

Staff in personal protective equipment moving a bed from one ward to another



# Ten Lessons from SARS

By Dr Wong Chiang Yin

## 1. The hospital is a dangerous place

When you walk around our hospitals now, if not for the fact that there are many staff in uniform, you would be forgiven if you thought you were in a mall or hotel. Much has been done to beautify our hospitals and to give them a softer, more welcoming image: buildings in soft pastel or cheerful colours, lush greenery and staff dressed in uniforms that would not be out of place in a holiday resort. But the fact remains that the hospital is a dangerous place. It has always been and will always be a dangerous place for all – patients, staff and visitors. This was so terribly demonstrated through the SARS outbreak.

## 2. Efficiency, optimisation and vulnerability

The quest for efficiency never ends at our hospitals. This is especially true in our restructured hospitals which have to cater to large workloads. We optimise our service delivery in hospitals and polyclinics to increase our efficiency and productivity.

However, optimisation involves making assumptions. The more we optimise, the narrower are our assumptions. And if our assumptions are wrong, then we get into trouble. Hence, the downside to optimisation and the quest for efficiency is that of vulnerability. The more we optimise, the more vulnerable we also get.

For example, to optimise manpower, many hospital

staff such as doctors, physiotherapists, pharmacists and even porters have to cover many different wards. This means that they have to walk all over the hospital, covering patients found in different places. But during the SARS outbreak, these staff movements also led to a large number of people running the risk of contracting SARS.

### **3. Organisational boundaries in the human mind do not matter to viruses**

In 2000, all public hospitals and polyclinics were divided into two healthcare clusters: National Healthcare Group (NHG) and SingHealth. However, viruses and bacteria have no respect for such man-made organisational boundaries. They can easily cross clusters. Most of us then working in the restructured hospitals found that belonging to whichever of the two clusters mattered little. Each hospital had to defend itself against SARS on its own. Each hospital had to help one another too, regardless of cluster status.

For example, at the beginning of the SARS outbreak, Tan Tock Seng Hospital (TTSH; from NHG) suffered from significant loss of intensive care unit (ICU) nursing manpower. Singapore General Hospital (SGH; from SingHealth) helped out by posting a team of ICU nurses to help with the acute staff shortage in TTSH's ICUs.

Later on, when SGH itself had a SARS outbreak in early April 2003, the affected staff and patients were transferred to TTSH for treatment, freeing SGH to remain as a general hospital admitting non-SARS patients.

### **4. Back-room logistics matter just as much as the front line**

Most of the time, people only see the more visible and glamorous aspects of the hospital, such as doctors and nurses caring for patients and so on. But during SARS, all of us began to appreciate the people who work quietly behind the scenes, such as the procurement and logistics personnel. There was a critical worldwide

shortage of personal protective equipment (PPE) such as N95 masks, gowns and masks. Under very difficult conditions, these silent heroes ensured that front-line staff were adequately equipped with PPE. Without them, SARS could not have been controlled. The same applies to the cleaners who worked tirelessly to disinfect the hospitals as well.

### **5. The importance of ICUs, A&Es and OTs**

A general hospital can be a very large organisation. You may lose a ward or two to SARS and you can still function as a general hospital. Likewise, you can also close down a clinic or two, and a general hospital can still go on like a big ship that continues to sail even when one or two cabins catches fire. But the three most important facilities in a general hospital cannot be lost – these are the ICUs, the A&E department and the operating theatres (OTs). A general hospital ceases to function when it cannot admit patients from its A&E, when it cannot transfer its critically ill patients to the ICUs and when there are no OTs for patients who need to undergo operations.

When TTSH became SARS Central, all of us in SGH were acutely aware that SGH had to continue to function as a general hospital. The country could not have both its largest acute hospitals, SGH and TTSH, not functioning as general hospitals. That would have been catastrophic. This was why when a SARS outbreak in SGH occurred, SGH staff worked doubly hard to ensure that SGH continued to function as a general hospital by ensuring that the ICUs, A&E and OTs continued to function.

### **6. Resilience: back to basics**

As medical science develops, there is more and more subspecialisation. This is also a form of optimisation (see point 2). General Surgery was subdivided into subspecialty teams in SGH, such as Vascular Surgery, Head & Neck Surgery, Upper Gastrointestinal Surgery, etc. There were also other departments such as Colorectal Surgery and Urology. Internal Medicine was also divided



Mr Liak Teng Lit, then Chief Executive Officer of Alexandra Hospital and his staff taking their temperatures

into subspecialty disciplines such as Endocrinology, Respiratory Medicine, Neurology, Gastroenterology, and so on.

During the SARS outbreak, we had a severe shortage of specialist staff because many fell ill or had to be quarantined. It was good that in the past, many of our specialists had broad based training. Subspecialists had to revert to practicing General Surgery and Medicine. For example, colorectal surgeons and urologists performed General Surgery operations, especially emergency ones, very competently.

We learnt the lesson that it is good to subspecialise, but for the health system to be resilient, it is also important for subspecialists to retain their general specialty skills.

During the outbreak, the hospitals' organisational structures were also simplified. Non-essential departments were operationally merged with essential ones. It was back to basics for hospital operations during the outbreak.

### **7. When management ends, leadership begins**

Business schools and management theories do not tell you how to get your nurses and doctors to enter the wards every day in the middle of the SARS outbreak in a life-and-death battle with the virus. Nonetheless, no doctor or nurse ran away from their jobs during the outbreak in Singapore. This is a great achievement. Other places, such as Taiwan, weren't so fortunate.

We have trained our healthcare staff well and imbued them with a strong sense of professionalism and commitment for this to happen. Equally important is leadership. Hospital leaders had to display courage and exercise leadership by exposing themselves to the possibility of getting infected by SARS, before the staff would follow. Management skills alone cannot achieve this; leadership is required.

### **8. Discipline**

To fight SARS at the personal level, discipline was needed. Discipline was needed to wash your hands, wear your PPE, change your gloves and gowns, etc. In the deadly game of SARS, it wasn't good enough if you displayed 99% discipline. You had to display perfect 100% discipline. The difference between 100% and 99% could well be life and death.

### **9. The best boost for confidence and morale is success**

Morale was low initially when SARS broke out. More

and more patients and staff fell ill. Several even died. Confidence suffered and morale went even lower. But as the days and weeks wore on, and we saw that as we introduced more and more measures to protect the staff and isolate affected patients, the number of patients and staff who fell ill decreased.

In a crisis, it is important to engage staff and give them pep talks so as to keep morale up. But ultimately, the best boost for confidence and morale is success. Staff realised that the procedures they adopted to block transmission of the virus were succeeding and bearing fruit. These small successes helped to boost morale along the way.

### **10. Controlling communicable disease outbreaks: no soft options**

Viruses or bacteria are smarter than we think. They will evolve and mutate, and the only thing we can be sure of is that there will be novel infections that will give us our next outbreak.

The next outbreak we have may not be SARS, and the same measures we used in the past may not work. But the principles of controlling an outbreak are always the same: remove the source of infection, break the transmission, isolate and treat the patients. But they are easier said than done. But the truth remains: there are no soft options, because taking the easy way out may mean more people suffering and dying. Being strict is being kind when you are battling an outbreak. **SMA**



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Leaving no surface uncleaned

Photos: Alexandra Health