Commentary

The Worldwide SARS Epidemic: Lessons Learned

The severe acute respiratory syndrome epidemic of 2003 is over, but the deadly virus could return again in early 2004. We must learn from this outbreak and prepare for similar crises in the future.

On 5 July 2003, the World Health Organization (WHO) declared that the worldwide severe acute respiratory syndrome (SARS) epidemic had been contained. It originated in China's Guangdong province in November 2002 and spread to more than 30 other countries, killing 812 people and significantly damaging many economies. The WHO declaration should not, however, be misinterpreted as meaning that the world is, or will remain SARS-free. The authorities in many regions had returned to a state of complacency concerning SARS even before the WHO declaration (for example, SARS checks were no longer being conducted on passengers entering Australia from Asia). The fact remains, however, that another SARS outbreak is entirely possible — and the disease could prove to be seasonal.

The WHO believes that continuing global vigilance against SARS will be necessary for the foreseeable future. The 2003 outbreak pushed even the most-advanced public health systems to the breaking point, and significant improvements in health systems worldwide will be necessary to prepare for another outbreak of this type. The impact of SARS was not limited to health systems. Governments, enterprises and their employees all learned painful but valuable lessons about the need for better preparation, collaboration, cooperation and communication in times of crisis. The challenge now is to learn from those lessons.

Basic healthcare measures should be implemented immediately in the event of an outbreak. During the SARS epidemic, many claims were made about technological advances against the disease. Some of these advances were indeed impressive (the virus' genetic code was "broken" within weeks, and a vaccine is already undergoing human testing in China and about to begin human testing in several other countries including the United States). Nonetheless, the most effective measures against SARS were basic healthcare practices — largely unchanged since the 1918 influenza epidemic that killed more than 20 million people worldwide — including simple quarantine procedures, the use of face masks to limit infection, and source/contact tracing. The most-important lesson: The more stringent these measures were, and the more quickly they were put in place, the more effective they were.

Technology has an important role to play — but it can also have damaging effects. Technology certainly helped to contain the SARS outbreak. Infrared temperature scanners, Webcams, telephones...
and house-arrest bracelets enabled authorities to test people efficiently at border crossings and ensured that quarantines were being honored; airline, hotel and hospital databases aided in source/contact tracing; and wireless Internet access made life for those isolation camps more bearable. Scientists and parties collaborating through the WHO used technology to facilitate communication around the globe, which greatly accelerated research and understanding of the virus. Governments in affected areas used technology extensively to communicate critical news about the epidemic. The government of Singapore established a SARS television channel to provide up-to-date information. Schools in China and Singapore used the Internet to ensure that students continued learning while their schools were closed.

Technology also caused serious problems. For example, a student in Hong Kong created an official-looking Web site that claimed the territory's borders were going to be closed, and the resulting rumor caused widespread panic. Technology was also critical to the official response: The Hong Kong government sent Short Message Service (SMS) messages to every mobile telephone in the area to dispel the rumor. SMS was later used to spread the message that Hong Kong had been declared SARS-free.

**Enterprises must extend their business continuity plans to take human needs into account.** Many enterprises have paid closer attention to business continuity planning in recent years — partly in response to the Sept. 11 terrorist attacks — but most still focus entirely on infrastructure and the ability to continue business operations by relocating or using backup facilities. The missing element in most business continuity plans is the ability to support human needs. Most enterprises remain ill-prepared to support a remote workforce during a biological or other health threat that affects employees' availability to travel to and from the workplace. During the SARS outbreak, many enterprises hurriedly installed virtual private network (VPN) facilities to provide their employees with secure access to data and applications. However, they quickly learned that many employees were still unable to access systems due to lack of the necessary hardware (most families have just one PC, and children and adults were competing for its use). Enterprises must prepare for such scenarios with a plan for acquiring, leasing or renting laptop computers.

Policies and procedures for dealing with crises of this type must also be put in place. Many enterprises' HR departments were thrown into chaos by the SARS outbreak, and many reacted inadequately or inappropriately — sometimes unnecessarily recalling or quarantining employees. By contrast, some Japanese companies have learned from the SARS experience, preparing healthcare and sanitation instructions and letter templates that can readily be adapted to deal with many health issues — for example, asking foreign visitors to take appropriate precautions, such as wearing masks and taking temperatures. Basic preparations of this type are not expensive, and ensure that enterprises can respond quickly and limit the spread and the impact of a future outbreak. Another key concern: Insurance policies should be reviewed to ensure that staff are properly covered in a disease outbreak; particularly close attention should be given to policies that are due for renewal, because new outbreak-related clauses are likely to be introduced by insurers.

**The IT industry supply chain is fundamentally sound.** Several of the regions that were most seriously affected by SARS are also centers of IT hardware manufacturing, and the SARS epidemic caused real concerns that the global IT industry hardware supply chain would grind to a halt. However, there was no real disruption to factories in Asia, and supply chains were not significantly affected. One reason may be that many IT-related factories are staffed by workers who live in somewhat isolated dormitory environments; another may be that many IT manufacturing plants are "clean rooms" and face masks are standard work attire. Whatever the reason, the SARS outbreak's impact on the IT supply chain was minor. Speculation that enterprises will change their supply chain risk strategies to reduce their dependence on Asian facilities is probably unfounded, because it is difficult to shift production facilities.
Some pending decisions to move manufacturing operations to Asia may be delayed or postponed indefinitely, but the total impact — especially balanced against the continued huge investments in the region — is likely to be minimal.

**Despite a poor initial government response to SARS, China remains a good place to do business.** Many industry observers have suggested that the Chinese government’s slow and ineffectual initial response to the SARS outbreak would discourage investment in the country. However, China eventually compensated very effectively for its early missteps, and the reasons for using China as a manufacturing hub remain as valid as before the epidemic. Most investors clearly understand the risks inherent in doing business in China, and SARS has not changed those risks. It could even be argued that this crisis has had a positive overall impact. The Chinese government now has a clearer understanding of the need for openness and transparency that comes with being a part of the connected global market.

**The economic impact of SARS was severe — but not crippling.** During the height of the outbreak, the most severely affected cities — Hong Kong, Beijing, Taipei, Singapore and Toronto — experienced significant declines in economic activity. The travel, entertainment and retail industries were hardest hit, because people avoided unnecessary exposure to public places for weeks at a time. (Only a few economic sectors — medical products, cleaning supplies, health insurance and online services — showed increased activity, and the improvements were only temporary.) Once the crisis had abated, consumers in the affected areas largely returned to their old habits. Corporate spending did, however, decline dramatically, with sometimes-unlikely implications for the global supply chain.

For example, Australian fisherman who provide fresh produce for restaurants in Hong Kong, Singapore and China were laid off for several weeks, which caused a decline in business for a number of Australian fishing communities. Many companies in the tourism, travel, retail and entertainment sectors in the areas most affected by SARS struggled to survive, and it will likely be a long time before corporate spending in these sectors returns to normal. Nonetheless, most industry sectors have recovered more quickly than had been anticipated; in many cases, sales are at higher levels than before the epidemic. Money that was held in reserve during the outbreak is now being spent, causing a short-term increase in sales, especially where retailers and manufacturers are offering special deals to clear out inventory. This will probably still not be enough to make up for the business lost during the SARS outbreak, but the economic impact of the crisis will clearly not be nearly as severe as was expected.

**Bottom Line:** It is tempting to view the worldwide concern about SARS as exaggerated, just as many people saw Y2K as a hoax because the world did not come to an end. The reality is that, in both cases, disaster was avoided only because of massive investment in controlling, overcoming and resolving the problems. SARS was a very dangerous situation that could have been catastrophic — and could occur again. Governments, enterprises and individuals must learn from the experience — just as we learned from Y2K — to be better prepared for crises.