專責委員會(2)文件編號 : W143(C)

SC2 Paper No. : W143(C)

Select Committee,
Legislative Council,
HKSAR.

15th March, 2004.

Dear Sirs/Madams,

Re: Select Committee to inquire into the handling of the Severe Acute Respiratory Syndrome outbreak by the Government and Hospital Authority

I, Cheung King On, have prepared the following report in response to the questions put to me by the above Select Committee:

On the 2nd of April 2003 I received an urgent appeal form Dr. Yan Wing-wa for ICU nurses. 4 ICU nurses were immediately sent over to PMH from CMC. At the same time I also suggested that I could help if necessary. Two days later, my HCE informed me of the critical situation in PMH ICU, and PMH would appreciate further assistance from CMC ICU team. I agreed to go over with one of my ICU MO. After further discussion with Dr. Yan we decided that I should officially start duty in PMH on the 7th of April, after the weekend. However on the 5th April I had an opportunity to visit PMH ICU to assess the situation. Dr. Yan was very busy doing a ward round and I only had a very brief discussion with him. But from what I observed, I was very concerned about the environment and the infectious control measures. I also noted that Dr. Yan was coping with a high volume of patients on his own. The next day I received feedback from the CMC nurses deployed to PMH who were very frightened by their experience. I formed the impression that the PMH staff were completely overwhelmed by the large volume of very sick patients. There was probably little time for them to properly organise, review or implement policies. Organization, communication and supervision among nursing staff seemed to have completely broken down.

On the evening of 6th April, I phoned up Dr. Yan and had a 2 hour conversation with him to have a better understanding of the situation and to discuss plans for improvement. Among other things I suggested that I

should bring in more supervisory nurses to help organizing the nursing team and to recruit more doctors.

On the 7th April, I went to PMH together with a medical officer from CMC ICU. Unfortunately Dr. Yan fell sick with SARS that day together with 7 other staff. I therefore took over the management of PMH ICU. The situation was much worse than I had imagine with a drastic shortage of doctors. I immediately proceeded to take the following actions:-

1. I recruited from CMC the ICU ward manager, ICU nurse specialist and the general manager of nursing (a very experienced ICU nurse who previously worked as DOM of my ICU) to help me. The CMC GMN later also recruited one ICU nursing specialist from KWH and one nursing officer from OLMH to help. PWH was also kind enough to send me a nursing officer who was involved in their infectious control set up. The CMC GMN took over the operation of the PMH ICU, and together with the other recruited supervisory nurses, became the core team responsible for the orientation and training of new recruits, implementing and enforcing infection control policies and overlooking and modifying the safe nursing practice in the clinical setting.
2. Reduced the traffic through ICU areas by closing the link bridge, and designating the whole ICU floor as restricted area.
3. Set up staff changing areas outside ICU (already in progress before I arrived).
4. Banned all staff from sleeping and eating in the whole ICU area and requested designated resting and eating areas for staff outside ICU.
5. Upgraded infection control measures with strict enforcement (with valuable kind input from members of PWH ICU infection control team).
6. Set up gown up and gown down stations with clear instructions and patrolling by stewards.
7. Arranged mask fit test for all staff.
8. Informed the administrators of the seriousness of the staff shortage and appealed for urgent recruitment.
9. Together with other senior staff, appealed for doctors from various sources.
10. Optimized the air flow, ventilation and exhaust system.
11. Made it very clear to the administration that under no circumstances should a fourth ICU be opened and to consider diverting patients to

other hospitals.

12. Organised the medical staff into two teams for more efficient caring of the patients. Later with arrival of more medical staff a third team was set up.

By the end of the week most plans had been implemented. The staffing situation was much improved. Workloads were curtailed as some patients were transferred to other hospitals and HA had decided not to send any more SARS patients to PMH. Unfortunately at about that time CMC was given 24 hour notice to receive SARS patients up to a maximum of 100, including 20 in ICU. I insisted on my return to CMC ICU. My last working day in PMH was 14th of April. On that day there were four other specialists responsible for clinical duties in PMH ICU, and Dr. C.C. Luk had also arrived from KWH to help with administrative functions. I handed over to Dr. Tom Buckley and Dr. Luk. After I left Dr. Buckley continued to be in charge of clinical management and Dr. Luk took over the administrative duties.

Dr. Cheung King On,
Consultant in charge, ICU, CMC,
FHKAM, FHKCP, FRCP(Edin)
Specialist in Critical Care Medicine.

ICU Experience:

[redacted]

Appendix IV

Please respond to the following questions in your written statement -

1. When did you temporarily take over from Dr YAN Wing-wa as the Chief of Service of the Intensive Care Unit (ICU) of Princess Margaret Hospital (PMH)? How many Severe Acute Respiratory Syndrome (SARS) patients were there in the ICU of PMH when you took over? How many healthcare workers (HCWs) of the ICU of PMH had contracted SARS when you took over? Were there non-SARS patients in the ICU of PMH when you took over? If yes, how many? Did you recommend that they be moved out? Did any non-SARS patients in the ICU contract SARS while they were in the ICU of PMH?

   I took over the administrative duty from Dr. Yan when he fell ill on the 7th of April 2003.

   There were just over forty SARS patients in the ICU of PMH when I took over.

   Eight HCWs were diagnosed to have SARS on 7th April, making a total of seventeen.

   There was no non-SARS patient in ICU at that time.

2. Please describe your involvement in setting up the new ICU structure at PMH in early April 2003.

   Please refer to main text.

3. Please describe the facilities and manpower available at the ICU of PMH when you took over from Dr YAN Wing-wa? Did you consider the facilities and manpower available adequate to cope with the SARS patient load? If yes, what was the basis of your views? If not, in what areas/aspects did you consider the facilities and manpower inadequate? Did you raise your concern with the hospital management? If not, why not? If yes, what was the response of the hospital management? Did you take any action to rectify the situation? If yes, what action did you take?

   Equipment was acceptable.
   Environment was unsatisfactory.
   Manpower was grossly inadequate in quality and quantity.
   My concern was clearly expressed to the hospital management. Their

response was supportive.
Main actions taken were as lay out in the main text.

4. Was additional manpower deployed from the other Departments in PMH and/or other hospitals to the ICU of PMH during the SARS outbreak at PMH? If not, why not? If yes, what were the details of the deployment?

A large number of staff was deployed to PMH ICU during the SARS outbreak, both from other departments of PMH and from other hospitals.

I was not directly involved in the recruitment of nurses and cannot provide details. I only know that 11 experienced ICU nurses were deployed from CMC alone. This constitutes one third of ICU workforce in CMC. Judging from the large number of new arrivals during my stay in PMH, the support from other hospitals was probably equally generous.

I cannot remember the details of the doctors' deployment. The situation was chaotic at that time as we did not know who was going to turn up for work each morning. SARS kept on claiming new victims and we were recruiting new doctors all the time. Some promised doctors never arrived, some only stayed for one or two days, and some voluntary workers only came for half a day and never returned. From the collective memory of other colleagues and from the official list, there were only nine doctors, including myself, on my first day, 7th of April. There were four specialists and only five medical officers. Four were from PMH, one of whom was from the original PMH ICU core team, and five were from other hospitals. By the 10th of April there were nineteen doctors. On the 14th of April, which was my last day in PMH, there were twenty seven doctors, twelve from PMH and none from the original ICU core team.

5. Did the HCWs deployed from the ICUs of other hospitals to the ICU of PMH encounter any difficulties in their work? If yes, what were these difficulties? Why were there difficulties and how were they resolved? Were non-ICU staff deployed to work in the ICU of PMH? If yes, why were they deployed? Did they encounter any difficulties in their work? If yes, what were the difficulties and how were these difficulties resolved?

I must emphasise it takes years to train an ICU staff. Even before SARS, there was an overall shortage of ICU staff. During the SARS crisis all ICUs were under stress. If you suddenly need to increase large number of ICU bed with so many ICU staff falling ill, it is obvious that non-ICU staff should be deployed to help.
Like anyone starting in a new job, if you are not familiar with the environment and the equipment, obviously you are going to have problems initially; and if you are a non-ICU staff obviously you are going to have

huge problems. The problems were further compounded by the fact that there were more guests than hosts and they did not know each other. They did not know who was the original core team staff so when they had problems they did not know who to ask for help. One of my top priorities was to recruit a team of capable nursing officers to train them, orientate them, and to support them whenever required. The situation could only be improved but could not be resolved. Everyone could only try their best to cope.

6. Did you make an assessment of why so many HCWs in the ICU of PMH had contracted SARS? If yes, what was your assessment? Did you step up the infection control measures in the ICU of PMH after you took over? If not, why not? If yes, how were the infection control measures stepped up and were they effective?

   In my opinion there were two main reasons why so many HCWs got infected. I do not think they have the time to properly set up an effective infection control policy. Secondly if you have a very large workload and inadequate staff, mistakes are more likely.

   One must understand most of the infectious control measures we took for SARS were not our usual practice. Some were completely new to us, and had never been in clinical use in most countries. The guidelines at the time were not well established and certainly not evidence based and were evolving all the time. Heads of individual departments had to assess their own situation and worked out a policy to suit their environment. While other hospitals probably had a little bit more time to digest the situation and had a better preparation, PMH was caught relatively unaware and were overwhelmed by the outbreak.

   After I took over I stepped up the infection control measures as outlined in the main text. Judging from the subsequent staff infection rate, the measures were 100% effective.
   Eight HCWs were diagnosed to have SARS on my first day, making a total of seventeen. Another five were diagnosed in the next two days and three more at the end of the week and they were the last cases to be infected in the unit. Though I took action from day one, it took two to four days for the infection control measures to be fully established. Taking into consideration the incubation period for SARS, one can safely claimed that twenty-five HCWs were infected with SARS before the infection control measures were stepped up, and not a single staff was infected after the new measures were established.

7. Were all the respirators used in the ICU of PMH equipped with filters connecting to a scavenging system when you were deployed to the hospital?

If yes, do you know when were the respirators equipped with filters connecting to a scavenging system and on whose advice? If not, did you consider that the lack of such respirators was one of the reasons for the large number of HCWs contracted SARS in PMH? How would you comment on the standard of respirators used in the ICU of PMH when you were deployed to the hospital?

All the respirators were equipped with filters.

Very few respirators were connected to a scavenging system. I am convinced that the scavenging system was not a factor in the staff infection. However as the issue was raised at the time by some members, for the benefit of doubt, we proceeded to explore the possibility of connecting all respirators to a scavenging device. There were three options. One could buy a commercially available scavenging system; but many brands of respirator did not have a scavenging system, and for those with one there was no stock available. The second option was to connect the outlet to the wall suction with some adaptation. The wall suctions in the ICU of PMH were not adequate for this purpose. The third option was to connect the exhaust air to the outside. After consultation with the engineers, small holes were drilled on the windows for this purpose. However we were concerned that the resistance of the tubing may cause back pressure on the respirators. No connection was made before I left. I believe that PMH eventually acquired a significant number of commercial scavenging systems, and the window connection was used for the remaining respirators. As the last case of staff with SARS occurred several days before all the scavenging systems were set up, it could not be a factor in staff factor retrospectively. The COC ICU recently reviewed the infection control policy in ICU and most were of the opinion that scavenging system was not essential and it was listed as an option only.

The respirators used in the ICU of PMH were satisfactory for the situation.

- END -