

Gearing Up for the Next Big Battle

By Dr Lee Pheng Soon

Dr Lee was SMA President during the SARS outbreak in 2003, having taken over from Prof Low Cheng Hock just weeks before the outbreak occurred.

The statistics of SARS are horrible even in retrospect. At least 8,000 people were infected worldwide, with about 800 deaths. In Singapore, 238 people were infected, of which 33 died, some of whom were healthcare professionals in the line of duty. Readers will no doubt see these numbers several times in this issue of SMA News. Some will also feel pain or a chill sweep over them – they may have lost loved ones to SARS, or had family, colleagues and friends infected but spared, or may themselves be survivors of the disease. It's funny how human emotions remain for decades: some doctors and medical students who were on duty or helped at the Singapore General Hospital and Alexandra Hospital in 1978, where the casualties of the *Spyros* explosion incident were sent to, still avoid some types of roast meat to this day. Similarly, SARS still makes my mediastinum feel cold.

But beyond the morbidity and mortality statistics of SARS, how many of us dare to think that we actually got off lightly, compared to what might next come? After all, by all accounts, the SARS virus was quite kind. Although extremely contagious, it offered those it touched a signal even a primary school pupil could be taught to recognise – fever, which started before transmission did – and therefore the possibility of self-isolation. Moreover, it was not as lethal as initially feared. Although no human being had anything other than innate immunity for self-defence, the SARS coronavirus spared nine lives out of every ten persons it infected. This “kindness” is poor consolation to doctors who were at the bedside of colleagues slipping away despite their best efforts, but it reduced the numbers lost.

We say we are now better prepared if SARS returns. We can now, within a few hours, set up walk-past thermal imaging temperature sensors for all sea and air ports. Our schools have taught pupils how to take their own temperatures, and the need for good personal hygiene. Our doctors now know that soldiering on at work when feeling unwell, is not always doing colleagues a favour of “helping to clear the workload”. Clinics have stocked personal protection equipment (PPE), and fever hospitals have been designated. But what would happen if what returns is not SARS, but something worse? Something just as contagious, but which infects before the first signs and symptoms manifest (like chickenpox often does), and is at the same time more lethal (perhaps like the Ebola virus, with an 80% to 90% instead of a 10% case fatality rate)? “Thank God there is no such disease,” I can hear some of us say. But this was what we said of SARS, before it arrived, before it had a name.

The most important but unspoken lesson from SARS, therefore, is that we should expect the unexpected. Looking back at the SARS experience, there clearly are some actions that we should consider now, in this time of relative calm, if we

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are to prepare the country to survive the next, perhaps bigger, challenge when it occurs.

Firstly, we need all doctors to know how to be as safe as they can, from the start. Therefore, an annual PPE course, including certification upon passing the practical component, should be built into the continuing medical education (CME) system. Trainers can be sent out to community clubs and similar locations, so that attending the course can be as painless as any other CME event. Perhaps private clinics should even be given incentives to certify their support staff as well.

Secondly, we need to have more people in the community trained to care for the sick. It's not too far-fetched to think of communities being locked down (or even locked out) in an epidemic. Ten years ago in Hong Kong, private housing estate Amoy Gardens was sealed off for ten days, and around 250 residents were quarantined away from densely populated areas. In the worst case scenario in Singapore, each HDB flat might need one trained health provider, taking care of a locked-in family. Might it be possible to train all senior school pupils for maybe a week, in medical and nursing skills that could support and sustain the lives of their family members in an emergency?

Thirdly, we need to think of how to have more doctors and nurses respond to such an extreme emergency. How do we ensure that some level of general clinical acumen is retained in doctors who have chosen to subspecialise in fields like administration, Public Health, non clinical research, or even aesthetic practice? How do we keep current, the healthcare workers (HCWs) who become dormant once they start a family?

We may also need expertise in skill sets generally ignored until such times of crisis. The old-fashioned public health inspector, trained both on vector control and contact tracing, may be the front-line soldier in such a future battle. As their numbers have fallen over the years, can we in addition consider training every National Service medical orderly in these skills? Perhaps during one of their in-camp training sessions set aside for this?

Finally, we need to think of how to encourage doctors and HCWs in the front line during the next war, in case the enemy is both more deadly and more tenacious than SARS was. Do we need to consider mobilising Singapore Armed Forces medical units to ensure adequate manpower? Should infectious disease content be taught as part of their Chemical, Biological, Radiological and Explosive training? How do we assure doctors and other HCWs (including assistants in GP clinics) that their families will be taken care of, should they fall in service? Should all healthcare professionals be on a life, disability and endowment insurance, with benefits paid out in the event of illness, disability or death in the line of duty, in future epidemics? The annual premiums could be paid by a central fund (or at least, if personally paid, be fully offset against personal income tax). In epidemics, as in war, those serving

in the thick of battle are more likely to fall. Surely we should provide some sort of safety net to those they leave behind?

I am quite certain of the return of SARS, or possibly something worse. It's only a matter of time. Just earlier this month, we read of the increasing number of deaths from H7N9 in China,¹ and researchers who deliberately and thoughtlessly swap genes between strains that could increase the risk of global disasters.² We already know that there are very few mutations needed for existing, naturally occurring viruses to become the source of a global pandemic, as a recent *Nature* article noted: "Worryingly, some Middle Eastern H5N1 strains can already recognize human receptors ... they could be just one stabilizing mutation away from being able to spread between humans."³

To me, the question is therefore not: "Will SARS return, and will we be ready to deal with it?" Rather, my fears revolve around: "How much worse might it be the next time?" I look to Singapore's national leadership to improve preparedness against an agent that may be both more infectious and more lethal than SARS was. SARS (or something worse) will return. The medical community will still be there to serve the country, but we ask for the best chance of survival, when we have to stand and fight. Being better prepared as a country than we currently are, is critical. If we are serious and prepare for this bigger threat before it occurs, we will have learned the most important lesson from SARS, one that will make the cost less difficult to bear. **SMA**

References

1. World Health Organization. Number of confirmed human cases of avian influenza A (H7N9) reported to WHO. Available at: http://www.who.int/influenza/human_animal_interface/influenza_h7n9/Data_Reports/en/index.html. Accessed 10 May 2013.
2. Connor S. 'Appalling irresponsibility': senior scientists attack Chinese researchers for creating new strains of influenza virus in veterinary laboratory. *The Independent* 2 May 2013. Available at: <http://www.independent.co.uk/news/science/appalling-irresponsibility-senior-scientists-attack-chinese-researchers-for-creating-new-strains-of-influenza-virus-in-veterinary-laboratory-8601658.html>. Accessed 10 May 2013.
3. Yong E. Mutant-flu paper published. *Nature* 2012; 485(7396):13-4. Available at: <http://www.nature.com/news/mutant-flu-paper-published-1.10551>. Accessed 10 May 2013.



Dr Lee has a Fellowship in Pharmaceutical Medicine from the UK Royal Colleges of Medicine. He works full-time in industry and part-time as a GP. Though sometimes still referred to as "The SARS President", he remembers how every member of the 44th SMA Council stood tall to be counted on when the call came, to serve SMA and the medical profession, even after returning exhausted from caring for their patients. What an honour it is to have stood shoulder to shoulder with such doctors!