The Secretary
HA Review Panel on SARS Outbreak
Hospital Authority Building
147B Argyle Street,
Kowloon
Hong Kong

13th July, 2003

Dear Sir/Madam

I wish to make written submission regarding the SARS outbreak in Hong Kong. I do so on the basis of my position at the

1. Prince of Wales Hospital
   a. Consultant on call at the ICU of Prince of Wales Hospital from the 12th March, 2003, as part of my normal call rotation and subsequently
   b. Acting Director of Intensive Care at the Prince of Wales Hospital from the 15th March, 2003 when the Director of ICU left Hong Kong
2. Princess Margaret Hospital
   a. Consultant Intensivist at the Princess Margaret Hospital from 10th April 2003

I wish to make my submission based on my experiences first of all at the Prince of Wales Hospital and subsequently at the Prince of Margaret Hospital.

A. Prince of Wales Hospital

On the 12th of March I began my week of Consultant call in the Intensive Care Unit. During the initial handover ward round the ICU staff had discussed the fact that there seemed to be an outbreak of atypical pneumonia within the hospital, which had involved staff contracting the disease. Of particular interest were two cardiac surgeons who we work closely with.

There was also heightened awareness about a severe form of atypical pneumonia because of several apparently unconnected incidents, namely

   a. an outbreak of atypical pneumonia in southern China
   b. an outbreak of atypical pneumonia in Vietnam
   c. a patient at Kwong Wah Hospital with atypical pneumonia

That evening the first patient with atypical pneumonia was admitted to the Intensive Care Unit. Because of the above, all staff were instructed to wear an N95 mask as a precaution. These are routinely available in the ICU for use in patients who are infected with communicable respiratory diseases eg. tuberculosis.

During the next three days the number of health care workers and patients contracting atypical pneumonia increased and it became apparent that there was a disaster in the making. It was generally felt that unless drastic action was taken to control the disease then it had the potential to spread back into the community and beyond. This point was conveyed to the Hospital Management Committee, which worked tirelessly to understand frontline staff's concerns. The PWH HMC conveyed these points to the HAHO but the general feeling amongst PWH staff was that this form of atypical pneumonia was an internal PWH problem, which PWH had to solve.

Health Care Workers at PWH were absolutely petrified (myself included) of contracting this form of atypical pneumonia. We were ignorant of the aetiology, the mechanism of spread and the treatment options. Yet patients continued to be admitted to Intensive Care and despite aggressive resuscitation continued to deteriorate. Part of the fear was brought about by concerns that the Hospital Authority and Department of Health were unconcerned and not taking the situation seriously. This is best exemplified by Dr William Ho's unfortunate contracting of SARS. The question to be asked is how seriously did he take his own personal infection control. Why did the Department of Health, the Hospital Authority and the Government not be more proactive in the initial stages of the Hong Kong outbreak when they must have had so much more information about the situation in southern China than the average front line staff member. Even without this information, the Department of Health's surveillance and infection control protocols should have been rigidly implemented when the doctor from China was admitted to Kwong Wah Hospital.

The following morning frontline staff within the hospital had been instructed by their department heads to wear an N95. Over the next three days the ICU was evacuated of it's non-SARS cases as the number of patients presenting with atypical pneumonia requiring ICU admission increased. Contingency plans were put in place regarding possible expansion of the ICU. A limit was placed on the number of cases it was felt the ICU could care for, with available resources, while maintaining an appropriate level of care. The normal ICU has 22 beds and it was felt that a limit of 10 extra beds was possible.

Over the first ten days the infection control measures were reviewed and upgraded on a daily basis within the ICU. There was no scientific basis to any of the upgrade measures. Measures were introduced in the face of a continuing increase in the number of Health Care Workers contracting SARS. One of my principal aims at this stage was that no ICU staff were to become infected. I felt that in the predicament that we found ourselves that if a staff member had contracted SARS then I could not reasonable expect ICU staff to stay working. After all the ICU had the greatest level of protection. The HMC was very responsive to these measures and gradually these were also extended throughout the hospital and then the cluster. All infection control measures came from the bottom up as we sought to protect staff. Frontline health care workers had a vested interest in protecting themselves. The fear generated by the thought of contracting SARS with potential of spread to one's family and friends generated many ideas as to possible appropriate infection control measures. Shortly afterwards, hospital infection control teams, collated all the measures. There were no directives from the Hospital Authority down until a latter stage. While decanting patients to other ICUs and inquiring about the ability of other ICUs to take SARS patients I specifically mentioned the infection control measures introduced at PWH.

Two registered nurses contracted SARS in ICU from the first night duty. We felt this was because we did not appreciate the importance of an appropriately fitting N95 mask, which had to be kept on all the time. Fit testing was only introduced in the second week but even that was extremely subjective. Again this test was introduced by a front line staff member. This same staff member also suggested personal HEPA system or Airmate. Purchase of these was agreed by the HMC of PWH after the Hospital Authority had none in stock. One other registered nurse and two Health Care Assistants subsequently contracted SARS from within the ICU. It was repeatedly stressed to staff that we had to look after each other. Compliance with the procedures regarding infection control and personal protection was viewed as extremely important. The concept of a "policeman" grew out of this realization.

My final comment regarding the Prince of Wales Hospital experience concerns frontline staff frustration with the Hospital Authorities inability to lead. There did not appear to be any discernible plan of action from HAHO. It was comparable to a rabbit frozen stiff in the glare of bright lights. Decisions just did not appear to be made. Frontline staff were making decisions left

right and centre as the crisis developed but the Hospital Authority appeared to be in one meeting after another.

B. Princess Margaret Hospital

On the 9th April I was asked to go to the Intensive Care Unit at Princess Margaret Hospital to sort out the infection control and help with clinical management. Many ICU staff, both nursing and medical, had contracted SARS and there had been many admissions to the ICU resulting in a rapid expansion. I was extremely apprehensive about going to PMH – after all I had survived SARS at PWH and did not think I would be so lucky a second time. Rumours abounded about the lack of infection control measures in the ICU of PMH. Even if implemented there was an apparent lack of compliance as so many staff contracted SARS. When I arrived at PMH all PPE was available but the organization was chaotic. I was told on several occasions by various people that prior to the 2-3 days before my arrival that infection control measures were not being implemented to any great degree. An incident which has infamously become known as the SARS LUNCH occurred in early April IN the ICU of PMH.

The immediate steps after my arrival were

1. ICU designated an ultra high risk area and as such was to be considered 'dirty'. Prior to this ICU was divided into hot, cold and warm zones.
2. PPE was moved out into the central lift lobby rather than being in each individual ICU ward and a 'policeman' was instructed to enforce compliance.
3. No staff were to eat, drink or sleep in the ICU.
4. Viral filters were fitted to all ventilators
5. Stair access and the cross bridge used for easy access to another building were closed.
6. Exhaust and ventilation systems had previously been reviewed and while not perfect had been upgraded
7. A strict Infection Control Education Programme was introduced for all nurses by one of the Nursing Officers from the Prince of Wales Hospital
8. Mandatory fit testing programme began

Basically the whole of the second floor, except for the lift lobby was declared dirty. Staff could not cross into the dirty areas without first putting on PPE. Prior to this staff did what they felt like.

The second point I would like to make regarding PMH concerns the initial decision to designate it as the SARS hospital. When this decision was announced at PWH there was general disbelief. It was known that 20% of patients could be predicted to require admission to the ICU based on the PWH cohort. By extrapolation it could be assumed that PMH would require 260 ICU beds for it's 1300 beds!! The first response to the announcement that there would be a total of 100 ICU beds was that this would not be enough. The next response was disbelief that the HA could find enough staff.

After arriving at PMH and assessing the situation I have formed the impression that the PMH ICU was not capable of expanding beyond it's 14 beds let alone to 64 even with all of it's staff fit and healthy for the following reasons

1. The ICU PMH medical staff consisted only of 1 Consultant, 1 SMO and 4 Medical Officers. This is an unacceptable level of medical manpower for a 14 bed ICU and hence was not capable of absorbing additional workload. When four of the six staff contracted SARS then the medical structure and organization failed completely. Medical staff introduced either had no training in the care of critically ill patients or if they did were completely unaware of the procedures in the PMH ICU.

2. The ICU PMH nursing manpower was inadequate. While the HAHO guidelines enforce a total nursing establishment (bedside + senior) of 4.2 nurses to 1 patient under normal situations, international figures suggest that total bedside nurses required should be in excess of 5 per patient. This result was that the ICU again was not capable of absorbing any extra work. Nursing staff introduced either had no training in the care of critically ill patients or if they did were completely unaware of the procedures in the PMH ICU.
3. The view has been expressed that extra nurses and doctors could be deployed from other areas. This suggests a total lack of appreciation by the Hospital Authority of the skills and experience required to be an Intensivist or an ICU nurse. There is a lack of recognition of Intensive Care as a separate specialty requiring doctors and nurses with the skills and knowledge to care for critically ill patients. Just as an ophthalmologist would never be asked to carry out a total knee replacement it is equally unjustifiable to request a non ICU specialist to care for a critically ill patient.

Any system that attempts to expand to five times its normal size without appropriate planning, training and resources is bound to fail. Non-medical friends have commented to me on the absurdity of this decision.

In summary I hope to have highlighted several problems regarding the SARS epidemic, namely

1. Lack of communication from within the Hospital Authority at several levels
2. Lack of leadership and decision making processes within the Hospital Authority
3. Poor understanding and hence development of the specialty of intensive care medicine
4. Poor understanding of systems management with respect to the expansion of an Intensive Care Unit

The SARS epidemic was eventually brought under control by frontline staff's dedication and professionalism combined with excellent contact tracing. The epidemic has been a huge cost both in human terms and economically to the health and welfare of Hong Kong. The Hospital Authority has been unable to appreciate the climate of fear that prevailed at the Prince of Wales initially and other hospitals later on. Even now it's kind words only pay lip service to what has been an extremely psychologically debilitating experience for Health Care Workers and their families. Frontline staff have been empowered by the SARS epidemic and have lost confidence in the Hospital Authority's ability to deliver good governance to frontline Health Care Workers and the people of Hong Kong.

Yours sincerely

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