

To: Hospital Management and Administration Group, SARS Expert Committee
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My working experience during SARS epidemics

11 March – 4 April 2003: Prince of Wales Hospital (PWH), New Territories East Cluster (NTEC)
14 April 2003: Briefing and discussion session in Yan Chai Hospital (YCH), Kowloon West Cluster (KWC)
7 April – 19 April 2003: Princess Margaret Hospital (PMH), KWC
22 April – 11 May 2003: Tai Po Hospital (TPH) & Alice Ho Miu Ling Nethersole Hospital (AHNH), NTEC

The following suggestions are based on my observations including direct communication and feedback from frontline medical and nursing staff of the five aforementioned hospitals:

1. There was a lack of mechanism that could efficiently distribute the details of SARS outbreak and infection control measures in PWH to other HA hospitals and government outpatient clinics. The frontline staff got the information mainly from media and personal communications among colleagues.

Evidence:

- Doctors in PMH were still instructed to wear surgical mask instead of N95 mask in SARS ward 3 weeks after PWH outbreak
- Doctors in Tuen Mun Hospital (TMH) were forbidden to wear N95 mask and other protective gear 2 weeks after PWH outbreak. After beginning of SARS patient admission, health care workers were instructed to gown up protective gear near the aft of SARS ward instead of outside the entrance. This practice had already been considered violation of infection control in other hospitals.
- The high risk of spreading infection in procedures like intubation were still not realized in other hospitals while intubation and manual bagging had already contributed to a significant number of infection among health care workers in PMH in early April.
- Early sign of deterioration and importance of accurate timing of pulse steroid in SARS patients were identified in PWH but these important points had never been conveyed efficiently to other hospitals, which resulted in delay in steroid treatment in many patients including diseased health care workers.

2. There was a lack of participation of frontline staff in the infection control policy making. Most members of infection control team were senior officials who were not working in SARS ward. Many of them had never go inside the ward. They had little idea on the pitfalls or practical tips of infection control in SARS ward. Feedback from frontline staff was not adequately valued.

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Evidence:

Many health care workers in PMH were infected after performing intubation and resuscitation despite standard protective gear such as N95 mask, face shield and visor. Over 50% of staff infections in PMH and TMH were related to resuscitation and intubation. High viral load during high-risk procedures were considered the culprit of causing "breakthrough" infection. PMH had therefore decided to upgrade the protective gear during intubation, which consisted of P100 mask and Airmate® with HEPA filter. I have informed this new policy and highlighted the risk of intubation to senior administrators of PWH in mid April. However, this suggestion was rejected and PWH staff were kept reassured that N95 mask and face shield were sufficient, while WHO had already revised their recommendation on protective gear for intubation at that time.

3. Senior hospital administrators failed to enforce managers of middle and frontline levels to maintain adequate supply of protective gear to frontline staff.

Evidence:

In a staff forum held in TMH in early April, a senior administrator of New Territories West Cluster reassured the frontline staff that there was ample supply of protective gear. Yet, frontline workers were complaining bitterly on the shortage of mask and water-repellant gown. The reply was: "This is a communication breakdown between you and your managers, this is none of my business."

4. A wrong estimation was made on the capacity of PMH in handling large influx of SARS patients.

Evidence:

- Early data in PWH available by the end of March revealed that about 20% of SARS patients required ICU care, notably second and third week after symptom onset. Since there were only 30 ICU beds in PMH, the calculated total number of SARS patients that PMH could handle would only be 150. However, more than 400 SARS patients were admitted to PMH ultimately. More than 40 patients developed respiratory failure by the end of second week after opening of PMH to SARS admission. Due to the shortage of ICU beds, many patients required resuscitation and emergency intubation in PMH general medical ward. I have witnessed the whole resuscitation team of five people got infection after performing an emergency intubation on a SARS patients. Inadequate ICU support in PMH led to more emergency intubations, delayed ICU care for critical patients and higher incidence of infection among frontline staff.
- Insufficient ICU support was also noted in TMH. [REDACTED], our diseased colleague, needed to perform manual ventilation using an unfiltered Ambu bag on an intubated patient for half an hour after knowing that there was no bed available in ICU. Five health care workers of that ward, including two diseased, were infected about one week later.

