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Ms Flora Tai
Clerk to Select Committee
Legislative Council
Hong Kong SAR Government

16 January 2004

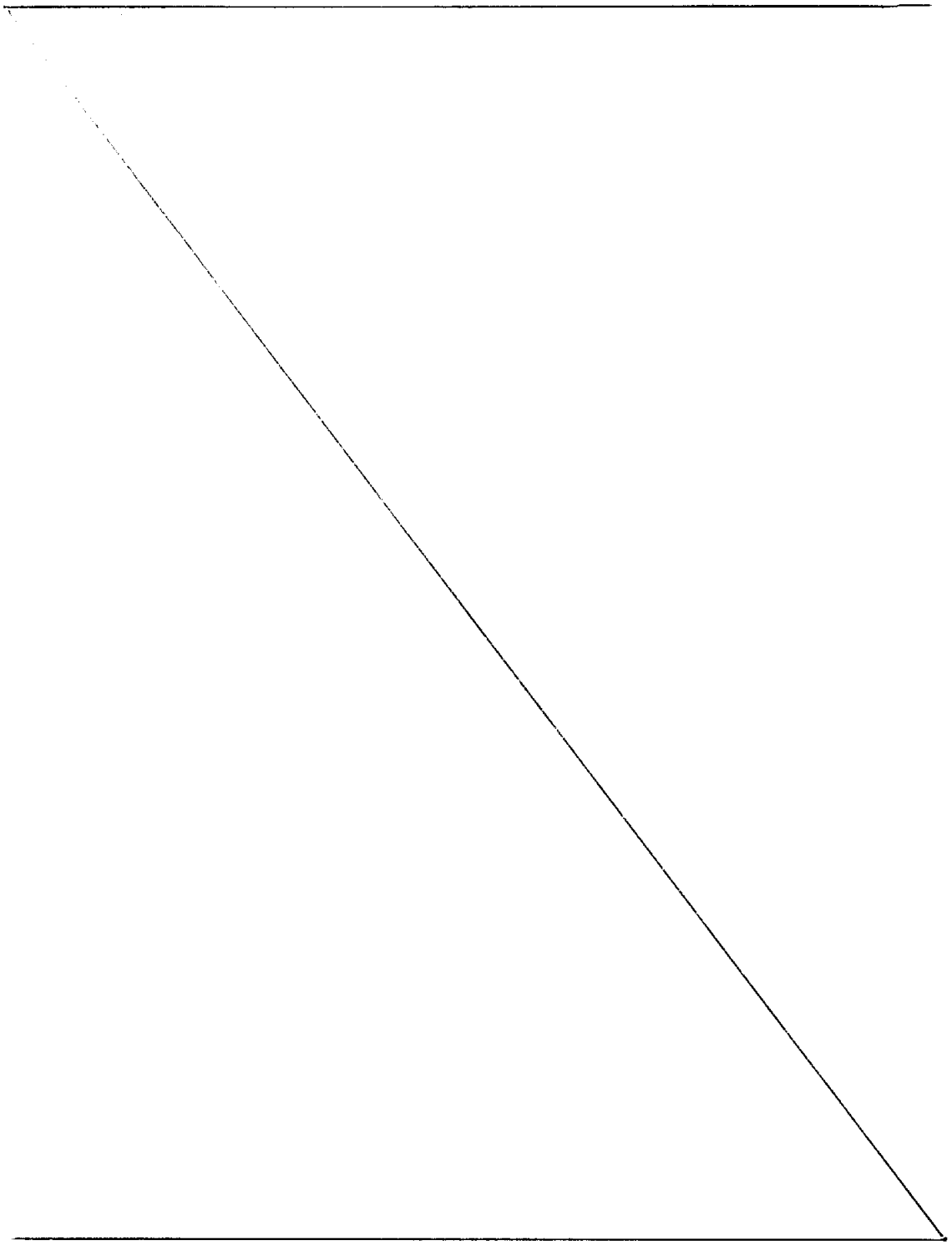
Dear Madam

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

Thank you for your letter on 7 January 2004 in which your Select Committee asked me to submit a written statement on two areas of study: contact tracing work of SARS patients and the issue of closure of Prince of Wales Hospital, and to answer the questions as listed in Appendix IV of your letter.

I shall first provide my professional qualifications and experience and the background of my involvement in the investigation of SARS at the Prince of Wales Hospital in March 2003.

1. Details of my professional qualifications and experience:



2. My involvement in the SARS investigation at PWH:

In March 2003, after I received the news via an email sent to all staff and students by my Dean (Prof. Sydney Chung) that an outbreak of a flu'-like illness (subsequently described as SARS) occurred in the Prince of Wales Hospital (PWH), I volunteered to assist, since I have had practical experience as well as research experience in my career history. An

important reason for my participation was that, judging from the response by the Department of Health (DH), I sensed that the outbreak had not been promptly investigated and that this could turn into a public health catastrophe. I became involved in the investigation of SARS at PWH since 14 March, when I was invited by Dean Chung to attend a meeting at the PWH, chaired by Dr. Fung Hong, Cluster Executive of New Territories (East) of the Hospital Authority (HA) and attended by academics of the Chinese University, where we were briefed by public health staff (Drs. TK Au and Thomas Tsang) of the DH on the investigation of the PWH outbreak. Subsequently, I was actively involved. Together with Prof. Joseph Lau of The Chinese University of Hong Kong, we collaborated with the DH (which sent 3 WHO consultants to investigate the PWH outbreak) and the Hospital Authority (led by Dr. Fung Hong, and included Drs. Kitty Fung of the PWH hospital infection control team and Louis Chan of the Disease Control Centre of PWH) in the investigation of the PWH outbreak. The focus of our investigation was on the epidemiology – in particular the transmission route of SARS and risk factors for contracting the disease. Patient interview was very difficult under the circumstances, and had to be performed by infection control nurses in the wards where SARS patients were kept. Further interviews of patients were conducted by telephone by myself. I did not take part in the contact tracing of the patients. I believe this was done by health nurses of the DH. Prof. Joseph Lau was responsible for investigating the "break-through infection" among health care workers (mostly nurses) who contracted SARS **after** stringent hospital infection control measures were adopted, to find out factors in health care practice that might be of "high risk". I was responsible for conducting epidemiological investigations on the **initial** outbreak (before the index patient was isolated), working with the WHO consultants on the design of the study. I collected data on medical students who had SARS and on a comparison ("control") group of medical students who did not contract SARS by telephone and email. I also studied doctors, nurses and technicians who developed SARS during this outbreak. My study formed the basis of a report (authored by Dr. CK Lee, a WHO consultant from Australian National University) submitted to the WHO. I have written a paper on the PWH outbreak that will be published in the February 2004 issue of *Emerging Infectious Diseases*, a journal of the Centers for Disease Control and Prevention, U.S.A.

There were lots of difficulties in the initial investigation. Data were not readily available, and in our studies (those headed by me and by Prof. Joseph Lau) we had to collect data all over again from patients, their home contacts and comparison groups (e.g., medical students who did not have SARS). Data of patient interview obtained by DH were not available to us. In any case they were recorded on forms that were not properly designed to answer the specific research questions that we needed to ask, namely the specific routes of transmission of SARS and the "high risk" factors for SARS.

In the collaboration between CUHK and DH, I shared all data I collected with the WHO consultants who worked with me. (A DH representative was present in some of the working meetings between the CUHK and WHO experts – initially, Dr. Sammy Tsang, then Dr. Ronald Lam, and later, Dr. Tham Mui Kwai.) The only data DH provided to CUHK was a list of SARS patients with the telephone numbers for Prof. Joseph Lau to do the telephone interview of the SARS cases to determine the secondary attack rate. As for

the studies I led, I did not seek any data from DH. Data on the list of SARS patients in PWH were provided by Dr. Louis Chan and Dr. SF Lui of PWH, HA.

I played no part in the issue of closure of the wards of PWH, as that was an administrative decision made by the HA based on professional judgement of various issues, including the risk of infection to the public, the workload of the hospital, the adequacy of facilities, etc. I was never consulted by HA on any of these issues.

3. Answers to your questions:

I shall now answer your list of questions:-

Q1: I was aware that DH staff were doing contact tracing work related to the SARS outbreak, as I met DH staff (doctors and nurses) who were stationed in the control room in PWH, coordinating the investigation work and the data collection work. I understood that they used a standard form for the investigation of infectious diseases, asking rather general data of the patient and the illness. I cannot assess its adequacy, as I had no knowledge how fast they did it or how thorough their work was. However, the information that Prof. Chung told me on 19 March, one week after the outbreak occurred at PWH, was that the household contacts of many of our PWH health staff (nurses, doctors and medical students) who contracted SARS had still not been contacted. Also, my understanding was that household contacts were only advised to report to DH when they fell sick (a process that can be described as passive surveillance), instead of being actively contacted every day (e.g., by phone or visited) to check whether they were sick or not (a process known as active surveillance). I did not consider passive surveillance to be a sufficient control measure for SARS. At the very least, active surveillance of contacts must be done. Quarantine of contacts is the preferred option to minimize the risk of a community outbreak that would follow the PWH outbreak. However, quarantine of SARS family contacts was implemented only after the Amoy Gardens outbreak, in early April 2003.

Q2: I was aware that a Disease Control Centre had been set up by hospital staff in the PWH. I had no first-hand knowledge of the specific data collected by the Centre, other than the fact that a database of SARS patients was created and continuously updated. I had not made any assessment of its adequacy, as I had no knowledge of the specific purpose of this Centre, other than a general understanding that its role was to monitor the situation of the outbreak and the in-patient statistics of this disease.

Q3: I need to explain the work relationship between CUHK, HA and DH in the PWH outbreak of SARS. I had no knowledge of the PWH outbreak until **12th March 2003**, from an email from Prof. Sydney Chung informing all the medical staff and students of CUHK of the outbreak, after which I volunteered to assist in the investigation of the outbreak. I was asked by Prof. Chung attend a meeting in the afternoon of **14th March** chaired by Dr. Fung Hong, Dr. Lui Siu Fai (who was a HA doctor responsible for investigating all the SARS cases at PWH) colleagues of CUHK, and DH staff - Drs. TK Au and Thomas Tsang. Dr. Au presented the epidemiological data (in the form of an epidemic curve) to the meeting. At the meeting, my impression was that the DH investigators were following the

usual procedures of outbreak investigation in the PWH outbreak. On **19th March (Wednesday)**, I was called by Prof. Sydney Chung to attend an urgent meeting on the control of SARS outbreak at PWH. At the meeting (attended by Prof. Chung, Dr. Fung Hong, Dr, Lui Siu Fai, Dr. Louis Chan and myself), Prof. Chung pointed out the apparent lack of progress by the DH staff in the investigation and control of the outbreak. He asked me to join hands with PWH (HA) in the outbreak investigation, and asked me to nominate other staff members in CUHK who might help. I nominated Prof. Joseph Lau of the Centre for Clinical Trial and Epidemiological Research (CCTER) of the Faculty of Medicine of The Chinese University Hong Kong, whom Prof. Chung promptly invited to be a member of the investigation team. As we lacked manpower to perform the task, Prof. Chung offered to deploy his team of research nurses (about 10 in number) to participate in the investigation. Prof. Lau and myself had several meetings with the nurses to discuss on the design of the questionnaire for the investigation, the approach and the logistics. However, there were lots of problems with the interview of patients by these nurses, and we felt we should not expose them to the risk of contracting SARS by asking them to go inside the SARS ward. There was little progress in the investigation until **24th March (Monday)**, when I was asked to attend a meeting with the WHO consultants who represented DH in the investigation of the outbreak. From then onwards, Prof. Lau and myself worked in full collaboration with the 3 WHO consultants for about one month, until the production of the Report on the PWH outbreak that was written on **4th May** and submitted to WHO by Dr. Lee Chin Kee, one of the WHO consultants who was with the investigation team throughout the entire period. (There were many changes in the team members of the WHO consultants.)

I was not personally involved with the contact tracing of family members of SARS patients. The work done by my colleague Prof. Joseph Lau was in some ways connected. He coordinated the telephone follow-up study of the patients' family members to determine the risk of SARS among family contacts. And in his study, he was provided with a name list and telephone numbers of **all** SARS patients (not only PWH patients). However, he was not responsible for discharging the public health duties of active surveillance of contacts for the purpose of early case detection and efficient control of the outbreak. This must be performed by DH staff who possessed the statutory authorities to perform such duties. My perception of my role in this outbreak has always been that, as an experienced specialist in public health, I should contribute to the community by using my knowledge and expertise in this area to advise the DH and the scientific community at large, through the investigation of the outbreak to clarify the mechanism of transmission of this new disease, so that proper prevention and control measures can be implemented based on scientific facts.

Q4: No, I do not know about this patient's details. In my studies of the PWH outbreak, the purpose was to find out the disease transmission mechanism. Accordingly, we focused on the following groups: doctors and nurses of Ward 8A, medical students and staff of Accident and Emergency Department who might have contacted the index case of PWH, and patients who stayed in Ward 8A during the period.

Q5: On **21st March (Friday)**, Prof. Sydney Chung called a meeting at 10:00 with pre-clinical (via tele-conference) and clinical chair professors at Postgraduate Education Centre, 1/F. He presented the situation of the outbreak to all and sought views from various faculty members. He asked me to express my views on the public health control measures, and I presented 3 possible courses of action that the DH can take:

1. Quarantine all contacts of cases;
2. Active surveillance of all contacts – make daily contact with family members of SARS patients to detect any new cases, and,
3. Passive surveillance: By asking the contact to report to the health authorities if symptoms arose. This last option was the one I believed DH was doing at that time.

I indicated the first option was the best choice, while the last was not the correct measure to take. My view was based on the knowledge that the disease had spread to the community and that it was highly infectious. Therefore, drastic action must be done to control the outbreak in the community. A senior member of the committee opined that, as a non-expert in public health, he would choose the first option, because he would rather err on the safe side in dealing with this new disease outbreak. There was no disagreement on my viewpoint that quarantine was the most appropriate measure to control the outbreak. During the meeting, I also suggested that the University must warn the medical profession and the general public of the threat of SARS to the community, and must advise Government to take strong measures to control the outbreak urgently. It was resolved that senior Faculty members would hold an urgent meeting with Dr. Leong Che Hung to discuss this issue. I learnt later that the Dean had issued an advice to medical doctors through the Hong Kong Medical Association.

Q6: On **20th March (Thursday)**, I learnt from Prof. Chung that the outbreak had spread to the community, during a meeting in the evening with other professors of the CUHK and senior staff of HA. I had no detailed information on the public health actions taken by DH. However, judging from announcements made by senior health officials in the mass media that there was no evidence of community outbreak, and that the PWH outbreak was a hospital acquired infection, my assessment of the Government's response at that time was that the health authorities regarded the PWH outbreak as one that was confined to the hospital, and did not recognize the fact that this hospital acquired infection originated from the community. The index patient brought the disease to PWH from the community. Therefore, there was already a source of infection in the community that could give rise to a community outbreak.

As for the public health control measures, I have mentioned in my response to Q5 that I believe that quarantine of contacts is the best option. But this was not implemented until early April. There is one possible drawback of the quarantine approach: the contacts of SARS patients may not comply with the order and this may lead to a dissemination of the disease to the community. As for home quarantine, the requirement by DH for the contacts to report every day to one of several designated health centers for physical check-up in itself will introduce a probability of the spread of the disease to others in the community, during their journeys to and from these centres. I have serious reservations on the logic of

this approach. Active surveillance with voluntary " home quarantine", but without the legally empowered enforcement of the "home quarantine" is the second choice. It is also an effective means of early detection of the disease, provided the contacts understand the purpose of this action and comply with the advice given. In Singapore and Toronto, which were also affected by SARS, the implementation of timely and strict quarantine measures seemed to have worked well, as reflected by the size of the epidemics in these cities compared to that in Hong Kong. I have no solid data to evaluate whether the DH has been efficient in its contact tracing work. To evaluate this, the proper statistics to ask for is not the total number of "contact tracings" made. Rather, one should find out how soon did the contact tracing process start for each SARS patient's family contacts (i.e., the time interval between identifying a case and conducting the contact tracing of his/her family or other close contacts); how frequently were the contact tracings conducted (daily contact for each family to check for symptoms, or just a "once only" contact for each family), and what instructions and advice were given to these contacts in the process. Before quarantine was introduced in early April, I had no precise information on whether DH was adopting active surveillance or passive surveillance of SARS contacts, other than knowing that its staff were doing "contact tracing".

Q7: I was not involved in the issue of closure of PWH during the outbreak. My understanding at that time was that proper isolation of patients had been implemented, together with enhanced measures for personal protection, and therefore further spread of the disease within the hospital would be minimized. I did not know about the decisions, or who was involved in the decision process concerning the closure of PWH.

4. Other information:

I think it would be helpful for the Select Committee to invite Prof. Joseph Lau Tak Fai to provide information on the part he played in the joint investigation of SARS with DH and its WHO consultants.

I hope that above information is helpful to your inquiry and am happy to provide any other information that would facilitate your work.

Sincerely

Wong Tze Wai