



EID Weekly Updates:

Emerging and Reemerging Infectious Diseases, Region of the Americas

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Update on Severe Acute Respiratory Syndrome (SARS)

SARS Epidemiology—WHO Consensus Report: On 17 October 2003, the World Health Organization (WHO) issued its report, [Consensus Document on the Epidemiology of Severe Acute Respiratory Syndrome \(SARS\)](#) (35 pp, PDF), summarizing international research on the epidemiology of the SARS outbreak, along with an [online summary](#), excerpts from which appear below:

WHO Consensus Document on the Epidemiology of SARS: Some Main Conclusions from the Report

- *The report found no evidence that SARS is an airborne disease.*
At all outbreak sites, the main route of transmission was direct contact, via the eyes, nose, and mouth, with infectious respiratory droplets. The finding that each patient infected on average three others is consistent with a disease spread by direct contact with virus-laden droplets rather than with airborne particles. For diseases where the causative agent is airborne, such as influenza and measles, a single person can infect an entire room by coughing. There is no evidence that this occurred with SARS. For this reason, simple infection control techniques, such as frequent hand washing, can go a long way toward slowing the spread of disease.
- *Health-care workers were at special risk.*
Health care workers, especially those involved in procedures generating aerosols, accounted for 21% of all cases, ranging from 3% of reported probable cases in the USA to 43% in Canada. In some cases, transmission to health care workers occurred despite the fact that staff were wearing masks, eye protection, gowns, and gloves. In a few other cases, transmission occurred following brief exposure to patients with mild symptoms.
- *The risk of transmission is greatest at around day 10 of illness.*
Maximum virus excretion from the respiratory tract occurs on about day 10 of illness and then declines. The efficiency of transmission appears to be greatest following exposure to severely ill patients or those experiencing rapid clinical deterioration, usually during the second week of illness. When symptomatic cases were isolated within 5 days following onset of illness, few cases of secondary transmission occurred. However, there are some exceptions in which transmission occurred following exposure to a patient

in the earliest days of infection.

- *The report found no evidence that patients transmit infection 10 days after fever has resolved.*

This finding supports present WHO recommendations for the management of contacts and for hospital-discharge policies.

- *Children are rarely affected by SARS.*

To date, there have been two reported cases of transmission from children to adults and no reports of transmission from children to other children. Three separate epidemiological investigations have found no evidence of SARS transmission in schools. Furthermore, no evidence of SARS has been found in infants of mothers who were infected during pregnancy. Further investigation is required to determine whether children may have asymptomatic or mild infections.

- *The implications of the Metropole Hotel outbreak are not yet fully understood.*

Intensive investigations of circumstances surrounding the late-February outbreak in the Metropole Hotel, Hong Kong, which seeded the international spread of SARS, have not yet answered all questions. During this incident, the virus was transmitted to at least 16 guests and visitors, all linked to the 9th floor of the hotel. The results of environmental sampling on the carpet outside room 911, where the index case resided, and elevator areas show a hot zone (possibly vomitus or respiratory secretions). Samples were PCR positive for the virus 3 months after the index case spent a single night at the hotel. Although tests demonstrated the presence of SARS coronavirus RNA and not viable virus, this finding may have implications for the persistence of the virus in the environment.

The Metropole Hotel outbreak is recognized as a “superspreading event”. However, the index case did not have an unusually high viral load when tested on days 9 and 11 of illness.

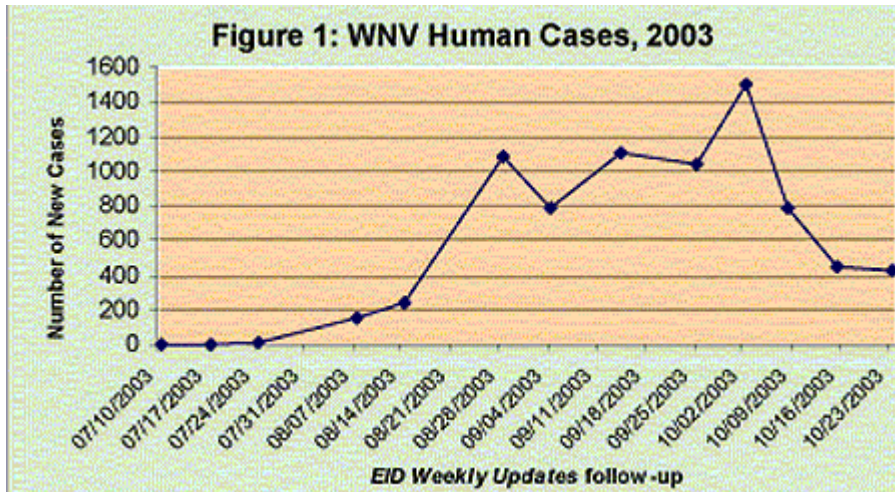
- *Risk of in-flight transmission.*

Five international flights have been associated with the transmission of SARS from symptomatic probable cases to passengers or crew. Further information on these flights is detailed in the report. The report found no evidence of confirmed transmission on flights after the 27 March travel advisory in which WHO recommended exit screening and other measures to reduce opportunities for further international spread associated with air travel.

WHO SARS Meetings, Geneva: This week, from Monday, 20 October until Saturday, 1 November, four consecutive meetings on SARS are taking place in Geneva, Switzerland, sponsored by the World Health Organization (WHO). These meetings will address current priorities for scientific research, laboratory issues, treatment protocols, and clinical prospects for vaccine development.

In the first of the meetings—that of the SARS Scientific Research Advisory Committee, which took place on 21 October 2003—the following points were addressed:

- The global SARS alert system.
- Preparedness in limited-resource settings.
- Diagnosing SARS.



- Possible evolution of the SARS coronavirus.
- Hospital 'amplification': The role of infection control.

- Laboratory biosafety.
- Control interventions.

For more information, see the WHO SARS Update, 22 October 2003, [WHO SARS Scientific Research Advisory Committee concludes its first meeting](#).

Sources: WHO website:

- [WHO issues consensus document on the epidemiology of SARS](#) (SARS Update, online summary, 17 October 2003).
- [Consensus Document on the Epidemiology of Severe Acute Respiratory Syndrome \(SARS\)](#) (WHO full-text Report, 35 pp, PDF).
- [WHO SARS Scientific Research Advisory Committee Concludes Its First Meeting](#) (SARS Update, online summary, 22 October 2003)

Update on West Nile Virus (WNV)

United States: This week, 429 new cases of West Nile Virus (WNV) infection from 26 states were reported to the Centers for Disease Control and Prevention of the United States (CDC) (see Figure 1). For 2003, a total of 7,386 human cases of WNV infection and 155 deaths have been reported. Detailed information is available for 7,269 cases, of which 4,771 (66%) were reported as West Nile Fever (a mild illness), and 2,110 (29%) as West Nile Meningitis or Encephalitis (a serious disease). The states with the greatest number of cases have been Colorado (2,170), Nebraska (1,359), and South Dakota (955).

In 42 states as well as in the District of Columbia and New York City, 10,453 birds have been found dead with WNV infection. In 38 states, WNV infection has been detected in 3,270 horses. In 38 states, the District of Columbia, and New York City, a total of 6,667 positive mosquito pools have been found.

For more information, see the CDC website at:

- [West Nile Virus Activity—United States, October 16-22, 2003](#). *Morbidity and*

Mortality Weekly Report (MMWR), US Centers of Disease Control and Prevention (CDC).

- [West Nile Virus, 2003 Human Cases as of October 22, 2003, 3am MDT \(Statistics, Surveillance, and Control\)](#). US Centers of Disease Control and Prevention (CDC), Division of Vector-Borne Infectious Diseases.

Sources: CDC Website (above references).

Canada: Up to 22 October 2003, 378 cases and 10 deaths from WNV infection have been confirmed in seven provinces. Two of the provinces have reported probable imported cases. Of these, 258 correspond to the province of Alberta, 85 to Ontario, 38 to Saskatchewan, and 16 to Manitoba. Of these cases, 832 are still under study; with 693 of them from Saskatchewan and 121 from Manitoba.

No new suspected or confirmed cases have occurred in horses since the last update on 16 October. The total figure remains at 445. On birds, 11,223 serological tests have been carried out, with 1,619 confirmed WNV infections; this implies the appearance of 11 new cases that were confirmed this week. Regarding mosquito pools infected with WNV, 534 have been identified, which implies the appearance of 36 new positive mosquito pools. The affected provinces are the same as for previous weeks.

In total, these figures—together with the reduction of the number of new human cases and the absence of new equine cases—indicate a continuous reduction in the outbreak coincidental with falling temperatures.

For more information, see the Health Canada West Nile Virus Surveillance Information page: [English](#) | [français](#).

Source: West Nile Virus Surveillance Information, Health Canada (above references).