

## SARS may have a silver lining, WHO says

Severe acute respiratory syndrome (SARS) is proving one of the most intriguing challenges facing scientists in the 21st century, the director general of the National Microbiological Laboratory in Winnipeg says.

Speaking at the first North American meeting on SARS, which ended in Toronto May 1, Dr. Frank Plummer said the coronavirus, which the World Health Organization (WHO) says causes SARS, is also being found in some people who are neither probable nor suspected SARS patients. Among those who fit into the probable category, the proportion of people who are testing positive for the virus has been declining, from 80% to 40%. However, the coronavirus is also being found in about 14% of people under investigation for SARS but who fail to meet the clinical definition of the disease.

Plummer is part of the 58-member Canadian team that published the 29 751-base genome sequence of the virus known as the Tor2 isolate, which is unlike any of the 3 previously known groups of coronaviruses (*Science* [online] May 1;10.1126/science.1085953). The genome sequence will aid in the diagnosis of SARS infection in humans and potential animal hosts, and it will speed the development of antiviral weapons and the identification of structural targets for vaccine development, the researchers report.



Cultured cell infected with coronavirus

Among the 20 probable and 40 suspected SARS cases reported so far in the US, 6 people have tested positive for coronavirus infection. Stephen Ostroff, deputy director at the US National Center for Infectious Diseases, says polymerase chain reaction diagnostic kits will be distributed throughout the US as part of the containment effort. Although WHO remains convinced that a coronavirus is the culprit behind SARS, the US Centers for Disease Control and Prevention suspects additional viruses and medical conditions are involved.

Fighting the new disease will be an ongoing challenge. Arlene King, Health Canada's director of immunization and respiratory infections, says the role of airborne transmission is still unclear, but stringent application of airborne, contact and droplet precautions appear to provide effective protection for caregivers.

Transmission may occur during the prodromal period, when only early symptoms such as malaise or myalgia are present, and it can also occur even 10 days after the serious symptoms, such as high fever, have resolved. Transmission from an asymptomatic patient is considered very unlikely.

King recommends a staged approach to SARS, along the lines of the pandemic influenza model. Following an initial alert for outbreak outside of Canada, the focus will be on information gathering and enhanced surveillance to detect community spread, even as cases involving travellers and their close contacts are addressed through isolation, quarantine and contact tracing.

In Canada, the SARS crisis has led to a drastic rethinking involving Canada's public health network. Gerald Dafoe, CEO of the Canadian Public Health Association, says Ottawa must start devoting 5% to 6% of its health budget to hiring more health care workers in order to improve the country's ability to respond to public health crises. Dr. Donald Low, chief of microbiology at Mount Sinai Hospital in Toronto, couldn't agree more. He says the recent crisis forced Toronto to draw call for help across the country to cope with the patient overload. Dafoe also says the Canada Health Act should be amended to make public health an essential service.

The problems that face Canada when a disease such as SARS begins its international sprint were put into perspective by Ronald St. John, director general of Health Canada's Centre for Emergency Preparedness and Response. He pointed out that Canada has 100 million land border crossings each year, and 40 000 people fly from Toronto daily. This means there is a danger that Canada will both import and export disease. He said new diseases will result in new public health interventions, ranging from health declarations and visual screening to medical interviews, temperature or thermal screening, and even drastic measures such as quarantine camps.

Despite all the bleak news that has emerged because of SARS, WHO's executive director of communicable disease programs managed to find a silver lining. Dr. David Heymann says the lessons learned and global public health intelligence network that has emerged because of SARS will make it easier to track the next infectious disease that emerges. — *Sridhar Nadamuni*, Toronto

## Gender gap in life expectancy narrows to 5.2 years

The gap in life expectancy between men and women is closing, Statistics Canada says.

Data from 2000 indicate that life expectancy at birth — a fundamental indicator of population health status — increased slightly to new record highs for both sexes in 2000. A female born in 2000 can expect to live 82 years, up 0.3 years from 1999. The life expectancy of a male born in 2000 is 76.7 years, up 0.5 years in the same period. The gender gap has narrowed from 5.4 years in 1999 to 5.2 years in 2000.

Statistics Canada also reports that the number of deaths declined by 0.7% from 1999 to 2000, the first decrease since 1981. In 2000, 218 062 people died in Canada — 111 742 males (down 1.7% from the previous year) and 106 320 females (up 0.4%).

The 2 main causes of death were diseases of the circulatory system (nearly 35%) and cancer (29%). — *CMAJ*