

Epi Update for Friday, March 22, 2024

CENTER FOR ACUTE DISEASE EPIDEMIOLOGY (CADE)

Iowa Department of Health and Human Services

Items for this week's Epi Update include

- Biofilm pathogens such as *Legionella* a major cause of US waterborne outbreaks
- Morel mushroom food safety
- Infographic: Think measles
- Meeting announcements and training opportunities

Biofilm pathogens such as *Legionella* a major cause of US waterborne outbreaks

A recently published MMWR article summarizes data from 214 waterborne outbreaks associated with public or private potable water systems (safe for drinking, but also used for other purposes such as showers) from 2015 - 2020. Of the outbreaks associated with potable water, 87% were attributed to biofilm pathogens vs. only 11% attributed to enteric pathogens. *Legionella* accounted for 98% of biofilm-related outbreaks, and three pathogens (norovirus, *Shigella*, and *Campylobacter*) were associated with 94% of enteric pathogen outbreaks. While enteric pathogens accounted for over 60% of illnesses from all potable water outbreaks, *Legionella* was implicated in 97% of hospitalizations and 98% of deaths.

Legionella-associated outbreaks generally increased nationally from 2007 through 2020. A number of contributing factors were identified in biofilm-related outbreaks ranging from inadequate temperatures and disinfectant levels to interruptions in water flow for reasons such as construction, repair, and infrequent use. The increase in illnesses, the frequency of hospitalizations and deaths, and the complexity of contributing factors implicated in *Legionella*-associated outbreaks highlight the need for surveillance and prevention efforts from public health, regulators, and utility partners.

It should be noted that the act of drinking water is not a common cause of legionellosis, but improper storage and treatment of water followed by inhaling aerosolized water is a risk factor.

To view the full MMWR, visit

www.cdc.gov/mmwr/volumes/73/ss/ss7301a1.htm?s_cid=ss7301a1_w.

Morel mushroom food safety

A recent CDC MMWR highlights that although morel mushrooms are generally considered edible, rare cases of illness have been reported after consumption. In spring 2023, 51 individuals reported gastrointestinal illness associated with eating morel mushrooms at a restaurant in Bozeman, Montana. The outbreak resulted in multiple severe outcomes, including three hospitalizations and two deaths. Consumption of raw morel mushrooms was more strongly associated with illness than consumption of morels that were at least partially cooked.

Although the toxins in morel mushrooms that might cause illness are not fully understood, proper preparation procedures, including thorough cooking, might help to reduce toxin levels and limit adverse health effects. Morels should be refrigerated at a temperature of $\leq 40^{\circ}\text{F}$ in breathable type packaging, such as a paper bag. Morels should be cooked thoroughly before consumption.

To view the full MMWR, visit www.cdc.gov/mmwr/volumes/73/wr/mm7310a1.htm?s_cid=mm7310a1_w.

Infographic: Think measles

Think Measles

Consider measles in any patient presenting with a febrile rash illness, especially if **unvaccinated for measles** or **traveled internationally in the last 21 days**.

1 Measles Symptoms

- High Fever
- Cough
- Coryza (runny nose)
- Conjunctivitis (red, watery eyes)
- Maculopapular Rash
 - Typically appears 2-4 days after symptoms begin.
 - Begins at hairline, spreads downward, to face, neck, and trunk.
 - Rash appears red on light complexions, but may be harder to see or appear as purple or darker than surrounding skin on dark complexions.

2 Pre-Visit Telephone Triage

- For those reporting measles symptoms, assess the risk of exposure:
 - Are measles cases present in your community?
 - Did the patient spend time out of the country in the 21 days before symptom onset?
 - Has the patient ever received the MMR vaccine?
- Triage should only be completed by a clinically trained person.
- If patient will be seen in the office, provide instructions on face masks for patient (2 years of age and older) and family.
- Instruct to arrive to a side or back entrance instead of the main entrance.

3 Patients Presenting with Suspected Measles

- Provide face masks to patients (2 years of age and older) and family before they enter the facility. Patients unable to wear a mask should be "tentted" with a blanket or towel when entering the facility.
- Immediately move patient and family to an isolated location, ideally an airborne infection isolation room (AIIR) if available. If unavailable, use a private room with the door closed.
- No other children should accompany a child with suspected measles.
- Patients (2 years of age and older) and family should leave face masks on if feasible.

4 Infection Prevention Precautions

Only health care providers with immunity to measles should provide care to the patient and family. Standard and airborne precautions should be followed, including:

- Use of a fit tested NIOSH-approved N95 or higher-level respirator.
- Use of additional PPE if needed for task (e.g., gloves for blood draws).
- Cleaning hands before and after seeing the patient.
- Limiting transport or movement of patients outside of room unless medically necessary.

5 Public Health Notification

- To ensure rapid investigation and testing with contact tracing, notification should occur immediately upon suspicion of measles. Public health departments will be able to help confirm vaccination history for U.S. residents, provide guidance on specimen collection and submission, and manage contacts of confirmed cases.
- Acute care facilities should immediately notify the hospital epidemiologist or infection prevention department.
- Outpatient settings should immediately notify local or state health departments.

6 Clinical Care

- People with confirmed measles should isolate for four days after they develop a rash.
- If an AIIR was not used, the room should remain vacant for the appropriate time (up to 2 hours) after the patient leaves the room
- Standard cleaning and disinfection procedures are adequate for measles virus environmental control.



Maculopapular Rash
Source: [CDC PHIL](#)



Project Firstline is a national collaborative led by the U.S. Centers for Disease Control and Prevention (CDC) to provide infection control training and education to frontline healthcare workers and public health personnel. American Academy of Pediatrics is proud to partner with Project Firstline, as supported through Cooperative Agreement CDC-RFA-OT18-1802. CDC is an agency within the Department of Health and Human Services (HHS). The contents of this flyer do not necessarily represent the policies of CDC or HHS and should not be considered an endorsement by the Federal Government.

Resources:
[Measles Red Book Online Outbreaks Page](#)
[CDC Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings](#)

To view in full size, visit downloads.aap.org/AAP/PDF/ThinkMeasles-final.pdf.

Meeting announcements and training opportunities

Join Iowa HHS and ECRI for a webinar, *Clinical Microbiology 101 for Frontline Health Care Workers*, on April 10 at 12 noon. Preventing infections and stopping the spread of germs are essential roles for health care providers. Antimicrobial resistance is a growing problem because some germs have developed the ability to defeat the drugs designed to kill them. Understanding microbiology culture and sensitivity reports and how germs are spread are keys to preventing health care-associated infections. At the conclusion of this webinar, the participants should be better able to: identify gram-positive and gram-negative bacteria, explain Kirby-Bauer sensitivity testing, discuss drug resistance and emerging pathogens, recognize the key elements of infection transmission, and discuss how infection can lead to sepsis. Continuing education credits are available. To register, visit

ecri.zoom.us/webinar/register/WN_ipPQDLdIRRqCaWh225WL4w#.

Have a healthy and happy week!

Center for Acute Disease Epidemiology

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