

- and containment of an outbreak of SARS in a community hospital. *CMAJ* 2003;168(11):1415-20.
13. Ksiazek TG, Erdman D, Goldsmith CS, Zaki SR, Peret T, Emery S, et al. A novel coronavirus associated with severe acute respiratory syndrome [online]. *N Engl J Med*. Available: content.nejm.org/cgi/reprint/NEJMoa030781v3 (posted 2003 Apr 10; accessed 2003 Apr 22).
  14. Update #34 — severe acute respiratory syndrome. Latest Canadian numbers on SARS. Ottawa: Health Canada; 2003 Apr 18. Available: www.hc-sc.gc.ca/english/protection/warnings/sars/update34.html (accessed 2003 Apr 22).
  15. Epidemic curves — severe acute respiratory syndrome. (SARS). Geneva: World Health Organization; 2003. Available: www.who.int/csr/sarsepicurve/epiindex/en/ (accessed 2003 Apr 22).
  16. Management of severe acute respiratory syndrome. Geneva: World Health Organization; revised 2003 Apr 11. Available: www.who.int/csr/sars/management/en/ (accessed 2003 Apr 22).
  17. Abraham C. War on deadly foe enters critical phase. *The Globe and Mail* (Toronto) 2003 Apr 19;Sect A:1.

---

**Correspondence to:** Dr. Richard Schabas, York Central Hospital, 10 Trench St., Richmond Hill ON L4C 4Z3; fax 905 883-2455; rschabas@yorkcentral.on.ca

---

## Why was Toronto included in the World Health Organization's SARS-related travel advisory?

Guénaël R.M. Rodier

 Fast-tracked article, published at www.cmaj.ca on Apr. 30, 2003

β See related articles pages 1415 and 1432.

On Apr. 23, the World Health Organization (WHO) advised international travellers to consider postponing all but essential travel to Beijing and Shanxi Province, China, and to Toronto. This advice was based on an assessment of the risk that travellers to these 3 areas might become infected with the SARS virus during their stay and export the disease to another country, possibly seeding an outbreak there. Similar advice to travellers contemplating visits to Hong Kong and Guangdong Province, China, had been issued Apr. 2.

Factors considered when making these assessments include the magnitude and dynamics of the outbreak measured, in part, through data on the prevalence of cases (total number of reported cases minus patients who have recovered or died) and the number of new cases detected each day. Another key factor is the occurrence of local chains of transmission outside a confined setting, such as a health care environment. When an outbreak is large and dynamically evolving, the likelihood is greater that time will elapse between the onset of infectivity and the detection and isolation of cases. This lapse, in turn, increases opportunities for further spread within the general community. The risk to international public health occurs when an infected person undertakes international travel, regardless of whether the infection was acquired in the general community or following contact with a high-risk person or in a hospital setting.

SARS is a disease that places extreme demands on hospitals, health care staff and the entire public health system. Experience to date in some of the hardest hit countries indicates that the sheer magnitude of the outbreak can lead to a breakdown in essential public health measures, whether

involving infection control in hospitals, contact tracing, quarantine of close contacts, prompt detection and isolation of cases, or exit screening of international travellers. When an infected person is able to board an airplane and undertake international travel, such a breakdown in control measures has clearly taken place.

When issuing the Apr. 23 travel advisory, which included Toronto, WHO epidemiologists considered all of these factors, together with reports of possible cases exported from Toronto, from Mar. 29 through Apr. 3, to Australia, the United States and the Philippines. In the Philippines, which had previously been free of SARS, the presence of a first probable case, epidemiologically linked to a charismatic religious group in Toronto, was reported to WHO Apr. 14. The patient subsequently died, a suspected case in a health care worker has been reported, and numerous contacts are under investigation.

SARS is the first major new infectious disease of the 21st century and, as such, is taking full advantage of the opportunities for rapid international spread afforded by a closely interconnected and highly mobile society. It is the duty of WHO to do everything possible to prevent spread to other countries of a poorly understood, severe disease for which there is no reliable diagnostic test and no effective treatment beyond supportive care. To date, most outbreaks have occurred in countries with good surveillance and strong health care systems. The importation and subsequent spread of SARS in a densely populated country with a poor health infrastructure can have enormous public health consequences, as we are now seeing in parts of China. In all countries with SARS outbreaks, the social and economic consequences have likewise been enormous.

WHO did not make the decision to issue the Apr. 23 travel advisory lightly. In its response to the SARS outbreak, Canada has been a model of transparency in its reporting and public information, of determination in its contact tracing, and of heroic dedication on the part of its medical, health and scientific staff. We are aware of the economic hardship that all travel advisories bring. We are aware, too, that some countries, looking at the example of Toronto, may choose to be less open and frank in their reporting of SARS — or any other epidemic-prone disease with the potential for international spread — for fear of the economic consequences.

We are aware, too, that we have been perceived by some as “punishing” a country that has not only been a model in its efforts to contain a particularly serious SARS outbreak, but has also been one of our strongest and most valued partners in international public health. In the final analysis, however, our decisions must be based first and foremost on public health concerns in the face of a serious health emergency that has amply demonstrated its potential for rapid international spread. Had our international vigilance been in place prior to Mar. 12, Toronto would very likely have been spared a SARS outbreak on the scale it has worked so admirably to contain. All of the most severe SARS outbreaks to date, in Canada, China, Hong Kong, Singapore, and Vietnam, began before health authorities and hospital staff were alert to the rapid spread of a new disease and aware of the need for immediate isolation of suspect cases

and strict infection control. The additional 22 countries reporting probable cases to WHO detected their first case after WHO issued its global alert. All but one of these countries have seen very little or no transmission from a few isolated imported cases to others.

On Apr. 29, a day after Vietnam was removed from the list of affected areas, the Director-General of WHO examined data on the status of all countries and areas listed as affected. Although Toronto remains on this list, a decision to lift the travel advisory, effective Apr. 30, was made based on consideration of 3 criteria: a decrease to below the defined threshold level of 60 prevalent SARS cases and 5 new SARS cases per day, a period of 20 days since the last case of community transmission occurred, and no new confirmed cases of exportation. We have also received assurance from health authorities that proactive screening measures at airports will be implemented, as recommended by WHO. Such measures are welcomed at a time in the evolution of a new disease when some hope of containment remains.

Dr. Rodier is Director, Communicable Disease Surveillance and Response, World Health Organization, Geneva.

Competing interests: None declared.

**Correspondence to:** Dr. Guénaél R.M. Rodier, Director, Communicable Disease Surveillance and Response, World Health Organization, CH-1211 Geneva 27, Switzerland

## Holiday Review 2003 Call for Papers

We're looking for creative contributions for *CMAJ's* Holiday Review 2003. Humour, entertainment, history of medicine, and off-beat scientific papers (serious or otherwise) are encouraged.

Send your offering to News Editor Pat Sullivan (800 663-7336 x2126; patrick.sullivan@cma.ca). Articles should be no longer than 1200 words, and photographs or illustrations are encouraged.

**The deadline for submissions is Sept. 15, 2003.**

