

Are We Ready?

By Dr Leong Hoe Nam

I was a registrar training in Infectious Diseases when SARS struck. Fate had it that I was assigned to care for the index patient with SARS in Singapore, and that I later fell victim to the illness myself.¹ It is amazing how life has the ability to stop you unexpectedly. Working at both Singapore General Hospital and Tan Tock Seng Hospital then, I seemingly had no time for anything other than the daily grind. It took the SARS virus to stop this rushing train in its tracks.

I gave a detailed chronological account of my SARS story previously.² However, in that account, I did not document my reflections on how deeply the encounter with SARS changed my life. Having had a close shave with death, and henceforth gained an understanding of the fear of losing one's life, it is only logical that I am now better able to empathise with my dying patients. I learnt a lesson in compassion. Looking back, it was amazing how the stunned disbelief of my then circumstances led to a newfound reverence for God. I was quarantined in Frankfurt, Germany while the world was battling an epidemic which I had been training for! Stuck several thousand miles away from a place I called home, in a country with no English books other than the Holy Bible, I learnt about God. It was during that time that I experienced God's presence in my life more tangibly and gained a stronger conviction of His reality.

I appreciate how the world has since developed better systems for new epidemic threats. The genetic sequence of the virus isolated from me in Frankfurt was made available in the public domain.³ Having been directly involved in the SARS pandemic, it feels ironic and surreal that the threat of yet another one, this time with the H7N9 virus as the culprit, beckons at the door of humanity just a decade after SARS.⁴ Are we ready?

We have learnt much from outbreaks and pandemics. Singapore has had its fair share of influenza outbreaks in the 20th century. In 1999, however, the vulnerability of our island surfaced with the threat of the Nipah virus from our northern neighbour, Malaysia.⁵ From that experience, we learnt some infection control measures, which were put to the test when SARS struck in 2003. Sadly, we failed that test. There was widespread intrahospital transmission due to our insufficient preparation and failure in compliance with infection control.⁶ It was evident that no robust policy

was in place. However, Singapore learnt, and a National Influenza Pandemic Readiness and Response Plan was developed in the aftermath of the 2003 SARS epidemic.⁷ There were practices and rehearsals both on paper and in real life.⁸ When the 2009 H1N1 influenza pandemic hit, it was a good opportunity to test the plan.⁷ The public now has a better understanding and is better equipped for epidemic and pandemic threats. And today, the sense of *deja vu* cannot be more real!

From a doctor's perspective, I have seen greater awareness of infectious disease outbreaks in various hospital managements. Peacetime training comes with threats from methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant *Enterococcus*, and now, carbapenem-resistant *Enterobacteriaceae*, and the New Delhi metallo-beta-lactamase-1 gene. Efforts for infection control involve the use of the very isolation rooms built for future pandemics, and this strategy offers an opportunity to train healthcare workers in the care of patients requiring isolation. Airborne precautions for highly transmissible agents, such as measles, chickenpox and tuberculosis, are now more closely adhered to. Even members of the public are becoming accustomed to giving their particulars during hospital visits for contact tracing. Subtly, all these measures add to the readiness of Singaporeans for the next pandemic.

The rate-limiting step of managing the next outbreak is disease recognition and detection. We need to accelerate the development of more efficient diagnostic assays. At the moment, current methodology relies heavily on the expensive and laborious polymerase chain reaction, point-of-care testing tends to have lower sensitivities,⁹ and the timely development of an assay for a novel pathogen is unlikely.

Our preparedness for the next pandemic needs to be looked at, again and again. Singapore, an important travel hub, will continue to repeatedly face the threat of pathogens with pandemic potential visiting. Closing the city-state to all forms of travel is unthinkable and impossible. What is needed is strong political leadership with effective command, control, and coordination of responses.¹⁰ In essence, the concerted effort and cooperation of all the people, hospitals and agencies is vital. Only then can we slow down the arrival of the next pathogen. Resistance is anything but futile. **SMA**

References

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Photo: Alexandra Health

A healthcare worker in Alexandra Hospital putting on her "armour" before going to battle SARS