

**Communicable Disease Epidemiology  
and Immunization Section**

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**Health Advisory: Extensively Drug-Resistant *Salmonella* Typhi (XDR Typhi) Infections  
Among US Residents, 5 March 2021**

**Action Requested:**

- Consider Extensively Drug-Resistant *Salmonella* Typhi infections among patients with and without recent travel outside of the U.S.
- Consider empiric treatment with a carbapenem, azithromycin, or both agents for suspected typhoid fever in patients who have not recently traveled outside of the U. S. and in those who have recently traveled to Pakistan or Iraq.
- Ceftriaxone remains an appropriate empiric treatment option for patients who traveled to countries other than Pakistan and Iraq.
- Adjust antibiotic treatment based upon results of susceptibility testing.
- Ensure clinical laboratories send all specimens to the WA State Public Health Lab for confirmatory testing: best specimens include pure isolates or stool/swab in transport medium.
- Report all suspected or confirmed cases of *Salmonella* Typhi infection to Public Health – Seattle & King County at (206) 296-4774.

**Background:** CDC has identified XDR Typhi among U.S. residents without history of travel outside the U.S. As of January 14, 2021, CDC has received 71 reports of XDR Typhi since February 2018. Of the 71 patients, 9 had no reported international travel, suggesting the infection was locally acquired. These 9 cases were all identified between November 2019 and October 2020.

In 2016 Pakistan reported an outbreak of XDR Typhi with strains resistant to antibiotics generally recommended to treat Typhoid Fever, including ampicillin, ceftriaxone, chloramphenicol, cipro, & trimethoprim-sulfamethoxazole. An unrelated cluster of XDR Typhi has also been detected in Iraq. These XDR strains were first seen in the U.S. among cases who traveled to Pakistan & Iraq in 2018. Prior to 2018, no case of ceftriaxone-resistant *Salmonella* Typhi had been reported in the U.S.

Typhoid fever is a systemic illness caused by *Salmonella enterica* serotype Typhi (Typhi). Individuals typically present with a sustained fever which may reach as high as 103–104°F (39–40°C). In addition, they may have weakness, headache, abdominal pain, diarrhea or constipation, loss of appetite, and a rash with flat, rose colored spots.

There has been only one King County case of XDR Typhi in 2018 after international travel. Over the past 5 years King County received 7-17 reports of Typhoid Fever per year; 97% of these cases have a history of international travel.

**Resources:**

CDC Health Advisory regarding XDR Typhi among U.S. residents without international travel:  
<https://emergency.cdc.gov/han/2021/han00439.asp>

Public Health Typhoid Website: <https://www.kingcounty.gov/depts/health/communicable-diseases/disease-control/typhoid.aspx>

CDC Typhoid FAQ: <https://www.cdc.gov/typhoid-fever/>