

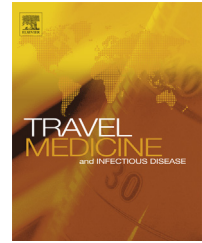


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## EDITORIAL

# Zoonoses and travel medicine: “One world — One health”



Zoonotic infections are defined as infections transmitted from animal to man (and less frequently vice versa), either through direct contact (or contact with animal products) or indirectly (through intermediate vectors such as arthropods) [1,2].

About 60% of pathogens that infect humans are zoonotic and these pathogens are highly relevant in travel medicine: Ebola virus is now a top priority on many health and humanitarian agendas with travel restrictions and a global medical emergency situation; rabies virus poses a major threat to travellers in endemic areas; the exotic culinary delights that are enjoyed during travel may contain hidden dangers such as tapeworms and flukes and other food-borne parasites; biting vectors encountered by travellers can transmit *Leishmania* spp, or the monkey malaria *Plasmodium knowlesi*; respiratory zoonotic viruses include highly pathogenic H5N1 avian influenza, H1N1 swine flu, and emerging coronaviruses SARS-CoV and MERS-CoV.

Some destinations have particular zoonotic risks. MERS-CoV emerged in the Kingdom of Saudi Arabia in 2012 with links to several animals including camels and goats with bats as a strong candidate reservoir. The SARS-CoV story is well known — this virus originated in Guangdong Province in China and led to infection clusters in Vietnam, Hong Kong, Canada and Singapore thanks to the air travel of the individuals who had contact with the index patient in a Hong Kong hotel. Travel can bring us in contact with a broad range of zoonotic contacts, rabid dogs, feral cats, mosquito bites, tick bites, the cornucopia of creatures in Asian wet markets with myriad opportunities for cross-species transfer of pathogens and virus shuffle and reassortment. Zoonotic infections are not new — *Yersinia pestis*, the bacteria causing plague, established in rodents and fleas, spread through Europe from Asia along established traveller routes (the Silk Road) and caused three devastating human pandemics [3]. A special characteristic of zoonotic infections is that they can re-emerge just when they are considered to be under control or eliminated because they can go into hiding in the animal reservoirs so there is no possibility for complacency. Travellers will act as sentinels for infections

but also as disseminators, sometimes even as “super spreaders”. Mass gathering events such as the Hajj have the potential to amplify the exposure potential to certain pathogens and travel restrictions may need to be enforced.

As part of a collaboration between the members of the *Working Group of Zoonoses of the International Society for Chemotherapy (WGZ-ISC)* and the journal *Travel Medicine and Infectious Disease (TMAID)* a special issue on “Zoonoses and Travel Medicine” has been successfully compiled.

This special issue includes an exciting array of reviews on cestodiasis, metacestodiasis, coronaviruses, rabies, fascioliasis, leishmaniasis, toxoplasmosis, tularaemia and other zoonotic infections. Original research articles include a mathematical exploration of the risk potential of imported Ebola in China. Another paper explores the adverse event profile of rabies post-exposure prophylaxis regimens.

A clear message emerges — the theme of “one health” is of key importance in travel medicine. Travel health providers need to be aware of the risks at the destination and clinicians should be alert to imported vector-borne and other zoonotic risks and be equipped to detect and diagnose unusual or novel pathogens. Networking [4], surveillance of imported infection and drug resistance patterns and sharing this information with allied professions such as veterinarians and public health experts will be key in the ongoing saga of travel associated zoonoses [5]. “One health” for one world.

## Conflict of interest

None declared.

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