Bohm, Susan (DHHS)

From: Johnson, Shannon (DCH)
Sent: Wednesday, February 04, 2015 2:39 PM
To: Hasan, Shurooq; Henry, James
Cc: Cupal, Suzanne; Childs, Bonnie; Johnson, M.D., Gary; Valacak, Mark; Fiedler, Jay (DCH); Bohm, Susan (DCH); Collins, Jim (DCH); Miller, Corinne (DCH)
Subject: RE: Genesee Legionellosis Investigation
Attachments: MDCH Response 2-4-15.docx

Dear GCHD,

Thank you all for your response. I have attached the Word document with additional MDCH answers to your questions (in blue). Moving forward, we've identified some next steps in our collaboration on the investigation. I spoke with Shurooq today and we made decisions on the division of labor for these points.

1) Genesee will send MDCH a copy of their current line list by this Friday, Feb 6th. We will use this as the master line list for the investigation.

2) Please provide an estimated date of when the HAN discussing clinical testing will be sent to providers in the community. We would appreciate seeing a copy of the final HAN prior to it being sent out. I discussed some points of clarification about the HAN language with Shurooq on the phone today. The hospitals will be following their own protocols for respiratory culture testing to attempt to isolate legionella. Genesee may want to include language in the HAN suggesting bronchial washes be used as they are more likely to contain sufficient bacteria for culture growth compared to a sputum specimen. If the legionella bacteria is identified at the hospital lab, those isolates will be sent along to the MDCH lab for additional testing.

3) We would like to have an outbreak-specific questionnaire finalized by the end of next week, Friday Feb 13th. Per Shurooq, Genesee is collaborating with Joan Rose from MSU on water system-specific questions. MDCH will begin creating a questionnaire template to be combined with Genesee's questions and a final version will be reviewed by both agencies.

4) MDCH has requested medical record access for the legionellosis investigation from Genesys, Hurley, and McLaren hospitals. After discussing with Shurooq, MDCH will begin to collect information on previous hospitalizations (dates, admission complaint, etc.) for cases.

5) Onset dates (or estimated onset dates) for all cases need to be determined. Genesee will work to collect this information on new cases (since 1/1/15). MDCH will review medical records in MDSS and contact hospitals as needed to determine onset dates for previous cases (6/1/14-12/31/14).

6) Considerations for defining the investigation. In this situation, the term outbreak is being used in the epidemiologic sense, meaning an increase in cases of above baseline. Based on this, the current Genesee outbreak began in June, 2014 with 5 reported cases. Until further information is collected and analyzed the definition will be general: Cases of legionellosis (Legionnaires' Disease and Pontiac fever) in Genesee County since 6/1/14. In the future, we may be able to refine the definition as additional data is obtained. If Genesee prefers, they may mark all cases in MDSS meeting the current definition as outbreak-associated and assign an outbreak ID. This is generally more useful when needing to search the MDSS for a subset of cases in the system. Since the outbreak currently includes all Genesee legionellosis cases since 6/1/14, it is not as urgent.

If there are other initial steps you would like to include please feel free to add them to the list.

Best wishes,
Shannon

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From: Cupal, Suzanne [mailto:scupal@gchd.us]
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 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

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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,

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

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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

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MDCH response 2/4/2015

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.
Shannon Johnson will serve as the primary point-of-contact for MDCH. Shannon will coordinate directly with Shurooq and Jim at GCHD.

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.
The Genesee line list will serve as the master line list for the outbreak investigation. The Genesee line list should be provided to MDCH weekly and any data gathered by MDCH will be added.

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.
For new cases, the onset date from the patient interview should be used. For older cases, the medical record should be used to assist in determining the estimated onset date. The Influenza Hospitalization Surveillance Project uses the following recommendations for determining estimated onset dates from medical records:

- "In some cases you will need to calculate the date of onset based on notes in the Admission H&P or Discharge Summary that indicate that fever or cough began days earlier.
  - Couple of days = 2 days
  - Few days = 3 days
  - Several days = 5 days
  - Week = 7 days
  - For example if a patient is admitted 10/15 (Day 0) and the Admission H&P indicates the patient complained of fever/cough for "a few" days, then the earliest date of onset of respiratory symptoms is 10/12:

Date:	10/12	10/13	10/14	10/15
Day Number:	-3	-2	-1	0
	Onset			Admission

- If date of onset is provided as a range of dates, use the earliest date as date of onset of respiratory symptoms.
    - For example, if a date of onset is given as "3 to five days ago", list the date corresponding to 5 days ago."

Date:	10/10	10/11	10/12	10/13	10/14	10/15
Day Number:	-5	-4	-3	-2	-1	0
	Onset	←				Admission

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.
MDCH will communicate with MDEQ about obtaining the water system map. If you have the information, please provide to MDCH a copy of the boil water advisories (or dates) and the areas they cover.

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.
MDCH does not have staff with expertise in type 1 water supplies, this falls under the purview of MDEQ and the local water authority. MDCH is able to advise specifically on legionella related to human illness. The compiled data provided by the cases on the questionnaire will be vital to directing the focus and scope of potential future environmental testing.
A general supplemental data form developed by MDCH was provided to Genesee on 10/17/14. MDCH will work with GCHD to develop a Genesee-specific questionnaire for the outbreak.

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.
As detailed in the HAN language provided by MDCH to GCHD, hospitals should collect culture specimens in addition to the urine antigen test. If an isolate of Legionella is found from the culture, the hospital will send the isolate to the MDCH Bureau of Laboratories for further testing.

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 hyperchlorination done at our hospital of interest was completed 10/4/15. That may also influence the number of tests conducted.

<u>Assistance that MDCH can provide to Genesee to aid in the outbreak investigation:</u>

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.
Hospitals should be familiar with testing protocols for legionella culture specimens. If a legionella isolate is found by the hospital, the handling and shipment to BoL for additional testing is discussed in the language of the HAN.

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.
We would like to have an outbreak-specific questionnaire finalized by the end of next week, Friday Feb 13th. Per Shurooq, Genesee is collaborating with Joan Rose from MSU on water

system-specific questions. MDCH will begin creating a questionnaire template to be combined with Genesee's questions and a final version will be reviewed by both agencies.

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.
MDCH staff members are available to assist with interviewing older cases. We can discuss this issue further after the questionnaire is completed.

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.
MDCH will communicate with MDEQ about obtaining the water system map.

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.