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The severe acute respiratory syndrome: Impact on travel and tourism

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Summary SARS and travel are intricately interlinked. Travelers belonged to those primarily affected in the early stages of the outbreak, travelers became vectors of the disease, and finally, travel and tourism themselves became the victims. The outbreak of SARS created international anxiety because of its novelty, its ease of transmission in certain settings, and the speed of its spread through jet travel, combined with extensive media coverage. The psychological impacts of SARS, coupled with travel restrictions imposed by various national and international authorities, have diminished international travel in 2003, far beyond the limitations to truly SARS hit areas. 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. Screening at airport entry points is costly, has a low yield and is not sufficient in itself. The low yield in detecting SARS is most likely due to a combination of factors, such as travel advisories which resulted in reduced travel to and from SARS affected areas, implementation of effective pre-departure screening at airports in SARS-hit countries, and a rapid decline in new cases at the time when screening was finally introduced. Rather than investing in airport screening measures to detect rare infectious diseases, investments should be used to strengthen screening and infection control capacities at points of entry into the healthcare system. If SARS reoccurs, the subsequent outbreak will be smaller and more easily contained if the lessons learnt from the recent epidemic are applied. Lessons learnt during the outbreak in relation to international travel will be discussed.

Introduction

The Severe Acute Respiratory Syndrome (SARS) was responsible for the first pandemic of the 21st century.[1] Within months after its emergence in Guangdong Province in mainland China, it had affected more than 8000 patients and caused 774 deaths in 26 countries on five continents. It illustrated dramatically the potential of air travel and globalization for the dissemination of an emerging infectious disease:[1] SARS emerged in

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Foshan, Guangdong Province, mainland China, in November 2002.[2] 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 outbreak of this 'mysterious disease' in a Vietnamese hospital led the World Health Organization (WHO) to issue a global alert on 12 March 2003. 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, a physician from Guangdong who had treated SARS patients. Together, they unmasked the problem in Southern China. From then on, SARS spread to multiple countries, always in the respiratory tract of a traveler.

The spread of SARS was initially exponential, with hospital settings serving as amplifiers. SARS was transmitted primarily, but not exclusively, in health care settings, generally five ore more days after the onset of disease and from patients who were severely ill.[3]

Mathematical models have shown that SARS coronavirus, if uncontrolled, would infect the majority of people wherever it was introduced.[4] All the countries with major outbreaks were those which imported SARS before the disease was known and before appropriate infection control measures were instituted. With extraordinary efforts, but without a vaccine or specific treatment, these outbreaks were controlled once the mode of transmission was established and measures taken. The experience of the year 2003 has taught us that although this new coronavirus is sufficiently transmissible to cause a very large epidemic, it is not so contagious as to be uncontrollable with good, basic public health measures. The basic public health measures were early identification and isolation, quarantining of contacts and strict infection control program based on personal protective measures, as well as travel restrictions. The WHO declared 5 July 2003 to be the date of the end of the SARS epidemic. Since then, several isolated SARS cases have been reported; none were fatal, and none resulted in a new SARS epidemic. The chronology of events during the 2003 SARS outbreak pertinent to travel is presented in Table 1.

The purpose of this paper is to elaborate on the impact of the year 2003 SARS epidemic on travel and tourism and to discuss strategies to contain the international spread.

Table 1 Chronology of events related to SARS pertinent to travel.

16 November 2002	First known case of atypical pneumonia occurs in Foshan City, Guangdong Province, China, but is not identified until much later
21 February 2003	A 64-year-old medical doctor from Zhongshan University in Guangzhou arrives in Hong Kong and checks into the ninth floor of the Metropole Hotel (room 911)
26 February	A 48-year-old Chinese–American businessman is admitted to the French Hospital in Hanoi with SARS (confirmed later)
28 February	Dr Urbani notifies the WHO office in Manila. WHO headquarters moves into a heightened state of alert
12 March	WHO issues a global alert about cases of severe atypical pneumonia following mounting reports of spread among staff at hospitals in Hong Kong and Hanoi, Singapore and Toronto
15 March	WHO issues a rare travel advisory as evidence mounts that SARS is spreading by air travel along international routes. WHO names the mysterious illness after its symptoms: severe acute respiratory syndrome (SARS) and declares it 'a worldwide health threat.' WHO issues its first case definitions of suspect and probable cases of SARS. WHO further calls on all travelers to be aware of the signs and symptoms, and issues advice to airlines
25 March	Nine air passengers linked to a 15 March flight from Hong Kong to Beijing develop SARS after returning to Hong Kong. The flight is eventually linked to cases in 22 passengers and two flight attendants
29 March	WHO infectious disease specialist, Dr Carlo Urbani, the first WHO officer to identify the outbreak of this new disease and treat the earliest cases in Hanoi, dies of SARS in Thailand
16 April	The WHO laboratory network announces conclusive identification of the SARS causative agent: an entirely new coronavirus
28 April	Viet Nam is removed from the list of areas with recent local transmission, making it the first country to successfully contain its outbreak
5 July	Taiwan, the last area with recent local transmission, is removed from the list. WHO declares that SARS outbreaks have been contained worldwide, but calls for continued vigilance

Adapted from WHO: http://www.who.int/csr/don/2003_07_04/en/print.html.