

Health Experts Fear Reemergence of SARS Virus

Greatest Worries Are All the Unknowns, Including Whether Outbreak Could Mimic Spanish Flu That Killed Millions

By Rob Stein
Washington Post Staff Writer
Monday, November 17, 2003; Page A10

Nearly five months after they contained the SARS outbreak, health authorities are bracing for the possibility that the frightening lung infection could reemerge, sparking another deadly and disruptive global health emergency.

Because respiratory infections often come and go with the seasons, and because the first cases were detected a year ago in southern China, experts worry that the flu season just getting underway in the Northern Hemisphere will be accompanied by a resurgence of severe acute respiratory syndrome.

"We don't know whether SARS will return this year. It could. We don't have crystal balls, unfortunately," said John MacKenzie, an Australian microbiologist working as a consultant on SARS at the World Health Organization in Geneva. "So we have to be prepared."

A new outbreak could occur if the SARS virus is transmitted again from wild animals to people. It could also flare up if the pathogen has been spreading undetected among people in rural China or elsewhere. Or it could escape from one of the many laboratories where scientists are studying the virus, as occurred in Singapore, where a 27-year-old laboratory worker became infected in September.

Another possibility is that SARS will behave like Ebola, which erupts in periodic outbreaks and then disappears for long periods of time, only to strike again without warning.

But what worries health experts most is that SARS could mimic the devastating Spanish flu of 1918, which killed millions.

"If you want a really scary scenario, think about 1918. There was a small bump the year before, and then it disappeared. People breathed a sigh of relief. Then it came back the following year and 'wham!' " said Alfred Sommer, dean of the Johns Hopkins Bloomberg School of Public Health.

If the disease reappears, many experts say, it remains unclear how well the world could defend against the virus, which sickened more than 8,000 people this year, killed 780 and staggered the economies of Toronto, Hong Kong, Taiwan and Singapore.

Scientists have been racing to learn more about the virus since the outbreak ended July 5. But many important questions remain. Researchers still do not know, for example, which animals are the virus's main hiding place -- crucial information for preventing another species jump. And although they are studying promising treatments and vaccines, and the accuracy and reliability of

diagnostic tests has improved somewhat, doctors would have to fight an epidemic without new weapons.

"Do we have a drug? No. Do we have a vaccine? No. And we don't have a good diagnostic test," said Klaus Stohr, a SARS expert at WHO. "So we'd have to rely on what worked last time."

Luckily, Stohr and others said, if the virus comes back in the same form it took earlier this year, and in a place that had experience with the disease, what worked last time would probably work again: rapidly identifying and isolating cases.

Aside from rare events involving "superspreaders," each sick person infected about three others, which is on the low end of the spectrum for respiratory diseases. Flu victims, for example, typically infect dozens of others. In addition, it is now clear that SARS-infected people spread the virus primarily about a week after they get sick, when they are usually very ill. That explains why most of the outbreaks during the epidemic occurred in hospitals, and helps minimize the spread of the virus in the general community.

"That's why SARS was brought under control relatively quickly with these simple public health measures," said Roy M. Anderson, a professor of infectious disease epidemiology at the Imperial College in London. "We were lucky last time around. I don't think people realize the degree to which luck played a role."

Infectious-disease experts also believe many hospital infections occurred while patients were having tubes inserted in their throats to help them breathe, and think they now know how to minimize that danger.

A new outbreak could be devastating, however, if it occurred in a part of the world that has a weak health system, such as many parts of Africa and Asia, or if it came back in a mutated form that spread more easily or killed more frequently.

Public health authorities are trying to be as well prepared as possible. Most experts agree that China learned its lesson from the first outbreak, when authorities kept the epidemic secret, allowing the virus to circumnavigate the globe. Beijing is now working closely with WHO and has an intensive surveillance system in southern China aimed at detecting any new cases early.

In the United States, the federal Centers for Disease Control and Prevention issued a detailed proposal last month for how hospitals and public health agencies should respond to various scenarios. The agency proposed a number of measures, including requiring every patient that comes into a hospital with respiratory symptoms to immediately don a surgical mask and be isolated.

The level of preparedness, however, varies significantly from hospital to hospital, and from community to community, many public health officials said. It remains unclear whether hospitals would have enough trained staff members, respirators and isolation rooms to cope with a large outbreak.

"Surge capacity could be a problem," said Larry J. Anderson of the CDC's National Center for Infectious Diseases. "But I think we've come a long way. We've learned a lot about SARS and strategies to prevent spread."

WHO held meetings in Geneva last month to assess the state of scientific knowledge and public health preparedness. The agency called for tighter security at labs studying the virus to avoid a repeat of the Singapore accident. It also laid out criteria for evaluating potential therapies, including traditional Chinese remedies, in an outbreak.

Perhaps the most pressing decision was to organize an international network of laboratories that could validate test results. Authorities are deeply concerned that the flu and other respiratory infections that appear similar to SARS could set off false alarms that would quickly overwhelm hospitals and public health departments and cause economically devastating panics.

"The thing that I'm most concerned about at the moment is that we have no quality assurance," said WHO's MacKenzie. "How will we know if the test is a false positive or not?"

To try to minimize the number of false alarms, WHO is recommending that people with symptoms that look like SARS be tested routinely for the virus only if they are in countries where the disease occurred this spring.

But many experts said that because public health systems have been badly neglected for years, the world remains woefully ill-prepared to respond to any major new pandemics -- whether it be SARS, the next particularly virulent flu or some new menacing microbe.

"It's going to be a difficult winter in Toronto. I can't say I'm looking forward to it," said Allison McGeer, an infectious-disease expert at Mount Sinai Hospital in Toronto who was among the dozens of health care workers who contracted the disease. "But what I'm really worried about is that SARS will not be the catalyst that gets us to make a fundamental investment in our public health infrastructure. That's what's really scary."