CHICAGO

COVID-19
Chicago Long Term Care Roundtable

3.27.25

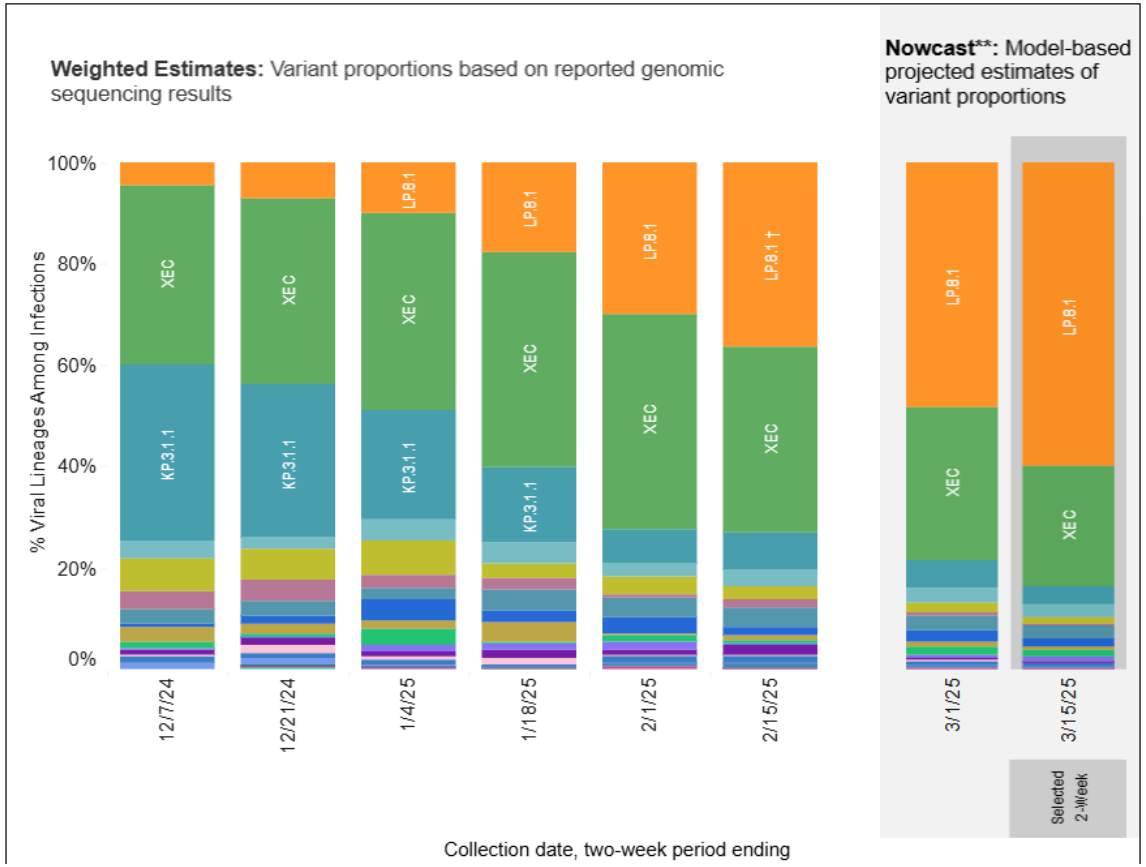
Agenda

- Respiratory Disease Epi & Surveillance
- Reporting Reminders
- Enhanced Barrier Precautions FAQ
- Vaccine Recommendations
- Infection Prevention and Control of Waterborne Pathogens
- Questions & Answers

COVID-19 Variant Proportions

Weighted Estimates in HHS Region 5 for 2-Week Periods in 11/24/2024 – 3/15/2025

Hover over (or tap in mobile) any lineage of interest to see the amount of uncertainty in that lineage's estimate.



Nowcast Estimates in HHS Region 5 for 3/2/2025 – 3/15/2025

Region 5 - Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin

WHO label	Lineage #	%Total	95%PI
Omicron	LP.8.1	60%	47–71%
	XEC	24%	19–30%
	KP.3.1.1	4%	2–6%
	LF.7	2%	1–4%
	LB.1.3.1	2%	1–7%
	MC.10.1	2%	1–4%
	MC.1	1%	1–2%
	XEC.4	1%	1–2%
	XEQ	1%	0–2%
	MC.19	1%	0–1%
	XEK	1%	0–1%
	MC.28.1	1%	0–1%
	KP.3	0%	0–1%
	JN.1	0%	NA
	JN.1.16	0%	NA
	LB.1	0%	NA
	KP.2.3	0%	NA

Source: https://covid.cdc.gov/covid-data-tracker/#variant-proportions

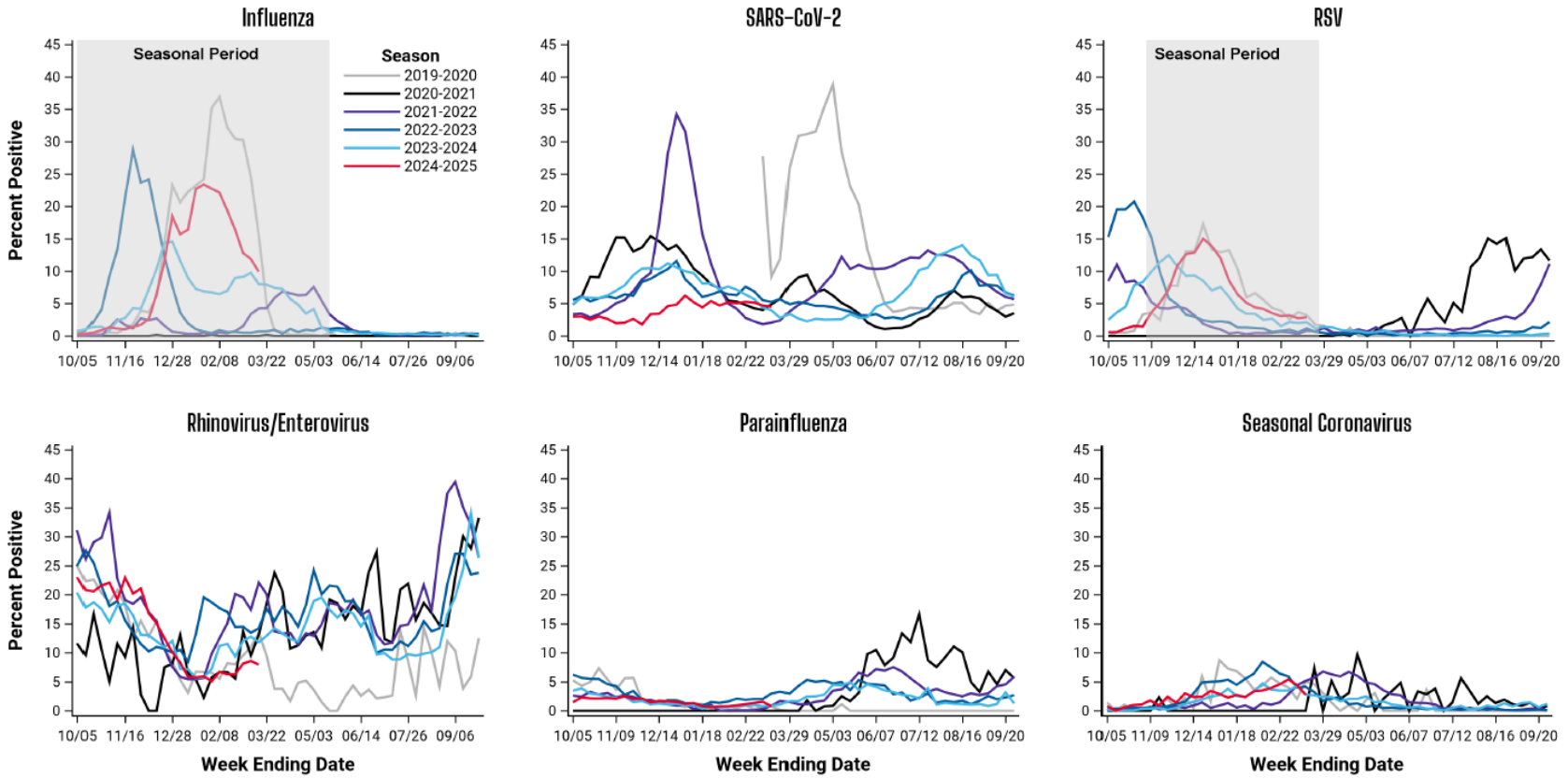
Chicago Respiratory Virus Surveillance Report – Current Week & Cumulative

	Week Ending March 15, 2025		Since September 29, 2024	
Respiratory Pathogen	# Tested	% Positive	# Tested	% Positive
Influenza*	3,436	9.9	92,701	11.8
RSV*	2,763	2.9	75,805	6.3
SARS-CoV-2*	2,851	4.5	76,973	4.2
Parainfluenza	1,853	0.8	50,485	1.5
Rhinovirus/Enterovirus	870	7.9	27,527	12.7
Adenovirus	870	1.4	27,499	1.7
Human Metapneumovirus	872	1.8	27,882	0.7
Seasonal Coronaviruses†	1,851	2.8	40,784	2.8

*Represents both dualplex and multiplex PCR data. All other data represents only multiplex panels that include the specified pathogens;† Four seasonal coronavirus strains include 229E, NL63, OC43, and HKU1.

Source: Chicago Respiratory Virus Weekly Surveillance Report

Chicago Respiratory Virus Surveillance Report – Seasonal Trends



Source: Chicago Respiratory Virus Weekly Surveillance Report

Reporting Reminder: Respiratory Outbreaks

- Outbreaks of any of the following should be reported using the IDPH Respiratory Outbreak Reporting Form:
  - Acute respiratory illness
  - COVID
  - Influenza
  - RSV
  - Parainfluenza
  - Human metapneumovirus
  - Respiratory adenovirus
  - Rhino/enterovirus

- Reporting must occur as soon as the outbreak definition is met and updated line lists should be submitted until 14 days after your most recent case. After that point, the outbreak is considered closed.

Source: https://redcap.dph.illinois.gov/surveys/?s=JR9K8FXNETK8H3XN; https://dph.illinois.gov/topics-services/diseases-and-conditions/respiratory-disease/guidance/skilled-nursing-facility.html

Acute Respiratory Illness Definition

Acute respiratory illness (ARI) is an illness characterized by any **two** of the following signs and symptoms that are new or worsening from the resident's normal state:

- Fever (greater than 100°F/37.8°C or more than two degrees above a resident's established baseline)
- Cough (productive or nonproductive)
- Runny nose or nasal congestion
- Sore throat
- Muscle aches
- Shortness of breath or difficulty breathing, which may manifest as increased fatigue
- Low oxygen saturation in the blood (normal levels are between 95 and 100%, but may vary for people with certain medical conditions)

Source: https://dph.illinois.gov/topics-services/diseases-and-conditions/respiratory-disease/guidance/skilled-nursing-facility.html

Respiratory Outbreak Definition

Three or more residents and/or staff in a facility who, within 72 hours of each other, have:

- acute respiratory illness (ARI) and/or
- positive point-of-care test (as available) or laboratory-positive test for a ***single*** virus

-AND-

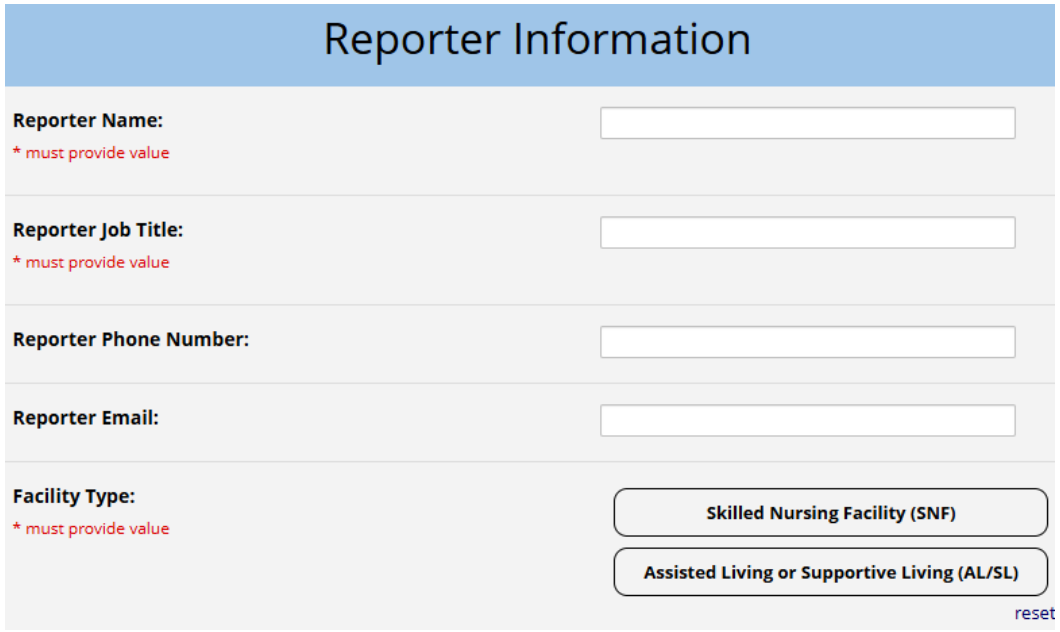
- at least one of the cases is a resident

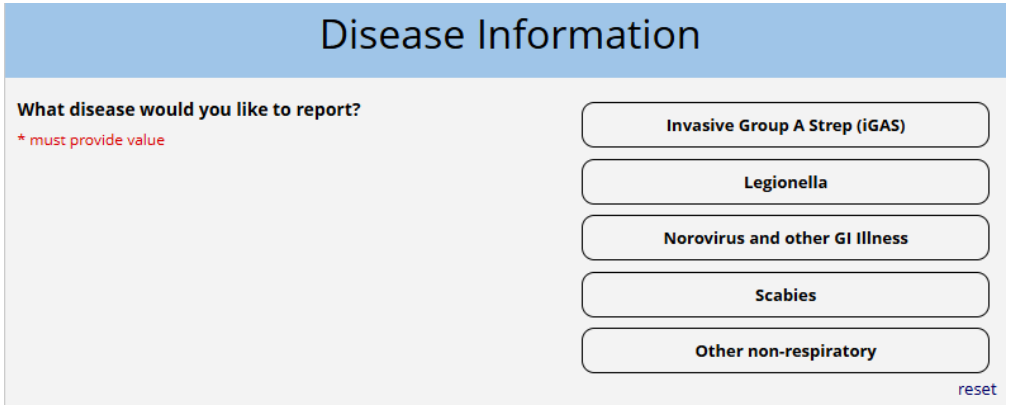
If the above definition is not met (e.g., if you only have one COVID case), you do NOT need to report it, but you should still take infection prevention and control measures (e.g., testing close contacts of a COVID+ resident or staff member)

Source: https://dph.illinois.gov/topics-services/diseases-and-conditions/respiratory-disease/guidance/skilled-nursing-facility.html

Reporting Reminder: Non-Respiratory Outbreaks

- Outbreaks of non-respiratory pathogens (e.g., gastrointestinal illness, scabies) at a SNF, Assisted Living, or Supportive Living facility should be reported using the CDPH Disease Reporting Form





Source: https://redcap.dph.illinois.gov/surveys/?s=8LKFXJMTYNM7MLC4

FAQ: Does a resident with a surgical wound need to be on EBP?

- It depends…
  - Residents with unhealed surgical wounds that are open and require a dressing should be placed on EBP
  - Residents with surgical incision sites that are primarily closed and do not require a dressing do not require EBP

Source: https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/HAI-SHARP/Webinars/MDHHS-EBP-Webinar-FAQ-__-42024.pdf?rev=75034196995642398dddf59acaafe7d5&hash=415CB9365FE12A585425D94B85693709#:~:text=Residents%20with%20unhealed%20surgical%20wounds,EBP%20would%20not%20be%20indicated.

FAQ: Does a resident with a wound vac need to be on EBP?

- Yes, residents with wound vacs should be placed on EBP until the wound heals

Source: Karen Trimberger and Deb Burdsall, Hektoen Institute

FAQ: Would a resident with an ostomy but no other indwelling devices/wounds/XDROs need to be on EBP?

- No, an ostomy alone does not require the use of EBP

FAQ: Can a resident with a wound or indwelling device but no XDRO decline EBP since there is no evidence they have anything contagious?

- No, a resident cannot decline EBP
- Please continue to educate the resident and remind them that:
  - There are no restrictions to their activities (e.g., they can leave their room, participate in communal dining, etc.)
  - Having a wound and/or indwelling device makes it easier for germs to get into their bodies and make them sick, so the purpose of EBP is to protect them
  - Many other residents in the facility are on the same type of precautions (if this is the case)

Source: https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/HAI-SHARP/Webinars/MDHHS-EBP-Webinar-FAQ-__-42024.pdf?rev=750341969956423 98dddf59acaafe7d5&hash=415CB9365FE12A585425D94B85693709#:~:text=Residents%20with%20unhealed%20surgical%20wounds,EBP%20would%20not%20be%20indicated.

FAQ: Do residents with active XDRO infections need to go on contact precautions until they have finished treatment?

- No, residents with XDROs do not require contact precautions, regardless of whether they are actively infected or colonized, except for when contact precautions are otherwise indicated due to:
  - Secretions or excretions that are unable to be covered or contained (e.g., draining wounds, acute diarrhea)
  - Another infection or condition where contact precautions are indicated (e.g., scabies)

Source: https://www.cdc.gov/long-term-care-facilities/hcp/prevent-mdro/faqs.html

FAQ: A resident with C. auris was retested and negative, can they be removed from EBP?

- No, residents who have ever been infected/colonized with C. auris, CRE, CRAB, or CP-CRPA must remain in EBP for the duration of their stay at your facility, even if they subsequently test negative after their original positive test

Source: https://www.cdc.gov/long-term-care-facilities/hcp/prevent-mdro/faqs.html

2024-2025 COVID Vaccine Schedule

12-64 years old, immunocompetent	65+, regardless of immune function	12+, immunocompromised**
1 dose of the 2024-2025 COVID-19 vaccine (Moderna, Pfizer, or Novovax*)	2 doses of any 2024-2025 COVID-19 vaccine* 6 months apart	2 doses of any 2024-2025 COVID-19 vaccine* 6 months apart

*Special considerations for those getting Novovax as their first ever COVID-19 shot, see CDC webpage for more details.
** Assumes that the initial series of COVID vaccine(s) has been completed. If that is not the case, see CDC webpage for more details.

Source: https://www.cdc.gov/covid/vaccines/stay-up-to-date.html

NHSN Reporting Update

- The 2024-2025 COVID-19 vaccine was approved for distribution on August 22, 2024. It has been six months since the approval, and some residents and healthcare personnel may be due for a second dose to remain up to date.

Up to Date Definition for COVID-19 Vaccination Data Reporting

- Beginning the first week of reporting for Quarter 1 of 2025 (December 30, 2024 – March 30, 2025), individuals aged 65 years and older are up to date when they have received 2 doses of the 2024-2025 COVID-19 vaccine or received 1 dose of the 2024-2025 COVID-19 vaccine in the past 6 months.
  - Example: If an individual is 65 years old and received their first dose of the 2024-2025 COVID-19 vaccine on September 4, 2024, then they would need to receive their second dose after March 4, 2025, to remain Up to Date with COVID-19 vaccines.
- There is no change to the up to date definition for individuals younger than 65 years. Individuals younger than 65 years are up to date when they have received 1 dose of the 2024-2025 COVID-19 vaccine at any time since it was approved in August 2024.

Source: NHSN

Influenza Vaccine Schedule

6 months – 64 years old, immunocompetent	65+, regardless of immune function	Persons with certain chronic medical conditions/immunocompromised persons/pregnant women***
One dose of seasonal influenza vaccine*	One dose of seasonal influenza vaccine**, preferably: • High-dose inactivated influenza vaccine OR • Recombinant influenza vaccine OR • Adjuvanted inactivated influenza vaccine	One dose of seasonal influenza vaccine other than the live attenuated influenza vaccine (i.e., these individuals should **not** receive the live attenuated influenza vaccine)

*Special considerations for those aged 6 months through 8 years, see CDC webpage for more details
** If none of these vaccinations are available, any other age-appropriate vaccine can be used
*** See Table 3 on the CDC webpage for more details on contraindications for live attenuated influenza vaccines

Source: https://www.cdc.gov/flu/hcp/acip/index.html

Pneumococcal Vaccine, Adults 50+

Prior vaccines	Option A	Option B
None*	PCV20 or PCV21	PCV15 → ≥1 year† → PPSV23¶
PPSV23 only at any age	≥1 year → PCV20 or PCV21	≥1 year → PCV15
PCV13 only at any age	≥1 year → PCV20 or PCV21	NO OPTION B
PCV13 at any age & **PPSV23** at <65 yrs	≥5 years → PCV20 or PCV21	

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines
¶ If PPSV23 is not available, PCV20 or PCV21 may be used
† Consider minimum interval (8 weeks) for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid leak (CSF) leak
§ For adults with an immunocompromising condition, cochlear implant, or CSF leak, the minimum interval for PPSV23 is ≥8 weeks since last PCV13 dose and ≥5 years since last PPSV23 dose; for others, the minimum interval for PPSV23 is ≥1 year since last PCV13 dose and ≥5 years since last PPSV23 dose

Shared clinical decision-making for those who already completed the series with PCV13 and PPSV23

Prior vaccines	Shared clinical decision-making option for adults ≥65 years old
Complete series: PCV13 at any age & **PPSV23** at ≥65 yrs	≥5 years → PCV20 or PCV21 — Together, with the patient, vaccine providers **may choose** to administer PCV20 or PCV21 to adults ≥65 years old who have already received PCV13 (but not PCV15, PCV20, or PCV21) at any age and PPSV23 at or after the age of 65 years old.

Source: https://www.cdc.gov/pneumococcal/downloads/Vaccine-Timing-Adults-JobAid.pdf

Pneumococcal Vaccine, Adults 19-49 with Certain Immunocompromising Conditions

Prior vaccines	Option A	Option B
None*	PCV20 or PCV21	PCV15 → ≥8 weeks → PPSV23†
PPSV23 only	≥1 year → PCV20 or PCV21	≥1 year → PCV15
PCV13 only	≥1 year → PCV20 or PCV21	NO OPTION B
PCV13 and 1 dose of PPSV23	≥5 years → PCV20 or PCV21	
PCV13 and 2 doses of PPSV23	≥5 years → PCV20 or PCV21	**No vaccines** recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.
Immunocompromising conditions	• Chronic renal failure • Congenital or acquired asplenia • Congenital or acquired immunodeficiency§ • Generalized malignancy • HIV infection • Hodgkin disease • Iatrogenic immunosuppression¶ • Leukemia • Lymphoma • Multiple myeloma • Nephrotic syndrome • Sickle cell disease/other hemoglobinopathies • Solid organ transplant	

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines
† If PPSV23 is not available, PCV20 or PCV21 may be used
‡ The minimum interval for PPSV23 is ≥8 weeks since last PCV13 dose and ≥5 years since last PPSV23 dose
§ Includes B- (humoral) or T-lymphocyte deficiency, complement deficiencies (particularly C1, C2, C3, and C4 deficiencies), and phagocytic disorders (excluding chronic granulomatous disease)
¶ Includes diseases requiring treatment with immunosuppressive drugs, including long-term systemic corticosteroids and radiation therapy

Source: https://www.cdc.gov/pneumococcal/downloads/Vaccine-Timing-Adults-JobAid.pdf

Pneumococcal Vaccine, Adults 19-49 with Certain Chronic Health Conditions

Prior vaccines	Option A	Option B
None*	PCV20 or PCV21	PCV15 → ≥1 year → PPSV23¶
PPSV23 only	≥1 year → PCV20 or PCV21	≥1 year → PCV15
PCV13† only	≥1 year → PCV20 or PCV21	NO OPTION B
PCV13† and PPSV23	**No vaccines** are recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.	
Chronic health conditions	• Alcoholism • Chronic heart disease, including congestive heart failure and cardiomyopathies • Chronic liver disease	• Chronic lung disease, including chronic obstructive pulmonary disease, emphysema, and asthma • Cigarette smoking • Diabetes mellitus

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines
¶ If PPSV23 is not available, PCV20 or PCV21 may be used
† Adults with chronic medical conditions were previously not recommended to receive PCV13

Source: https://www.cdc.gov/pneumococcal/downloads/Vaccine-Timing-Adults-JobAid.pdf

Shingles Vaccination Schedule

50+, immunocompetent* or 19+, immunocompromised**
2 doses of Shingrix separated by 2-6 months

*If more than 6 months elapsed since first dose, administer the second dose as soon as possible. Do not restart the vaccine series.
** For persons who are or will be immunodeficient/immunosuppressed and who would benefit from completing the series in a shorter period, the second dose can be administered 1-2 months after the first.

Source: https://www.cdc.gov/shingles/hcp/vaccine-considerations/

Water Management, Waterborne Pathogens and their Control

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Legionella

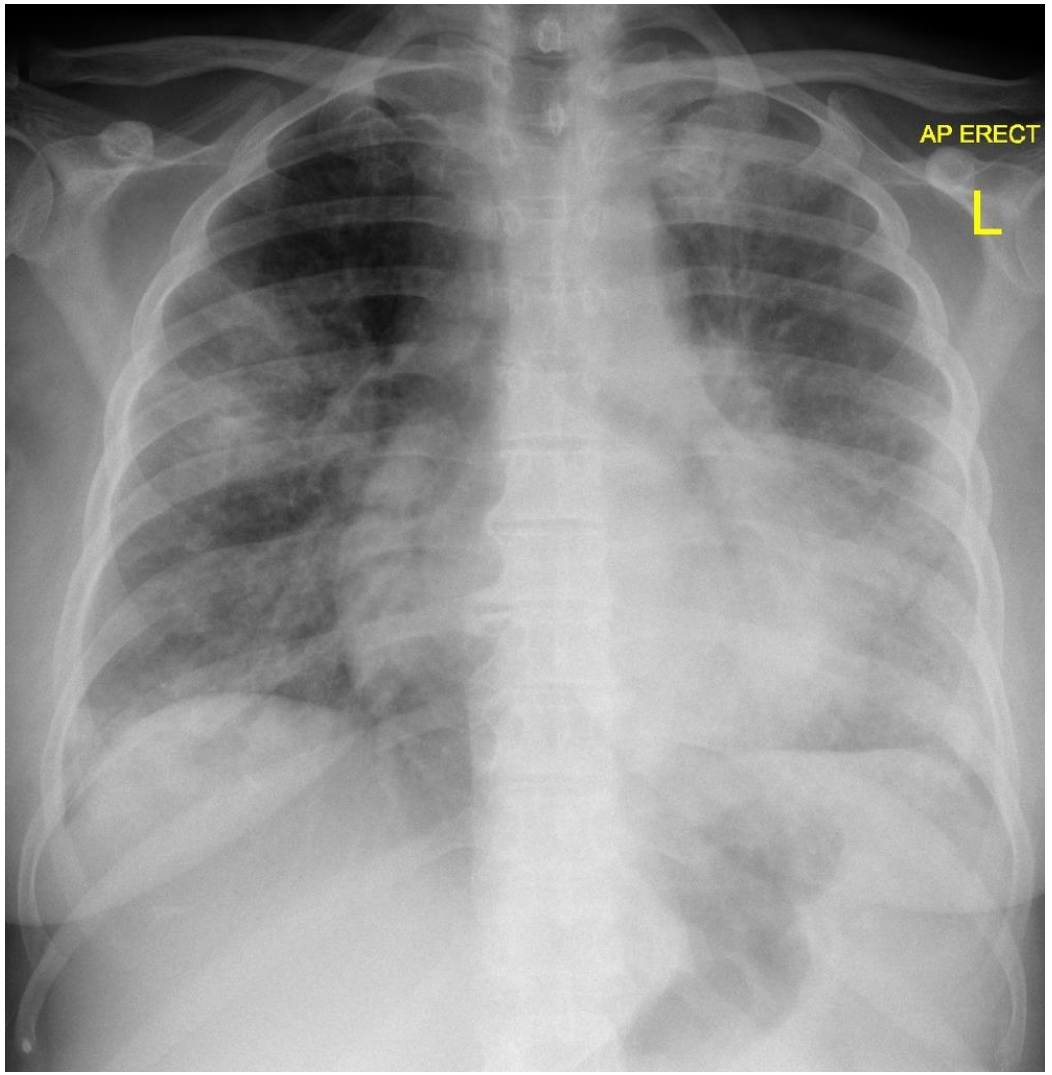
- *Legionella* is a genus of gram-negative bacilli bacteria that includes over 58 species and 70 serogroups
  - 25 species are human pathogens.
- They cause Legionnaires' disease and Pontiac fever.
- *Legionella pneumophila* causes 90% of cases.
  - *L. longbeachae*, *L. feeleii*, *L. micdadei*, and *L. anisa* account for most of the rest.
- In the wild, *Legionella* live in natural freshwater environments, infecting single-celled protozoa such as amoebae.

Legionella Transmission

- Person-to-person transmission of *Legionella* has never been *confirmed*.
- Rather, it spreads through contact with environmental reservoirs.
- *Legionella* is contracted by inhaling water droplets that contain the bacteria.
- In some cases, aspiration of contaminated water or ice can also cause disease.

Legionnaires' Disease

- Is a form of severe bacterial pneumonia
- Has an incubation period of 2-10 days (potentially up to 16)
- Legionnaires' disease is fatal in 10% of cases.
  - Mortality rate may be as high as 60-80% in some populations.
  - Appropriate and timely treatment, patient risk factors/susceptibility, and the characteristics of the *Legionella* pathogen impact outcomes



Legionnaires' Disease: Symptoms

- Early symptoms generally resemble influenza:
  - Fever, headache, malaise,
  - And cough, which progressively worsens

- Over the next few days, symptoms become more severe:
  - Cough, may become productive (50%). 33% of these will have blood-streaked phlegm/hemoptysis.
  - Shortness of breath, chest pain
  - Confusion
  - GI symptoms (e.g. nausea, vomiting, diarrhea) are also possible

- Death from Legionnaires' Disease occurs by progressive pneumonia with respiratory failure, shock and organ failure may also occur
  - Rare, but serious complications of the central nervous systems may occur

Epidemiology of Legionnaires' Disease

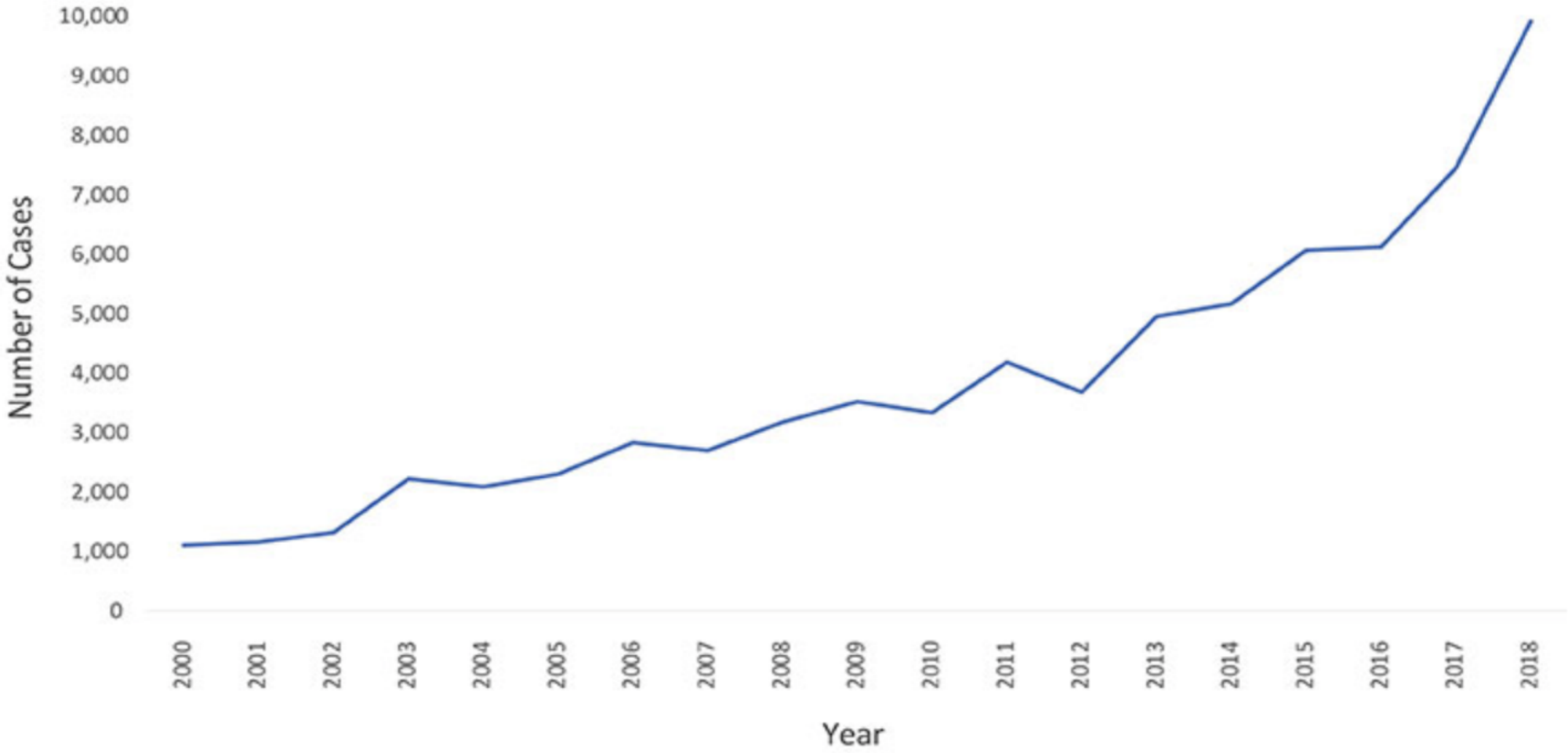
- In the US, Legionnaire's Disease is more common in Midwestern states, with more cases reported in late summer to early fall, when the weather is hot and humid.
- 75%-80% of cases occur in persons over the age of 50.
- The majority (60-70%) of cases effect males.
- In 2018, roughly 10,000 cases of Legionnaires' disease were reported in the US, although studies have suggested this may be an underestimation (by 1.8-2.7x).

Epidemiology Cont.

- Legionnaires' Disease infections increased 9-fold from 2000-2018.

- Risk factors
  - Immunocompromise
  - Recent surgery
  - Intubation and mechanical ventilation
  - Dysphagia/Aspiration risk
  - Nasogastric tubes
  - Respiratory diseases and therapy

Legionnaires' disease is on the rise in the United States 2000-2018



Pontiac Fever:

- Pontiac fever is an upper respiratory tract infection caused by *Legionella*.
- Symptoms generally resemble influenza:
  - Fever, chills, headache, muscle aches, loss of appetite, diarrhea (sometimes)
- Incubation period is short (24-72h days).
- No fatalities due Pontiac fever have been reported.
- Usually resolves without treatment in 2-5 days.

Legionnaires' Disease v. Pontiac Fever

	Legionnaires' disease	Pontiac fever
Symptoms which are unique to each	**Pneumonia** High fever* Productive cough* Chest Pain	Low-grade fever Dry cough
Incubation Period	2-10 days, rarely up to 16	24-72 hours
Attack Rate (rate at which exposed people become infected)	<5%	>90%
Mortality rate (general population)	10%	0%
Diagnosis	Pneumonia diagnosis, confirmed on CXR. **AND** ≥1 positive diagnostic test: Legionella urinary antigen test Sputum culture	Urine antigen or blood test. Usually only identified when other confirmed Legionellosis cases present.

*Note: the cough and fever in Legionnaires' disease may ***start*** mild/dry and low-grade, but worsen over time

Diagnosis of Legionellosis

- Legionnaires' Disease is a bacterial pneumonia.

- Diagnosis of pneumonia and confirmation via chest x-ray is usually the first step in to working up a suspected Legionnaires' disease case.
  - Pneumonia will **NOT** be present in Pontiac fever.

- If pneumonia is identified, diagnostic tests to identify *Legionella* bacteria are used.
  - Optimally more than 1 test should be performed, the most used include:
    - Legionella urinary antigen test
    - Sputum culture.

Elizabethkingia

- *Elizabethkingia* is a genus of gram-negative, bacilli bacteria, some species are emerging human pathogens in healthcare settings.
- *Elizabethkingia* are almost ubiquitous in soil, and freshwater rivers/lakes around the world.
- They rarely cause disease in humans, especially not healthy adults.
  - The very young, those over 65yrs, the immunocompromised, and those with multiple co-morbidities are at increased risk.
- Until recently *Elizabethkingia* was difficult to identify.
  - It possible that the number of *Elizabethkingia* infections are underestimated.
  - There have been improvements in identification and more cases and outbreaks in recent years, which may support this.

Elizabethkingia

- *Elizabethkingia* species are *waterborne*.
- *Elizabethkingia ssp*. usually possess extensive inherent antibiotic resistance.
- There are several species of *Elizabethkingia* which infect humans:
  - *E. meingoseptica* (1959)
  - *E. miricola* (2003)
  - *E. anophelis* (2011)
- They can cause a variety of infections: meningitis, septicemia, pneumonia, necrotizing fasciitis, osteomyelitis, endocarditis, urinary tract infections, and endophthalmitis have been reported.

Elizabethkingia Epidemiology

- Worldwide, 76% infections are reported in immuno**competent** neonates, usually meningitis.

- *Elizabethkingia ssp*. readily form reservoirs in the environments, including water systems and healthcare facilities.
- *Elizabethkingia* colonization of the human respiratory tract has also been documented.

- Risk factors for adults:
  - Hemodialysis therapy,
  - Trauma patients,
  - Prolonged hospital stays,
  - Central venous catheters and other indwelling devices,
  - Diabetes,
  - Immunocompromise,
  - Prolonged exposure to multiple broad-spectrum antibiotics.

Elizabethkingia Outbreaks

- In the US, about 5-10 cases of *Elizabethkingia ssp.* per state are reported each year.
- Several outbreaks are also reported annually in the US.
  - These outbreaks tend to be small, localized, and are usually in healthcare settings.
- However, there have also been several major outbreaks in recent years.

Prevention | Perspective | Practical Infection Prevention

nts infected wit

are outbreak of Elizabethkingia bacteria leading to deaths in the Midwestern United States

ALTH

8 Wisconsin deaths linked to loodstream infection

sse Garza Milwaukee Journal Sentinel
ished 10:00 p.m. CT March 1, 2016

iew Comments

te health officials are investigating the outbreak of a bacterial bloodstream ection in southern and southeastern Wisconsin that has been linked to 18 d ce Dec. 29.

e infection, called *Elizabethkingia*, has been detected in 44 people, the majo whom are over the age of 65, according to State Health Officer Karen McKe

View Comments

BREAKING NEWS

Suburban woman's death linked to Elizabethkingia outbreak

Apr 20, 2016 at 2:29 pm

(CNN) — The rarely seen bloodstream infection Elizabethkingiam, which has sickened dozens in Wisconsin since November, has been identified in a Michigan resident, the Michigan health department said.

The older adult with underlying health conditions died as a result of the infection, the Michigan Department of Health and Human Services said Thursday. It released no other details about the patient.

There have been 54 cases reported to the Wisconsin Department of

Calling it the largest outbreak of its kind and stressing the urgency of finding the source, the CDC has identified two more suspected cases of deadly blood infection and sent additional investigators to Wisconsin.

'This is very much a real outbreak,' said Michael Bell, deputy director of the Division of Healthcare Quality Promotion for the U.S. Centers for Disease Co

lth officials waited are infection

6:07 pm

CDPH
Chicago Department of Public Health

Major *Elizabethkingia* Outbreaks

- In late 2015, early 2016, a major outbreak *of E. anophelis* centered in Wisconsin sickened 63 and resulted in 20 fatalities in Wisconsin, Illinois, and Michigan.

- In spring of 2016, Illinois reported an outbreak of *E. anophelis* involving 10 cases, resulting in 6 fatalities.
  - The strain of *E. anophelis* involved in the Illinois outbreak was similar, but distinct from that which caused the Wisconsin outbreak.

- *Elizabethkingia* infections can cause significant mortality: 32-60% in these outbreaks.

Infection Prevention: Water-Borne Pathogens

- Both *Legionella* and *Elizabethkingia* spread through contaminated water.

- Other important Healthcare Associated Infections (HAIs) which can spread through water include:
  - *Pseudomonas aeruginosa* (CRPA/CP-CRPA when Carbapenem Resistant)
  - *Acinetobacter baumannii* (CRAB, when Carbapenem Resistant)
  - *Stenotrophomonas maltophilia*
  - Nontuberculous Mycobacteria (NTM)

- Ensuring that water is managed and used appropriately in healthcare settings is key to preventing waterborne infections.

Biofilms

- Both *Elizabethkingia ssp*. and *Legionella ssp*. form biofilms, especially within water systems or indwelling medical devices.
- A biofilm is an "*assemblage of bacterial cells enclosed in an extracellular matrix of polymeric molecules*."
- Biofilms serve to protect bacterial cells from disinfectants, antibiotics, heat, and mechanical stress that would otherwise kill or disperse them.
- As a result, biofilm formation can make bacteria very difficult to eradicate from water systems.

Sources of Exposure: Tap Water

Acceptable uses

- Drinking
- Hand washing
- Cooking
- Dish washing

Imperfect uses

- Filling nebulizers
- Flushing feeding tubes
- Rinsing medical devices (i.e. CPAP, nebulizers, ventilator circuits etc.)
- Tap water should **never** be injected

Sources of Exposure: Sinks

- Sinks can splash water droplets up to 3' (1m) away under some conditions.
  - Generally, deeper sinks are less likely to do this.
- Medications and fluids given by IV should not be prepared within 3' (1m) of a sink.
- Do **not** place or store care equipment on counters next to a sink.
  - In situations where limited counter space make this impossible, splash/spray barriers may be used.
- **Handwashing** sinks should not be used for disposal of any wastes.
  - Enteral nutrition, nutritional supplements, intravenous fluids, medications, dialysate, blood, and body fluids can provide nutrition to bacteria in sink drains.

Sinks & Showers

- Sinks should be cleaned and disinfected with an EPA approved product regularly.
- Showers are a potential source of exposure, especially for *Legionella*, since they can create aerosols
- When water sources are unused for a period of more than 1 week, bacteria may proliferate in the pipes supplying them.
  - Water sources such as sinks, showers, and other water outlets that are not being used regularly should be flushed for at least 5 minutes each week.
- In shower rooms, ensure that things are allowed to dry
  - Shower wands should be allowed to drain
  - Hang shower gurney pads
- Avoid reusable containers in shower rooms, as they may become reservoirs when stored. Disposable washbasins are preferred.

Dead Legs

- Dead Legs are sections of pipe which have no outlet.
- They create a section of pipe with little or no water flow.
  - Water temperature equalizes with the air.
  - Over time, disinfectant levels fall, creating ideal conditions for pathogen to proliferate.
- They are often the result of construction and re-modeling.
- If you are doing construction or remodeling, include the removal of any dead legs in your plans.

Additional Sources of Exposure

- Ice Machines/water dispensers
- Cooling towers
- Decorative water features (i.e. fountains, fish tanks, ponds)
- Dialysis boxes

Water Management

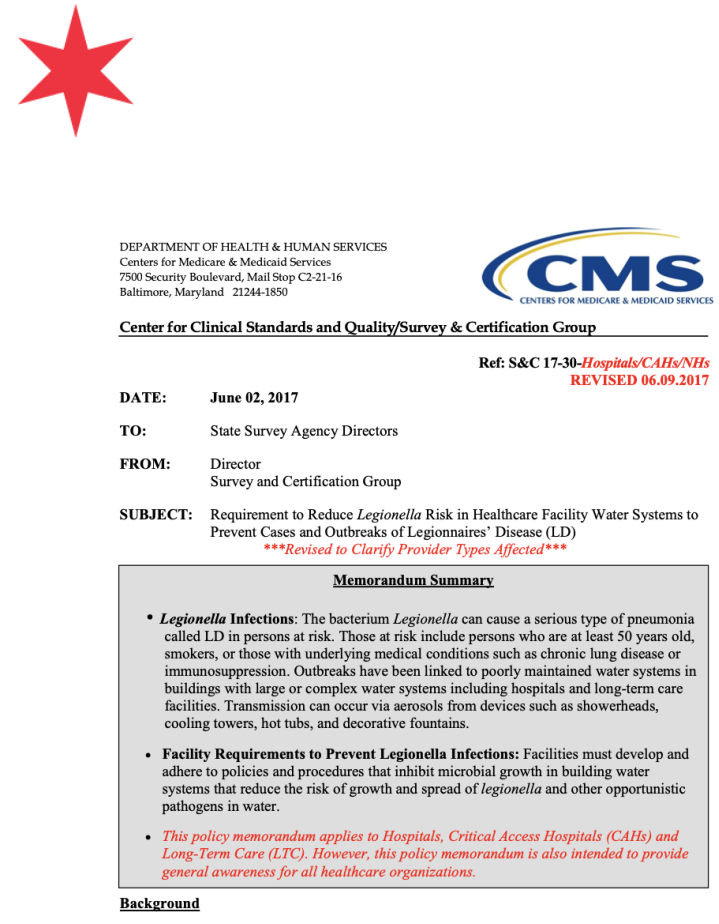
- A Water Management Plan (WMP) is executed by a Water Management Committee -- an interdisciplinary group of professionals who have expertise relevant to water management.
  - (i.e. Infection Prevention, Facilities Management/Maintenance, Environmental Services, etc.)

- The activities of the Committee include identifying when water is outside of set parameters (called Control Limits) outlined in the WMP and taking corrective action (called Control Measures).

- The Committee also reviews the WMP and assesses if the activities of the Water Management Committee are effective. They should revise the WMP according to their findings.

- The CDC has a toolkit for creating and running a WMP, which can be found here.

Water Management Program



DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Center for Clinical Standards and Quality/Survey & Certification Group

Ref: S&C 17-30-*Hospitals/CAHs/NHs*
REVISED 06.09.2017

DATE: **June 02, 2017**

TO: State Survey Agency Directors

FROM: Director
Survey and Certification Group

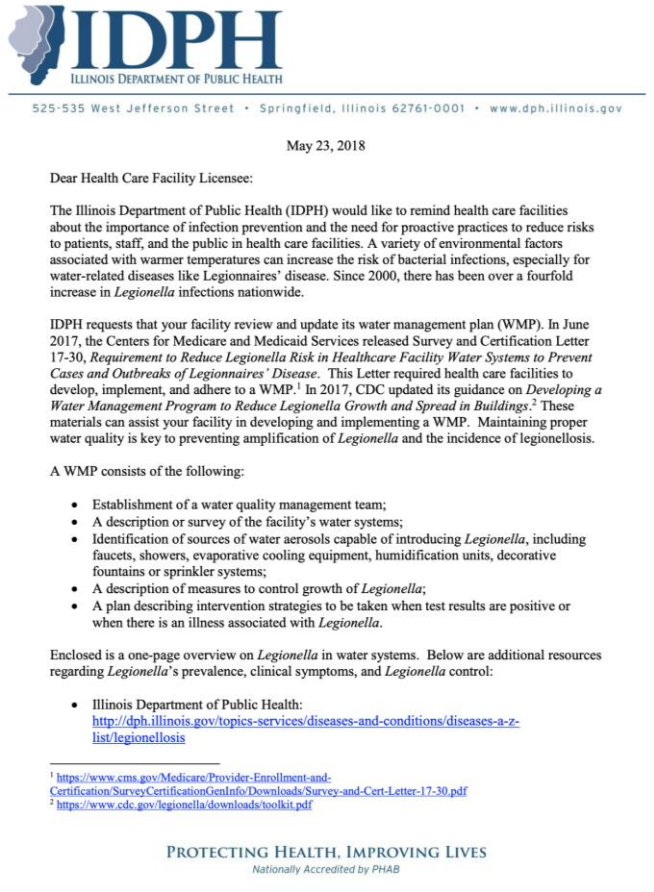
SUBJECT: Requirement to Reduce *Legionella* Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires' Disease (LD)
Revised to Clarify Provider Types Affected*

Memorandum Summary

- ***Legionella* Infections**: The bacterium *Legionella* can cause a serious type of pneumonia called LD in persons at risk. Those at risk include persons who are at least 50 years old, smokers, or those with underlying medical conditions such as chronic lung disease or immunosuppression. Outbreaks have been linked to poorly maintained water systems in buildings with large or complex water systems including hospitals and long-term care facilities. Transmission can occur via aerosols from devices such as showerheads, cooling towers, hot tubs, and decorative fountains.
- **Facility Requirements to Prevent Legionella Infections:** Facilities must develop and adhere to policies and procedures that inhibit microbial growth in building water systems that reduce the risk of growth and spread of *legionella* and other opportunistic pathogens in water.
- *This policy memorandum applies to Hospitals, Critical Access Hospitals (CAHs) and Long-Term Care (LTC). However, this policy memorandum is also intended to provide general awareness for all healthcare organizations.*

Background

LD, a severe sometimes fatal pneumonia, can occur in persons who inhale aerosolized droplets of water contaminated with the bacterium *Legionella*. In a recent review of LD outbreaks in the United States occurring in 2000–2014, 19% of outbreaks were associated with long-term care facilities and 15% with hospitals. The rate of reported cases of legionellosis, which comprises both LD and Pontiac fever (a milder, self-limited, influenza-like illness) has increased 286% in the US during 2000–2014, with approximately 5,000 cases reported to the Centers for Disease Control and Prevention (CDC) in 2014. Approximately 9% of reported legionellosis cases are fatal.



IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

525-535 West Jefferson Street • Springfield, Illinois 62761-0001 • www.dph.illinois.gov

May 23, 2018

Dear Health Care Facility Licensee:

The Illinois Department of Public Health (IDPH) would like to remind health care facilities about the importance of infection prevention and the need for proactive practices to reduce risks to patients, staff, and the public in health care facilities. A variety of environmental factors associated with warmer temperatures can increase the risk of bacterial infections, especially for water-related diseases like Legionnaires' disease. Since 2000, there has been over a fourfold increase in *Legionella* infections nationwide.

IDPH requests that your facility review and update its water management plan (WMP). In June 2017, the Centers for Medicare and Medicaid Services released Survey and Certification Letter 17-30, *Requirement to Reduce Legionella Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires' Disease*. This Letter required health care facilities to develop, implement, and adhere to a WMP.[1] In 2017, CDC updated its guidance on *Developing a Water Management Program to Reduce Legionella Growth and Spread in Buildings*.[2] These materials can assist your facility in developing and implementing a WMP. Maintaining proper water quality is key to preventing amplification of *Legionella* and the incidence of legionellosis.

A WMP consists of the following:

- Establishment of a water quality management team;
- A description or survey of the facility's water systems;
- Identification of sources of water aerosols capable of introducing *Legionella*, including faucets, showers, evaporative cooling equipment, humidification units, decorative fountains or sprinkler systems;
- A description of measures to control growth of *Legionella*;
- A plan describing intervention strategies to be taken when test results are positive or when there is an illness associated with *Legionella*.

Enclosed is a one-page overview on *Legionella* in water systems. Below are additional resources regarding *Legionella*'s prevalence, clinical symptoms, and *Legionella* control:

- Illinois Department of Public Health: http://dph.illinois.gov/topics-services/diseases-and-conditions/diseases-a-z-list/legionellosis

[1] https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-17-30.pdf
[2] https://www.cdc.gov/legionella/downloads/toolkit.pdf

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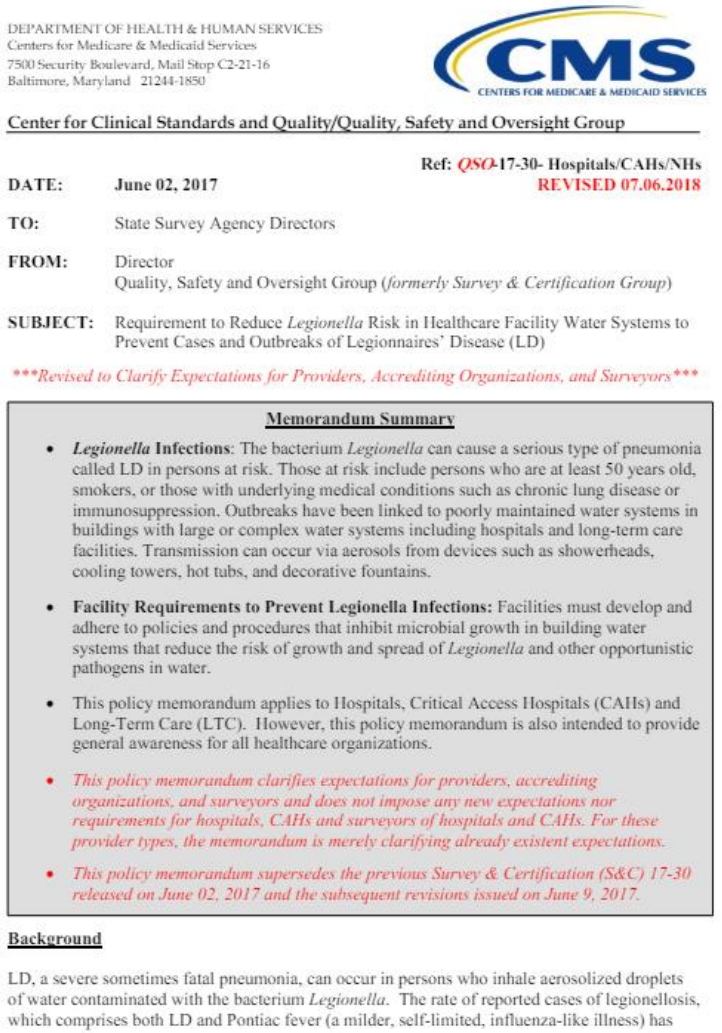
CMS Requirements

- CMS QSO-17-30-Hospitals/CAHs/NHs (revised 07/06/2018)

- ***"CMS expects Medicare and Medicare/Medicaid certified healthcare facilities to have water management policies and procedures to reduce the risk of growth and spread of Legionella and other opportunistic pathogens in building water systems."***

- CMS also states that Water Management Plans should be consistent with "ASHRAE Industry Standards"



DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Center for Clinical Standards and Quality/Quality, Safety and Oversight Group

Ref: *QSO*-17-30- Hospitals/CAHs/NHs
DATE: June 02, 2017 REVISED 07.06.2018

TO: State Survey Agency Directors

FROM: Director
Quality, Safety and Oversight Group (*formerly Survey & Certification Group*)

SUBJECT: Requirement to Reduce *Legionella* Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires' Disease (LD)

****Revised to Clarify Expectations for Providers, Accrediting Organizations, and Surveyors****

Memorandum Summary

- ***Legionella* Infections**: The bacterium *Legionella* can cause a serious type of pneumonia called LD in persons at risk. Those at risk include persons who are at least 50 years old, smokers, or those with underlying medical conditions such as chronic lung disease or immunosuppression. Outbreaks have been linked to poorly maintained water systems in buildings with large or complex water systems including hospitals and long-term care facilities. Transmission can occur via aerosols from devices such as showerheads, cooling towers, hot tubs, and decorative fountains.
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- This policy memorandum applies to Hospitals, Critical Access Hospitals (CAHs) and Long-Term Care (LTC). However, this policy memorandum is also intended to provide general awareness for all healthcare organizations.
- *This policy memorandum clarifies expectations for providers, accrediting organizations, and surveyors and does not impose any new expectations nor requirements for hospitals, CAHs and surveyors of hospitals and CAHs. For these provider types, the memorandum is merely clarifying already existent expectations.*
- *This policy memorandum supersedes the previous Survey & Certification (S&C) 17-30 released on June 02, 2017 and the subsequent revisions issued on June 9, 2017.*

Background

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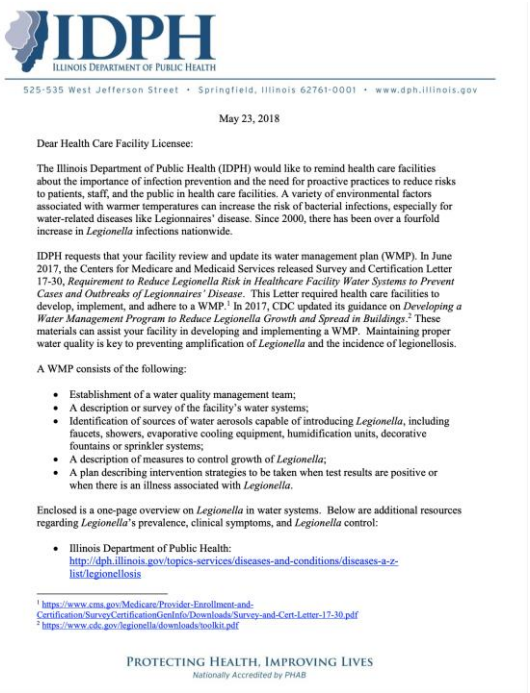
Regulatory Compliance

77 Ill. Admin. Code:

- §300.700
- § 330.792
- § 340.1337



IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

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The Illinois Register further requires an Infection Prevention and Control Program, with a Water Management Plan which should include:

- A risk assessment of the threat posed by waterborne pathogens in the building
- A policy, which lays out specific testing protocols, and acceptable ranges for control limits
- What actions/control measures would be taken if control limits are outside of acceptable ranges
- And a system to document the results of testing and any corrective action taken

Control Limits

- Control Limits define the acceptable ranges for water parameters, and often include:
  - **Water temperature**
    - Hot water: should be maintained ≥124°F
      - Remember: to prevent scalding hot water at the tap should be <110°F
    - Cold Water: ≤68°F
  - **Disinfectant levels**
    - If a facility adds additional disinfectant, like Chlorine, these levels should be monitoring
  - **Pathogen levels**
    - Routine testing for legionella and other waterborne pathogens
  - Other potential control limits may include pH, water flow rate, or water hardness

Monitoring Control Limits

- Control Limits are chosen to ensure that conditions in a water system aren't conducive to microbial growth

- For a WMP to be effective, water should be *monitored* to ensure it is within Control Limits, this may include:
  - Monitoring water temperatures
  - Testing water to determine disinfectant levels
  - Routine *Legionella* testing
  - pH testing etc.

Control Measures

- Control Measures are taken to restore water to within Control Limits if an excursion is identified.
  - Control Measures are implemented at a Control Point, a part of a water system that allows one to alter water parameters.

- Examples of Control Measures include adjusting water temperature and adding disinfectant.

- However, water restrictions, water quality testing, water cultures, PCR testing, etc. are also options.

WMPs and Response

- A WMP provides the framework to respond to various problems with a facility's water system.
  - As a result, to be effective a WMP must be based on the specific water system, threats/risks, history, and challenges of the facility implementing it.

- Assessing and updating a WMP is also key to ensuring that it's effective.
  - For instance, after responding to a *Legionella* case a facility should examine what went well and what didn't and revise the WMP accordingly.

In Summary

Rates of *Legionella* and *Elizabethkingia* infections are increasing.

Both organisms are excellent at colonizing healthcare settings, particularly water systems.

Keep in mind that water is potential source of infection.

Measures can be taken to reduce and control these sources.

A WMP isn't just a document, but an on-going program and set of activities

Thank you!

CDPH
Chicago Department of Public Health

Questions & Answers

For additional resources and upcoming events, please visit the CDPH LTCF HAN page at:
https://www.chicagohan.org/covid-19/LTCF