

Below is a timeline that highlights many of the events and actions taken by the Quincy Veterans' Home, IDVA, IDPH, and the Adams County Health Department after the initial outbreak on August 21, 2015, through the end of the initial outbreak in September 2015. The timeline also includes the number of sick, hospitalized, and deceased Quincy Veterans' Home residents and staff. The timeline can be found as Exhibit 2-1 in Chapter Two of the report.

2015 LEGIONELLA OUTBREAK TIMELINE			
ACHD	-Adams County Health Department	IDVA	-Illinois Department of Veterans' Affairs
CDC	-Centers for Disease Control and Prevention	IEPA	-Illinois Environmental Protection Agency
IDPH	-Illinois Department of Public Health	IVHQ	-Illinois Veterans' Home at Quincy
Thursday, August 6, 2015 (1st Case Identified)			
9:52 AM	1 st confirmed case of legionellosis from the Quincy Veterans' Home (IVHQ).		
	Hot water tank number 2 has been out of service since the beginning of July due to a valve issue. The tank is unheated and was cycled back into service on this day.		
Friday, August 21, 2015 (Day 1 of Confirmed Outbreak)			
3:53 PM	2 nd confirmed case of legionellosis from IVHQ.		
4:30 PM	Meeting conducted between Adams County Health Department (ACHD), IDPH, IDVA.		
5:16 PM	IDPH submits questions to IDVA related to the facility's tubs, showers, bathing rooms, and ice machines along with questions about the history and habits of the two residents who tested positive.		
5:24 PM	Guidance is provided by IDPH to IVHQ to have a heightened awareness of respiratory deterioration, or fever/cough at the same time; turn off the outdoor fountains; keep the windows in the Elmore building closed (the initial two residents both lived in the Elmore building); and use bathing facilities other than the areas that were used by the two residents who tested positive.		
5:35 PM	IDPH issues internal agency Health Advisory regarding legionella at IVHQ.		
5:53 PM	IDPH Director contacts IDVA Director notifying her of the two cases at IVHQ and notes his team is investigating and asks if she or her team needs anything.		
6:18 PM	IDVA Director emails senior staff and notes: "We need to take EXTRA precautions to ensure that this does not go beyond these two cases. If we need to get people out there this weekend to test the water and make sure people are safe, then let's do it now. I do not want someone else to get sick."		
6:36 PM	The IDVA Director responds to the IDPH Director and notes they are in "immediate response mode and getting it under control."		
8:48 PM	IVHQ provides responses to IDPH questions related to the facility's tubs, showers, bathing rooms, and ice machines along with questions about the history and habits of the two residents that tested positive.		
10:44 PM	IDVA Director emails senior staff and notes: Still don't have a good feeling about this. What steps are we taking to protect the other residents? Have we tested the water in each of the buildings (or does the tower supply them all)?		

Saturday, August 22, 2015 (Day 2)	
8:17 AM	IDPH concludes that the two positive residents did not have a common water exposure.
9:08 AM	An Adams County Health Department official notes she will take pictures of the cooling tower layout later that afternoon.
12:03 PM	IVHQ sends an email to the nursing and other staff at IVHQ noting that "I'm sending this email to answer questions and concerns staff have had regarding UNCONFIRMED Legionnaires' Disease at the Elmore building. Please reassure staff that this in is an UNCONFIRMED diagnosis and precautions are being taken per directive. I want to reassure all staff that if we truly felt there was an issue with Legionella we would not put the Residents or Staff at risk. I ask that you please not panic and do not discuss this with the residents. The last thing we need is for the residents to get worried and upset. Again this is an UNCONFIRMED diagnosis, as we find out more information we will keep you updated. Please feel free to call me with any questions or concerns. Below is a brief discussion on the disease." [Note: the attached information did not include procedures or precautions for how the staff should protect themselves or the residents.]
3:17 PM	IDPH Director emails the IDVA Director stating: "While this situation is serious because it involves lives, it is not unprecedented or atypical. Legionella is a risk in any situation of this sort. You may have seen that the City of New York has been grappling with a major outbreak. Even in Illinois, we are dealing with another set of cases at a prison facility. Fortunately, Legionella is a disease we know how to diagnose and treat. And from an epidemiology standpoint, we know how to track it down."
Sunday, August 23, 2015 (Day 3)	
12:18 PM	IDPH officials receive photos of the IVHQ campus taken by the Adams County Health Department.
12:36 PM	IDPH internal email notes that there are 3 more residents at the hospital that are positive for legionella.
4:28 PM	IDVA senior staff emails the IDVA Director about 3 additional residents testing positive for legionella. It is also reported that the "Ice machines are being cleaned, showers out of service on two areas, water testing checked and per Adams County, appears okay."
8:38 PM	IDPH reports a cluster of 5 cases of legionella at IVHQ to the CDC.
Monday, August 24, 2015 (Day 4)	
7:32 AM	An Adams County Health Department official reports that as of the day before, the three patients that presented over the weekend have had additional questioning.
8:35 AM	IDVA reports legionella found in 5 Quincy Veteran home residents as a potential concern to the Governor's Office.
10:23 AM	IDPH receives notice of a possible 6 th case at the local hospital.
	IDPH and the ACHD conduct on-site visit beginning mid-day, which focuses on one building where 2 confirmed cases were located. Environmental samples are taken from a decorative fountain, a cooling tower, and several bathing areas in the one building.
Tuesday, August 25, 2015 (Day 5)	
10:00 AM	At an IVHQ Resident Care Meeting between IVHQ management and nursing supervisors, it is noted that: "There's a lot of illness going around. Make sure to do infection control, handwashing, etc. There's a lot of respiratory so oral hygiene needs to be honed in on. We're tracking all of these people very closely. IDPH was here yesterday looking at things, testing all of our residents. We have lots of residents in the hospital, a couple tested positive for Legionella. Legionella is not contact spread, it has to be inhaled. There's no isolating for it, you just need to do good infection control. It's probably coincidental that all these people have pneumonia and respiratory issues." It was also noted: "Legionella bacteria is fairly common, the IDPH inspectors said they have to be careful testing because it could show up in anything. Their goal is to find the source. It is not easily transferred and if someone does get it it's treatable with antibiotics. There's also a case in the community not associated with the home. Our housekeeping products have an ingredient that kills the bacteria."

10:26 AM	IDPH internally issues Health Update regarding legionella at IVHQ. It indicates there are two confirmed cases and an additional 3 being tested for legionella, with results expected in 5 days. The update includes recommendations.
10:35 AM	IDVA internal email notes that 10 residents went to the hospital between “yesterday and today” and that all buildings now have someone affected.
10:44 AM	IDVA discusses the need for a public announcement as there are over 10 residents with respiratory issues in the hospital, two of them in the ICU.
11:30 AM	IVHQ discusses a resident’s family member’s social media post, which noted the resident is in the hospital with legionella.
11:51 AM	IVHQ sends an email to the nursing and other staff that notes: “I’m sending this email to answer any questions and concerns staff may have had regarding Legionnaires’ Disease at IVH. Please reassure staff that precautions are being taken per directive of IDPH. I want to reassure all staff that if we truly felt there was an issue with Legionella we would not put the Residents or Staff at risk. I ask that you please not panic and do not discuss this with the residents. The last thing we need is for the residents to get worried and upset. As we find out more information we will keep you updated. Please feel free to call me with any questions or concerns. Below is a brief discussion on the disease.”
12:46 PM	IDPH reports to the CDC that 14 persons are being evaluated or admitted to the hospital, 11 were admitted and 3 are in the ICU. IDPH asks CDC for specimen collection requirements and shipping address.
12:48 PM	While discussing what steps to take related to reporting to families, IDVA notes: “Keep in mind that we have 2 confirmed cases. I realize a lot of people are in the hospital for respiratory issues – that does not equal LD. It could be Pontiac (which resolves on its own after a few days), it could be allergies, it could be change in season, it could be pneumonia. What we know at this time is that we have 2 confirmed positive tests for LD.”
12:51 PM	Senior IDVA management confirms to the IDVA Director that families were notified that their family member went to the hospital, but they were “not told about suspicions of legionella since that may not be what they have.”
12:57 PM	IDVA Director emails senior staff and notes: “I don’t have any issues with letting the family members know that there is a possibility that it could be LD, but the issue there is that they will hear the worst and run with it. I don’t want to frighten people without reason.”
1:22 PM	IDPH Director emails IDVA Director noting there is talk of a joint press release and that he has no objections.
3:03 PM	IDPH determines that Memorial Hospital lab in Springfield can identify legionella from urine antigen testing most likely on the same day if delivered by early afternoon.
3:27 PM	IDPH works on recommendations to send IVHQ to address the outbreak at the Elmore Infirmary. IDPH notes that: “Given the epidemiologic data currently available as well as the initial environmental investigation, it is our opinion that the cooling tower does not present the most plausible exposure source.”
4:00 PM	Governor’s Office notifies IDPH and IDVA that it does “not think we need to issue a statement to the media. Let’s hold and see if we receive any reporter inquiries.”
4:20 PM	IDPH sends potential recommendations to the Adams County Health Department for its comment and IDPH notes that “We thought this would be a good start and we’ll see how things develop in the coming days.”
4:38 PM	ACHD provides IVHQ with the following guidance for Elmore East and West: replace tub spray heads with point-of-use filtration heads capable of filtering legionella bacteria; contact tub manufacturer to discuss way to increase levels of sanitation of the tubs; and document tub sanitation. IVHQ was told tubs could be used once these steps were completed and documented. The email also instructed IVHQ to drain and discontinue the use of outdoor fountains.
5:15 PM	ACHD reports that the hospital is starting to be concerned about staffing and beds.
5:45 PM	IDPH reports seven more residents admitted to hospital today with fever and cough. IDPH decides to start having urine antigen tests driven to Springfield.

7:45 PM	IDPH issues new Health Update which notes that 17 persons (2 staff and 15 residents) were seen in the emergency room in the last four days. Of those 17, 14 have x-ray confirmed pneumonia. Fifteen are currently hospitalized. [Note: auditors reviewed the IVHQ tracking log from the next day and determined that for the 14 with confirmed pneumonia, 5 were from Elmore, 3 were from Somerville, 3 were from Markword, 2 were from Fletcher, and 1 was from Fifer.]
9:19 PM	IDPH Director emails another IDPH official and states, "I honestly didn't realize that so many other residents and employees at the facility are ill."
Wednesday, August 26, 2015 (Day 6)	
10:00 AM 2:00 PM	All Staff Meetings are held and there is no specific confirmation given of Legionnaires' disease at IVHQ and no specific counts of residents or staff with confirmed cases. It is also noted "There has been one confirmed case in the Adams County area."
11:36 AM	IDPH routes draft information release throughout IDPH officials.
11:58 AM	While discussing a "proactive" information release, the IDVA Director reports to IDPH Director that 18 are now admitted to the hospital with "pneumonia-like symptoms."
12:00 PM	IDPH reports to the CDC that it is waiting to get back some of the human test results so they know if legionella is present in only one building or does the source affect multiple buildings.
Specific time unknown	During second day of on-site visit after meeting with IVHQ, IDPH believes the "central hot water tank may be associated with [the] outbreak." It is learned that hot water tank number 2 was out of service since the beginning of July due to a valve issue. The tank was unheated until it was cycled back into service on August 6, 2015.
12:38 PM	Based on new information, IDPH worries that the hot water system may be contributing to the current respiratory outbreak. IDPH notes there may be a need to address the hot water system in the entire facility.
1:14 PM	IDPH notifies the CDC that it is still awaiting lab results, but as a result of new information received on that day, potable water is being tested and IDPH is "anticipating making recommendations around restriction and management of potable water needs in this multiple-building, 400+ resident facility."
2:17 PM	IDPH reports to the CDC "We are concerned about this large facility and what to do until remediation can take place with water plus reviewing the possible problem that arose in the water system in late July."
2:39 PM	IDPH is working on a list focusing on "eliminating aerosolization."
2:46 PM	IVHQ sends respiratory etiquette guidance to staff, which discusses covering your cough, wearing a surgical mask when in close contact with a patient with symptoms, and detailed guidelines on how to wash your hands.
3:00 PM	IDPH participates on a call with the CDC.
3:01 PM	Adams County Health Department receives one positive and one negative test result from Iowa lab.
3:10 PM	Adams County Health Department requests guidance from IDPH for IVHQ on what can be done to immediately slow exposure to patients and staff.
3:25 PM	IDPH reports that after a call with the CDC, the CDC says to not rule out the cooling tower.
4:30 PM	IDPH Health Update states that additional recommendations will be made concerning water restrictions at the facility after discussions with the CDC.
4:30 PM	Meeting held between Adams County Health Department, Blessing Hospital, IDPH, and IDVA.
4:33 PM	IDPH investigator is at the cooling tower and reports there are "High bromine levels not supportive of leg [legionella]. Prevailing wind is directly off campus I can smell the bromine from the car."
6:24 PM	AChD provides IVHQ with Draft "Interim Guidelines for Potable Water Restrictions in Illinois Veterans Home, Quincy Illinois 8.26.15" developed by IDPH. <i>[Note: This is the first written guidance provided to IVHQ that discusses minimizing use of campus water supply, removing faucet aerators, use of bottled water, shutting off drinking fountains, and avoiding any actions that will cause aerosolization or spray of water.]</i>
8:57 PM	Adams County Health Department reports that the test results were received and 6 of the 10 urine antigen tests were positive. There are now 8 confirmed cases of legionellosis.

9:46 PM	IDPH investigators issue internal report with the following directions: 1) Immediately increase cooling tower free bromine level to 10ppm logging every 4 hours; 2) Isolate Tank #2 from the hot water supply in the power house, empty Tank #2 for swabbing on 8/27/15; 3) Desist using tap water for any resident care or service, order bottled or packaged water for potable uses; and 4) Discontinue any potable water use involving point-of-use fixtures where aerosols are likely.
Thursday, August 27, 2015 (Day 7)	
	IVHQ provides "Interim Guidelines for STAFF-Legionella." This is the first document auditors identified that provided staff with procedures or guidelines necessary to limit the exposure for both the residents and themselves.
6:52 AM	IDPH official notes in an email to the CDC "I think we are now focused on legionella."
6:53 AM	IDPH responds to a CDC question as to whether the new positive tests are from Elmore or another building. IDPH responds it will let the CDC "know this morning."
9:23 AM	IVHQ in an email reports it rented a chiller and is ordering bath wipes, bottled water, ice, and hand sanitizer.
11:40 AM	IDVA reports that the guest house at IVHQ has been closed until water is confirmed to be okay.
12:47 PM	A joint press release by IDPH and IDVA announces 8 confirmed cases of Legionnaires' disease in residents at IVHQ.
1:25 PM	An email from IVHQ Administrator to IVHQ staff confirms legionella at IVHQ and reports: "Many of the things that we will be coming out with are procedures that are geared towards isolating possible locations that [the] <i>[sic]</i> could be the source of the Legionella. Since this bug has been found in locations like cooling towers, showers, faucets, etc., we are directed to stop using those locations that could be a source. Please be assured we're doing everything we can to isolate areas that could be a source and this will also create inconveniences and the need for adjustments in how we do some of the things we normally do, such as bathing and showering."
7:44 PM	IDPH Health Update sent internally notes that there are now 15 confirmed cases and approximately 30 to 40 persons associated with the facility have tests pending. There are individuals with positive tests from six buildings.
Friday, August 28, 2015 (Day 8)	
7:00 AM	Contractor begins cleaning of the cooling tower.
10:00 AM	Bottled water delivered to IVHQ.
11:09 AM	IDPH notifies the CDC that there are now 23 confirmed cases.
12:16 PM	Minutes from the All Staff Meeting are emailed by IVHQ to all staff requiring them to read, sign, and submit to the HR department by close of business on September 16, 2015.
12:35 PM	IDPH reported that as of 12:00 pm, the cooling tower has been cleaned, refilled, and is back online.
12:46 PM	ACHD reports 4 new in-patients are positive for legionella.
3:07 PM	Contractor reports that the cooling tower was cleaned and shocked with chlorine and recommends monthly visits to check water tests and to calibrate equipment.
3:10 PM	A map of the facility completed by IDPH shows 27 confirmed cases (24 residents and 3 staff). There were confirmed cases in 7 buildings. (Elmore=8 (one staff), Fletcher=4, Schapers=4, Fifer=3, Markword=3, Somerville=3, and Nielson Dining=2 (two staff)).
3:19 PM	ACHD reports the first (1st) legionella related death from IVHQ to IDPH.
3:30 PM	In response to ACHD question about families with concerns about sending residents back to the home to recover, an IDPH official noted, "I think potential source[s] of legionella have all been remediated."
3:58 PM	ACHD reports a second (2nd) legionella related death.
5:50 PM	IVHQ official discusses shower head filter types with IDPH.
5:55 PM	IDPH official responds to IVHQ that the shower heads in question will not work.

6:02 PM	IDVA Director reports to the Governor's Office and to the IDPH Director that 64 persons have been "checked for exposure", 29 persons were positive for legionella (26 residents and 3 staff), 19 persons were negative for legionella, and 17 tests have been ordered and are pending.
6:38 PM	IDPH Director suggests to the IDVA Director there may be value in inviting the CDC on-site but does not "think it's necessary right now."
8:39 PM	IDVA/IDPH press release announcing the deaths of two residents from IVHQ who "had underlying medical conditions" and were among the 23 individuals who had been diagnosed with Legionnaires' disease.
8:51 PM	IDPH Health Update reports 28 laboratory confirmed cases, 4 of the cases are for persons who work at IVHQ. Two resident fatalities were reported and 2 individuals working at IVHQ "are very ill and may not survive."
Saturday, August 29, 2015 (Day 9)	
9:14 AM	IDVA Director informs Governor's Office and IDPH Director of a third (3rd) resident death and notes that additional deaths are "possible today."
11:00 AM	Meeting scheduled between IDPH and IDVA Directors and the Governor's Office.
11:48 AM	IDPH Director emails two files to the IDVA Director, 1) "IDPH Actions" and 2) "IDPH Interim Water Use Guidelines Vets Home Aug 27 2015."
11:50 AM	ACHD clarifies that the third death has not had a confirmed urine antigen test. The test is due on Monday, August 31.
2:32 PM	IDPH discusses reaching out to IDVA to see what information has been given to IVHQ resident family members that have stayed on campus.
3:38 PM	IDPH Director summarizes conversation with IDPH on-site engineer in an email noting an issue with hot water tank number 2. He concluded that the 1,600 gallon tank "sat there in optimal growing temperature for 30+ days." He noted that rather than emptying the tank and refilling it, IVHQ just applied steam and "distributed it for normal use throughout the facility." He noted this was a "citable offense." He referred to the water as a "broth of legionella right water." The Director noted that the "topography and prevailing winds do not support this coming from the cooling tower. Tower exhaust would be carried off campus." After this discovery, it was noted there was a need for a consultant, the temperature of the hot water needed raised to kill legionella to 150 degrees Fahrenheit, and there was the need to sanitize the plumbing.
3:46 PM	IDPH Director asks ACHD if the city of Quincy was testing its water supply for legionella.
4:05 PM	ACHD responds and notes the city of Quincy has not tested [for legionella] in the past but will be testing on Monday.
4:10 PM	IVHQ provides IDPH with its current tracking list. According to the IVHQ list, there were 27 residents and 3 staff positive for legionella. The list also showed that test results were pending for 31 residents and 1 staff.
9:39 PM	IDPH Director informs IDVA Director that he wants to involve the CDC on-site and that he plans to inform the Governor's Office.
Sunday, August 30, 2015 (Day 10)	
8:54 AM	IDVA Director notifies IDPH, IVHQ, and ACHD that she is headed to Quincy later in the afternoon.
9:14 AM	Governor's Office asks that a call be scheduled for that day to discuss bringing in the CDC.
9:38 AM	ACHD reports to IDPH there are 4 confirmed community cases and one pending.
9:42 AM	IDVA Director reports to the Governor's Office that a fourth (4th) resident with legionella died the night before.
10:51 AM	ACHD reports 2 new admissions to hospital overnight, 19 total at hospital, 45 being cared for at IVHQ with 9 new possible cases presenting overnight, and a visitor staying on-site in IVHQ cottage became ill and is in ICU in Jacksonville.
2:29 PM	IDPH requests technical assistance from the CDC.
2:33 PM	The CDC responds that it will start the process.

3:27 PM	IDPH determines there were no cases of legionella in Adams County in 2011, 2012, and 2014. There was one case in 2013.
4:12 PM	IVHQ reports 27 residents and 3 staff positive for legionella and 49 pending on test results.
Monday, August 31, 2015 (Day 11)	
8:11 AM	IDPH notes in an email, "we need to begin to assess neutralizing of hot tank effects as soon as practical."
9:13 AM	ACHD reports the fifth (5th) legionella related death of an IVHQ resident.
10:55 AM	IDPH internally decides to make sure they always ask whether the family has been notified after a death.
11:00 AM	Meeting held between ACHD, IVHQ, IDPH, IDVA, IEPA, CDC, and Blessing Hospital-Quincy to discuss water testing, hot water tank mitigation, disease case tracking, etc.
2:09 PM	IEPA emails IDPH that IEPA will be collecting samples from the public water supply in Quincy that afternoon.
2:30 PM	IDPH on-site engineer reports to IDPH Director that after meeting with the IDVA Director, ACHD, the city of Quincy, IEPA, and a contractor, they all concurred that the sanitizing of the domestic water system was a priority, and the plan was to continue to engage IVHQ and their consultant to get a plan.
3:54 PM	IDPH Health Update reports 29 laboratory confirmed cases, 3 of the cases are for persons that work at IVHQ. There are 40-50 persons with tests pending. It also notes that potable water restrictions were put in place on August 26.
4:39 PM	IDVA reports that 34 residents live in the domiciliary and 366 residents live in the skilled and special needs units at IVHQ.
7:40 PM	IDPH receives test results from ACHD reporting a total 36 positive cases.
9:55 PM	IDPH email shows that about 60 interviews have been completed of confirmed, suspect, and pending cases.
Tuesday, September 1, 2015 (Day 12)	
7:33 AM	ACHD reports the sixth (6th) and seventh (7th) legionella related deaths from IVHQ. It is also reported that the official count of lab confirmed legionella cases is 37.
8:00 AM	CDC meets at ACHD to begin the on-site visit.
10:57 AM	IDPH reports 39 total confirmed cases of which 35 are residents. There are 7 laboratory confirmed legionella death cases.
11:30 AM	ACHD reports to IDPH that it is getting inquiries from OSHA and AFSCME.
12:04 PM	Press release sent announcing the deaths of a total of seven residents from IVHQ. It also notes they were among the 39 individuals who have been diagnosed with Legionnaires' disease to date.
12:20 PM	IDPH engineer asks for IDPH to research point-of-use water filters.
4:08 PM	IDPH obtains cost and name of distributor for point-of-use water filters.
8:20 PM	IDPH Health Update reports 39 laboratory confirmed cases, 4 of the cases are for persons that work at IVHQ, and 7 fatalities. The update notes that IVHQ is no longer allowing admissions, and that the CDC team started work that morning.
Wednesday, September 2, 2015 (Day 13)	
7:35 AM	IDPH contacts water testing contractor asking about getting results or at least preliminary results.
7:50 AM	The CDC provides contacts to IDPH for obtaining point-of-use water filters to help ease water restrictions.
9:09 AM	ACHD reports 7 more positive cases.
9:45 AM	IDPH on-site engineer reports to IDPH that IVHQ ordered point-of-use water filters.
10:08 AM	IDPH reports 45 total confirmed cases of which 41 are residents. There are 7 laboratory confirmed legionella death cases.

10:58 AM	Water test results from August 26 are received by IDPH that show hot water storage tanks #1 and #2 has legionella present.
12:55 PM	Water tests received by IDPH from the lab show Elmore has legionella present and the cooling tower is negative.
1:27 PM	IDPH staff reports to the Director positives in the plumbing but the cooling tower was negative.
2:04 PM	IDPH Director asks what can be communicated to the Governor's Office about the heating tanks and he is told by his staff that "preliminary results indicate likely contamination of the potable water system."
2:54 PM	IVHQ orders 24 in-line and 24 shower filters.
Thursday, September 3, 2015 (Day 14)	
10:38 AM	IDPH reports 48 total confirmed cases from IVHQ of which 44 are residents. There are 7 laboratory confirmed legionella death cases.
10:38 AM	IVHQ emails that the shower in Schapers A now has a filtered showerhead that can be used to shower residents.
12:15 PM	IEPA Director emails IDPH Director and notes that five samples collected on 9/1/2015 from locations near IVHQ show very low bacteria activity.
Friday, September 4, 2015 (Day 15)	
10:30 AM	IDPH reports 50 total confirmed cases from IVHQ of which 45 are residents. There are 7 laboratory confirmed legionella death cases.
1:20 PM	Water tests received by IDPH from the lab shows positive legionella results in Neilson, the Administration building, Fifer, Somerville, and Schapers.
2:45 PM	IDPH summary of water testing results shows that 30 of 34 tests came back positive for legionella.
3:26 PM	IDPH officials note that water testing results support their efforts with the potable water system.
3:32 PM	A letter is sent from IDVA Director to IVHQ staff thanking them "for your diligence and dedication during this very challenging time."
4:07 PM	Contractor's draft potable water disinfection plan is routed to IDPH and CDC staff. The plan recommends potable water disinfection and flushing to begin on September 9, 2015.
4:43 PM	IDPH official questions whether potable water restrictions were for all buildings on campus.
4:49 PM	IDPH official indicates that the restrictions should have been for all buildings noting: "I'm sure we said the entire system once we discovered the hot water loop."
8:35 PM	IDPH Health Update notes: "The potable water system remediation is very complex and will take time to accomplish correctly. Plans to mitigate the system next week are being developed. Water restrictions currently remain in place." The report also notes that: "PCR positive results indicate the presence of L. pneumophila organisms in the heating tanks, along with a tub and shower head all of which are part of the facility's potable water system. No presence of Legionella was found in the cooling tower via PCR testing."
Saturday, September 5, 2015 (Day 16)	
6:09 AM	Disinfection plan discussion email begins between IDPH, IVHQ, and the contractor.
9:39 AM	IEPA authorizes Quincy to operate at higher monochloramine residuals than normal due to the situation.
3:16 PM	Revised disinfection plan sent to IDPH, IVHQ, and CDC.
5:08 PM	Revised plan sent to IEPA Director.

Sunday, September 6, 2015 (Day 17)	
9:46 AM	ACHD reports to IDPH and IDVA that IVHQ only had two residents with signs and symptoms and that the situation is calm. ACHD also reported that the CDC was still working at its office.
3:23 PM	Water contractor provides disinfection plan to IDVA Director.
Tuesday, September 8, 2015 (Day 19)	
10:47 AM	IDPH reports 52 total confirmed cases from IVHQ of which 47 are residents. There are 7 laboratory confirmed legionella death cases.
	IDVA Director sends letter to residents' families to notify them of the outbreak and notes the efforts to get it fixed will begin on September 9 th .
Wednesday, September 9, 2015 (Day 20)	
8:12 AM	IDPH reports to the CDC that the IDVA contractor is "beginning the shock of the system today with sodium hypochlorite."
8:56 AM	IDPH reports 53 total confirmed cases from IVHQ of which 48 are residents. The eighth (8th) and ninth (9th) deaths are confirmed.
12:30 PM	Hyperchlorination of the water system begins.
1:10 PM	IDVA media update reports that beginning today, potable water disinfection of the domestic cold and hot water systems will be performed.
7:22 PM	IDPH reports that the first flush is finished. Starting the final flush the next day at 9:00 AM. It was notes that "Things went well today and adequate chlorination was pushed through the entire system."
Thursday, September 10, 2015 (Day 21)	
9:00 AM	The IDVA contractor starts final flush of the potable water system.
3:49 PM	IVHQ email instructs staff to continue to use the water the way they have been, cold water for washing hands only, bottled water for drinking and oral care, special showerheads only for bathing unless the packets are used.
9:00 PM	IDPH Health Update notes 53 total confirmed cases from IVHQ of which 48 are residents and there are 9 confirmed deaths.
10:05 PM	IDPH Director reports to the Governor's Office that: "Today marked the first period in which we had no new cases. As our models projected, this coincides with the tail end of the anticipated latency period, which ends tomorrow. Although a trickle of new cases remains a possibility, it becomes less likely as the days pass. The focus now shifts squarely to remediation efforts, which will continue in phases."
Friday, September 11, 2015 (Day 22)	
10:22 AM	Per a conversation with the CDC, the IVHQ Director of Nursing instructs the staff to be more acutely aware and report residents with respiratory symptoms, continue to use bottled water for drinking and oral care, only use showers with special filters, no tub use, if the resident cannot shower use the "bath in a bag" system, use bagged ice from outside, and water from sinks can be utilized for hand washing.
11:33 AM	IDPH reports the current total is now 54 positive cases and 9 resident deaths from IVHQ.
3:20 PM	CDC reviews newly received water testing results and notes "It's pretty clear that there was extensive colonization throughout the water systems."
3:21 PM	IDPH summarizes the water test results and notes that: "Both fountains were negative for legionella. Cooling tower at top was also negative." Locations positive for legionella included both hot water tanks and locations in Markword and Elmore.

Monday, September 14, 2015 (Day 25)	
8:17 AM	ACHD reports the <u>tenth</u> (10 th) and <u>eleventh</u> (11 th) legionella related deaths occurred over the weekend.
10:38 AM	IDPH reports the current total is 54 positive cases (48 residents and 6 staff) and 11 resident deaths from IVHQ.
2:45 PM	IVHQ reports it received 82 negative tests.
Tuesday, September 15, 2015 (Day 26)	
7:43 AM	ACHD reports the <u>twelfth</u> (12 th) death occurred early that morning.
1:47 PM	Water testing results from samples taken on August 24 th are received and positive legionella cultures were found.
Wednesday, September 16, 2015 (Day 27)	
10:02 AM	ACHD reports one additional positive resident bringing the total to 55 positive with legionellosis (49 residents and 6 staff) and 12 total deaths.
Thursday, September 17, 2015 (Day 28)	
8:40 AM	IDPH reports to IDVA Director that the water testing contractor's preliminary reports show that the organisms have been killed and the mitigation from the hyper-chlorination and flushing was successful.
9:11 AM	IDVA Director reports to IVHQ that "Preliminary results show that the remediation efforts (flushing the pipes) worked. We can now return to the "new" normal of drinking water and bathing, etc. We can also go back to taking in admissions."
10:29 AM	IDPH reports the current total is 54 positive cases (48 residents and 6 staff) and 12 resident deaths from IVHQ.
2:13 PM	IVHQ reports to the US Department of Veterans' Affairs that: "The results came back today for the water and the water is safe to use. We are still not using the tubs and the ice machines per CDC and IDPH recommendations until the manufacturer can come to us and look at a proper disinfecting of these systems. We are still using the filtered shower heads at present."
2:22 PM	IVHQ is told by ACHD to only test individuals for legionellosis if they have pneumonia.
3:51 PM	Water testing results from samples taken before hyper-chlorination are received and positive legionella cultures were found in showers, sinks, and/or tub hoses in Fifer, Fletcher, and Neilson.
Friday, September 18, 2015 (Day 29)	
	IVHQ begins installation of point-of-use filters on showers and tubs.
11:02 AM	IDPH reports to the CDC that the point-of-use filters are "plugging immediately and are not providing reasonable usage times."
11:10 AM	The CDC responds: "I suspect the sloughing of biofilm due to the use of chlorine dioxide may have something to do with that. In terms of using a pre-filter your options are pretty open just as long as it gets the job done. If I could offer a good option I would but this is new territory for me as well. Let me know what you come-up [sic] with or if you need to discuss."
3:20 PM	Letter from IDVA Director distributed to the residents at IVHQ notifying them of the current situation at the home.
Wednesday, September 23, 2015 (Day 34)	
	IVHQ contracts with a licensed Class A water treatment vendor. Bainter Environmental agrees to be the "Operator in Reasonable Charge." Those duties include supervising operations of the water treatment facility and meeting all IEPA requirements. It also includes collecting water samples in accordance with the Safe Drinking Water Act.

**Friday, September 25, 2015
(Day 36)**

1:32 PM	IDVA media update reports 54 individuals from the Illinois Veterans' Home-Quincy have tested positive for Legionnaires' disease, which includes 12 resident deaths. The update also notes: "Test results show <i>Legionella</i> bacteria were found in the cooling tower and hot water tanks, as well as sink faucets, showerheads, and tub faucets in buildings throughout the IVH-Quincy campus."
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**Monday, September 28, 2015
(Day 39)**

	IVHQ tracking logs show 82 staff and 138 residents sick -totaling 220 during the outbreak. There were 57 residents and staff positive for legionella. The other 163 residents and staff had respiratory symptoms including pneumonia/walking pneumonia, cough, fever, body aches, headaches, fatigue, nausea, and vomiting.
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Source: OAG analysis of IDVA, IDPH, and ACHD documents.