installed recently.
- The lead found in tap water in homes around Michigan is likely from these older pipes, solder, and faucets. You can have your water tested to see if it has lead in it.
- Replacing old pipes, service lines, and faucets is the best way to limit the lead in your tap water. New pipes, solder, and faucets should meet EPA lead-free standards.
- If you can't replace your pipes and faucets, please use an NSF-approved filter for all water that you drink or cook with. You can get a filter that attaches to your sink faucet or you can use a pitcher with a filter inside it. If you live in Flint, call 211 to find out where you can get a free faucet filter, replacement filter cartridges, or a water filter pitcher.

For bathrooms or other places where you don't have a filter:

When pipes are old, they break apart more easily. Sometimes pipes break completely; sometimes they just get new cracks. This can cause bits of lead pipe to end up in our home's water. There are screens - called aerators - on our faucets that sometimes stop the larger pieces from coming out. Aerators do help us save water - so it's good to have them - but cleaning them once in awhile is a way to limit the lead that could end up in your water.

Follow the steps below to learn how to clean your aerators:

1.

- The little round thing on the bottom of your faucet is the aerator (pronounced: *air-raytor*).
- Unscrew the aerator from the bottom of the faucet.
- You should be able to unscrew it with your fingers, but you might need a wrench if it's really stuck.

2.

- Your aerator might not look exactly the same as this, but it's OK.
- Now that you have it off, let's get started!

3.

- While you really only need to use water to rinse off your aerator parts, if you have these things around, they might make it easier:
  - An old toothbrush
  - A glass of vinegar

4.

- Soaking the aerator in vinegar will help loosen up some of the grime. You can leave it in as long as you want, but even just 5 minutes will help.
- The toothbrush makes it easy to scrub out the inside. Just don't use that toothbrush for brushing your teeth again!

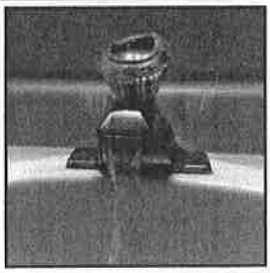
5.

- If your aerator looks like Photo A, it has a flow control piece in it. You'll have to take it apart:
    - Pull out the pieces carefully.
    - Note the order that the pieces come out. Take a picture or write down some notes. You'll have to put them back in at the end in the same way!
- If it looks like Photo B, then you're good to go to Step 6.

6.

- You might not have all of these pieces. They might not be this color. Every aerator is a little different. Just clean what you have.
- Scrub all of the pieces. Make sure you really get down inside the metal piece, removing any bits of grime or metal flakes you can see.

7.



- Rinse everything very well.
- Run the water through the aerator screen - holding it right side up and upside down.

8.

- Once it's clean,
    - If your aerator looks like Photo A up above, put it back together.
    - If it looks like Photo B, you're all set.

9.

- Put your aerator back on your faucet.
- Repeat these steps every couple of weeks. This will make sure pieces of lead and other metal from any pipes aren't getting stuck in your faucet and possibly putting lead into your water.

Henry, James

From:	Henry, James
Sent:	Tuesday, December 22, 2015 12:16 PM
To:	Henry, James
Subject:	FW: Phosphate Fact Sheet
Attachments:	FW: Phosphate Fact Sheet

From: Henry, James
Sent: Friday, December 11, 2015 4:53 PM
To: Valacak, Mark; LaRocco, Toni; Brickey, Tamara; Cupal, Suzanne; Selig, Suzanne; McShane, Hilda; Stickler, Lisa; Swartout, April
Cc: Darren Lytle; Henry, James
Subject: Fw: Phosphate Fact Sheet

Fyi,

Please see email below and attachment.

I'm torn.

Should we share and post our current phosphate version? Maybe include an explanation of potential future edits?

Or, do wait for the state to stop messing around.

It was go time on Wednesday! We risk credibility by not communicating.

I propose we wait until noon on Monday, then communicate what we have, regardless.

Jim

Sent from my phone.

------ Original message------
From: Bruneau , Michelle (DHHS)
Date: Fri, Dec 11, 2015 1:06 PM
To: Henry, James (jhenry@gchd.us);
Cc: Dykema, Linda D. (DHHS);Groetsch, Kory J. (DHHS);Gray, Jennifer (DHHS);
Subject:FW: Phosphate Fact Sheet

MDHHS RESTRICTS LEAD GRANT

From: Henry, James
Sent: Friday, December 18, 2015 7:46 PM
To: 'LishinskiK@michigan.gov'
Subject: CLPPP Grant

Hi Karen,

I'm trying to get a better understanding of the CLPPP Grant. Dawn Hallwood recently left GCHD and I'm helping coordinate the grant activities.

Andrew Schacher informed me that the scope of the grant has recently been limited to first time pregnant women and also for known EBL families, but only after ETC Consulting has conducted a residential assessment.

My office has been informed that ETC Consulting has not conducted many residential lead assessments, relative to the number of known EBL cases.

The CLPPP grant is essential to help GCHD assist these known EBL families. The imminent threat that is causing the elevated blood needs to be identified and mitigated as soon as possible. GCHD is prepared to provide immediate assistance.

Will you please provide clarification of our restrictions? If the scope has changed, I propose that we maintain our original agreement.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Genesee County Health Department

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Henry, James

From: Henry, James
Sent: Monday, January 4, 2016 8:14 AM
To: Schacher, Andrew
Subject: FW: CLPPP Grant

From: Henry, James
Sent: Tuesday, December 29, 2015 4:58 PM
To: LishinskiK@michigan.gov
Cc: Valacak, Mark; LaRocco, Toni
Subject: Fw: CLPPP Grant

Karen, I'm following up since, I did not receive a response from the email below.

During the12/22/15, CLPPP Grant (lead) meeting at the Burton Clinic, our GCHD staff were informed by Bob Scott, that cleaning supplies and education could affect the ETC results. This helps clarify the intent of the recent restrictions of our CLPPP Grant.

GCHD has also been informed that ETC Consulting has only conducted 11 residential lead assessments for the approximate 140 known EBL cases.

GCHD will not conform to the recent restrictions of the CLPPP grant and we will provide assistance for the known EBL families in Flint, immediately.

The rate at which the assessments are being conducted and the actions by your department, which allows for continued lead exposure for the known EBL children, is unacceptable.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125

E-mail jhenry@gchd.us

Henry, James

From: Henry, James
Sent: Friday, December 18, 2015 2:46 PM
To: LaRocco, Toni; Schacher, Andrew
Subject: correspondence request

Toni / Andrew

Has the state sent any written correspondence about the change to our CLPPP Grant regarding to focus on first time pregnant women? Maybe in an email summarizing a conference call? Will you please check and if it exist forward it to me.

Thanks

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Genesee County
Health Department

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Henry, James

From: Henry, James
Sent: Friday, November 20, 2015 12:53 PM
To: 'MVALACAK@gchd.us'
Subject: RE: CLPPP Update

Mark,

There was a typo on the first bullet of my previous email. The correction is highlighted in red below.

- Prior to the end of the FY15, we had purchased approximately 5k of residential risk reduction education materials and cleaning kits.

From: Henry, James
Sent: Friday, November 20, 2015 12:10 PM
To: 'MVALACAK@gchd.us'
Subject: CLPPP Update

Mark,

This is just an FYI and a quick CLPPP update. I haven't been actively involved, so yesterday morning, I asked Andrew for a status update.

- Prior to the end of the FY15, we had purchased approximately 15k of residential risk reduction education materials and cleaning kits.
- Recently the state has restricted our CLPPP activities for community outreach and risk reduction.
- The state indicated they will handle all EBL case activities, until further notice.
- The state may not be able to assist the EBLcases in a timely manner. (It can take a full day for the state(ETC) to perform one residential lead risk assessment.)
- There are many known EBL cases that we could assist immediately and reduce exposure risks.
- Yesterday afternoon, the state gave us approval to focus our risk reduction activities on first time pregnant women.

It appear the state's restriction on our CLPPP activities may be to prevent EBL cases from physically removing lead from their home, so the state can come in and document other lead exposures, beside water. This damage control strategy could have an immediate and adverse impact on public health. I know we have to pick our battles, but some of this behavior is borderline criminal.

I'm not sure which, but the terms below seem to be appropriate:.

- **Nonfeasance:** the failure to act where action is required - willfully or in neglect.
- **Misfeasance:** the willful inappropriate action or intentional incorrect action or advice.
- **Malfeasance**: the willful and intentional action that injures a party.

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Henry, James JAN 4, 2016

To: 'LishinskiK@michigan.gov'
Subject: RE: CLPPP Grant

Hi Karen,

I'm following up, since I have not heard back from you regarding my email below and I apologize that I could not attend the meeting on 12/22/15 at the Burton Clinic to discuss the CLPPP Grant restrictions. However, I was informed by GCHD staff that Bob Scott stated the reason for the restrictions; "the cleaning supplies and education could affect the ETC results."

Yesterday, I was informed that over the last two months, ETC has conducted only 11 residential lead assessments of the approximate 140 known EBL cases. I was also informed that ETC contracted with the state approximately conduct the residential assessments. The rate at which the assessments are being conducted is not acceptable.

GCHD will not to conform to your department's restrictions of the CLPPP Grant, as detailed in the email below. GCHD will provide assistance to the known EBL families, regardless of reimbursement from the state's CLPPP Grant.

The actions by your department to restrict GCHD and allow continued lead exposure for these known EBL families in unacceptable. It appears that these actions are attempts to demonstrate additional source of lead exposure, besides Flint water.

From: Henry, James
Sent: Friday, December 18, 2015 7:46 PM
To: 'LishinskiK@michigan.gov'
Subject: CLPPP Grant

Hi Karen,

I'm trying to get a better understanding of the CLPPP Grant. Dawn Hallwood recently left GCHD and I'm helping coordinate the grant activities.

Andrew Schacher informed me that the scope of the grant has recently been limited to first time pregnant women and also for known EBL families, but only after ETC Consulting has conducted a residential assessment.

My office has been informed that ETC Consulting has not conducted many residential lead assessments, relative to the number of known EBL cases.

The CLPPP grant is essential to help GCHD assist these known EBL families. The imminent threat that is causing the elevated blood needs to be identified and mitigated as soon as possible. GCHD is prepared to provide immediate assistance.

Will you please provide clarification of our restrictions? If the scope has changed, I propose that we maintain our original agreement.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4

Henry, James

From: Schacher, Andrew
Sent: Friday, December 18, 2015 3:36 PM
To: Henry, James
Subject: FW: Flint EBL Project Contact List

From: Wisinski, Courtney (DHHS) [mailto:wisinskic@michigan.gov]
Sent: Thursday, November 19, 2015 4:13 PM
To: Lishinski, Karen (DHHS); Taylor, Sherry; July, Jori
Cc: Schacher, Andrew; Priem, Wesley F. (DHHS); tammy.wall@2etc.com
Subject: RE: Flint EBL Project Contact List

I did direct to you too☺ I think he is really confused on federal funding... LOL who isn't right!

From: Lishinski, Karen (DHHS)
Sent: Thursday, November 19, 2015 3:36 PM
To: Wisinski, Courtney (DHHS); Taylor, Sherry; July, Jori (jjuly@gchd.us)
Cc: Schacher, Andrew; Priem, Wesley F. (DHHS); tammy.wall@2etc.com
Subject: RE: Flint EBL Project Contact List

It sounds like it would fit into the work that we want him to do-The education would be great even if the child ends up with a venous below 5. They would also be eligible for your Lead safe program as well?
As far as any other Prevention grant work questions-send him to me as I am the contract manager-
Thanks!
Karen

From: Wisinski, Courtney (DHHS)
Sent: Thursday, November 19, 2015 3:18 PM
To: Taylor, Sherry; Lishinski, Karen (DHHS); July, Jori (jjuly@gchd.us)
Cc: Schacher, Andrew; Priem, Wesley F. (DHHS); tammy.wall@2etc.com
Subject: RE: Flint EBL Project Contact List

Referred to ETC, will let you know when it is scheduled.

Also, had a call with Andrew (EH) just a minute ago to help answer a few questions. I answered what I knew and referred him to PHN for some of the others:

*He asked about a project that he has that has a pregnant mother and a child with a EBL (cap only) that he wondered how he should proceed.

-I explained that he could certainly call me with any cases that he has questions on and I can coordinate with CM and EI to see if we have been there or plan on going. If we are not, he can proceed as he usually would. If we are scheduled to go I would let him know so that he does not duplicate services. Does everyone agree with this? I am thinking this situation may present itself again.

*I brought up the conversation that we had at the first training day, about helping him identify pregnant women. I indicated that the CMs thought it shouldn't be a problem. I thought that may come through the MIHP program. I thought Jory may be the best contact for that and expressed that to Andrew. Hoping that was ok?

I hope this was ok. Please let me know if you have any ideas.

Thanks!

From: Taylor, Sherry [mailto:STAYLOR@gchd.us]
Sent: Thursday, November 19, 2015 1:56 PM
To: Wisinski, Courtney (DHHS)
Subject: RE: Flint EBL Project Contact List

You are welcome

Sherry Taylor, RN, BSN
Public Health Nurse Coordinator
Genesee County Health Department
G-3373 S. Saginaw Street
Flint, MI 48529
Telephone: 810- 257-3833
Fax: 810- 237-4612

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From: Wisinski, Courtney (DHHS) [mailto:wisinskic@michigan.gov]
Sent: Thursday, November 19, 2015 12:53 PM
To: Taylor, Sherry
Subject: RE: Flint EBL Project Contact List

Yes, and THANKS!

From: Taylor, Sherry [mailto:STAYLOR@gchd.us]
Sent: Thursday, November 19, 2015 12:47 PM
To: Wisinski, Courtney (DHHS)
Subject: RE: Flint EBL Project Contact List

Courtney,

Is your fax 517-335-8800? I want just want to confirm because I am faxing you an LSHP application for a client that I had already opened for case management.

Thank you

Sherry Taylor, RN, BSN
Public Health Nurse Coordinator
Genesee County Health Department

G-3373 S. Saginaw Street
Flint, MI 48529
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From: Wisinski, Courtney (DHHS) [mailto:wisinskic@michigan.gov]
Sent: Thursday, November 12, 2015 2:20 PM
To: Taylor, Sherry; Scott, Robert L. (DHHS); Lishinski, Karen (DHHS); Tammy Wall; Matt Duncan (Matt.Duncan@2ETC.com)
Cc: Dykema, Linda D. (DHHS); Priem, Wesley F. (DHHS); July, Jori
Subject: RE: Flint EBL Project Contact List

attached

From: Wisinski, Courtney (DHHS)
Sent: Thursday, November 12, 2015 2:20 PM
To: Taylor, Sherry (STAYLOR@gchd.us); Scott, Robert L. (DHHS); Lishinski, Karen (DHHS); 'Tammy Wall'; Matt Duncan (Matt.Duncan@2ETC.com)
Cc: Dykema, Linda D. (DHHS); Priem, Wesley F. (DHHS); July, Jori (jjuly@gchd.us)
Subject: Flint EBL Project Contact List

Good Afternoon,

Attached is a contact list for the Flint EBL project that I made for me, but thought it may be helpful for us all. Please let me know if there are any edits or additions.

Thanks!

Courtney Wisinski
Industrial Hygienist
Michigan Department of Health and Human Services
Division of Environmental Health, Healthy Homes Section
P.O. Box 30195, Lansing, MI 48909
517-335-8252
wisinskic@michigan.gov

Henry, James

From: Schacher, Andrew
Sent: Friday, December 18, 2015 3:36 PM
To: Henry, James
Subject: FW: Lead Cleaning Kits

From: Wisinski, Courtney (DHHS) [mailto:wisinskic@michigan.gov]
Sent: Monday, November 16, 2015 5:18 PM
To: Schacher, Andrew
Subject: FW: Lead Cleaning Kits

From: Wisinski, Courtney (DHHS)
Sent: Monday, November 16, 2015 4:52 PM
To: 'schachera@gchd.us'; 'Dhallwood@gchd.us'
Cc: Lishinski, Karen (DHHS); Priem, Wesley F. (DHHS); Taylor, Sherry (STAYLOR@gchd.us); July, Jori (jjuly@gchd.us); 'Tammy Wall'; Matt Duncan (Matt.Duncan@2ETC.com)
Subject: Lead Cleaning Kits

Good Afternoon,

After much discussion regarding the cleaning kits for the Flint EBL families, here is what we agreed upon (although many details to be worked out):

- We will partner with GCHD EH to provide lead-dust cleaning kits and education, provided by Andrew Schacher, to Flint EBL Project families immediately
    - Understand that Andrew only works part time on this project and therefore will not be able to provide services for each family. He indicated that he could possibly set aside one day per week for this project.
    - Both MDHHS CLPPP and HHS will work to purchase additional kits for the Flint EBL Project
    - Once kits are purchased and available through MDHHS, GCHD will focus on prevention efforts (i.e. pregnant females). Karen Lishinski has offered to help establishing referrals for this process.

We really appreciate everyone being willing to help in this process. Please do not hesitate to contact me with further questions or comments.

Thanks!

Courtney Wisinski
Industrial Hygienist
Michigan Department of Health and Human Services
Division of Environmental Health, Healthy Homes Section
P.O. Box 30195, Lansing, MI 48909
517-335-8252
wisinskic@michigan.gov

GCHD LEAD POISON PREVENTION PLAN

Genesee County Health Department Lead Poison Prevention Plan

1. **Provide overall case management of elevated blood leads (EBL) (staffing level will depend upon number of EBLs identified and requiring case management but outreach is also important due to the mobility of the population and level of distrust)**

Genesee County Health Department lead program is responsible for tracking all children with blood lead levels (BLLs) > =5 mcg/dL to assure that appropriate follow-up services are provided. Current follow-up includes actions by GCHD and health care providers which, depending on the child's blood lead level and exposure history, include as appropriate:

Confirmatory and follow-up blood-lead testing;

Risk reduction education;

Nutritional counseling;

Diagnostic evaluation which includes a detailed lead exposure assessment, a nutritional assessment including iron status, and developmental screening;

Coordination with primary care provider;

Medical treatment, if necessary;

Environmental management (housing, outdoor play areas, garden soil); and

Case management of elevated blood lead children;

Other services as appropriate to include:

Referral for insurance enrollment as appropriate;

Referral for WIC services;

Referral for primary care services if no primary care provider identified;

Referral for child behavioral health and mental health services;

Referral for lead reduction or abatement in housing;

Referral for food supplemental programs to include: DHS, SNAP, double up food bucks, food bank, food pantries

Referral to child development programs (Early Head Start, Head Start, etc.)

Referral to housekeeping intervention programs (HEPA- vacuum loan programs, etc.)

Verify:

NSF approved water filter used or provided;

Water tested or referred for testing;

Only cold, filtered or bottled water used for drinking, cooking or formula mixing;

Access to recommended nutrition information or referral for nutrition counseling advice;

Access to appropriate use of nutritional supplements (recommended vitamins and minerals)

No use of ethnic medications, cosmetics or candies known to contain lead

2. **Overall coordination of water filter distribution (requires funding support for IT and other work)**

Develop computer database to track filter distribution by address

Maintain filter distribution computer database

Produce reports using computer database

Train distribution points on use of database

Collect information from distribution partners

Issue daily updates to distribution partners

Conduct weekly partner meetings (Tuesday 10AM) and arrange phone call in capability

Assist in distribution to and among distribution partners

Coordinate distribution to special needs healthcare (Wellness, dialysis centers, home visiting programs)

Coordinate distribution through health department programs (WIC, primary care, CSHCS, Healthy Start)

Assist in distribution of filters and replacements at community events

Coordinate inventory distribution through partners

Coordinate replacement inventory ordering through MDHHS

Assist in sharing database information to encourage filter coverage to all households receiving Flint water

3. **Community lead hazard reduction education efforts (will require additional funding to support additional health educators and nutritionist/ registered dietician)**

Identify community education needs around the Flint water issues

Develop with community and state partner's community education materials and messaging (requires financial support for printing costs)

Coordinate the distribution of educational material to the general public

Distribute recommendations for licensed food establishments using Flint city water

Make materials available electronically via websites

Improve distribution of material through electronic methods and social media

Coordinate with distribution channels:

City of Flint

Flint Schools

Head Start (GISD)

Early Head Start (GCCARD)

Charter Schools (GISD)

University of Michigan-Flint, Mott, Baker, Kettering, MSU-CHM

Crim School Health Initiative and GHP health navigators

MSU Co-op Extension

Places of worship/Church health teams

Healthcare provider offices

Hospital systems

Health Plans

Home visiting programs (Healthy Start, Nurse Family Partnership, Meals on Wheels, etc.)

Priority Children

Mott Children's Health Center

Federally Qualified Health Centers (Hamilton and Genesee Health System)

Weiss Child Advocacy Center

Whaley Children's Center

Licensed day care centers

Greater Flint Health Coalition and CHAP program

Genesee County Community Collaborative

SPROUT childhood obesity prevention coalition

Food Bank of Eastern Michigan and food pantries, the Diaper bank

Community Centers/ Senior Centers

Flint PAL (Police Activity League)

Edible Flint

YMCA/YWCA, Boys and Girls Club, Boy & Girl Scouts, 4H and other youth support groups

Provide coordination support for NCCC (AmeriCorps) team (application pending)

Door to door activities (education, filter distribution, water testing and referral for other services)

Setting up information tables and distribution points in the community at places of worship, community centers and other places where people congregate

Placing information in beauty salons and barber shops and informing workers to spread the word

Coordinate with Red Cross Smoke Detector distribution program to add lead risk reduction element including distribution of filters, educational information and referrals

Coordinate with UM-Flint on community Flint Water Seminar course

Coordinate with MSU CHM to incorporate lessons learned into curriculum of MSU CHM-Flint

Improve communication access and timeliness through the use of social media and traditional media via press releases, PSAs, YouTube videos

Develop and distribute information on nutrition to reduce the lead burden

Provide food demonstrations

Provide recipe cards at demonstrations and point of sale or food distribution locations

Collaborate with food vendors and distributors to promote nutritious choices

Connect with Project Fresh, Double up Food Bucks, SNAP to encourage healthier choices

Consult with Flint Schools Food Service program including vending and after school activities

Consult with Flint charter and parochial schools, MSD, GISD on food service issues

Consult with Head Start and Early Head Start food service programs

Provide nutrition information and recommendations to licensed day cares

Provide nutrition information and recipes for GCCARD food commodities distribution program

Consult with Meals on Wheels on nutrition recommendation

Consult with North End and South End Soup Kitchens on nutrition recommendations

Consult and provide information to foster care facilities

Consult with dietetic services at local hospitals and extended care facilities

Consult and provide nutrition recommendations to County Jail, City Lock Up and Juvenile Detention facility

Work with MDARD and local restaurants to promote healthy recipes and customer choices

4. **Healthcare provider and facility environmental health and lead hazard reduction education (requires additional health educator, nurse educator or environmental health staff support)**

Encourage expanded BLL testing

Provide updates on current recommended protocols for EBL

Provide environmental health information on current issues regarding water to include:

> Boil water advisories, trihalomethanes, skin rashes and water, Legionellosis and other waterborne diseases, phosphates, water testing results, drinking water advisories, bathing water advisories

Share data on community testing

Encourage use of Prescription pads for Children with EBL (pads developed by GCHD and CLPPP)

Provide updates at the Environmental Health Committee of the Genesee County Medical Society

Provide updates in the Genesee County Medical Society newsletter

Use GCHD Epi-Newsletter to communicate updates on waterborne issues

Communicate regular updates at quarterly meetings of the hospital Communicable Disease Staff

Communicate information through grand rounds at area hospitals

Coordinate with the Genesee County Free Medical Clinic

Coordinate with UM Flint Nursing Program and other allied health programs

Produce a training seminar, archived webinar on new ASHRE standard for treatment of water in large buildings to reduce the risk of bacterial contamination and disease transmission

5. Blood lead testing

Assess kids in WIC using MCIR and provide blood lead testing as appropriate

Provide free BL testing to the uninsured

Provide follow up BL testing as indicated

Collaborate with MDHHS promoting expanded blood lead testing protocols especially in private provider offices

Provide special clinics in the community to increase blood lead testing in children **(will require additional support from health plans, UM-Flint Nursing Program or hiring temporary staff)**

Coordinate with local health plans to encourage expanded testing and reminder recall for testing and follow up of EBLs

Promote increased testing in private provider offices

Inform and refer blood lead testing information to primary care providers

Coordinate with Hurley, MSU, UM-Flint and MDHHS to research and map EBLs and risk factors

6. Other supportive activities (may require additional staff and funding support)

Increase participation in WIC (request outreach workers/health educators/nutritionist/health tech)

Improve retention rates in WIC (request bus passes for clients with transportation problems and additional staff to do outreach)

Provide satellite WIC locations (Hurley Hospital, Brownell-Holmes School, Hurley Peds, etc. (requires staff))

Increase breastfeeding rates in WIC (request outreach workers/health educators)

Increase breastfeeding rates overall through hospital initiation and promotion

Increase recruitment of pregnant moms and kids up to 2 into Healthy Start

Increase recruitment of first time pregnant moms into Nurse Family Partnership

Increase evaluation of reportable waterborne diseases that may be related to problems associated with the Flint Water (legionella and other waterborne pathogens)

Evaluate kids in GCHD immunization program for lead testing and refer as appropriate

Promote participation in GCHD Public Health conference with environmental health issues as this year's theme May 2016

Participation in the Flint Water Technical Advisory Team

Develop and implement lead awareness campaign with MDHHS support (bus boards, billboard other media as funding supports)

Promote ASHRE standard for treatment of water in large buildings to reduce the risk of bacterial contamination and disease transmission

Promote community education efforts around trauma informed care and social determinants of health

Coordinate and collaborate with water and lead research efforts in the community and assist in the dissemination of findings

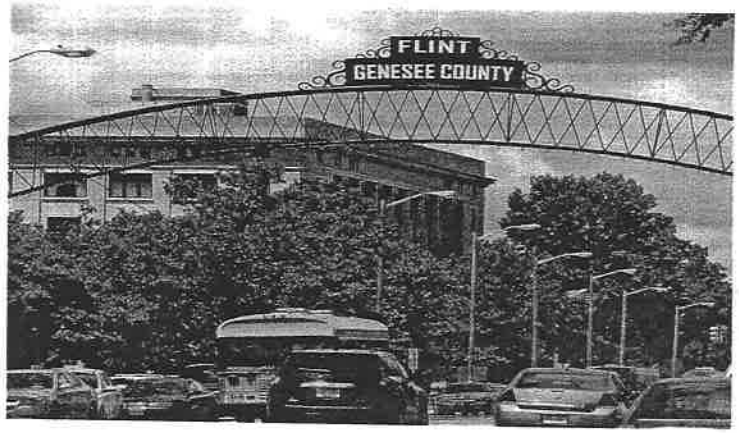
Share lessons learned with other communities

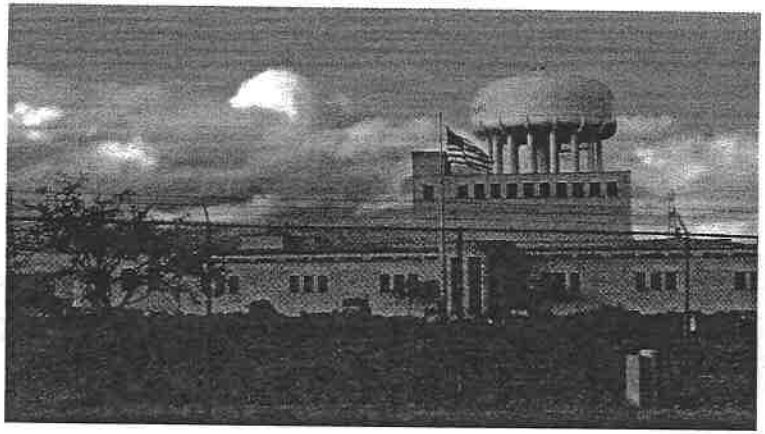
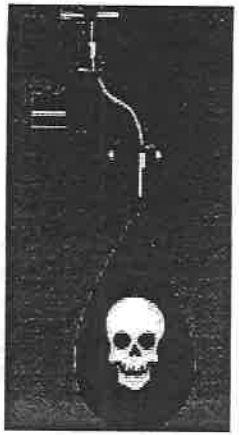
Mark Valacak, MPH, Health Officer
Genesee County Health Department,
630 S. Saginaw St. Suite 4
Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147 E-mail mvalacak@gchd.us

Public Health

FLINT WATER CRISIS POWERPOINT

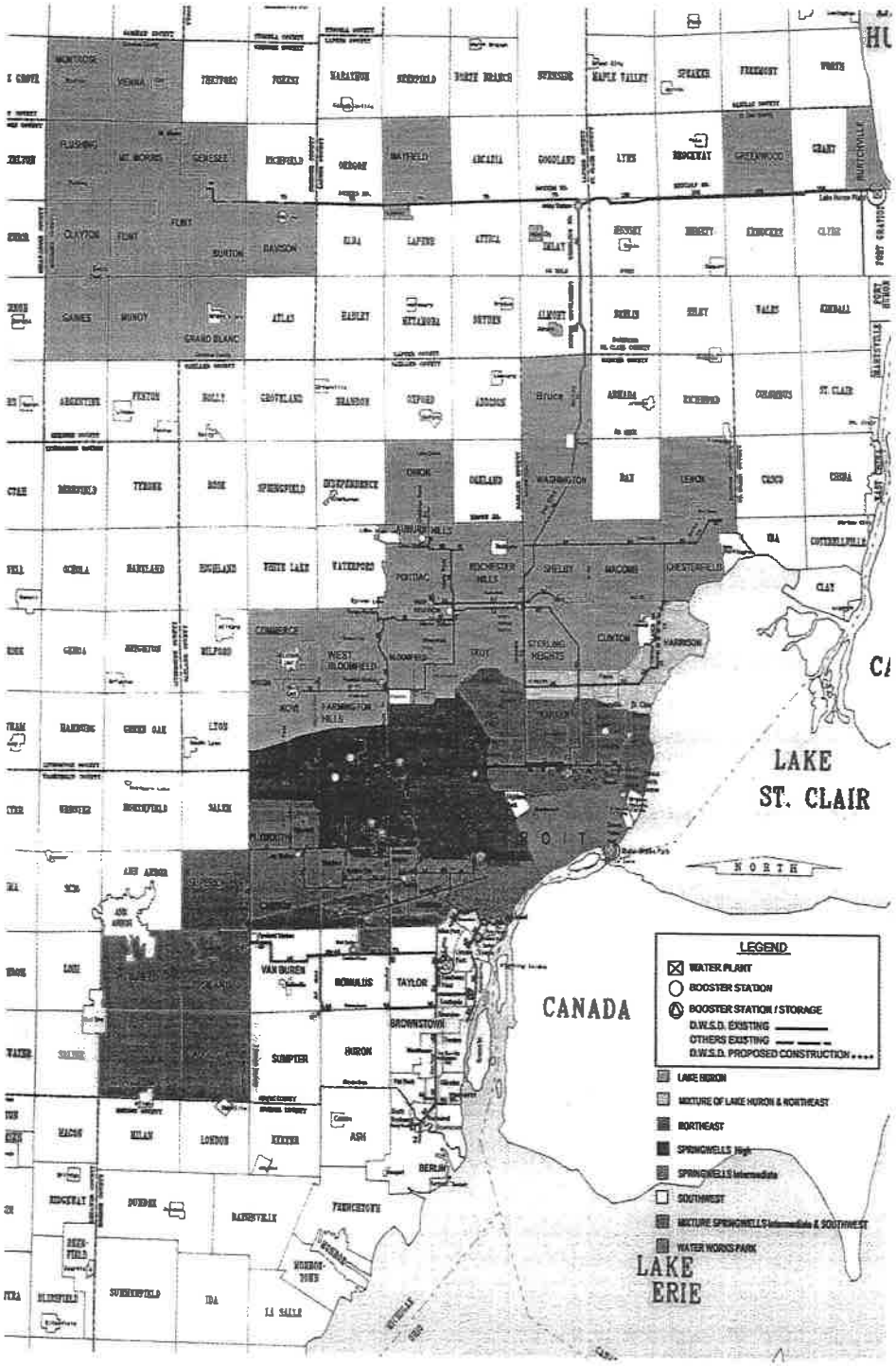


The Flint Water Crisis

Mark Valacak, MPH, Health Officer,
Genesee County Health Department
mvalacak@gchd.us

Genesee County
Health Department
Your Health. Our Work.



Detroit/Flint Water Politics

Failing to look at the health consequences of the actions taken by the emergency managers endangered the health of the Flint community

Flint ending Detroit water contract, DWSD looking at its options

By STEVE CARMODY • APR 16, 2013

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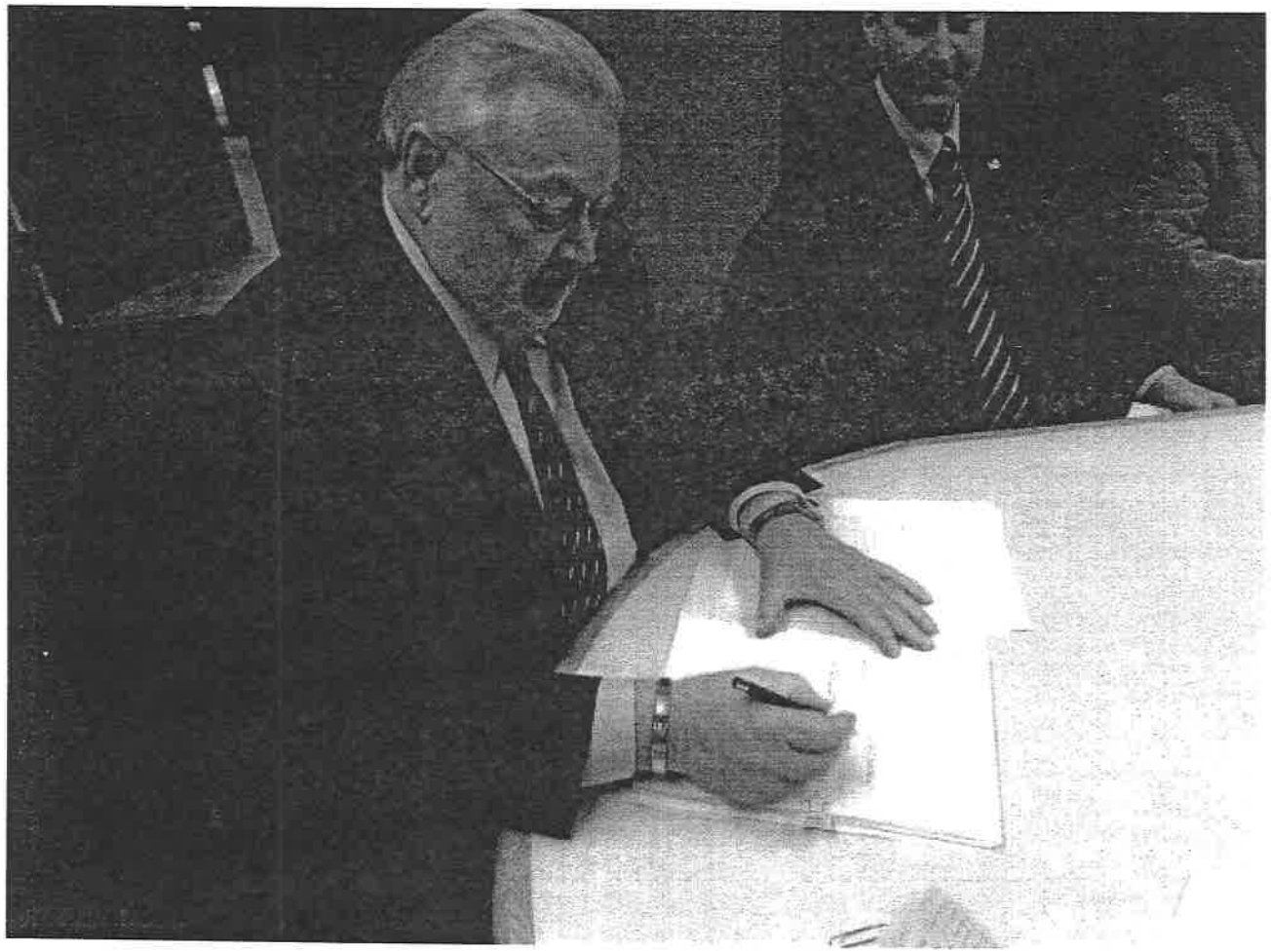


Flint emergency manager Ed Kurtz (left) signs a contract to hook the city up to the new Karegnondi Water Authority. Flint Mayor Dayne Walling looks on.

STEVE CARMODY/MICHIGAN RADIO

Regional water authority is coming to Detroit

Detroit emergency manager plans regional authority to take over Detroit water department

Author: Rod Meloni, Local 4 Business Editor, @RodMeloni

Published On: Dec 24 2013 10:15:42 AM EST | Updated On: Oct 07 2013 06:37:24 PM EDT

A A A Print Recommend Share 0 G+1 0 Tweet 0 Pin it

Detroit getting out of water business?

Show Transcript

DETROIT - We are the Great Lakes State and yet for all of the water we have around us there has been considerable complaint about what it costs to get that water into our homes through Detroit city-owned pipes.

Water rate hikes have traditionally been viewed as a sock-it-to-the-suburbs move. In the city any discussion of either selling or leasing out the water department falls under the department of the theft of the city's jewels.

Flint residents should be drinking Flint River water by mid-April, officials say

A group of Flint city leaders and water plant officists pose in front of the Flint Water Treatment Plant Wednesday, March 12, 2014 during a ceremonial ground breaking to prepare to draw drinking water from the Flint River. Sarah Schuch | Mlive.com

1 / 30 Fullscreen Share Caption

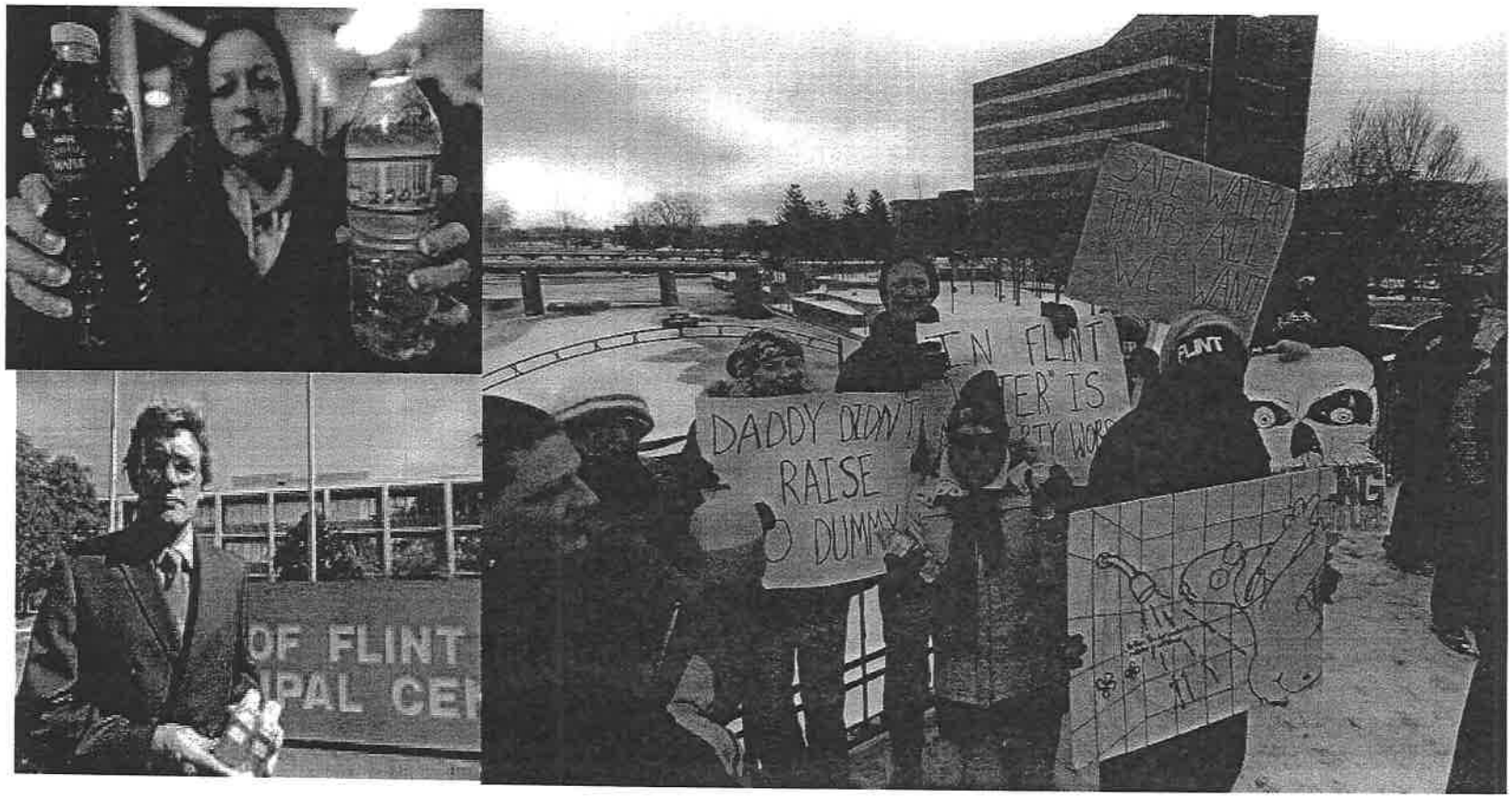
By Sarah Schuch | sschuch@mlive.com
on March 12, 2014 at 6:10 PM, updated March 12, 2014 at 6:13 PM

Print

FLINT, MI – If all goes as planned, Flint residents will have Flint River water flowing from their taps by mid-April.

Flint city leaders and Flint Water Treatment Plant officials held a ceremonial groundbreaking Wednesday, March 12, to mark the start of the process of drawing water from the Flint River.

Water problems occur and the public is questioning the safety of the water



Dr. Marc Edwards, engineering professor from Virginia Tech who uncovered water problems in Washington DC comes to town…

Who do you think gets most of the calls and complaints?

We go to the agency with legal authority to regulate municipal water and MDEQ insists that, "the water meets all EPA drinking water standards…"

From: Tommasulo, Karen (DEQ)
Sent: Thursday, July 09, 2015 3:09 PM
To: Wurfel, Brad (DEQ)
Subject: RE: ACLU mini-documentary

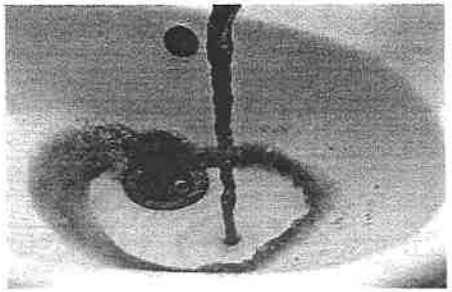
This is what Curt Guyette had been calling about, by the way. Apparently it's going to be a thing now.

From: Wurfel, Brad (DEQ)
Sent: Thursday, July 09, 2015 3:08 PM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Tommasulo, Karen (DEQ); Sygo, Jim (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: RE: ACLU mini-documentary

Steve, I just got a call from Mi Public Radio about an EPA notice to Flint about elevated lead levels in the water. Apparently, you were cc'd on EPA's note. Can you call me asap? Thanks!
b

Problems are mounting…

- Waterline breaks & boil water advisories
- Increasing chlorine levels and complaints
- Violation of the trihalomethane EPA standard
- Skin rashes associated with bathing
- Flint GM plant switches to DWSA due to corrosion
- We see an increase in legionellosis & expand our investigation efforts and try to get assistance
- U of M Flint does its own sampling
  - Finds elevated trihalomethanes
  - Finds lead in an older low use building



With each new problem we develop & distribute information

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

Trihalomethanes (TTHM)

What are Trihalomethanes (TTHM)

Trihalomethanes (TTHM) are a group of chemical byproducts formed when chlorine used for water disinfection reacts with naturally occurring organic material.

Public drinking water systems often experience temporary increases in Trihalomethanes due to short-term increases in chlorine disinfection. Chlorine increases usually occur in the summer months when warmer temperatures promote the growth of bacteria and organic material.

The USEPA has set an allowable level not to exceed 80 parts per billion (ppb) or micrograms per liter (ug/L). When the level is exceeded, then the public must be notified.

Possible hea

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People who
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an increased

How to redu

Use bottled
and plumbe

Water filters
Laboratories
seals on the

For more inf

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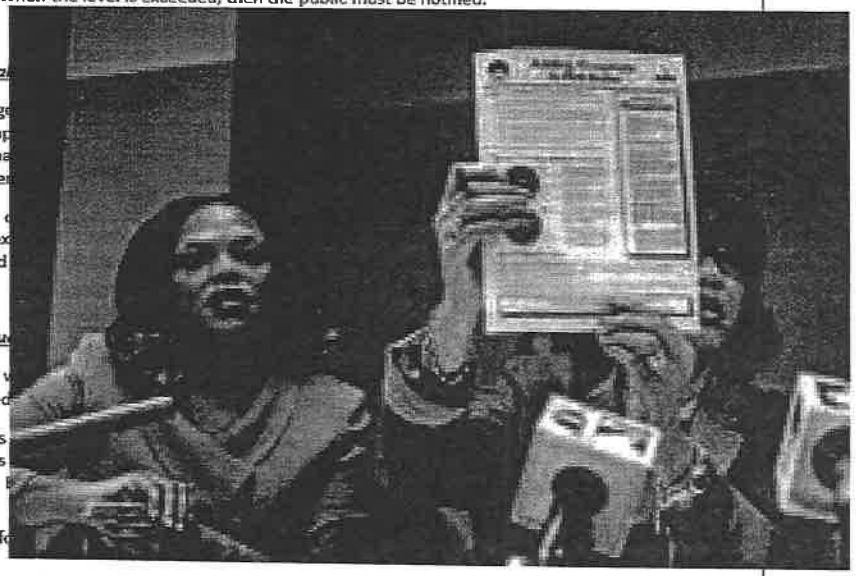
http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm



MDHHS tells us not to communicate with the CDC

Good Morning All,

I'd like to take a moment to comment on the most recent legionella exchange based on my conversation with some of CDC's team leadership this morning.

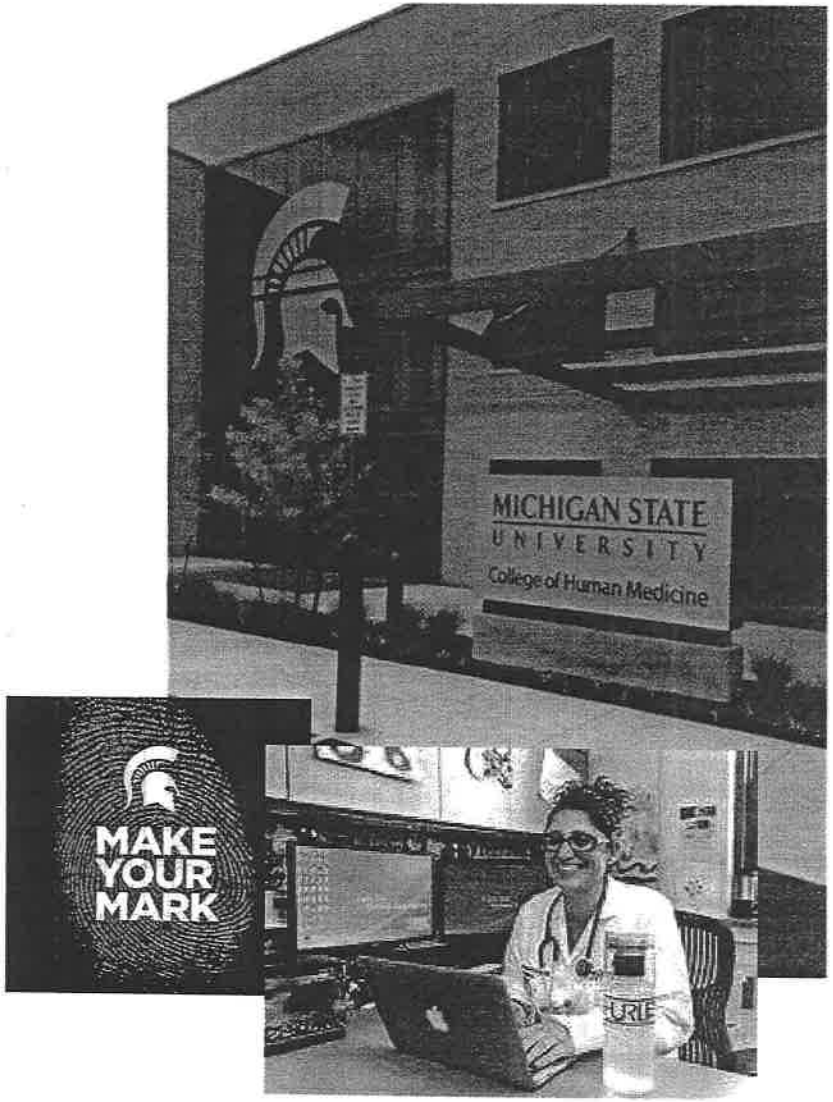
First, I want to emphasize that we are excited to see, and continue to support, the more aggressive approach being taken by our Genesee County Health Department colleagues toward gathering epidemiologic and clinical information from the most recent incident cases of legionellosis. The Michigan Department of Health and Human Services (DHHS) continues to offer resource and informational support as requested. I'd ask that you work with our team in that area, including Shannon Johnson, Jay Fiedler and Susan Bohm as well as your Regional Epidemiologist, Tim Bolen.

Relative to communications around the investigation, I believe that CDC is in agreement that ***their involvement really should be at the request of the State*, rather than the local health department.** To be clear, we do value the skills and resources of our CDC colleagues, but we also recognize that their involvement needs to have some structure. **At this point, further CDC participation would have to be in the form of an Epi-Aid request from our State Epidemiologist,** Corinne Miller. On numerous occasions in the past, we've taken advantage of this level of availability from the CDC. However, relative to the current investigation**, we have not seen any information that would rise to the level of warranting an Epi-aid request.** Therefore, I want to reinforce the necessity that investigation communications from the Genesee County Health Department need to be directed to staff at the MDHHS.

Thank you all for you interest and contributions to this effort to date. I'm sure that we'll continue to improve on our data collection as we move forward and that this will put us in a position to better define the current case evaluations.

- Jim Collins MPH, RS Director, CD Division MDHHS Desk: 517-335-8586 Cell: 517-930-6932

Health Officer has a side conversation at a committee meeting with Dr. Hanna-Attisha



As Health Officer I sit on a number of committees including the MSU Flint Research Committee and a Faculty Hiring Committee for the MSU College of Human Medicine. This represents an opportunity to bring research expertise and dollars into our community to do public health research and help meet one of our strategic planning goals to be an academic health department.

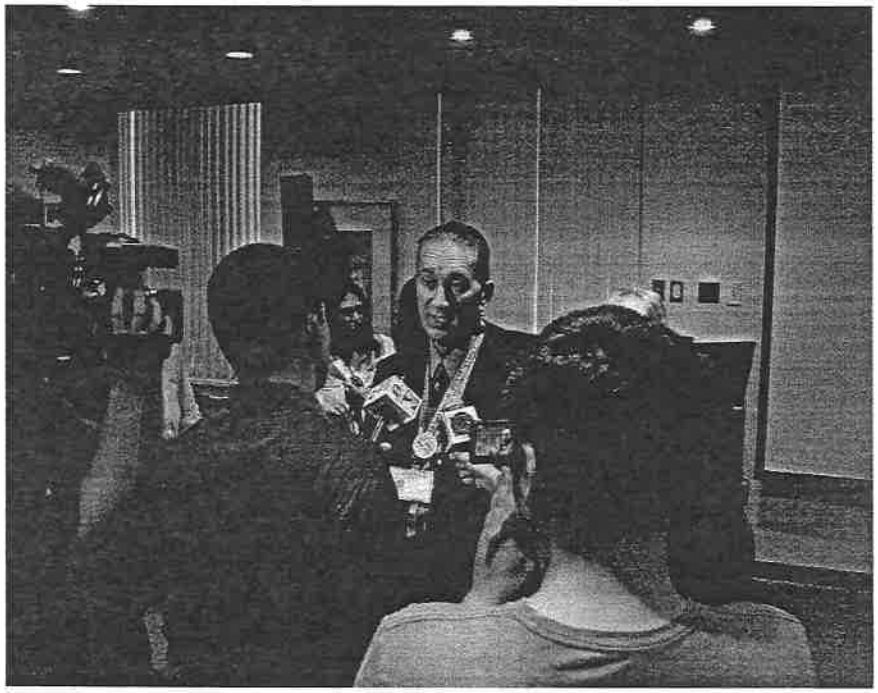
Doctor thinks she is seeing higher EBLs in the Hurley Pediatric Clinic

- She asks about getting a hold of more BL data
  - I know lead data is in MCIR, so I tell her I will ask the state if we can use it. Unfortunately I am told the MCIR lead data is like a lab report attachment in a file and not searchable except by individual and there are no report functions associated with it in MCIR.
  - So then I ask my EH supervisor to check with the state and see what they have in the Stellar CLPPP database and see what information or reports we can get.
- She moves forward using all Hurley lead test data and not just data from her pediatric clinic

Thursday 9/24/15 press conference

PEDIATRIC LEAD EXPOSURE IN FLINT, MICHIGAN: A FAILURE OF PRIMARY PREVENTION

Mona Hanna-Attisha MD MPH FAAP
Hurley Children's Hospital
Michigan State University Department of Pediatrics and Human Development



HURLEY CHILDREN'S HOSPITAL

MICHIGAN STATE UNIVERSITY
College of Human Medicine

GCHD assists Flint in issuing a Lead Advisory which includes our FAQ on lead in water

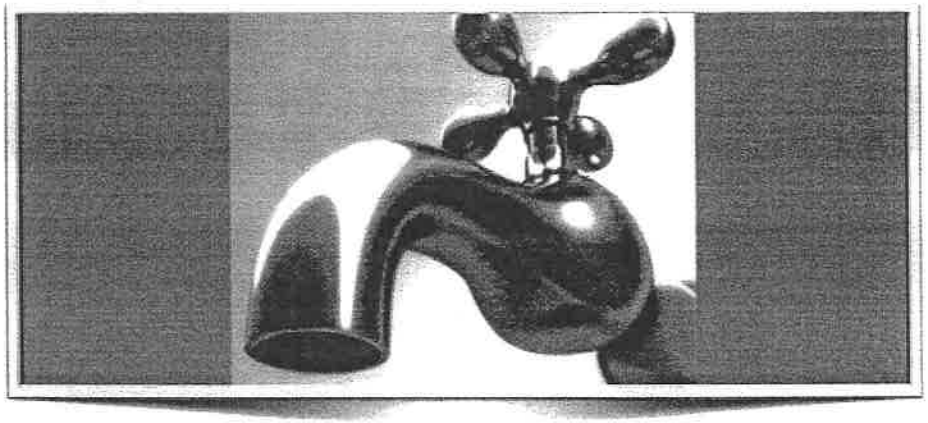
City of Flint

STATE OF EMERGENCY ONLINE SERVICES RESIDENTS C

City of Flint Issues Lead Advisory

Posted by: Jason Lorenz

25
SEP



UPDATE: Flint Water Information Website

The City of Flint is issuing a Lead Advisory for residents to be aware of lead levels in drinking water after hearing concerns from the medical community. While the City is in full compliance with the Federal Safe Drinking Water Act, this information is being shared as part of a public awareness campaign to ensure that everyone takes note that no level of lead is considered safe.

The Genesee County Health Department has issued a fact sheet regarding lead precautions for residents. The fact sheet can be found on their website at www.gchd.us. Here are a few of the suggestions the Health Department recommends:

Snyder must act on Flint lead crisis

By Nancy Kaffer, Detroit Free Press Columnist 11:11 a.m. EDT September 27, 2015

4319 181 130

(Photo: Ryan Garza, Detroit Free Press)

4319 CONNECT 181 TWEET LINKEDIN 130 COMMENT EMAIL MORE

It's hard to understand the resounding yawn that seems to have emanated from the governor's office, following news that an increasing percentage of Flint kids have been lead poisoned after a switch in the city's water supply.

A spokeswoman for the Michigan Department of Health and Human Services sent a Free Press data analyst a chart she claimed would refute a report issued by a Hurley Medical Center researcher, who found that since the city started pumping water from the Flint River last April, the percentage of Flint kids with elevated blood-lead levels has more than doubled in some ZIP codes.

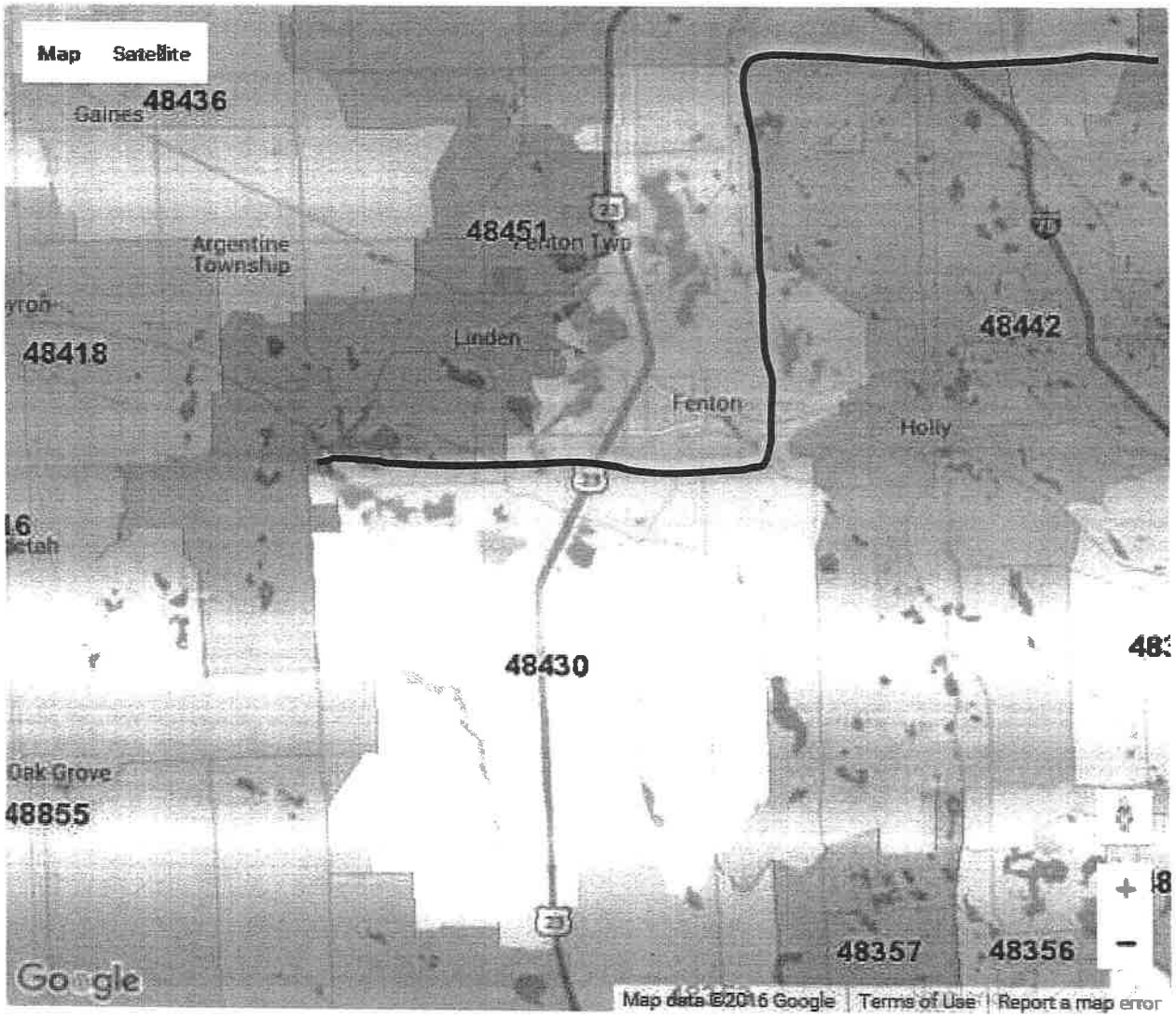
In fact, the state's data supports the Hurley researcher's claim — the number of kids with lead poisoning had been falling in Flint and across the state, until the water switch. Now it's increasing.

A spokeswoman for Gov. Rick Snyder wrote in an e-mail that the Hurley data had been "spliced and diced," a suggestion that it's something other than accurate — even though the state's own data bolsters the Hurley report.

And officials across the administration have hastened to insist that Flint's water is safe and to suggest that although published reports say Michigan Department of Environmental Quality data show elevated lead levels in Flint's water, there's no reason to suspect that has caused more Flint kids to suffer from lead poisoning. And so far, none of it has it spurred them to action.

But here's the situation: There's more lead in Flint's water than there used to be. And more Flint kids have lead in their blood, something that leads to serious, irreversible behavioral and developmental problems.

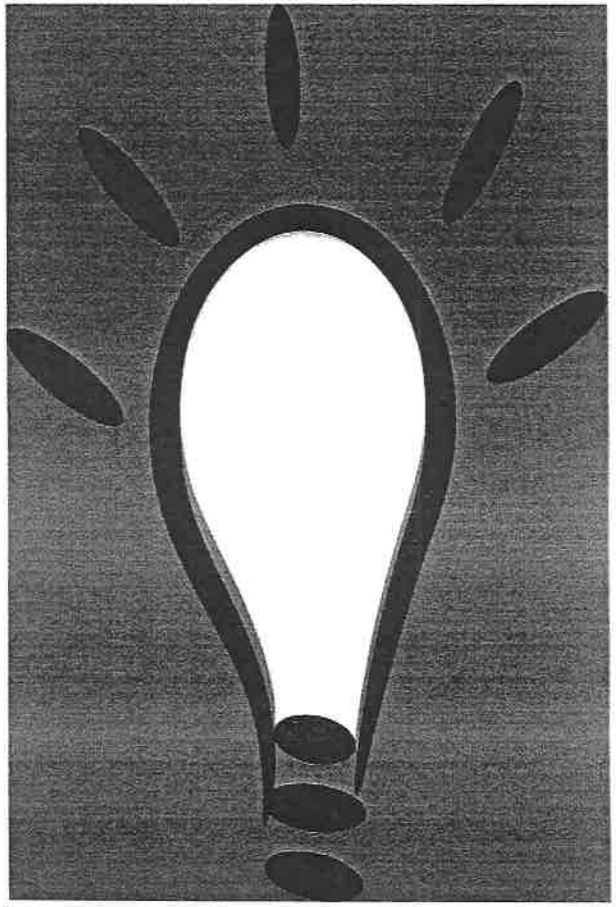
I can't sleep thinking about it, a light bulb comes on in my head. "Remember Ebola!"



ZIP Code: 48430

Fenton, MI 48430

- View cities in 48430



Flint Summary

Flint is located in **Michigan**
Latitude: **43.025003**
Longitude: **-83.709940**
Population: **190,176**
Area: **89.53** sq. miles
Land: **88.58** sq. miles
Water: **0.95** sq. miles
Population Density: **2,146.89** people per sq. mile
Elevation: **712.0** feet above sea level
Time Zone: **Eastern (GMT -5)**
Daylight Savings: **Yes**
Area Codes: 810

Flint Details

Download Data
Demographics
- Gender
- Age
- Race

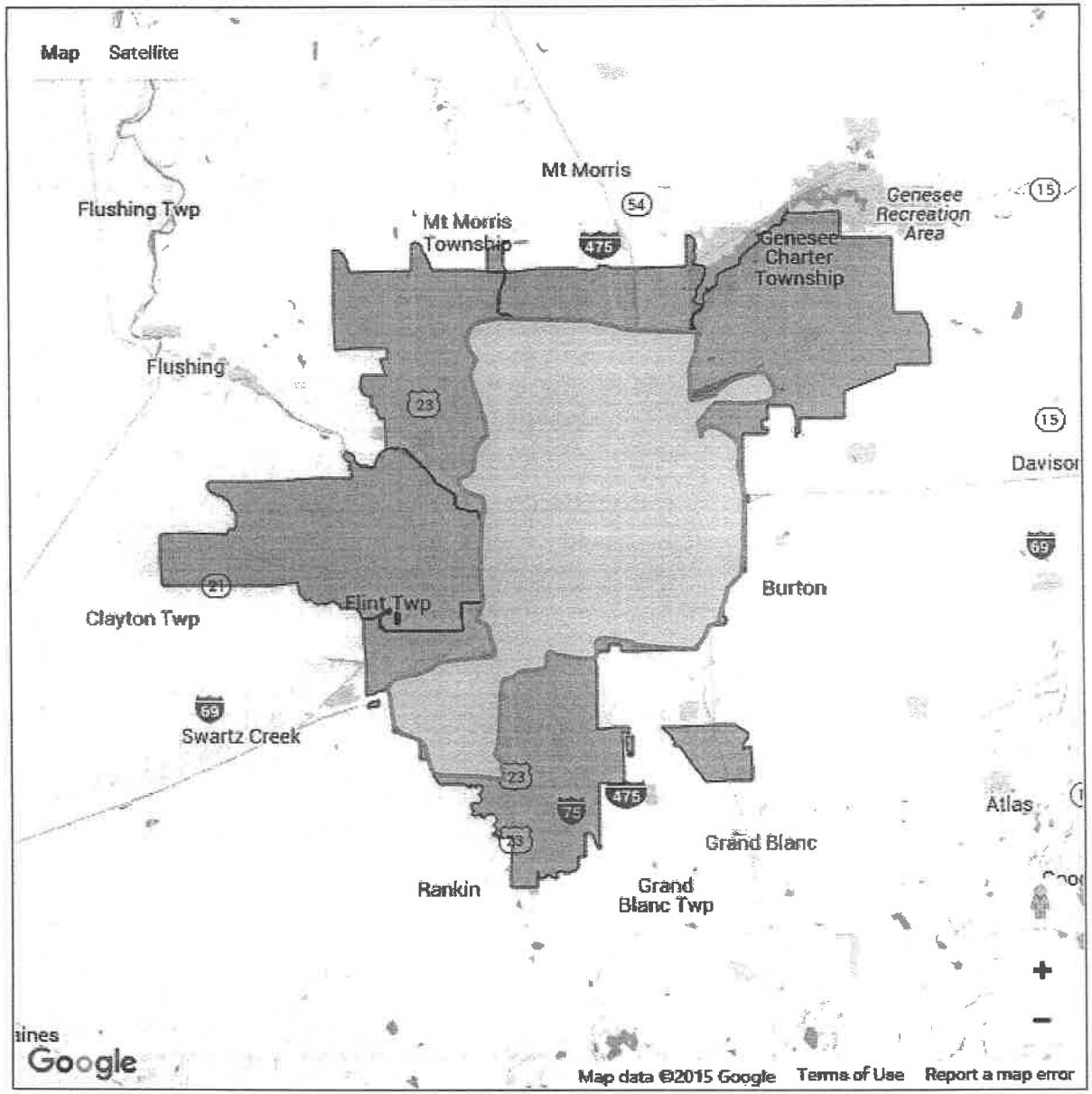
Social Profile
- School Enrollment
- Education Level
- Ancestry

Economy
- Employment
- Occupation
- Industry
- Income
- Commute

Housing
- Occupancy
- Structure Breakdown
- Rooms
- Household Heating
- Property Value
- Mortgage Status
- Rent Profile
- Vehicle Usage

Flint Zip Codes

48502, 48503, 48504, 48505, 48506, 48507, 48532



Map of Flint addresses

Monday morning I called MDHHS and had a very simple question

From: Valacak, Mark
Sent: Monday, September 28, 2015 1:57 PM
To: 'Miller, Mark (DCH)'; 'TravisR@michigan.gov'
Subject: RE: State lead testing results???

Mark & Rashmi,

I want to know whether you have confirmed with the lead program staff at MDHHS that the state results that purport that lead levels have not shown a significant increase since the changeover of the water supply for the city of Flint indeed represent Flint city zip codes only and not Flint mailing addresses. As I mentioned to you both this morning, Flint mailing addresses would include outlying areas like Flint and Mundy Townships which obtain their water from the Detroit Water Authority.

Mark Valacak, MPH, Health Officer

From: Valacak, Mark [mailto:MVALACAK@gchd.us]
Sent: Tuesday, September 29, 2015 9:23 AM
To: Miller, Mark (DCH) ; Travis, Rashmi (DCH)
Subject: RE: State lead testing results???

Any results yet? If not can you give me a timeline when you will have results?

Mark Valacak, MPH, Health Officer

From: Miller, Mark (DHHS)
Sent: Tuesday, September 29, 2015 9:44 AM
To: Valacak, Mark
Cc: Dykema, Linda D. (DHHS); LyonCallo, Sarah (DHHS); Travis, Rashmi (DHHS)
Subject: FW: State lead testing results???

Mark, I have a call with Epi staff today at 4 PM. So I'll get an update at that time. I've also cc'ed Linda Dykema and Sara Lyon-Callo, who might be able to respond sooner with a timeline.

No response from MDHHS so I issued a *Public Health Advisory and an ultimatum* 9/29/15

From: Lasher, Geralyn (DCH)
Sent: Tuesday, September 29, 2015 12:06 PM
To: Wells, Eden (DCH); Miller, Corinne (DCH); Moran, Susan (DCH); Robinson, Mikelle (DCH); Dykema, Linda D. (DCH); LyonCallo, Sarah (DCH); Hertel, Elizabeth (DCH); Peeler, Nancy (DCH); Travis, Rashmi (DCH); Miller, Mark (DCH)
Cc: Minicuci, Angela (DCH); Eisner, Jennifer (DCH); Grijalva, Nancy (DCH)
Subject: FW: Public Health Advisory
Importance: High

And Genesee County and the Genesee County Health Department, have just issued the attached public health advisory and on the final paragraph it says:

Recent data provided by Hurley Hospital researchers has indicated that a significant increase in blood lead levels has occurred in children since the switch to Flint River water. The county Health Officer has requested that the Michigan Department of Health and Human Services (MDHHS) provide to the County specific data to support its claim that state data is more comprehensive and does not show a significant increase. To date, the MDHHS has failed to confirm the geographic area included in their findings. We want to assure the state data is specific to the boundaries of the City of Flint, and not Flint addresses which would include addresses in areas outside of the City of Flint. These areas,such as Flint Township,that obtain their water from the Detroit Water Authority and would therefore not be representative of Flint River water as the water source. The County is prepared to take further action if the State fails to provide the requested data by September 30,2015. Further action could include a request for outside independent evaluation of the data and to declare a Public Health Emergency in Flint.

My request for MDHHS to come clean about the data is likened to a ransom deadline

I understand that we are still reviewing the data—but the county has basically issued a ransom date that they want this information by tomorrow.

Eden—please coordinate an answer so Nick can walk into the 1:00 p.m. meeting prepared on this.

From: Peeler, Nancy (DHHS)
Sent: Tuesday, September 29, 2015 4:39 PM
To: Lasher, Geralyn (DHHS); Wells, Eden (DHHS); Miller, Corinne (DHHS); Moran, Susan (DHHS); Robinson, Mikelle (DHHS); Dykema, Linda D. (DHHS); LyonCallo, Sarah (DHHS); Hertel, Elizabeth (DHHS); Travis, Rashmi (DHHS); Miller, Mark (DHHS)
Cc: Minicuci, Angela (DHHS); Eisner, Jennifer (DHHS); Grijalva, Nancy (DHHS)
Subject: RE: Public Health Advisory

Curious whether they issued the same thing to Hurley, as their analysis sample (based on zip codes 48501-48507) also appears to extend beyond the city geographic boundaries, into Townships that are on Detroit water?

All I asked for was accurate data to back up the statements the state is making!

Subject **Re: ZIP Codes**

From Peeler, Nancy (DHHS)

To Wells, Eden (DHHS)

Cc Travis, Rashmi (DHHS)

Sent Wednesday, September 30, 2015 9:27 PM

Short term, yes, I agree with that approach. I asked about it because the issue of including data for children outside of the city limits was specifically raised by the Genesee County Health officer, and specifically cited in the public advisory released by the Genesee County Commissioners. They appeared to use that issue to discredit the state data (in essence, implied that our results were artificially low because we included children living in areas that are still on Detroit water, thus our results were not valid or true). My concern is whether they will do that again. I agree that full disclosure is best, and also indicating that this is the same/parallel analysis approach that Hurley took for their report.

Longer term, I think the improvement strategy is to see what it will take to geocode the data, so that we could work more easily with boundaries other than zip code, county, etc. I know Bob has looked into that and can do it, but he would need to refresh my memory for what resources it would take to make this a regular part of the data set.

County advisory results in people wanting to help & donations pour in

- United Way gets thousands of dollars in donations & asks GCHD what to do 11/30/15
- UW requests recommendation on water filters
- UW contacts Home Depot they can have 4,000 filters in Flint in 36 hours
- I talk to U of M Flint about using the campus for a mass distribution, they agree
- Water donations start coming to Flint Schools, Food Bank & Diaper Bank

Snyder finally says lead in Flint water may be problem

By Nancy Kaffer, Detroit Free Press Columnist 8:38 p.m. EDT September 30, 2015

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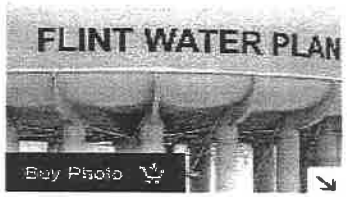

(Photo: Ryan Garza/Detroit Free Press)

Almost a week after news broke that more Flint kids have been lead poisoned, two weeks after state data confirmed that lead levels in Flint's water had spiked, more than a year after residents first noticed something was hinky with the water coming out of their taps, Gov. Rick Snyder has publicly acknowledged that Flint's water supply "appears" to have problems.

Publicly, because despite his office's repeated efforts to downplay the severity of the situation, an anonymous water-filter distribution to Flint residents shepherded by Snyder's office earlier this month, suggests that privately, the governor may have understood that something was amiss in this impoverished town.

It's a welcome, if weak, concession from Snyder.

Flint's decision to leave the Detroit Water and Sewerage Department and join a new water authority, and its subsequent decision to pump and locally treat water from the Flint River while the new system is under construction, were made while the city was under state oversight, led by emergency managers appointed by, and answerable to, Snyder.

Sara Wurfel, Snyder's press secretary, said Wednesday that a working group with members from the governor's office and the state departments of Health and Human Services, Treasury and Department of Environmental Quality has been meeting for months to develop a "more detailed action plan," which she expects to make public this week.

But Wurfel also insisted that elevated lead levels in Flint's water fall within federal guidelines, and thus aren't actionable. And she said that aging pipelines, which researchers say is the source of elevated lead levels in the Flint's water supply, are a problem across the state.

8:38PM
9/30/15

Public health emergency declared due to lead in Flint water

Corey Williams, Associated Press Updated 11:23 pm, Thursday, October 1, 2015

3

Photo: Christian Randolph, AP

IMAGE 4 OF 4

Mark Valacak, director of the Geneseee County Health Department, issues a public health state of emergency due to the lead in city water during a press conference at the Genesee County Administration Building in Flint, Mich. on Thursday Oct. 1, 2015. (Christian Randolph/The Flint Journal-MLive.com via AP)

Genesee County Health Department
Your Health. Our Work.

DETROIT (AP) — Officials in Michigan declared a public health emergency Thursday over the city of Flint's water, after months of resident complaints about its smell and taste, in response to tests that showed children with elevated levels of lead.

Dr. Hanna-Attisha's analysis of MDHHS blood lead data analysis

- "Their data is unbelievable, unscientific and flat out wrong.
- But despite all that, they also showed an annual decrease in EBL% and then a statistically significant increase post-switch. I got two copies of their data that they sent out - one from 9/15 and one after our press release. The numbers were different - I called them out on the inconsistencies and they said,
  - "they had accidentally included duplicates!"
  - Their data also went to the age of 16 (strange),
  - looked at first time leads rather than elevated leads for duplicate patients (not how it is done in literature and misses a lot of EBLs)
  - and their disclaimer on their chart was that it included people with a "Flint" mailing address or something like that. So all those things underestimate the rate of kids with EBL."
    - Dr. Mona Hanna Attisha email to Mark Valacak 10/1/15

State officials discuss action plan for Flint drinking water

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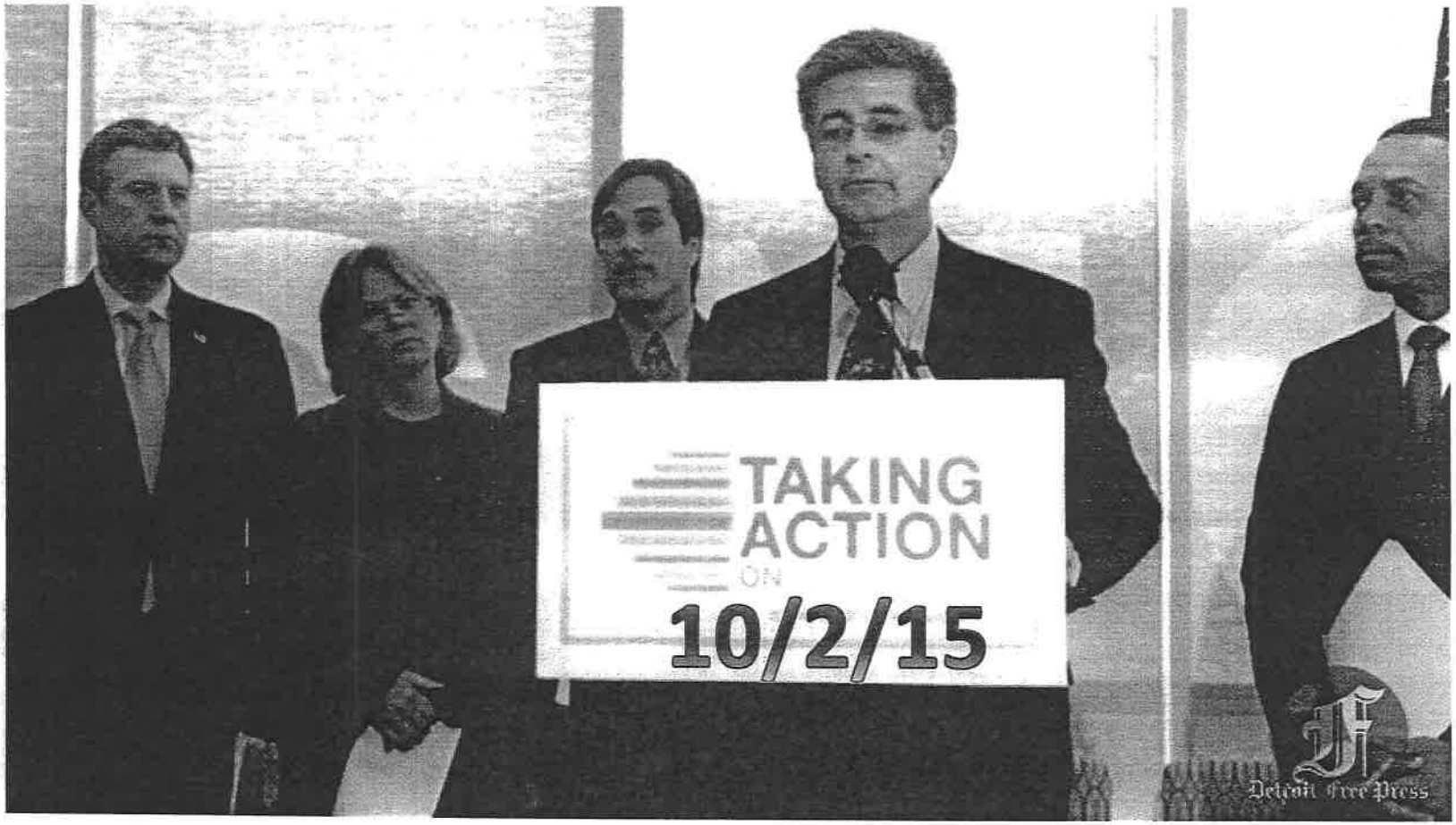
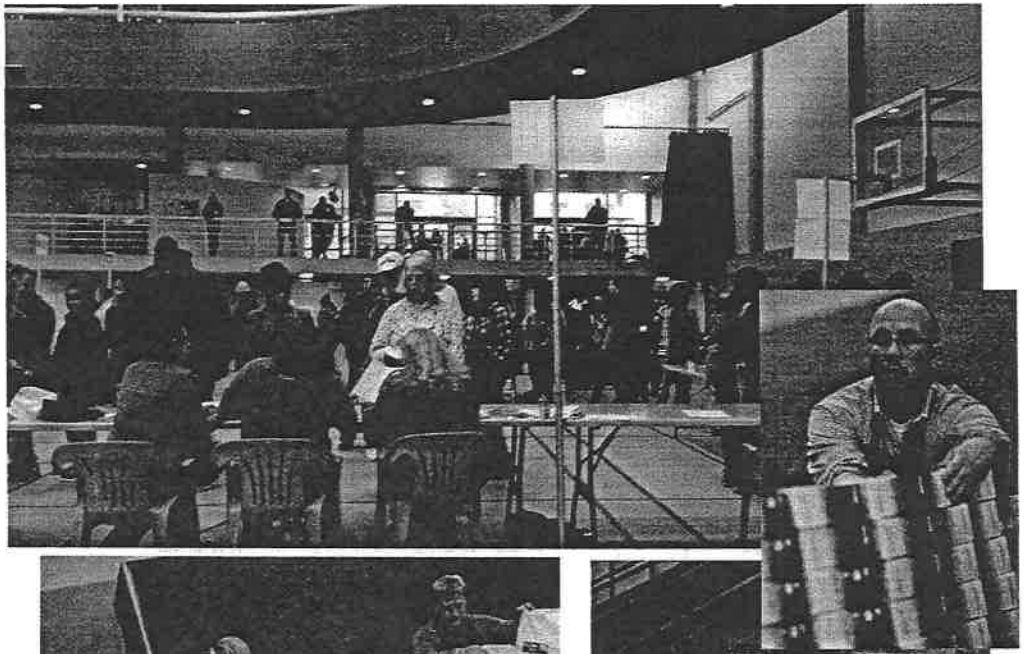
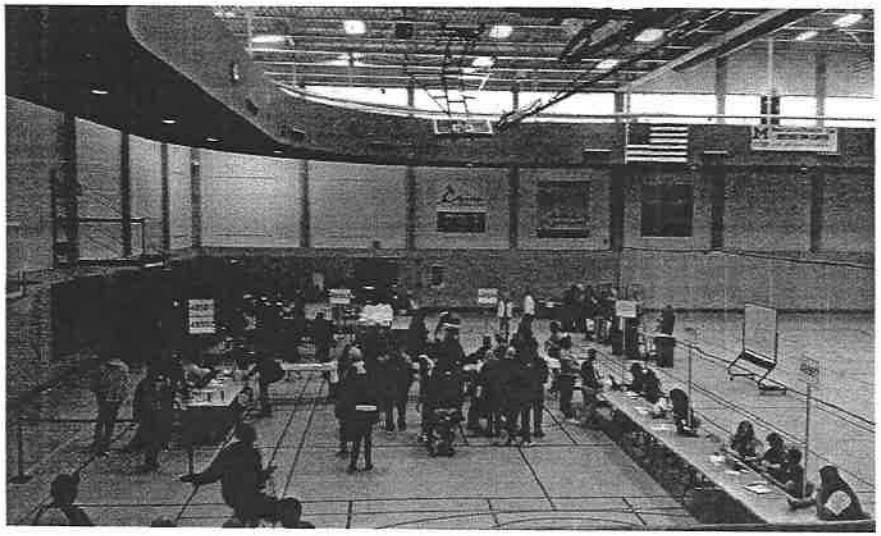


Dan Wyant, director for the Michigan Department of Environmental Quality and Nick Lyon, director for the Michigan Department of Health and Human Services, discuss action plan for Flint drinking water. Ryan Garza Detroit Free Press

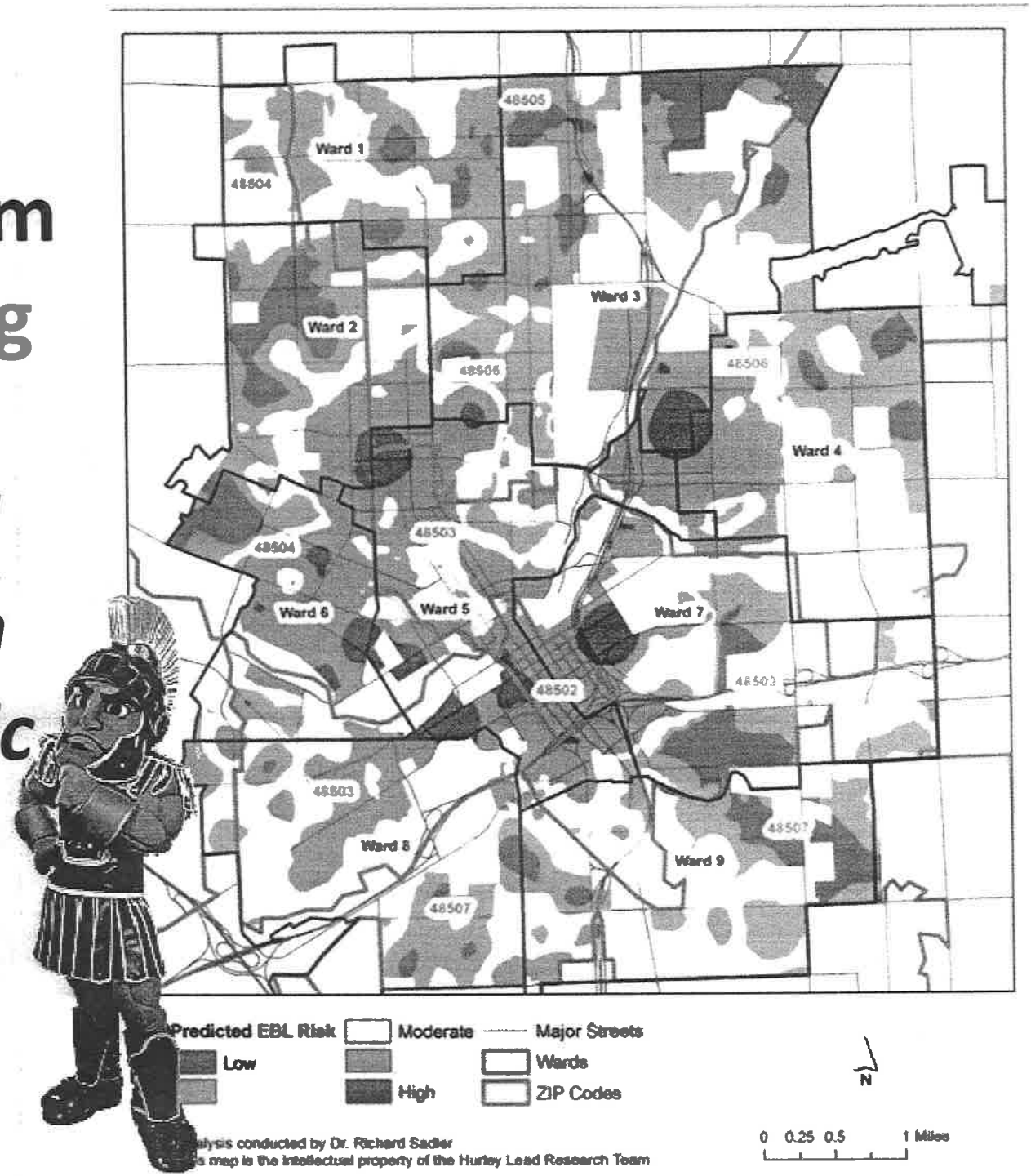
First Water Filter Distribution at UM-Flint 10/3/2015





MSU Lead Research Team Geo-mapping of EBL Risk

Embargoed information not for public release



Snyder announces $12-million plan to fix Flint water

By John Wisely, Detroit Free Press *7:38 p.m. EDT October 8, 2015*

683
69
13
34

(Photo: Ryan Garza, Detroit Free Pres)

STORY HIGHLIGHTS

- **Elevated lead levels found after Flint disconnected from Detroit water system**
- **Experts recommend Flint reconnect to Detroit until its new system is ready**
- **Chemistry of Flint River water blamed for corrosion of lead pipes and fixtures**

Gov. Rick Snyder said today that he has a plan to come up with the $12 million needed to reconnect Flint to the Detroit water system to address elevated lead levels.

Snyder said he will ask the Legislature for $6 million. The C.S. Mott Foundation, a Flint-based nonprofit founded by auto pioneer Charles Stewart Mott, has pledged another $4 million, and the City of Flint will provide the additional $2 million from its water and sewer fund.

10/8/15

"I'm in full support of the return to the Great Lakes Water Authority," Snyder said, referring to the new authority that was formed to manage Detroit's water system outside the city limits. "We all care about the citizens of Flint."

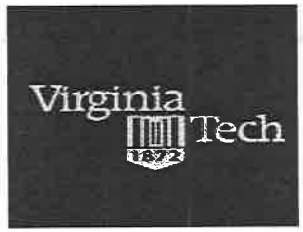
The announcement came following a report last week showing that the number of Flint children with elevated blood-lead levels — 5 micrograms per deciliter or more — jumped from 2.1% in the 20 months prior to Sept. 15, 2013, to 4.0% between Jan. 1 and Sept. 15 this year. In certain ZIP codes, the change was more drastic, jumping from 2.5% of the children tested to 6.3%.

The analysis was by Hurley Medical Center pediatrician Dr. Mona Hanna-Attisha.

State officials said today that three schools also tested positive for elevated lead levels, including Freeman Elementary School, where a sample showed a lead level of 101 parts per billion, almost seven times the level that requires remediation.

Flint has been battling problems with its municipal drinking water system for more than

Holiday Card from Dr. Marc Edwards



- **From:** "Marc Edwards" <edwardsm@vt.edu>
  Date: December 23, 2015 at 1:52:14 PM EST
  To: "'Valacak, Mark'" <MVALACAK@gchd.us>
  Subject: Well done.

In reading through the state e-mails now released on our website, I just wanted to reach out to you, and thank you for your assertive action to protect Flint children.

It is clear from reading the initial set of documents, that had you not pressured them to defend their conclusions with actual data, that they would have stalled for weeks and weeks.

I have seen it before. The stand your local community took was truly heroic. Eden even mentioned in her emails the "ransom note" that you sent her, and how it pressured them to come clean.

I was also happy to see a video, where you personally fought back against the state, characterizing Mona's approach to looking at the data as "slicing and dicing," and threw it back in their face.

My students did final project and that video of you was in one of them. I have thought about that video a lot over the last few days, and how I wish that in my 6 year battle with DC, that even one person had taken such a stand on behalf of quality science and public health. In any case, I did want to thank you for that as well. If I ever do write a book on the D.C. and Flint, that would be in there.

In any case, you do not know me, but I did just want to say well done, as well as "Happy Holidays."

- Marc

State's handling of Flint water samples delayed action

Paul Egan, Detroit Free Press 10:09 a.m. EST December 24, 2015

(Photo: Ryan Garza, Detroit Free Press)

LANSING — Lead levels in Flint's drinking water would have spurred action months sooner if the results of city testing that wrapped up in June had not been revised by the Michigan Department of Environmental Quality to wrongly indicate the water was safe to drink, e-mails show.

The records — obtained by the Michigan ACLU and by Marc Edwards, a Virginia Tech researcher who helped raise concerns about Flint's water — show how state officials first appear to have encouraged the City of Flint to find water samples with low lead levels and later told Flint officials to disqualify two samples with high readings. The move changed the overall lead level results to acceptable from unacceptable.

The e-mails also show that DEQ district coordinator Stephen Busch told the U.S. Environmental Protection Agency on Feb. 27 that Flint had "an optimized corrosion control program" to prevent lead from leaching into the drinking water from pipes, connections and fixtures. In fact, the city — disastrously — had no corrosion control program.

DETROIT FREE PRESS
When did state know kids in Flint were lead poisoned?

Why those DEQ officials took the actions they did is a question at the center of a tragedy that has left an unknown number of children and other Flint residents poisoned by lead, and has led to a federal lawsuit and calls for a U.S. Justice Department investigation. The questions surrounding the testing are in addition to the broader question of why Flint, which was under the control of a state-appointed emergency manager at the time, switched its drinking water source, starting in April 2014, from Lake Huron water supplied by Detroit to the much more polluted and corrosive water from the Flint River.

Brad Wurfel, a spokesman for DEQ Director Dan Wyant, declined to say Tuesday why

12/24/15

Snyder declares emergency as feds probe Flint water

Paul Egan, Detroit Free Press 10:10 a.m. EST January 6, 2016

1/6/16

5870
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174

Buy Photo

(Photo: Ryan Garza, Detroit Free Press)

LANSING — Gov. Rick Snyder declared a state of emergency for Flint and Genesee County Tuesday as a result of the contaminated drinking water crisis, on the same day the U.S. Attorney's Office confirmed it is investigating the contamination of Flint's drinking water supply.

Snyder's office issued a news release late Tuesday saying the governor made the declaration "due to the ongoing health and safety issues caused by lead in the city of Flint's drinking water" and activated the state Emergency Operations Center.

Flint's drinking water became contaminated with lead in 2014 after switching its supply source from Lake Huron to the more polluted and corrosive Flint River. The move — a cost-cutting measure while the city was under the control of a state-appointed emergency manager — resulted in a spike in lead levels in children, which causes permanent brain damage. A recent preliminary report from a task force appointed by Snyder placed most of the blame on the state Department of Environmental Quality and prompted the Dec. 29 resignation of DEQ Director Dan Wyant.

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

RICK SNYDER
GOVERNOR

BRIAN CALLEY
LT. GOVERNOR

PROCLAMATION

DECLARATION OF EMERGENCY

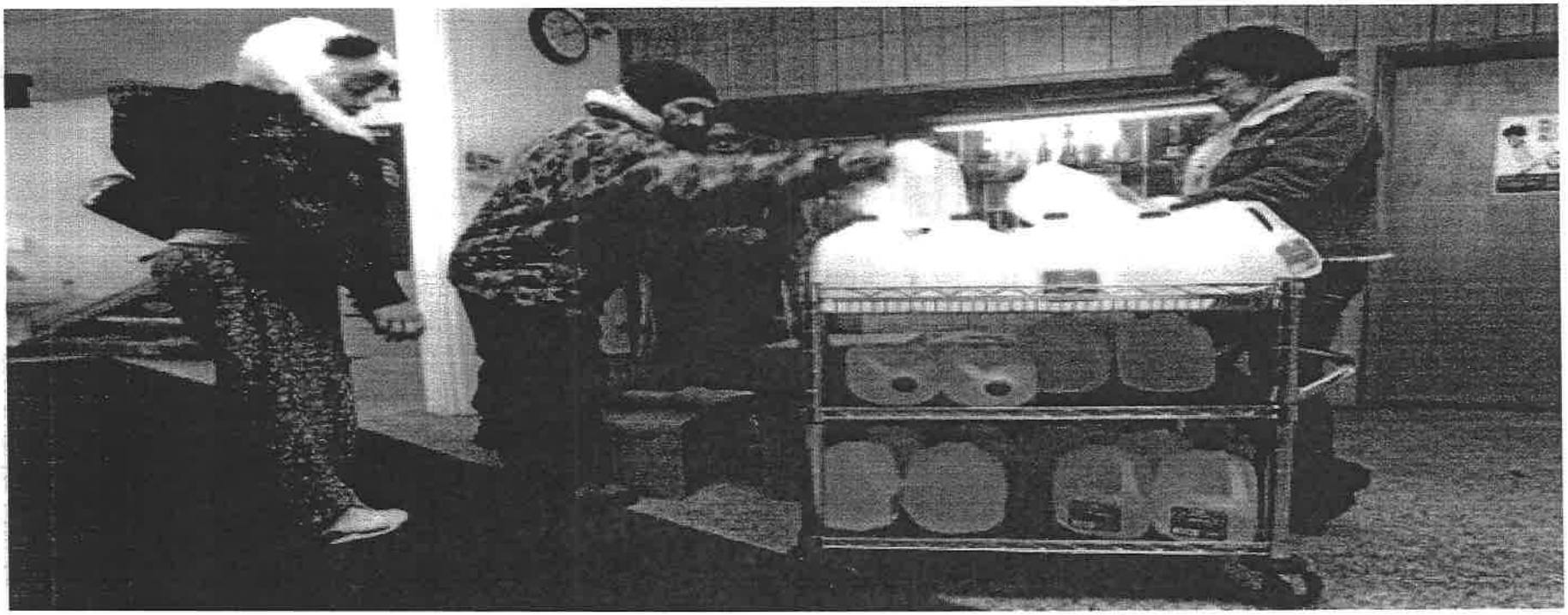
WHEREAS, Section 1 of Article V of the Michigan Constitution of 1963 vests the executive power of the state of Michigan in the Governor; and

WHEREAS, under the Emergency Management Act, Act No. 390 of the Public Acts of 1976, as amended, MCL 30.401 to 30.421, the Governor is responsible for coping with dangers to this state or the people of this state presented by a disaster or emergency or threat thereof, and may issue executive orders and proclamations, having the force and effect of law to implement the Act; and

U.S.

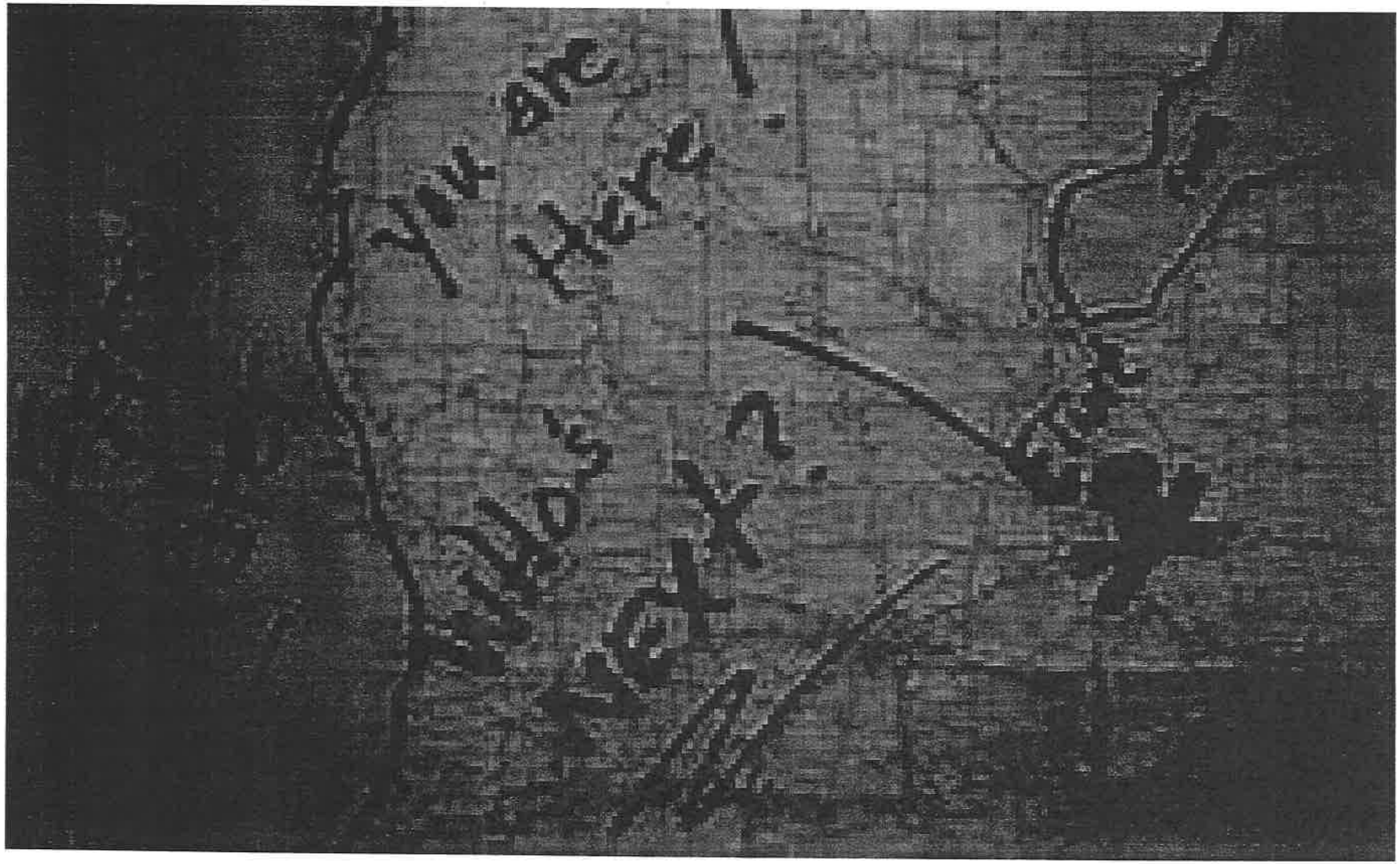
Calls For Arrest Of Michigan Governor As Poisoned Water Scandal Explodes

MintPress News Fri, Jan 8 3:02 AM PST



Calls for Michigan Governor Rick Snyder's ouster—and arrest—are growing after internal emails showed that his high-level staffers were aware of lead poisoning in Flint's public water supply six months before the administration declared a state of emergency. According to the newly-released emails, which were obtained by NBC News, Snyder's chief of staff at the time, Dennis Muchmore, wrote to an unnamed high-level health department staffer: "I'm frustrated by the water issue in Flint." "These folks are scared and worried about the health impacts and they are basically getting blown off by us (as a state we're just not sympathizing with their plight)," Muchmore wrote in the email, according to journalists ...

Questions?



We must be champions for "Health in All Policies"

WHAT IS HEALTH IN ALL POLICIES?

Health in All Policies is a collaborative approach to improving the health of all people by incorporating health considerations into decision-making across sectors and policy areas.

The goal of Health in All Policies is to ensure that decision-makers are informed about the health, equity, and sustainability consequences of various policy options during the policy development process. A Health in All Policies approach identifies the ways in which decisions in multiple sectors affect health, and how better health can support the goals of these multiple sectors. It engages diverse governmental partners and stakeholders to work together to promote health, equity, and sustainability, and simultaneously advance other goals such as promoting job creation and economic stability, transportation access and mobility, a strong agricultural system, and educational attainment. There is no one "right" way to implement a Health in All Policies approach, and there is substantial flexibility in process, structure, scope, and membership.

FLINT'S TOXIC TIMELINE

NEWS ARTICLE 1/28/16

The Water Industry HATES This Water Pitcher
Revolutionary device removes 99.99% of contaminants.
WATCH THE FREE VIDEO PRESENTATION HERE >>

Must Reads: Almond "Bloodbath" | 5 Heroes of Flint's Water Crisis | What Cruz Won't Tell You

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A Toxic Timeline of Flint's Water Fiasco

This is how a nightmare unfolds.

– By Julia Lurie (/authors/julia-lurie) | Tue Jan. 26, 2016 6:00 AM EST

Like Share 945 Tweet Email (/FORWARD?PATH=NODE/294726) 43 (#disqus_thread) (/PRINT/294726)

Flint residents pick up water and filters from a Red Cross center. *Jim West/ZUMA*

New twists emerge almost daily in the story of the water crisis in Flint, Michigan, where residents were left to drink, cook, and bathe in lead-contaminated water for 17 months as city and state officials insisted the water was safe. Here's a timeline of how things unfolded, which we'll update as significant new details come to light.

2014

April 25: To save money, Flint changes its municipal water source to the Flint River rather than the Detroit water system. The switch is overseen by state emergency manager Darnell Earley, who, like other emergency managers around the state, is able to override local policies in the name of "fiscal responsibility (http://www.motherjones.com/politics/2015/06/michigan-detroit-austerity-democracy-environment)."

City and state officials toast Flint's switch to Flint River water in April 2014. *Samuel Wilson/The Flint Journal/AP*

Summer: Residents begin complaining to local leaders about tainted, foul-smelling tap water—and health symptoms such as rashes and hair loss from drinking and bathing in it.

August/September: E. coli and coliform bacteria are found in the Flint water supply. The city instructs residents to boil tap water before drinking.

October 1: General Motors says it will stop using Flint River water in its plants after workers notice that the water corrodes engine parts.

2015

January 2: Flint issues an advisory warning that its water contains high levels of trihalomethanes, byproducts of water-disinfectant chemicals. Over time, these byproducts can cause kidney, liver, and nervous system damage. Sick and elderly people may be at risk, the advisory notes, but the water is otherwise safe to consume.

January 12: Detroit offers to reconnect Flint to its water system at no cost. Emergency manager Earley rejects the offer.

January 13: Gov. Rick Snyder names Jerry Ambrose as Flint's new emergency manager; Earley (http://www.mlive.com/news/detroit/index.ssf/2015/01/flint_em_darnell_earley_to_bec.html) is reassigned as emergency manager for the Detroit Public Schools.

January 21: Residents show up to a town hall meeting in droves, complaining that the water is causing myriad symptoms, from rashes and hair loss to vision and memory problems.

LeeAnne Walters shows water samples from her home to new emergency manager Jerry Ambrose at a January 2015 town hall meeting. *William Archie/Detroit Free Press/ZUMA*

February 3: Gov. Snyder awards Flint $2 million to improve its water system. In a memo to Snyder, state officials write, "It's clear the nature of the threat was communicated poorly. It's also clear that folks in Flint are concerned about other aspects of their water—taste, smell, and color being among the top complaints."

February 18: Lead levels of 104 parts per billion are found in the tap water of LeeAnne Walters (http://www.motherjones.com/politics/2016/01/mother-exposed-flint-lead-contamination-water-crisis), a Flint mother of four who demanded the city test her water after her kids showed troubling symptoms. There is no "safe" level of lead, but the threshold for the Environmental Protection Agency (EPA) to initiate an enforcement action is 15 ppb. The city offered to connect the Walters to a neighbor's home as a short-term plan. (Read more about Walter's fight here (http://www.motherjones.com/politics/2016/01/mother-exposed-flint-lead-contamination-water-crisis).)

February 25: Walters contacts Miguel Del Toral (http://www.aclumich.org/democracywatch/index.php/entry/corrosive-impact-leaded-water-and-one-flint-family-s-toxic-nightmare), a manager at the EPA's Midwest water division. She informs him that Flint isn't treating its water with standard corrosion controls—critical in an aging city like Flint—that prevent old pipes from leaching lead. Del Toral also learns that residents' taps are being pre-flushed for several minutes prior to sampling for city water tests.

February 27: Del Toral emails aides at the EPA and the Michigan Department of Environmental Quality (MDEQ) to relay his concerns. Flushing out the pipes before testing, he writes, "provides false assurance to residents about the true lead levels."

Godizlie Jackson marches at a protest on the first anniversary of the switch to Flint River water. *Sam Owens/The Flint Journal-MLive.com/AP*

March 3: Follow-up city tests, also using the pre-flushing technique, find lead levels of nearly 400 ppb—27 times the EPA action threshold—in the Walters' tap water. MDEQ blames the high lead level on the home's internal plumbing.

March 24: Ambrose, the new emergency manager, nixes a City Council vote to "do all things necessary" to switch back to the Detroit water system, calling the vote "incomprehensible (http://www.mlive.com/news/flint/index.ssf/2015/03/flint_emergency_manager_calls.html)."

March 27: Blood tests reveal that all of Walters' four children were exposed to lead, and that Gavin, four years old, has lead poisoning.

Councilman Wantwaz Davis
4thDownFilms/YouTube

April 6: In a Facebook post, City Council VP Wantwaz Davis accuses Gov. Snyder and emergency manager Ambrose of trying to commit "genocide" in Flint. Explaining himself to the *Flint Journal* (http://www.mlive.com/news/flint/index.ssf/2015/04/flint_councilman_claims_govern.html), Davis says, "I feel the emergency manager and governor should be held more accountable...I do believe maybe five, maybe 10 years from now, some people are going to contract a disease...they cannot ever get rid of."

June 24: Del Toral writes a memo (later leaked (http://flintwaterstudy.org/wp-content/uploads/2015/11/Miguels-Memo.pdf)) to the head of the EPA's drinking water division, calling Flint's lack of corrosion controls a "major concern."

April 28: Marc Edwards, a professor at Virginia Tech and an expert on lead corrosion, conducts new tests on the Walters' home without flushing the taps first and finds lead levels as high as 13,200 ppb—more than twice the level the EPA classifies as hazardous waste.

April 29: The state lifts Flint's "financial emergency" designation (http://michiganradio.org/post/exit-interview-flint-emergency-manager-terry-ambrose#stream/0) and Ambrose leaves the emergency manager position.

April: Del Toral writes to state aides, "Given the very high lead levels found at one home and the pre-flushing happening in Flint, I'm worried that the whole town may have much higher lead levels than the compliance results indicated."

May 6: An EPA report identifies two more homes with high lead levels.

Flint children protest bad water. *Danny Miller /The Flint Journal-MLive.com/AP*

July 1: Susan Hedman, director of the EPA's Midwest division, suggests that Del Toral's report was premature (http://www.detroitnews.com/story/news/politics/2016/01/12/epa-stayed-silent-flints-tainted-water/78719620/) and that an official version will be released "when the report has been revised and fully vetted by EPA management." When asked for status updates by the governor, MDEQ claims the lead problem is isolated to the Walters' home, and the Michigan Department of Health and Human Services (MHHS) responds that seasonal elevations in lead levels are to be expected.

July 22: Snyder's chief of staff emails (http://flintwaterstudy.org/wp-content/uploads/2016/01/MDHHS-FOIA-II-FINAL-For-Web.pdf) officials at MHHS: "I'm frustrated by the water issue in Flint...These folks are scared and worried about the health impacts and they are basically getting blown off by us."

August: Virginia Tech's Edwards says he and his students will begin testing Flint's water independently.

September 15: Edwards determines (http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html) that Flint River water is 19 times as corrosive (http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/) as Detroit tap water and estimates that one in six Flint homes

(http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/) have elevated lead levels. A MDEQ spokesman disputes the findings.

Marc Edwards explains his findings to Flint residents at a meeting. *HashtagFlint/YouTube*

September 24: Pediatrician/researcher Mona Hanna-Attisha goes public with her research showing that the percentage of Flint children under five years old with elevated blood lead levels has doubled, and in some cases tripled, since the change in water supply. MDEQ pushes back: Spokesman Brad Wurfel (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/) calls her findings "unfortunate" in a time of "near-hysteria" among residents. "When a state with a team of 50 epidemiologists tells you you're wrong," Hanna-Attisha later tells the *New York Times* (http://www.nytimes.com/2016/01/24/us/when-the-water-turned-brown.html), "how can you not second-guess yourself?"

September 25: Flint issues a lead warning, advising residents to drink and cook only with cold tap water, but still maintains that the water complies with federal standards. The governor's chief of staff emails his boss: "The MDEQ and [Department of Community Health] feel that some in Flint are taking the very sensitive issue of children's exposure to lead and trying to turn it into a political football."

October 2: A press release from Gov. Snyder's office: "The water leaving Flint's drinking water system is safe to drink, but some families with lead plumbing in their homes or service connections could experience higher levels of lead in the water that comes out of their faucets."

October 8: Lead is found at high levels in the drinking fountains of three Flint schools. Snyder announces that Flint will go back to buying water from Detroit. The city makes the switch about a week later.

LaShanti Redmond, 10, is tested for lead after school water fountains are to found contain toxic levels. *Jake May/The Flint Journal-MLive.com/AP*

October 19: "It recently has become clear that our drinking water program staff made a mistake while working with the city of Flint," MDEQ director Dan Wyant admits. "Simply stated, staff employed a federal protocol they believed was appropriate, and it was not."

November 16: Lawyers announce a class-action lawsuit (http://docs.nrdc.org/water/wat_15111601.asp) against city and state officials, including Snyder and Wyant, on behalf of Flint residents.

December 29: An independent task force created by Snyder to look into the crisis points fingers at MDEQ, calling its regulatory approach "minimalist" and "unacceptable." When residents and scientists raised concerns, "The agency's response was often one of aggressive dismissal, belittlement, and attempts to discredit these efforts and the individuals involved." MDEQ director Wyant and spokesman Wurfel resign.

2016

January 5: Snyder declares a state of emergency for Genesee County, home to Flint. The US Attorney's Office for the Eastern District of Michigan launches an investigation (http://www.cnn.com/2016/01/05/health/flint-

michigan-water-investigation/) into officials' handling of the crisis.

A poster uploaded to the MDEQ website in December 2015

January 7: The state's chief medical executive advises Flint residents to use only bottled or filtered water.

January 12: Snyder deploys National Guard troops to distribute bottled water and water filters to Flint homes. A day later, the governor announces that cases of Legionnaire's disease have spiked in Genesee County since Flint residents began drinking the river water—10 people in the county had died from the normally rare disease.

January 16: President Barack Obama declares a state of emergency in Flint, freeing up $5 million in federal relief.

January 17: Hillary Clinton brings up Flint at the Democratic debate. "I'll tell you what, if the kids in a rich suburb of Detroit had been drinking contaminated water and being bathed in it, there would've been action." Bernie Sanders goes further, saying Snyder should resign.

January 19: In a State of the State address, Snyder apologizes. "No citizen of this great state should endure this kind of catastrophe," he says. He pledges to release his office's emails about the Flint situation and does so the following day.

January 21: Hedman, the head of the EPA's Midwest division, resigns. EPA Administrator Gina McCarthy announces an investigation into the division's handling of the crisis. Obama announces (http://www.detroitnews.com/story/news/politics/2016/01/21/stabenow-obama-gives-million-flint/79134306/) that his administration will give $80 million in aid to Michigan, most of which will go towards the Flint crisis.

Genetha Campbell gets clean water from a Flint church. *Paul Sancya/AP*

January 22: Snyder adamantly denies (http://www.theguardian.com/us-news/2016/jan/22/flint-water-crisis-michigan-governor-says-environmental-racism-not-to-blame) suggestions that the Flint crisis was the result of environmental racism: "I've made a focused effort since before I started in office to say we need to work hard to help people that have the greatest need," he said.

January 24: *The Daily Beast (http://www.thedailybeast.com/articles/2016/01/24/exclusive-gov-rick-snyder-s-men-originally-rejected-using-flint-s-toxic-river.html)* reveals that in 2012, Ed Kurtz, then Flint's emergency manager, rejected using Flint River water based on conversations with MDEQ. It remains unclear why use of Flint River water was later authorized.

January 25: The state announces (http://www.detroitnews.com/story/news/local/michigan/2016/01/25/responders-reached-flint-bottled-water/79309910/) that Red Cross and National Guard teams have delivered bottled water to each Flint house twice, and that it will now dial back on the deliveries.

January 26: Ambrose, Flint's former emergency manager, resigns (http://www.lansingstatejournal.com/story/news/local/2016/01/25/former-flint-em-water-crisis-ties-leaves-lansing-post/79298054/) from his position on Lansing's Financial Health team.

January 27: A coalition of organizations and citizens, including the ACLU and Natural Resources Defense Council, file a lawsuit (http://www.aclumich.org/article/groups-file-federal-lawsuit-secure-safe-drinking-water-flint) asking federal court to step in to provide Flint with clean drinking water.

Share on Facebook (http://facebook.com/sharer.php?u=http://www.motherjones.com/environment/2016/01/flint-lead-water-crisis-timeline)

Share on Twitter (http://twitter.com/home?status=A toxic timeline of Flint's water fiasco http://www.motherjones.com/environment/2016/01/flint-lead-water-crisis-timeline via @Mo

VIRGINIA TECH

FINDINGS

Henry, James

From: Henry, James
Sent: Friday, November 6, 2015 9:46 AM
To: 'MVALACAK@gchd.us'; Brickey, Tamara; LaRocco, Toni; Swartout, April; 'scupal@gchd.us'; Stickler, Lisa; Hallwood, Dawn; McShane, Hilda
Subject: Flint Water

I'm just sharing. Keep in mind the source of the flintwaterstudy article. Although Mark Edwards, Virginia Tech has painted the worst picture possible, there has not been valid arguments to discredit his findings. It is becoming tough to want to get involved with MDEQ regarding the sampling at schools, but they couldn't chase me away now if they tried.

http://www.mlive.com/news/flint/index.ssf/2015/11/legislators_call_for_investiga.html#incart_river_home

http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/

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Genesee County
Health Department

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Menu

COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis

September 30, 2015 (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/) Siddhartha Roy (http://flintwaterstudy.org/author/flintwaterstudy/) Articles (http://flintwaterstudy.org/category/articles/)

As results of collaborative research with Flint residents (http://flintwaterstudy.org/about-page/collaborators-and-outreach-partners/)exposed widespread problems with elevated levels of lead in Flint's water (http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/), the Michigan Department of Environmental Quality (MDEQ) repeatedly attempted to discredit our findings and downplay the public health threat. For example, MDEQ's Communications Director Brad Wurfel wrote to The Flint Journal's Ronald Fonger:

> ***"...the state DEQ is just as perplexed by Edwards' results as he seems to be by the City's test results. When I said we were unsure how the Virginia Tech team got its results, that's not the same as being surprised that they got them. ...this group specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be surprised when the rabbit comes out of the hat, even if they can't figure out how it is done.....while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don't need more of that."***

Now that Dr. Mona Hanna-Attisha (http://www.mlive.com/news/flint/index.ssf/2015/04/director_of_hurleys_pediatric.html) and Hurley Medical Center researchers have revealed that the rising levels of lead in Flint water have been associated with increased blood lead of Flint's children (http://flintwaterstudy.org/2015/09/pediatric-lead-exposure-presentation-from-hurley-medical-center-doctors-concerning-flint-mi/), our early health advice has been vindicated by most accounts. But MDEQ still dismisses the water controversy as "near-hysteria," (http://www.crainsdetroit.com/article/20150928/NEWS01/150929872/doctors-urge-flint-to-stop-using-water-from-flint-river) and characterizes the Hurley study conclusions as ***"unfortunate"*** if not quite ***"irresponsible."***

Given MDEQ's insistence that there is absolutely nothing wrong with Flint water, we have created a timeline that illustrates how MDEQ's mistakes and deception created the Flint Water Crisis in the first place. Our analysis relies on e-mails and documents obtained through Freedom of Information Act (FOIA) requests by the American Civil Liberties Union-Michigan (ACLU of Michigan) and FlintWaterStudy.org.

All FOIA documents are provided at the end of this article for review.

Phase 1. MDEQ Fails to Require Corrosion Control for Flint River Water (April 2014)

Effective July 1998, the federal Lead and Copper Rule (LCR) has required that all large public water systems maintain a program to control levels of lead in drinking water from corrosion. Moreover, the law also requires the City of Flint to have a state approved plan, with enforceable regulatory limits for "Water Quality Parameters" including pH, alkalinity and/or corrosion inhibitor dose measured in the water distribution system.

MDEQ never required Flint to have a corrosion control program, nor did it set water quality parameters for the new Flint River source water. While MDEQ asserts that they are acting proactively to get a corrosion control program in Flint, (http://flintwaterstudy.org/2015/09/mdeq-to-congressman-kildee-sen-ananich-and-state-reps-city-has-no-unresolved-violations-of-state-and-federal-drinking-water-standards/)there is no provision in the LCR that allows for corrosion control to ever be interrupted.

As a direct result of this mistake, Flint residents have been completely unprotected from elevated lead in water from the moment the switch to Flint River water was made. This has created a conflict of interest for MDEQ ever since. Specifically, MDEQ's failure to require a corrosion control program is what created the Flint water crisis in the first place–they now have a vested interest in covering up the problem.

Phase 2. MDEQ misinforms the USEPA about Flint's Corrosion Control (February-March 2015)

Even if we assume MDEQ was confused about its obligations under the LCR, when problems with high lead started to crop up in February 2015, they should have quickly acted to correct the mistake. Samples with high lead were reported at the University of Michigan-Flint Campus (http://www.mlive.com/news/flint/index.ssf/2015/02/water_testing_at_um-flint_show.html), and on February 26, 2015 Mike Glasgow (City of Flint) did excellent detective work discovering high lead (over 100 ppb) in water samples from Flint resident Lee-Anne Walters' home.

Ms. Walters immediately forwarded her results to representatives of USEPA Region 5, who in turn immediately forwarded the results to Stephen Busch and Mike Prysby (MDEQ) with the subject line **"HIGH LEAD: FLINT Water testing Results"** The EPA e-mail correctly informed MDEQ that Ms. Walters' high lead was likely due to ***"... the different chemistry water...leaching out contaminants from the insides of...the pipes."*** But MDEQ denied to EPA that that Flint had a lead in water problem.

At that point, EPA Region 5 lead-in-water expert Miguel Del Toral asked MDEQ a question through another EPA employee:

> ***"Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment-is it Phosphates?"***

On February 27th, 2015, MDEQ's Stephen Busch unequivocally and falsely responded to EPA that:

> ***"The City of Flint...Has an Optimized Corrosion Control Program <and> Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results."***

Reassured by MDEQ's false statement, Del Toral ended USEPA's February conversation with MDEQ by stating:

> ***"If I remember correctly, Detroit is feeding PO4 for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their <Optimal Corrosion Control> was. They are required to have <Optimal Corrosion Control> in place which is why I was asking what they were using."***

On March 18, 2015, Lee-Anne Walters' home was retested after flushing her system thoroughly. This time the test result came back even worse with 397 ppb lead– almost 40 times higher than the World Health Organization 10 ppb safety threshold. EPA Region 5 forwarded the results to MDEQ, with a query ***"Any thoughts on how to respond to her? I'm running out of ideas."***

MDEQ's response, delivered in a voicemail to Del Toral on March 19, 2015, stated that ***MDEQ had investigated and found Ms. Walters' high lead was due to lead sources in her plumbing.*** On March 27, 2015, Walters' son, who had been having health problems, was

tested for lead in his blood. The blood lead results came back high– well over the 5 ug/dL CDC threshold of concern.

Phase 3. Walters and Del Toral Investigate the Veracity of MDEQ Statements (April to June 2015)

With good reason, Lee-Anne Walters did not accept the MDEQ's explanation to Del Toral for the high lead in her water. The internal plumbing had been stolen from the house before it was purchased, and they had installed new (lead free) plastic plumbing before moving in.

Walters also checked up on the MDEQ statement that Flint had "an Optimized Corrosion Control Program." She called the City of Flint, and city officials correctly informed her that there was no program at all.

Walters then passed this alarming information along to EPA's Del Toral, who on April 23rd e-mailed MDEQ, and again asked what corrosion control program Flint was using. It was only then that MDEQ finally acknowledged that there was NO program. Concerned due to the very high occurrence of lead service lines (LSLs) in Flint, on April 27th Del Toral wrote an EPA Region 5 internal e-mail stating:

> ***"Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City."***

That night Del Toral also stopped at Walters' house on a trip north, and personally inspected her plumbing first hand. He confirmed it was plastic and lead-free. Del Toral also dropped off sample bottles at the Walters' home, and told her that if she wanted an analysis to contact Professor Marc Edwards (the author of this article and Principal Investigator of FlintWaterStudy.org) at Virginia Tech.

The next morning Edwards talked Walters through an intensive 30 bottle sampling protocol. When the bottles were returned to Virginia Tech and analyzed, Edwards and his senior research scientist Dr. Jeff Parks were stunned by the results (http://flintwaterstudy.org/2015/08/hazardous-waste-levels-of-lead-found-in-a-flint-households-water/). The average lead in was 2,429 ppb lead, the high was 13,200 ppb, and even after 25 minutes flushing the water never dropped below 200 ppb. After

Walters told Del Toral about the high lead results, he drove back to Flint, just in time to observe the City replacing the service line to Walters' home. He personally collected a sample of the pipe and verified it to be pure lead.

In a follow-up memo dated June 24, 2015 (http://www.aclumich.org/sites/default/files/file/EPAWaterReport062415.pdf), which was sent to both Walters and Edwards, Del Toral outlined numerous concerns about the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control.*

Phase 4. MDEQ "Handles" the LCR Report, ACLU-Michigan, Virginia Tech and Miguel Del Toral (July to August 2015)

> **"Revising" the Original LCR Report.** In spite of all the problems documented with lead in Flint water from February to June 2015, Flint and MDEQ took a lackadaisical approach to the federally required LCR sampling program. Specifically, just 5 days before the June 30th deadline to collect the 100 samples that MDEQ required, the City had only collected 39 samples.

Adam Rosenthal (MDEQ) e-mailed Mike Glasgow at the City of Flint:

> ***"We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results, Flint's 90th percentile is over the AL for lead."***

In the next five days the City collected 30 samples, all of which were below the action level, and did not reach the 100 sample target. If all 71 collected samples were counted, the City would have exceeded the 15 ppb action level. *Federal law would then require that Flint residents be provided information about how to protect themselves and their children from lead in water. MDEQ's failure to install corrosion control would have been flagged as an obvious mistake. But none of that happened.*

Instead, the MDEQ "revised" the City's original LCR report, invalidating two high lead results, and as a result the 90%'ile was under the 15 ppb action level. But validity of the samples that had low lead in Flint's water was never questioned. This is a problem, because the City has now admitted that they do not know which homes had lead pipe,

(https://www.youtube.com/watch?v=LTO9irD2f0Y)even though it is stated in writing in the report that all sampled homes had lead pipe. By law, at least 50 percent of the homes sampled must be verified to have lead pipe, and the remainder of homes sampled must have been built before 1986 and known to have lead solder. There is no basis for believing that this requirement was met in either the 2014 or 2015 LCR sampling events conducted by the City. Hence, the City of Flint has not had a valid LCR sampling event since the switch to Flint River water.

MDEQ then lowered the minimum number of required samples from 100 to 60, making it look like the City of Flint had met their target. MDEQ also did not question the City's open acknowledgement that homes from 2014 had not been re-sampled, or that high risk (Tier 1) sites were not used. The original report, due July 10th, was also late by several weeks. All of these violations of federal law were glossed over, to make it appear that the City had passed its lead testing with flying colors. Just like that, according to MDEQ at least, the City of Flint had no LCR violations at all.

> **ACLU-Michigan FOIA.** The timing by which the "revised" LCR report was created, is also of interest. On July 22, 2015, the ACLU-Michigan submitted a FOIA to MDEQ, requesting the City of Flint's LCR report supposedly due on July 10, 2015. The City's original LCR report with all the obvious problems dated July 28, 2015 was late as mentioned earlier. But MDEQ never provided the ACLU-Michigan with the original LCR report. Instead, they created a scrubbed revised report on August 20, 2015, and sent that report to ALCU-Michigan (from the City of Flint) the next day. In the comments section of the report, Flint openly states ***"Revised report after conference call with DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples was reduced to 60."***

> **MDEQ to FlintWaterStudy FOIA: What conference call?** On September 9, 2015, Virginia Tech submitted a FOIA to MDEQ explicitly requesting records and minutes of the conference call between DEQ staff and Flint cited in the revised LCR report. This FOIA request has been denied by MDEQ, because ***"Your request does not include the date/time of the conference call and who from the Department of Environmental Quality participated on the conference call."*** FlintWaterStudy immediately appealed the withholding of documents related to the conference call to the State of Michigan. On September 28th, our appeal was denied. If we do not like the decision, the State says our only recourse is to initiate a lawsuit.

> **Handling Miguel Del Toral.** MDEQ obviously had a major problem on its hands with EPA's lead-in-water expert Miguel Del Toral. On August 4th 2015, Lee-Anne Walters and Melissa Mays met with MDEQ officials to discuss Flint's lead in water problems. The MDEQ officials participating in the meeting were identified by Mays and Walters, as Liane Shekter-Smith (Chief of the Office of Drinking Water and Municipal Assistance), Stephen Busch and Brad Wurfel.

According to Walters and Mays, Shekter-Smith bragged that ***"Mr. Del Toral has been handled,"*** and that Flint residents would not be hearing from him again. Moreover, MDEQ asserted that Mr. Del Toral's interim memo detailing the many problems with Flint's (non-existent) corrosion control program ***"would never be finalized."*** Just yesterday, NPR released a slightly different (http://www.npr.org/2015/09/29/444497051/high-lead-levels-in-michigan-kids-after-city-switches-water-source), but enlightening version of Wurfel's take on Del Toral and the memo:

> ***MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee," and promised the final report — not yet released — would tell a much different story.***

Mays and Walters vividly recall Wurfel, smirking and laughing, whenever they expressed concern about elevated lead in Flint's water. Looking back on the exchange yesterday, Mays stated ***"It is shocking how their refusal to admit they made a mistake, trumped the dangers their actions pose to Flint's children."***

Angered, Lee-Anne Walters then called Edwards, and informed him that Del Toral would no longer be working on Flint water issues, and the two discussed the clear implication that EPA bureaucrats had intervened to prevent Del Toral from further exposing MDEQ's numerous blunders and the health threat to Flint residents. She further stated that ***"It is too late for my son, but I will not stand by and let this happen to another other innocent child in Flint."***

Clearly, the MDEQ, City of Flint and even the USEPA (with the obvious exception of Del Toral) have proved themselves unworthy of the public trust. Flint residents have been left to fend for themselves, when it comes to dealing with the dangers of high lead in their water.

FlintWaterStudy was launched an hour after the phone call from Ms. Walters, to help the citizens of Flint deal with the lead-in-water crisis that MDEQ created, and to correct false statements from uncaring agencies that have left Flint's children in harm's way.

FOIA Documents:

Emails between MDEQ, USEPA, and Ms. LeeAnne Walters:

Summary of MDEQ and City of Flint Freedom of Information Act (FOIA) Requests by:

American Civil Liberties Union-Michigan (Curt Guyette)

FLINTWATERSTUDY.ORG (Marc Edwards)

Red emphasis added by FLINTWATERSTUDY.org

On Thu, Feb 19, 2015 at 12:47 PM, Michael Glasgow <mglasgow@cityofflint.com> wrote:
Lee & Dennis,

Here is a list of test results from water sampled at your home over the last 2 weeks. I have sent in your lead and copper sample, and also a sample from the toilet tank for manganese. I should hopefully have results from this testing early next week. I'll plan on stopping over on Wednesday (the 25th) around 10 am again to give you these results & sample again.

Mike

From: Lea Moste [mailto:lwalters313@gmail.com]
Sent: Thursday, February 26, 2015 9:08 AM
To: Crooks, Jennifer
Subject: Fwd: Re: Water testing Results

---------- Forwarded message ----------
From: "Michael Glasgow" <mglasgow@cityofflint.com>

Download (PDF, 169KB) (http://flintwaterstudy.org/wp-content/uploads/2015/09/MDEQ-and-City-of-Flint-Emails-and-Timeline-FOIA.pdf)

Original LCR Report from City of Flint to MDEQ:

Original LCR Report. Red highlights from Flintwaterstudy

N DEPARTMENT OF ENVIRONMENTAL QUALITY
F DRINKING WATER AND MUNICIPAL ASSISTANCE

DRAFT DEQ

AND COPPER REPORT AND
ONSUMER NOTICE OF LEAD RESULT
CERTIFICATE FOR COMMUNITY WATER SUPPLY

Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
2. County: Genesee 3. WSSN: 2310
4. Population: 99,763 5. Monitoring Period: From: 1/1/15 To: 6/30/15
6. Minimum # of Samples Required: 100 60 7. # of Samples Taken: 71 ~~72~~ 67
8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.	
☐	☒	a. Are the same sampling points used as in the previous monitoring period?	
☐	☒	b. Are all samples from Tier 1 sites?	For more information see *Instructions* paragraph 11, subparagraph "Sample
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?	
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?	
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?	

Download (PDF, 94KB) (http://flintwaterstudy.org/wp-content/uploads/2015/09/ORIGINAL-LCR-REPORT-FLINT-2015.pdf)

Revised LCR Report from City of Flint to MDEQ:

FLINTWATERSTUDY and ACLU-MICHIGAN FOIA
Red highlights from FLINTWATERSTUDY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

LEAD AND COPPER REPORT AND
CONSUMER NOTICE OF LEAD RESULT
CERTIFICATE FOR COMMUNITY WATER SUPPLY

Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
2. County: Genesee 3. WSSN: 2310
4. Population: 99,763 5. Monitoring Period: From: 1/1/15 To: 6/30/15
6. Minimum # of Samples Required: 60 7. # of Samples Taken: 69
8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.	
☐	☒	a. Are the same sampling points used as in the previous monitoring period?	For more information see *Instructions* paragraph 11, subparagraph "Sample Category."
☐	☒	b. Are all samples from Tier 1 sites?	
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?	
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?	
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?	

Download (PDF, 357KB) (http://flintwaterstudy.org/wp-content/uploads/2015/09/Revised-LCR-Report-Flint-2015-9-30-2015.pdf)

FlintWaterStudy.org's FOIA Appeal Denied:

From: DEQFOIA [mailto:DEQFOIA@michigan.gov]
Sent: Thursday, September 10, 2015 1:08 PM
To: Marc Edwards (edwardsm@vt.edu)
Subject: Request for Disclosure of Official Files

Mr. Marc Edwards
Virginia Tech
407 Durham Hall
Blacksburg, VA 24061

Dear Mr. Edwards:

SUBJECT: Request for Disclosure of Official Files

This written notice is issued in response to your request for information under the Freedom of Information Act, 1976 PA 442, as amended (FOIA), which was received by this office on September 9, 2015. You have requested the following information: Flint lead in water: original Flint LCR report which prompted a conference call with DEQ staff, that caused Flint to revise their report, EPA employee Miguel Del Toral, need for corrosion control in Flint River, etc. (FOIA 6429-15).

The purpose of the FOIA is to provide the public with access to existing, nonexempt public records of public bodies. Section 3(1) of the FOIA requires that a requesting person's written request must describe a public record sufficiently to enable the public body to find the public record. **Your request does not include the date/time of the conference call and who from the Department of Environmental Quality participated on the conference call.**

Download (PDF, 15KB) (http://flintwaterstudy.org/wp-content/uploads/2015/09/FOIA-APPEAL-DENIED-MDEQ.pdf)

Primary Author: Dr. Marc Edwards

Acknowledgements: Curt Guyette, LeeAnne Walters, Melissa Mays, Siddhartha Roy

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(http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?share=google-plus-1&nb=1)

Related

Resignations Are Justified: Michigan Children Would Never Be Safe Without Culture Change at MDEQ (http://flintwaterstudy.org/2015/12/are-justified-michigan-children-would-never-be-safe-without-culture-change-at-mdeq/)

Guide to FlintWaterStudy.org (http://flintwaterstudy.org/2016/01/to-flintwaterstudy-org/)
January 14, 2016
In "Articles"

Commentary: EPA Office of Water weighs in on MDEQ's illegal actions in Flint, fulfills MDEQ prophecy (http://flintwaterstudy.org/2015/11/epa-office-of-water-weighs-in-on-mdeqs-illegal-actions-in-flint-fulfills-mdeq-prophecy/)

December 30, 2015
In "Articles"

November 17, 2015
In "Articles"

Public Health Advisory regarding Lead in Flint Water from the Genesee County Board of Commissioners, Health Dept and City of Flint (http://flintwaterstudy.org/2015/09/public-health-advisory-regarding-lead-in-flint-water-from-the-genesee-county-board-of-commissioners/)

Listen to the NPR Story on Flint Water (http://flintwaterstudy.org/2015/10/listen-to-the-npr-story-on-flint-water/)

20 thoughts on "**COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis**"

Allison MacArthur-Ruesink
October 2, 2015 at 10:01 am (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-265)

The MDEQ is rife with corruption. Rogue Employee?! BS!! I guarantee this employee is one of the few who are doing their job and trying to protect Michigan's Citizens. Brad Wurfel is lying as is Liane Schecter.
Employees who speak out are harassed mercilessly and even worse as in my case. When I did not voluntarily retire MDEQ Jon E. Russell conspired to fabricate a case to get rid of me!! I took a polygraph from Forensic Polygraph Services (Mr. Neil Myers) to prove I was telling the truth but Michigan's corrupt Attorney General Bill Schuette and his equally corrupt Assistant AG Joseph Yung-Kung Ho (P-77390) have denied me any measure of Justice!! It is not a coincidence that the Judge involved with my case Thomas Wilson Jackson County Michigan used to work for the AG's Office. Everything was filed in a timely manner!! The MDEQ have even refused my receiving copies of my OWN PERSONNEL FILE! This is Michigan's way of saying "Thanks for 30 years of Service"

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=265#respond)

Criminal Waters By Shea Howell | The Boggs Blog (https://conversationsthatyouwillneverfinish.wordpress.com/2015/10/04/criminal-waters-by-shea-howell/)
October 4, 2015 at 11:32 am (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-301)

[...] recent report on this shameful history [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=301#respond)

Michigan governor grudgingly admits Flint water danger | Michigan News Feed (http://www.minewsfeed.com/flint/michigan-governor-grudgingly-admits-flint-water-danger/)
October 4, 2015 at 3:16 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-304)

[...] Flint Water Study commentary antiquated Sep 30, patrician "MDEQ Mistakes and Deception Created a Flint Water Crisis," cites [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=304#respond)

Investigation of MDEQ's new "Corrosion Control" claim reveals more deception and incompetence: Where is the EPA? | Flint Water Study Updates (http://flintwaterstudy.org/2015/10/investigation-of-mdeqs-new-corrosion-control-claim-reveals-more-deception-and-incompetence-where-is-the-epa/)
October 4, 2015 at 11:53 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-312)

[...] nothing MDEQ says should be believed. First, Flint residents had to determine on their own that MDEQ's written assertion of "optimal corrosion control" was false, after children's blood lead was elevated from drinking the water. When confronted, [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=312#respond)

SafeWater4Flint Fundraising Update and Thank You! | Flint Water Study Updates (http://flintwaterstudy.org/2015/10/safewater4flint-fundraising-update/)
October 6, 2015 at 2:49 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-336)

[...] issues of accountability in the Flint water crisis are "relatively complex" considering what we and ACLU-Michigan have uncovered, we at least hope to see a speedy resolution to this "public health emergency" in the [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=336#respond)

The fight for clean water in Flint, Mich. | Michigan News Feed (http://www.minewsfeed.com/flint/the-fight-for-clean-water-in-flint-mich/)
October 8, 2015 at 9:43 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-389)

[...] a MDEQ tested a H2O after a switch to a Flint River, and pronounced it was fine. But there were problems with those tests, residents and researchers [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=389#respond)

New Freedom of Information Act (FOIA) request documents answer our earlier question: Where is the US EPA? | Flint Water Study Updates (http://flintwaterstudy.org/2015/10/new-freedom-of-information-act-foia-request-documents-answer-our-earlier-question-where-is-the-us-epa/)
October 19, 2015 at 9:04 am (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-705)

[...] While it is true that no one gets up in the morning intending to lead poison children, we previously argued that the agencies who created the Flint drinking water crisis worked awfully hard covering up their incompetence and F... [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=705#respond)

Virg Bernero (then MI State Senator) Proposes a Lead-Safe Drinking Water Action Plan for Michigan...back in 2005 | Flint Water Study Updates (http://flintwaterstudy.org/2015/10/virg-bernero-then-mi-state-senator-proposes-a-lead-safe-drinking-water-action-plan-for-michigan-back-in-2005/)
October 25, 2015 at 9:29 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-941)

[...] In 2004, Dr. Marc Edwards was invited to work in Lansing by Virg Bernero, after the water utility had been caught cheating on their Lead and Copper Rule monitoring requirements. By manipulating the sampling, a failing lead in water report had been turned into a passing one. Sound familiar? [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=941#respond)

Lead-Safe Drinking Water Action Plans Proposed for Michigan and the U.S. in 2005: Derailed by "scientifically indefensible" U.S. Centers for Disease Control Report | Flint

Water Study Updates (http://flintwaterstudy.org/2015/10/lead-safe-water-action-plan-michigan-us-2005-derailed-scientifically-indefensible-cdc-report/)
October 25, 2015 at 9:39 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-942)

[...] In 2004, FLINTWATERSTUDY's Dr. Marc Edwards was asked by (then MI State Senator) Virg Bernero to assist on a lead-in-water problem in Lansing, MI. The city's water utility had been caught cheating on their Lead and Copper Rule monitoring requirements by manipulating the sampling — their failing lead-in-water report grade was changed into a passing grade. Sound familiar? [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=942#respond)

Lead-Safe Drinking Water Action Plans Proposed for Michigan and the U.S. in 2005: Derailed by "scientifically indefensible" U.S. Centers for Disease Control Report | Flint Water Study Updates (http://flintwaterstudy.org/2015/10/lead-safe-water-action-plan-michigan-us-2005-derailed-scientifically-indefensible-cdc-report/)
October 25, 2015 at 9:39 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-943)

[...] In 2004, FLINTWATERSTUDY's Dr. Marc Edwards was asked by (then MI State Senator) Virg Bernero to assist on a lead-in-water problem in Lansing, MI. The city's water utility had been caught cheating on their Lead and Copper Rule monitoring requirements by manipulating the sampling — their failing lead-in-water report grade was changed into a passing grade. Sound familiar? [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=943#respond)

Dr. Yanna Lambrinidou's Dissenting Opinion on the Upcoming Lead and Copper Rule (LCR) Long-Term Revisions | Flint Water Study Updates (http://flintwaterstudy.org/2015/11/dr-yanna-lambrinidous-dissenting-opinion-on-the-upcoming-lead-and-copper-rule-lcr-long-term-revisions/)
November 8, 2015 at 10:09 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-1340)

[...] without any lead plumbing, and b) involved a sampling protocol known to underestimate lead release, the 71 samples that the City of Flint submitted to MDEQ still failed to meet the LCR. The reason Flint's water was declared in compliance with federal standards was because MDEQ took [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=1340#respond)

Is Flint Water Compliant? « cdmbox.com (http://michiganpoolnews.com/mobile/?p=1204)
November 13, 2015 at 5:05 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-1426)

[...] any lead plumbing, and b) involved a sampling protocol known to underestimate lead release, the 71 samples that the City of Flint submitted to MDEQ still failed to meet the LCR. The reason Flint's water was declared in compliance with federal standards was because MDEQ took [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=1426#respond)

Improving Science Communication with Better Mass Media, Social Media, and Rhetorical Practices – Applied Communication at UM-Flint (http://www.appliedcommunication.org/?p=114)
December 9, 2015 at 11:06 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-2548)

[...] public. Often this need is of an urgent nature, as was shown by the 2014 Ebola breakout, the 2015 lead in water crisis in Flint, Michigan, and climate change. In such instances, members of the public need life-saving information as [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=2548#respond)

[Commentary] When will we be able to say that Flint's water is "safe" to drink again, and lift the water emergency? | Flint Water Study Updates (http://flintwaterstudy.org/2015/12/commentary-when-will-we-be-able-to-say-that-flints-water-is-safe-to-drink-again-and-lift-the-water-emergency/)
December 18, 2015 at 3:27 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-3024)

[...] Of course, to our knowledge MDEQ has never acknowledged that Flint water was unsafe in the first place, and they continue to illustrate their complete ignorance of the problem by blaming every high lead result on bad plumbing. This is an extension of their prior argument that the high lead in Ms. Walters' home was the fault of her plumbing, which later proved false because EPA found her pipes were all plastic. [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=3024#respond)

Citations for the December 18, 2015 TRMS – The Trumpiest (http://www.trumpiest.com/citations-for-the-december-18-2015-trms/)
December 19, 2015 at 1:47 am (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-3070)

[...] COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=3070#respond)

Michigan Health Department Hid Evidence of Health Harm Due to Lead Contaminated Water: Allowed False Public Assurances by MDEQ and Stonewalled Outside Researchers | Flint Water Study Updates (http://flintwaterstudy.org/2015/12/michigan-health-department-hid-evidence-of-health-harm-due-to-lead-contaminated-water-allowed-false-public-assurances-by-mdeq-and-stonewalled-outside-researchers/)
December 21, 2015 at 12:38 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-3207)

[...] other words, Dykema and DHHS started out their investigation with demonstrably false MDEQ talking points as assumptions. Nonetheless, a team of researchers proceeded to examine their data for possible increased [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=3207#respond)

Some Common Misunderstandings of Flint's Water Lead Problem | Flint Water Study Updates (http://flintwaterstudy.org/2015/12/some-common-misunderstandings-of-flints-water-lead-problem/)
December 28, 2015 at 12:59 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-3515)

[...] Fact: MDEQ violated the letter and spirit of the Federal Lead and Copper Rule in at least 3 different way... On the heels of excellent reporting by ACLU-Michigan, the City of Flint itself acknowledges it did not sample enough of the required homes with lead pipe. Simply put, Flint has not had a legal EPA water lead sampling event since switching to Flint River (and possibly even before that). [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=3515#respond)

Resignations Are Justified: Michigan Children Would Never Be Safe Without Culture Change at MDEQ | Flint Water Study Updates

(http://flintwaterstudy.org/2015/12/resignations-are-justified-michigan-children-would-never-be-safe-without-culture-change-at-mdeq/)
December 30, 2015 at 1:20 am (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-3540)

[...] As documented previously, Flintwaterstudy.org was conceived and launched after an August 4th phone call that we received from a distraught Lee-Ann.... [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=3540#respond)

Bottom Lines in the Flint River | Fen Valley Earth First!
(https://fenvalleyearthfirst.wordpress.com/2016/01/12/bottom-lines-in-the-flint-river/)
January 12, 2016 at 11:41 am (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-4005)

[...] of FOIA requests would be filed by not only the Michigan ACLU, but also by a politician and other organizations. Although MDEQ attempted to cover it all up the results from the answered FOIA's as well as the [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=4005#respond)

The poisoning of a city - Mashable | KWOTABLE
(http://kwotable.com/wordpress/2016/01/24/poisoning-city-mashable/)
January 24, 2016 at 11:45 pm (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/#comment-4875)

[...] group specializes in looking for high lead problems," Wurfel, the MDEQ spokesman, reportedly told a local journalist. "They pull that rabbit out of that hat everywhere they go. Nobody should be [...]

Reply (http://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/?replytocom=4875#respond)

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REDDIT AMA WITH THE FLINT WATER STUDY TEAM

reddit

Hosted: Dec 17, 2015 10.00-11.30 am EST

Focus: **The Flint, MI Water Crisis**

Go to the AMA here!
(https://www.reddit.com/r/IAmA/comments/3x7wr7/flintwaterstudy_the_independent_research_team/)

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FUNDRAISING CAMPAIGN TO BUY LEAD FILTERS FOR FLINT RESIDENTS

We thank the **68** generous contributors who helped raise **$4,345** through our **SafeWater4Flint** fundraising campaign.The funds have been donated to the United Way of Genesee County (http://www.unitedwaygenesee.org/civicrm/contribute/transact?reset=1&id=5) who are spearheading filter distribution in Flint. You can donate directly to United Way on their donation page here (http://www.unitedwaygenesee.org/civicrm/contribute/transact?reset=1&id=5).

INFORMING FLINT RESIDENTS ABOUT LEAD IN THEIR WATER

All Flint residents who returned their lead kits will receive their results via regular mail. You will also receive this document on how to interpret your lead results (http://flintwaterstudy.org/wp-content/uploads/2015/08/interpretation.pdf). For the 277 lead kits analyzed so far, we have finished calling residents who had considerably high lead in their water.

FLINTWATERINFO.COM

(http://www.flintwaterinfo.com/)

RECENT POSTS

Concerns About Lead Sampling Methods That Underestimate Consumer Exposure, Spread Nationally; Dr. Yanna Lambrinidou's Letter To Philadelphia Residents (http://flintwaterstudy.org/2016/01/lead-sampling-national-concerns-lambrinidou-letter-to-philly-residents/)
The courageous morality of Flint's heroes challenges the corruption and self-serving duplicity of politicos — Dr. Phil Zimbardo (http://flintwaterstudy.org/2016/01/the-courageous-morality-of-flints-heroes-challenges-the-corruption-and-self-serving-duplicity-of-politicos-dr-phil-zimbardo/)
[Commentary] Imminent and Substantial Endangerment in Flint: Better Late Than Never? (http://flintwaterstudy.org/2016/01/commentary-imminent-and-substantial-endangerment-in-flint-better-late-than-never/)
[Press Release] Hedman Resignation Gives Hope for EPA Climate Change (http://flintwaterstudy.org/2016/01/hedman-resignation-gives-hope-for-epa-climate-change/)
Gov. Rick Snyder releases all emails pertaining to the Flint Water Crisis (http://flintwaterstudy.org/2016/01/gov-rick-snyder-releases-all-emails-pertaining-to-the-flint-water-crisis/)

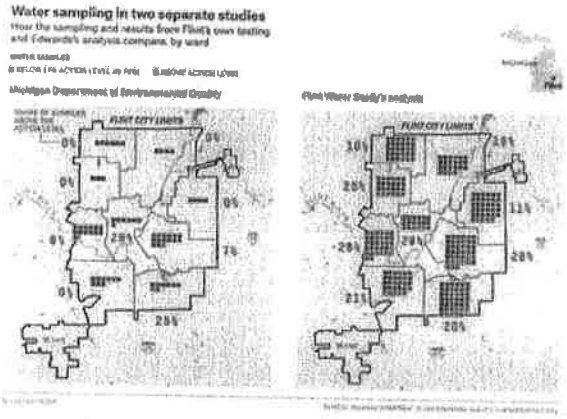
OUR TWITTER FEED

Tweets Follow

Mark Elliott
@markmobility 3h

.@annabarryjester: What Went Wrong In #Flint 53eig.ht/1TlzTzX c @flintwaterstudy @DrJudyStone pic.twitter.com/RzMDIMycLL

Retweeted by Flint Water Study



Expand

Flint Water Study
@flintwaterstudy 3h

Great idea from Hurley's Shelley Casey: Hand out filters and lead test kits to Flint residents on MTA buses! Thousands ride 'em everyday

Expand

Washington Post
@washingtonpost 8h

Tweet to @flintwaterstudy

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If you wish to receive email updates from us, please join our listserv (https://groups.google.com/group/flintwaterstudyupdates).

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GCHD LEAD INVESTIGATION CORRESPONDENCE

Henry, James

From: Henry, James
Sent: Wednesday, January 20, 2016 10:04 PM
To: Swartout, April
Cc: Stickler, Lisa; Cupal, Suzanne; McShane, Hilda; Valacak, Mark; Brickey, Tamara; LaRocco, Toni
Subject: Re: EH Request of State EOC

I appreciate the effort from our team to try to collaborate a timely response for the lead water results.

This meeting was about as productive as I figured. The MDEQ lab is the first to see the water results and they avoided assisting in anyway.

They currently mail the lead results, some are extremely elevated, to residents with complete disregard for a timely response. Most people don't understand the MDEQ reports.

Linda Dykama, MDHHS offered to help with the written communications from her toxicologists, but we know how goes. I think she means well, but the bureaucracy slows everything down.

I'm also concerned that when people receive a "not detected" lead result, they might assume their entire house is safe for drinking water.

Tamara mentioned that city council members are looking for a way to help. We are considering providing the water results to them and see if they are willing to make calls and knock on doors. We'll need to make sure they provide accurate information.

Once again, disregard for a real public health risk from the state. We'll improvise to help our community with no resources.

Jim

Sent from my phone.

------ Original message------
From: Swartout, April
Date: Fri, Jan 15, 2016 1:32 PM
To: Henry, James;
Cc: Stickler, Lisa;Suzanne Cupal;hmcshane@gchd.us;Valacak, Mark;tbrickey@gchd.us;LaRocco, Toni;
Subject: Re: EH Request of State EOC

Jim, Mark,

We're working on a meeting for 2:30 on Tuesday afternoon to discuss request and find a solution. It will either be in Admin building or our building. You have both been asked to be there as our subject matter experts. Please plan on it. I will let you know of location as soon as I have it.

April

Sent from my Verizon 4G LTE Droid
On Jan 15, 2016 11:58 AM, "Henry, James" <jhenry@gchd.us> wrote:
April /Mark

I would like to make a request of the state EOC.

Community members/residents with elevated lead results need immediate and direct follow up.

They are mailed an ambiguous lab report, which they are not trained to understand or interpret. The city also sends a letter using different measuring units than indicated on the MDEQ lab result.

I and my staff have talked with many residents and I try to screen the MDEQ results daily and follow up with the folks who have elevated levels. We don't have capacity to followup with all of them promptly.

They need immediate verbal or physical followed up along with the a mailed report to ensure water is not being consumed at that location.

Thanks Jim

Sent from my phone.

------ Original message------
From: Brickey, Tamara
Date: Fri, Jan 15, 2016 11:19 AM
To: Henry, James;McShane, Hilda;Cupal, Suzanne;
Cc: Swartout, April;Valacak, Mark;Stickler, Lisa;LaRocco, Toni;
Subject:RE: Phone Calls

Okay… great, thank you Jim! I appreciate you following up.

From: Henry, James
Sent: Friday, January 15, 2016 9:20 AM
To: McShane, Hilda; Cupal, Suzanne; Brickey, Tamara
Cc: Swartout, April; Valacak, Mark; Stickler, Lisa; LaRocco, Toni
Subject: Re: Phone Calls

Just called 8885356136 spoke with Mat. He said they could help me with my Legionella concern today. I don't trust they'll actually help, but its better that getting an answering machine.

Sent from my phone.

------ Original message------
From: McShane, Hilda
Date: Fri, Jan 15, 2016 9:00 AM
To: Cupal, Suzanne;Brickey, Tamara;
Cc: Swartout, April;Valacak, Mark;Henry, James;Stickler, Lisa;LaRocco, Toni;
Subject:RE: Phone Calls

Sure. Will do.

From: Cupal, Suzanne
Sent: Friday, January 15, 2016 8:59 AM
To: McShane, Hilda; Brickey, Tamara
Cc: Swartout, April; Valacak, Mark; Henry, James; Stickler, Lisa; LaRocco, Toni
Subject: RE: Phone Calls

We do not have a Legionella graphic.
We should also mention lead and other water resources.

Sent from my Windows Phone

From: McShane, Hilda
Sent: 1/15/2016 8:53 AM
To: Brickey, Tamara
Cc: Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; lstickler@gchd.us; LaRocco, Toni
Subject: RE: Phone Calls

How does this sound…

To get the facts about Legionella call 2-1-1, or go to Genesee County Health Department's website: gchd.us. Legionella information is located on the front page of the Health Department's website. You will find Legionella information in the Media Releases and Popular Pages columns on the front page.

Do we have an official Legionella graphic?

From: Brickey, Tamara
Sent: Friday, January 15, 2016 8:48 AM
To: McShane, Hilda
Cc: Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; 'lstickler@gchd.us'; LaRocco, Toni
Subject: RE: Phone Calls

I hear you Hilda, I really do. Unfortunately we don't have staff to get that message out today, and I think for consistency, at this point, we need to stick with 211. Had we had a little more time to plan, that would have been possible. I think that is fine to post to Facebook, and I encourage you to do so. Please also refer people to 211.

-Tamara

From: McShane, Hilda
Sent: Friday, January 15, 2016 8:46 AM
To: Brickey, Tamara
Cc: Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; 'lstickler@gchd.us'; LaRocco, Toni
Subject: RE: Phone Calls

If we spoon feed the media and public the information it will not be a problem. For example.

The Genesee County Health Department will be closed Friday, January 15 and Monday, January 18 in observance and honor of Martin Luther King Day.

To get the facts about Legionella go to Genesee County Health Department's website: gchd.us. Legionella information is located on the front page of the Health Department's website. You will find Legionella information in the Media Releases and Popular Pages columns on the front page.

Once again, I know this sounds mercenary, but we need to train people. If anything they need to learn our web address.

From: Brickey, Tamara
Sent: Friday, January 15, 2016 8:42 AM
To: McShane, Hilda; Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; Stickler, Lisa; LaRocco, Toni
Cc: Johnson, M.D., Gary
Subject: RE: Phone Calls

My concern with people being pushed to our website is that it is incredibly *un*-user friendly right now. If we had already made the switch to the new site I wouldn't be concerned.

Thanks,

Tamara

From: McShane, Hilda
Sent: Friday, January 15, 2016 8:15 AM
To: Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; Stickler, Lisa; LaRocco, Toni

Cc: Johnson, M.D., Gary
Subject: RE: Phone Calls

This may seem mercenary, but it really is marketing and serving the public at the same time. Please drive people to our website and spoon feed them the locations of the Legionella media releases and popular pages. I will post both on our Facebook account now. And if it is not too late April, share this information with your state counterparts. Thanks.

From: Swartout, April
Sent: Thursday, January 14, 2016 7:12 PM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Cc: Johnson, M.D., Gary
Subject: RE: Phone Calls

I just got a call from Jackie Scott. She confirmed that they are setting up a phone bank to answer lead and Legionella calls. They will answer calls from 8-5 through the weekend, but I got the impression that this is not a long term solution but rather a short term fix for us being closed for 4 days. She did not give me a number but said that 2-1-1 would be forwarding calls to the phone bank. I forwarded her the Legionella press release that we released today as well as the fact sheet that was on our site so that they weren't giving out any information that conflicted with our messages.

I also pointed out that there was a general lack of trust in water in general in the city so they should be prepared for that when taking calls.

April

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator

Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Swartout, April
Sent: Thursday, January 14, 2016 5:30 PM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Subject: RE: Phone Calls

I talked to Mary MacQueen at the State. She said that 211 is going to be directing all calls relating to lead and legionella to a state phone bank for the weekend (Friday – Monday). I don't know if that will continue past Monday.

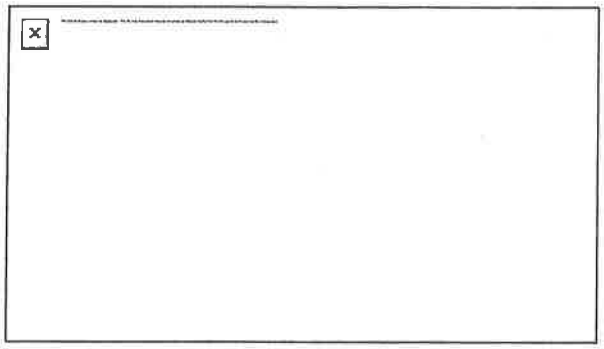
April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Swartout, April
Sent: Thursday, January 14, 2016 11:48 AM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Subject: Phone Calls

FYI…The State has told 211 to direct all calls related to Legionella to the local health department. I am still waiting on an answer from the State regarding a hotline. If we get it, 211 can direct any calls to that number.

April

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147



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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

[The entire original message is not included.]

GCHD LEGIONNAIRE INVESTIGATION CORRESPONDENCE AND REPORT

Henry, James

From: Cupal, Suzanne
Sent: Thursday, October 15, 2015 5:01 PM
To: 'Fiedler, Jay (DHHS)'; Ann Newell; Rygiel, Christine; Henry, James; Childs, Bonnie; Connolly, Stephanie; Kremlick, Denise; lgray@genesys.org; Rygiel, Christine; Danette Hayman; Denise Sands; Erik Naugle; Erin Parker; Johnson, M.D., Gary; July, Jori; Kari Wanless; Kim Tylenda; Kim Warden; Lori Wiskur; Rachel O'Mara; Sue Forrest; Sue Harlow; Bolen, Timothy (DHHS); Anthony Armor; Traci Sperry
Cc: Johnson, Shannon (DHHS); Bolen, Timothy (DHHS); Dykema, Linda D. (DHHS); Collins, Jim (DHHS)
Subject: RE: Water Issues Meeting 10/23/15 11:30am Masonic Temple Private Dining Room

Jay-

We are trying to address the concerns that have been expressed to us. I understand your concerns regarding the your CD staff and lead. We are trying to address the lead concerns we have been asked about and address the questions regarding the next steps in the water switch in a clear and concise manner in one meeting. The lead and water issues should take about 15 minutes at the beginning of the meeting. The focus of the meeting will be on the CD issues.

I agree about sharing the reports before the meeting. Christine and I will connect directly with Shannon tomorrow regarding the presentation of the CD data.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Fiedler, Jay (DHHS) [mailto:FiedlerJ@michigan.gov]
Sent: Thursday, October 15, 2015 3:51 PM
To: Cupal, Suzanne; Ann Newell; Rygiel, Christine; Henry, James; Childs, Bonnie; Connolly, Stephanie; Kremlick, Denise; lgray@genesys.org; Rygiel, Christine; Danette Hayman; Denise Sands; Erik Naugle; Erin Parker; Johnson, M.D., Gary; July, Jori; Kari Wanless; Kim Tylenda; Kim Warden; Lori Wiskur; Rachel O'Mara; Sue Forrest; Sue Harlow; Bolen, Timothy (DHHS); Anthony Armor; Traci Sperry
Cc: Johnson, Shannon (DHHS); Bolen, Timothy (DHHS); Dykema, Linda D. (DHHS); Collins, Jim (DHHS)
Subject: RE: Water Issues Meeting 10/23/15 11:30am Masonic Temple Private Dining Room

Hi Suzanne,

I have to say that these issues of lead and legionella are two very distinct issues in our department. Due to the politics surrounding the lead issue, we as CD staff, are trying to stay removed from those issues. I'm not sure who has questions that are going to be addressed, but it isn't what we do. Having a meeting that tries to address both has the potential to be problematic. I agree with Ann about limiting the lead discussion.

The two legionella items on the agenda seem to reflect the time periods of the two reports that have been developed, but not distributed. Can we distribute the 2014-2015 report to the group before we meet? Additionally, our more recent 2015 data is still in draft form, but I think that we could get a more polished draft out for distribution before next week. Seeing as we met about a month ago, I'm not sure how much additional information we have. I think it would be nice for everyone to be able to look at that data ahead of time, so that they have time to review and think about questions/discussion.

Thanks for your consideration. –Jay

Jay Fiedler, MS
Section Manager
Surveillance and Infectious Disease Epidemiology
Bureau of Disease Control, Prevention, and Epidemiology
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201 Townsend St - PO Box 30195 - Lansing, MI 48909
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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, October 15, 2015 12:09 PM
To: Ann Newell <AnnNewell@hurleymc.com>; Rygiel, Christine <crygiel@gchd.us>; Henry, James <jhenry@gchd.us>; Childs, Bonnie <BCHILDS@gchd.us>; Connolly, Stephanie <sconnolly@gchd.us>; Kremlick, Denise <DKREMLIC@gchd.us>; lgray@genesys.org; Rygiel, Christine <crygiel@gchd.us>; Danette Hayman <danette.hayman@mclaren.org>; Denise Sands <DSands1@hurleymc.com>; Erik Naugle <erik.naugle@mclaren.org>; Erin Parker <erin.parker@genesys.org>; Johnson, M.D., Gary <GJOHNSON@gchd.us>; July, Jori <jjuly@gchd.us>; Kari Wanless <kari.wanless@mclaren.org>; Kim Tylenda <kimberly.tylenda@mclaren.org>; Kim Warden <kwarden@hamiltonchn.org>; Lori Wiskur <lori.wiskur@genesys.org>; Rachel O'Mara <romara@genesys.org>; Sue Forrest <sue.forrest@mclaren.org>; Sue Harlow <sharlow@genesys.org>; Bolen, Timothy (DHHS) <BolenT1@michigan.gov>; Anthony Armor <AArmor1@hurleymc.com>; Traci Sperry <TSperry1@hurleymc.com>
Cc: Fiedler, Jay (DHHS) <FiedlerJ@michigan.gov>; Johnson, Shannon (DHHS) <JohnsonS61@michigan.gov>; Bolen, Timothy (DHHS) <BolenT1@michigan.gov>; Dykema, Linda D. (DHHS) <DykemaL@michigan.gov>
Subject: RE: Water Issues Meeting 10/23/15 11:30am Masonic Temple Private Dining Room

Ann-

We have been asked specific lead questions that we will address. Linda Dykema will be available via phone for any other specific questions related to the health effects of lead...which we have requested be submitted in advance. Howard Croft will share what the next steps related to the water switch are so everyone is aware and can ask questions. Once they have answered everyone's concerns, they will leave and we will focus on the CD issues.

We are respecting the concerns of everyone, Ann.

Proposed Agenda

Lead issues
Water Switch
CD issues June 2014-March 2015
CD issues April 2015-Present

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Ann Newell [mailto:AnnNewell@hurleymc.com]
Sent: Thursday, October 15, 2015 11:15 AM
To: Cupal, Suzanne; Rygiel, Christine; Henry, James; Childs, Bonnie; Connolly, Stephanie; Kremlick, Denise; lgray@genesys.org; Rygiel, Christine; Danette Hayman; Denise Sands; Erik Naugle; Erin Parker; Johnson, M.D., Gary; July, Jori; Kari Wanless; Kim Tylenda; Kim Warden; Lori Wiskur; Rachel O'Mara; Sue Forrest; Sue Harlow; Tim Bolen; Anthony Armor; Traci Sperry
Cc: Fiedler, Jay (DCH); Johnson, Shannon (DCH); Bolen, Timothy (DCH)
Subject: RE: Water Issues Meeting 10/23/15 11:30am Masonic Temple Private Dining Room

Hi Susan,
I would recommend keeping the information presented at Bug Fuzz relevant for the group. Please limit the information on lead and focus on Legionella.
Thanks,
Ann

Ann M. Newell, CIC
Infection Control Manager
Hurley Medical Center
Flint, MI 48503
(810)262-9459
(810)262-7268 Fax

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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Tuesday, October 13, 2015 2:10 PM
To: Rygiel, Christine; Henry, James; Childs, Bonnie; Connolly, Stephanie; Kremlick, Denise; lgray@genesys.org; Ann Newell; Christine Rygiel; Cupal, Suzanne; Danette Hayman; Denise Sands; Dr. Eyassu Habte-Gabr; Yaseen Rafe'e; Erik Naugle; Erin Parker; Johnson, M.D., Gary; July, Jori; Kari Wanless; Kim Tylenda; Kim Warden; Lori Wiskur; Rachel

O'Mara; Sue Forrest; Sue Harlow; Tim Bolen; Anthony Armor; Traci Sperry
Cc: Fiedler, Jay (DCH); Johnson, Shannon (DCH); Bolen, Timothy (DCH)
Subject: Water Issues Meeting 10/23/15 11:30am Masonic Temple Private Dining Room

We will meet on Friday, 10/23/15 at the Masonic Temple private dining room. Howard Croft of the City of Flint and Linda Dykema of the state will be available for your questions regarding water, lead and the switch of water sources. When we have heard from them, we will do a presentation of CD data.

I recommend ordering your food to go so we can meet in the space uninterrupted. If you have any specific questions you could forward in advance, please do so...

Thank you.

Suzanne

I

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Henry, James

From: Henry, James
Sent: Thursday, October 22, 2015 3:50 PM
To: Hallwood, Dawn
Subject: RE: Flint Water

Yeah or a middle finger to include MDEQ correspondence.

From: Hallwood, Dawn
Sent: Thursday, October 22, 2015 3:48 PM
To: Henry, James
Subject: RE: Flint Water

Right on! Too bad there's no emoji for a fist pump on here....

Dawn Hallwood, R.S.
Genesee County Health Department
Environmental Health Supervisor
630 S. Saginaw Street, Suite 4
Flint, Michigan 48502
(810) 257-3159
Fax # (810) 257-3125

From: Henry, James
Sent: Thursday, October 22, 2015 3:44 PM
To: Swartout, April; McShane, Hilda; 'MVALACAK@gchd.us'; Stickler, Lisa; 'scupal@gchd.us'; LaRocco, Toni; Brickey, Tamara; Hallwood, Dawn
Subject: Flint Water

As we continue to move forward with our focus on the solutions, I think it's important to take a quick look back to see how we got here.

Senator Ananich's quote in today's Flint Journal supports some of our experiences "I think we have to get to the bottom of how folks in the drinking water division could so blatantly do everything they can in their power to hide the truth from the public, and that's pretty clear what they did"

The March 10, 2015 email below, addressed to Flint City administration and MDEQ is one example.

- MDEQ refused to provide Flint water information or meet with us because there was "no violation of the Safe Drinking Water Act."
- The Flint City administration responded to our FOIA request with hundreds of documents, which was sent in the mail from City Hall and included nothing that we requested.

It is refreshing that we are moving beyond this now and that their focus will be on public health, regardless if there's congruency. The City and MDEQ can't change their culture and values overnight, but the investigation may help them expedite some steps in the right direction.

Jim

From: "Henry, James" <jhenry@gchd.us>
Date: March 10, 2015 at 6:40:17 PM EDT
To: Howard Croft <hcroft@cityofflint.com>, "Mike Prysby (DEQ)" <prysbym@michigan.gov>, Elizabeth Murphy <emurphy@cityofflint.com>, "Natasha Henderson" <nhenderson@cityofflint.com>, Jerry Ambrose <gambrose49@gmail.com>, Dayne Walling <dwalling@cityofflint.com>
Cc: "Valacak, Mark" <MVALACAK@gchd.us>, "Cupal, Suzanne" <scupal@gchd.us>, "Hasan, Shurooq" <shasan@gchd.us>, "Childs, Bonnie" <BCHILDS@gchd.us>, "Hallwood, Dawn" <dhallwood@gchd.us>, "Johnson, M.D., Gary" <GJOHNSON@gchd.us>
Subject: Information Request and Documentation

Hello everyone,

The Genesee County Health Department has made several written and verbal requests for specific information since October, 2014, including a Freedom of Information Act Request on January 27, 2015. The information still has not been received and the city's lack of cooperation continues to prevent my office from performing our responsibilities.

The Genesee County Health Department has the responsibility to conduct illness investigations and consider all potential sources, this is not optional. In 2014, Genesee County experienced a significant increase of confirmed Legionella illnesses relative to previous years. Legionella can be a deadly, waterborne disease that typically affects the respiratory system.

The increase of the illnesses closely corresponds with the timeframe of the switch to Flint River water. The majority of the cases reside or have an association with the city. Also, McLaren Hospital identified and mitigated Legionella in their water system. This is rather glaring information and it needs to be looked into now, prior to the warmer summer months when Legionella is at its peak and we are potentially faced with a crisis.

This situation has been explicitly explained to MDEQ and many of the city's officials. I want to make sure, in writing that there are no misunderstandings regarding this significant and urgent public health issue. The Trihalomethane issues "pale in comparison" to the potential public health risks of Legionella.

I am submitting the attached FOIA request again and requesting that the legal obligations of the request are met. If the information is not available, please let me know. In the past, I have requested to meet with the water plant staff and MDEQ regarding Legionella concerns. I did not receive a response from the water plant staff and MDEQ declined. I think it is in the best interest for all stakeholders that we meet and discuss the issues.

Respectfully,

Jim

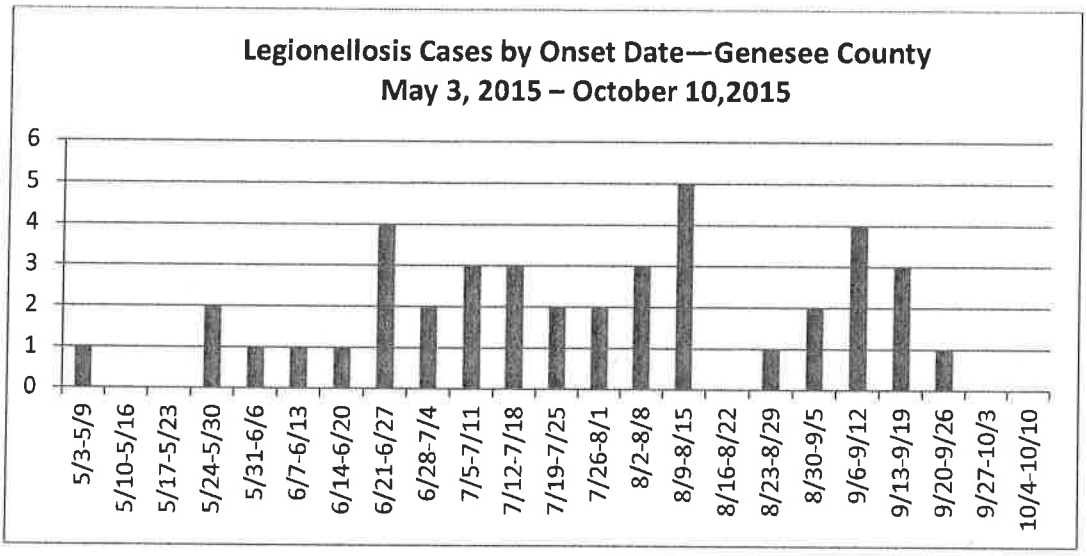
Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

October 22, 2015

Update on Genesee County Legionellosis cases —May-Oct, 2015

Current Case Count

- 41 cases reported since 5/1/2015 (40 Legionnaires disease, 1 Pontiac Fever)
- 37/41 (90%) interviewed with supplemental questionnaire
- Illness onset dates: 5/4/15-9/20/15



- 21 (51%) male; median age 66 years (range 35–89 years)
- 41 patients were hospitalized; 2 deaths

Case Counts by Hospital

		Previously admitted?*		
Hospital	Number of cases diagnosed	To any hospital	To case hospital	Case Residence on City of Flint Water**
A	5	0	0	3
B	26	19[+]	18	6
C	8	0	0	0
Out of county	2	1[++]	0	1
Total	41	20	18	10

*Hospitalization within the two weeks prior to Legionellosis illness onset

**Based on Legionella Questionnaire answer and patients address

[+]One case DX'd at Hospital B spent significant time at Hospital A during the 2 weeks prior, but was not admitted

[++] This case was previously admitted to Hospital B

October 22, 2015

Lab Results

- 41 (100%) were Legionella Urinary Antigen positive
- 11 respiratory specimens received at the MDHHS Bureau of Labs for culture/typing
  - 8 were culture confirmed; all *L. pneumophila* Serogroup 1
    - 3 specimens unsuitable for PFGE: 2 no growth, 1 specimen overgrown with mold
    - 8 specimens were able to have PFGE performed

-6/8 specimens had unique patterns:

Onset date	Hospitalization within 2 weeks prior to onset?	Residence on City of Flint water?
7/7/15	No	No
7/16/15	No	No
7/23/15	No	No
8/28/15	No	No
9/1/15	No	Yes
9/10/15	No	No

-2/8 specimens had matching patterns:

Onset date	Hospitalizations within 2 weeks prior to onset?	Residence on City of Flint water?
5/27/15	Yes- Hospital B	No
8/15/15	No	No

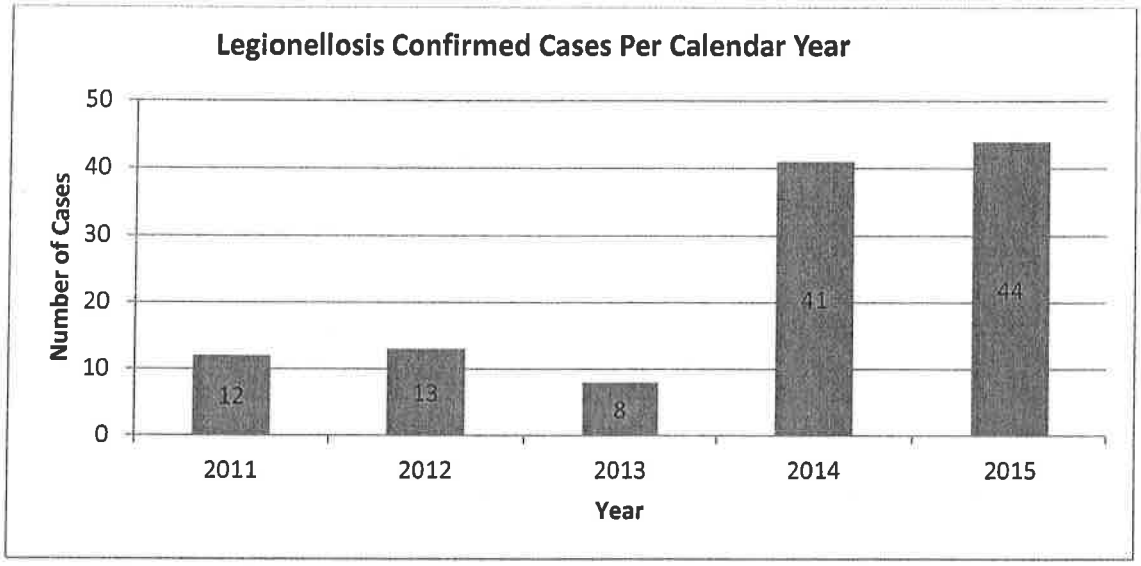
Exposure History

- Cases with hospitalization during the 2 weeks prior to onset: 20*/41 (49%)
  - 19/20 (95%) were hospitalized at Hospital B in the 2 weeks prior to their onset
    - The last case with a hospitalization exposure to Hospital B during the 2 weeks prior to onset occurred mid-August; last date of hospitalization: 8/7/15, onset: 8/14/15
  - *1/20 (5%) was not hospitalized, but spent significant time at Hospital A during the 2 weeks prior to onset
- 21/41 (51%) cases have no prior hospitalization reported during the 2 weeks prior to onset
- Outpatient visits and visitations to hospitals have not been assessed

- 30/41 (73%) case residences NOT on the City of Flint water system
- 10/41 (27%) case residences on the City of Flint water system
  - 6/10 (60%) cases with residence on the City of Flint water system also had a hospitalization at Hospital B during the 2 weeks prior to onset

October 22, 2015

Genesee Legionellosis 5-Year Epi Curve



- Note: All 2014 cases occurred between June-Dec.

Henry, James

From:	Henry, James
Sent:	Thursday, November 12, 2015 11:17 AM
To:	Laura Carravallah; Valacak, Mark; Kay Doerr
Subject:	RE: "Ask" for Flint Water Technical Advisory Committee
Attachments:	Main Breaks from Leak Report Info (1).xlsx

Hi Dr. Carravallah,

I agree there must be better communication and more action. After you mentioned this issue several months ago, I had our marketing specialist accompany me to one of the City's Technical Advisory meetings to help express the importance of communication from a public health perspective. Many ideas were shared during the meeting, which resulted in the City's updated webpage. During the discussion, the EPA mentioned that most people have smart phones regardless of income. I don't know if his comment was based upon research or just his opinion, but it seems reasonable. I think the idea of broadcast communications to phones would be a step in the right direction.

We have a much better relationship with the City, now. I will address your question directly " how will GCHD get prompt information" As part of our previous information requests, we received the dates and locations of the water main breaks for 2014, up to Nov 17. (attached). Our epidemiologist reviewed the information for potential trends, but there are so many breaks she could not identify relationships.

I will check to see if the City is mapping the breaks, which could be useful for trend analysis. If the City is currently not mapping the water main breaks, I will request that they are mapped and shared with us. The City has informed me that they flush hydrants upstream and downstream from a break. They mentioned that they typically knock on doors in the area surrounding the break to inform the residents to flush the residential water system. The City also mentioned that staff have been threatened when knocking on doors, especially at night.

As Mark mentioned, MDEQ is focused on meeting compliance standards, which is emphasized in the language of the Safe Drinking Water Act http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm MDEQ has completely missed the intent of the legislation, which is to protect public health regardless of any written standard. I have had many verbal and written communications requesting MDEQ (who has the authority and responsibility) to take appropriate action. Their continuous and unacceptable response has been "there is no violation of the Safe Drinking Water Act." I think that our unfortunate situation here, needs to be the stimulus and opportunity to influence legislation change.

Thanks Jim

Jim Henry RS, MBA
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630 S. Saginaw St., Suite 4
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Genesee County
Health Department

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Laura Carravallah [mailto:lcarrav1@yahoo.com]
Sent: Wednesday, November 11, 2015 11:31 AM
To: Valacak, Mark; Henry, James; Kay Doerr
Subject: "Ask" for Flint Water Technical Advisory Committee

Dear Colleagues,

Here is my Draft "Ask" that I would suggest that the GCMS put forward to the Tech Adv Committee? Do you have any suggestions that would make it more accurate or effective?

Laura

What is the real-time process for investigating possible water line disruptions that occur because of construction or road work?

- Scale and/or biofilms in pipes can be disrupted by outside work
    - Risk for lead particulate matter moving downstream to places it hadn't previously been
    - Risk for lead plumbing to be suddenly more exposed to water
    - Risk for bacteria trapped in biofilm to seed downstream
- Pipes can be broken and exposed to soil
    - Legionella is ubiquitous in environment and outbreak connected to internal hospital water system may have been seeded into system in this way

How will GCHD get prompt information when water must be avoided, retested, boiled, or otherwise mitigated?

Need to know systematic process for monitoring this and also a prompt notification system when water must be retested, boiled, or otherwise mitigated.

Henry, James

From:	Henry, James
Sent:	Friday, November 13, 2015 9:01 AM
To:	Cupal, Suzanne; Valacak, Mark
Subject:	RE: NORS Report
Attachments:	Fw: Legionella Update; Water Mgmt Incl Legionella Prevent.pdf; Water Supply Failure (Code W).pdf; WATER HYPERCLORINATION 20150814 - Copy.pdf; Special Update August 14 2015 - Copy.pdf

Suzanne,

Thank you for all you have done regarding the Legionella situation. The state agencies restricted our actions to the point of interference and inhibition. Your outstanding leadership and communication skills guided us to this resolution.

Attached are a few documents regarding McLaren that may be relevant as appendices. Included is my email thread with McLaren instructing more aggressive action.

I think the statement on page 11 is important and makes it clear that this was not isolated to McLaren. "not all cases involved with this outbreak reside in Flint or use Flint water."

Thank you Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Genesee County
Health Department

Henry, James

From: Cupal, Suzanne
Sent: Monday, November 30, 2015 8:52 AM
To: 'Arends, Katherine (DHHS)'
Cc: Valacak, Mark; Henry, James; LaRocco, Toni; Rygiel, Christine; Bolen, Timothy (DHHS); Bohm, Susan (DHHS); Fiedler, Jay (DHHS); Johnson, Shannon (DHHS)
Subject: RE: NORS Report

FYI...
The suspect hospital system has completed all their infrastructure updates and now meets the ASHRAE 188 guidelines. They continue to monitor their water system monthly.

Thank you, Katie.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Arends, Katherine (DHHS) [mailto:ArendsK@michigan.gov]
Sent: Monday, November 30, 2015 8:45 AM
To: Cupal, Suzanne
Cc: Valacak, Mark; Henry, James; LaRocco, Toni; Rygiel, Christine; Bolen, Timothy (DHHS); Bohm, Susan (DHHS); Fiedler, Jay (DHHS); Johnson, Shannon (DHHS)
Subject: RE: NORS Report

Thanks, Suzanne. I'll let you know if CDC has any questions during the closeout process.

Katie

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Monday, November 30, 2015 8:29 AM
To: Arends, Katherine (DHHS) <ArendsK@michigan.gov>
Cc: Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>; Rygiel, Christine <crygiel@gchd.us>; Bolen, Timothy (DHHS) <BolenT1@michigan.gov>; Bohm, Susan (DHHS) <bohms@michigan.gov>; Fiedler, Jay (DHHS) <FiedlerJ@michigan.gov>; Johnson, Shannon (DHHS) <JohnsonS61@michigan.gov>
Subject: RE: NORS Report

Katie-

Please see the attached. Let me know if you have any other questions.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Arends, Katherine (DHHS) [mailto:ArendsK@michigan.gov]
Sent: Wednesday, November 25, 2015 11:01 AM
To: Cupal, Suzanne
Cc: Valacak, Mark; Henry, James; LaRocco, Toni; Rygiel, Christine; Bolen, Timothy (DHHS); Bohm, Susan (DHHS); Fiedler, Jay (DHHS); Johnson, Shannon (DHHS)
Subject: RE: NORS Report

Hi Suzanne,

Thank you very much for submitting this NORS report! Could you please complete the Reporting Agency section at the bottom of page 2.

The structure of waterborne outbreak reports in NORS only allows data to be entered for the type of water exposure selected at the top of p.3 (in this case, Drinking water in public or individual water systems). Therefore, I was unable to enter anything you entered in the Other or unknown water section (top of p.12). I did enter all of the Remarks (bottom of p.11 and bottom of p.12).

CDC conducts a series of data quality checks on NORS data, and the NORS-Water data cleaning cycle is coming up soon. It's not unusual for CDC to have questions about outbreak reports during this process. I will let you know if they have any questions about this report.

Hope you have a lovely Thanksgiving!

Katie

Katie Arends, MPH
Infectious Disease Epidemiologist
Surveillance and Infectious Disease Epidemiology Section
Michigan Department of Health and Human Services
517-335-8165
arendsk@michigan.gov

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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Friday, November 13, 2015 4:14 PM
To: Johnson, Shannon (DHHS) <JohnsonS61@michigan.gov>; Arends, Katherine (DHHS) <ArendsK@michigan.gov>
Cc: Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>; Rygiel, Christine <crygiel@gchd.us>; Bolen, Timothy (DHHS) <BolenT1@michigan.gov>; Bohm, Susan (DHHS) <bohms@michigan.gov>
Subject: NORS Report

Attached is the NORS Report for the June2014-March 2015 Legionella cases. Please let us know if you need additional information.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
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(810) 768-7970
scupal@gchd.us

Henry, James

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To:	'Arends, Katherine (DHHS)'
Cc:	Valacak, Mark; Henry, James; LaRocco, Toni; Rygiel, Christine; Bolen, Timothy (DHHS); Bohm, Susan (DHHS); Fiedler, Jay (DHHS); Johnson, Shannon (DHHS)
Subject:	RE: NORS Report
Attachments:	CDC-5212- Legionella June14-March15 11.10.15(2) (2).pdf

Katie-

Please see the attached. Let me know if you have any other questions.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
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Flint, MI 48502
(810) 768-7970
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Sent: Wednesday, November 25, 2015 11:01 AM
To: Cupal, Suzanne
Cc: Valacak, Mark; Henry, James; LaRocco, Toni; Rygiel, Christine; Bolen, Timothy (DHHS); Bohm, Susan (DHHS); Fiedler, Jay (DHHS); Johnson, Shannon (DHHS)
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Hope you have a lovely Thanksgiving!

Katie

Katie Arends, MPH
Infectious Disease Epidemiologist
Surveillance and Infectious Disease Epidemiology Section
Michigan Department of Health and Human Services
517-335-8165
arendsk@michigan.gov

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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Friday, November 13, 2015 4:14 PM
To: Johnson, Shannon (DHHS) <JohnsonS61@michigan.gov>; Arends, Katherine (DHHS) <ArendsK@michigan.gov>
Cc: Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>; Rygiel, Christine <crygiel@gchd.us>; Bolen, Timothy (DHHS) <BolenT1@michigan.gov>; Bohm, Susan (DHHS) <bohms@michigan.gov>
Subject: NORS Report

Attached is the NORS Report for the June2014-March 2015 Legionella cases. Please let us know if you need additional information.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

General

National Outbreak Reporting System

Waterborne Disease Transmission

This form is used to report waterborne disease outbreaks. Pages 1-5 ask for the minimum or basic information about the outbreak investigation, epidemiological data, and clinical specimen and water test results. These are followed by sections specific to the type of water exposure. Only 1 of the 5 water exposure sections should be completed.

Public reporting burden of this collection of information is estimated to average 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-24, Atlanta, GA, 30333, ATTN: PRA (0920-0004) <--DO NOT MAIL CASE REPORTS TO THIS ADDRESS

CDC USE ONLY

CDC Report ID	State Report ID

Form Approved
OMB No. 0920-0004

General Section

Primary Mode of Transmission *(Check one)*

- [ ] Food *(Complete CDC 52.13)*
- [x] Water *(Complete the tabs for General, Water-General, Water-Etiology & Lab, Water Samples and the type of water exposure)*
- [ ] Animal contact *(Complete CDC 52.13)*
- [ ] Person-to-person *(Complete CDC 52.13)*
- [ ] Environmental contamination other than food/water *(Complete CDC 52.13)*
- [ ] Other/Unknown *(Complete CDC 52.13)*

Investigation Methods *(Check all that apply)*

- [x] Interviews only of ill persons
- [ ] Case-control study
- [ ] Cohort study
- [ ] Food preparation review
- [ ] Water system assessment: Drinking water
- [ ] Water system assessment: Nonpotable water
- [ ] Treated or untreated recreational water venue assessment
- [ ] Investigation at factory/production/treatment plant
- [ ] Investigation at original source (e.g., farm, water source, etc.)
- [ ] Food product or bottled water traceback
- [ ] Environment/food/water sample testing
- [x] Other

Comments Resize Text

29 completed and 1 partial interview completed. Rest of information was obtained from hospital notes.

Dates (mm/dd/yyyy)

Date first case became ill *(required)* 06/06/2014

Date last case became ill 03/09/2015

Date of initial exposure _____

Date of last exposure _____

Date of report to CDC *(other than this form)* 06/04/2015

Date of notification to State/Territory or Local/Tribal Health Authorities 06/14/2014

Geographic Location

Reporting state: Michigan

- [ ] Exposure occurred in multiple states
- [ ] Exposure occurred in a single state but cases resided in multiple states

Other states: _____

Reporting county: Genesee County

- [ ] Exposure occurred in multiple counties in reporting state
- [x] Exposure occurred in a single county but cases resided in multiple counties in reporting state

Other counties: Saginaw County

City/Town/Place of exposure: Genesee County, MI

Do not include proprietary or private facility names

Primary Cases

Click "Calculate Percentages" if you enter count data

Number of primary cases		Calculate Sex Percentages	Sex *(Number or percent of the primary cases)*	
Lab-confirmed primary cases	45#	Male	23#	51.11%
Probable primary cases	0#	Female	22#	48.89%
Estimated total primary cases	45#	Unknown	0#	0.00%

Primary Case Outcomes	# Cases	Total # of case for whom info is available	Age *(Number or percent of the primary cases)* Calculate Age Percentages					
Died	7#	45#	<1 year	0#	0.00%	20–49 years	9#	20.00%
Hospitalized	45#	45#	1–4 years	0#	0.00%	50–74 years	28#	62.22%
Visited Emergency Room	45#	45#	5–9 years	0#	0.00%	≥ 75 years	8#	17.78%
Visited health care provider (excluding ER visits)	#	#	10–19 years	0#	0.00%	Unknown	#	0.00%

General

Incubation Period, Duration of Illness, Signs or Symptoms for Primary Cases only

Incubation Period *(Select appropriate units)*			Duration of Illness *(Among recovered cases-select appropriate units)*		
Shortest		Min Hours Days	Shortest		Min Hours Days
Median		Min Hours Days	Median		Min Hours Days
Longest		Min Hours Days	Longest		Min Hours Days
Total # of cases for whom info is available			Total # of cases for whom info is available		

☒ Unknown incubation period

☒ Unknown duration of illness

Signs or Symptoms

Feature	# Cases with signs or symptoms	Total # cases for whom info available
Vomiting	17	45
Diarrhea	20	45
Bloody stools		
Fever	35	45
Abdominal cramps		
HUS		
Asymptomatic		
Chest pain	15	45
Cough	35	45
Shortness of breath	29	45
*		

Secondary Cases

Mode of Secondary Transmission *(Check all that apply)*	Number of Secondary Cases	
☐ Food	Lab-confirmed secondary cases	#
☐ Water	Probable secondary cases	#
☐ Animal contact	Estimated total secondary cases	#
☐ Person-to-person	Estimated total cases (Primary + Secondary)	45 #
☐ Environmental contamination other than food/water		
☐ Other/Unknown		

Environmental Health Specialists Network *(If applicable)*

EHS-Net Evaluation ID: 1.) _____ 2.) _____ 3.) _____ 4.) _____

Traceback *(For food and bottled water only, not public water)*

☐ Please check if traceback conducted

Source name *(if publicly available)*	Source type *(e.g. poultry farm, tomato processing plant, bottled water factory)*	Location of source		Traceback Comments
		State	Country	

Recall

☐ Please check if any food or bottled water product was recalled

Type of item recalled:

Comments:

Reporting Agency

Agency name: Genesee County Health Department

Contact name: Suzanne Cupal

Contact title: Public Health Supervisor

E-mail: scupal@gchd.us

Phone no.: 810-768-7970

Fax no.: (810) 257-3018

General Remarks

Briefly describe important aspects of the outbreak not covered above. Please indicate if any adverse outcomes occurred in special populations (e.g., pregnant women, immunocompromised persons) Resize Text

Urine antigen tests were used to diagnose patients. Majority of individuals have complex medical histories related to comorbidities and/or smoking.

Water - General section

Type of Water Exposure *(Check ONE box)*

- ☐ Treated recreational water (e.g., in manufactured venues such as pools, spas/whirlpools, hot tubs, spray pads, at-home kiddie pools)
- ☐ Untreated recreational water (e.g., water in natural venues such as a freshwater lakes, hot springs, marine beaches/oceans)
- ☒ Drinking water in public or individual water systems (e.g., municipal system, private well, commercially-bottled water, water kiosk), regardless of the exposure pathway (i.e., not limited to ingestion).
- ☐ Other water (e.g., cooling/industrial, water reuse, irrigation, occupational, decorative/display; includes water consumed from sources such as back-country streams)
- ☐ Unknown water uses (i.e., the intended purpose or use of the water is unknown or the water exposure category could not be determined)

Epidemiologic Data

1. Estimated total number of persons with primary water exposure: _____
2. Were data collected from comparison groups to estimate risk? ☐ Yes *(specify in table below)* ☒ No ☐ Unknown
   If ***No*** or ***Unknown***, was water the common source shared by persons who were ill? ☐ Yes ☒ No ☐ Unknown

Exposure in epidemiologic investigation *(e.g., pool, waterpark, hot spring, well water)*	Total # Exposed (A)	# Ill Exposed (B)	Total # Not Exposed	# Ill Not Exposed	Attack Rate (%) (B/A) Fill in (A) and (B)	Odds Ratio	Relative Risk	p-Value *(provide exact value)*	95% Confidence Interval
*									
*									
*									
*									
*									

Attack rate for residents of reporting state: _____ % **Attack rate for non-residents of reporting state:** _____ %

Geographic Location

Percent of ill persons (primary cases) living in reporting state: 100.00%

Associated Events

Was exposure associated with a specific event or gathering?
☐ Yes ☒ No ☐ Unknown

If **Yes**, what type of event or gathering was involved?

*

If outbreak occurred during a defined event, dates of event:

Start date: _____ (mm/dd/yyyy) End date: _____ (mm/dd/yyyy)

Symptoms/Conditions

For each category, indicate the # of ill persons (primary cases) with:

Gastrointestinal symptoms/ conditions	20
Respiratory symptoms/ conditions	45
Skin symptoms/conditions	
Ear symptoms/conditions	
Eye symptoms/conditions	
Neurologic symptoms/ conditions	
Wound infections	
Other, specify (e.g., hepatitis A, leptospirosis):	

Route of Entry

- ☒ Ingestion
- ☐ Contact
- ☒ Inhalation
- ☐ Other, specify: _____
- ☐ Unknown

Water-Etiology & Lab

Outbreak Etiology *(Report the confirmed and/or suspected etiological agent(s) here, even if no clinical specimens were tested)*

Confirmed as Etiology?	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype	Detected In* (list all that apply)	Total # People Tested	Total # People Positive
☒ Yes	Legionella	pneumophila	serogroup 1		Urine	45	45
☐ Yes							
☐ Yes							
☐ Yes							
☐ Yes							
☐ Yes							
☐ Yes							
☐ Yes							

* 1-Clinical Specimens, 2-Water Samples, 3-Clinical Specimens & Water Samples, 4-Other (describe in the general remarks), 5-Unknown, 6-None

Outbreak Isolates *(Links data about molecular characterization across multiple systems. For each pathogen, provide a representative for each distinct molecular designation)*

Which CDC system contains this isolate profile? *(e.g., PulseNet, CalicNet)*	CDC Lab System Outbreak Number *(e.g., PulseNet tracking number)*	State Lab ID *(i.e., Lab tracking number)*	Molecular Designation 1	Molecular Designation 2

Clinical Specimens

1. Were clinical diagnostic specimens taken from persons? ☒ Yes ☐ No ☐ Unknown

If ***Yes***, from how many persons were specimens taken? 45

Specimen Type†	Specimen Subtype§	Tested for¶ *(list all that apply)*
Urine		Other (Describe in the General Remarks)

† Specimen Type: 1- Autopsy Specimen (specify subtype), 2-Biopsy (specify subtype), 3-Blood, 4-Bronchial Alveolar Lavage (BAL), 5-Cerebrospinal Fluid (CSF), 6-Conjunctiva/Eye Swab, 7-Ear Swab, 8-Endotracheal Aspirate, 9-Saliva, 10-Serum, 11-Skin Swab, 12-Sputum, 13-Stool, 14-Urine, 15-Vomitus, 16-Wound Swab, 17-Other (describe in the general remarks), 18-Unknown

§ Specimen Subtype: 1-Bladder, 2-Brain, 3-Dura, 4-Hair, 5-Intestine, 6-Kidney, 7-Liver, 8-Lung, 9-Nails, 10-Skin, 11-Stomach, 12-Wound, 13-Other, 14-Unknown

¶ Tested for: 1-Bacteria, 2-Chemicals/Toxins, 3-Fungi, 4-Parasites, 5-Viruses, 6-Other (describe in general remarks), 7-Unknown

Test Types *(Select all test types used for clinical specimens)*

☐ Culture
☐ DNA or RNA Amplication/Detection (e.g., PCR, TR-PCR)
☐ Microscopy (e.g., fluorescent, EM)
☐ Serological/Immunological Test (e.g., EIA, ELISA)
☒ Other (describe in the general remarks)
☐ Phage Typing
☐ Chemical Testing
☐ Tissue Culture Infectivity Assay
☐ Unknown

Water Samples *(Provide representative data about water quality testing, chemical or pathogen testing. Additional sample data can be described in the remarks or attached)*

Was water tested? ☐ Yes *(specify in table below)* ☐ No ☐ Unknown

Results						
Sample Number		1	2	3	4	5
Source of Sample *(e.g., swimming pool, lake)*		*	*	*	*	*
Additional Description *(e.g., time of day, location of sample collection)*						
Date *(mm/dd/yyyy)*						
Volume Tested	Number					
	Unit					
Temperature	Number					
	Unit					
Residual/Free Disinfectant Level *(if total and combined disinfectant levels given, total - combined = free)*	Number					
	Unit					
Combined Disinfectant Level *(if total and free disinfectant levels given, total - free = combined)*	Number					
	Unit					
pH						
Turbidity (NTU)						

Water Samples - Water Quality Indicators *(Might not be applicable for treated recreational water samples)*

Sample Number	Type *(e.g., fecal coliforms)*	Concentration *(numerical value)*	Unit

Water Samples - Microbiology or Chemical/Toxin Analysis *(Provide both positive and negative test results)*

Sample Number	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype	PFGE Pattern

Sample Number	Test Results Positive?	Concentration *(numerical value)*	Unit	Test Type*	Test Method *(reference: National Environmental Methods Index: http://www.neml.gov)*
	☐ Yes				
	☐ Yes				
	☐ Yes				
	☐ Yes				
	☐ Yes				
	☐ Yes				
	☐ Yes				
	☐ Yes				

* Test Type: 1-Culture, 2-DNA or RNA Amplification/Detection (e.g., PCR, RT-PCR), 3-Microscopy (e.g., fluorescent, EM), 4-Serological/Immunological Test (e.g., EIA, ELISA), 5-Phage Typing, 6-Chemical Testing, 7-Tissue Culture Infectivity Assay, 8-Other (describe in the general remarks), 9-Unknown

Recreational Water – Treated Venue

Implicated Water - Recreational Water Venue Description

Venue Number *(use this number to link the venue with water treatment or fill water data below)*	Water Venue *(e.g., spa/whirlpool/hot tub; pool- swimming pool; pool- waterpark)*	Water Venue Subtype *(select indoor, outdoor, or unknown)*	Setting of Exposure *(e.g., club, requiring membership; hotel/motel/lodge/inn; waterpark)*
1	*		
2	*		
3	*		
4	*		
5	*		
6	*		

Venue Number *(Reference the appropriate Venue Number from above)*	USUAL Water Treatment Provided at Venue *(e.g., no treatment; coagulation; disinfection; flocculation; filtration (pool); unknown)*	Venue Treatment Subtype *(disinfection or pool filtration; e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)*	Chlorination Subtype *(chlorine disinfection only; e.g., gaseous; sodium hypochlorite; cyanurates /stabilized chlorine)*

Venue Number *(Reference the appropriate Venue Number from above)*	Fill Water Type *(e.g., public water supply; sea water; untreated ground or surface water; unknown)*	IF PUBLIC WATER WAS USED TO FILL, USUAL Water Treatment Provided for Fill Water Before Coming to the Venue *(e.g., no treatment; disinfection; filtration (treatment plant); unknown)*	IF PUBLIC WATER WAS USED TO FILL, Fill Water Treatment Subtype *(disinfection or filtration; e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)*

Recreational Water Quality

Did the venue meet state or local recreational water quality regulations? ☐ Yes ☐ No ☐ Unknown ☐ Not applicable

Resize Text

If **No**, explain: _____

Was there a pool operator on the payroll with state-approved training or certification? ☐ Yes ☐ No ☐ Unknown

Rec Water-Treated

Factors Contributing to Recreational Water Contamination and/or Increased Exposure in Treated Venues

	Contributing Factors *(Check all that apply)**	Documented/ Observed†	Suspected†
PEOPLE	Exceeded maximum bather load	☐	☐
	Primary intended use of water is by diaper/toddler-aged children (e.g., kiddie pool)	☐	☐
	Heavy use by child care center groups	☐	☐
	Fecal/vomitus accident	☐	☐
	Patrons continued to swim when ill with diarrhea	☐	☐
FACILITY DESIGN	Operator error	☐	☐
	Intentional contamination (explain in remarks)	☐	☐
	Combined pool filtration/recirculation systems led to cross-contamination	☐	☐
	Hygiene facilities (e.g., toilets, diaper changing facilities) inadequate or distant	☐	☐
	Some spray feature water bypasses filtration/treatment system and returns to feature unfiltered/untreated	☐	☐
	No supplemental disinfection installed that would have inactivated pathogen (e.g., *Cryptosporidium*)	☐	☐
	Water temperature ≥30°C (≥86°F)	☐	☐
	Cross-connection with wastewater or non-potable water	☐	☐
MAINTENANCE	Disinfectant control system malfunctioning, inadequate, or lacking (e.g., hand feed chemicals)	☐	☐
	Incorrect settings on disinfectant control system	☐	☐
	pH control system malfunctioning, inadequate, or lacking (e.g., hand feed chemicals)	☐	☐
	Incorrect settings on pH control system	☐	☐
	Filtration system malfunctioning or inadequate (e.g., low flow rate)	☐	☐
	Supplemental disinfection system malfunctioning or inadequate (e.g., ultraviolet light, ozone)	☐	☐
	Insufficient system checks so breakdown detection delayed	☐	☐
	No preventive equipment maintenance programs to reduce breakdowns	☐	☐
	Ventilation insufficient for indoor aquatic facilities	☐	☐
	Chemical handling error (e.g., chemical hookup, improper mixing or application)	☐	☐
	Maintenance chemicals not flushed from system before opening to swimmers	☐	☐
	Recirculation pump off or restarted with swimmers in water	☐	☐
	Low or zero water flow combined with continuous feed of chemicals resulted in excess chemicals in water	☐	☐
	Extensive slime/biofilm formation	☐	☐
	Recent construction	☐	☐
	Cyanurate level excessive	☐	☐
	Lack of draining/cleaning	☐	☐
	Stagnant water in spa piping was aerosolized	☐	☐
POLICY AND MANAGEMENT	No aquatics operators on payroll who have completed state/local training	☐	☐
	Untrained/inadequately trained staff on duty	☐	☐
	Remote monitoring system replaces on-site water quality testing	☐	☐
	Unclear communication chain for reporting problems	☐	☐
	Inadequate water quality monitoring (e.g., inadequate test kit, inadequate testing frequency)	☐	☐
	Employee illness policies absent or not enforced	☐	☐
	No or inadequate policies on good chemical handling and storage practices	☐	☐
	No operator on duty at the time of incident	☐	☐
	Facility falls outside aquatic health code	☐	☐
	No shock/hyperchlorination policy	☐	☐
	Other, specify:	☐	☐
	Unknown	☐	☐

* Only check off what was found during investigation.

† "Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

Remarks Resize Text

Recreational Water – Untreated Venue

Implicated Water - Recreational Water Venue Description

Water Venue *(e.g., canal; lake; river/stream; ocean)*	IF SPRING OR HOT SPRING, Water Venue Sub-type *(select indoor, outdoor or unknown)*	Setting of Exposure *(e.g., beach-public; camp/cabin/recreational area)*
*		
*		
*		

Recreational Water Quality

Did the venue meet state or local recreational water quality regulations?

☐ Yes ☐ No ☐ Unknown ☐ Not applicable Resize Text

If **No**, explain: _____

Did the venue meet Environmental Protection Agency (EPA) recreational water quality standards?

☐ Yes ☐ No ☐ Unknown ☐ Not applicable Resize Text

If **No**, explain: _____

Factors Contributing to Recreational Water Contamination and/or Increased Exposure in Untreated Venues

	Contributing Factors *(Check all that apply)**	Documented/ Observed†	Suspected†
PEOPLE	Exceeded maximum bather load	☐	☐
	Primary intended use of water is by diaper/toddler aged children (e.g., kiddie pool)	☐	☐
	Heavy use by child care center groups	☐	☐
	Fecal/vomitus accident	☐	☐
	Patrons continued to swim when ill with diarrhea	☐	☐
	Staff error	☐	☐
	Intentional contamination (explain in remarks)	☐	☐
SWIM AREA DESIGN	Hygiene facilities (e.g., toilets, diaper changing facilities) inadequate or distant	☐	☐
	Malfunctioning or inadequate on-site wastewater treatment system §¶	☐	☐
	Poor siting/design of on-site wastewater treatment system §¶	☐	☐
	Stagnant or poorly circulating water in swim area	☐	☐
	Heavy rainfall and runoff	☐	☐
	Sanitary sewer overflow (SSO) impact §	☐	☐
	Combined sewer overflow (CSO) impact§	☐	☐
	Domestic animal contamination (e.g., livestock, pets)	☐	☐
WATER QUALITY	Wildlife contamination - Birds	☐	☐
	Wildlife contamination - Mammals	☐	☐
	Wildlife contamination - Fish kill	☐	☐
	Wastewater treatment plant effluent flows past swim area	☐	☐
	Wastewater treatment plant malfunction §	☐	☐
	Sewer line break §	☐	☐
	Nearby biosolid/land application site (e.g., human or animal waste application)	☐	☐
	Contamination from agricultural chemical application (e.g., fertilizer, pesticides)	☐	☐
	Contamination from chemical pollution not related to agricultural application	☐	☐
	Water temperature ≥30°C (≥86°F)	☐	☐
	Seasonal variation in water quality (e.g., lake/reservoir turnover events)	☐	☐
	Inappropriate dumping of sewage into water body (e.g., from boat, RV)	☐	☐
	Algal bloom	☐	☐
	Dumping of ballast water	☐	☐
	Tidal wash (i.e., tide exchange or influence by inland water)	☐	☐
POLICY AND MANAGEMENT	No or inadequate monitoring of water quality	☐	☐
	No managers have completed state/local required training	☐	☐
	Untrained/inadequately trained staff on duty	☐	☐
	Unclear communication chain for reporting problems	☐	☐
	Employee illness policies absent or not enforced	☐	☐
	Other, specify:	☐	☐
	Unknown	☐	☐

* Only check off what was found during investigation.

† "Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

§ The release of sewage does not have to occur at the property/venue/setting where the people were exposed. The sewage may have occurred at a distant site but still affected the property/venue/setting in question.

¶ "On-site wastewater treatment system" refers to a system designed to treat and dispose of wastewater at the point of generation, generally on the property where the wastewater is generated (e.g., septic systems or other advanced on-site systems). However, contamination that originates from these systems can still occur off the property where treatment and disposal takes place due to migration of contaminants from malfunctioning systems or poor siting and design.

Remarks

Resize Text

Drinking Water

Implicated Water - Drinking Water System Description

Water System* (e.g., commercially-bottled water, community water system, individual water system)	Public Water System EPA ID Number†	Water Source (select ground water, surface water or unknown)	Water Source Description (e.g., spring; well; lake)	Setting of Exposure (e.g., airport, mobile home park)	USUAL Water Treatment Provided (e.g., no treatment, disinfection, home filtration)	Water Treatment Subtype (disinfection or filtration; e.g., boiling; chlorine; rapid sand filter; reverse osmosis)
Community	M10002310	Unknown				

* Water system definitions: Community and noncommunity water systems are public water systems that have ≥ 15 service connections or serve an average of ≥ 25 residents for ≥ 60 days/year. A community water system serves year-round residents of a community, subdivision, or mobile home park. A noncommunity water system serves an institution, industry, camp, park, hotel, or business and can be nontransient or transient. Nontransient systems serve ≥ 25 of the same persons for > 6 months of the year but not year-round (e.g., factories and schools), whereas transient systems provide water to places in which persons do not remain for long periods (e.g., restaurants, highway rest stations, and parks). Individual water systems are small systems not owned or operated by a water utility that have < 15 connections or serve < 25 persons.

† Number used for EPA reporting that uniquely identifies the water system within a specific state. The water system ID number can be found at http://www.epa.gov/safewater/dwinfo/index.html by first selecting a state and then selecting a county.

Drinking Water Quality

Did the drinking water system have any monitoring violations in the 1 month prior to the outbreak?

Resize Text

☒ Yes ☐ No ☐ Unknown ☐ Not applicable

If **Yes**, explain: There were monitoring violations during the outbreak. Boil water advisories were issued 8/1/14 and 9/1/14 for the presence of bacteria.

Did the drinking water system have any maximum contaminant level (MCL) violations in the 1 month prior to the outbreak?

Resize Text

☒ Yes ☐ No ☐ Unknown ☐ Not applicable

If **Yes**, explain: There were two violation during the outbreak. See above.

Did the drinking water system have any violations in the 12 months prior to the outbreak?§

Resize Text

☐ Yes ☒ No ☐ Unknown ☐ Not applicable

If **Yes**, explain: No violations were reported during that period.

§ Sources of information about past violations can be obtained from utility records, consumer confidence reports (water quality reports), or violation records from state or local health departments

Factors Contributing to Drinking Water Contamination and/or Increased Exposure to Contaminated Drinking Water

1. Did a problem with the source water (i.e., ground water or surface water) contribute to the disease or outbreak?

☐ Yes *(specify in table below)* ☐ No ☒ Unknown

Source Water Contributing Factors *(Check all that apply)**	Documented/ Observed†	Suspected†
Sanitary sewer overflow (SSO) §	☐	☐
Combined sewer overflow (CSO) §	☐	☐
Malfunctioning on-site wastewater treatment system § ¶	☐	☐
Sewage treatment plant malfunction §	☐	☐
Sewer line break §	☐	☐
Poor siting/design of on-site wastewater treatment system § ¶	☐	☐
Nearby biosolid/land application site (e.g., human or animal waste application)	☐	☐
Contamination from agricultural chemical application (e.g., fertilizer, pesticides)	☐	☐
Contamination from chemical pollution not related to agricultural application	☐	☐
Contamination by a chemical that the current treatment methods were not designed to remove	☐	☐
Domestic animal contamination (e.g., livestock, concentrated feeding operations, pets)	☐	☐
Wildlife contamination - Birds	☐	☐
Wildlife contamination - Mammals	☐	☐
Wildlife contamination - Fish kill	☐	☐
Flooding/heavy rains	☐	☐
Algal bloom	☐	☐
Seasonal variation in water quality (e.g., lake/reservoir turnover events, resort community with seasonal loading)	☐	☐
Low water table (e.g., drought, over-pumping)	☐	☐
Ground water under direct influence of surface water (e.g., shallow well)**	☐	☐
Contamination through limestone or fissured rock (e.g., karst)	☐	☐
Contaminated recharge water	☐	☐
Use of an alternate source of water by a water utility	☒	☐
Mixing of raw water from different sources	☐	☐
Improper construction or location of a well or spring	☐	☐
Water system intake failure (e.g., cracked well casing, cracked intake pipe)	☐	☐
Intentional contamination (explain in remarks)	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

Factors Contributing to Drinking Water Contamination and/or Increased Exposure to Contaminated Drinking Water

2. Did a problem with the water treatment prior to entry into a house or building contribute to the disease or outbreak?

☐ Yes *(specify in table below)* ☐ No ☒ Unknown

Treatment Contributing Factors *(Check all that apply)**	Documented/ Observed†	Suspected†
Change in treatment process (explain in remarks)	☒	☐
No disinfection	☐	☐
Temporary interruption of disinfection	☐	☐
Chronically inadequate disinfection	☐	☐
No filtration	☐	☐
Inadequate filtration	☐	☐
Deficiencies in other treatment processes	☐	☒
Corrosion in or leaching from pipes or storage tanks	☐	☐
Pipe/component failure or break (e.g., pipes, tanks, valves)	☐	☒
Contamination during construction or repair of pipes/components	☐	☒
Construction or repair of pipes/components without evidence of contamination	☐	☒
Operator error	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

* Only check off what was found during investigation.

† "Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

§ The release of sewage does not have to occur on the property in which persons have become ill. The sewage release may have occurred at a distant site but still affected the property in question.

¶ "On-site wastewater treatment system" refers to a system designed to treat and dispose of wastewater at the point of generation, generally on the property where the wastewater is generated (e.g., septic systems or other advanced on-site systems). However, contamination that originates from these systems can still occur off the property where treatment and disposal takes place due to migration of contaminants from malfunctioning systems or poor siting and design.

** Any water beneath the surface of the ground with substantial occurrence of insects or other macroorganisms, algae, or large-diameter pathogens (e.g., *Giardia intestinalis* or *Cryptosporidium*), or substantial and relatively rapid shifts in water characteristics (e.g., turbidity, temperature, conductivity, or pH) that closely correlate with climatologic or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the state.

Drinking Water

3. Did a problem with the distribution system contribute to the disease or outbreak? ☐ Yes *(specify in table below)* ☐ No ☒ Unknown

(NOTE: For a community water system, the distribution system refers to the pipes and storage infrastructure under the jurisdiction of the water utility prior to the water meter (or property line if the system is not metered). For noncommunity and nonpublic water systems, the distribution system refers to the pipes and storage infrastructure prior to entry into a building or house)

Distribution and Storage Contributing Factors *(Check all that apply)**	**Documented/ Observed†**	**Suspected†**
Cross-connection of potable and nonpotable water pipes resulting in backflow	☐	☐
Low pressure or change in water pressure in the distribution system	☒	☐
Change in water flow direction in the distribution system	☐	☐
Mixing of treated water from different sources	☐	☐
Pipe/component failure or break (e.g., pipes, tanks, valves)	☐	☒
Corrosion in or leaching from pipes or storage tanks	☐	☒
Contamination of mains during construction or repair	☐	☒
Construction or repair of mains without evidence of contamination	☐	☒
Scheduled flushing of the distribution system	☐	☒
Contamination of storage facility	☐	☐
Aging water distribution components (e.g., pipes, tanks, valves)	☒	☐
Water temperature ≥30°C (≥86°F)	☐	☐
Intentional contamination (explain in remarks)	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

4. Did a problem occur after the water meter or outside the jurisdiction of a water utility that contributed to the disease or outbreak? (e.g., in a service line leading to a house/building, in the plumbing inside a house/building, during shipping/hauling, during storage other than in the distribution system, at the point of use, involving commercially-bottled water)

☒ Yes *(specify in table below)* ☐ No ☐ Unknown

Factors Not Under the Jurisdiction of a Water Utility or Contributing Factors at the Point of Use *(Check all that apply)**	**Documented/ Observed†**	**Suspected†**
Legionella species in water system	☐	☐
Cross-connection of potable and nonpotable water pipes resulting in backflow	☐	☐
Lack of backflow prevention in plumbing	☐	☐
Low pressure or change in water pressure in the plumbing	☐	☐
Change in water flow direction in the plumbing	☐	☐
Corrosion in or leaching from pipes or storage tanks	☐	☐
Pipe/component failure or break (e.g., pipes, tanks, valves)	☐	☒
Aging plumbing components (e.g., pipes, tanks, valves)	☐	☒
Contamination of plumbing during construction or repair	☐	☒
Construction or repair of plumbing without evidence of contamination	☐	☐
Deficiency in building/home-specific water treatment after the water meter or property line	☐	☐
Deficiency or contamination of equipment/devices using or distributing water	☐	☐
Contamination during commercial bottling	☐	☐
Contamination during shipping, hauling, or storage	☐	☐
Contamination at point of use – Tap	☐	☐
Contamination at point of use – Hose	☐	☐
Contamination at point of use – Commercially-bottled water	☐	☐
Contamination at point of use – Container, bottle, or pitcher	☐	☐
Contamination at point of use – Unknown	☐	☐
Water temperature ≥30°C (≥86°F)	☐	☐
Intentional contamination (explain in remarks)	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

* Only check off what was found during investigation.

† "Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

Remarks

Resize Text

In April 2014, the City of Flint changed the water source it was using from a Detroit source to the Flint River. There were many issues related to the change in water source. There were challenges in the way the water from the Flint River was treated. Flint has a aging infrastructure. There were hundreds of reported water main breaks during the outbreak period. There were two boil water advisories during the outbreak period.

Not all the cases involved in this outbreak reside in Flint or used Flint water.

Other or Unknown Water

Intent for Use

What was the intended use for the implicated water? *(check all that apply)*

- ☐ Cooling/Air Conditioning (e.g., cooling tower, swamp cooler)
- ☐ Mister (e.g., produce in grocery store, public cooling system)
- ☐ Ornamental (e.g., a decorative non-interactive fountain intended for public display and not designed for swimming or recreational use)
- ☐ Industrial/Occupational (e.g., steam cleaner)
- ☐ Agricultural Irrigation
- ☐ Waste water
- ☒ Other (specify): water system
- ☐ Unknown

Implicated Water - Water Description

Water Type *(e.g., cooling tower; drainage ditch; fountain- ornamental)*	Setting of Exposure *(e.g., airport; hospital/health care facility, nursing home; park- state park)*	USUAL Water Treatment Provided *(e.g., no treatment; disinfection; settling/sedimentation)*	Water Treatment Subtype *(disinfection or filtration: e.g., boiling; chlorine; rapid sand filter; reverse osmosis)*
*	Hospital/Health Care		
*			
*			
*			
*			

Factors Contributing to Contamination and/or Increased Exposure to Contaminated Water

Contributing Factors *(Check all that apply)**	Documented/ Observed†	Suspected†
Cooling tower/evaporative condenser – shutdown for >3 days without draining to waste	☐	☐
Cooling tower/evaporative condenser – lack of a maintenance program	☐	☐
Cooling tower/evaporative condenser – lack of a qualified water quality specialist	☐	☐
Cooling tower/evaporative condenser – presence of scale or corrosion	☐	☐
Cooling tower/evaporative condenser – presence of dirt, organic matter, or other debris in the cold water basin	☐	☐
Cooling tower/evaporative condenser – absence of drift eliminators	☐	☐
Cooling tower/evaporative condenser – presence of damaged drift eliminators	☐	☐
Cooling tower/evaporative condenser – history of recent repairs to the device	☐	☐
Cooling tower/evaporative condenser – siting of device near building air intakes	☐	☐
Cooling tower/evaporative condenser – siting of device near windows that can be opened	☐	☐
Cooling tower/evaporative condenser – siting of device in immediate area of kitchen exhaust fans, live plants, truck bays, or other sources of organic matter	☐	☐
Cooling tower/evaporative condenser – construction on the premises of the device within 6 months before the index case	☐	☐
Cooling tower/evaporative condenser – construction within 100 meters of the premises of the device within 6 months before the index case	☐	☐
Ornamental fountain – presence of submerged lighting	☐	☐
Ornamental fountain – lack of a written cleaning and maintenance program	☐	☐
Ornamental fountain – presence of dirt, organic matter, or other debris in the water basin	☐	☐
Ornamental fountain – intended as an ornamental fountain but utilized as an interactive fountain	☐	☐
Ornamental fountain – inadequate disinfection for recreational use	☐	☐
Ornamental fountain – inadequate filtration for recreational use	☐	☐
Broken/damaged sewer pipe	☐	☐
Recycling of water	☐	☐
Water temperature ≥30°C (≥86°F)	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

* Only check off what was found during investigation.

† "Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

Remarks

Resize Text

GCHD first increased monitoring for Legionella as a result of a report from another hospital system that they had received a patient from the suspect hospital system diagnosed with Legionella after a hospital stay (6/24/14). GCHD increased monitoring for Legionella and increased communication with the suspect hospital. An increase in cases was noted in August 2014, at the suspect hospital system. The cases were located in the same tower building but different floors. The tower cooling system was suspected. GCHD Environmental Health staff worked with the hospital environmental health staff and testing of the hospital water occurred beginning 9/5/14. Legionella was identified in the hospital water system and hyperchlorination occurred in the facility 10/4/14. Following treatment, no cases with previous hospitalization occurred at the facility until May of 2015. A separate report will follow related to those cases. The hospital did continue monthly testing.

The area for the first boil water advisory 8/1/14 was adjacent to the suspect hospital facility. Numerous water main/pipe breaks were reported in the area around the suspect hospital facility during the outbreak period.

Henry, James

From: Cupal, Suzanne
Sent: Monday, November 30, 2015 1:28 PM
To: Henry, James
Subject: FW: Visit next week

FYI...

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Lytle, Darren [mailto:Lytle.Darren@epa.gov]
Sent: Monday, November 30, 2015 12:54 PM
To: Valacak, Mark; Cupal, Suzanne
Subject: Visit next week

Suzanne and Mark,

Mike Schock and I will be visiting Flint next Tuesday and Wednesday. We would really like to try to find some time to sit down with you (and others) and discuss the Legionella data you have. We were wondering whether you have some time on either day?

Thanks, Darren

Darren A. Lytle, Ph.D., P.E.
Branch Chief (Acting)
U.S. Environmental Protection Agency
26 West Martin Luther King Dr.
Cincinnati, Ohio 45268
Phone: (513) 569-7432
Fax: (513) 487-2543
email: lytle.darren@epa.gov

Henry, James

From:	Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>
Sent:	Friday, December 4, 2015 9:09 AM
To:	Cupal, Suzanne; Collins, Jim (CDC michigan.gov); Lytle, Darren
Cc:	Yoder, Jonathan S. (CDC/OID/NCEZID); Sarisky, John (CDC/ONDIEH/NCEH); Johnson, Mark (ATSDR/DCHI/CB); Valacak, Mark; Henry, James; LaRocco, Toni; Fiedler, Jay (CDC michigan.gov)
Subject:	RE: Rough Draft Legionnaires Disease Media Release

OK, let's go ahead and schedule for Thurs Dec. 10 at 9:00 AM Eastern.

Tel: 866-692-4538
Code: 84160510

Here is a proposed agenda...feel free to weigh in on other items we should discuss.

Specific to Legionnaires' disease:
--What type of assistance (if any) is being requested? (State and County HD)
--What is the role of EPA and what assistance has been provided so far? (EPA)
--What is the role of ATSDR and what assistance has been provided so far? (ATSDR)
--If additional federal assistance is needed, what can CDC offer? (CDC)

Thanks everyone!
Laurel

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, December 03, 2015 3:07 PM
To: Collins, Jim (CDC michigan.gov) <collinsj12@michigan.gov>; Lytle, Darren <Lytle.Darren@epa.gov>; Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>; Johnson, Mark (ATSDR/DCHI/CB) <mkj5@cdc.gov>; Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>; Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>
Subject: RE: Rough Draft Legionnaires Disease Media Release

That would work for me.

Suzanne

Sent from my Windows Phone

From: Collins, Jim (DHHS)
Sent: 12/3/2015 3:04 PM
To: Lytle, Darren; Garrison, Laurel (CDC/OID/NCIRD); Cupal, Suzanne
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID); Sarisky, John (CDC/ONDIEH/NCEH); mkj5@cdc.gov; Valacak, Mark; Henry,

James; LaRocco, Toni; Fiedler, Jay (DHHS)
Subject: RE: Rough Draft Legionnaires Disease Media Release

Jay and I can call in from Denver at 9am eastern.

Jim Collins MPH, RS
Director, CD Division
MDHHS
Desk: 517-335-8586
Cell: 517-930-6932
Confidentiality Notice: This message, including any attachments, is intended solely for the use of the named recipient(s) and may contain confidential and/or privileged information. Any unauthorized review, use, disclosure or distribution of any confidential and/or privileged information contained in this email is expressly prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy any and all copies of the original message

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From: Lytle, Darren [mailto:Lytle.Darren@epa.gov]
Sent: Thursday, December 03, 2015 3:01 PM
To: Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>; Cupal, Suzanne <scupal@gchd.us>
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>; mkj5@cdc.gov; Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>; Collins, Jim (DHHS) <CollinsJ12@michigan.gov>; Fiedler, Jay (DHHS) <FiedlerJ@michigan.gov>
Subject: RE: Rough Draft Legionnaires Disease Media Release

9 am on Thursday is perfect for me. Darren

Darren A. Lytle, Ph.D., P.E.
Branch Chief (Acting)
U.S. Environmental Protection Agency
26 West Martin Luther King Dr.
Cincinnati, Ohio 45268
Phone: (513) 569-7432
Fax: (513) 487-2543
email: lytle.darren@epa.gov

From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Thursday, December 03, 2015 2:58 PM
To: Cupal, Suzanne <scupal@gchd.us>
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>; mkj5@cdc.gov; Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>; Collins, Jim (CDC michigan.gov) <collinsj12@michigan.gov>; Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>; Lytle, Darren <Lytle.Darren@epa.gov>
Subject: RE: Rough Draft Legionnaires Disease Media Release

We are unfortunately booked solid next Wednesday, but we could do 9:00 or 3:00 next Thursday, Dec 10. Would one of these times work for all?

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, December 02, 2015 12:30 PM
To: Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>; Johnson, Mark (ATSDR/DCHI/CB) <mkj5@cdc.gov>; Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>; Collins, Jim (CDC michigan.gov) <collinsj12@michigan.gov>;

Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>; lytle.darren@epa.gov
Subject: RE: Rough Draft Legionnaires Disease Media Release

Laurel-

With the consent of our state colleagues, we would like to move forward with an call with everyone Wednesday or Thursday next week.

Thank you for volunteering to make the arrangements.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Tuesday, December 01, 2015 5:03 PM
To: Cupal, Suzanne
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID); Sarisky, John (CDC/ONDIEH/NCEH); Johnson, Mark (ATSDR/DCHI/CB); Valacak, Mark; Henry, James; LaRocco, Toni; Collins, Jim (CDC michigan.gov); Fiedler, Jay (CDC michigan.gov); 'lytle.darren@epa.gov'
Subject: RE: Rough Draft Legionnaires Disease Media Release

Hi Suzanne,

Our offer still stands to offer assistance. Please let us know how we can help. I think in terms of sorting out communication, it would be helpful for us at CDC to be involved on a call with all the other players (county HD, state HD, ATSDR, EPA). Having a discussion about potential roles and communication would help us get organized before we even start talking about how to tackle the problem. I'm happy to try scheduling something for Wednesday or Thursday if that works for all parties involved.

Laurel

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Tuesday, December 01, 2015 3:34 PM
To: Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>; Johnson, Mark (ATSDR/DCHI/CB) <mkj5@cdc.gov>; Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>
Subject: RE: Rough Draft Legionnaires Disease Media Release

Laurel-

The media release you received is a very rough draft of a proposed media release. The information was shared with our EPA colleagues because they have offered their assistance with our Legionella concerns. We have scheduled a meeting next week. The information was not shared widely because the draft was incredibly rough and because we have not shared yet with all the parties that we have worked with on this investigation.

We would be happy to get input from everyone. GCHD completed the first NORS report and forwarded to our state colleagues. That was the reference added to the draft release. I don't know if you have received it yet.

Since May of this year, we have observed 41 cases of Legionella. Of these cases, 18 were previously hospitalized in the facility we worked with last year. This year, GCHD connected that hospital with Special Pathogens Laboratory and they now meet the ASHRAE 188 guidelines. We have not seen any previously hospitalized cases since August of 2015, when they did their remediation. Omitting those cases, we are still seeing an significant increase in cases in Genesee County. (Please see the attached summary through the end of October. We have one additional case in November.)

GCHD is still concerned about the number of Legionella cases that we have seen in 2014 and 2015. Our EPA colleagues have indicated their concerns regarding our water issues being a potential source of exposure, particularly with regards to the hospital we worked with this year. We are concerned because of the issues with our aging infrastructure and the fact that there will be another switch in water supply next year. We want to do everything we can to prevent Legionella cases in 2016.

Mark Johnson of the ATSDR reached out to GCHD and offered assistance as has the EPA. We would like the assistance of all parties with expertise in type one water supplies and Legionella to help in addressing these concerns. We would welcome a conversation with the CDC, ATSDR, EPA, our state colleagues and other experts that could support our efforts.

We have seen 86 cases of Legionella since 2014. We want to prevent Legionella in 2016. We would appreciate your help.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Tuesday, December 01, 2015 1:27 PM
To: Cupal, Suzanne
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID); Sarisky, John (CDC/ONDIEH/NCEH); Johnson, Mark (ATSDR/DCHI/CB)
Subject: Fw: Rough Draft Legionnaires Disease Media Release
Importance: High

Hi Suzanne,
Please see below. The state asked me to share this directly with you. Thanks for considering our feedback. Can you share a copy of the final release?
Thanks, Laurel

From: Garrison, Laurel (CDC/OID/NCIRD)
Sent: Tuesday, December 01, 2015 11:30 AM Eastern Standard Time

To: Fiedler, Jay (CDC michigan.gov); Collins, Jim (CDC michigan.gov)
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID); Sarisky, John (CDC/ONDIEH/NCEH); Johnson, Mark (ATSDR/DCHI/CB)
Subject: FW: Rough Draft Legionnaires Disease Media Release

Hi Jim and Jay,

See below and attached. Are you in the loop on this? I have concerns about this last paragraph:

"We remain vigilant with our surveillance efforts and are reaching out to the Environmental Protection Agency for their expertise in reviewing our data. A formal report has been submitted to the Centers for Disease Control through our MDHHS colleagues. GCHD continues to seek out Legionella expertise to address this observed increase in disease."

As you're aware, we haven't received a formal report from MDHHS, and haven't received a request to review anything in any formal or informal way since June. When we offered to arrange a call recently, the offer was declined. Of course we are ready to assist if there is a need, but I'm concerned that this statement is misrepresenting CDC's current involvement.

If the county is open to incorporating additional feedback, our communications specialist took a look at this and provided some edits (attached). She has a lot of experience with messaging around Legionnaires' disease outbreaks. Let me know if I should share this with the county directly.

Thanks,
Laurel

Laurel Garrison, MPH
Legionellosis Surveillance & Outbreak Response
NCIRD/DBD/Respiratory Diseases Branch
Centers for Disease Control and Prevention
1600 Clifton Rd., NE MS C-25
Atlanta, GA 30329-4027
404.639.3424
Lee5@cdc.gov

From: Johnson, Mark (EPA) (CDC epa.gov)
Sent: Tuesday, December 01, 2015 10:17 AM
To: Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>; Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>
Cc: Buchanan, Sharunda D. (CDC/ONDIEH/NCEH) <sdb4@cdc.gov>; Blake, Robert G. (CDC/ONDIEH/NCEH) <emn9@cdc.gov>
Subject: FW: Rough Draft Legionnaires Disease Media Release

I realize that there has not been a formal request for support from the MI Dept of Health and Human Services to CDC. However, I wanted to make you aware of this draft press release on the Legionnaires Disease issue in Genesee County, MI. This is being sent mainly FYI, however, it may be useful to know if there were any glaring concerns with the content of this statement that should be communicated.

Mark

Mark D. Johnson, PhD, DABT
Regional Director/Toxicologist
Agency for Toxic Substances and Disease Registry (ATSDR)
77 W. Jackson Blvd.
Chicago, IL 60604
Office: 312-353-3436
Email: mdjohnson@cdc.gov

From: Poy, Thomas
Sent: Tuesday, December 01, 2015 8:37 AM
To: Johnson, Mark <johnson.mark@epa.gov>
Subject: FW: NEEDS IMMEDIATE ATTENTION FW: Rough Draft Legionnaires Disease Media Release

Mark: Genesee County is goint to put out a press release soon about the increase in cases of Legionaires Disease and is looking for comments. Attached is the draft press release.

Tom

Tom Poy
Chief, Ground Water and Drinking Water Branch
USEPA - Region 5
(312) 886-5991

From: Lytle, Darren
Sent: Tuesday, December 01, 2015 5:53 AM
To: Kaplan, Robert <kaplan.robert@epa.gov>
Cc: Schock, Michael <Schock.Michael@epa.gov>; Kempic, Jeffrey <Kempic.Jeffrey@epa.gov>; Schock, Michael <Schock.Michael@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Deltoral, Miguel <deltoral.miguel@epa.gov>; Henry, Timothy <henry.timothy@epa.gov>
Subject: NEEDS IMMEDIATE ATTENTION FW: Rough Draft Legionnaires Disease Media Release

Bob (and task force),

I have been trying to get to the bottom of reports of increases in reported cases of Legionnaires Disease in Genessee County and finally reached the correct people. They shared some data that is very concerning and although they can't pinpoint the exact source of Legionella, drinking water can't be ruled out. Large increases in cases (my understanding is there were associated deaths) started shortly after the change in source water and all of the DS problems. They County needs to put out a press release regarding their findings and are obviously very concerned with how the public will react given all that has happened in Flint. They asked me to look at a draft of the release and I suggested I take it to the Task Force (they obviously agreed). The attached draft is short and I think they need a very quick turnaround (I will ask). Is it safe to say we can provide a quick review?

On a different topic, were there any plans/discussion of the task force meeting in Flint next week? Mike and I had planned a trip up there because Flint's technical advisory group was supposed to meet. That meeting has been cancelled but we felt the need to still travel up there to meet with various groups. The Genessee County group would like to meet on Tuesday afternoon next week to go over their study.

Darren

Darren A. Lytle, Ph.D., P.E.
Branch Chief (Acting)

U.S. Environmental Protection Agency
Cincinnati, Ohio 45268
Phone: (513) 569-7432
Fax: (513) 487-2543
email: lytle.darren@epa.gov

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Monday, November 30, 2015 4:17 PM
To: Lytle, Darren <Lytle.Darren@epa.gov>
Cc: Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>
Subject: Rough Draft Legionnaires Disease Media Release

Darren-

The attached is a really rough draft of the media release. We would appreciate feedback from the EPA task force.

Thank you for your assistance.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Genesee County Health Department

Genesee County
Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

Date: November 30, 2015

Release Date: For Immediate Release End Date: ??????

Contact: Name
Title

Phone: (810) 257-

Re: Legionnaires Disease Increase in Genesee County

The Genesee County Health Department has been monitoring a significant increase in the number of Legionnaires cases observed in Genesee County during 2014 and 2015. During calendar year 2014, there were 41 cases of Legionella. To date in 2015, we have observed 45 cases of Legionella. Legionella bacteria are commonly found in the environment, usually in water. The bacteria grow best in warm water like the water found in hot tubs, cooling towers, hot water tanks, pools, decorative fountains and large plumbing systems Legionnaires Disease is a respiratory condition caused by when individuals breathe in a mist or vapor (small droplets of water in the air) containing the bacteria. One example might be from breathing in droplets sprayed from a hot tub or pool that has not been properly cleaned and disinfected. The bacteria are **not** spread from one person to another person. The bacteria do not cause illness by drinking the infected water. Individuals who are most at risk of developing Legionnaires Disease are those who have other underlying or chronic health conditions.

Legionnaires Disease is often observed seasonally, with more cases observed between May and October when the weather is warmer. Symptoms of Legionnaires Disease include cough, shortness of breath, high fever, muscle aches, headaches and gastrointestinal issues. These symptoms usually occur 2 to 14 days after being exposed to the bacteria. Legionnaires Disease is diagnosed through primary care evaluation and laboratory testing and is treated with antibiotics. Like other respiratory illnesses, individuals with other health issues are at greater risk of complications.

The Genesee County Health Department has been working closely with the infection control staff members of our local medical centers. They have communicated Legionella information with their staff members. GCHD has had concerns regarding hospital environments and has worked to ensure that appropriate actions have been taken to address those concerns. Clinical guidance was shared with local physicians. An extensive questionnaire has been used by GCHD staff to identify potential common sources of exposure in those who were ill. GCHD posted a Legionnaires Disease fact sheet to our website during the warm weather months to educate the community about this respiratory condition. GCHD has also collaborated with our colleagues at Michigan Department of Health and Human Service (MDHHS) Epidemiology section regarded this observed increase in cases. These Legionnaires Disease cases are being observed throughout Genesee County. There is no specific geographic pattern identified among the cases. There has not been a single source of exposure identified in common among the cases. The majority of individuals diagnosed with Legionnaires Disease have had other chronic or underlying health conditions and are those most at risk for complications of Legionnaires Disease.

We are now seeing the expected seasonal decline in Legionnaires Disease cases. We remain vigilant with our surveillance efforts and are reaching out to the Environmental Protection Agency for their expertise in reviewing our data. A formal report has been submitted to the Centers for Disease Control through our MDHHS colleagues. GCHD continues to seek out Legionella expertise to address this observed increase in disease. The Genesee County Health Department continues to work to prevent the presence of Legionnaires Disease in our community.

Better Life Through Better Health

Floyd J. McCree Courts & Human Services Building ♦ 630 S. Saginaw Street, Ste. 4 ♦ Flint, Michigan 48502-1540

Burton Branch ♦ G-3373 S. Saginaw Street ♦ Burton, Michigan 48529

Main Phone 810-257-3612 ♦ Visit us at: www.gchd.us

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Friday, June 05, 2015 4:37 PM
To: Collins, Jim (CDC michigan.gov); Garrison, Laurel (CDC/OID/NCIRD)
Cc: Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Meghan Weinberg (CDC michigan.gov); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (CDC michigan.gov); Bohm, Susan (CDC michigan.gov); GJOHNSON@gchd.us; Wright, Michael; PRYSBYM@michigan.gov; Connolly, Stephanie
Subject: Legionellosis Outbreak Investigation

Hello Team,

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Genesee County has had three confirmed Legionella cases, since the beginning of May 2015. The most recent cases on 6/1/15 and 6/2/15 have provided sputum samples to McLaren Hospital for analysis. We have discussed concerns regarding the hospitals' lack of success isolating the bacteria and MDCH and CDC have expressed interest to assist with the process.

From: Valacak, Mark
Sent: Friday, December 4, 2015 1:17 PM
To: Cupal, Suzanne; Henry, James; LaRocco, Toni; Brickey, Tamara
Subject: Fwd: Documents

Sent from my iPhone

Begin forwarded message:

> **From:** "Collins, Jim (DHHS)" <CollinsJ12@michigan.gov>
> **To:** "Mark Valacak (mvalacak@gchd.us)" <mvalacak@gchd.us>
> **Cc:** "Moran, Susan (DHHS)" <MoranS@michigan.gov>, "Miller, Corinne (DHHS)" <MillerC39@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>, "Wells, Eden (DHHS)" <WellsE3@michigan.gov>, "Fiedler, Jay (DHHS)" <FiedlerJ@michigan.gov>
> **Subject: Documents**
>
> Hi Mark,
>
> From our discussion the other day, and understanding that the original GCHD document was very much in draft form, we did do some work to tune the press release that was circulated. I've attached it here and offer for your consideration as suggested language should you all decide to do a press release. I hope it provides some value.
>
> Second, I've attached a copy of the Outbreak Summary June 2014-March 2015. No new data here, we've just cleaned it up a bit. We spent some time working on making that into something

I think might be more useful. We've eliminated some of the stratified tables that added little to the discussion, cleaned up some of the graphs for clarity and content and added a one pager to open up the document with an "executive-like summary" of the report.

Thanks,
Jim

Jim Collins MPH, RS
Director
Communicable Disease Division
Michigan Department of Health and Human Services
201 Townsend St.
Lansing, MI 48913
Desk: 517-335-8586
Cell: 517-930-6932

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Report Date 5/29/2015

Summary of Legionellosis Outbreak — Genesee County, June 2014–March 2015

From June 2014 to March 2015, 45 Legionnaires' disease (LD) cases including 7 deaths were reported in Genesee County, Michigan. The Michigan Department of Health and Human Services (MDHHS) assisted the Genesee County Health Department (GCHD) in the investigation.

Data were collected from patient medical record review, the Michigan Disease Surveillance System case report form, and interviews with case-patients or their proxies with an enhanced legionellosis questionnaire. In an attempt to identify community sources, case-patients or proxies were interviewed about travel, work, and locations visited during the 2 weeks prior to symptom onset (considered the incubation period for LD).

All 45 cases were laboratory confirmed by *Legionella* urinary antigen test; one sputum specimen was collected, which was *Legionella* culture negative. Median patient age was 62 years (range: 26–94); 23 (51%) were male. Illness onset dates ranged from June 6, 2014 to March 9, 2015 and peaked in August, 2014 with 10 cases. Multiple attempts by phone and letter were made to contact all case-patients; interviews using the enhanced questionnaire were completed on 30 of 45 (67%). Healthcare-associated LD was suspected for a subset of cases. Nineteen of the 45 (42%) patients were hospitalized during the 2 weeks prior to symptom onset. Of those, 16 (84%) were hospitalized at hospital A, 2 (11%) at hospital B, and 1 (5%) at hospitals A and B. One patient was hospitalized at hospital A during their entire 2-week exposure period. Eight additional persons were exposed to Flint hospitals as outpatients or visitors; 5 (63%) to hospital A, 2(25%) to hospital B, and 1 (15%) to hospitals A and B. In total, 23/45 (51%) patients were exposed to hospital A as an inpatient, outpatient, or visitor. On October 4, 2014, hospital A hyperchlorinated their water system and continues to monitor for *Legionella*.

The municipal water system was an additional suspected source. Twenty-one of 45 (47%) cases occurred in people whose residence received City of Flint water. The majority (10 of 13, 77%) of people interviewed who lived on Flint water reported changes in water quality; 6 of 13 (46%) experienced water main breaks or water line issues at or near their residence prior to illness. Of the 18 persons that did not report healthcare visits, 8 (44%) were exposed to Flint water at their home.

In other exposures, of 30 persons interviewed, 2 (7%) stayed overnight in 2 different hotels, 2 (7%) were exposed to hot tubs and 20 (67%) visited ≥1 grocery store. All locations mentioned were visited by ≤2 patients with the exception of one grocery store outside of Flint that was visited by 5 patients.

Ten cases had no exposure to a Flint hospital in the 2 weeks prior to illness nor were their homes on the Flint water system. Of those, 3 people might have been exposed to Flint water at a grocery store or motel. Additionally, 1 person reported exposure to stagnant water as an industrial painter and one person was hospitalized at hospital A for 10 days immediately prior to their exposure period. The remaining 5 cases have no known exposure to Flint water, healthcare, or travel.

The outbreak is over; the last reported case occurred in March, 2015. The lack of clinical *Legionella* isolates precludes our ability to link cases to an environmental source. As epidemiologic data did not indicate a common community source, we cannot recommend environmental testing or additional patient/proxy interviews. As we enter the summer season, MDHHS recommends vigilant legionellosis awareness and surveillance in Genesee County, including interviewing of cases or proxies with the enhanced legionellosis questionnaire within one week of reporting. MDHHS also recommends the clinical community assist in LD surveillance through accurate identification, testing, and reporting of all suspect cases. Obtaining respiratory specimens in addition to urinary antigen testing is of critical importance in these increased surveillance efforts. Because *Legionella* spp. are commonly found in the environment, clinical isolates are necessary to interpret the findings of an environmental investigation in an outbreak. To assist, MDHHS has prepared updated legionellosis guidance to be distributed to health care providers via the Michigan Health Alert Network.

Henry, James

From:	Henry, James
Sent:	Friday, December 4, 2015 7:31 PM
To:	Valacak, Mark; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara
Subject:	RE: Documents
Attachments:	20150529 Executive Summary_v3.docx; Communicable Disease Investigation Communications; FW: Legionellosis Outbreak Investigation

It's interesting that CDC is not on the email list from Jim Collins explaining they cleaned up their documents. It's also interesting that Jim Collin's is not mentioning his "outbreak is over" Executive Summary dated 5/29. (attached)

This is a quick summary of the situation from my perspective: Toni no "F" bombs ☺

- The Executive Summary from Jim Collins is dated 5/29, but wasn't emailed until 6/4. I don't know why anyone would complete the document and wait seven days to share it. I think the Executive Summary was probably written on 6/4 and pre-dated 5/29. We had two confirmed cases on 6/1 and 6/2, which Jim Collins would have known about per MDSS. It would have been absurd if Jim Collins had claimed the "The outbreak is over" after knowing about the new cases. Based upon the date of the Executive Summary, it would have been impossible for Jim Collins to have known about 6/1 and 6/2 cases. That is one hell of a coincidence! I wonder what the Executive Summary created date shows on his computer.

- The attached email tread, "Legionella Outbreak Investigation" dated 6/5, explains that outbreak was not over. Also explains we were making progress in our efforts with the CDC to isolate the clinical and environmental specimens for comparison. Jim Collin's stated "The lack of clinical *Legionella* isolates precludes our ability to link cases to an environmental source." MDHHS kept screwing up the clinical specimens in the lab, so CDC agreed to provide assistance. Jim Collins was well aware that we were making progress in this area with CDC.

- The attached "Communicable Disease Investigation Communications" date 6/8. Jim Collin told everyone that he's the biggest kid on block and ended all of our hard work, progress and communications. MDHHS stopped communicating with us for a period of time, while we had multiple new cases.

It's clear that MDHHS, (Jim Collins) made decisions to intentionally sabotage our Legionella investigation! I think deaths could have been avoided, had he not! This was very confusing at the time, but I think it occurred because Jim Collins and the rest of the muppet show were concerned that Genesee County's largest U.S. legionella outbreak, would implicate the Flint water system, for which they were responsible. If Jim Collins doesn't know that Legionella is a water related issue, he should step down immediately.

It's hard for me to see this any other way, but I'd be happy to listen if there's another reasonable explanation. Some of the people at the state agencies are simply criminals! I do find it rather impressive how good they are at covering their tracks. Probably from a lot of experience.

Jim

Henry, James

Subject: FW: Legionellosis Outbreak Investigation

From: Garrison, Laurel (CDC/OID/NCIRD) [mailto:lee5@cdc.gov]
Sent: Friday, June 5, 2015 5:05 PM
To: Henry, James; Collins, Jim (CDC michigan.gov)
Cc: Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Meghan Weinberg (CDC michigan.gov); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (CDC michigan.gov); Bohm, Susan (CDC michigan.gov); Johnson, M.D., Gary; Wright, Michael; PRYSBYM@michigan.gov; Connolly, Stephanie
Subject: RE: Legionellosis Outbreak Investigation

Thanks, Jim. I'm concerned about the hospital. I can get our folks together for a call to discuss next week if you'd like. Do you have the details of what they've been doing to address the colonization there?

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Friday, June 05, 2015 4:37 PM
To: Collins, Jim (CDC michigan.gov); Garrison, Laurel (CDC/OID/NCIRD)
Cc: Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Meghan Weinberg (CDC michigan.gov); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (CDC michigan.gov); Bohm, Susan (CDC michigan.gov); GJOHNSON@gchd.us; Wright, Michael; PRYSBYM@michigan.gov; Connolly, Stephanie
Subject: Legionellosis Outbreak Investigation

Hello Team,

The executive summary regarding the Legionella outbreak is appreciated, but I don't know if there is consensus that it is over. We have been collaborating with our local, state and federal partners regarding the next steps and efforts to improve methods to obtain adequate clinical and environmental isolates.

Genesee County has had three confirmed Legionella cases, since the beginning of May 2015. The most recent cases on 6/1/15 and 6/2/15 have provided sputum samples to McLaren Hospital for analysis. We have discussed concerns regarding the hospitals' lack of success isolating the bacteria and MDCH and CDC have expressed interest to assist with the process.

Below is a brief summary of the recent cases.

Patient #1 MDSS 7117888505 Pxxx Sxxx, Flushing, MI 48433. Pxxx Sxxx is 81 years old. She was admitted to McLaren Hospital on 4/18/15 and discharged on 4/29/15. She returned to McLaren on 5/4/15 and was diagnosed with Legionella. McLaren attempted, but was unable to collect an adequate respiratory specimen. Pxxx Sxxx does not receive Flint water at her residence.

Patient #2 MDSS #7208825131 Rxxx Sxxx, Mt. Morris, MI 48458. Rxxx Sxxx is 84 years old. He was admitted to McLaren Hospital on 5/13/15 and discharged on 5/19/15. He returned to McLaren on 6/1/15 and diagnosed with Legionella. Rxxx Sxxx does not receive Flint water at his residence.

Patient #3 MDSS 7202952890 Gxxx Rxxx, Flint MI, 48504. Gxxx Rxxx is 74 years old. She was admitted to Hurley Hospital on 2/8/15, and discharged on 3/1/15. Hurley Hospital receives Flint water. Gxxx Rxxx went to McLaren on 5/29/15 and was diagnosed with Legionella. She resides approximately 2-3 miles North of McLaren Hospital. She receives Flint water at her residence. Her son, Dr. Axxx Jxxx indicated that she has been ill since returning home from Hurley Hospital on 3/1/15. He also mentioned that there has been low water pressure events at their residence.

GCHD is prepared to collect environmental samples, as previously discussed, but without the clinical isolate the environmental samples may not have much value.

If there are recommendations, questions or concerns, please reply to the group, as we all have different roles with the investigation.

Thanks Jim

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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From: Collins, Jim (DCH) [mailto:CollinsJ12@michigan.gov]
Sent: Thursday, June 4, 2015 3:17 PM
To: Garrison, Laurel (CDC/OID/NCIRD)
Cc: Cupal, Suzanne; Henry, James; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Weinberg, Meghan (DCH); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (DCH); Bohm, Susan (DCH)
Subject: Flint, Michigan - Legionellosis Outbreak Investigation Summary

Good Afternoon,

As we enter summer (finally) here in Michigan, I wanted to share a summary of the analysis of the data around this past year's increase in legionella cases identified in proximity to the city of Flint. As you'll recall, while there were no clinical specimens available for testing from the 45 cases included in the investigation, there was a significant outreach to gather more patient information from cases. I've attached an executive summary of the investigation and analysis to this post.

Please feel free to contact us is you have any questions,
Jim

Jim Collins MPH, RS
Director, CD Division
MDHHS
Desk: 517-335-8586
Cell: 517-930-6932
Confidentiality Notice: This message, including any attachments, is intended solely for the use of the named recipient(s) and may contain confidential and/or privileged information. Any unauthorized review, use, disclosure or distribution of any confidential and/or privileged information contained in this email is expressly prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy any and all copies of the original message

Henry, James

From: Henry, James
Sent: Saturday, December 5, 2015 8:33 PM
To: Cupal, Suzanne; LaRocco, Toni
Cc: Valacak, Mark; Brickey, Tamara
Subject: Re: Documents

I think awareness by the federal agencies could help get the focus back on public health. We do have risks!

This situation has made many good public health people compromise their beliefs. The state is trying to use their authority to influence us. Hmmm... what is the definition of extortion? Yep that's it, verbatim.

I can handle MDEQ with accreditation. I'm looking of forward to Thursday.

Not all state employees are loyal to the governor. I think of the most just want to maintain their career. George Krisztian, MDEQ Lab Director, told me he would be fired if he released the school water results to us, prior to the governor's approval.

It's unacceptable that MDEQ knew the specific drinking fountain results at Freeman Elem, but did not inform the school that some were extremely elevated, until two weeks later, when the state released the report to the public.

Our FOIA helped MDEQ expedite getting the results to the public and our EH staff went to the schools to ensure water was not being consumed, primarily because the state withheld the results.

This is the kind of complete disregard for public health, from the state, that has not stopped.

The state's change in the scope for our lead CLPPP grant is also unacceptable.

We have not agreed to any changes of the CLPPP grant contract, but apparently the state thinks they have changed the scope, for us to focus on first time pregnant women, not the EBL cases as written in the grant.

The state wants to restrict our ability to help provide any mitigation efforts at known EBL residences.

If the known EBL families remove lead, the state might not be able to demonstrate that other sources of lead existed.

The state mentioned during the conference call on Wed 12/1, they have complete three EBL residential assessments. That is also unacceptable. I need to check the EBL numbers, but I think there are over 200. We could be assisting these families reduce exposure, now. The state is not conducting the assessments fast enough.

The state is safe by changing our focus to first time pregnant women, because there is no children at the home who could be tested for elevated blood. The state is trying make this appear to be good public health work. The environmental risk is much more limited for pregnant women than a toddler. How many pregnant women are putting their hands in the lead dust of window sills, compared to a toddlers?

Jim

Sent from my phone.

------ Original message------
From: Cupal, Suzanne
Date: Sat, Dec 5, 2015 12:28 PM
To: Henry, James;tlarocco@gchd.us;
Cc: Valacak, Mark;tbrickey@gchd.us;
Subject:RE: Documents

The EPA needs to know. Ultimately, they can address the MDEQ. They can also impact policy. A local health department should be able to speak to the CDC without permission from the state HD. We need better channels of communication to get the help we need when one agency does not respond.

They should know about the communication related to your site visit with MDEQ. We can then say we have expressed our concerns with the authority that has the power to act to intervene.

Sent from my Windows Phone

From: Henry, James
Sent: 12/5/2015 12:16 PM
To: Cupal, Suzanne; tlarocco@gchd.us
Cc: Valacak, Mark; tbrickey@gchd.us
Subject: Re: Documents

I intend to have a comprehensive draft timeline with appendices completed on Monday afternoon. I may need to lock myself in a room away from my desk for a couple hours.

I think the timeline facts, with maybe a nudge in the right direction to the reader, regarding what to consider will demonstrate the state's malfeasance to anyone.

I to the reader nudge in the right direction will make it will become clear to whoever reads think a few nudges in
Sent from my phone.

------ Original message------
From: Cupal, Suzanne
Date: Sat, Dec 5, 2015 11:18 AM
To: LaRocco, Toni;Henry, James;
Cc: Valacak, Mark;Brickey, Tamara;
Subject:RE: Documents

I wonder if Sue and Eden have seen all our emails with our state colleagues and the CDC.
We should call the state on the outbreak is over line.

I would like to share this information with the EPA during their visit on Tuesday along with our emails for assistance to the state and CDC.

Sent from my Windows Phone

From: LaRocco, Toni
Sent: 12/5/2015 6:28 AM
To: Henry, James
Cc: Valacak, Mark; Cupal, Suzanne; Brickey, Tamara
Subject: Re: Documents

I think it is simple..... We release all our press releases that we discussed and planned at one time without request for approval or review from any outside agency . In which we acknowledge our lack of type one expertise and the squashing of information by multiple state agencies. It is all too orchestrated and contrived. It is the only way for the truth to come out. I refuse to raise my blood pressure any longer bc other agencies want to cover the truth when all we want is what is good for the health and well being of Genesee County residents.

Toni LaRocco MS, RN
Director of Nursing Services

Jim

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Sent: Friday, June 05, 2015 4:37 PM
To: Collins, Jim (CDC michigan.gov); Garrison, Laurel (CDC/OID/NCIRD)
Cc: Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Meghan Weinberg (CDC michigan.gov); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (CDC michigan.gov); Bohm, Susan (CDC michigan.gov); GJOHNSON@gchd.us; Wright, Michael; PRYSBYM@michigan.gov; Connolly, Stephanie
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> **To:** "Mark Valacak (mvalacak@gchd.us)" <mvalacak@gchd.us>
> **Cc:** "Moran, Susan (DHHS)" <MoranS@michigan.gov>, "Miller, Corinne (DHHS)" <MillerC39@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>, "Wells, Eden (DHHS)" <WellsE3@michigan.gov>, "Fiedler, Jay (DHHS)" <FiedlerJ@michigan.gov>
> **Subject: Documents**
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> Hi Mark,
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>
> Thanks,
> Jim
>
> Jim Collins MPH, RS
> Director
> Communicable Disease Division
> Michigan Department of Health and Human Services
> 201 Townsend St.
> Lansing, MI 48913
> Desk: 517-335-8586
> Cell: 517-930-6932
>
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<20150529 Executive Summary_v3.docx>

<mime-attachment>

<mime-attachment>

Henry, James

From: Cupal, Suzanne
Sent: Monday, December 7, 2015 4:06 PM
To: Valacak, Mark
Cc: Henry, James
Subject: FW: Genesee Legionellosis Investigation
Attachments: MDCH Response 1 30 15.docx

The email below outlines our requests for assistance with expertise in type 1 water supplies from the state.

The emails Jim forwarded on Saturday demonstrate that the state declared the outbreak over. I will also forward Jim Collin's email from 6/8/15 indicating that the communications with the CDC need to come from the state.

At some point, they would be good to share.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Cupal, Suzanne
Sent: Friday, January 30, 2015 3:22 PM
To: 'Collins, Jim (DCH)'; Johnson, M.D., Gary; Childs, Bonnie; Henry, James; Hasan, Shurooq; Valacak, Mark
Cc: Fiedler, Jay (DCH); Bohm, Susan (DCH); Bolen, Timothy (DCH); Miller, Corinne (DCH); Johnson, Shannon (DCH)
Subject: RE: Genesee Legionellosis Investigation

Dear MDCH Colleagues,

We appreciated the opportunity to discuss the increase in legionellosis cases that Genesee County is experiencing. Collaboration is one of our core values as a local health department. MDCH has been a valued partner who brought resources and expertise to assist in solving some very challenging situations in the past. We look forward to the positive elements you can bring to this investigation.

As discussed during our call, we have concerns not only about legionellosis, but are involved in multiple investigations concerning the safety of local water. We were appreciative of the opportunity to share our investigation to date and our plans for continued investigative work. We are also appreciative of the opportunity to request MDCH's assistance in moving our investigation forward. We look forward to continued and improved communication and collaboration and appreciate your offers of assistance.

We appreciate your acknowledgment of the sensitive nature of our work in an environment of anxiety and suspicion. We do not want to jump to conclusions based upon very limited and inconclusive evidence and your assistance in filling some of the information gaps we have identified would be of great help. We specifically asked for your assistance in identifying someone at MDCH with expertise in type 1 water supplies and communicable disease. That was not reflected

While you all at the Genesee County Health Department are reviewing Shannon's post from a couple of days ago (Copied below. We look forward to hearing your thoughts on this as well), I thought I'd go ahead and provide some additional information that we've compiled after the conference call.

During our conversation, there was a request for information about the public health outreach to the clinical community in response to an increase in legionella infections being reported from the metropolitan Detroit area and several other states (spring/summer 2013). Specifically, we discussed the text of a health alert message that was shared with the region's hospitals via the Michigan Health Alert Netork (MIHAN) and any accompanying documentation.

I've got both to offer to you today.

I've attached the document, "**Legionellosis Guidance for Clinicians**" that was distributed with the following MIHAN message:

> **Text from SE Legionellosis increase HAN in 2013:**
> "***Subject: Legionellosis in S.E. Michigan***
>
> *Detroit City, Wayne and Macomb Counties have reported 35 cases of Legionellosis in June. This represents the highest number of Legionellosis cases for the month of June over the past decade and new cases continue to be identified in these jurisdictions. Most patients were or are still hospitalized (some in the ICU) and symptoms reported include fever, vomiting, abdominal pain, nausea and diarrhea. The CDC has also provided notification indicating an increase in Legionellosis cases in the Northeast (NY, DE, CT & PA).*
>
> *Investigations are ongoing in Southeast Michigan to determine common sources of exposure. We are asking that the clinical community assist in this investigation through accurate identification, testing and reporting of all suspect cases of Legionellosis.*
>
> Attached, please find guidance that has been prepared to assist clinicians in case evaluation and facilitate specimen collection/testing as well as an updated "Supplemental Interview Form" for local health department use in evaluating reported cases."

Please note that in the attachment, there is introductory room to offer a local assessment of the situation and the rationale behind distributing the MIHAN message. We feel that GCHD is best positioned distribute a message to the healthcare community and to provide local context to that message but are certainly available to provide assistance to either function if you'd prefer.

Again, we do look forward to hearing your thoughts on Shannon's previous post and stand ready to assist in whatever capacity might best serve the investigation.

All My Best,
Jim

Jim Collins MPH, RS
Director
Communicable Disease Division
Michigan Department of Community Health
201 Townsend St.
Lansing, MI 48913

in your response. Please let us know if there is an identified resource for this at MDCH. In addition, we requested your support in identifying someone on your staff who could function as a liaison with your fellow state colleagues at MDEQ since a number of questions have come up regarding the type 1 water supply where the state has regulatory authority and access to important data.

As we indicated in our call, we continue to identify and reach out to those that can inform our investigation and provide more information regarding water and legionellosis. The feedback that we are receiving has been very helpful in evolving our investigation. However, additional expertise is being sought as the investigation unfolds.

We have met internally and collaborated on our responses to your questions. In your response, you make reference to the scope of the outbreak. We encourage you to review the case notes in MDSS. If we are referring to this as an outbreak, we would like to request that we designate it as such and include an outbreak identifier in MDSS. We would also like to discuss criteria for inclusion for this outbreak. During our call, we informed you of our work in identifying close contacts of our cases that subsequently became cases themselves or tested positive but did not meet the case definition to be reported as a confirmed case. We also described the challenges in recording onset dates (see the notes). You have requested line listings on a regular basis. We would like to propose regular meetings via conference call to discuss details of how we record information in MDSS as well as to share our mutual findings. Based on our experiences regarding this investigation, we would also like to make recommendations regarding the reporting process.

We look forward to our collaborative process. We want to remind you that in addition to our legionellosis investigation, we are also investigating water related issues. As we continue to learn more through this process, we hope to be in a position to share our findings with others.

Your GCHD Colleagues

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Collins, Jim (DCH) [mailto:CollinsJ12@michigan.gov]
Sent: Friday, January 30, 2015 1:21 PM
To: Johnson, M.D., Gary; Childs, Bonnie; Cupal, Suzanne; Henry, James; Hasan, Shurooq; Valacak, Mark
Cc: Fiedler, Jay (DCH); Bohm, Susan (DCH); Bolen, Timothy (DCH); Miller, Corinne (DCH); Johnson, Shannon (DCH)
Subject: RE: Genesee Legionellosis Investigation
Importance: High

Good Afternoon All,

Jim

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Friday, June 05, 2015 4:37 PM
To: Collins, Jim (CDC michigan.gov); Garrison, Laurel (CDC/OID/NCIRD)
Cc: Cupal, Suzanne; Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Meghan Weinberg (CDC michigan.gov); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (CDC michigan.gov); Bohm, Susan (CDC michigan.gov); GJOHNSON@gchd.us; Wright, Michael; PRYSBYM@michigan.gov; Connolly, Stephanie
Subject: Legionellosis Outbreak Investigation

Hello Team,

The executive summary regarding the Legionella outbreak is appreciated, but I don't know if there is consensus that it is over. We have been collaborating with our local, state and federal partners regarding the next steps and efforts to improve methods to obtain adequate clinical and environmental isolates.

Genesee County has had three confirmed Legionella cases, since the beginning of May 2015. The most recent cases on 6 /1/15 and 6/2/15 have provided sputum samples to McLaren Hospital for analysis. We have discussed concerns regarding the hospitals' lack of success isolating the bacteria and MDCH and CDC have expressed interest to assist with the process.

From: Valacak, Mark
Sent: Friday, December 4, 2015 1:17 PM
To: Cupal, Suzanne; Henry, James; LaRocco, Toni; Brickey, Tamara
Subject: Fwd: Documents

Sent from my iPhone

Begin forwarded message:

> **From:** "Collins, Jim (DHHS)" <CollinsJ12@michigan.gov>
> **To:** "Mark Valacak (mvalacak@gchd.us)" <mvalacak@gchd.us>
> **Cc:** "Moran, Susan (DHHS)" <MoranS@michigan.gov>, "Miller, Corinne (DHHS)" <MillerC39@michigan.gov>, "Lasher, Geralyn (DHHS)" <lasherg@michigan.gov>, "Wells, Eden (DHHS)" <WellsE3@michigan.gov>, "Fiedler, Jay (DHHS)" <FiedlerJ@michigan.gov>
> **Subject: Documents**
>
> Hi Mark,
>
> From our discussion the other day, and understanding that the original GCHD document was

very much in draft form, we did do some work to tune the press release that was circulated. I've attached it here and offer for your consideration as suggested language should you all decide to do a press release. I hope it provides some value.

Second, I've attached a copy of the Outbreak Summary June 2014-March 2015. No new data here, we've just cleaned it up a bit. We spent some time working on making that into something I think might be more useful. We've eliminated some of the stratified tables that added little to the discussion, cleaned up some of the graphs for clarity and content and added a one pager to open up the document with an "executive-like summary" of the report.

Thanks,
Jim

Jim Collins MPH, RS
Director
Communicable Disease Division
Michigan Department of Health and Human Services
201 Townsend St.
Lansing, MI 48913
Desk: 517-335-8586
Cell: 517-930-6932

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Report Date 5/29/2015

Summary of Legionellosis Outbreak — Genesee County, June 2014–March 2015

From June 2014 to March 2015, 45 Legionnaires' disease (LD) cases including 7 deaths were reported in Genesee County, Michigan. The Michigan Department of Health and Human Services (MDHHS) assisted the Genesee County Health Department (GCHD) in the investigation.

Data were collected from patient medical record review, the Michigan Disease Surveillance System case report form, and interviews with case-patients or their proxies with an enhanced legionellosis questionnaire. In an attempt to identify community sources, case-patients or proxies were interviewed about travel, work, and locations visited during the 2 weeks prior to symptom onset (considered the incubation period for LD).

All 45 cases were laboratory confirmed by *Legionella* urinary antigen test; one sputum specimen was collected, which was *Legionella* culture negative. Median patient age was 62 years (range: 26–94); 23 (51%) were male. Illness onset dates ranged from June 6, 2014 to March 9, 2015 and peaked in August, 2014 with 10 cases. Multiple attempts by phone and letter were made to contact all case-patients; interviews using the enhanced questionnaire were completed on 30 of 45 (67%). Healthcare-associated LD was suspected for a subset of cases. Nineteen of the 45 (42%) patients were hospitalized during the 2 weeks prior to symptom onset. Of those, 16 (84%) were hospitalized at hospital A, 2 (11%) at hospital B, and 1 (5%) at hospitals A and B. One patient was hospitalized at hospital A during their entire 2-week exposure period. Eight additional persons were exposed to Flint hospitals as outpatients or visitors; 5 (63%) to hospital A, 2(25%) to hospital B, and 1 (15%) to hospitals A and B. In total, 23/45 (51%) patients were exposed to hospital A as an inpatient, outpatient, or visitor. On October 4, 2014, hospital A hyperchlorinated their water system and continues to monitor for *Legionella*.

The municipal water system was an additional suspected source. Twenty-one of 45 (47%) cases occurred in people whose residence received City of Flint water. The majority (10 of 13, 77%) of people interviewed who lived on Flint water reported changes in water quality; 6 of 13 (46%) experienced water main breaks or water line issues at or near their residence prior to illness. Of the 18 persons that did not report healthcare visits, 8 (44%) were exposed to Flint water at their home.

In other exposures, of 30 persons interviewed, 2 (7%) stayed overnight in 2 different hotels, 2 (7%) were exposed to hot tubs and 20 (67%) visited ≥1 grocery store. All locations mentioned were visited by ≤2 patients with the exception of one grocery store outside of Flint that was visited by 5 patients.

Ten cases had no exposure to a Flint hospital in the 2 weeks prior to illness nor were their homes on the Flint water system. Of those, 3 people might have been exposed to Flint water at a grocery store or motel. Additionally, 1 person reported exposure to stagnant water as an industrial painter and one person was hospitalized at hospital A for 10 days immediately prior to their exposure period. The remaining 5 cases have no known exposure to Flint water, healthcare, or travel.

The outbreak is over; the last reported case occurred in March, 2015. The lack of clinical *Legionella* isolates precludes our ability to link cases to an environmental source. As epidemiologic data did not indicate a common community source, we cannot recommend environmental testing or additional patient/proxy interviews. As we enter the summer season, MDHHS recommends vigilant legionellosis awareness and surveillance in Genesee County, including interviewing of cases or proxies with the enhanced legionellosis questionnaire within one week of reporting. MDHHS also recommends the clinical community assist in LD surveillance through accurate identification, testing, and reporting of all suspect cases. Obtaining respiratory specimens in addition to urinary antigen testing is of critical importance in these increased surveillance efforts. Because *Legionella* spp. are commonly found in the environment, clinical isolates are necessary to interpret the findings of an environmental investigation in an outbreak. To assist, MDHHS has prepared updated legionellosis guidance to be distributed to health care providers via the Michigan Health Alert Network.

Legionellosis Outbreak — Genesee County, June 2014–March 2015

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Legionellosis Outbreak — Genesee County, June 2014–March 2015

Summary

From June 2014 to March 2015, 45 legionellosis cases, all confirmed Legionnaires' disease (LD), were reported in Genesee County, Michigan. Seven of these cases have died; one death was attributable to *Legionella* pneumonia. The Michigan Department of Health and Human Services (MDHHS) assisted the Genesee County Health Department (GCHD) in the investigation.

Data were collected from patient medical record review, the Michigan Disease Surveillance System case report form, and interviews with case-patients or their proxies with an enhanced legionellosis questionnaire. In an attempt to identify community sources, case-patients or proxies were interviewed about travel, work, and locations visited during the 2 weeks prior to symptom onset (considered the incubation period for LD).

All 45 cases were laboratory confirmed by *Legionella* urinary antigen test; one sputum specimen was collected, which was *Legionella* culture negative. Median patient age was 62 years (range: 26–94); 23 (51%) were male. Illness onset dates ranged from June 6, 2014 to March 9, 2015 and peaked in August, 2014 with 10 cases. Multiple attempts by phone and letter were made to contact all case-patients; interviews using the enhanced questionnaire were completed on 30 of 45 (67%).

Healthcare-associated LD was suspected for a subset of cases. Results demonstrated that over half (27/45) of the cases had a healthcare facility exposure in the two weeks prior to their illness onset (23 were hospitalized at or had visited the same healthcare facility). In response, the healthcare facility has implemented multiple environmental and procedural measures to alleviate the situation.

The source of water at the primary residence was evaluated for all cases. Twenty-one of 45 (47%) cases occurred in people whose residence received City of Flint water. Of the 18 persons that did not report healthcare visits, 8 (44%) were exposed to Flint water at their home.

Ten cases had no exposure to a Flint hospital in the 2 weeks prior to illness nor were their homes on the Flint water system.

Other possible exposures were evaluated and no other known community exposures were identified.

Enhanced surveillance has continued for the remainder of 2015. All cases reported in 2015 will be summarized at year end. The lack of clinical *Legionella* isolates during the time period described in this summary precludes our ability to link cases to an environmental source. MDHHS has recommended vigilant legionellosis awareness and surveillance in Genesee County, including interviewing of cases or proxies with the enhanced legionellosis questionnaire within one week of reporting. MDHHS also recommends the clinical community assist in LD surveillance through accurate identification, testing, and reporting of all suspect cases. Obtaining respiratory specimens in addition to urinary antigen testing is of critical importance in these increased surveillance efforts. Because *Legionella* spp. are commonly found in the environment, clinical isolates are necessary to interpret the findings of an environmental investigation in an outbreak. To assist, MDHHS prepared updated legionellosis guidance to be distributed to health care providers via the Michigan Health Alert Network.

Working Case Definitions

Confirmed Legionnaires' Disease (LD) – meets the CDC clinical and laboratory case definition for confirmed LD and illness occurred since June 1, 2014 in residents of Genesee County or those who had visited the Flint area in 2 weeks prior to their illness onset date.

Suspected LD – meets the CDC clinical and laboratory case definition for suspected LD and illness occurred since June 1, 2014 in residents of Genesee County or those who had visited the Flint area in 2 weeks prior to their illness onset date.

Data Sources

1. Legionellosis Case Report Form in Michigan Disease Surveillance System (MDSS)
2. Medical record review from:
    a. Hospital A; Flint, MI
    b. Hospital B; Flint, MI
    c. Hospital C; Grand Blanc, MI
3. Patient interview using Genesee County-specific Legionellosis Questionnaire

Epidemiology

Number of lab-confirmed cases of Legionnaires' disease: 45

Geographic distribution:

44/45 Genesee County (27 Flint)

1/45 Saginaw County

Age range: 26-94 years

Average age (median): 62.1 years (63 years)

% Males: 51% (23/45)

Range of illness onset dates (n=45): 6/6/14- 3/9/2015

Number (%) of deaths: 15.6% (7/45)

Number of cases interviewed: 29 completed + one partial (63% complete; 95.7% in total attempted/completed)

Number (%) of cases hospitalized: 45/45 (100%). Number in ICU: 22/45 (48.8%)

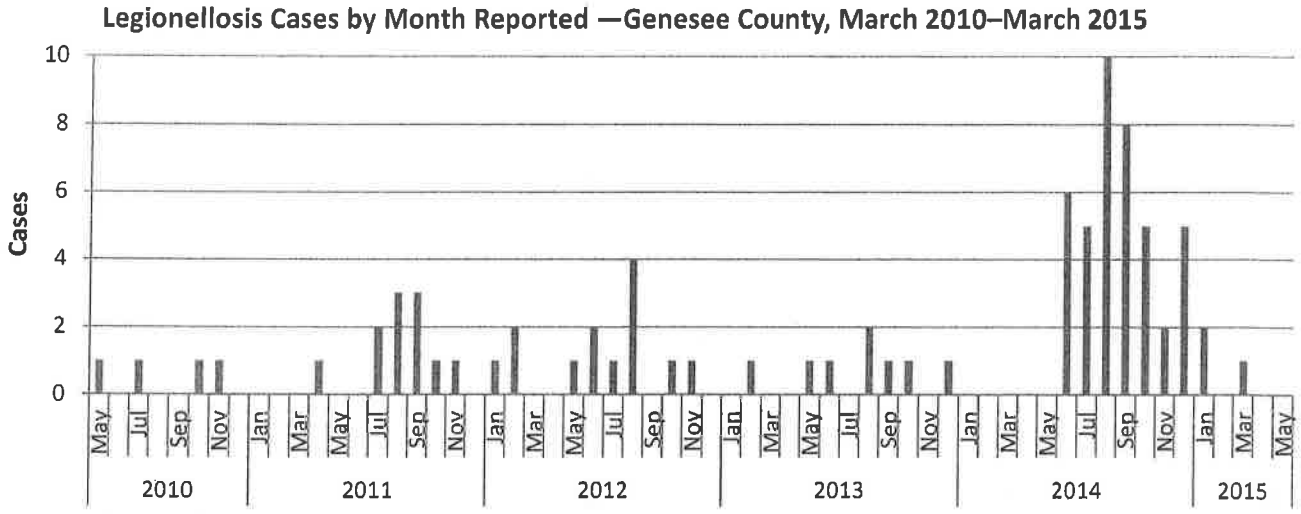
Number (%) of cases who had been hospitalized in 2-weeks prior to onset: 19/45 (37.8%)

Number (%) of cases with ≥1 co-morbidity: 25/29 interviewed (86%)

Number (%) of cases who are current or former smokers: 24/29 interviewed (83%)

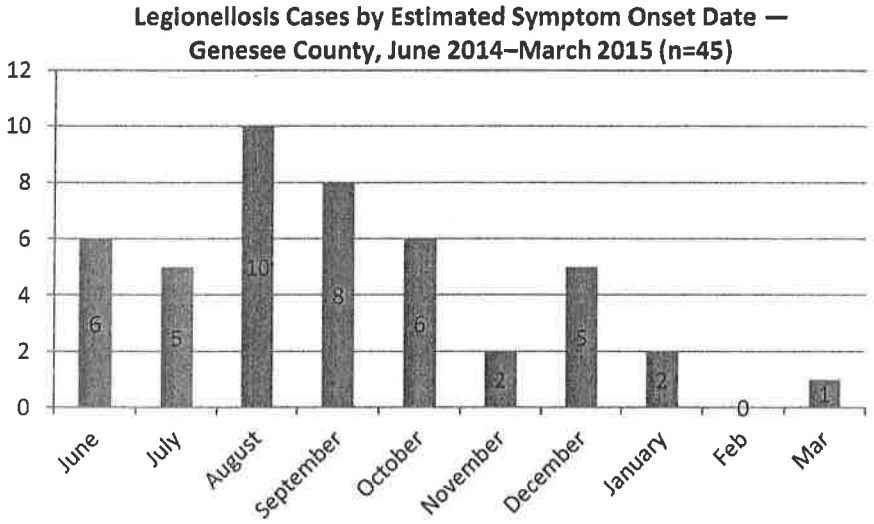
Epi Curves

Five-year History



Cases Analyzed in Current Report

This report summarizes data collected from the 45 confirmed legionellosis cases that occurred June 1, 2014 through March 31, 2015.



Cases by Residence Water Source

Residence water source refers to the source of tap water at patient's home residence during the 14 days before symptom onset and was determined by patient interview and verified by City of Flint water distribution map.

Water Source at Residence	Total N=45	
	n	%
City of Flint water	21	47
City of Flint Township water	3	7
Other municipal water system	4	9
Private well	7	16
Unknown	10	22

Healthcare Exposure

A person was defined as having a healthcare exposure if they visited a hospital or clinic in Flint, Michigan as an inpatient, outpatient, or visitor during the 14 days prior to their symptom onset date.

Healthcare Exposure by Residence Water Source

	Total N=45		Healthcare exposure N=27		No known healthcare exposure N=18	
	n	%	n	%	n	%
City of Flint Water	21	47	13	48	8	44
Other water at residence	24	53	14	52	10	56

Surveillance & Infectious Disease Epidemiology

Hospitalized Cases By Length of Stay and Residence Water Source

Location	Length of Stay*		
	N	Median (days)	Range
Hospital A	16	2	0.5–14
City of Flint water at patient residence	7	2	0.5–7
Other water at patient residence	9	5	1–14
Hospital B	2	1.5	1–2
City of Flint water at patient residence	1	1	
Other water at patient residence	1	2	
Hospital A and Hospital B; Residence on Flint water	1	5	
Hospital A		3	
Hospital B		2	
Total	19	3	0.5–14

* Length of stay = Number of days hospitalized during 14 days prior to symptom onset date.

Water Changes at Residence

Question Prompts:

Q4. During the last year, has the water pressure at your residence changed?

Q5. During the last year, has the water quality (appearance, taste, smell) at your residence changed?

Q6. Prior to your illness, did you make any recent plumbing changes or repairs at your residence?

Q7. Prior to your illness, were there any water main breaks or other water line issues that affected the water at your residence, including boil water advisories?

	Flint Water at Residence (N=13)		Other Water Source at Residence (N=17)		Total (N=30)	
	n	%	n	%	n	%
Q4. Noticed changes in water pressure	2	15	1	6	**3**	**10**
Q5. Noticed changes in water quality	10	77	0	0	**10**	**33**
Q6. Made recent plumbing changes or repairs at residence	1	8	2	12	**3**	**10**
Q7. Experienced water main breaks or water line issues that affected residence	6	46	0	0	**6**	**20**

Work and Travel

Question Prompts:

Q8. During this 2 week period (exposure period), did you work or volunteer, either full or part time?

Q10. Visit, reside, or work in a long term care facility, nursing home, assisted living facility, or senior living facility?

Q11. In the 2 weeks before you before you got sick, did you spend any nights away from home (excluding healthcare settings)?

	Total N=30	
	n	%
Q8. Work outside of the home	5	17
Contractor/painter		
Construction		
HR technician		
Industrial painter		
Welder		
Q8. Volunteer outside of the home	0	0
Q10. Reside or visit an assisted living facility or rehab facility	3*	10
Q11. Spend nights away from home	2**	7

* Patients visited three different locations; none on City of Flint Water

**Patients stayed in two different hotels outside of Flint and stayed ≤2 nights each.

Surveillance & Infectious Disease Epidemiology

Community Exposures

Question prompt:

Q12. In the 2 weeks before you before you got sick (_____to _____), did you visit any of the following community venues?

	Total N = 29*	
	n	%
Hotel but did not stay overnight	0	0
Auditorium	1	3
Barbershop or Hair Salon	7	24
Car Wash	5	17
Casino	3	10
Place of Worship	8	28
Gym or Work-out Facility	1	4
Grocery	20	69
Home Improvement Store	7	24
Spa or Nail Salon	0	0
Mall or Department Store	2	7
Movie Theater	0	0

* Number decreased compared to previous tables because of the one partial interview.

Surveillance & Infectious Disease Epidemiology

Water Exposures in the Home

Question prompt:

Q13. In the 2 weeks before you got sick (___/___/___ to ___/___/___), did you have exposure to any of the following water sources, either ***at home*** or while ***away from home***?

	Total N = 29	
	n	%
Shower	27	93
Use a detachable shower head or hose	8	28
Hot tub, whirlpool spa, Jacuzzi tub	2	7
Sat NEAR hot tub or whirlpool spa	0	0
Steam room or wet sauna	0	0
Humidifier	8	28
Respiratory therapy machine	6	21

Water Exposures Outside of the Home

	Total N = 29	
	n	%
Use a detachable shower head or hose	1	3
Hot tub, whirlpool spa, Jacuzzi tub	0	0
Sat NEAR hot tub or whirlpool spa	0	0
Humidifier	1	3
Pool/splash pad/waterpark	3	10
Recreational or cooling misters	0	0
Steam room or wet sauna	0	0
Decorative fountain	1	3
Outdoor watering hose or sprinkler	5	17
Beach, lake, pond, river, creek	2	7

Surveillance & Infectious Disease Epidemiology

Patient or Proxy reported Comorbidities

	Total N = 29	
	n	%
≥1 comorbidity	25	86
Chronic kidney disease	11	38
Immunocompromised	9	31
Diabetes	12	41
Chronic lung disease	12	41
Asthma or chronic bronchitis	7	24
Heart disease or congestive heart failure	12	41
Liver disease	0	0

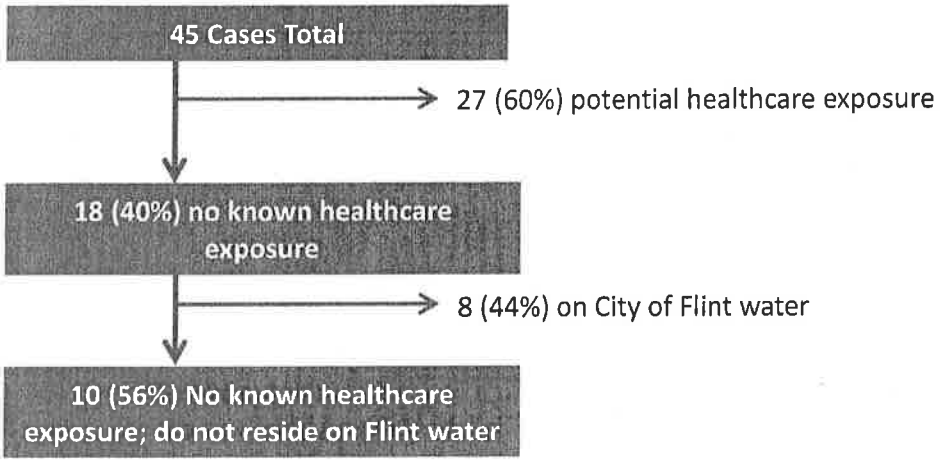
Patient or Proxy reported Health Behaviors

	Total N=29
Former or current smoker, n (%)	24 (83)
Median packs per day (range)	1 (0.14–3.5)
Median years (range)	30 (15–48)
Drinks alcohol, n (%)	9 (31)
Median drinks per day (range)	1 (0.1–2)
Median years (range)	45 (1–57)

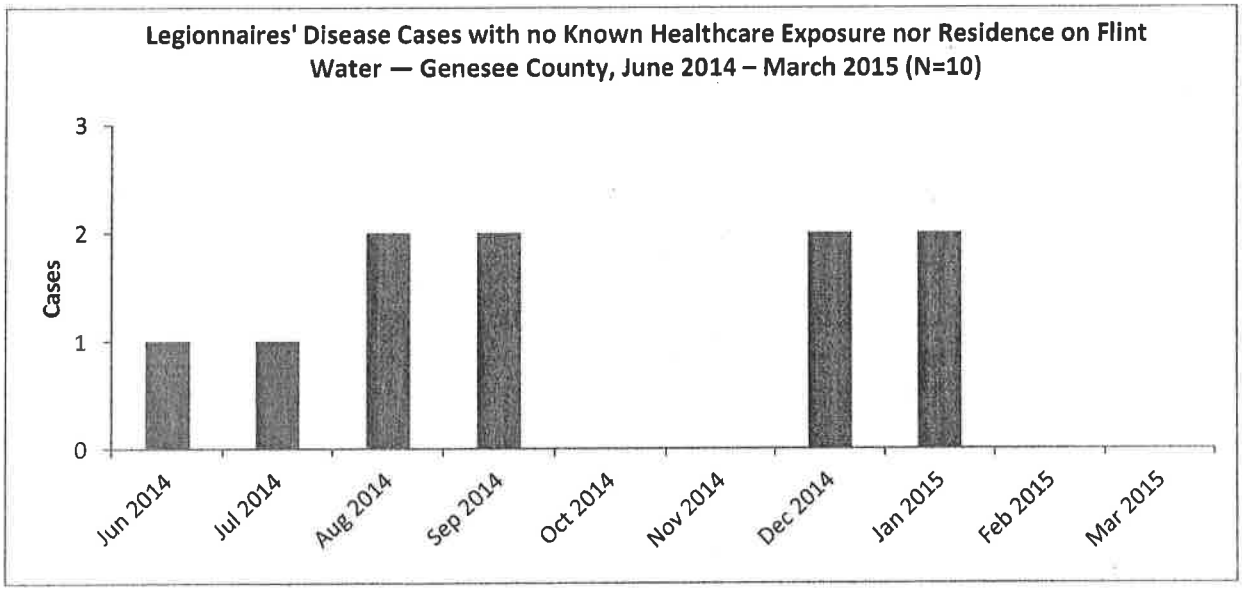
Surveillance & Infectious Disease Epidemiology

Cases with No Known Healthcare Exposure and Residence not on Flint Water Supply

Case Flow-chart



Epi Curve



Surveillance & Infectious Disease Epidemiology

Legionella Summary May 2015-November 2015

Hospital	Number of cases diagnosed	Previously admitted?*		Case Residence on City of Flint Water**
		To any hospital	To case hospital	
A	5	0	0	3
B	27	19[+]	18	6
C	8	0	0	0
Out of county	2	1[++]	0	1
Total	42	20	18	10

*Hospitalization within the two weeks prior to Legionellosis illness onset

**Based on Legionella Questionnaire answer and patients address

[+]One case DX'd at Hospital B spent significant time at Hospital A during the 2 weeks prior, but was not admitted

[++] This case was previously admitted to Hospital B

Henry, James

From: Cupal, Suzanne
Sent: Monday, December 7, 2015 4:07 PM
To: Valacak, Mark
Cc: Henry, James
Subject: FW: Communicable Disease Investigation Communications

See below...

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Collins, Jim (DCH) [mailto:CollinsJ12@michigan.gov]
Sent: Monday, June 08, 2015 11:31 AM
To: Garrison, Laurel (CDC/OID/NCIRD); Henry, James; Cupal, Suzanne
Cc: Hasan, Shurooq; Childs, Bonnie; Valacak, Mark; Yoder, Jonathan S. (CDC/OID/NCEZID); Langley, Gayle E. (CDC/OID/NCIRD); Fialkowski, Veronica (DCH); Weinberg, Meghan (DCH); Tyndall Snow, Leigh (DCH); Johnson, Shannon (DCH); Fiedler, Jay (DCH); Bohm, Susan (DCH); Johnson, M.D., Gary; Wright, Michael; Prysby, Mike (DEQ); Connolly, Stephanie; Bolen, Timothy (DCH)
Subject: Communicable Disease Investigation Communications

Good Morning All,

I'd like to take a moment to comment on the most recent legionella exchange based on my conversation with some of CDC's team leadership this morning.

First, I want to emphasize that we are excited to see, and continue to support, the more aggressive approach being taken by our Genesee County Health Department colleagues toward gathering epidemiologic and clinical information from the most recent incident cases of legionellosis. The Michigan Department of Health and Human Services (DHHS) continues to offer resource and informational support as requested. I'd ask that you work with our team in that area, including Shannon Johnson, Jay Fiedler and Susan Bohm as well as your Regional Epidemiologist, Tim Bolen.

Relative to communications around the investigation, I believe that CDC is in agreement that their involvement really should be at the request of the State, rather than the local health department. To be clear, we do value the skills and resources of our CDC colleagues, but we also recognize that their involvement needs to have some structure. At this point, further CDC participation would have to be in the form of an Epi-Aid request from our State Epidemiologist, Corinne Miller. On numerous occasions in the past, we've taken advantage of this level of availability from the CDC. However, relative to the current investigation, we have not seen any information that would rise to the level of warranting an Epi-aid request. Therefore, I want to reinforce the necessity that investigation communications from the Genesee County Health Department need to be directed to staff at the MDHHS.

Thank you all for you interest and contributions to this effort to date. I'm sure that we'll continue to improve on our data collection as we move forward and that this will put us in a position to better define the current case evaluations.

Jim

Jim Collins MPH, RS
Director, CD Division
MDHHS
Desk: 517-335-8586
Cell: 517-930-6932

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Henry, James

From: Cupal, Suzanne
Sent: Thursday, December 10, 2015 2:25 PM
To: Valacak, Mark; Henry, James; LaRocco, Toni; Brickey, Tamara
Subject: MDHHS Side Section Communication

I have prepared an email for our MDHHS, our staff and Darren Lytle of the EPA. Please review and provide your comments.

Expertise in type one water supplies has been missing from our conversations. We look forward to our (GCHD and MDHHS) opportunity to take advantage of the expertise of our EPA colleagues. They have been trying to assist in the collection of data that we have not yet been able to obtain regarding the water system. We want their assistance (and that of others) in assessing the potential risk of Legionella exposure related to our municipal water supply. If we cannot rule out the water supply as a risk of exposure, we need to address prevention activities moving forward.

Requests of MDHHS:

Consultation with EPA and other type 1 water experts to determine the impact of the Flint water situation on our Legionella investigation. Joint data review (MDHHS, EPA, GCHD and others?)

We are working on our data analysis of cases from 5/15-11/15. We would like to consult on our finding and discuss next steps.

When information is being shared with our community partners regarding the Legionella investigation, we want to be part of those conversations. We know information is being shared, we do not know what information has been shared. We need to know to be prepared to address questions.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
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Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Henry, James

From: Henry, James
Sent: Friday, December 11, 2015 4:13 PM
To: Cupal, Suzanne; Valacak, Mark; LaRocco, Toni; Brickey, Tamara
Subject: Re: Testing

I think we should have another face to face with Dr. Marc Edwards.

Interesting, but not surprising about the Legionella findings. We need to know some specifics for comparison with our cases.

On another note, engaging Dr. Selig is brilliant in many ways. I think Dr. Selig and Dr. Marc Edwards, should meet.

In efforts to help the state develop a stronger focus on public health, Dr. Selig would be excellent at providing additional academic support for Marc Edwards. She would also be a better, than us, at communicating the state's "deception." I think the term "malfeasance" is more appropriate, but what do I know?

By engaging Dr. Selig in this capacity it would help minimize retaliation from the state during our future accreditation(s).

The state referred to Marc Edwards as a magician in attempts to discredit his findings.

http ://flintwaterstudy.org/2015/09/commentary-mdeq-mistakes-deception-flint-water-crisis/

Good luck calling the University of Michigan, Dept of Public Health, magicians.

Michelle Bruneau's "limited patience" email yesterday, almost prompted me to share my evidence of the state's deliberate failure to communicate lead results with the schools, which threatened the children. Michelle continued communication of her cluelessness frustrates me.

I'm very thankful for the Emergency Declaration, even if Mark made it up.

I'll be happy to back off when the state stops creating additional and unnecessary risks.

Jim

Sent from my phone.

------ Original message------
From: Cupal, Suzanne
Date: Fri, Dec 11, 2015 1:48 PM
To: Valacak, Mark;tlarocco@gchd.us;Brickey, Tamara;Henry, James;
Subject:FW: Testing

Please read below.

We will need to do education regarding Legionella and ASHRAE 188 guidelines.

Sent from my Windows Phone

From: Marc Edwards
Sent: 12/11/2015 1:44 PM
To: 'Cupal, Suzanne'

Cc: 'Henry, James'
Subject: RE: Testing

Henry, James

From: Marc Edwards <edwardsm@vt.edu>
Sent: Friday, December 11, 2015 7:49 PM
To: Cupal, Suzanne
Cc: Henry, James
Subject: RE: Testing

I can do it semi-confidentially. We are not going to publish the names of the buildings. I can tell you the names on the phone. The results are really high.
We don't know it is serogroup 1 yet, but the high Lp is concerning.

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Friday, December 11, 2015 3:58 PM
To: Marc Edwards
Cc: 'Henry, James'
Subject: RE: Testing

Marc-

Thank you for sharing the information. I am responding on my phone as I have been at a meeting today.

Can you share the buildings or the type (nursing home, rehabilitation facility)? The results are concerning.

I cannot forward information today, but, will share when I return. We would like to speak to you. Please share your availability for a meeting. We greatly appreciate your sharing data. We need independent sources of information.

Thank you.

Suzanne

Sent from my Windows Phone

From: Marc Edwards
Sent: 12/11/2015 1:44 PM
To: 'Cupal, Suzanne'
Cc: 'Henry, James'
Subject: RE: Testing

Hi Suzanne,

We are still working through our recent sampling data. We did find **very high** levels of Legionella Pneumophilla in two large buildings we sampled just before the switch.
We will be further testing to see if it is serogroup 1, etc.. This will take awhile.
We will be submitting a proposal for a small amount of money to continue our testing, and trying to track what happens after the switch.

Henry, James

From: Cupal, Suzanne
Sent: Monday, December 14, 2015 4:46 PM
To: 'Fiedler, Jay (DHHS)'; Rygiel, Christine
Cc: Johnson, Shannon (DHHS); Collins, Jim (DHHS); Bohm, Susan (DHHS); Bolen, Timothy (DHHS); Weinberg, Meghan (DHHS); Henry, James; Valacak, Mark; LaRocco, Toni
Subject: RE: Discussing

MDHHS Colleagues-

GCHD has a Communicable Disease Investigation Response Team (CDIRT). All the members of that team have been actively engaged in the Legionella investigation. Water issues and Legionella are standing agenda items. We have copied some of those team members on this email. Assignments have been made based on each team members area of expertise.

We have reached out to the 3 hospital systems for urine antigen testing data. We have results from one hospital. Christine is doing follow-up.

Please coordinate with Christine regarding the data analysis. We are also trying to identify other potential community exposures. We are working with our EPA colleagues to try to obtain water system data that will assist in identifying areas where there have been major disruptions in the water system. We know the area around the hospital is one of those areas. We would like your collaboration in these conversations with the EPA. We want to identify other buildings that may pose a potential risk. We would like to map these water disruptions, our cases and key infrastructure including locations from our questionnaire. Please let us know which MDHHS staff members we should include in those conversations. Jim Henry (our Environmental Health Supervisor) and I will be coordinating the conversations with the EPA.

We have been trying to get the information regarding the environmental sampling done at McLaren since May. To date, we have the summary report we have shared with you. We also know they are testing monthly. As you know, they have been subpoenaed by the family of one of our deceased cases and our communications have gone through their risk management department. We are reaching out to them again because we want to see the 2015 data and we want to discuss the 2014 testing results with them again. If you will recall, they mentioned at the Bug Fuzz meeting that there were substantial differences in the test results from the 2014 consulting firm and the data collected from Special Pathogens Laboratory in the summer of 2015 (August 11-13). This information will also be helpful for our conversations with the EPA. Jim Henry and I will be coordinating the efforts to obtain this information. We hope to speak directly with our colleagues at Special Pathogen Laboratories with the hospital's permission.

Our CDIRT team will be collaborating throughout the data analysis process. Please let me know if you need any additional information.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor

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(810) 768-7970
scupal@gchd.us

From: Fiedler, Jay (DHHS) [mailto:FiedlerJ@michigan.gov]
Sent: Friday, December 11, 2015 4:27 PM
To: Cupal, Suzanne; Rygiel, Christine
Cc: Johnson, Shannon (DHHS); Collins, Jim (DHHS); Bohm, Susan (DHHS); Bolen, Timothy (DHHS); Weinberg, Meghan (DHHS)
Subject: RE: Discussing

Hello GCHD,

As another follow-up to yesterday's call, I want to touch base on a couple of items.

We had discussed on our MDHHS/GCHD conference call at the end of October that GCHD would be contacting McLaren, and the other 2 local hospitals, to request urine antigen testing numbers for the past 5 years. The data would need to include the total number of urine antigen tests run, and the number of positive/negative tests. The positivity rate would be useful in attempting to assess whether increased testing within the community is resulting in additional sporadic cases being detected. Was GCHD able to obtain this information from McLaren or the other 2 hospitals? This information will be useful to including in the 2015 year end summary.

We are also looking to see if GCHD could provide any information on the environmental sampling/testing that's been completed at McLaren to date, and any results from the testing; McLaren's current testing protocol, e.g. how often they are testing and what threshold for action they are using in the event of positive sampling; and McLaren's remediation activities to date and dates when the remediation steps were taken. While this doesn't need to be included in the report, we need to look at this data alongside of the data that we have on cases presenting in 2015 to better understand the impact those actions are having on disease burden.

Last, we'd like to coordinate with Christine on how to proceed with summarizing the 2015 data. Also, in terms of any interviews/analyses that she's done so far have any additional locations, beyond the hospital, been reported by multiple cases that may warrant additional scrutiny or investigation? We have up-to-date line lists covering many of the variables, but have not completed aggregating all the potential community exposures.

I understand that some of this information has been covered in phone calls. We're hoping to have a written summary as reference for the purpose of putting together the 2015 year end-summary, and to guide future actions.

Thanks. -Jay

Jay Fiedler, MS
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Henry, James

From:	Cupal, Suzanne
Sent:	Wednesday, December 16, 2015 10:14 AM
To:	Johnson, Mark (ATSDR/DCHI/CB); Sarisky, John (CDC/ONDIEH/NCEH); Yoder, Jonathan S. (CDC/OID/NCEZID); 'Lytle, Darren'; 'Fiedler, Jay (DHHS)'
Cc:	Valacak, Mark; Henry, James; LaRocco, Toni; Brickey, Tamara
Subject:	Genesee County Health Department Request for Assistance
Attachments:	Adding Extra Phosphate to Flint Water 09.pdf

We are following up our conversation of last week with a request for assistance.

- We are doing a review of the water system disruptions, treatment changes and other water system detail and our Legionella data with our EPA colleagues. We have asked our state colleagues to join this review process and would appreciate any expertise you can provide and your participation in that process. This review will help us assess risk. We also hope to identify other issues we will need to address.
- We would like any materials and/or data you can share regarding ASHRAE 188 education for hospitals and large buildings. Lessons learned from those experiences would be welcome.
- We have prepared a phosphate fact sheet with our state partners. Please review and share your thoughts. We will need to address phosphate discharge next. We would like your input.

We would greatly appreciate you sharing other resources that are available to us.

Thank you. We will be in touch again soon.

Suzanne

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Is there any documents you can give me on the high incidence of Legionairre's disease in Flint and Genesee after the switch in water sources?
I know there are some. If so, we'd like to reference that when we write up our data next year. We'd be happy to present our results to you as well, if you are interested.

Marc

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Monday, November 30, 2015 1:27 PM
To: Marc Edwards
Cc: Henry, James
Subject: Testing

Marc-

Do you have any updates on your test results for lead and heterotrophic bacteria? We are aware that the water department will be adding phosphate soon. Do you plan on doing any testing related to phosphate levels. Do you have concerns regarding the addition of phosphates to the water?

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
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Henry, James

From: Henry, James
Sent: Friday, December 11, 2015 5:24 PM
To: Cupal, Suzanne
Subject: Re: Action items from yesterday's call

Stated perfectly

t Thanks

Sent from my phone.

------ Original message------
From: Cupal , Suzanne
Date: Fri, Dec 11, 2015 4:11 PM
To: Garrison, Laurel (CDC/OID/NCIRD);Collins, Jim (CDC michigan.gov);'Lytle, Darren';Fiedler, Jay (CDC michigan.gov);'LaRocco, Toni';'Henry, James';Johnson, Mark (ATSDR/DCHI/CB);'Valacak, Mark';'Johnson, Shannon (DHHS)';Miller, Corinne (CDC michigan.gov);
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID);Sarisky, John (CDC/ONDIEH/NCEH);Moore, Matt (CDC/OID/NCIRD);Kutty, Preeta (CDC/OID/NCIRD);Cooley, Laura A. (CDC/OID/NCIRD);Kunz, Jasen M. (CDC/ONDIEH/NCEH);Gargano, Julia Marie W. (CDC/OID/NCEZID);Raphael, Brian (CDC/OID/NCIRD);
Subject:RE: Action items from yesterday's call

Thank you for the summary. Thank you for the opportunity to follow up our conversations of earlier this year. As we expressed, we have other water related concerns beyond Legionella. We previously discussed skin rashes, gastrointestinal illness, and TTHM. We are now addressing lead and phosphate and want to be prepared for new concerns as they present themselves.

I want to share that I received an email today from Marc Edwards of Virginia Tech. They have detected very high levels of Legionella in two large buildings they have tested. He did not name them or the type of building. We are following up.

We will also be following up with you for additional resources.

Thank you again for the opportunity to express our concerns. We need access to all resources available to us.

Suzanne

Sent from my Windows Phone

From: Garrison, Laurel (CDC/OID/NCIRD)
Sent: 12/11/2015 11:21 AM
To: 'Cupal, Suzanne'; Collins, Jim (CDC michigan.gov); 'Lytle, Darren'; Fiedler, Jay (CDC michigan.gov); 'LaRocco, Toni'; 'Henry, James'; Johnson, Mark (ATSDR/DCHI/CB); 'Valacak, Mark'; 'Johnson, Shannon (DHHS)'; Miller, Corinne (CDC michigan.gov)
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID); Sarisky, John (CDC/ONDIEH/NCEH); Moore, Matt (CDC/OID/NCIRD); Kutty, Preeta (CDC/OID/NCIRD); Cooley, Laura A. (CDC/OID/NCIRD); Kunz, Jasen M. (CDC/ONDIEH/NCEH); Gargano, Julia Marie

W. (CDC/OID/NCEZID); Raphael, Brian (CDC/OID/NCIRD)
Subject: Action items from yesterday's call

Hi all,

Thanks for your participation on the call yesterday. To sum up, we think we agreed:

--The state and county health departments will work together to analyze the epi data around the increase in Legionnaires' disease cases to determine whether any additional interventions may be needed. They will contact CDC's Respiratory Diseases Branch for any additional subject matter expertise as needed. The state is comfortable with the county reaching out directly to CDC, but would like to be included in the communication.

--EPA will work directly with the county health department through the existing EPA task force to provide technical expertise related to community water systems as it applies to the Legionnaires' disease investigation as well as other diseases of concern.

--CDC's Environmental Health Services Branch and Waterborne Diseases Prevention Branch are available as needed for additional subject matter expertise involving other concerns related to water quality or communication about waterborne disease prevention. NCEH/EHSB will respond to the request from Genesee County for information on the 10 Essential Services of Environmental Health.

We were happy to hear that the message of prevention through establishing a water management plan (ASHRAE 188) has gotten out to the hospitals, and encourage the county to stay engaged with how this is working. We would appreciate hearing any feedback regarding the implementation of ASHRAE 188. We also encourage communication with other building owners to bring awareness and implementation of ASHRAE 188 in other healthcare and non-healthcare settings.

Please let us know if you have any modifications to these action items.

Best regards,
Laurel

Laurel Garrison, MPH
Legionellosis Surveillance & Outbreak Response
NCIRD/DBD/Respiratory Diseases Branch
Centers for Disease Control and Prevention
1600 Clifton Rd., NE MS C-25
Atlanta, GA 30329-4027
404.639.3424
Lee5@cdc.gov

From: Garrison, Laurel (CDC/OID/NCIRD)
Sent: Friday, December 04, 2015 9:09 AM
To: 'Cupal, Suzanne' <scupal@gchd.us>; Collins, Jim (CDC michigan.gov) <collinsj12@michigan.gov>; Lytle, Darren <Lytle.Darren@epa.gov>
Cc: Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>; Johnson, Mark (ATSDR/DCHI/CB) <mkj5@cdc.gov>; Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>; LaRocco, Toni <tlarocco@gchd.us>; Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>

OK, let's go ahead and schedule for Thurs Dec. 10 at 9:00 AM Eastern.

Tel: 866-692-4538
Code: 84160510

Here is a proposed agenda...feel free to weigh in on other items we should discuss.

Specific to Legionnaires' disease:
--What type of assistance (if any) is being requested? (State and County HD)
--What is the role of EPA and what assistance has been provided so far? (EPA)
--What is the role of ATSDR and what assistance has been provided so far? (ATSDR)
--If additional federal assistance is needed, what can CDC offer? (CDC)

Thanks everyone!
Laurel

Henry, James

From:	Henry, James
Sent:	Tuesday, December 22, 2015 9:52 AM
To:	'MVALACAK@gchd.us'
Subject:	FW: Legionella Documents Summary
Attachments:	20150529 Executive Summary_v3.docx; Communicable Disease Investigation Communications; FW: Legionellosis Outbreak Investigation

Mark, the email below and the attachments might be a reference for you if you decide to elaborate on the state's activities. I cleaned up my insults that were guided at the state.

From: Henry, James
Sent: Friday, December 4, 2015 7:31 PM
To: Valacak, Mark; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara
Subject: RE: Documents

It's interesting that CDC is not on the email list from Jim Collins explaining they cleaned up their documents. It's also interesting that Jim Collin's is not mentioning his "outbreak is over" Executive Summary dated 5/29. (attached)

This is a quick summary of how the state's activities continues to threaten our community:

- The Executive Summary from Jim Collins is dated 5/29, but wasn't emailed until 6/4. I don't know why anyone would complete the document and wait seven days to share it. I think the Executive Summary was probably written on 6/4 and pre-dated 5/29. We had two confirmed cases on 6/1 and 6/2, which Jim Collins would have known about per MDSS. It would have been absurd if Jim Collins had claimed the "The outbreak is over" after knowing about the new cases. I wonder what the Executive Summary created date shows on his computer.

- The attached email thread, "Legionella Outbreak Investigation" dated 6/5, from our office explains that outbreak was not over. Also explains we were making progress in our efforts with the CDC to isolate the clinical and environmental specimens for comparison. Jim Collin's stated "The lack of clinical *Legionella* isolates precludes our ability to link cases to an environmental source." MDHHS was unable to successfully process the clinical specimens in the lab, so CDC agreed to provide assistance. Jim Collins was well aware that we were making progress in this area with CDC.

- The attached "Communicable Disease Investigation Communications" date 6/8. Jim Collin's wrote "At this point, further CDC participation would have to be in the form of an Epi-Aid request from our State Epidemiologist, Corinne Miller." This ended all of our hard work, progress and communications and MDHHS even stopped communicating with us for a period of time, while we had multiple new cases.

It's clear to me that MDHHS, (Jim Collins) made decisions to intentionally interfere with the Legionella investigation! I think deaths could have been avoided, had he not! This was very confusing at the time, but I think it occurred because Jim Collins and the Governor's staff were concerned that Genesee County's largest U.S. legionella outbreak, would implicate the Flint water system, for which they were responsible. If Jim Collins doesn't know that Legionella is a water related issue, he should step down immediately.

It's hard for me to see this any other way, but I'd be happy to listen if there's another reasonable explanation.

Henry, James

From: Cupal, Suzanne
Sent: Thursday, December 17, 2015 8:47 AM
To: 'Marc Edwards'
Cc: Valacak, Mark; Henry, James
Subject: Legionella Information
Attachments: 20150529 Executive Summary_v3 (3).docx; 20151203 Legionellosis Analysis Summary 12.15 (3).pdf; Legionella Summary May 2015 through November 2015.docx

For our conversation this morning.

Suzanne

Suzanne Cupal, M.P.H.
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Henry, James

From: Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>
Sent: Monday, December 28, 2015 6:30 PM
To: Yoder, Jonathan S. (CDC/OID/NCEZID); Cupal, Suzanne; rodgers.mark@epa.gov; Lytle, Darren; Johnson, Mark (ATSDR/DCHI/CB); Sarisky, John (CDC/ONDIEH/NCEH); Henry, James; Fiedler, Jay (CDC michigan.gov); Garrison, Laurel (CDC/OID/NCIRD)
Subject: RE: Conference Call Monday, January 4th at 11am-12 noon

I am available Monday, Jan 4 @ 11 am and would be happy to join the call. Just keep me posted.
Many thanks,
Laura

Laura Cooley, MD, MPHTM
Legionellosis Surveillance & Outbreak Response
NCIRD/DBD/Respiratory Diseases Branch
Centers for Disease Control and Prevention
1600 Clifton Road, MS C-25
Atlanta, GA 30329
Tel: 404.639.2096
Fax: 404.315.4680
E-mail: LCooley@cdc.gov

From: Yoder, Jonathan S. (CDC/OID/NCEZID)
Sent: Monday, December 28, 2015 10:33 AM
To: Cupal, Suzanne <scupal@gchd.us>; rodgers.mark@epa.gov; Lytle, Darren <Lytle.Darren@epa.gov>; Johnson, Mark (ATSDR/DCHI/CB) <mkj5@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>; Henry, James <jhenry@gchd.us>; Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>; Garrison, Laurel (CDC/OID/NCIRD) <lee5@cdc.gov>; Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>
Subject: RE: Conference Call Monday, January 4th at 11am-12 noon

Hi Suzanne

I have a scheduling conflict at 11 but please go ahead with the call if it works for others. If you are looking for CDC Legionella expertise, I have copied Laurel and Laura on this email.

Regards
Jonathan

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, December 23, 2015 8:12 AM
To: rodgers.mark@epa.gov; Lytle, Darren <Lytle.Darren@epa.gov>; Johnson, Mark (ATSDR/DCHI/CB) <mkj5@cdc.gov>; Sarisky, John (CDC/ONDIEH/NCEH) <zse1@cdc.gov>; Yoder, Jonathan S. (CDC/OID/NCEZID) <jey9@cdc.gov>; Henry,

James <jhenry@gchd.us>; Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>
Subject: Conference Call Monday, January 4th at 11am-12 noon

Could you please share your availability for a conference call Monday, January 4th at 11am?

The tentative agenda:
Water system/Legionella Review for risk assessment
ASHRAE 188 Education/Guidance
Other Water/Health potential concerns

The two large buildings that Marc Edwards tested were the two hospitals using Flint water. Additional guidance regarding ASHRAE 188 would be appropriate for all the hospitals. Dr. Edwards plans to test other large buildings in the New Year. We can share more information during the call.

Thank you. Enjoy your holidays.

Suzanne

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Henry, James

From:	Cupal, Suzanne
Sent:	Wednesday, December 30, 2015 12:02 PM
To:	'Cooley, Laura A. (CDC/OID/NCIRD)'; Rygiel, Christine
Cc:	Fiedler, Jay (CDC michigan.gov); Moore, Matt (CDC/OID/NCIRD); Garrison, Laurel (CDC/OID/NCIRD); 'Lytle, Darren'; 'rodgers.mark@epa.gov'; Yoder, Jonathan S. (CDC/OID/NCEZID); Sarisky, John (CDC/ONDIEH/NCEH); Johnson, Mark (ATSDR/DCHI/CB); Henry, James; Valacak, Mark; Johnson, M.D., Gary; LaRocco, Toni
Subject:	RE: Genesee County Water Issues Meeting 1/4/15 11am
Attachments:	Final Genesee supplemental questionnaire.pdf; Flint Water System Issues Discussion Agenda.docx

Attached is an agenda for our meeting on Monday morning at 11am along with the call in information. There are several objectives for this meeting:

- Organize a review of the Flint water system in order to assess health risk (Legionella, other water illnesses, contaminants, other health issues)
- Share information regarding the current Legionella epidemiologic data review process which includes feedback on the current Legionella questionnaire
- Identify ASHRAE 188 Education/Outreach resources
- Discuss lessons learned in other communities that may assist our situation (Lead, etc.)
- Review risk assessment communication resources
- Discuss the creation of a Health Assessment Advisory Team

Just a quick review of what has happened since our conference call:

- GC has one new reported Legionella case (reported yesterday)
- We have discussed data needed for a water system review
- Epidemiologic data is being analyzed related to Legionella cases from May 2015 to present
- Marc Edwards has shared Legionella test data from 2 hospital systems using Flint water. Legionella was present in both. This reinforces our concerns and the need for ASHRAE 188 education/outreach. He will test additional buildings in the new year.

We hope the creation of a Health Assessment Advisory Team will allow us to identify potential risks in advance and to create appropriate messaging. We expect that this call will allow us to clearly identify next steps and which parties are best suited to assist in addressing those concerns. GCHD staff will meet in the EOC.

We greatly appreciate your participation in the call.

Suzanne

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Public Health Supervisor
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scupal@gchd.us

From: Cooley, Laura A. (CDC/OID/NCIRD) [mailto:whz3@cdc.gov]
Sent: Tuesday, December 29, 2015 3:59 PM
To: Rygiel, Christine; Cupal, Suzanne
Cc: Fiedler, Jay (CDC michigan.gov); Moore, Matt (CDC/OID/NCIRD); Garrison, Laurel (CDC/OID/NCIRD)
Subject: RE: Legionella - Genesee County

Sure! I will be happy to take a look! Stay tuned...

I am looping back in the other folks from our team, as well as Jay. I think they fell off the exchange when I had to resend that initial email to you, Suzanne. My apologies!
Suzanne, you mentioned that Monday we will be talking about next steps. Somewhere earlier in that email exchange there was something about the 2 hospitals that Marc Edwards tested. Were they positive for Legionella? Just to catch us up to speed, could either of you give us a quick rundown of:

- What's happened in the interim since our call December 10?
- What are the *Legionella*-specific activities taking place currently?
- What kind of next steps are you hoping to define? Epi investigation? Environmental investigation? Remediation?

I hope I am not making things more complicated. We just want the conversation to be as productive as possible... the more we understand about the current situation and needs beforehand, the better prepared we can be.

Again, thank you!
Laura

Laura Cooley, MD, MPHTM
Legionellosis Surveillance & Outbreak Response
NCIRD/DBD/Respiratory Diseases Branch
Centers for Disease Control and Prevention
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Atlanta, GA 30329
Tel: 404.639.2096
Fax: 404.315.4680
E-mail: LCooley@cdc.gov

From: Rygiel, Christine [mailto:crygiel@gchd.us]
Sent: Tuesday, December 29, 2015 3:32 PM
To: Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>
Cc: Cupal, Suzanne <scupal@gchd.us>
Subject: Legionella - Genesee County

Laura Cooley,

My name is Christine Rygiel and I am the Epidemiologist for the Genesee County Health Department. I am currently working with the Michigan Department of Health and Human Services (MDHHS) with a summary analysis with all the information collected from our questionnaire (attached), as well as information we gathered from the hospital records. Please have a look at our questionnaire. We would appreciate feedback on anything that may improve the interview

process. Also, I would be more than happy to share the data analysis once we have finished it! But with the recent holidays it may be a few weeks. Once we finish analyzing this data, we hope to have a better understanding of what might be ruled in or ruled out as a possible explanation for the increase in Legionella over the past couple years.

In addition, we had another confirmed case this morning. We are still gathering information on this individual.

Let me know if you have any questions!

Christine Rygiel, MPH, MB (ASCP)
Epidemiologist
Genesee County Health Department
630 S. Saginaw Street, Suite #4
Flint, MI 48502-1540
Office: 810-257-3815 | Fax: 810-257-3147

Genesee County
Health Department

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MDSS ID _____

Legionellosis Questionnaire
Genesee County, 2014-2015

Interviewer Identification

Date of Interview: _____ Interviewer's Name: _____

Health Dept.: _____ Phone Number: _____ E-mail: _____

What was the patient's outcome? ☐ *RECOVERED* ☐ *STILL ILL* ☐ *DIED* ☐ *UNK*

Patient Contact Information

Name: _____ Age: _____ Sex: ☐ M ☐ F

Street address: _____ City: _____

State: _____ Zip: _____ County: _____

Daytime Phone: _____ Evening Phone: _____

Surrogate Contact Information *<List surrogate contact information if patient is too unwell or has died>*

Name: _____

Daytime Phone: _____ Evening Phone: _____

Relationship to Patient: _____

Hello, my name is _____ and I'm calling from _____ (health department). We are investigating a cluster of respiratory illnesses in Genesee County. At this point, the source of these illnesses is still under investigation. We are hoping this interview will provide further information and answers about the illnesses. I'd like to ask you a few questions about your home and your exposures during the 2 weeks before you got sick. You do not have to answer any of the questions, but any assistance you can provide is appreciated. Do you have about 30 minutes to talk? If not now, when would be a good time for me to call back? _____

<If the case is from more than 1 month prior, the following text may be used: >

It might be helpful for you to collect documents such as a calendar, receipts, credit card or bank statements to jog your memory about your activities and where you were in the 2 weeks prior to getting sick. The only information we would ask you to share from these are dates and locations. Would you like me to call you back after you have time to collect these materials? When would be a convenient day and time for me to call you back? _____

I have that your first symptom started on *<insert onset date>* _____. Is this correct?

☐ Yes ☐ No ☐ Not sure

If no, what was the first date you started feeling sick? ___/___/___

List dates of exposure period: from ___/___/___ to ___/___/___ <The exposure period includes the 2 weeks before the date of illness onset>

MDSS ID _____

Illness Information

1.) During your illness, did you have any of the following symptoms?

	Check one:		
	YES	NO	UNK
Diagnosis of pneumonia			
Fever If yes, highest temp:_____			
Chills			
Cough			
Nausea			
Vomiting			
Diarrhea			
Aches or muscle pains			
Chest pain			
Shortness of breath			
Sore throat			
Headaches			
Other symptoms (*specify*):			

Exposure Information

2.) How long have you lived at your current residence? _____

<If they have moved since the listed exposure period, indicate that you are asking about the house they lived in prior to becoming sick>

a.) If you moved after the exposure period/illness, what was your previous residence address? _____

3.) Where did you get your tap (drinking and other household use) water from between ___/___/___ and ___/___/___ ? *<Exposure period from above>*

- ☐ 1. City of Flint Water
- ☐ 2. City of Flint Township Water
- ☐ 3. Other municipal water system
- ☐ 4. Private well
- ☐ 5. Unknown
- ☐ 6. Other _____

4.) During the last year, has the water pressure at your residence changed? ☐ Yes ☐ No ☐ Not Sure

a.) If yes, did the water pressure: ☐ Increase ☐ Decrease

b). If yes, when did the water pressure change occur? _____

MDSS ID _____

5.) During the last year, has the water quality (appearance, taste, smell) at your residence changed?
☐ Yes ☐ No ☐ Not Sure
a.) If yes, please describe the change in the water quality:_____
_____
b). If yes, when did the water quality change occur? _____

6.) Prior to your illness, did you make any recent plumbing changes or repairs at your residence?
☐ Yes ☐ No ☐ Not sure
a.) If yes, please describe the changes/repairs and give the dates the work was done.
_____
_____

7.) Prior to your illness, were there any water main breaks or other water line issues that affected the water at your residence, including boil water advisories? ☐ Yes ☐ No ☐ Not sure
a.) If yes, please describe the water main/line issues or boil water advisories and give the dates they occurred.
_____
_____

I'd like to ask you some questions about what you did during the 2 weeks **before** you got sick.
The time period I'm asking about is between ___/___/___ and ___/___/___.*<Exposure period>*
During this 2 week period, did you:

8.) Work or volunteer, either full or part time? ☐ Yes ☐ No ☐ Not sure
a.) If yes, complete the following table:

Job description	Company	Location	Any exposure to misty water?

9.) Spend any time in a hospital, doctor's office, clinic, or dentist office as a patient, visitor, employee, or volunteer? ☐ Yes ☐ No ☐ Not sure
a.) If yes, check all that apply:

Exposure	Date(s)	Reason for Visit	Name & City of Hospital/ Office/ Clinic	Name of Doctor
Inpatient ☐	Admission_____ Discharge_____			
Outpatient ☐				
Visitor ☐				
Employee ☐				
Volunteer ☐				

MDSS ID _____

10.) Visit, reside, or work in a long term care facility, nursing home, assisted living facility, or senior living facility? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table:

Exposure	Date(s)	Name & City of Facility
Resident ☐		
Visitor ☐		
Employee ☐		

11.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you spend any nights away from home (excluding healthcare settings)? ☐Yes ☐No ☐Not sure

a.) If yes, complete the following table: *<prompts: hotel, campground, cabin, cruise, second home, with family, etc.>*

Accommodation Type/Name	Address Street, City, State	Floor/Room No.	Dates of Stay	
			Arrival	Departure

12.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you visit any of the following community venues?

	Check one:					
Venue	YES	NO	UNK	Date(s)	Name of Venue	Address
Hotel (*without* staying overnight – e.g. dinner, wedding)						
Auditorium						
Barbershop or Hair salon						
Car wash						
Casino						
Church or Place of worship						
Gym or Work out facility						
Grocery store						
Home improvement store						
Spa or Nail salon						
Mall or Department store						
Movie theater						
Other (*specify*)						

13.) In the 2 weeks before you before you got sick (___/___/___ to ___/___/___), did you have exposure to any of the following water sources, either ***at home*** or while ***away from home***?

	Check one:				
Exposures ***at home***	YES	NO	UNK	Dates (s)	Description: Name (or Type)/Location
Shower					
Use a detachable shower head or hose					
Hot tub, whirlpool spa, Jacuzzi tub					
Sat NEAR a working hot tub or whirlpool spa but did not get in					
Steam room or wet sauna					
Humidifier (whole house or portable)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Respiratory therapy machine (e.g. nebulizer, CPAP, BiPAP, etc.)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Other (*specify*)					

Exposures ***away from home***	YES	NO	UNK	Dates (s)	Description: Name (or Type)/Location
Shower at gym, work, other location					
Use a detachable shower head or hose					
Hot tub, whirlpool spa, Jacuzzi tub					
Sat NEAR a working hot tub or whirlpool spa but did not get in					
Humidifier (whole house or portable)					If yes, specify type: If yes, what type of water is used in device? □Bottled □Tap □Other:_____
Pool/splash pad/waterpark					
Recreational or cooling misters					
Steam room or wet sauna					
Decorative fountain					
Outdoor watering hose or sprinkler					
Beach, lake, pond, river, creek, etc.					
Other (*specify*)					

MDSS ID _____

Medical History

Now I'm going to ask a few questions about your medical history and health behaviors.

14.) Have you ever been told by a healthcare provider that you had any of the following conditions:

	Check one:			
Condition	YES	NO	UNK	Comments
Chronic kidney disease				
Weakened immune system (due to cancer, chemotherapy , radiation therapy, immunosuppressive meds, HIV, organ transplant, etc.)				
Diabetes				
Chronic lung disease (COPD, emphysema)				
Asthma or chronic bronchitis				
Heart disease or congestive heart failure				
Liver disease				
Other conditions (*specify*)				

15.) Health behaviors:

	Check one:			
	YES	NO	Quantity per day (packs or drinks)	Duration (years)
Are you currently a smoker?				
Are you a former smoker?				
Do you drink alcohol?				

16.) Do you know anyone else with similar symptoms? ☐ Yes ☐ No ☐ Not sure

a.) If yes, complete the following table:

Name	Phone	State of Residence	Details of Shared Exposure

Additional Comments _____

_____

_____

_____

_____

Thank you so much for taking the time to answer these questions. Do you have any questions that I can help answer? If you have any questions or remember any further details later, please contact the _____ (health department) at phone: _____.

Flint Water System Issues Discussion Agenda

Monday, January 4th

11am

Call In 712-775-7300, code 429116#

1.) Water System Review-Risk Assessment
   a.) Legionella risk assessment
   b.) Other water related illness risk assessment
   c.) Other contaminate risk assessment
2.) ASHRAE 188 Education/Outreach Resources
3.) Lessons Learned from Other Communities
4.) Risk assessment Communication Resources
5.) Review of Legionella Questionnaire-feedback requested
6.) Health Assessment Advisory Team

Henry, James

From: Cupal, Suzanne
Sent: Friday, January 8, 2016 11:10 AM
To: Valacak, Mark; Henry, James
Subject: RE: McLaren... Legionella Testing Data 2014/2015

Just to clarify, which rule book page 17 are you referencing?

I will work on an updated email.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Valacak, Mark
Sent: Friday, January 08, 2016 11:05 AM
To: Cupal, Suzanne; Henry, James
Subject: RE: McLaren... Legionella Testing Data 2014/2015

I agree, I would quote what the requirements are for an investigation specifically from the rules book page 17 and make certain we are coordinating with the state:

4. Information to be provided
Medical and epidemiological information means any of the following, in detail:
- Medical histories
- Examination results
- Findings of all associated laboratory tests
- Diagnoses
- Treatments employed
- Outcomes
- Description and source of suspected causative agents
- Any other pertinent information that is requested by the state or local public health authority in the course of an investigation

If they don't comply with our request a request should probably come from the state to affirm it is appropriate. Failure to comply could result in us seeking the information via the legal system which will then put the investigation in the public domain.

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4 Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147
E-mail mvalacak@gchd.us

PublicHealth

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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From: Cupal, Suzanne
Sent: Friday, January 08, 2016 8:45 AM
To: Henry, James; Valacak, Mark
Subject: RE: McLaren... Legionella Testing Data 2014/2015

I would like to try another email with public health code info and a very specific request for information.

I have no confidence it work.

Sent from my Windows Phone

From: Henry, James
Sent: 1/8/2016 8:39 AM
To: Cupal, Suzanne; Valacak, Mark
Subject: RE: McLaren... Legionella Testing Data 2014/2015

Below is my correspondence with McLaren.

It explains why I missed the meeting on 12/20 and my offer to meet with Rusty again. I requested to attend and not the other way around. I was not invited, until I explained that Marc Edwards informed us of the possibility of publically sharing Legionella information in January 2016. **Only then did they want me at their meeting.**

This statement is in Rusty's email below about their risk manager's comment during their meeting "She was very adamant about the fact that she would not be sharing documents."

Rusty was not willing to share much on the phone, however, when I asked about the cooling towers he informed me that they have been eliminated as a potential source by both of their consultants. I can request another face to face and see what they will tell us verbally. However, I don't foresee any give and take here.

Jim

From: Hudson, Russell [mailto:Russell.Hudson@mclaren.org]
Sent: Tuesday, December 22, 2015 4:29 PM

To: Henry, James
Subject: RE: electronic fact sheets

Jim,

We met about other things, so it wasn't a wasted meeting time. But had invited our Risk Management Director to be in attendance, as well. She was very adamant about the fact that she would not be sharing documents, but I told her that you wanted to inform us of why you were interested in our data.

Just noticed that we did not set a meeting date in January and have asked our Admin. Asst. to set it up. I'll keep you posted on the next meeting date.

Rusty Hudson, Assoc. AIA
Director | Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Monday, December 21, 2015 4:57 PM
To: Hudson, Russell <Russell.Hudson@mclaren.org>
Subject: RE: electronic fact sheets

Rusty,

I'm sorry for missing the meeting. I'm bounced around a lot lately and had to attend another Flint water meeting. I'll be happy to sit down with you or talk anytime.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

From: Borowski, Julie [mailto:Julie.Borowski@mclaren.org]
Sent: Thursday, January 07, 2016 10:15 AM
To: Cupal, Suzanne
Cc: Hayman, Danette
Subject: RE: Legionella Testing Data 2014/2015

Suzanne,
McLaren- Flint has reported the required information related to individual Legionella cases as well as the executive summary from our consultant's report (not required).
On December 20, 2015 Jim Henry agreed to attend our internal water board meeting to discuss our progress, he did not attend and has not requested a rescheduled meeting.

At this time no additional internal documents related to this matter will be provided.

Julie Borowski, CPHRM
Director, Compliance, Risk Management, Medical Staff Services
McLaren-Flint
401 S. Ballenger Hwy
Flint, MI 48532

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, January 06, 2016 10:50 AM
To: Borowski, Julie
Cc: Hayman, Danette; Henry, James; Valacak, Mark
Subject: RE: Legionella Testing Data 2014/2015

Ms. Borowski-

The Genesee County Health Department (GCHD) is continuing the investigation of Legionella cases in our county. As part of that investigation, we are working with the Environmental Protection Agency (EPA) and the Michigan Department of Health and Human Services (MDHHS) to do a review of the water system infrastructure, Legionella case information and other relevant data. We are requesting access to the test results related to water samples collected at McLaren during 2014 and 2015 which would include sampling locations as well as the test results. We are trying to identify any potential risks to other large buildings in the community.

Your cooperation would be very much appreciated. The information would be shared with the GCHD, EPA and MDHHS team doing the review process. If you have any additional questions, please let me know.

Thank you for your prompt attention to this request.

Suzanne Cupal

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Borowski, Julie [mailto:Julie.Borowski@mclaren.org]
Sent: Friday, November 13, 2015 2:10 PM
To: Cupal, Suzanne
Cc: Hayman, Danette
Subject: RE: Summary Report

Please see our response below in blue

Julie Borowski, CPHRM
Director, Compliance, Risk Management, Medical Staff Services
McLaren-Flint

401 S. Ballenger Hwy
Flint, MI 48532

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, November 12, 2015 12:12 PM
To: Borowski, Julie
Cc: Hayman, Danette
Subject: FW: Summary Report

Julie-

I am following up my email of November 4th (see below) to see if you can provide the information requested. I would greatly appreciate an response to my email request.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Cupal, Suzanne
Sent: Wednesday, November 04, 2015 3:53 PM
To: 'Borowski, Julie'
Subject: Summary Report

Julie-

Thank you for the summary report. It was very helpful. We are working on the NORS report for CDC and have a few follow-up questions.

Is there a summary report that was completed after the increased monitoring/testing that took place after GCHD contacted the hospital in September 2014 and related to the hyperchorination that McLaren conducted after that contact (10/4/14)? The summary report from Special Pathogen that I provided is our complete summary report.. We want to demonstrate the efforts the hospital made to address those concerns. We have provided multiple responses to both The Joint Commission and CMS which demonstrate our efforts with no recommendations from either agency being received. Was a consultant engaged for that process or was this internal monitoring? Both a consultant was engaged and internal monitoring was performed.
Are you continuing to do monthly testing? Yes
Is the water safety plan complete to comply with the new ASHRAE 188 Legionella standard? Yes Have all the updates to your infrastructure been completed related to that plan? Yes A timeline would be helpful if those efforts are not yet complete.
Are you still using bottled water? Yes
Is there anything else you would like to share? Not at this time

Thank you for all your efforts to address this situation. We appreciate the cooperation. We want to complete the NORS report by 11/12/15.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
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scupal@gchd.us

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Genesee County Health Department Lead Poison Prevention Plan

1. **Provide overall case management of elevated blood leads (EBL) (staffing level will depend upon number of EBLs identified and requiring case management but outreach is also important due to the mobility of the population and level of distrust)**

Genesee County Health Department lead program is responsible for tracking all children with blood lead levels (BLLs) > =5 mcg/dL to assure that appropriate follow-up services are provided. Current follow-up includes actions by GCHD and health care providers which, depending on the child's blood lead level and exposure history, include as appropriate:

Confirmatory and follow-up blood-lead testing;

Risk reduction education;

Nutritional counseling;

Diagnostic evaluation which includes a detailed lead exposure assessment, a nutritional assessment including iron status, and developmental screening;

Coordination with primary care provider;

Medical treatment, if necessary;

Environmental management (housing, outdoor play areas, garden soil); and

Case management of elevated blood lead children;

Other services as appropriate to include:

Referral for insurance enrollment as appropriate;

Referral for WIC services;

Referral for primary care services if no primary care provider identified;

Referral for child behavioral health and mental health services;

Referral for lead reduction or abatement in housing;

Referral for food supplemental programs to include: DHS, SNAP, double up food bucks, food bank, food pantries

Referral to child development programs (Early Head Start, Head Start, etc.)

Referral to housekeeping intervention programs (HEPA- vacuum loan programs, etc.)

Verify:

NSF approved water filter used or provided;

Water tested or referred for testing;

Only cold, filtered or bottled water used for drinking, cooking or formula mixing;

Access to recommended nutrition information or referral for nutrition counseling advice;

Access to appropriate use of nutritional supplements (recommended vitamins and minerals)

No use of ethnic medications, cosmetics or candies known to contain lead

2. **Overall coordination of water filter distribution (requires funding support for IT and other work)**

Develop computer database to track filter distribution by address

Maintain filter distribution computer database

Produce reports using computer database

Train distribution points on use of database

Collect information from distribution partners

Issue daily updates to distribution partners

Conduct weekly partner meetings (Tuesday 10AM) and arrange phone call in capability

Assist in distribution to and among distribution partners

Coordinate distribution to special needs healthcare (Wellness, dialysis centers, home visiting programs)

Coordinate distribution through health department programs (WIC, primary care, CSHCS, Healthy Start)

Assist in distribution of filters and replacements at community events

Coordinate inventory distribution through partners

Coordinate replacement inventory ordering through MDHHS

Assist in sharing database information to encourage filter coverage to all households receiving Flint water

3. **Community lead hazard reduction education efforts (will require additional funding to support additional health educators and nutritionist/ registered dietician)**

Identify community education needs around the Flint water issues

Develop with community and state partner's community education materials and messaging (requires financial support for printing costs)

Coordinate the distribution of educational material to the general public

Distribute recommendations for licensed food establishments using Flint city water

Make materials available electronically via websites

Improve distribution of material through electronic methods and social media

Coordinate with distribution channels:

City of Flint

Flint Schools

Head Start (GISD)

Early Head Start (GCCARD)

Charter Schools (GISD)

University of Michigan-Flint, Mott, Baker, Kettering, MSU-CHM

Crim School Health Initiative and GHP health navigators

MSU Co-op Extension

Places of worship/Church health teams

Healthcare provider offices

Hospital systems

Health Plans

Home visiting programs (Healthy Start, Nurse Family Partnership, Meals on Wheels, etc.)

Priority Children

Mott Children's Health Center

Federally Qualified Health Centers (Hamilton and Genesee Health System)

Weiss Child Advocacy Center

Whaley Children's Center

Licensed day care centers

Greater Flint Health Coalition and CHAP program

Genesee County Community Collaborative

SPROUT childhood obesity prevention coalition

Food Bank of Eastern Michigan and food pantries, the Diaper bank

Community Centers/ Senior Centers

Flint PAL (Police Activity League)

Edible Flint

YMCA/YWCA, Boys and Girls Club, Boy & Girl Scouts, 4H and other youth support groups

Provide coordination support for NCCC (AmeriCorps) team (application pending)

Door to door activities (education, filter distribution, water testing and referral for other services)

Setting up information tables and distribution points in the community at places of worship, community centers and other places where people congregate

Placing information in beauty salons and barber shops and informing workers to spread the word

Coordinate with Red Cross Smoke Detector distribution program to add lead risk reduction element including distribution of filters, educational information and referrals

Coordinate with UM-Flint on community Flint Water Seminar course

Coordinate with MSU CHM to incorporate lessons learned into curriculum of MSU CHM-Flint

Improve communication access and timeliness through the use of social media and traditional media via press releases, PSAs, YouTube videos

Develop and distribute information on nutrition to reduce the lead burden

Provide food demonstrations

Provide recipe cards at demonstrations and point of sale or food distribution locations

Collaborate with food vendors and distributors to promote nutritious choices

Connect with Project Fresh, Double up Food Bucks, SNAP to encourage healthier choices

Consult with Flint Schools Food Service program including vending and after school activities

Consult with Flint charter and parochial schools, MSD, GISD on food service issues

Consult with Head Start and Early Head Start food service programs

Provide nutrition information and recommendations to licensed day cares

Provide nutrition information and recipes for GCCARD food commodities distribution program

Consult with Meals on Wheels on nutrition recommendation

Consult with North End and South End Soup Kitchens on nutrition recommendations

Consult and provide information to foster care facilities

Consult with dietetic services at local hospitals and extended care facilities

Consult and provide nutrition recommendations to County Jail, City Lock Up and Juvenile Detention facility

Work with MDARD and local restaurants to promote healthy recipes and customer choices

4. **Healthcare provider and facility environmental health and lead hazard reduction education (requires additional health educator, nurse educator or environmental health staff support)**

Encourage expanded BLL testing

Provide updates on current recommended protocols for EBL

Provide environmental health information on current issues regarding water to include:

> Boil water advisories, trihalomethanes, skin rashes and water, Legionellosis and other waterborne diseases, phosphates, water testing results, drinking water advisories, bathing water advisories

Share data on community testing

Encourage use of Prescription pads for Children with EBL (pads developed by GCHD and CLPPP)

Provide updates at the Environmental Health Committee of the Genesee County Medical Society

Provide updates in the Genesee County Medical Society newsletter

Use GCHD Epi-Newsletter to communicate updates on waterborne issues

Communicate regular updates at quarterly meetings of the hospital Communicable Disease Staff

Communicate information through grand rounds at area hospitals

Coordinate with the Genesee County Free Medical Clinic

Coordinate with UM Flint Nursing Program and other allied health programs

Produce a training seminar, archived webinar on new ASHRE standard for treatment of water in large buildings to reduce the risk of bacterial contamination and disease transmission

5. Blood lead testing

Assess kids in WIC using MCIR and provide blood lead testing as appropriate

Provide free BL testing to the uninsured

Provide follow up BL testing as indicated

Collaborate with MDHHS promoting expanded blood lead testing protocols especially in private provider offices

Provide special clinics in the community to increase blood lead testing in children **(will require additional support from health plans, UM-Flint Nursing Program or hiring temporary staff)**

Coordinate with local health plans to encourage expanded testing and reminder recall for testing and follow up of EBLs

Promote increased testing in private provider offices

Inform and refer blood lead testing information to primary care providers

Coordinate with Hurley, MSU, UM-Flint and MDHHS to research and map EBLs and risk factors

6. Other supportive activities (may require additional staff and funding support)

Increase participation in WIC (request outreach workers/health educators/nutritionist/health tech)

Improve retention rates in WIC (request bus passes for clients with transportation problems and additional staff to do outreach)

Provide satellite WIC locations (Hurley Hospital, Brownell-Holmes School, Hurley Peds, etc. (requires staff))

Increase breastfeeding rates in WIC (request outreach workers/health educators)

Increase breastfeeding rates overall through hospital initiation and promotion

Increase recruitment of pregnant moms and kids up to 2 into Healthy Start

Increase recruitment of first time pregnant moms into Nurse Family Partnership

Increase evaluation of reportable waterborne diseases that may be related to problems associated with the Flint Water (legionella and other waterborne pathogens)

Evaluate kids in GCHD immunization program for lead testing and refer as appropriate

Promote participation in GCHD Public Health conference with environmental health issues as this year's theme May 2016

Participation in the Flint Water Technical Advisory Team

Develop and implement lead awareness campaign with MDHHS support (bus boards, billboard other media as funding supports)

Promote ASHRE standard for treatment of water in large buildings to reduce the risk of bacterial contamination and disease transmission

Promote community education efforts around trauma informed care and social determinants of health

Coordinate and collaborate with water and lead research efforts in the community and assist in the dissemination of findings

Share lessons learned with other communities

Mark Valacak, MPH, Health Officer
Genesee County Health Department,

630 S. Saginaw St. Suite 4

Flint, MI 48502-1540

Phone 810-257-3588 Fax 810 257-3147 E-mail mvalacak@gchd.us

PublicHealth

Henry, James

From: Cupal, Suzanne
Sent: Tuesday, January 12, 2016 9:22 AM
To: Valacak, Mark
Cc: Henry, James
Subject: RE: McLaren Response

Thank you!

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Valacak, Mark
Sent: Tuesday, January 12, 2016 9:22 AM
To: Cupal, Suzanne
Cc: Henry, James
Subject: Re: McLaren Response

I Agee with Jim

Sent from my iPhone

On Jan 12, 2016, at 8:43 AM, "Cupal, Suzanne" <scupal@gchd.us> wrote:

> Thank you. Mark?
>
> Suzanne Cupal, M.P.H.
> Public Health Supervisor
> Genesee County Health Department
> 630 S. Saginaw Street
> Suite 4
> Flint, MI 48502
> (810) 768-7970
> scupal@gchd.us
>
> ---
>
> **From:** Henry, James
> **Sent:** Tuesday, January 12, 2016 8:43 AM
> **To:** Cupal, Suzanne; Valacak, Mark
> **Subject:** RE: McLaren Response

I think it needs the ransom note, i.e..

"Failure to cooperate will leave no option but to make the request through the legal system. This will open the investigation to public scrutiny. (needs wordsmithing)

From: Cupal, Suzanne
Sent: Tuesday, January 12, 2016 8:17 AM
To: Valacak, Mark; Henry, James
Subject: McLaren Response

Below if my draft response. Please share any comments.

Ms. Borowski,

The Genesee County Health Department is actively engaged in an ongoing Legionella investigation. Section 5111 of Act Number 368 of the Public Acts of 1978 provides the authority to investigate communicable diseases. The information we are requesting is critical to our investigation. Medical and epidemiological information means any of the following, in detail:

- Medical histories
- Examination results
- Findings of all associated laboratory tests
- Diagnoses
- Treatments employed
- Outcomes
- Description and source of suspected causative agents
- Any other pertinent information that is requested by the
- state or local public health authority in the course of an
- investigation

We would be happy to meet with you and your staff to discuss the specifics of our data request. We would greatly appreciate your cooperation with this investigation.

Suzanne Cupal

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Henry, James

From: Cupal, Suzanne
Sent: Tuesday, January 12, 2016 10:24 AM
To: Valacak, Mark
Cc: Henry, James
Subject: RE: McLaren Response

II won't send anything until we have a chance to talk. I had a great call with John Sarisky at the Center for Environmental Health at the CDC.

Head to the Speak meeting, then Community Collaborative (2nd Flood Red Cross)then back to the Speak meeting then back to the Red Cross. Do you know where the 3pm meeting will be held?

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Valacak, Mark
Sent: Tuesday, January 12, 2016 10:11 AM
To: Cupal, Suzanne
Cc: Henry, James
Subject: Re: McLaren Response

We need to determine are we using our Legal or the state? We need to run it by Celeste or MDHHS

Sent from my iPhone

On Jan 12, 2016, at 10:04 AM, "Cupal, Suzanne" <scupal@gchd.us> wrote:

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- Any other pertinent information that is requested by the
- state or local public health authority in the course of an
- investigation

We would be happy to meet with you and your staff to discuss the specifics of our data request. We would greatly appreciate your cooperation with this investigation. Failure to comply will result in us seeking the information via the legal system which will then put the investigation in the public domain.

Suzanne Cupal

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Snyder: Legionnaires' cases spike in Flint area

Jim Lynch and Jonathan Oosting, The Detroit News *9:27 p.m. EST January 13, 2016*

(Photo: Getty Images)

Cases of deadly Legionnaires' disease spiked dramatically in the Flint area after the city's switch to river water in spring 2014, according to state officials who said it is unclear if there is a connection with contaminated water.

In the years before the city began drawing its water from the Flint River in April 2014, Genesee County typically saw between six and 13 annual cases of the bacterial respiratory disease. From June 2014 through March 2015, there were 45 cases of Legionnaires', including seven deaths, according to the state Department of Health and Human Resources.

From May 2015 through November 2015, the county recorded another 42 cases — this time with three fatalities. Gov. Rick Snyder's office on Wednesday provided a report from late May 2015 that stated: "The outbreak is over; the last reported case occurred in March 2015."

DETROIT NEWS

EPA stayed silent on Flint's tainted water

(http://ux.detroitnews.com/story/news/politics/2016/01/12/epa-stayed-silent-flints-tainted-water/78719620/)

During a hastily arranged press conference in Detroit, Snyder and Dr. Eden Wells, Michigan's chief medical executive, said there are no additional precautions needed at this time for Flint area residents.

"We are not recommending any change in any actions by people," Snyder said. "We've already put out a set of recommendations about filtered water, bottled water — a number of other items. ... So we're not making any recommendation for a change of behavior by the residents of Flint because of this."

Legionnaires' disease is a respiratory illness caused by a certain bacteria in warm fresh water that leads to pneumonia. It is usually contracted in the warmer months. The bacteria can be found in large plumbing systems, hot tubs, air-conditioning units in large buildings and fountains, according to the Centers for Disease Control and Prevention.

DETROIT NEWS

Flint mayor welcomes National Guard help

(http://www.detroitnews.com/story/news/politics/2016/01/13/flint-national-guard/78743296/)

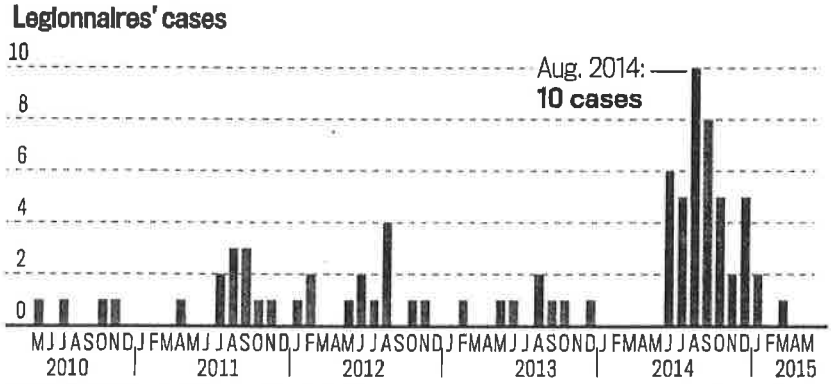
The state decided in October to change Flint's drinking water source from the corrosive Flint River back to the Detroit water system.

A breakdown of the 45 Flint area Legionnaires' cases from June 2014 to March 2015 shows:

- A little less than half of the cases recorded in the period came from residences that had Flint's water as the primary water source.
- More than half of the total cases had visited a local health care facility within two weeks of their diagnoses.
- Ten of the total cases had not gone to a health care facility or had no connection to Flint's water system in their primary residence.

Legionnaires' disease cases spike

State officials reported a rise in cases of Legionnaires' disease over a year-and-a-half period that matches the time Flint was drawing its drinking water from the Flint River.



Source: Michigan Department of Health and Human Services

The Detroit News

"Not all people necessarily get sick when exposed," Wells said. "Those who are elderly or have underlying immune system problems are more susceptible to getting it."

Marc Edwards, a Virginia Tech researcher whose water testing helped uncover the lead contamination problem, suggested there may be a link between the increase in Legionnaires' cases and a critical misstep in the Michigan Department of Environmental Quality's handling of Flint's water treatment. The state failed to require corrosion controls — chemicals added to coat the inside of underground pipes and prevent lead from leaching into the water.

Edwards and his research team won a National Science Foundation grant in September, funding a study on the effects of interruptions in corrosion control.

In a Wednesday posting on his website, Edwards wrote: "A key hypothesis of our (grant) is that the rapid corrosion of iron in water mains in Flint would dramatically increase growth of Legionella in buildings. ... Higher rates of iron corrosion will produce: higher iron in water and lower levels of free chlorine. Both of these factors ... have been shown to dramatically increase Legionella regrowth ..."

In recent public appearances, Snyder has faced pointed questioning about what he knew about Flint's lead contamination problems and when. On Wednesday, the Republican governor underscored that he only recently learned of the statistics surrounding Legionnaires' disease.

"I'm going to share information that has been shared with the health care community in the past but hasn't really been put out to the public," Snyder said. "One of the reasons to do that today is I want to make sure we put it in the proper context. The information was just recently presented to me, and I thought it was important to share."

In August, Debbie Kidd, 58, died after experiencing respiratory problems brought on by Legionnaires'. She lived in Otisville, roughly 20 miles north of Flint. The diagnosis shocked family members.

"I've got all these questions — how and why, where did it come from?" Troy Kidd, her son, told The Detroit News in August. "You go from never hearing about this thing to 'It's over here, it's over there.' "

Flint's water has been a source of concern from the day it started coming from the Flint River. Immediate complaints about the water's taste, smell and color eventually escalated to this summer's findings of high lead levels and contamination in the bloodwork of city children.

Residents have expressed frustration with all levels of government over the public health threat. But Snyder has been targeted for particularly heavy criticism since the decision to switch to the river was made with Flint under the control of an emergency manager his cabinet members appointed.

Snyder said the state has been working with officials from the U.S. Centers for Disease Control and Prevention, as well as the U.S. Environmental Protection Agency since first sharing its findings in June 2015.

Members of Snyder's administration met with Senate Minority Leader Jim Ananich, D-Flint, and other area lawmakers earlier Wednesday, briefing them on updates on the water crisis and soliciting their feedback.

"I urge the CDC to send infectious disease experts to Flint tomorrow," Ananich said in a statement released Wednesday evening. "We need an investigation into the past outbreak so we know what happened, whether there is any ongoing threat and how to make sure it doesn't happen again."

The Legionnaires' announcement follows Snyder's activation late Tuesday evening and deployment Wednesday in Flint of the Michigan National Guard and request to the Federal Emergency Management Agency — quickly approved that night — to coordinate an "interagency recovery plan" with other federal agencies to provide resources and expertise that could be used in Flint's water emergency. FEMA has appointed a federal disaster recovery coordinator for the state.

"One of the most positive steps that we've heard, at least for us right now, was that we're going to continue to have this line of communication," state Rep. Phil Phelps, D-Flushing, said as he exited the governor's Capitol office.

"Everyone agreed that we're going to continue to do this on a regular basis, to get regular updates on the situation and to allow us to relay information directly to our constituents and make requests."

Ananich is working to prepare a supplemental funding request for his city, an approach Snyder is considering as well, but he said he does not yet have an amount in mind.

"When kids are damaged with lead, potentially, there are a number of developmental issues that can occur, and we're working to try to find programs — whether it's nutrition, health, education — that can help make sure folks who were damaged catch back up again," he said.

jlynch@detroitnews.com

Detroit News Staff Writer Candice Williams contributed.

Read or Share this story: http://detne.ws/1Rm1K2Y

CDC Anti-Clog #1
anti-clog1.com
Controls growth of /inactivates Legionnaires disease- EPA approved

Social Security Sucks
palmbeachgroup.com
Born before 1969? You can get an extra $4,098 monthly with this

Communities After Ebola
ob.org/bodyteam12
Body Collectors on the ground March 14 HBO Body Team 12

What is Reverse Mortgage?
reversemortgageguides.org
An FHA-Insured Loan to Seniors 62+. That Requires No Monthly Payments.

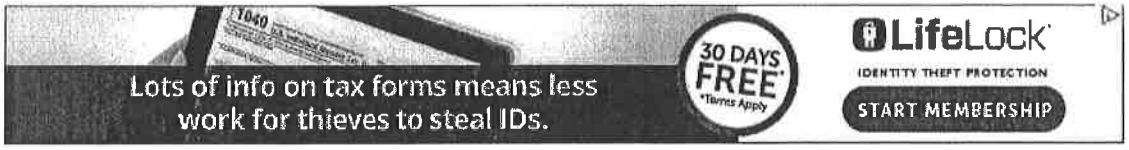
Preventing Legionella
aiha.org
Tools to assess Legionella hazards. Free guide w/ purchase of webinar!

TOP VIDEOS

Sentencing of William Melendez
02:24
(/videos/news/3736394984001/4734907283

Water caravan for Flint
02:41
(/videos/news/3736394984001/4732488045

Progress being made on new Red Wings arena
00:50
(/videos/news/3736394984001/4730140942



Legionellosis Increase in Genesee County Talking Points
January 13, 2016

Situation Summary

- The Michigan Department of Health and Human Services is reporting an increase of Legionnaires' disease (LD) in Genesee County from June 2014 through November 2015.
- From June 2014 to March 2015, 45 legionellosis cases, all confirmed Legionnaires' disease, were reported in Genesee County, Michigan.
    - Seven of these cases died; one death was attributable to *Legionella* pneumonia.
    - The age range of the cases was 26–94; 23 (51 percent) were male.
    - Illness onset dates ranged from June 6, 2014 to March 9, 2015 and peaked in August, 2014 with 10 cases.
- Preliminary data for the remainder of 2015 indicates a second increase in Genesee County. A full analysis of this data should be available within a week.
    - From May 2015 through November 2015, there were 42 legionellosis cases, which includes one case of Pontiac Fever, reported in Genesee County. Three of these cases died.
    - The age range of these cases was 35–89 years; 22 (52 percent) were male.
    - Illness onset dates ranged from May 4, 2015 to October 29, 2015 and peaked in July and August with 10 and 11 cases, respectively.
- At the time of the initial investigation, MDHHS could not conclude that this increase was related to the water switch due to the lack of clinical *Legionella* isolates during the time period, and because not all of the cases had exposure to City of Flint water.
    - Because *Legionella* spp. are commonly found in the environment, clinical isolates are necessary to interpret the findings of an environmental investigation in an outbreak.
- That said, MDHHS is treating this situation with the same urgency and transparency as the lead response in the city of Flint.

MDHHS Response

- The MDHHS provided guidance to the Genesee County Health Department (GCHD) regarding conducting case investigations and to promote the collection of appropriate clinical specimens.
- In the fall of 2014, Genesee County and MDHHS observed an increase in LD cases and MDHHS offered assistance to GCHD with case investigations to determine exposures.
- In January of 2015, MDHHS stepped in to coordinate GCHD's response in determining identifying a community source.
- By February 13, MDHHS staff had developed an interview questionnaire and began conducting case investigations to look at travel, work, and locations visited during the 2 weeks prior to symptom onset. These 2 weeks are considered the incubation period for LD.
    - Multiple attempts by phone and letter were made to contact all case-patients; interviews using the enhanced questionnaire were completed on 30 of 45 (67 percent).

- Results demonstrated that more than half (27/45) of the cases had a healthcare facility exposure in the two weeks prior to their illness onset (23 were hospitalized at or had visited the same healthcare facility).
    - In response, the healthcare facility has implemented multiple environmental and procedural measures to alleviate the situation.
- The source of water at the primary residence was evaluated for all cases.
    - Twenty-one of 45 (47 percent) cases occurred in people whose residence received City of Flint water.
    - Of the 18 persons that did not report healthcare visits, 8 (44 percent) were exposed to Flint water at their home.
- Ten cases had no exposure to a Flint hospital in the 2 weeks prior to illness nor were their homes on the Flint water system.
- Other possible exposures were evaluated and no other known community exposures were identified.

- Enhanced surveillance has continued for the remainder of 2015 and into 2016.
- In addition to coordinating with GCHD, MDHHS has worked with the Michigan Department of Environmental Quality (DEQ), Centers for Disease Control and Prevention (CDC) and the Environmental Protection Agency (EPA) since as early as April 2015.
- The MDHHS initial report was shared with our federal partners in June 2015 and initiated and facilitated regular communication with our federal partners and GCHD.
- MDHHS has recommended vigilant legionellosis awareness and surveillance in Genesee County.
    - MDHHS has also recommended that the GCHD work with the clinical community in Genesee County to assist in LD surveillance through accurate identification, testing, and reporting of all suspect cases.
    - To assist, MDHHS prepared updated legionellosis guidance to be distributed to health care providers via the Michigan Health Alert Network.
    - The hospitals in Genesee County were informed of the increase of cases in January 2015, and kept informed on the investigation progress and recommended actions on their part throughout all of 2015.

Legionellosis Background

- *Legionella* is a type of bacteria found naturally in fresh water environments.
    - This bacteria grows best in warm water, like the kind found in hot tubs, cooling towers, hot water tanks, potable water systems, and decorative fountains.
- Sometimes the bacteria infect the lungs and cause pneumonia, called Legionnaires' disease.
- The bacteria can also cause a less serious infection that presents more like a mild case of the flu; this form of legionellosis is called Pontiac fever.
- People are exposed to *Legionella* when they breathe in a mist or vapor containing the bacteria.
- *Legionella* cannot spread from one person to another person.

- Most people exposed to the bacteria do not become ill. People at higher risk of getting sick include: individuals over 50 years old; current or former smokers; those with chronic lung disease; people with a weakened immune system from diseases like cancer, diabetes, or kidney failure; and individuals who take medications that weaken the immune system, such as steroids or chemotherapy.
- Cases of legionellosis are most common during the late spring through early fall.

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- Cases of legionellosis are most common during the late spring through early fall.

Genesee County Health Department
630 S. Saginaw Street
Flint, Michigan 48502
www.gchd.us

Legionnaires Disease

What is Legionnaires Disease?

Legionnaires Disease is a respiratory condition caused by a type of bacteria called Legionella. The Legionella bacteria are found naturally in the environment, usually in water. The bacteria grow best in warm water like the kind found in:

- Hot tubs
- Cooling towers
- Hot water tanks
- Large plumbing system
- Decorative fountains
- Pools

What are symptoms that could occur?

- Cough
- Shortness of breath
- High fever
- Muscle aches
- Headaches

Gastrointestinal issues including:

- Abdominal pain
- Diarrhea
- Nausea
- Vomiting

These symptoms usually occur 2 to 14 days after being exposed to the bacteria.

How is it spread?

People get Legionnaries Disease when they breathe in a mist or vapor (small droplets of water in the air) containing the bacteria. One example might be from breathing in droplets sprayed from a hot tub or pool that has not been properly cleaned and disinfected. The bacteria are **not** spread from one person to another person.

How is it diagnosed and treated?

- Primary care provider evaluation and laboratory evaluation
- Treatment with antibiotics.

Are there complications?

- Like other respiratory illnesses, individuals with other health issues are at greater risk of complications.

How can Legionnaires Disease be prevented?

- Because high water temperatures make it hard to maintain the disinfectant levels needed to kill germs like *Legionella*, making sure that the hot tub or pool has the right disinfectant and pH levels is essential.

Should the sick individual be isolated?

A person diagnosed with Legionnaires Disease in the workplace is not a threat to others who share office space or other areas with him or her. However, if you believe that your workplace was the source of the person's illness, contact your local health department.

When can the individual return to the general population?

- With the approval of their physician.

If I have any other questions, whom can I contact?

- Call the Genesee County Health Department at 257-3612

This fact sheet is for information only and is not meant to be used for self-diagnosis or as a substitute for consultation with a health care provider. For more information, call your health care provider.
07/2015

Henry, James

From: Henry, James
Sent: Thursday, January 14, 2016 8:07 AM
To: GCHD-EH
Subject: Legionella
Attachments: Legionaries Disease Fact Sheet 8 - Copy.pdf

When talking with the public about Legionella, please use the information on this factsheet. This is posted on our webpage and you can refer people there.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Henry, James

From: Henry, James
Sent: Thursday, January 14, 2016 11:07 AM
To: mcostello@nsf.org
Subject: Flint Legionella

Hi Mindy,

Are you aware of a filter that removes Legionella. I think NSF certified reverse osmosis filtration works, but I'm not 100% sure. Are there any others specifically certified or Legionella?

Thanks for all your help

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
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Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

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Henry, James

From:	Swartout, April
Sent:	Thursday, January 14, 2016 11:17 AM
To:	Cupal, Suzanne; Valacak, Mark
Cc:	Brickey, Tamara; LaRocco, Toni; Henry, James; Stickler, Lisa; July, Jori; Goldon, Ann
Subject:	RE: State Call/Updates

People want to know about the filters and if they will filter Legionella from the water. We need to address that as well.

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Cupal, Suzanne
Sent: Thursday, January 14, 2016 11:15 AM
To: Valacak, Mark
Cc: Brickey, Tamara; LaRocco, Toni; Henry, James; Swartout, April; Stickler, Lisa; July, Jori; Goldon, Ann
Subject: State Call/Updates

FYI...

Spoke with Jay Fielder. Next steps with McLaren will be brought up on your call with the state. Asked them to review of Legionaries Fact Sheet. They will be posting other materials to their website and will share with us.

They are doing research for messaging about Legionella deaths so a follow up media can be produced to address media coverage.

They must produce the final Legionella report for May 2015-November 2015 by tomorrow. We will be able to review.

I have Christine working on a media release regarding Legionella and that the water is safe to drink. She will also produce one on the resources available on our website.

SC

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street

Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

Henry, James

From: Henry, James
Sent: Thursday, January 14, 2016 1:34 PM
To: LaRocco, Toni; Brickey, Tamara; Swartout, April; 'MVALACAK@gchd.us'; 'scupal@gchd.us'; McShane, Hilda; Stickler, Lisa
Subject: FW: Flint Legionella

Below is the filter information from NSF. It is the only certified consumer product for microbial reduction. Therefore; it should be the only product that we provide as an option, (not recommendation). If we recommend filtering drinking water for legionella. it could create a credibility issue for us.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Genesee County Health Department

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From: Hazan, Stan
Sent: Thursday, January 14, 2016 12:32 PM
To: Henry, James
Cc: Costello, Mindy; DeLand, Derek
Subject: RE: Flint Legionella

Hi Jim
Thanks for your inquiry.
The only consumer product that has been certified for microbiological reduction can be found on our Listings website http://info.nsf.org/Certified/DWTU/Listings.asp?TradeName=&Standard=P231&ProductType=&PlantState=&PlantCountry=&PlantRegion=&submit3=Search&hdModlStd=ModlStd
The manufacturer's website on this product can be located at http://solutions.3m.com.sg/wps/portal/3M/en_SG/3MPurification/Home/Solutions/Residental/Under-Sink/SQC-ViRO-4/
If you have any questions, please contact me per below.

Thanks
Stan

Stan Hazan, MPH
Sr. Director, Scientific & Regulatory Affairs
NSF International
789 N. Dixboro Road
Ann Arbor, Michigan 48105
Office 1-734-769-5105
Cell 1-734-945-4524
hazan@nsf.org
www.nsf.org

From: Costello, Mindy
Sent: Thursday, January 14, 2016 11:17 AM
To: Henry, James
Cc: Hazan, Stan
Subject: RE: Flint Legionella

Hi Jim,
For this question, I forwarded your inquiry to our regulatory affairs director, Mr. Stan Hazan. He may better assist you with this inquiry.

Kind regards,
Mindy Costello RS MS
Consumer Information NSF International

Live safer.®
734-418-6612 Email: info@nsf.org
Twitter: @LiveSafer_NSF
Facebook: NSF International
Website: www.nsfconsumer.org

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Thursday, January 14, 2016 11:07 AM
To: Costello, Mindy <mcostello@nsf.org>
Subject: Flint Legionella

Hi Mindy,

Are you aware of a filter that removes Legionella. I think NSF certified reverse osmosis filtration works, but I'm not 100% sure. Are there any others specifically certified or Legionella?

Thanks for all your help

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4

Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

Genesee County
Health Department

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this transmission are solely of the author and do not necessarily represent those of NSF International or its affiliates.

Henry, James

From:	Henry, James
Sent:	Thursday, January 14, 2016 2:08 PM
To:	Valacak, Mark; Brickey, Tamara; LaRocco, Toni; Swartout, April; Stickler, Lisa; McShane, Hilda
Subject:	Fw: CORRECTION Flint Legionella
Attachments:	RE: Flint Legionella

This is a CORRECTION from my previous email. NSF indicates below, do not use Reverse Osmosis for Legionella.

Sent from my phone.

------ Original message------
From: Info , Nsf
Date: Thu, Jan 14, 2016 12:54 PM
To: Henry, James;
Cc: Hazan, Stan;
Subject:RE: Flint Legionella

Henry, James

From:	Swartout, April
Sent:	Thursday, January 14, 2016 1:22 PM
To:	Brickey, Tamara
Cc:	Henry, James; Boulton, Mary; Monroe, Erica; Valacak, Mark; LaRocco, Toni; Cupal, Suzanne
Subject:	RE: Phone Calls

Right now, 211 is telling people to call us, because that was the message that came down from on high at the state late yesterday. Of course, we had no notice. Now, we'd like to redirect those calls. Since people are using 211, we need to use them to get the calls redirected if/when we get a hotline.

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Brickey, Tamara
Sent: Thursday, January 14, 2016 1:19 PM
To: Swartout, April
Cc: Henry, James; Boulton, Mary; Monroe, Erica; Valacak, Mark; LaRocco, Toni; Cupal, Suzanne
Subject: Re: Phone Calls

I'm very concerned about this going through 211.

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147

Sent from my iPhone

On Jan 14, 2016, at 1:17 PM, Swartout, April <ASWARTOUT@gchd.us> wrote:

Jim,

I'm working on it. I've been on the phone with the CHECC twice. I've been told they are working on a solution. Jamie Gaskin is working on getting me call rates for 211 related to Legionella. If you could give me an idea of the # of calls you've had today related to this, I would appreciate it.

I expressed to the State that we can't leave people hanging on this, especially since we are closed the next 4 days. When we have a solution, Jamie will have 211 push out that information and we can get the word out so that people can call and get a live person.

April

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Henry, James
Sent: Thursday, January 14, 2016 12:58 PM
To: Swartout, April
Cc: Boulton, Mary; Swartout, April; Monroe, Erica; 'MVALACAK@gchd.us'; LaRocco, Toni; Brickey, Tamara
Subject: FW: Phone Calls

April,

Please look into the Legionella hotline, asap. Please convey that it is not an option and it needs to happen, now. If my staff and I had appropriate notice we could have prepared for the community panic and concerns that began immediately after the announcement.

We have stepped up every single time the state created problems, but this is unacceptable. GCHD- EH is not the state's phone bank or walk up counseling service, nor is any other GCHD division. Please feel free to provide me with the appropriate state contact person and I'll handle it.

Jim Henry RS, MBA
Environmental Health Supervisor
Genesee County Health Department www.gchd.us
630 S. Saginaw St., Suite 4
Flint, MI 48502-1540
Phone (810) 257-3618 Fax (810) 257-3125
E-mail jhenry@gchd.us

<image002.jpg>

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From: Swartout, April
Sent: Thursday, January 14, 2016 11:48 AM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Subject: Phone Calls

FYI...The State has told 211 to direct all calls related to Legionella to the local health department. I am still waiting on an answer from the State regarding a hotline. If we get it, 211 can direct any calls to that number.

April

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
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<image003.png>

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Genesee County Health Department

Genesee County Health Department

Mark Valacak, M.P.H., Health Officer
Gary K. Johnson, M.D., M.P.H., Medical Director

DATE: January 14, 2016 **END DATE:** January 30, 2016

CONTACT: Suzanne Cupal, MPH

PHONE: (810) 768-7970

RE: Legionnaires Disease Increase in Genesee County

The Genesee County Health Department (GCHD) would like to provide additional information regarding the announcement of an increase in the number of legionellosis cases in Genesee County. Legionellosis is a respiratory infection characterized by the bacteria *Legionella* and can present as either Legionnaire's disease or as a milder illness called Pontiac fever. Legionnaire's symptoms include fever, cough, shortness of breath, muscle aches, clinical pneumonia, and sometimes diarrhea and abdominal pain. Pontiac fever has similar symptoms but does not progress to pneumonia. Antibiotics are highly effective against *Legionella* bacteria.

Legionella bacteria are commonly found in the environment (rivers, lakes, streams). It is a waterborne disease, usually located in man-made water supplies that aerosolize water, such as showers, hot water tanks, humidifiers, cooling towers, whirlpool spas, and decorative fountains. People get Legionnaire's disease when they breathe in a mist or vapor containing the bacteria. Aspiration is the most common way that bacteria enters the lungs. The bacteria are not spread from one person to another person. **One cannot become ill from drinking water containing *Legionella*.** Water does not need to be filtered to remove *legionella*. People who are at most risk of developing legionellosis are those who are older, smokers/former smokers, immunosuppressed, or who have other underlying or chronic health conditions.

Proper maintenance and disinfection of hot water tanks, humidifiers, cooling towers, whirlpool spas, and decorative fountains are the most effective measures in preventing outbreaks. Maintaining hot water systems at 50°C or higher may reduce the risk of transmission.

GCHD has worked closely with the local medical centers to provide information about *Legionella* and clinical guidance about legionellosis infections. A Legionnaire's disease fact sheet is posted on the GCHD website at www.gchd.us. GCHD continues to conduct surveillance for legionellosis cases. Our motto is "Better Life Through Better Health."

###

Better Life Through Better Health

Floyd J. McCree Courts & Human Services Building ♦ 630 S. Saginaw Street, Ste. 4 ♦ Flint, Michigan 48502-1540

Burton Branch ♦ G-3373 S. Saginaw Street ♦ Burton, Michigan 48529

Main Phone 810-257-3612 ♦ Visit us at: www.gchd.us

Henry, James

From: Stickler, Lisa
Sent: Thursday, January 14, 2016 5:02 PM
To: GCHD-Everyone
Subject: media release-legionnaires disease increase
Attachments: Legionella Media Release Final 1.16.pdf

Lisa Stickler
Clerical Coordinator
Genesee County Health Department
630 S. Saginaw Street, Suite 4
Flint, MI 48502
Phone: 810-341-7660 Fax: 810-257-3147

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Henry, James

From:	Swartout, April
Sent:	Friday, January 15, 2016 12:07 PM
To:	Henry, James
Cc:	LaRocco, Toni; Cupal, Suzanne; McShane, Hilda; Stickler, Lisa; Valacak, Mark; Brickey, Tamara
Subject:	Re: EH Request of State EOC

I forwarded the request. We'll see what happens.

Sent from my Verizon 4G LTE Droid
On Jan 15, 2016 12:05 PM, "Henry, James" <jhenry@gchd.us> wrote:
If an arrogant state idiot blocks this request, I'll just add it to my collection of their misconduct and figure out another way to help these people, as usual. No biggy!

Sent from my phone.

------ Original message------
From: Henry, James
Date: Fri, Jan 15, 2016 11:58 AM
To: tbrickey@gchd.us;hmcshane@gchd.us;Cupal, Suzanne;ASWARTOUT@gchd.us;Valacak, Mark;LaRocco, Toni;Stickler, Lisa;
Subject: Re: EH Request of State EOC

April /Mark

I would like to make a request of the state EOC.

Community members/residents with elevated lead results need immediate and direct follow up.

They are mailed an ambiguous lab report, which they are not trained to understand or interpret. The city also sends a letter using different measuring units than indicated on the MDEQ lab result.

I and my staff have talked with many residents and I try to screen the MDEQ results daily and follow up with the folks who have elevated levels. We don't have capacity to followup with all of them promptly.

They need immediate verbal or physical followed up along with the a mailed report to ensure water is not being consumed at that location.

Thanks Jim

Sent from my phone.

------ Original message------
From: Brickey, Tamara
Date: Fri, Jan 15, 2016 11:19 AM
To: Henry, James;McShane, Hilda;Cupal, Suzanne;
Cc: Swartout, April;Valacak, Mark;Stickler, Lisa;LaRocco, Toni;
Subject:RE: Phone Calls

Okay… great, thank you Jim! I appreciate you following up.

From: Henry, James
Sent: Friday, January 15, 2016 9:20 AM
To: McShane, Hilda; Cupal, Suzanne; Brickey, Tamara
Cc: Swartout, April; Valacak, Mark; Stickler, Lisa; LaRocco, Toni
Subject: Re: Phone Calls

Just called 8885356136 spoke with Mat. He said they could help me with my Legionella concern today. I don't trust they'll actually help, but its better that getting an answering machine.

Sent from my phone.

------ Original message------
From: McShane, Hilda
Date: Fri, Jan 15, 2016 9:00 AM
To: Cupal, Suzanne;Brickey, Tamara;
Cc: Swartout, April;Valacak, Mark;Henry, James;Stickler, Lisa;LaRocco, Toni;
Subject:RE: Phone Calls

Sure. Will do.

From: Cupal, Suzanne
Sent: Friday, January 15, 2016 8:59 AM
To: McShane, Hilda; Brickey, Tamara
Cc: Swartout, April; Valacak, Mark; Henry, James; Stickler, Lisa; LaRocco, Toni
Subject: RE: Phone Calls

We do not have a Legionella graphic.
We should also mention lead and other water resources.

Sent from my Windows Phone

From: McShane, Hilda
Sent: 1/15/2016 8:53 AM
To: Brickey, Tamara
Cc: Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; lstickler@gchd.us; LaRocco, Toni
Subject: RE: Phone Calls

How does this sound…

To get the facts about Legionella call 2-1-1, or go to Genesee County Health Department's website: gchd.us. Legionella information is located on the front page of the Health Department's website. You will find Legionella information in the Media Releases and Popular Pages columns on the front page.

Do we have an official Legionella graphic?

From: Brickey, Tamara
Sent: Friday, January 15, 2016 8:48 AM
To: McShane, Hilda
Cc: Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; 'lstickler@gchd.us'; LaRocco, Toni
Subject: RE: Phone Calls

I hear you Hilda, I really do. Unfortunately we don't have staff to get that message out today, and I think for consistency, at this point, we need to stick with 211. Had we had a little more time to plan, that would have been possible. I think that is fine to post to Facebook, and I encourage you to do so. Please also refer people to 211.

-Tamara

From: McShane, Hilda
Sent: Friday, January 15, 2016 8:46 AM
To: Brickey, Tamara
Cc: Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; 'lstickler@gchd.us'; LaRocco, Toni
Subject: RE: Phone Calls

If we spoon feed the media and public the information it will not be a problem. For example.

The Genesee County Health Department will be closed Friday, January 15 and Monday, January 18 in observance and honor of Martin Luther King Day.

To get the facts about Legionella go to Genesee County Health Department's website: gchd.us. Legionella information is located on the front page of the Health Department's website. You will find Legionella information in the Media Releases and Popular Pages columns on the front page.

Once again, I know this sounds mercenary, but we need to train people. If anything they need to learn our web address.

From: Brickey, Tamara
Sent: Friday, January 15, 2016 8:42 AM
To: McShane, Hilda; Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; Stickler, Lisa; LaRocco, Toni
Cc: Johnson, M.D., Gary
Subject: RE: Phone Calls

My concern with people being pushed to our website is that it is incredibly *un*-user friendly right now. If we had already made the switch to the new site I wouldn't be concerned.

Thanks,

Tamara

From: McShane, Hilda
Sent: Friday, January 15, 2016 8:15 AM
To: Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; Stickler, Lisa; LaRocco, Toni
Cc: Johnson, M.D., Gary
Subject: RE: Phone Calls

This may seem mercenary, but it really is marketing and serving the public at the same time. Please drive people to our website and spoon feed them the locations of the Legionella media releases and popular pages. I will post both on our Facebook account now. And if it is not too late April, share this information with your state counterparts. Thanks.

From: Swartout, April
Sent: Thursday, January 14, 2016 7:12 PM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Cc: Johnson, M.D., Gary
Subject: RE: Phone Calls

I just got a call from Jackie Scott. She confirmed that they are setting up a phone bank to answer lead and Legionella calls. They will answer calls from 8-5 through the weekend, but I got the impression that this is not a long term solution but rather a short term fix for us being closed for 4 days. She did not give me a number but said that 2-1-1 would be

forwarding calls to the phone bank. I forwarded her the Legionella press release that we released today as well as the fact sheet that was on our site so that they weren't giving out any information that conflicted with our messages.

I also pointed out that there was a general lack of trust in water in general in the city so they should be prepared for that when taking calls.

April

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Swartout, April
Sent: Thursday, January 14, 2016 5:30 PM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Subject: RE: Phone Calls

I talked to Mary MacQueen at the State. She said that 211 is going to be directing all calls relating to lead and legionella to a state phone bank for the weekend (Friday – Monday). I don't know if that will continue past Monday.

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Swartout, April
Sent: Thursday, January 14, 2016 11:48 AM

To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Subject: Phone Calls

FYI…The State has told 211 to direct all calls related to Legionella to the local health department. I am still waiting on an answer from the State regarding a hotline. If we get it, 211 can direct any calls to that number.

April

April L. Swartout, M.P.A.
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[The entire original message is not included.]

Henry, James

From: Henry, James
Sent: Friday, January 15, 2016 1:43 PM
To: Swartout, April
Cc: Stickler, Lisa; Cupal, Suzanne; McShane, Hilda; Valacak, Mark; Brickey, Tamara; LaRocco, Toni
Subject: Re: EH Request of State EOC

Ok,

If Mark cant attend, I got it. This is what I do!

April, based on our phone conversation a few minutes ago; The state does not need to turn this request into something else. We know how to contact the many many people with elevated lead results and they need to be promptly notified about risk and what to do.

It's easy peasy, as long as there are resources and they don't screw it up.

Sent from my phone.

------ Original message------
From: Swartout, April
Date: Fri, Jan 15, 2016 1:32 PM
To: Henry, James;
Cc: Stickler, Lisa;Suzanne Cupal;hmcshane@gchd.us;Valacak, Mark;tbrickey@gchd.us;LaRocco, Toni;
Subject: Re: EH Request of State EOC

Jim, Mark,

We're working on a meeting for 2:30 on Tuesday afternoon to discuss request and find a solution. It will either be in Admin building or our building. You have both been asked to be there as our subject matter experts. Please plan on it. I will let you know of location as soon as I have it.

April

Sent from my Verizon 4G LTE Droid
On Jan 15, 2016 11:58 AM, "Henry, James" <jhenry@gchd.us> wrote:
April /Mark

I would like to make a request of the state EOC.

Community members/residents with elevated lead results need immediate and direct follow up.

They are mailed an ambiguous lab report, which they are not trained to understand or interpret. The city also sends a letter using different measuring units than indicated on the MDEQ lab result.

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Sent: Friday, January 15, 2016 8:59 AM
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Cc: Swartout, April; Valacak, Mark; Henry, James; Stickler, Lisa; LaRocco, Toni
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Once again, I know this sounds mercenary, but we need to train people. If anything they need to learn our web address.

From: Brickey, Tamara
Sent: Friday, January 15, 2016 8:42 AM
To: McShane, Hilda; Swartout, April; Valacak, Mark; Cupal, Suzanne; Henry, James; Stickler, Lisa; LaRocco, Toni
Cc: Johnson, M.D., Gary
Subject: RE: Phone Calls

My concern with people being pushed to our website is that it is incredibly *un*-user friendly right now. If we had already made the switch to the new site I wouldn't be concerned.

Thanks,

Tamara

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Cc: Johnson, M.D., Gary
Subject: RE: Phone Calls

I just got a call from Jackie Scott. She confirmed that they are setting up a phone bank to answer lead and Legionella calls. They will answer calls from 8-5 through the weekend, but I got the impression that this is not a long term solution but rather a short term fix for us being closed for 4 days. She did not give me a number but said that 2-1-1 would be forwarding calls to the phone bank. I forwarded her the Legionella press release that we released today as well as the fact sheet that was on our site so that they weren't giving out any information that conflicted with our messages.

I also pointed out that there was a general lack of trust in water in general in the city so they should be prepared for that when taking calls.

April

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Swartout, April
Sent: Thursday, January 14, 2016 5:30 PM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Subject: RE: Phone Calls

I talked to Mary MacQueen at the State. She said that 211 is going to be directing all calls relating to lead and legionella to a state phone bank for the weekend (Friday – Monday). I don't know if that will continue past Monday.

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
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Fax: (810) 257-3147

From: Swartout, April
Sent: Thursday, January 14, 2016 11:48 AM
To: Valacak, Mark; Cupal, Suzanne; Henry, James; Brickey, Tamara; McShane, Hilda; Stickler, Lisa; LaRocco, Toni
Subject: Phone Calls

FYI…The State has told 211 to direct all calls related to Legionella to the local health department. I am still waiting on an answer from the State regarding a hotline. If we get it, 211 can direct any calls to that number.

April

April L. Swartout, M.P.A.
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[The entire original message is not included.]

Henry, James

From: Cupal, Suzanne
Sent: Friday, January 15, 2016 4:37 PM
To: 'Borowski, Julie'
Cc: Hayman, Danette; Henry, James; Valacak, Mark
Subject: RE: Legionella Testing Data 2014/2015

Ms. Borowski,

Thank you for the opportunity to speak today. As you know, the Genesee County Health Department is actively engaged in an ongoing Legionella investigation. Section 5111 of Act Number 368 of the Public Acts of 1978 provides the authority to investigate communicable diseases. The information we are requesting is critical to our investigation.

Specifically we are looking for:

We would be happy to meet with you and your staff to discuss the specifics of our data request. We would greatly appreciate your cooperation with this investigation. Failure to comply will result in us seeking the information via the legal system which will then put the investigation in the public domain.

Suzanne Cupal

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Borowski, Julie [mailto:Julie.Borowski@mclaren.org]
Sent: Thursday, January 07, 2016 10:15 AM
To: Cupal, Suzanne

Cc: Hayman, Danette
Subject: RE: Legionella Testing Data 2014/2015

Suzanne,
McLaren- Flint has reported the required information related to individual Legionella cases as well as the executive summary from our consultant's report (not required).
On December 20, 2015 Jim Henry agreed to attend our internal water board meeting to discuss our progress, he did not attend and has not requested a rescheduled meeting.

At this time no additional internal documents related to this matter will be provided.

Julie Borowski, CPHRM
Director, Compliance, Risk Management, Medical Staff Services
McLaren-Flint
401 S. Ballenger Hwy
Flint, MI 48532

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, January 06, 2016 10:50 AM
To: Borowski, Julie
Cc: Hayman, Danette; Henry, James; Valacak, Mark
Subject: RE: Legionella Testing Data 2014/2015

Ms. Borowski-

The Genesee County Health Department (GCHD) is continuing the investigation of Legionella cases in our county. As part of that investigation, we are working with the Environmental Protection Agency (EPA) and the Michigan Department of Health and Human Services (MDHHS) to do a review of the water system infrastructure, Legionella case information and other relevant data. We are requesting access to the test results related to water samples collected at McLaren during 2014 and 2015 which would include sampling locations as well as the test results. We are trying to identify any potential risks to other large buildings in the community.

Your cooperation would be very much appreciated. The information would be shared with the GCHD, EPA and MDHHS team doing the review process. If you have any additional questions, please let me know.

Thank you for your prompt attention to this request.

Suzanne Cupal

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
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Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Borowski, Julie [mailto:Julie.Borowski@mclaren.org]
Sent: Friday, November 13, 2015 2:10 PM
To: Cupal, Suzanne

Cc: Hayman, Danette
Subject: RE: Summary Report

Please see our response below in blue

Julie Borowski, CPHRM
Director, Compliance, Risk Management, Medical Staff Services
McLaren-Flint
401 S. Ballenger Hwy
Flint, MI 48532

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, November 12, 2015 12:12 PM
To: Borowski, Julie
Cc: Hayman, Danette
Subject: FW: Summary Report

Julie-

I am following up my email of November 4th (see below) to see if you can provide the information requested. I would greatly appreciate an response to my email request.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Cupal, Suzanne
Sent: Wednesday, November 04, 2015 3:53 PM
To: 'Borowski, Julie'
Subject: Summary Report

Julie-

Thank you for the summary report. It was very helpful. We are working on the NORS report for CDC and have a few follow-up questions.

Is there a summary report that was completed after the increased monitoring/testing that took place after GCHD contacted the hospital in September 2014 and related to the hyperchorination that McLaren conducted after that contact (10/4/14)? The summary report from Special Pathogen that I provided is our complete summary report.. We want to demonstrate the efforts the hospital made to address those concerns. We have provided multiple responses to both The Joint Commission and CMS which demonstrate our efforts with no recommendations from either agency being received. Was a consultant engaged for that process or was this internal monitoring? Both a consultant was engaged and internal monitoring was performed.

Are you continuing to do monthly testing? Yes
Is the water safety plan complete to comply with the new ASHRAE 188 Legionella standard? Yes Have all the updates to your infrastructure been completed related to that plan? Yes A timeline would be helpful if those efforts are not yet complete.
Are you still using bottled water? Yes
Is there anything else you would like to share? Not at this time

Thank you for all your efforts to address this situation. We appreciate the cooperation. We want to complete the NORS report by 11/12/15.

Suzanne

Suzanne Cupal, M.P.H.
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Henry, James

From:	Cupal, Suzanne
Sent:	Friday, January 15, 2016 5:06 PM
To:	'Borowski, Julie'
Cc:	Danette Hayman; Valacak, Mark; Henry, James
Subject:	Legionella Data Request

Ms. Borowski,

Thank you for the opportunity to speak today. As you know, the Genesee County Health Department is actively engaged in an ongoing Legionella investigation. Section 5111 of Act Number 368 of the Public Acts of 1978 provides the authority to investigate communicable diseases. The information we are requesting is critical to our investigation.

Specifically we are looking for:

- The environmental sampling/testing that's been completed at McLaren to date (including which locations in hospital and by which company)
- Any other results from environmental testing
- McLaren's current testing protocol
- McLaren's water system remediation activities to date (including dates when the specific actions were taken)
- Mapping of hospital exposures of McLaren cases (are these cases clustered in the hospital)

As I explained in our telephone conversation, we are working with the MDHHS, EPA and CDC to make sure no other large buildings are at risk. The environmental sampling data is critical to identifying that risk. We would be happy to meet with you and your staff to discuss the specifics of our data request. We can discuss how you would like to share the information.

We would greatly appreciate your cooperation with this investigation. Failure to comply will result in us seeking the information via the legal system which will then put the investigation in the public domain. We greatly appreciate all the efforts that you have made to remediate this public health concern. We want to continue to collaborate with you. Please let us know if you or your attorneys need any additional information. We hope a legal remedy is not necessary.

Suzanne Cupal

Suzanne Cupal, M.P.H.
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scupal@gchd.us

Henry, James

From: Cupal, Suzanne
Sent: Friday, January 15, 2016 6:15 PM
To: Valacak, Mark; Henry, James
Subject: GFHC

I have a meeting with them Tuesday morning. I know I am going to get lots of questions.

I will be working on a timeline and narrative tomorrow with the details I can share. I will share with Jim for his information. Let me know what you want me to share.

I spoke to Tim Bolen today to ask about his request of McLaren. His has not been included in Legionella conversations. He also said what he knows is from reading MLive. His request was for the data related to the MDHHS Legionella report. He also said he knows what is being reported is not true.

It is ironic that the way we started our increased Legionella surveillance was because of a conversation at our Bug Fuzz meeting about a suspect hospital acquired infection. It began before there was an increase in case numbers. Because we have a great collaborative relationship with our hospital partners and Tim Bolen, we were all on guard.
These efforts are the backbone of public health. They all know how this began. They know the story being promoted is not the truth.

Sent from my Windows Phone

Henry, James

From: Valacak, Mark
Sent: Sunday, January 17, 2016 11:54 AM
To: Cupal, Suzanne; Henry, James; Brickey, Tamara; LaRocco, Toni; Johnson, M.D., Gary
Subject: Fwd: Greetings from NACCHO

Possible resource staff at NACCHO I spoke with that want to help if they can

Sent from my iPhone

Begin forwarded message:

> **From:** Jennifer Li <JLi@naccho.org>
> **Date:** January 17, 2016, 11:28:17 AM EST
> **To:** Mark Valacak <mvalacak@gchd.us>
> **Cc:** Kelsey Edge <kedge@naccho.org>
> **Subject: Greetings from NACCHO**
>
> Hi Mark,
>
> In follow up to our conversation, I wanted to loop in Kelsey (copied as well). She has some experience in developing policies and reporting processes on Legionella. If that might be of interest to you, we are happy to connect and provide assistance. Feel free to keep us posted on the Legionnaires outbreak whether it is related to the water contamination in Flint.
>
> FYI, we recently have been in touch with the Office of the Assistant Secretary of Health at HHS. Please let us know if there are any concerns or requests you may need so we can work with our federal partners to facilitate resources/information to you. I know you had mentioned that you were already connected with folks at CDC and EPA.
>
> Additionally, we have several advisory groups on environmental health and infectious diseases. We can tap into this network as another resource if you're interested.
>
> Regards,
> Jen
>
> Jennifer Li
> Director, Environmental Health, Health and Disability
> National Association of County and City Health Officials
> 1100 17th Street, NW, 7th Floor
> Washington, DC 20036
> Direct: (202) 507-4242
> Main: (202) 783-5550
> Fax: (202) 783-1583
> E-mail: jli@naccho.org
> www.naccho.org

Henry, James

From:	Cupal, Suzanne
Sent:	Monday, January 18, 2016 10:22 AM
To:	Valacak, Mark; Henry, James
Subject:	Email review
Attachments:	Legionella Time Line.docx; Talking Points for GFHC Meeting.docx

I did an email review yesterday and prepared some talking points for my meeting with GFHC tomorrow. I did identify a few additional key emails that may not have been on our binder. One is the email from the CDC expressing concerns about the size of the outbreak. I will forward them separately. I have attached additions I have made to the timeline (Jim, I hope this helps you too) and talking points for the meeting tomorrow.

Mark, could you review the talking points and send me an ok to share at the meeting tomorrow? I know there will be many questions.

Suzanne

Suzanne Cupal, M.P.H.
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Henry, James

From:	Cupal, Suzanne
Sent:	Monday, January 18, 2016 10:22 AM
To:	Valacak, Mark; Henry, James
Subject:	Email review
Attachments:	Legionella Time Line.docx; Talking Points for GFHC Meeting.docx

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Mark, could you review the talking points and send me an ok to share at the meeting tomorrow? I know there will be many questions.

Suzanne

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Henry, James

From:	Cupal, Suzanne
Sent:	Monday, January 18, 2016 10:22 AM
To:	Valacak, Mark; Henry, James
Subject:	FW: Genesee County Inquiries 4/7/2015
Attachments:	CD Contact letter for Legionella (2).doc

FYI...

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
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From: Cupal, Suzanne
Sent: Wednesday, April 15, 2015 9:23 AM
To: 'Fiedler, Jay (DCH)'; Johnson, M.D., Gary; Henry, James; Hasan, Shurooq; Valacak, Mark
Cc: Miller, Corinne (DCH); Collins, Jim (DCH); Bohm, Susan (DCH); Johnson, Shannon (DCH); Bolen, Timothy (DCH)
Subject: RE: Genesee County Inquiries 4/7/2015

Jay-

Thank you for your email dated 4/9/15 and for providing an introduction to Corinne Miller. Attached is the draft letter we use when doing follow-up with a person we have not been able to reach via telephone.

We were appreciative of the summary data shared, much of which reflected our reporting during our January call. We look forward to the review of the revised questionnaire information. There a few items missing from our conversation that we would like to share, particularly for Corinne Miller's information before we speak with her. In our January call, we shared that we would be reaching out to individuals and organizations that may assist us in our Legionella investigation and understanding type 1 municipal water supplies. We have identified Dr. Joan Rose of MSU, Dr. Janet Stout of the University of Pennsylvania, Pittsburgh and J. Michael Wright, an Epidemiologist with the EPA. They have been very helpful in understanding the issues related to municipal water supplies in general and regarding Legionella specifically. They provided input into our Trihalomethanes Fact Sheet and our guidance for medical professionals and they reviewed our collaboratively revised Legionella Questionnaire.

We also shared information regarding our collaborations with one of our hospital partners. The data we presented in January along with other information shared reflected an association with one hospital system. After our conversation with them, they conducted testing and did identify Legionella in their water system. They performed hyperchlorination and followed up with additional testing. There was no subsequent presence of Legionella in those tests. They continue to monitor monthly and have a remediation plan in place should it be necessary.

While DEQ did participate in our call 4/7/15, it is the first time we have experienced collaboration and the sharing of information with them since we first contacted them last Fall. The information they provided was extremely valuable to

our efforts. We have made two FOIA requests of the City of Flint as we have not be able to secure information from the Department of Water and Power (DWP) that we have requested regarding our Legionella investigation specifically and our general water investigation. Communications have been sent by the DWP regarding boil water advisories and health risks that have not been shared with the local health department or local health professionals. We are trying to prepare for future communications from the DWP so we can provide information, guidance and fact sheets when possible to our residents and the health care community.

We are appreciative of the assistance of MDHHS with the Legionella investigation and the inquiries you have made on our behalf. We will continue to notify you as we reach out to others that may assist us in addressing our Legionella investigation and in providing their expertise as we navigate the complex issues related to our aging water system.

Your GCHD Colleagues

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Public Health Supervisor
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From: Fiedler, Jay (DCH) [mailto:FiedlerJ@michigan.gov]
Sent: Thursday, April 09, 2015 11:45 AM
To: Cupal, Suzanne; Johnson, M.D., Gary; Henry, James; Hasan, Shurooq; Valacak, Mark
Cc: Miller, Corinne (DCH); Collins, Jim (DCH); Bohm, Susan (DCH); Johnson, Shannon (DCH); Bolen, Timothy (DCH)
Subject: Genesee County Inquiries 4/7/2015

Hello,

On our update call on 4/7/15 we covered the current status of the Legionnaires' Disease outbreak investigation.

- MDCH provided a summary of information on the cases that was shared with the group.
- Current status of interviews, contacts, and completion was reviewed.
- Shannon and Shurooq discussed the remaining 7 cases that need to be contacted and agreed to talk after the call to determine which cases would be contacted by which agency.
- An initial plan was discussed regarding the number of contact attempts that would be made and sending letters to cases that did not respond or were unreachable as a final attempt before declaring them LTF.
- A letter will be formalized as part of this process.

Additional requests were made by Genesee County for MDCH to facilitate:

- Genesee County would like to speak with MDCH EH, EPA, and CDC regarding additional drinking water concerns.

Regarding these requests, I have spoken with Corinne Miller the State Epidemiologist as to how MDCH would coordinate/facilitate. The recommendation is that GCHD contact DEQ as the lead state agency regarding drinking water concerns. MDCH EH will on occasion consult with DEQ, but is brought in at the request of DEQ. DEQ would also be the first step in reaching out to EPA if additional expertise is needed. Second, it is our understanding that GCHD has already reached out to Jonathan Yoder at CDC regarding drinking water concerns. He would be the best contact at CDC for additional questions.

We will continue to be in touch regarding our assistance with the Legionnaires' Disease outbreak investigation.

Thanks. -Jay

Jay Fiedler, MS
Section Manager
Surveillance and Infectious Disease Epidemiology
Bureau of Disease Control, Prevention, and Epidemiology
Michigan Department of Community Health
201 Townsend St - PO Box 30195 - Lansing, MI 48909
P: 517.335.9516 - E: fiedlerj@michigan.gov

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Henry, James

From: Cupal, Suzanne
Sent: Monday, January 18, 2016 12:12 PM
To: McShane, Hilda; Valacak, Mark; LaRocco, Toni; Brickey, Tamara; Henry, James; July, Jori; Swartout, April; Stickler, Lisa
Subject: RE: Legionella Response
Attachments: Legionella response.docx

I have attached a statement I wrote on Friday evening so I could get some sleep. I thought I would share it with you. The story about how the enhanced Legionella surveillance began is a good public health collaboration story. The views expressed are my own.

Our regional epidemiologist from MDHHS has not been included on the calls with the CDC and other key conversations with the state. He is a great collaborative partner.

There are many hard working, dedicated, people addressing this emergency. Everyone's efforts matter.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
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Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: McShane, Hilda
Sent: Friday, January 15, 2016 11:57 AM
To: Cupal, Suzanne; Brickey, Tamara; GCHD-Management Team
Subject: RE: Updated Water Resource List

Then do something about it! Government needs to change and maybe this is the beginning of the change. I realize we are afraid of losing our fund sources, but do you think the state would be so obvious about taking funds from us because we are acting on behalf of the safety of our citizens as whistle blowers? Hmmm... does a government agency fall under the whistle blower act/law?

From: Cupal, Suzanne
Sent: Friday, January 15, 2016 11:46 AM
To: McShane, Hilda; Brickey, Tamara; GCHD-Management Team
Subject: RE: Updated Water Resource List

Recent media reports have contained some inaccurate information regarding when enhanced surveillance of Legionella occurred in Genesee County. The true story is a story of collaborative efforts between the 3 local medical centers, staff from the Genesee County Health Department and our regional epidemiologist from MDHHS. On June 24, 2014, this group came together for their regular "Bug Fuzz" meeting. This meeting allows for conversations regarding communicable disease issues in our community. At this meeting a concern was raised about a possible hospital acquired infection of Legionella. From that date, enhanced surveillance occurred among all the participants. The Genesee County Health Department collaborated with the hospital to address concerns. The hospital collaborated and cooperated with every request made of them. Our MDHHS colleagues were aware of these activities through continued communication with our regional epidemiologist.

This is a story our community needs to hear. Public and private collaborations to protect the public's health happen every day. They are greatly successful and unless there is a crisis, they go unnoticed.

Everyone in that meeting that day knows how this investigation began. The sound bite provided does not reflect these events. When information is shared without the engagement of those actually involved in the process, you get a sound bite that does not reflect actual events. That does not encourage trust.

Trust is at the core of the challenges our community is currently facing. There has been no engagement of those involved in these investigations from the beginning. Their concerns have not been heard. As a result, a series of poor decisions have resulted in a public health emergency.

As a result of the politics that have followed, those engaged in good public health practice have been dismissed. That does not build trust. Politics should have no role in a public health investigation.

We have choices in how we choose to move forward in addressing the long-term issues ahead of us. We can choose to continue with political posturing or we can move forward with true collaboration. The Bug Fuzz example is a good one. Everyone who participated in that meeting shared information and played a role in addressing the concerns. There is a role for everyone in a public health emergency. Everyone should receive credit for what they contribute. Politics should not be part of the equation. The focus should be on the health and wellbeing of the community we serve. Period!

As a result of the rush to a sound bite, the contributions of many dedicated, knowledgeable and hard-working individuals were dismissed. That includes efforts made by the staff of MDHHS.

Our community has been traumatized. In order to regain their trust, they need to hear the facts. They need transparent decision making. They need to trust there are many dedicated, professionals working to keep them safe. The focus needs to be on addressing issues so we can all ensure the health and wellbeing of our residents, particularly our children.

Talking Points for GFHC Meeting

6/24/15 Bug Fuzz Meeting results in enhanced surveillance

7/15 collaboration with hospital system regarding possible hospital acquired

8/15 collaborated with hospital regarding concerns related to hospital acquired infections. Data collected regarding cases. Hospital begin planning for environmental testing

9/15 environmental testing completed. Remediation efforts begin. GCHD reached out to DPW and MDEQ to aquire data related to outbreak investigation. No cooperation.

10/4/15 remediation happens. No hospital acquired infections until May 2015.

January- April GCHD staff reach out to experts regarding Legionella and other water issues. Growing concerns regarding water system issues.

3/27/15 GCHD PHS discusses water concerns with CDC expert presenter at MI Epi Conference. Requests a follow-up conference call. During call requests conversation with CDC staff with type 1 water supply expertise and Legionella expertise. Request permission from the state to have call.

4-5/15 Calls happen with CDC. Water concerns expressed and the desire for on-going communication with CDC because of concerns regarding water system. CDC provides updated guidance regarding clinical specimens. CDC expresses concerns about the size and scope of the outbreak.

6/4/15 MDHHS forwards report to CDC declaring the outbreak over. GCHD not consulted. GCHD strongly disagrees and informs all.

6/8/15 MDHHS emails all that GCHD is not to contact CDC. All concerns need to be communicated through state.

GCHD continues to work with hospital system and connects them with consultants with expertise with Legionella. Remediation done and no additional hospital acquired infections observed.

December 2015. CDC reaches out to GCHD an renewed conversations occur. Additional expertise brought into conversations.

This is so incredibly frustrating. We have done so much and had so many challenges.

Everything continues to be framed like we did nothing.

Sent from my Windows Phone

From: McShane, Hilda
Sent: 1/15/2016 11:38 AM
To: Brickey, Tamara; GCHD-Management Team
Subject: RE: Updated Water Resource List

Snyder didn't learn of Legionnaires' until 18 months after outbreak started, officials say.
http://www.mlive.com/news/flint/index.ssf/2016/01/legionnaires_snyder_flint.html

---

From: Brickey, Tamara
Sent: Friday, January 15, 2016 11:34 AM
To: GCHD-Management Team; McShane, Hilda
Subject: Updated Water Resource List

Hi all,

Please find attached an updated water resource list. Sorry, for time saving efforts, it is very basic, so please feel free to play with it and make it look more visually appealing. ☺ (Hint, Hilda...)

Thanks,

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
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Henry, James

From: Cupal, Suzanne
Sent: Tuesday, January 19, 2016 9:30 AM
To: Brickey, Tamara; McShane, Hilda; Valacak, Mark; LaRocco, Toni; Henry, James; July, Jori; Swartout, April; Stickler, Lisa
Subject: RE: Legionella Response

I would like to share with Eden Wells.

Yes, you can share what I wrote.

Sent from my Windows Phone

From: Brickey, Tamara
Sent: 1/19/2016 8:50 AM
To: Cupal, Suzanne; McShane, Hilda; Valacak, Mark; LaRocco, Toni; Henry, James; July, Jori; Swartout, April; Stickler, Lisa
Subject: RE: Legionella Response

Suzanne,

This document is wonderful. My meeting with Kildee today got rescheduled, but when I do meet with him, could I share this?

Thanks,

Tamara Brickey, MS, CHES

Public Health Division Director
Genesee County Health Department
630 S. Saginaw Street
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Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147
tbrickey@gchd.us

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For a copy of the Health Department's Notice of Information Practices, contact the Health Department or visit the Health Department's website at http://www.gchd.us/

From: Cupal, Suzanne
Sent: Monday, January 18, 2016 12:12 PM
To: McShane, Hilda; Valacak, Mark; LaRocco, Toni; Brickey, Tamara; Henry, James; July, Jori; Swartout, April; Stickler, Lisa
Subject: RE: Legionella Response

I have attached a statement I wrote on Friday evening so I could get some sleep. I thought I would share it with you. The story about how the enhanced Legionella surveillance began is a good public health collaboration story. The views expressed are my own.

Our regional epidemiologist from MDHHS has not been included on the calls with the CDC and other key conversations with the state. He is a great collaborative partner.

There are many hard working, dedicated, people addressing this emergency. Everyone's efforts matter.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: McShane, Hilda
Sent: Friday, January 15, 2016 11:57 AM
To: Cupal, Suzanne; Brickey, Tamara; GCHD-Management Team
Subject: RE: Updated Water Resource List

Then do something about it! Government needs to change and maybe this is the beginning of the change. I realize we are afraid of losing our fund sources, but do you think the state would be so obvious about taking funds from us because we are acting on behalf of the safety of our citizens as whistle blowers? Hmmm... does a government agency fall under the whistle blower act/law?

From: Cupal, Suzanne
Sent: Friday, January 15, 2016 11:46 AM
To: McShane, Hilda; Brickey, Tamara; GCHD-Management Team
Subject: RE: Updated Water Resource List

This is so incredibly frustrating. We have done so much and had so many challenges.

Everything continues to be framed like we did nothing.

Sent from my Windows Phone

From: McShane, Hilda
Sent: 1/15/2016 11:38 AM

Henry, James

From: Henry, James
Sent: Wednesday, January 20, 2016 10:04 PM
To: Swartout, April
Cc: Stickler, Lisa; Cupal, Suzanne; McShane, Hilda; Valacak, Mark; Brickey, Tamara; LaRocco, Toni
Subject: Re: EH Request of State EOC

I appreciate the effort from our team to try to collaborate a timely response for the lead water results.

This meeting was about as productive as I figured. The MDEQ lab is the first to see the water results and they avoided assisting in anyway.

They currently mail the lead results, some are extremely elevated, to residents with complete disregard for a timely response. Most people don't understand the MDEQ reports.

Linda Dykama, MDHHS offered to help with the written communications from her toxicologists, but we know how goes. I think she means well, but the bureaucracy slows everything down.

I'm also concerned that when people receive a "not detected" lead result, they might assume their entire house is safe for drinking water.

Tamara mentioned that city council members are looking for a way to help. We are considering providing the water results to them and see if they are willing to make calls and knock on doors. We'll need to make sure they provide accurate information.

Once again, disregard for a real public health risk from the state. We'll improvise to help our community with no resources.

Jim

Sent from my phone.

------ Original message------
From: Swartout, April
Date: Fri, Jan 15, 2016 1:32 PM
To: Henry, James;
Cc: Stickler, Lisa;Suzanne Cupal;hmcshane@gchd.us;Valacak, Mark;tbrickey@gchd.us;LaRocco, Toni;
Subject: Re: EH Request of State EOC

Jim, Mark,

We're working on a meeting for 2:30 on Tuesday afternoon to discuss request and find a solution. It will either be in Admin building or our building. You have both been asked to be there as our subject matter experts. Please plan on it. I will let you know of location as soon as I have it.

April

Sent from my Verizon 4G LTE Droid
On Jan 15, 2016 11:58 AM, "Henry, James" <jhenry@gchd.us> wrote:
April /Mark

I would like to make a request of the state EOC.

1.) This situation illustrates the importance of "health in all policies." Decisions should not be based on cost savings without an understanding of the health consequences. Health issues should have been discussed, analyzed and made part of the equation before the decision was made to switch from one water source to another. This is a huge APHA priority and a great example of why it should be a priority.

2.) Communication was a huge barrier. Internal communication in agencies as well as communication with agencies that have a "stake" in the issues.

3.) Data sharing was problematic. Timely sharing of relevant data with all parties impacts response and affects exposure risk and public health. Many data communications should have been shared with the local health department that were not...

4.) We must be truly working together as partners from different levels of government in conducting data analysis and reporting on that data.

5.) Enforcement of existing policies, protocols and testing procedures. There are reasons why there are requirements before something is done. Those requirements should be clear and enforced. There should be consequence if they are not.

6.) Access to information. It should be easier to access information from agencies. We need to eliminate silos.

7.) Agencies should not be withholding information from affected individuals and agencies and waiting for press conferences to try and bury or put a political spin on information that is affecting the public's health. When a press conference is held, it should include appropriate risk messaging.

8.) Coordinated communications. We need to be promoting the same message not competing messages. This requires true collaboration, sharing and transparency.

9.) There is a need to go beyond minimum standards to protect the public health. Just because water leaving the water plant met the EPA standards did not mean that the water delivered at the tap was safe and that the public's health was protected.

10.)There may be a need to look at expanding routine testing to public facilities where higher risk populations may be at greater risk (hospitals, schools, day care facilities, extended care facilities, etc.).

11.) Medical School curriculum should expand to include public health and environmental health information. The City took information directly from the EPA website to write the letter to residents communicating the risk regarding TTHMs. They failed to communicate with the public health and physician community letting them know the letter was being sent. Doctors did not know what to tell their patients. Most physicians had no point of reference regarding public health or environmental issues. Everyone was unprepared for the questions that followed.

12.)Support for public health programs. Budgets for local health departments continue to be cut. Trickle-down economics does not work in public health. Local public health departments need additional resources to do their work.

Henry, James

From: Henry, James
Sent: Saturday, January 23, 2016 10:34 PM
To: LaRocco, Toni; Swartout, April
Cc: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; Brickey, Tamara; Stickler, Lisa; McShane, Hilda; Goldon, Ann
Subject: Re: Update for 1/23 Chlorine Residual

I spoke with EPA. They will continue testing water for chlorine residual at differnt locations throughout the city, tomorrow morning. They will collect samples using our 125ml (4oz) bottles for any non detected chlorine tests, as Toni mentioned.

I'll meet up with them about noon and I'll process the samples in our lab. It'll take btn 18 and 24 hours for analysis, depending on reagents we have available.

I don't now why they aren't using MDEQ or the city's water plant lab. I'm glad they're not. I want to partner up with these EPA guys. They took initiative, not afraid to get out in the community and do some public health work.

We need a few more to stop making excuses and answer some phone calls and promptly communcate lead water results. This is not much to ask and there are many more lead and legionella risks that need intervention.

Our SECRETARIES are addressing the complicated public concerns about risk. Many questions go unanswered, but not from a lack of effort. These questions should be addressed by the state's trained epidemiologists, not our SECRETARIES.

The state fails almost everytime I do the newspaper headline test. Basically, put actions or inactions in the context of a newspaper headline. For example; MDEQ Continues to Poision Flint Residents by not Effectively Communicating Elevated Lead Water Results.

We have humbly requested assistance and it is ignored from these people with unlimited resources who were sent here to help.

It doesn't take much to get me going and I did it to myself, this time.

Jim

Sent from my Sprint Phone.

------ Original message------
From: LaRocco, Toni
Date: Sat, Jan 23, 2016 5:59 PM
To: Swartout, April;
Cc: Valacak, Mark;Johnson, M.D., Gary;Cupal, Suzanne;Brickey, Tamara;Henry, James;Stickler, Lisa;McShane, Hilda;Goldon, Ann;
Subject: Re: Update for 1/22/16

I spoke with EPA, they had one specimen they needed to run tomorrow. Jim is going to contact Mark Durno and set up a time to pick up specimen.

Toni LaRocco MS, RN
Director of Nursing Services
Genesee County Health Department

On Jan 23, 2016, at 5:50 PM, Swartout, April <ASWARTOUT@gchd.us> wrote:

Henry, James

From: LaRocco, Toni
Sent: Sunday, January 24, 2016 2:50 PM
To: Henry, James
Subject: Re: Update for 1/23 Chlorine Residual

Fabulous! You rock Jim!

Toni LaRocco MS, RN
Director of Nursing Services
Genesee County Health Department

On Jan 24, 2016, at 2:20 PM, Henry, James <jhenry@gchd.us> wrote:

> EPA only had one sample to run through our lab. This is good news. They only found one location w/o chlorine. I'll have the result at 7:30am tomorrow.
>
> The logistics and coordintaion went perfectly. Thanks Toni.
>
> Jim
>
> *Sent from my Sprint Phone.*
>
> ------ Original message------
> **From:** LaRocco, Toni
> **Date:** Sun, Jan 24, 2016 11:47 AM
> **To:** Swartout, April;
> **Cc:** Henry, James;Valacak, Mark;Johnson, M.D., Gary;Cupal, Suzanne;Brickey, Tamara;Stickler, Lisa;McShane, Hilda;Goldon, Ann;
> **Subject:**Re: Update for 1/23 Chlorine Residual
>
> The blood draws yesterday were all venous
>
> Toni LaRocco MS, RN
> Director of Nursing Services
> Genesee County Health Department
>
> On Jan 24, 2016, at 10:40 AM, Swartout, April <ASWARTOUT@gchd.us> wrote:
>
> > I'm in EOC today. If anyone needs anything, let me know.
> >
> > April
> >
> > April L. Swartout, M.P.A.
> > Emergency Preparedness Coordinator
> > Public Health Program Coordinator
> > Genesee County Health Department
> > 630 S. Saginaw St., Suite 4
> > Flint, MI 48502

(810) 424-4441
Fax: (810) 257-3147

From: Henry, James
Sent: Saturday, January 23, 2016 10:34 PM
To: LaRocco, Toni; Swartout, April
Cc: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; Brickey, Tamara; Stickler, Lisa; McShane, Hilda; Goldon, Ann
Subject: Re: Update for 1/23 Chlorine Residual

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Date: Sat, Jan 23, 2016 5:59 PM
To: Swartout, April;
Cc: Valacak, Mark;Johnson, M.D., Gary;Cupal, Suzanne;Brickey, Tamara;Henry, James;Stickler, Lisa;McShane, Hilda;Goldon, Ann;
Subject: Re: Update for 1/22/16

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Toni LaRocco MS, RN
Director of Nursing Services

Genesee County Health Department

On Jan 23, 2016, at 5:50 PM, Swartout, April <ASWARTOUT@gchd.us> wrote:

January 23, 2016

- Received call from Jamal Gwathney (HHS) requesting contact information for GHS for mental health support. Provided information that I had.

- Received phone call Jackie Scott regarding report of a lead testing clinic at Flint Masonic Temple. Toni went over there to investigate who was conducting the clinic and to find out if they were following appropriate procedures. Toni reported that the event was using Quest Diagnostics and Quest is a lab that reports results to CLPPP. The education being provided at the event is lacking. The event was sponsored by a law firm out of Detroit. Toni offered to discuss education material and what we can share with the person in charge. Toni also asked for follow-up from the clinic with the number of children and adults provided testing.
    - They were testing both adults and fingers by finger sticks.

- Received call from Linda Scott. Concerned mother had called State 1-800 #. Her son is currently at Genesee County Jail and she was concerned because he was drinking the water last week. I told Linda that testing for lead had been done at Jail in October, 2015 and the building was cleared. There was one sink that had high lead results and that was a hand sink that was not accessible to inmates and was not used for drinking water. The issue with that sink was addressed at that time. Mark Valacak followed up with me after the phone call and informed me that that particular sink was still an issue but reiterated that it was never used for drinking water and in fact, was not currently being used.

- There was discussion regarding the City of Flint's non-functioning chlorine pump, the EPA, and utilizing GCHD staff to do weekend/after hours testing for ecoli on water samples. Depending on what the EPA finds, we might need to request staff assistance in conducting some water testing.

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator

Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Swartout, April
Sent: Friday, January 22, 2016 4:33 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: RE: Update for 1/22/16

January 22, 2016

- Discussed with State the need utilize offers of support, including offer to assist with answering questions from the public regarding lead and legionella. Discussed using 2-1-1 to assist with this.

- Answered questions regarding legionella and lead for Captain Tafoya. The jail is either going to have to provide water and do extensive testing for lead, legionella (in other words, everything), or get a formal letter from the Health Department clearing the building of issues.

- Pushed for additional public health messages on bathing and other questions regarding lead in water.

- Provided daily update to the CHECC.

- Communicated with JIC to gain access to messages being put out and to coordinate for messages being translated in to other languages.

April L. Swartout, M.P.A.
Emergency Preparedness Coo

Henry, James

From: LaRocco, Toni
Sent: Sunday, January 24, 2016 11:24 PM
To: Brickey, Tamara
Cc: Cupal, Suzanne; Swartout, April; Valacak, Mark; Henry, James; McShane, Hilda; July, Jori; Stickler, Lisa
Subject: Re: 01.22.2016 Overview of Select Federal Programs in Flint.docx

I like all that!

Toni LaRocco MS, RN
Director of Nursing Services
Genesee County Health Department

On Jan 24, 2016, at 8:56 PM, Brickey, Tamara <tbrickey@gchd.us> wrote:

> If I can just shout out my dream list... Lofty but it's what I see to help us work optimally.
>
> I would like to have a team of possibly 4 health educators working on health communications (long term messaging as opposed to fact sheets), community nutrition, community resiliency and trauma informed care, and social justice & policy (specifically forwarding our need for Health in All Policies.)
>
> Clerical support... One full time person could do a lot to help and could be shared by Suzanne and I.
>
> Money to move Jim into an EH director position and hire another supervisor in his place. He needs support in the worst way.
>
> I want money for trauma care for our staff. We have to put money into professional development and workplace health... This has taken an incredible toll on all of us and if we don't make a deliberate push towards wellness our work culture will feel the repercussions for years.
>
> Money for Hilda. How we brand ourselves in this time of crisis is how we will be remembered for an entire generation.
>
> More money to support our lab, Peggy is drowning.
>
> Money to validate parking to move more services to McCree.
>
> Tamara Brickey, MS, CHES
>
> Public Health Division Director
> Genesee County Health Department
> 630 S. Saginaw Street
> Suite 4

Flint, MI 48502
(810) 257-3202 Fax: (810) 257-3147

Sent from my iPhone

On Jan 23, 2016, at 9:48 PM, LaRocco, Toni <tlarocco@gchd.us> wrote:

> Again my request is for staffing....we only have 2 1/2 nurses in lead case management because Sue Taipalus was too expensive and had to be taken out. Would like to have 2 CHW. 1 additional secretary, one more nurse. Or have them take away the mass lead testing.
>
> Toni LaRocco MS, RN
> Director of Nursing Services
> Genesee County Health Department
>
> On Jan 23, 2016, at 8:06 PM, Cupal, Suzanne <scupal@gchd.us> wrote:
>
> > April-
> >
> > We did get to talk about risk communication and communication on Thursday.
> >
> > My requests:
> > Assistance on preparing educational materials.
> > Confirmation that the CDC and EPA will do the water system review related to Legionella risk and other potential health risks.
> >
> > Attached are the MPHA policy issues Mark and I worked on for APHA. We shared these on Thursday.
> >
> > SC

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Swartout, April
Sent: Saturday, January 23, 2016 7:51 PM

To: Valacak, Mark; LaRocco, Toni; Brickey, Tamara; Henry, James; McShane, Hilda; Cupal, Suzanne; July, Jori; Stickler, Lisa
Subject: RE: 01.22.2016 Overview of Select Federal Programs in Flint.docx

Mark,

Here are a few of my thoughts:

- I noted the inclusion of the link to the SAMSHA press release. That has gotten ZERO play around here. No one is pushing it, or mentioning it, and I don't think mental health support has much coordination locally. Granted, we are in a unique situation but mental health is always an issue during an emergency response.

- We need risk messaging – not fact sheets, press releases, and reports, but real risk messaging that can help get through to people and give them something to focus on rather than the garbage that is flying around right now.

- Lead testing – we need to get a handle on this. I don't think we can prevent law offices and others from doing lead testing in the community and I think everyone has a right to get tested if they want to. The problem is that if the testing isn't done in the appropriate manner, we run the risk of people who actually have high lead levels falling through the cracks and not getting the information or help they need. People should not be using medical testing to build lawsuits or increase anger in the community.

- While I recognize the importance of water and filters, we need to start split the focus. Everyone wants to do water and filters because in the grand scheme of things, that it easy. The real work of long term planning and support needs to begin and it needs to begin now.

- Along the same line, I appreciate careful consideration and thoughtful decision making. That being said, the speed of this response needs to pick up. Time is being lost because people want to point fingers and shift responsibility. It's time we focused on the public health work ahead. And, people at all levels need to talk to each other. In a response this size, I expect some communication but the lack of communication is astounding. It's almost like no one at the State level is talking to each other and

everyone has their own agendas. None of those agendas have anything to do with public health.

- Finally, I have an agenda of my own. In the public health world, disease (and the funding that is associated with that) comes and goes, especially with emergency response capability. We saw that with 9-11, H1N1, and now Ebola. The issues of infrastructure and health policy (or lack there of) are here to stay. We need to use this emergency as a selling point for long term, increased funding and capacity support. Without it, I think that we are all doomed to repeat this event over and over. Flint may be a first for this type of event, but it won't be the last. Public health can no longer be a luxury.

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
Public Health Program Coordinator
Genesee County Health Department
630 S. Saginaw St., Suite 4
Flint, MI 48502
(810) 424-4441
Fax: (810) 257-3147

From: Valacak, Mark
Sent: Saturday, January 23, 2016 7:03 PM
To: LaRocco, Toni; Brickey, Tamara; Henry, James; McShane, Hilda; Cupal, Suzanne; July, Jori; Swartout, April; Stickler, Lisa
Subject: Fwd: 01.22.2016 Overview of Select Federal Programs in Flint.docx

Send me your need list

Sent from my iPhone

Begin forwarded message:

> **From:** "DeSalvo, Karen (OS/ONC)" <Karen.DeSalvo@hhs.gov>
> **To:** "mvalacak@gchd.us" <mvalacak@gchd.us>
> **Cc:** "Harris, Andrea (OS/OASH)" <Andrea.Harris1@hhs.gov>
> **Subject: FW: 01.22.2016 Overview of Select Federal Programs in Flint.docx**
>
> Mark,
> I wasn't able to find a window today to call you and since it wasn't urgent, let's connect tomorrow instead. I wanted to share with you the attached documents which include information about

Genesee including federal resources. What I wanted to talk about was:

1. Your thinking about local needs and any plans you have for a request list.

2. Discuss our plans to have BH technical assistance in the field to work with you all on a rapid needs assessment to guide potential deployment of new resources.

3. Share the CDC plans for support for testing and risk communications.

4. Talk about my returning next week and your suggestions on my itinerary.

5. Anything on your mind not on this list.

I hope the paper grading went well. Let me know if you can talk about noon tomorrow. Thank you - kd

From: DeSalvo, Karen (OS/ONC)
Sent: Friday, January 22, 2016 6:18 PM
To: 'mvalacak@gchd.us'
Cc: Harris, Andrea (OS/OASH)
Subject: 01.22.2016 Overview of Select Federal Programs in Flint.docx

Mark,
It was nice to meet you yesterday. Thank you again for making yourself and your team available. I am following up with some data about Flint and Genesee County that came to me as part of my briefings for the trip as you indicated it would be helpful.

Let me know if you are able to get on the phone for a few minutes to connect. I wanted to talk about what I heard you all thinking about as resource needs. I can be available this weekend if you like or we can find a time Monday.

Also, please feel to reach out anytime via my cell below or email.

Best,
kd

Karen B. DeSalvo, MD, MPH, MSc

Assistant Secretary for Health (Acting)
National Coordinator for Health Information Technology
US Department of Health and Human Services
202-430-4972 (cell)

<MPHA pointsFlint Water 1.21.16.docx>

Henry, James

From: Swartout, April
Sent: Monday, January 25, 2016 2:44 PM
To: Valacak, Mark; LaRocco, Toni; Brickey, Tamara; Henry, James; McShane, Hilda; Cupal, Suzanne; July, Jori; Stickler, Lisa; Johnson, M.D., Gary
Subject: RE: 01.22.2016 Overview of Select Federal Programs in Flint.docx

My list (in short):

- Leadership coordination – we need to get everyone on the same page and we need someone from outside the current system to assist in this.
- Expedited risk messaging for both lead and legionella and resources to get those out – respected person to relay message.
- Financial support to get Dr. Johnson out of the clinic and in a role providing public health messaging.
- Information on lead and effects on adults.
- Mental health support for GCDH staff as well as a mental health support plan for the community.
- Printed materials (for health education).
- Support for additional staff to provide information to the public (health educator, EH professionals, etc.).

April L. Swartout, M.P.A.
Emergency Preparedness Coordinator
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To: Valacak, Mark; LaRocco, Toni; Brickey, Tamara; Henry, James; McShane, Hilda; Cupal, Suzanne; July, Jori; Stickler, Lisa
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Sent: Saturday, January 23, 2016 7:03 PM
To: LaRocco, Toni; Brickey, Tamara; Henry, James; McShane, Hilda; Cupal, Suzanne; July, Jori; Swartout, April; Stickler,

Lisa
Subject: Fwd: 01.22.2016 Overview of Select Federal Programs in Flint.docx

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> 1. Your thinking about local needs and any plans you have for a request list.
>
> 2. Discuss our plans to have BH technical assistance in the field to work with you all on a rapid needs assessment to guide potential deployment of new resources.
>
> 3. Share the CDC plans for support for testing and risk communications.
>
> 4. Talk about my returning next week and your suggestions on my itinerary.
>
> 5. Anything on your mind not on this list.
>
> I hope the paper grading went well. Let me know if you can talk about noon tomorrow. Thank you -
> kd
>
> From: DeSalvo, Karen (OS/ONC)
> Sent: Friday, January 22, 2016 6:18 PM
> To: 'mvalacak@gchd.us'
> Cc: Harris, Andrea (OS/OASH)
> Subject: 01.22.2016 Overview of Select Federal Programs in Flint.docx
>
> Mark,
> It was nice to meet you yesterday. Thank you again for making yourself and your team available. I am following up with some data about Flint and Genesee County that came to me as part of my briefings for the trip as you indicated it would be helpful.
>
> Let me know if you are able to get on the phone for a few minutes to connect. I wanted to talk about what I heard you all thinking about as resource needs. I can be available this weekend if you like or we can find a time Monday.
>
> Also, please feel to reach out anytime via my cell below or email.

Best,
kd

Karen B. DeSalvo, MD, MPH, MSc
Assistant Secretary for Health (Acting)
National Coordinator for Health Information Technology
US Department of Health and Human Services
202-430-4972 (cell)

Henry, James

From:	Whitney, Cynthia (CDC/OID/NCIRD) <cgw3@cdc.gov>
Sent:	Friday, January 29, 2016 12:55 PM
To:	Cupal, Suzanne; Collins, Jim (CDC michigan.gov); Valacak, Mark; Bohm, Susan (CDC michigan.gov); Cooley, Laura A. (CDC/OID/NCIRD); Bolen, Timothy (DHHS); Miller, Corinne (CDC michigan.gov)
Cc:	Fiedler, Jay (CDC michigan.gov); McFadden, Jevon (CDC michigan.gov); Moran, Susan (DHHS); Rygiel, Christine; Henry, James; Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DHHS); Meghan Weinberg (CDC michigan.gov); Braden, Chris (CDC/OID/NCEZID); Beach, Michael J. (CDC/OID/NCEZID); Lytle, Darren
Subject:	RE: Draft Agenda for Next Week's Legionella Meetings

Great – if three or four can make it we can have a bit of a 'focus group', which would be incredibly useful. cw

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Friday, January 29, 2016 12:45 PM
To: Whitney, Cynthia (CDC/OID/NCIRD) <cgw3@cdc.gov>; Collins, Jim (CDC michigan.gov) <collinsj12@michigan.gov>; Valacak, Mark <MVALACAK@gchd.us>; Bohm, Susan (CDC michigan.gov) <bohms@michigan.gov>; Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>; Bolen, Timothy (DHHS) <BolenT1@michigan.gov>; Miller, Corinne (CDC michigan.gov) <MillerC39@michigan.gov>
Cc: Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>; McFadden, Jevon (CDC michigan.gov) <mcfaddenJ1@Michigan.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Rygiel, Christine <crygiel@gchd.us>; Henry, James <jhenry@gchd.us>; Bohm, Susan (CDC michigan.gov) <bohms@michigan.gov>; Johnson, Shannon (DHHS) <JohnsonS61@michigan.gov>; Meghan Weinberg (CDC michigan.gov) <WeinbergM1@michigan.gov>; Braden, Chris (CDC/OID/NCEZID) <crb5@cdc.gov>; Beach, Michael J. (CDC/OID/NCEZID) <mjb3@cdc.gov>; Lytle, Darren <Lytle.Darren@epa.gov>
Subject: RE: Draft Agenda for Next Week's Legionella Meetings

I am asking four. I have one tentative yes so far.

We have the opportunity for follow-up with a much larger group.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
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scupal@gchd.us

From: Whitney, Cynthia (CDC/OID/NCIRD) [mailto:cgw3@cdc.gov]
Sent: Friday, January 29, 2016 12:36 PM
To: Cupal, Suzanne; Collins, Jim (CDC michigan.gov); Valacak, Mark; Bohm, Susan (CDC michigan.gov); Cooley, Laura A. (CDC/OID/NCIRD); Bolen, Timothy (DHHS); Miller, Corinne (CDC michigan.gov)
Cc: Fiedler, Jay (CDC michigan.gov); McFadden, Jevon (CDC michigan.gov); Moran, Susan (DHHS); Rygiel, Christine; Henry, James; Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DHHS); Meghan Weinberg (CDC michigan.gov); Braden, Chris (CDC/OID/NCEZID); Beach, Michael J. (CDC/OID/NCEZID); Lytle, Darren
Subject: RE: Draft Agenda for Next Week's Legionella Meetings

That should be enough; if not maybe we can arrange some follow-up about specific aspects of the toolkit. How many do you think might attend? cw

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Friday, January 29, 2016 12:32 PM
To: Whitney, Cynthia (CDC/OID/NCIRD) <cgw3@cdc.gov>; Collins, Jim (CDC michigan.gov) <collinsj12@michigan.gov>; Valacak, Mark <MVALACAK@gchd.us>; Bohm, Susan (CDC michigan.gov) <bohms@michigan.gov>; Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>; Bolen, Timothy (DHHS) <BolenT1@michigan.gov>; Miller, Corinne (CDC michigan.gov) <MillerC39@michigan.gov>
Cc: Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>; McFadden, Jevon (CDC michigan.gov) <mcfaddenJ1@Michigan.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Rygiel, Christine <crygiel@gchd.us>; Henry, James <jhenry@gchd.us>; Bohm, Susan (CDC michigan.gov) <bohms@michigan.gov>; Johnson, Shannon (DHHS) <JohnsonS61@michigan.gov>; Meghan Weinberg (CDC michigan.gov) <WeinbergM1@michigan.gov>; Braden, Chris (CDC/OID/NCEZID) <crb5@cdc.gov>; Beach, Michael J. (CDC/OID/NCEZID) <mjb3@cdc.gov>; Lytle, Darren <Lytle.Darren@epa.gov>
Subject: RE: Draft Agenda for Next Week's Legionella Meetings

I think 11am would be appropriate. Would 1 hour with them be enough?

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From: Whitney, Cynthia (CDC/OID/NCIRD) [mailto:cgw3@cdc.gov]
Sent: Friday, January 29, 2016 12:31 PM
To: Cupal, Suzanne; Collins, Jim (CDC michigan.gov); Valacak, Mark; Bohm, Susan (CDC michigan.gov); Cooley, Laura A. (CDC/OID/NCIRD); Bolen, Timothy (DHHS); Miller, Corinne (CDC michigan.gov)
Cc: Fiedler, Jay (CDC michigan.gov); McFadden, Jevon (CDC michigan.gov); Moran, Susan (DHHS); Rygiel, Christine; Henry, James; Bohm, Susan (CDC michigan.gov); Johnson, Shannon (DHHS); Meghan Weinberg (CDC michigan.gov); Braden, Chris (CDC/OID/NCEZID); Beach, Michael J. (CDC/OID/NCEZID); Lytle, Darren
Subject: RE: Draft Agenda for Next Week's Legionella Meetings

Suzanne what do you think would work best? Should we start with them or perhaps have them join at 11 AM so we can go over our own revisions first? cw

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Friday, January 29, 2016 12:21 PM
To: Collins, Jim (CDC michigan.gov) <collinsj12@michigan.gov>; Valacak, Mark <MVALACAK@gchd.us>; Bohm, Susan

(CDC michigan.gov) <bohms@michigan.gov>; Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>; Bolen, Timothy (DHHS) <BolenT1@michigan.gov>; Miller, Corinne (CDC michigan.gov) <MillerC39@michigan.gov>; Whitney, Cynthia (CDC/OID/NCIRD) <cgw3@cdc.gov>
Cc: Fiedler, Jay (CDC michigan.gov) <fiedlerj@michigan.gov>; McFadden, Jevon (CDC michigan.gov) <mcfaddenJ1@Michigan.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Rygiel, Christine <crygiel@gchd.us>; Henry, James <jhenry@gchd.us>; Bohm, Susan (CDC michigan.gov) <bohms@michigan.gov>; Johnson, Shannon (DHHS) <JohnsonS61@michigan.gov>; Meghan Weinberg (CDC michigan.gov) <WeinbergM1@michigan.gov>; Braden, Chris (CDC/OID/NCEZID) <crb5@cdc.gov>; Beach, Michael J. (CDC/OID/NCEZID) <mjb3@cdc.gov>; Lytle, Darren <Lytle.Darren@epa.gov>
Subject: RE: Draft Agenda for Next Week's Legionella Meetings

Could be provide a more defined time frame for the facility managers on Tuesday? I want to honor their time. It will be easier to get a commitment if we can be specific.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
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Genesee County Health Department
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scupal@gchd.us

From: Collins, Jim (DHHS) [mailto:CollinsJ12@michigan.gov]
Sent: Thursday, January 28, 2016 7:35 PM
To: Cupal, Suzanne; Valacak, Mark; Bohm, Susan (DHHS); Cooley, Laura A. (CDC/OID/NCIRD); Bolen, Timothy (DHHS); Miller, Corinne (DHHS); Whitney, Cynthia (CDC/OID/NCIRD)
Cc: Fiedler, Jay (DHHS); McFadden, Jevon (DHHS); Moran, Susan (DHHS); Rygiel, Christine; Henry, James; Bohm, Susan (DHHS); Johnson, Shannon (DHHS); Weinberg, Meghan (DHHS); Braden, Chris (CDC/OID/NCEZID); Michael Beach (mjb3@cdc.gov); Lytle, Darren
Subject: Draft Agenda for Next Week's Legionella Meetings
Importance: High

Good Evening Everyone,

I'm certain that I do not have email addresses for everyone on the attendee list, but I wanted to get this draft document out tonight. The team in Atlanta has been doing a bang up job putting the agenda together and I wanted to share it asap. I think we can look forward to seeing some great tools that they'll bring to the table as well.

Attached, you'll find the agenda for the two days of meetings, locations, and conference call information. The Legionella Team has some great ideas for making the best use of all of our time. I'm sure that they are happy to hear that this is looking great, but I know that they are still open to ideas. I was also wondering if we've had any luck garnering participation from facilities management personnel at high risk facilities for Tuesday's sessions. We're thinking that including that perspective would be invaluable in this process.

I'm looking forward to some productive discussions next week.

Yours,

Jim

Jim Collins MPH, RS
Director, CD Division
MDHHS
Desk: 517-335-8586
Cell: 517-930-6932
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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, January 27, 2016 12:46 PM
To: Collins, Jim (DHHS) <CollinsJ12@michigan.gov>; Valacak, Mark <MVALACAK@gchd.us>
Cc: Fiedler, Jay (DHHS) <FiedlerJ@michigan.gov>; Miller, Corinne (DHHS) <MillerC39@michigan.gov>; McFadden, Jevon (DHHS) <McFaddenJ1@michigan.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>; Whitney, Cynthia (CDC/OID/NCIRD) <cgw3@cdc.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Rygiel, Christine <crygiel@gchd.us>; Henry, James <jhenry@gchd.us>
Subject: RE: CDC Resource Support Discussions

Not at this time.

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Collins, Jim (DHHS) [mailto:CollinsJ12@michigan.gov]
Sent: Wednesday, January 27, 2016 12:45 PM
To: Cupal, Suzanne; Valacak, Mark
Cc: Fiedler, Jay (DHHS); Miller, Corinne (DHHS); McFadden, Jevon (DHHS); Moran, Susan (DHHS); Cooley, Laura A. (CDC/OID/NCIRD); Whitney, Cynthia (CDC/OID/NCIRD); Moran, Susan (DHHS); Rygiel, Christine; Henry, James
Subject: RE: CDC Resource Support Discussions

Great,

Okay, I'll send Darren a heads up and I'll float a note to Darren as soon as we get a solid agenda together. He's more than welcome if he's interested.

Thanks for setting up facilities. While we're discussing being in Genesee, do you think there's a chance we could do any work with Maclaren?

Jim

Jim Collins MPH, RS
Director, CD Division
MDHHS

Desk: 517-335-8586
Cell: 517-930-6932
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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, January 27, 2016 12:35 PM
To: Collins, Jim (DHHS) <CollinsJ12@michigan.gov>; Valacak, Mark <MVALACAK@gchd.us>
Cc: Fiedler, Jay (DHHS) <FiedlerJ@michigan.gov>; Miller, Corinne (DHHS) <MillerC39@michigan.gov>; McFadden, Jevon (DHHS) <McFaddenJ1@michigan.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>; Whitney, Cynthia (CDC/OID/NCIRD) <cgw3@cdc.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Rygiel, Christine <crygiel@gchd.us>; Henry, James <jhenry@gchd.us>
Subject: RE: CDC Resource Support Discussions

We have been speaking with Darren Lytle of the EPA and he has been on our previous calls.

We have booked our Emergency Operations Center at GCHD. The address is below. We are on the second floor.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
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Flint, MI 48502
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From: Collins, Jim (DHHS) [mailto:CollinsJ12@michigan.gov]
Sent: Wednesday, January 27, 2016 12:28 PM
To: Cupal, Suzanne; Valacak, Mark
Cc: Fiedler, Jay (DHHS); Miller, Corinne (DHHS); McFadden, Jevon (DHHS); Moran, Susan (DHHS); Cooley, Laura A. (CDC/OID/NCIRD); Whitney, Cynthia (CDC/OID/NCIRD); Moran, Susan (DHHS); Rygiel, Christine; Henry, James
Subject: RE: CDC Resource Support Discussions

Good Afternoon Suzanne,

It sounds like a full agenda will be shared by the end of the week. For now, I'd anticipate the same time frame for Tuesday's meetings. We'll plan on beginning at 10am at whichever location you select Suzanne. I think we may have opportunity to break Monday afternoon up with some working groups specific to different components of the plan.

As to the EPA representative, I've shared your suggestion with the CDC and I'm sure that they are not opposed, but they've likely not had a chance to offer up a candidate. Did you have a preference?

Jim
Jim Collins MPH, RS
Director, CD Division
MDHHS
Desk: 517-335-8586

Cell: 517-930-6932

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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Wednesday, January 27, 2016 12:11 PM
To: Collins, Jim (DHHS) <CollinsJ12@michigan.gov>; Valacak, Mark <MVALACAK@gchd.us>
Cc: Fiedler, Jay (DHHS) <FiedlerJ@michigan.gov>; Miller, Corinne (DHHS) <MillerC39@michigan.gov>; McFadden, Jevon (DHHS) <McFaddenJ1@michigan.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>; Whitney, Cynthia (CDC/OID/NCIRD) <cgw3@cdc.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Rygiel, Christine <crygiel@gchd.us>; Henry, James <jhenry@gchd.us>
Subject: RE: CDC Resource Support Discussions

The two high risk facilities we are most concerned with now are the other hospital system in Flint and the jail.

Please confirm a meeting time/location for Tuesday. If you would like us to reach out to representations of these organizations, please let us know so we can make those arrangements.

Has an EPA representative been identified?

Thank you.

Suzanne

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Public Health Supervisor
Genesee County Health Department
630 S. Saginaw Street
Suite 4
Flint, MI 48502
(810) 768-7970
scupal@gchd.us

From: Collins, Jim (DHHS) [mailto:CollinsJ12@michigan.gov]
Sent: Monday, January 25, 2016 3:55 PM
To: Cupal, Suzanne; Valacak, Mark
Cc: Fiedler, Jay (DHHS); Miller, Corinne (DHHS); McFadden, Jevon (DHHS); Moran, Susan (DHHS); Cooley, Laura A. (CDC/OID/NCIRD); Whitney, Cynthia (CDC/OID/NCIRD); Moran, Susan (DHHS)
Subject: RE: CDC Resource Support Discussions

Good Afternoon,

Plans for a visit by CDC staff are falling into place and I wanted to give you a heads up about the tentative schedule. I've attached a draft agenda (word document) for your review/comment.

The team from CDC will be arriving on Sunday and we've reserved meeting space in the Capital View Building here in Lansing for meetings on Monday beginning at 10am.

Tuesday, they hope to be on-site with key players in Flint. If you all could identify a meeting location as well as a manager or two from an "high risk" facilities, the thinking is that it would be very helpful to get their feedback on risk communication tools that are being developed.

I've also attached some pdf's of the early work they've put together down in Atlanta to help guide the project development.

Thanks,
Jim

Jim Collins MPH, RS
Director, CD Division
MDHHS
Desk: 517-335-8586
Cell: 517-930-6932
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From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Thursday, January 21, 2016 9:01 AM
To: Collins, Jim (DHHS) <CollinsJ12@michigan.gov>; Valacak, Mark <MVALACAK@gchd.us>
Cc: Fiedler, Jay (DHHS) <FiedlerJ@michigan.gov>; Miller, Corinne (DHHS) <MillerC39@michigan.gov>; McFadden, Jevon (DHHS) <McFaddenJ1@michigan.gov>; Moran, Susan (DHHS) <MoranS@michigan.gov>; Cooley, Laura A. (CDC/OID/NCIRD) <whz3@cdc.gov>
Subject: RE: CDC Resource Support Discussions

Good morning,

GCHD staff members are very excited about these proposed activities. It is a great follow-up to our conference call of December 10, 2015, and subsequent calls between GCHD and John Sarisky and Mark Johnson. As some individuals copied on this email know, GCHD has already begun planning some ASHRAE 188 outreach activities. We have worked with the Michigan Public Health Training Center at the University of Michigan and Dr. Janet Stout to present a Legionella/ASHRAE 188 webinar scheduled for February 17, 2016. We have also had preliminary conversations with two local universities.

We welcome a face to face meeting. We will keep our schedules free February 1 and 2, 2016. We suggest a 10 am meeting time to allow for the potential of weather related travel issues. Also, if the team would like to visit Flint, GCHD would be happy to host the meeting.

We would like to inquire if the reference to "federal staff" would include a representative from the EPA?

We look forward to the opportunity to collaborate on these proposed activities.

Thank you.

Suzanne

Suzanne Cupal, M.P.H.
Public Health Supervisor
Genesee County Health Department

630 S. Saginaw Street
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Flint, MI 48502
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From: Collins, Jim (DHHS) [mailto:CollinsJ12@michigan.gov]
Sent: Wednesday, January 20, 2016 5:40 PM
To: Cupal, Suzanne; Valacak, Mark
Cc: Fiedler, Jay (DHHS); Miller, Corinne (DHHS); McFadden, Jevon (DHHS); Moran, Susan (DHHS); Cooley, Laura A. (CDC/OID/NCIRD)
Subject: CDC Resource Support Discussions

Good Afternoon,

I wanted to share with you that we've had some recent communications with the CDC around what resources, specific to legionellosis, they might offer in support of ongoing efforts to promote the best public health practice in minimizing legionellosis infection risks. Of note, we did not speak to available investigation support, but rather this discussion was focused on future planning around risk identification and mitigation. In our opinion, and the opinion of the CDC, our recent outbreak presents an opportunity to apply federal resources toward the development of a program that can serve Flint and communities nationwide.

Specifically, the proposal is to develop tools to aid in two levels of preparation. The first tool could be applied jurisdictionally to aid in identifying the facilities in each community that are at greatest risk of legionella transmission. This evaluation can include the facility structure, purpose, devices and population served. As the project continues, materials will then be generated to be shared with these "high risk" facilities. Materials can be developed toward education on the increased risk of transmission, self-evaluation and remediation. All activities will stem from the ASHRAE standard. We feel that the recent experience in Genesee County will help guide development.

While it is clear that much of this effort can be coordinated remotely, we also feel that beginning the process with a face to face meeting including Genesee County, MDHHS, and Federal staff would be beneficial. Because of existing commitments, CDC's earliest availability for such a meeting would be Monday/Tuesday on the first week in February (1,2). Our anticipation is that the meeting could be 2-3 hours in length and we can host it at facilities in Lansing.

Our hope is that this schedule will be acceptable to you. Please feel free to identify appropriate staff to participate and forward your preferred time for the meeting.

Thank You,
Jim

Jim Collins MPH, RS
Director
Communicable Disease Division
Michigan Department of Health and Human Services
201 Townsend St.
Lansing, MI 48913

Desk: 517-335-8586
Cell: 517-930-6932

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January 28, 2016 DRAFT – Not for distribution external to CDC, MDHHS, GCHD

Potential Agenda Items for CDC *Legionella* Team Visit to Michigan
Meeting with MDHHS and GCHD

Sunday, January 31
CDC *Legionella* team arrives in Michigan

Monday, February 1 (*in Lansing*)
Michigan Department of Health and Human Services
Capitol View Building
201 Townsend Road
Lansing, MI 48913
1st Floor Conference Room

Monday Conference Line
Number: 1-877-873-8017
Passcode: 7931338#

10:00-10:30am
- Welcome & Introductions: Corinne Miller, State Epidemiologist and Director of the Bureau of Disease Control, Prevention and Epidemiology
- Review visit objectives, MDHHS
  - Discuss strategies for reducing transmission of *Legionella* from buildings at increased risk for *Legionella* colonization in Genesee County.
  - By end of meeting, identify buildings at increased risk for *Legionella* transmission and draft a toolkit for prevention of *Legionella* transmission.

10:30am-11:00am
- Review current ASHRAE-188 outreach activities, GCHD

11:00am-12:00pm
- Toolkit for Prevention of *Legionella* Transmission, CDC
  - Discuss progress for identifying Genesee County buildings at increased risk, GCHD
  - Review toolkit content, CDC

12:00-1:30pm Lunch

1:30-3:30pm
- Continue toolkit discussion, CDC

3:30-4:30pm
- Review epidemiology of Legionnaires' disease and water quality issues, GCHD, MDHHS
- Discuss other opportunities for prevention of Legionnaires' disease related to the water quality in Genesee County, GCHD, MDHSS, EPA, CDC

4:30-5:00pm
- Plan for Tuesday's activities and timeline, GCHD, MDHHS

DRAFT

Tuesday, February 2 (*in Flint*)
Genesee County Health Department
Emergency Operations Center
630 S. Saginaw Street
Suite 4
Flint, MI 48502

Tuesday Conference Line
Number: 1-877-873-8017
Passcode: 7931338#

10:00am-12:00pm

- Continue working on identifying buildings at increased risk for *Legionella* transmission, GCHD
  - Identify GCHD and MDHHS resources and capacity
- Review feedback on toolkit content, including from facility managers (if identified), CDC
- Develop plan for toolkit promotion and implementation, GCHD

12:00-1:30pm Lunch

1:30-3:30pm

- Continue toolkit discussion

3:30-4:30pm

- Driving tour of Flint

Wednesday, February 3
CDC *Legionella* team leaves Michigan

DRAFT

Participants

GCHD

-
-
-
-

MDHHS

- Susan Bohm – Unit Manager, Enteric and Respiratory Diseases
- Tim Bolen – Region 3 Epidemiologist
- Jim Collins – Director, Communicable Disease Division
- Jay Fiedler – Manager Surveillance and Infectious Disease Epidemiology Section
- Shannon Johnson - Epidemiologist
- Jevon McFadden – CEFO
- Corinne Miller – State Epidemiologist
- Meghan Weinberg – EIS Officer

CDC *Legionella* Team

- Cynthia Whitney, MD, MPH, Chief of the Respiratory Diseases Branch, National Center for Immunization and Respiratory Diseases
- Laura Cooley, MD, MPHTM, Medical Epidemiologist, *Legionella* Program, National Center for Immunization and Respiratory Diseases
- Claressa Lucas, PhD, Microbiologist, *Legionella* Program, National Center for Immunization and Respiratory Diseases
- Jasen Kunz, MPH, Environmental Health Specialist, National Center for Environmental Health

Tentative from Other Programs (by telephone)

- Michael Beach, PhD, Chief of the Waterborne Disease Prevention Branch, National Center for Emerging and Zoonotic Infectious Diseases, CDC
- Chris Braden, MD, Deputy Director of the National Center for Emerging and Zoonotic Infectious Diseases, CDC
- Jonathan Yoder, MSW, MPH, Epidemiologist, Waterborne Disease Prevention Branch, CDC
- John Sarisky, RS, MPH, DAAS, Branch Chief, National Center for Environmental Health
- Troy Ritter, PhD, Environmental Health Specialist, National Center for Environmental Health
- Darren Lytle, PhD, Branch Chief, Engineer, EPA
- Mark Rodgers, PhD, Branch Chief, Microbiologist, EPA

DRAFT

Henry, James

From:	Cupal, Suzanne
Sent:	Thursday, January 28, 2016 7:33 PM
To:	Kaplan, Robert
Cc:	Valacak, Mark; Henry, James; Lytle, Darren
Subject:	RE: Genesee County Health Department Request for Assistance Regarding Legionella

Thank you. We look forward to the conversation.
Suzanne

Sent from my Windows Phone

From: Kaplan, Robert
Sent: 1/28/2016 6:24 PM
To: Cupal, Suzanne
Cc: Valacak, Mark; Henry, James; Lytle, Darren
Subject: RE: Genesee County Health Department Request for Assistance Regarding Legionella

Hello,

I was just in Flint working with Darren Lytle of the EPA Safe Drinking Water Task Force.

We would be pleased to make available any EPA resources. I'd like to talk to you as soon as possible about making additional EPA expertise available. I understood you were working with ORD experts already. I read an email from January 13 from Mark Johnson of ATSDR. He noted:

CDC has been consulting with MDHHS and the Genesee County Health Department on this investigation for the past several months, as has been EPA-ORD staff. I also know that EPA Water staff have been aware of these concerns. We were just on a teleconference with Dr. Eden Wells, Medical Director for MDHHS, to discuss talking points to guide responses to questions during the press conference about use of Flint water.

As you know, we have established an EOC in Flint. ORD water quality experts, including microbiologists, are now in Flint. I'd be pleased to put you touch with those experts directly if you have not met with them already.

I will give you a call on Friday (tomorrow) to discuss. My numbers are below. I encourage you to call my cellphone (anytime day or night) – I'm not at my desk these days.

Thank you,

Bob

Robert Kaplan
Deputy Regional Administrator
U.S. EPA Region 5
Phone: (312) 886-1499
Cell: (312) 515-9827
Fax: (312) 692-2075

From: Cupal, Suzanne [mailto:scupal@gchd.us]
Sent: Monday, January 11, 2016 4:50 PM
To: Kaplan, Robert <kaplan.robert@epa.gov>
Cc: Valacak, Mark <MVALACAK@gchd.us>; Henry, James <jhenry@gchd.us>
Subject: Genesee County Health Department Request for Assistance Regarding Legionella

Mr. Kaplan-

The Genesee County Health Department has been investigating a significant increase in Legionella cases that coincides with the switch in municipal water supplies in Flint, Michigan. We have been working with Darren Lytle of the EPA in reviewing data regarding that investigation. It would be extremely helpful if we could have access to additional EPA expertise regarding municipal water supplies and Legionella as part of that review process. We would greatly appreciate the opportunity to discuss this request with you.

Thank you. We look forward to speaking with you soon.

Suzanne Cupal

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Desk: 517-335-8586
Cell: 517-930-6932

From: Johnson, Shannon (DCH)
Sent: Tuesday, January 27, 2015 3:45 PM
To: gjohnson@gchd.us; bchilds@gchd.us; scupal@gchd.us; jhenry@gchd.us; shasan@gchd.us; mvalacak@gchd.us
Cc: Collins, Jim (DCH); Fiedler, Jay (DCH); Bohm, Susan (DCH)
Subject: Genesee Legionellosis Investigation

Greetings GCHD,

Thank you for the opportunity to speak with you this morning. After being updated on where GCHD is in the investigation process, we have identified some items that need additional details and/or may require additional data gathering efforts. In addition, we've listed areas where we can provide personnel to assist with data collection/analysis or aid in communication between the involved governmental departments during the outbreak investigation. At this point, the priorities in the public health investigation are to determine the scope of the outbreak and to define as clearly as possible the characteristics of the cases of Legionnaire's Disease and Pontiac Fever. These data will be critical to help inform and provide direction for the environmental side of the investigation.

Data being requested by MDCH and/or suggested data collection needs to be addressed:

1) Please provide the name of the primary point-of-contact for the overall GCHD legionellosis investigation.
2) The current copy of the GCHD Legionnaires Disease outbreak data collection line list is requested and updates sent to MDCH on a regular basis.
3) Onset dates or estimated onset dates need to be determined for all cases.
4) A current map of the municipal water system needs to be obtained and cases' residences mapped in relation to the water system.
5) The investigation needs a Genesee-specific supplemental questionnaire beyond the MDCH supplemental form and the 6 questions in the email message dated 10/17/14.
6) All previous cases (since 5/1/14) and new cases should be re-interviewed as soon as possible with the new outbreak-specific questionnaire. If cases are not available, then a proxy should be interviewed, ideally someone from the same household.
7) To look for cases of milder illness such as Pontiac Fever, the questionnaire should ask if there are other household members who have had a similar respiratory illness. Any household contacts with legionellosis-consistent illness should also be interviewed with the outbreak-specific questionnaire.
8) Clinical culture specimens, in addition to urine antigen testing, should be collected from all suspect cases where individuals are seeking medical care.
9) Hospitals should be queried to determine whether any previously diagnosed cases had respiratory cultures collected and whether any of these culture specimens were retained. If so, it should be requested that these samples be held until a determination on environmental testing can be made.

Assistance that MDCH can provide to Genesee to aid in the outbreak investigation:

1) MDCH can provide language to GCHD for distribution to the medical community regarding the request for clinical respiratory culture collection on all suspect cases of legionellosis (Legionnaire's Disease and Pontiac Fever).
2) MDCH staff is available to conduct medical record extraction, as needed.
3) MDCH staff can assist with data entry into MDSS, as needed.
4) MDCH staff can help with the development of a Genesee-specific outbreak questionnaire.

5) MDCH is willing to assist with supplemental questionnaire data collection by conducting case interviews (on previously and/or newly diagnosed cases) and also by assisting with data analysis, as needed.

6) MDCH can assist with the coordination and communication with MDEQ for specific data requests by GCHD.

7) The MDCH PIO can work with the GCHD PIO to develop a coordinated public health message to respond to public and media inquiries.

If there are other issues that we have not addressed where our assistance would be helpful, please do not hesitate to ask. We appreciate your efforts and recognize the delicate situation you are dealing during this investigation. We look forward to continued communication and collaboration with you.

Regards,
Shannon Johnson

Shannon Andrews Johnson, MPH
Infectious Disease Epidemiologist
Michigan Dept. of Community Health
201 Townsend St., CVB 5th Floor
Lansing, MI 48913
Phone: 517-335-8165
Fax: 517-335-8263

Data being requested by MDCH and/or suggested data collection needs to be addressed:

1) Please provide the name of the primary point-of-contact for the overall GCHD legionellosis investigation. Shurooq Hasan is lead on the CD investigation. Jim Henry is the lead on the water system investigation. Our entire CDIRT team is involved in both investigations.

2) The current copy of the GCHD Legionnaires Disease outbreak data collection line list is requested and updates sent to MDCH on a regular basis. Let us know the time table you are proposing. We would like to request a regular meeting schedule so we can discuss our mutual findings.

3) Onset dates or estimated onset dates need to be determined for all cases. As discussed during our call, we can provide estimated onset dates. We would like your input...would you prefer we report the onset date reported by the patient, their primary care physician or the ID Physician consulting? There are differences. Please keep this in mind when reviewing the data.

4) A current map of the municipal water system needs to be obtained and cases' residences mapped in relation to the water system. As discussed in our call, we are experiencing difficulty in obtaining the information we have requested from DWP and MDEQ. We have sent the FOIA request for the current map of the municipal water system. As discussed during our call, we have mapped our cases to look for commonalities and to identify the proximity of the cases to the boil water advisories.

5) The investigation needs a Genesee-specific supplemental questionnaire beyond the MDCH supplemental form and the 6 questions in the email message dated 10/17/14. As discussed in our call, GCHD has been identifying and reaching out to individuals with expertise with type 1 water supplies. During our call, we asked specifically of anyone at MDCH has this expertise. Please let us know if you have a staff member we can consult with. Also stated during our call, we requested the assistance of MDCH in creating our Genesee specific questionnaire....the questionnaire we are currently using. We are reaching out to water experts to assist in the updating of our questionnaire. In the limited conversations we have had so far, we have learned a great deal which will inform the questions we need to ask. We also look forward to additional conversations with our MDCH colleages

6) All previous cases (since 5/1/14) and new cases should be re-interviewed as soon as possible with the new outbreak-specific questionnaire. If cases are not available, then a proxy should be interviewed, ideally someone from the same household. See me notes below...

7) To look for cases of milder illness such as Pontiac Fever, the questionnaire should ask if there are other household members who have had a similar respiratory illness. Any household contacts with legionellosis-consistent illness should also be interviewed with the outbreak-specific questionnaire. As discussed on the call in the review of our invesitgations, we have found this and, we have been reporting this... and have reported them in MDSS. This is the reason why we asked for testing of clinical samples not only of the patients, but, also of their close contacts.

8) Clinical culture specimens, in addition to urine antigen testing, should be collected from all suspect cases where individuals are seeking medical care. As discussed in our call, this is what we have requested from MDCH. In addition, we requested testing of close contacts, environmental testing of the patient home environments and potentially testing of key locations in the community with high heterotrophic plate counts. Based on the feedback from our consultations, this may be very helpful.

9) Hospitals should be queried to determine whether any previously diagnosed cases had respiratory cultures collected and whether any of these culture specimens were retained. If so, it should be requested that these samples be held until a determination on environmental testing can be made. This was discussed at our Bug Fuzz meeting on 1/22/15. We will also be requesting more information regarding previous years legionella testing. We suspect a

significant increase in the numbers of tests conducted, particularly during August/September than in previous years. Remember, the hyperclorination done at our hospital of interest was completed 10/4/15. That may also influence the number of tests conducted.

Assistance that MDCH can provide to Genesee to aid in the outbreak investigation:

1) MDCH can provide language to GCHD for distribution to the medical community regarding the request for clinical respiratory culture collection on all suspect cases of legionellosis (Legionnaire's Disease and Pontiac Fever). What we specifically requested was the specific testing protocols for sample collection, storage and transportation of clinical samples. We also requested testing of environmental samples from patient homes and key community sites. We would like the same protocol information for this type of testing as well. Jim's email covered some of this, but, we still have some questions.

2) MDCH staff is available to conduct medical record extraction, as needed. Medical records are attached in MDSS and we do not need assistance with this at this time.

3) MDCH staff can assist with data entry into MDSS, as needed. At this time, we do not need assistance with this. Please see the note below...

4) MDCH staff can help with the development of a Genesee-specific outbreak questionnaire. We welcome your participation in the revision of our Genesee specific questionnaire. We have already received some helpful feedback from our expert consultations.

5) MDCH is willing to assist with supplemental questionnaire data collection by conducting case interviews (on previously and/or newly diagnosed cases) and also by assisting with data analysis, as needed. Our CD nurses can address newly diagnosed cases. We would like to discuss MDCH's assistance for conducting interviews with previously diagonosed/interviewed cases.

6) MDCH can assist with the coordination and communication with MDEQ for specific data requests by GCHD. As discussed in our call, we are requesting MDCH assistance with obtaining information from MDEQ. GCHD has sent a FOIA letter requesting the information we have not been able to obtain regarding the water system. If we do not receive the information or have other challenges we would request MDCH assistance in obtaining the information.

7) The MDCH PIO can work with the GCHD PIO to develop a coordinated public health message to respond to public and media inquiries. As discussed in our call, the water system is an extremely sensitive topic. We are very careful in crafting messages. Should we need MDCH PIO assistance, we will request it.

Henry, James

From: Henry, James
Sent: Monday, December 21, 2015 4:35 PM
To: 'MVALACAK@gchd.us'
Subject: FW: Updated Timeline
Attachments: Prelim Time Line.docx

From: Cupal, Suzanne
Sent: Monday, December 21, 2015 1:56 PM
To: Henry, James
Subject: Updated Timeline

Please see the attached. I just added the key meetings.

Good luck tomorrow. Please let me know how it goes.

Have a great holiday.

Suzanne

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Henry, James

From:	Swartout, April
Sent:	Tuesday, February 2, 2016 5:36 PM
To:	Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc:	Goldon, Ann
Subject:	RE: Update for 2/2/16

February 2, 2016

- ☐ City wide campaign – every child by April 1st to get all children, particularly the youngest children tested by April 1st.
- ☐ Support for Multi-agency Resource Center to provide services to residents.
- ☐ Discussed with CHECC order of 7 documents. 5 will be ordered. One will be forwarded to CHECC and one is being redone and should be available tomorrow.
- ☐ We need a definitive answer of who is responsible for/conducting what notifications –EPA, DEQ, GCHD? Also what is being done on those notifications – EPA is apparently doing different things than we are.
    - Need to finalize protocol on how notifications are being done - from receipt of lead report to notification made.
- ☐ State followed up on our request for Health Educator assistance to provide appropriate and relevant materials on the issue. I responded that I believe that that assistance is coming from the public health service group that is imbedded at the Health Department. And since we will only have them for a short time, we are trying to take full advantage of them. I also noted that I would clarify if we need additional assistance.
- ☐ State passed along a request for clarification from HUD – if the GCHD is providing blood lead testing to residents (children) that live in public housing units.
    - The health department has been and is continuing to coordinate blood lead testing for children. We have an additional 11 events that are confirmed for February and March. Additionally, we are seeing a greatly increased volume of testing at our Burton Branch office. It is my understanding that we are working on coordinating one or more clinics for the public housing locations but dates/times are not confirmed yet.
- ☐ Call from NSF International regarding community level guidance on filters and filter use.

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From: Swartout, April
Sent: Sunday, January 31, 2016 4:55 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: Update for 1/30/16

January 31, 2016

- ☐ Unified Command Group Conference Call 1/31/16
    - **I requested that local public health be copied on all shared documents and other information, particularly if we are included on them. Thus far we have not received those communications.
  - Developing an organizational chart of Federal, state and local ? partners.
    - Dividing federal work in to 4 tasks forces - Health and Medical, Human Services, Water Quality, Nutrition and Education
    - **Science Group of technical experts (not part of the task forces)
  - **Role of state and local partners in UCG was clarified. Our role is one of comment/input on information shared in the meetings.
  - **they have a public information role in the UCG to help coordinate the "federal family" of communications.
  - **MDHHS has been requested and will be attending the BOC meeting for tomorrow (2/1) to provide an update on the situation. Dr. Wells will likely be there as part of that group.**
  - EPA did home visits on some of the homes with extreme elevations. They discovered that on some of the faucets, the aerators full of particulate matter were an issue.
    - I commented that we had identified that issue last year.

- ☐ **Was asked by CHECC if it would be helpful to have an MDHHS liaison stationed at the GCHD to help us coordinate and streamline communications with the State?**

- ☐ Reported that we are working with the Public Health Service Team to achieve some of our agenda items – including messaging, health education and a protocol for outreach.

- ☐ Outreach efforts –
    - Reported that the NCCC team's work will begin tomorrow with training. They will be prepping to go out in to the community to begin doing community education.
    - Reported that we were working on a protocol to have volunteers do notification to homes that have elevated water test results.

- ☐ There was a lot of discussion in the LEOC and on the phone for the need for GCHD representation in the JIC.

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From: Swartout, April
Sent: Friday, January 29, 2016 4:39 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: RE: Update for 1/29/16

January 29, 2016

- UCG meeting – working on an IAP for next 72 hour operational period.
- Discussed School for the Deaf meeting with Dr. Johnson. State and school would like him to attend to answer questions on lead.
- Worked on concerns that filters are not working for homes with extreme lead results (water sampling).
- SEOC requested information on the water sampling results that we receiving - # of results, how many were elevated, and what we were doing about the homes with extreme elevation.
- Dr. Wells will be conducting Wednesday webinars for Genesee County providers. We will assist in the distribution of webinar information to our providers.
- The JIC took 3 documents – Lead in Flint water, Lead in your body, and lead in breastfeeding, and rolled all three documents in to a two page blob of text. They called to ask how many copies of those we wanted and I declined the offer as they do not help us with the outreach efforts.

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From: Swartout, April
Sent: Thursday, January 28, 2016 5:18 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: Update for 1/27/16

January 28, 2016

- HTPC meeting – lots of questions about the situation, risk messaging, data that is being collected.

- Received some of requested printed materials. It appears that the filter installation guide and the Lead in Your Body flyer were delivered. I did not see any of the other two print materials.

- Was informed by the JIC that all of the requested print materials were invalid because they did not go through the JIC and they had been updated. Responded that they need to either get us the resources we need or we're going to do what we need to do with what we have.

- CHECC requested we work on having someone/our Medical Director present at the meeting at the School for the Deaf.

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From: Swartout, April
Sent: Wednesday, January 27, 2016 4:17 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: Update for 1/26/16

January 27, 2016

- **Dr. DeSalvo, CDC, and Dept. of Agriculture will be visiting a WIC clinic in Flint on Friday.**

- Requested information on adult blood lead case management.

- State requested that we keep them apprised of our blood lead test supply status.

- Discussed at risk populations, particularly senior citizens and those living in assisted living. Worked on identifying senior facilities within the city limit of Flint.

- Discussed coordinate of calls for future – suggestion on handling calls. One idea was to have someone at GCHD triaging calls and then forwarding information to other locations (health departments) for a call back. This would take a volunteer or staff to distribute calls and then track call resolution (call-backs).

- Red Cross/GCHD collaboration – work with identified event based volunteers to conduct train-the-trainer and use those volunteers to education residents.

- Need additional Spanish resources. Resources currently being translated do not include many fact sheets, and are only materials from the flint water website.

Cc: Goldon, Ann
Subject: Update for 1/25/16

January 25, 2016

- Suggested requesting critical incident stress management for GCHD staff.
- Provided information to Jamal Gwathney regarding who should be involved in mental health support for this response.
- Discussed need to recruit and coordinate medical/health professional volunteers – perhaps through an MRC.
- Receiving questions about lead testing, adults, and additional follow up testing. These questions are in relation to the lead testing clinics being sponsored by others (law offices, etc.)
- Discussion with State DEQ phone line about directing calls. Is going to share call routing information with me when finalized. Also had questions about filters.
- Spoke with SEOC about requested palm cards in Arabic language. They are going to have those shipped to Arab American Heritage Center.
- My "wish list"
  - Leadership coordination – we need to get everyone on the same page and we need someone from outside the current system to assist in this.
  - Expedited risk messaging for both lead and legionella and resources to get those out – respected person to relay message.
  - Financial support to get Dr. Johnson out of the clinic and in a role providing public health messaging.
  - Information on lead and effects on adults.
  - Mental health support for GCDH staff as well as a mental health support plan for the community.
  - Printed materials (for health education).
  - Support for additional staff to provide information to the public (health educator, EH professionals, etc.).

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From: Swartout, April
Sent: Sunday, January 24, 2016 4:34 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: Update for 1/24/16
Importance: High

January 24, 2016

- Daily call with CHECC staff –
  - Please confirm that pediatric letter went out and if there was any response.

- Weekend Duty – as of right now, the EOC will be operating on Saturday and Sunday. We need to make sure that a person is here. I volunteer to do one of the days.

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From: Swartout, April
Sent: Tuesday, January 26, 2016 5:09 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: Update for 1/26/16

January 26, 2015

- Discussed need to coordinate translated materials. Requests are coming in for translations but they are not being coordinate
- Submitted print request for 4 documents to SECO – Lead in Water, Lead in your body, breasfeeding and lead and filter installation.
- Discussed support from community partners and what might be needed.
- Discussed mental health support and what might be needed.
- Discussed need for resources for adults for lead testing.

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From: Swartout, April
Sent: Monday, January 25, 2016 4:51 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda

- **If we need staff to answer phones, additional staff for case management, etc., or additional funds for services, now is the time to submit a request and budget for needs. Send up through DHHS (via Mark) or have a resource request submitted through EOC.**
- Need to work on coordinating efforts with Feds now involved to make sure we are all on same page.
- Confirmed that resources for blood lead level testing clinics would be ordered, probably in the next 48 hours. Original order was submitted through DTMB but kicked back to DHHS. Medical supplies are ordered through them.
- Chris DeVriendt puts in requests and lists himself as point person for the request. If there is a kick-back with a request for more information, ensure that he follows up appropriately to have accurate information and doesn't just make stuff up.

- Question from State - Is GCHD tracking the types of calls that are coming in? I have a request from the SEOC to compile a list of individuals who are reporting rashes/skin irritations due to the water. If so, can you provide name/contact information?

- Jamie Gaskin reports that several NBA players are on board to assist with water crisis including shooting PSAs to help spread health messages. Apparently Dr. Hanna-Attisha has helped draft the scripts for this.
  - I told Jamie that if we are drafting health education messages for PSAs, that the Health Department should be involved.

- Confirmed with Jim that he was meeting the EPA representative to get ecoli test on water sample running. Jim said the test should be complete tomorrow (1/25) at @ 7:30 a.m.
  - Fielded questions from DEQ rep on how many samples we were running, where the sample was taken, and when the results would be ready.

- It appears that the State is starting to scale back on distribution operations (especially door-to-door). Much of that work going forward will be handled by the ARC and Team Rubicon.

From: Swartout, April
Sent: Saturday, January 23, 2016 5:50 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: RE: Update for 1/22/16

January 23, 2016

- Received call from Jamal Gwathney (HHS) requesting contact information for GHS for mental health support. Provided information that I had.

- Received phone call Jackie Scott regarding report of a lead testing clinic at Flint Masonic Temple. Toni went over there to investigate who was conducting the clinic and to find out if they were following appropriate procedures. Toni reported that the event was using Quest Diagnostics and Quest is a lab that reports results to CLPPP. The education being provided at the event is lacking. The event was sponsored by a law firm out of Detroit. Toni offered to discuss education material and what we can share with the person in charge. Toni also asked for follow-up from the clinic with the number of children and adults provided testing.
  - They were testing both adults and fingers by finger sticks.

- Received call from Linda Scott. Concerned mother had called State 1-800 #. Her son is currently at Genesee County Jail and she was concerned because he was drinking the water last week. I told Linda that testing for lead had been done at Jail in October, 2015 and the building was cleared. There was one sink that had high lead results and that was a hand sink that was not accessible to inmates and was not used for drinking water. The issue with that sink was addressed at that time. Mark Valacak followed up with me after the phone call and informed me that that particular sink was still an issue but reiterated that it was never used for drinking water and in fact, was not currently being used.

- There was discussion regarding the City of Flint's non-functioning chlorine pump, the EPA, and utilizing GCHD staff to do weekend/after hours testing for ecoli on water samples. Depending on what the EPA finds, we might need to request staff assistance in conducting some water testing.

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From: Swartout, April
Sent: Friday, January 22, 2016 4:33 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: RE: Update for 1/22/16

January 22, 2016

- Discussed with State the need utilize offers of support, including offer to assist with answering questions from the public regarding lead and legionella. Discussed using 2-1-1 to assist with this.

- Answered questions regarding legionella and lead for Captain Tafoya. The jail is either going to have to provide water and do extensive testing for lead, legionella (in other words, everything), or get a formal letter from the Health Department clearing the building of issues.

- Pushed for additional public health messages on bathing and other questions regarding lead in water.

- Provided daily update to the CHECC.

- Communicated with JIC to gain access to messages being put out and to coordinate for messages being translated in to other languages.

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From: Swartout, April
Sent: Thursday, January 21, 2016 4:43 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: Update for 1/21/16

January 21, 2016

- **The EOC will, as of right now, be fully functional this weekend (Sat – Sun). Mark needs to designate someone to work on Saturday. I can take the Sunday shift if necessary.**
- Worked with GCHD and MDHHS Lead Program staff to start discussion on suggestion that we use medical volunteers to provide door-to-door blood lead testing to community residents. This discussion was to continue of the 3:00 pm conference call with the Lead Program.
- Pushed for additional public health messages on bathing and other questions regarding lead in water.
- Answered questions regarding restaurants in Flint and actions that the Health Department and MDARD are taking to ensure that restaurants are protecting their customers from lead in water.
- Received request for volunteer information and translated educational materials from the Arab American Heritage Council. I forwarded their request for translated materials to the JIC (jicmanager@michigan.gov).
- Provided daily update to the CHECC.
- Last night I forwarded information on lead testing resources for children to the in-home daycare provider who requested testing for the kids in her care.

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From: Swartout, April
Sent: Wednesday, January 20, 2016 4:41 PM
To: Valacak, Mark; Johnson, M.D., Gary; Cupal, Suzanne; LaRocco, Toni; Brickey, Tamara; Henry, James; Stickler, Lisa; McShane, Hilda
Cc: Goldon, Ann
Subject: Update for 1/20/16

- **The EOC will, as of right now, be fully functional this weekend (Sat – Sun), as the response will be moving to a new phase soon and this phase will likely have a bigger public health response (testing, expanded services, etc.), it is probably important to have someone in the EOC through the weekend. We need to coordinate this.**

- **Toni has been working to coordinate a nurse to answer phone calls from the public. Perhaps would get sanitarians to supplement since the nurse won't be there full tile. We still need to coordinate internal routing of phone calls, fill out the routing sheet and distribute that information to all staff.**

- I had a conference call with the State CHECC and 2-1-1 to coordinate the State phone bank. 2-1-1 will direct all calls with health related questions to the State phone bank – 888-535-6136. They will be answering the phones Monday – Sunday, 8 a.m. – 5 p.m. 2-1-1 and the State has requested that we provide them with any local information, including blood lead testing information, and update the information as necessary. I forwarded them information provided to me from Toni and Jori.

- The local EOC got a request to do blood lead level testing at a daycare facility. I asked for specifics (facility location, # of kids, etc.) so that I could check in to it. The daycare, it appears, is an in-home daycare. I offered to forward information on clinics so that daycare provider could share with parents of the children.

- Environmental Health – A question was asked about a "sticker" for restaurants denoting that their water was safe. Jim mentioned the idea to me this morning. Apparently this issue came up at the Chamber of Commerce meeting today. Michelle (a state person) asked me about it. I directed her to the State as the restaurants are actually licensed by the State so it seemed to me that any "sticker" should come from them to.

- We have an identified gap that we need to address somehow, perhaps with the State. There are several resources for testing for children. There are limited options for adults. 2-1-1 has received several calls from adults who don't want to go to their primary care physicians because there physicians will charge them for testing. Physicians don't know who to bill for testing. Of course, we will bill insurance/charge a fee for service as well. However, we need free/low cost options for adults as well. Perhaps the State can help with fees for testing.

- If we are going to request copies of the multiple documents that were passed around yesterday, we need to decide which ones we need and the quantity of copies.

- Shared information on franchise water customers with EOC logistics.

- Shared information on a recycling concern with EOC logistics.

- The State identified an error on our website with regards to blood lead testing resources. I forwarded that information to Ann, Toni, and Jori, with a request to get Ann the updated information so that it could be updated.

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Henry, James

From:	Rodgers, Mark <Rodgers.Mark@epa.gov>
Sent:	Tuesday, February 2, 2016 8:27 AM
To:	Henry, James
Cc:	Oshima, Kevin; Cupal, Suzanne
Subject:	Possible use of health depart labs

Hi Jim, I wanted to touch base with you on that idea of your microbiology lab hosting EPA employees in the coming weeks. We are considering performing chlorine and coliform tests on Flint water samples, targeting 30 additional sites not now covered in the usual Total Coliform Rule compliance sampling that the treatment plant lab conducts.
We have in mind sending two lab staff to Flint each week, for perhaps a total of 4-6 weeks, depending on the results. This effort would be greatly facilitated if we had access to your lab and the incubator there. We would bring all other needed supplies.
While there, we would be happy to also help your staff run any additional coliform or other microbiological water tests. I would be happy to discuss your ideas of how EPA lab staff could integrate themselves in the efforts there in Flint to stabilize the drinking water quality. We could for example consider some Legionella testing.
As of today, this is just an idea. I understand you might have to seek approval from your management, just as I'm having to seek approval for this effort from mine. But I see some value in having my lab staff on-site there in Flint. I'll be reaching out to our EPA Region 5 folks as well, to see if they feel this would be helpful to their efforts in Flint.
I know you're busy. Let me know if you think this is workable, or what questions you have. I'll work on my end to get feedback from my management.
All the best...Mark

From: Henry, James [mailto:jhenry@gchd.us]
Sent: Thursday, January 28, 2016 8:58 AM
To: Oshima, Kevin <Oshima.Kevin@epa.gov>
Cc: Rodgers, Mark <Rodgers.Mark@epa.gov>
Subject: FW: McLaren Water Testing Results

From: Hudson, Russell [mailto:Russell.Hudson@mclaren.org]
Sent: Monday, June 15, 2015 1:56 PM
To: Henry, James
Subject: McLaren Water Testing Results

Rusty Hudson, Assoc. AIA
Director, Engineering Services
McLaren Flint
russell.hudson@mclaren.org
(810) 342-2552 office

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Henry, James

From: McShane, Hilda
Sent: Monday, February 1, 2016 8:35 AM
To: Henry, James
Subject: RE: MEDIA INQUIRY: Legionnaire's Disease outbreak

I have not heard back from Mark. I await his approval.

From: Henry, James
Sent: Friday, January 29, 2016 11:48 PM
To: McShane, Hilda; Valacak, Mark
Cc: 'scupal@gchd.us'
Subject: RE: MEDIA INQUIRY: Legionnaire's Disease outbreak

Hilda, I have a meeting with Celeste and David Layton,Tuesday at 10am to discuss all of our activities. The time line explains everything.

If it's ok with Mark, you could inform Mr. Heywood the following:

- Our comprehensive timeline will be completed and available next Wednesday.
- Mr. Heywood can be one of the people who we send it to directly.
- Legionella bacteria is found throughout the environment, which makes it difficult to isolate and link to a common source.
- There were cases throughout Genesee County, not only City of Flint.
- No conclusions have been made and we are still investigating many possible sources.
- We would be remiss to report without representation.

Jim

From: McShane, Hilda
Sent: Friday, January 29, 2016 5:00 PM
To: Valacak, Mark; Henry, James
Subject: FW: MEDIA INQUIRY: Legionnaire's Disease outbreak

So, who wants to answer the questions?

From: Todd Heywood [mailto:heywood.reporter@gmail.com]
Sent: Friday, January 29, 2016 2:46 PM
To: McShane, Hilda
Subject: MEDIA INQUIRY: Legionnaire's Disease outbreak

Dear Ms. McShane

I am reaching out to you at the advice of Jennifer Eisner at MDHHS. My name is Todd Heywood and I am a reporter for both City Pulse (a weekly alternative in Lansing) and Between The Lines (the statewide LGBTQ newsweekly for Michigan). One of my specialty coverage areas is health policy in Michigan. As such I am working on a story about the state and county's response to the Legionnaire's Disease outbreak.

Would you please answer the following questions:

1. On what date did GCHD report the outbreak to the Michigan Health Alert Network?
2. Can you please provide the original MiHAN notification?
3. Was there any discussion prior to the announcement earlier this month in Detroit about a public notification related to the Legionnaire's Disease outbreak in Genessee county, and specifically in Flint? Why or why not?
4. Please provide a timeline with all dates and related documents on when medical partners throughout the city and county were notified of the ongoing outbreak.
5. Please explain why Wellness AIDS Services, a community based organization working with HIV infected and affected community members in Flint, was not notified of the ongoing Legionnaire's Disease outbreak when it is acknowledged that those with compromised immune systems are more at risk for contracting this disease.
6. MLive has reported that GCHD officials attempted to obtain testing results from the city of Flint regarding water and water quality. Those attempts were hampered by city officials to the point GCHD filed a FOIA request -- one which went unanswered. Please explain why GCHD did not use the powers authorized under the Michigan Public Health Code to use an administrative or other court order/subpoena to obtain the requested documents.
7. Please explain why a minor outbreak of 5 cases of a rare sexually transmitted, but rarely fatal, bacterial infection among HIV positive MSM resulted in a MiHAN notification, as well as notification to partner organizations such as Wellness, but the Legionnaire's Disease was not treated with the same urgency?
8. Was GCHD counseled at anytime by either state or federal health officials to do a public alert and notification to this outbreak? If so, when and by what agency? What steps did GCHD take to follow that advice?
9. When are genetic tests due back in relation to suspect bacteria found in the hospital system and patients? What genetic testing is back thus far? Has there been any source match (ie person A's infection has been genetically linked to source location A bacterial population)?

Thank you so much in advance for your assistance in this matter.

Sincerely

Todd A. Heywood
City Pulse
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