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Typhoid Fever in Canadian Travellers and Migrants: Surveillance Report from CanTravNet, April 2015 — March 2018

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Background: Enteric fever is a common cause of fever in travellers returning from the Indian sub-continent. We examined the demographic and travel characteristics of Canadian travellers and migrants returning with typhoid fever due to *Salmonella enterica* subsp. *enterica* serovar Typhi (*Salmonella* ser. Typhi) over a 3-year period, and assessed the antimicrobial susceptibility of this organism in our travelling population.

Methods: Data on all returned Canadian travellers and migrants presenting to a Canadian GeoSentinel Surveillance network (CanTravNet) site between April 2015 and March 2018 who were diagnosed with typhoid fever due to *Salmonella* ser. Typhi were analyzed.

Results: Of 7663 travellers in the CanTravNet database over the reporting period, 50 (0.7%) were diagnosed with typhoid fever due to *Salmonella* ser. Typhi. Median age of the returned travellers and migrants with typhoid fever was 28 years (range 1 - 64 years; IQR 7 - 41.25 years), with males accounting for 40% of cases (n=20), and females 60% (n=30). Two percent (n=1) travelled for migration and 72% (n=36) for visiting friends and relatives (VFR), with tourists and business travellers accounting for 14% (n=7) and 6% (n=3) of cases, respectively. Eighty percent (n=40) of cases were acquired in the Indian sub-continent, with the most well-represented South Asian source countries being India (n=27, 54%), Pakistan (n=7, 14%), Bangladesh (n=4, 8%), and Sri Lanka (n=2, 4%). Other source regions included Central America (n=5, 10%), South America (n=2, 4%), Africa (n=2, 4%), and Southeast Asia (n=1, 2%). In total, 12 different source countries were represented. Amongst *Salmonella* ser. Typhi cultured from blood or bone marrow, resistance or intermediate susceptibility was reported in: 1/27 (4%) isolates to third generation cephalosporins, 0/11 (0%) isolates to carbapenems, 4/25 (16%) isolates to trimethoprim-sulfamethoxazole, 22/23 (96%) isolates to fluoroquinolones, and 0/5 (0%) isolates to macrolides.

Conclusions: Over the reporting period, typhoid fever, a vaccine preventable infection, was imported to Canada predominantly by VFR travellers to the Indian sub-continent. Our data support the high rates of fluoroquinolone resistance among isolates of *Salmonella* ser. Typhi from the Indian sub-continent, with little to no observed resistance to macrolides, carbapenems, or third generation cephalosporins.