



FAX about...



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Ongoing Outbreak of XDR Salmonella Typhi in Pakistan

An **outbreak** of the extensively drug-resistant salmonella enterica serotype Typhi (**XDR S. Typhi**) in **Pakistan** has been **ongoing** since **February 2018**. The majority of the cases reported from Karachi and Hyderabad. As of May 6, 2019, **9 cases** were reported in **returning travellers** to **Ontario**, the majority residing in Toronto or Peel Region. Of the **5 cases** of S. Typhi investigated since February 2018 in Durham Region, one is a contact of someone who travelled to the affected area and two others travelled to the affected areas. These have not currently been identified as XDR S. Typhi. The other two travelled to India.

Symptoms of **typhoid fever** include **fever, weakness, abdominal pain, headache, diarrhea or constipation, cough, rash with flat rose-coloured spots** and **loss of appetite**. More **serious cases** may experience **bacteremia with sepsis, gastrointestinal complications** and **neurological complications**.

XDR S. Typhi is resistant to multiple antibiotics, including chloramphenicol, ampicillin, trimethoprim-sulfamethoxazole, fluoroquinolones, and third-generation cephalosporins. The strain associated with the outbreak is **susceptible to only azithromycin and carbapenems**.

Recommendations for Health Care Providers:

- 1) **Inquire about travel to Pakistan and other areas in South Asia** in patients with symptoms compatible with typhoid fever. Note that patients who have received the typhoid fever vaccine may still become ill, as the vaccine is **50-80%** effective.
- 2) **Lab testing:**
 - a) Blood cultures and stool samples should be collected for bacterial culture and submitted to local laboratory for routine testing. Please include travel history on the requisition.
 - b) In addition to routine susceptibility testing, all S. Typhi isolates from Pakistan should be tested for **carbapenem and azithromycin susceptibility**.
 - c) **All isolates of S. Typhi should be forwarded to PHO laboratory for confirmation.** Please include travel history and indicate if the isolate is XDR on the requisition. PHO will perform identification and full susceptibility testing including azithromycin and carbapenems.

- 3) Patients with **suspected typhoid fever and a travel history to Pakistan** should be **empirically treated with azithromycin or carbapenems** based on clinical presentation pending full antimicrobial susceptibility testing results. **Do not use fluoroquinolones or ceftriaxone empirically for these patients.** Consult infectious disease specialists for patients with severe typhoid fever.
- 4) All suspect and confirmed cases of typhoid fever must be reported to the local public health unit as soon as possible.
- 5) **Prevention:**
 - a) Advise patients who are planning to travel abroad to obtain a **travel medicine consultation** as early as possible before their trip, including an assessment of the need for typhoid vaccine.
 - b) Counsel patients on following **safe food and water practices and proper hand hygiene.**
 - c) **Patients who are visiting friends and relatives are at higher risk** compared to business travellers and tourists and should be counselled accordingly.

Health care providers are requested to **report all confirmed cases** to the Durham Region Health Department, Health Protection Division at **1-888-777-9613**.

Health care provider resources now available to order online durham.ca/HCP.

Durham Region Health Department: 905-723-3818, 1-888-777-9613

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If you prefer to receive this information in an electronic format please submit your request to healthresources@durham.ca

If you require this information in an accessible format, contact 1-888-777-9613.