Riverside University HEALTH SYSTEM Public Health

Disease Control Branch
Tel. (951) 358-5107
Fax. (951) 358-5102
Kim Saruwatari, M.P.H., Director
Geoffrey Leung, M.D. Public Health Officer

PUBLIC HEALTH ADVISORY
INCREASED EXTENSIVELY DRUG RESISTANT (XDR) SHIGELLOSIS IN THE UNITED STATES
JANUARY 2024

Riverside University Health System - Public Health (RUHS - PH) provides this guidance based on current information. Updated guidance will be issued as new information becomes available.

SITUATION UPDATE

During 2020-2023, there have been a total of fifteen (15) reported cases of extensively drug-resistant (XDR) *Shigella* infections (shigellosis) in Riverside County. All 15 cases occurred in men aged between 23-68 years and 93% (n=14) were residents of the Coachella Valley area. **Consider *Shigella* infection when diagnosing patients who present with cramps and/or bloody diarrhea, especially among men who have sex with men (MSM) living in the Coachella Valley area.**

Shigella is spread via the fecal-oral route through contaminated food or drink, water, fomites, or direct contact including intimate contact. 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.

BACKGROUND

Shigella bacteria are transmitted by the fecal-oral route, directly through person-to-person contact including sexual contact, and indirectly through contaminated food, water, and other routes. *Shigella* bacteria are easily transmitted because of the low infectious dose (as few as 10–100 organisms), and outbreaks tend to occur among people in close-contact settings.

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.

In 2022, about 5% of *Shigella* infections reported to CDC were caused by XDR strains, compared with 0% in 2015. Clinicians treating patients infected with XDR strains have limited antimicrobial treatment options.

Shigella bacteria are easily transmissible. XDR Shigella strains can spread antimicrobial resistance genes to other enteric bacteria. Given these potentially serious public health concerns, CDC asks healthcare professionals to be vigilant about suspecting and reporting cases of XDR Shigella infection to their local health department and educating patients and communities at increased risk about prevention and transmission. The CDC HAN is located at: https://emergency.cdc.gov/han/2023/han00486.asp

There has been an observed increase in antimicrobial resistant *Shigella* infections among adult populations especially:

- Gay, bisexual, and other men who have sex with men (MSM)
- People experiencing homelessness,
- International travelers,
- People living with HIV.

Most people with diarrheal illness require only supportive care and fluid replacement. Antimicrobial agents are not always needed for mild shigellosis, but they may be indicated to:

- Shorten the duration of illness (by about 2 days), or
- Reduce the likelihood of transmission, for example,
  - during outbreaks,
  - in institutional settings,
  - from food handlers,
  - to immunocompromised persons or those being treated with immunosuppressive drugs, and
  - to people living with HIV.

RECOMMENDATIONS FOR HEALTHCARE PROFESSIONALS

Consider shigellosis in the differential diagnosis of acute diarrhea, especially for patients at higher risk for *Shigella* infection including:

- Young children
- MSM
- People experiencing homelessness
- International travelers
- Immunocompromised persons
- People living with HIV

IF SHIGELLOSIS IS SUSPECTED

- Ask the patient about relevant exposures and social history, including sexual activity, housing status, and international travel.
- When ordering diagnostic testing for *Shigella*, stool culture is preferred for patients who will require antimicrobial treatment.
- Take a sexual history; test for other sexually transmitted diseases, including HIV, if indicated.

LABORATORY RECOMMENDATIONS

- If a culture-independent diagnostic test (CIDT) is performed instead of culture and Shigella bacteria are detected, request on sample submission that the clinical laboratory perform reflex culture.
- If a culture is positive for *Shigella*, order antimicrobial susceptibility testing (AST) to inform antimicrobial selection. 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.
- All *Shigella* isolates or stool samples positive for *Shigella* by CIDT are required to be submitted to the local Public Health Laboratory per Title 17 as soon as possible. The isolate or specimen submission must include the patient's name, address, date of birth, identification number, specimen number or other unique identifier, specimen collection date, the name, address, and telephone of the health care provider. It must also include the name of the submitting laboratory, address, telephone number and the name of the laboratory director. Once identified, *Shigella* isolates are sent to the Microbial Diseases Laboratory of the California Department of Public Health (CDPH), for additional testing, including Whole Genome Sequencing (WGS).
- Hospitals performing antimicrobial susceptibility testing (AST) must ensure that the correct Minimum Inhibitory Concentration (MIC) assay is used and that it includes the following five antibiotics: azithromycin, ciprofloxacin, ceftriaxone, trimethoprim-sulfamethoxazole (TMP-SMX), and ampicillin.

For questions regarding specimen submission, please contact the RUHS-Public Health Laboratory at (951) 358-5070.

Clinical laboratories and healthcare providers are required to report all *Shigella* infections within one working day of identification. Reports should be faxed to (951) 358-5446 or submitted via CalREDIE for participating healthcare facilities.

RESOURCES:

CDPH Shigellosis Among Gay, Bisexual, and Other Men Who Have Sex with Men:
https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/ShigellosisMSM.aspx

CDC Shigellosis - Gay, Bisexual, and Other Men Who Have Sex with Men (MSM):
https://www.cdc.gov/shigella/msm.html

CDC Shigellosis - Healthcare Providers:
https://www.cdc.gov/shigella/audience-medical-professionals.html