

## Lessons from SARS

It is the nature of epidemics to be unpredictable. People want answers to some important questions: How serious is severe acute respiratory syndrome (SARS)? Will SARS be contained in Toronto, or Singapore, or China? How far will it spread and how rapidly? What can the global community do to prevent and control future epidemics?

Much has been learned from previous infectious disease epidemics and from the current SARS epidemic. In the absence of effective vaccines or drugs, infectious diseases that are spread by the respiratory route—whether the influenza epidemic of 1918 that killed 20 to 40 million people worldwide or measles, which spreads rapidly among children—must be taken very seriously. The key to controlling epidemics is to block the transmission of infection. If public health officials can identify people infected with SARS and isolate them for an appropriate time, the cycle of transmission can be broken. If it is not, there is a possibility that SARS will establish itself in communities, and we will have to cope with it for a long time. Voluntary isolation and quarantine are a great inconvenience for a lot of people, but they are currently our best tools to save lives.

Because of the enormous economic and political impact of epidemics, it takes great courage in public health to declare to the world that a country has an epidemic. When the World Health Organization (WHO) recognized in March, after one of its top infectious disease specialists was infected by SARS in Hanoi and died, that there were similar cases in Hong Kong and rumors of more cases in China, it declared a Global Alert for the first time in WHO history. That gave every country in the world time to get prepared for a potential global epidemic. If public health really works well and a health problem is prevented, there is little evidence to show that something important was achieved. When public health officials don't act quickly enough, outbreaks become epidemics. However, when officials warn about a possible epidemic that then fails to spread, billions of dollars may be lost to national economies, as was the case in India with the outbreak of plague in 1994; and public health officials put their own jobs in jeopardy, as we in the United States learned after the swine flu outbreak of 1976.

The wrong lesson to be taken from SARS would be to pass new emergency legislation mandating narrowly targeted funding for SARS research and control. In the United States, the Centers for Disease Control and Prevention (CDC) has had to put 300 people funded for other activities to work on SARS; the National Institutes of Health has new funding for infectious disease, but much of it is tied up in research on a long list of predicted bioterrorist agents. Neither organization has the flexibility to use its funds to allocate personnel and resources rapidly to meet ever-changing emerging infections without neglecting other health responsibilities. Unanticipated outbreaks will continue to be a reality, and the world must be ready to move in whatever direction is needed.

Infectious diseases do not respect national boundaries. One important implication of September 11, 2001, is that the security of the United States increasingly depends on expertise around the world in identifying potential health threats and in having the scientific capability to address those threats locally. In the 1980s, it took 2 years to identify HIV as the cause of AIDS. In 2003, WHO created an extraordinary network of 13 laboratories in 10 countries, including the CDC, which identified a virus associated with SARS in 2 weeks and had its entire genome sequenced in 2 more. Those labs shared their knowledge in an unprecedented fashion, to the benefit of everyone. In a world that is increasingly angry at the United States, the lesson here is that it is time to support a global war on disease. The United States should be investing efforts and funds to strengthen the health structures in countries around the world. If we were to help train experts in epidemiology and surveillance, strengthen laboratories in key regions and link them to the best labs in this country and around the world, and support WHO, we would help to create a true global health network. This investment would protect our country and every other against global epidemics, save millions of lives, and change the U.S. image from one of self-interest to one of human interest.

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Malaysian Muslim students read SARS leaflets.