Confronting the New Challenge in Travel Medicine: SARS

Annelies Wilder-Smith and David O. Freedman

SARS, travel and travel medicine are intricately interlinked. It was a traveler who became the vector that turned a newly emergent local virus into a global outbreak. An American businessman traveling from China via Hong Kong exported the disease to Vietnam on 23 February 2003. The resulting nosocomial outbreak of severe atypical pneumonia in a Vietnamese hospital led the World Health Organization (WHO) to issue a global alert on SARS on 12 March. Besides this business traveler, at least 10 other travelers to Hong Kong had stayed on the same hotel floor as the index case of SARS, an ill traveler from Guangdong Province China. Together, they unmasked this mysterious disease, ongoing in southern China since November 2002, by the act of traveling home and spreading it in their home countries. From then on, SARS spread to multiple countries, always in the respiratory tract of a traveler. And finally, travel itself became the victim.

By 15 March 2003, the WHO had begun to issue an unprecedented series of travel alerts and recommendations. The full political, economic and social impacts of these are just beginning to be measured. SARS has created international anxiety because of its novelty, its ease of transmission in certain settings, and the speed of its spread through jet travel. The instantaneous communication and information exchange that has supported every aspect of dealing with the epidemic has led to a speed of scientific discovery that has set a new standard for disease response. A new coronavirus has been isolated and its entire genome sequenced and made publicly accessible in weeks. The dynamics of this epidemic are becoming apparent. The frightening prospect of airborne transmission now seems unlikely. Intense shoe leather epidemiology has clearly proven transmission to be almost exclusively person to person, through direct respiratory droplets, hand contamination, and fomites. Fecal–oral transmission has been implicated in one well-publicized cluster in Hong Kong, but seems to be the exception, although the SARS virus is hardy enough to last in the environment for several days under experimental conditions. The main message, however, is that the new coronavirus is sufficiently transmissible to cause a very large epidemic if unchecked, but not so contagious as to be uncontrollable with good, basic public health measures.

SARS was sudden; SARS is novel; SARS is frightening to many.

Travel medicine practitioners have different roles in containing the epidemic. They play a central role in educating not only their own patients, but also the public, the press, the government and local businesses and institutions in a level-headed, factual way about SARS. Governments and press, especially in non-SARS-affected areas, have been slow to strike the right balance between timely and frequent risk communication and placing risk in the proper context. For example, the risk of SARS acquisition on an airliner, while not zero, was extremely small before current screening procedures were instituted, and is now close to zero. Communicating clearly the content and meaning of changing travel alerts, recommendations and bulletins from the WHO and national authorities is a primary task. Many countries issue alerts or bulletins to provide accurate information about the status of SARS at a destination, and these need to be distinguished from outright travel advisories against nonessential travel to the area. Pretravel advice for persons traveling to areas with SARS also includes education...

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about recognition of SARS symptoms and early health-seeking, recommendations to be vaccinated against influenza, as influenza symptoms mimic those of SARS, as well as education on droplet precautions. No one who has had contact with a known SARS case, whether in a SARS-affected area or elsewhere, should cross an international border for 10 days after the last contact, assuming they remain asymptomatic.

Travel medicine practitioners often constitute the first point of medical contact for ill returning travelers, and nonspecific symptoms such as fever and cough are common in travelers. In the pre-SARS era from January 1997 to December 2002, an estimated 5% of all ill travelers worldwide who sought posttravel care from one of 25 worldwide GeoSentinel travel clinics had pneumonia (International Society of Tropical Medicine, unpublished data, 2003). These data emphasize how susceptible travelers are to infectious respiratory pathogens. This facilitates not only the spread of SARS, but also the spread of influenza and novel respiratory pathogens yet to emerge. Individual clinicians must be vigilant in detecting suspicious circumstances and reporting to appropriate authorities, especially as the heightened awareness of SARS begins to wane.

Travel medicine practitioners who want to do more can consider participation in a global provider-based surveillance network such as GeoSentinel (www.iscm.org), which is an initiative of the International Society of Travel Medicine, or in a regional network such as TropNet Europ (www.tropnet.net). Such networks allow for the aggregation of clinical experiences via formal data collection for analysis of trends in diagnoses and linked travel histories. In addition, official reporting systems may be constrained or delayed by national or local political considerations that can sometimes be bypassed by the informal and rapid electronic communication engendered by such professional networks.

The international spread of disease underscores the need for strong global public health systems, excellent international reporting mechanisms, robust health service infrastructures, and expertise that can be mobilized quickly across national boundaries to mirror disease movements. The International Health Regulations (IHR) have not been revised since 1973. Hopefully, SARS has given a new sense of urgency to an effort that was initiated in 1995. Revised IHR should give some teeth to a framework that will facilitate three main public health measures for the containment of SARS and other potential new respiratory pathogens: prevention of infected individuals crossing international borders, prevention of subsequent community transmission via early identification and isolation of cases, and provision of technical expertise to allow for the prevention of hospital transmission via effective infection control. The travel medicine practitioner can contribute to all of these strategies.

After the initial rapid spread, experiences from Vietnam and Singapore have shown that, with extraordinary efforts, individual outbreaks can be contained. At the time of writing, we are hopeful of a similar result in other areas with continuing transmission. For reasons not yet understood, viral loads are minimal in the first week of clinical illness, and development of an early diagnostic test has proved elusive. Such a test is vital for a sustainable containment strategy that, by definition, will depend on early case identification. Meanwhile, we must continue to rely on our continued and intense clinical vigilance.