Appendix 1 (as supplied by the authors): Clinical relevance of the 2004-2014 malaria surveillance report findings

India contributes substantially to the burden of imported malaria. Malaria chemoprophylaxis is typically focused on *P. falciparum* and includes atovaquone-proguanil, doxycycline, or mefloquine. However, primaquine is becoming increasingly offered to travellers to parts of countries where *P. vivax* predominates, such as the Andhra Pradesh, Orissa, and Andaman regions of India. Primaquine requires glucose-6-phosphate dehydrogenase testing before use, cannot be used in pregnancy, and must be dosed correctly; but it is effective as chemoprophylaxis for *P. vivax*, and offers the unique advantage of eradicating the liver stages that can persist in *P. vivax* or *P. ovale* infection. It needs to be continued for 7 days after departure from the malaria endemic region, rather than the 4-weeks of post-travel dosing required with doxycycline and mefloquine. Primaquine is listed by both Canadian (1) and US (2) guidelines as an effective 2nd line alternative for malaria chemoprophylaxis.

Conventional practice is to recommend primaquine anti-relapse therapy only for travellers returning from long-term residence in areas at very high relative risk of vivax malaria, such as Papua New Guinea (3). However, given the high numbers of Canadians travelling to the Indian sub-continent for the purpose of VFR, data on the true incidence of vivax malaria in this group are needed, and may lead to reconsideration of this practice for certain itineraries at high risk of vivax malaria, understanding that primaquine is not entirely benign, and may cause potentially severe hemolysis in some patients. Physicians should be aware that vivax malaria may present many months, and even years, after leaving the malaria risk area.

Appendix to: Boggild AK, Geduld J, Libman M, et al. Malaria in travellers returning or migrating to Canada: surveillance report from CanTravNet surveillance data, 2004–2014.
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Malaria was the most common specific cause of fever after travel. Malaria was diagnosed in 15% of ill returned travellers and new immigrants presenting with fever in this analysis. While malaria may present with myriad symptoms and signs, including common post-travel syndromes such as diarrhea, abdominal pain, and cough, fever in the returned traveller should be construed as a medical emergency until malaria is excluded by serial thick and thin blood smears and rapid diagnostic tests (1). It is important to remember that the clinical presentation of malaria may be atypical in individuals with semi-immunity, and in those who have taken partial doses of antimalarials, or even antibiotics with antimalarial activity (e.g., macrolides, tetracyclines). Access to first line medications for the treatment of malaria is restricted in Canada. To improve access, the Canadian Malaria Network (http://www.phac-aspc.gc.ca/tmp-pmv/quinine/index-eng.php) provides depot sites for intravenous artesunate and quinine at several major centres across the country for the emergent management of patients demonstrating signs of severe malaria. The Committee to Advise on Tropical Medicine and Travel (CATMAT) provides comprehensive guidance on the assessment and management of malaria in Canadian travellers and migrants (http://publications.gc.ca/collections/collection_2014/aspc-phac/HP40-102-2014-eng.pdf), and maintains updated online tables for Malaria Risk and Recommended Chemoprophylaxis by Geographic Area (http://www.phac-aspc.gc.ca/tmp-pmv/malaria_catmat-paludisme_ccmtmv-eng.php), as well as Drugs for the Treatment and Prevention of Malaria (http://www.phac-aspc.gc.ca/tmp-pmv/malaria_dosage-paludisme_posologie-eng.php). Unfortunately, first-line oral artemisinin-based combination therapy for uncomplicated falciparum malaria is unavailable in Canada.

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