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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)