LETTERS

Response to "Selection bias"

We thank Dr. Jansz[1] for his interest in our surveillance report.[2]

We recognize that understanding the intricacies of the CanTravNet data would be difficult without first-hand experience of our network and its patient population. CanTravNet is a consortium of post-travel (not pretravel) tropical medicine clinics situated across Canada, and patients enter our system after referral, mostly via emergency departments or primary care. Dr. Jansz is correct in stating that the ill travellers we capture in our network are those who are sick enough, or concerned enough, to seek a medical opinion. Thus, as stated in the limitations section of our analysis,[2] our network necessarily underestimates asymptomatic and very mild infections, and we do not attempt to compare our rates with those in endemic areas.

Our cohort consisted of 1118 returned travellers who were referred to our sites over the one-year period after recognition of widespread transmission of Zika virus in the Americas. Of this cohort, 3.7% were ultimately diagnosed with Zika, another 3.7% with dengue and 2.1% with chikungunya, the three major vector-borne and travel-acquired viruses circulating in the Americas.

About 80% of those patients with Zika virus who were evaluated at CanTravNet sites presented with acute illness; most were referred with undifferentiated illness via emergency departments. This is generally true of our patients with dengue and chikungunya as well — they are referred typically for undifferentiated fever in the returned traveller. In our surveillance analysis, we noted that 10% of those ultimately diagnosed with Zika virus developed a complication: 5% with Guillain–Barré syndrome (GBS) or GBS-like syndrome, and another 5% with congenital transmission.

Stated another way, neurologic complications were noted in one patient out of 20 with Zika virus. Guillain–Barré syndrome is a reasonably uncommon complication of several infectious diseases, typically occurring on the order of one case in several thousand. Thus, it was unexpected to see even one case in a cohort of our size. In comparison, we observed no complications due to either dengue or chikungunya, and this is typical for a one-year analytic period. CanTravNet will usually document a case of severe dengue every 18 months to 2 years, or at a rate of 1 in 60.

Thus, if substantial referral bias were occurring for our patients with undifferentiated illness ultimately diagnosed as Zika, the same likely would be true for dengue and chikungunya, and, more importantly, infections also known to be correlated to GBS such as campylobacteriosis and influenza; we did not make such observations.

Anecdotally, we can also corroborate that we are seeing other unusual manifestations of Zika virus, including paresthesia and epididymitis, for an overall rate of complications that is beyond what we might have expected at the outset of the surveillance period.

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References

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2. Boggild AK, Geduld J, Libman M, et al. Surveillance report of Zika virus among Canadian travellers returning from the Americas. *CMAJ* 2017;189:E334-40.

Competing interests: Andrea Boggild, Michael Libman and Anne McCarthy serve on the Committee to Advise on Tropical Medicine and Travel, an external advisory body to the Public Health Agency of Canada.