

Updated Health Advisory — Increase in Extensively Drug-Resistant (XDR) Shigellosis in the United States, March 9, 2023

Action Requested

- Be aware that the Centers for Disease Control and Prevention (CDC) has been monitoring an [increase in extensively drug-resistant \(XDR\) *Shigella* infections \(shigellosis\)](#) reported through [national surveillance systems](#).
- Consider *Shigella* infection in patients with acute diarrhea, especially among people at higher risk for *Shigella* infection, including:
 - People experiencing homelessness or unstable housing;
 - International travelers;
 - Immunocompromised persons;
 - Persons living with HIV;
 - Men who have sex with men (MSM);
 - Young children.
- Order stool culture and antimicrobial susceptibility testing (AST) for patients suspected of having *Shigella*. Culture-independent diagnostic testing on its own (e.g., PCR) cannot be used to assess susceptibility.
 - When ciprofloxacin minimum inhibitory concentrations (MICs) are in the [0.12–1.0 µg/mL range](#) even if the laboratory report identifies the isolate as susceptible, be aware there may be one or more resistance mechanisms and it is unclear whether fluoroquinolone treatment in this range is associated with worse clinical outcomes; consultation with a specialist is advised if no alternative antibiotic options are available.
- Healthcare providers should consult with a specialist knowledgeable in the treatment of antibiotic-resistant bacteria to determine the best treatment option if there are concerns for XDR *Shigella* infections or in cases of treatment failure without AST results.
 - CDC does not have recommendations for optimal antimicrobial treatment because there are no data from clinical studies of treatment of XDR *Shigella* infections.
- Although antibiotic therapy is not routinely recommended for mild infections, it should be prescribed for patients with more severe illnesses, patients who are immunocompromised, patients in settings where there is elevated concern about transmission to others (e.g., in congregate living situations) and in outbreak settings (consult with Public Health).
- Gather information about risk factors (exposure period is typically 1–7 days before symptom onset) including travel history, housing situation, sexual history and potential exposed contacts.
 - Please document if the patient is experiencing homelessness and if so, where they stay at night and where they receive water and food (shelters, food banks, temporary housing programs, street/encampments, etc.).
- Counsel patients with suspected or confirmed shigellosis on how they can prevent spreading the infection to others:
 - Wash hands with soap and water for at least 20 seconds, especially after using the toilet, after handling a soiled diaper, and before eating or preparing food;
 - Avoid preparing food for others while symptomatic;

- Wait to have sex (anal, oral, penile, or vaginal) for at least 1 week (2 weeks preferred) after diarrhea resolved because *Shigella* may still be in stool for several weeks;
- People with *Shigella* should be excluded from food handling, childcare settings and patient care until follow-up is completed by Public Health;
- Children with active diarrhea should not attend childcare, school, or group activities while ill;
- Stay out of recreational water settings such as swimming pools, hot tubs, lakes, and rivers until you have fully recovered.
- Consider adding azithromycin to AST for *Shigella* specimens using [recently established clinical breakpoints](#) for azithromycin for *Shigella*.
- Ensure laboratories send all specimens to the Washington State Public Health Lab in Shoreline for confirmatory testing; best specimens include isolates and stool/swab in transport medium. [Use the Microbiology Requisition Form](#).
- Report suspected or confirmed cases of shigellosis to Public Health at (206) 296-4774.

Background

The Centers for Disease Control and Prevention (CDC) [National Antimicrobial Resistance Monitoring System \(NARMS\)](#) has been monitoring an increase of extensively drug-resistant (XDR) *Shigella* infections (shigellosis) in the United States. In 2022, about 5% of *Shigella* infections reported to CDC were caused by XDR strains compared to with 0% in 2015.

The CDC defines XDR *Shigella* bacteria as strains that are resistant to all commonly recommended empiric and alternative antibiotics –azithromycin, ciprofloxacin, ceftriaxone, trimethoprim-sulfamethoxazole (TMP-SMX), and ampicillin. Because there are no data from clinical studies of treatment of XDR *Shigella* infections, CDC does not have recommendations for optimal antimicrobial treatment. Healthcare providers should consult with a specialist knowledgeable in the treatment of antibiotic-resistant bacteria to determine the best treatment option if there are concerns for XDR *Shigella* infections or in cases of treatment failure without AST results.

In 2020, Public Health – Seattle & King County (Public Health) identified one XDR *Shigella* infection in a King County resident who became infected during international travel through sexual exposure.

Currently, Public Health has seen a marked increase in reported *Shigella* infections among King County residents, investigating a total of 156 reported cases since November 2022. Fifty-seven (37%) have been hospitalized. No deaths have been reported. Lab testing has identified *S. sonnei* in most of these cases. Public Health documented an increase in *Shigella* cases (primarily *flexneri* and *sonnei*) during the previous two winters. No XDR *Shigella* infections have been identified since the one case in 2020. However, many laboratories currently don't do *Shigella* antimicrobial sensitivity testing (AST) for azithromycin, a common first-choice antibiotic treatment. Laboratories should consider adding azithromycin to their AST for *Shigella* specimens using [recently established clinical breakpoints](#) for azithromycin for *Shigella*.

Interview data suggests many cases appear locally acquired among both patients experiencing homelessness and stably housed, with only 22 (14%) reporting international travel prior to becoming ill. Patients experiencing homelessness or unstably housed report staying at various shelters, on the street and tents around the Seattle area. Patients also

report a variety of food sources including but not limited to food banks, day centers, other service sites, and food from the street. Public Health has also investigated a [recent shigellosis outbreak associated with a Seattle restaurant](#).

Shigella is easily spread person-to-person through the fecal-oral route and through sexual contact, especially in situations with limited access to hygiene facilities. Persons at higher risk of *Shigella* infection include men who have sex with men, people whose immune systems are weakened due to illness such as HIV or medical treatment such as chemotherapy, young children, and travelers to countries with poor sanitation. People with weakened immune systems are also more likely to develop serious illness, including bacteremia.

Resources

- Public Health Shigellosis factsheet: <https://kingcounty.gov/depts/health/communicable-diseases/disease-control/shigellosis.aspx>
- CDC Shigellosis FAQ: <https://www.cdc.gov/shigella/>
- CDC Health Advisory regarding [increase in extensively drug-resistant shigellosis in the United States](#)
- CDC Health Advisory regarding [management of *Shigella* cases with possible reduced susceptibility to ciprofloxacin](#)
- CDC: [Clinical & Laboratory Standards Institute announces clinical breakpoints for azithromycin for *Shigella*](#)
- WA PHL Lab Requisition Form: [Microbiology Lab Requisition Form](#)