REFLECTIONS ON SARS – BOTH SIDES NOW

20TH Digby Memorial Lecture
University of Hong Kong Department of Surgery

delivered by

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Distinguished guests, ladies and gentlemen,

It is indeed my great honor to deliver the Digby Memorial Lecture. Initially I was not sure what topic I should talk about. But then SARS came and went, and I thought perhaps my reflections on this disease and my own unique experience in these few months might be of interest to you. I therefore have no scientific discoveries to report, nor grand designs to expound, but true stories to tell and feelings to share.

I actually consider myself privileged to be a SARS patient and survivor, while at the same time the Chief Executive of the Hospital Authority, during this sudden epidemic that shocked Hong Kong and the whole world. SARS had struck Hong Kong like no other disease had for the last hundred years. As of today we are already twelve days after being deleted from the label of an epidemic area by the WHO. As of today there are already two review panels trying hard to elucidate what happened, may be more to come, and amid public eagerness to pinpoint who did wrong and whose heads should roll. There are conflicting views on what should have happened, or even on what should happen next with respect to changes in our healthcare system to better prepare for a possible return of the virus.

SARS by all standards is an elusive disease. Even up to now, nobody knows for sure when and how it came about, and whether it will come again. For all we do know, it was probably around November 2002 in southern China, where probably a coronavirus jumped from some animals to humans, acquiring virulence and infectivity along the way. Even up to now, when there have been more than 8,400 people infected by the virus worldwide, with 812 dead, there are still a lot of speculations on how the virus actually spread. It must be more than just droplet transmission, and yet it must be less than full blown air-borne. It is not of high infectivity overall, and yet there are so-

called super-spreaders responsible for hundreds of cases spreading across continents, such as the mainland professor who stayed in Metropole Hotel. Many of the secondary cases just had very brief contacts with him, yet got infected. E.g. the nurse in the A&E Department of Kwong Wah Hospital who got the infection was actually working in the adjacent cubicle and never contacted him directly. Furthermore, she was wearing a surgical mask at the time because she herself had flu and didn't want to infect others. Strangely enough, the Ward Manager in A&E who talked to the professor in the cubicle and without any mask on, did not get infected.

The term Severe Acute Respiratory Syndrome itself is a mouthful, clumsy, long and non-specific. Diagnosis was by exclusion. But up to 10% of patients did not fit into the WHO criteria, yet they certainly were SARS patients, some of whom were so cryptic in their presentations that they accounted for many of the later outbreaks. In terms of treatment, we once had faith in the Hong Kong regimen of Ribavirin and Steroid, which I thought saved my life. Yet we were under heavy attack from others overseas, while they themselves have not come up with any convincing alternatives. Recently, hope is renewed by the combination of Ribavirin with Kaletra, and research protocols are drawn up, but now we have no patients.

In terms of workers protection, we are still not much wiser than we were. Arguments on the standard and adequacy of personal protection equipment (PPE) were the focal points of accusations on the HA management. The public just could not accept that such a simple task as supplying PPE to the frontline would pose any difficulties, not realizing that we were constantly facing moving goal posts. There was, and still is, a dearth of literature on the scientific basis of one type of PPE rather than another. Over-protection could be just as harmful as under-protection. Besides the scientific basis, or the lack of it rather, we had to balance the element of staff sentiment, the fear, and the legal considerations. We had to resort to expert opinion and management consensus. Unfortunately, this was well nigh impossible. I still remember those painful rounds and rounds of meetings with infection control experts of different hospitals, each holding on to their own belief, eventually coming to the conclusion that we needed more studies.

But we are certainly not alone. Arguments on PPE standards happened in the international scene as well. In the recent WHO conferences, researchers across the world met for two full days in Hong Kong and another two days in Kuala Lumpur, finally reaching no consensus on either the treatment or the PPE standard.

So this was the elusive disease that slipped into Hong Kong silently on February 21, inside the lungs of this mainland professor who came here for a wedding banquet. He was acutely ill with pneumonia the next day when he presented himself to the A&E Department of Kwong Wah Hospital. In the course of a few days, his sister and brother-in-law were similarly admitted, together with the A&E nurse I mentioned. The nurse had no response to treatment initially, until an incidental dose of steroid cover for a radiological examination dramatically brought speedy recovery to her, and led to this treatment beginning to be used on others.

By pure coincidence, a young man happened to visit his friend on the same floor of the hotel where the professor resided, became ill, and was admitted into ward 8A of the Prince of Wales Hospital. Although he transmitted the disease to so many others, he himself had never been seriously sick, and therefore remained unidentified as the index patient initially. Before the hospital could figure out what was going on, 50 health care workers, 17 medical students, 28 other patients, 5 relatives of his, and another 42 visitors came down with the illness. The whole hospital was shrouded in great fear, while protective masks, gloves, gowns and infection control measures were quickly stepped up. Careful studies retrospectively revealed that medical students coming to a particular cubicle in the ward after 9:40am on 8 March were all infected, while none of those who came earlier than 9:40am did. On going through the case notes of all the patients there, it was discovered the timing coincided with the prescription of nebulizer treatment for this particular young man. Besides the necessary isolation and cohorting measures, management and key clinical leaders worked day and night to make contingency plans, trace contacts, and wrecked their brains to figure out how to manage the highly charged situation. I was among them. In the twelve days that ensued, I was in the hospital one time or another, in eight days.

While I was going in and out of Prince of Wales Hospital, I was also busying other things including a public health conference where I delivered my first speech on SARS on 22 March. The same day, excellent scientists here in this university announced the epoch-making discovery of the Coronavirus as the culprit for SARS. That evening, I was in close contact with many VIPs both local and overseas in the combined dinner of the Colleges of Community Medicine and Family Medicine. The next morning I had fever, and by evening was admitted with SARS. Sometimes I wonder what would happen if I were a super-spreader. In any case, I do owe an apology for scaring all these other people, and perhaps rendering them imposing self-quarantine for 10 days, especially those overseas. Such was the dread of communicable diseases.

23 March 2002 would undoubtedly leave an indelible mark in my memory. In the past, I had the experience of being a hospital patient, but nothing very serious. But this time I was an acute admission contracting a little-known and potentially fatal disease. It manifested in the course of less than a day into a full-blown picture of high swinging fever, chills, myalgia, headache, and cough. I could remember every minute detail of what went through my mind that fateful Sunday evening when I went for a Chest X-ray in Queen Mary Hospital. I wasn’t worrying about SARS at all; I just wanted to exclude SARS. I guess that even as a doctor, I could not escape from this denial psychology. When the X-ray film arrived, together with the grim faces of colleagues, it was a total shock. It was unmistakable – I had seen such films dozens of times in Prince of Wales Hospital – typical picture of this atypical pneumonia.

Shocking though the reality might be, my entire frame of mind quickly shifted to the consequences of my illness rather than myself, or whether I would die. What big news to Hong Kong tomorrow, I thought, Chief Executive of the Hospital Authority

coming down with SARS. And would I have infected my family members, my top team whom I saw everyday, my driver, my secretary, my Chairman… And then I started counting the VIPs I met those few days. I couldn't think straight. The possible consequences were just too horrible. It was just too much. On the other hand, my wife was surprisingly calm. It is usually in such situations that we discover the inner strength and resilience of women, as opposed to the outwardly strong men.

After clinicians took my blood, finished their paper work and left, I was totally blank lying on the trolley. Time seemed to stand still. I recognized I became a patient needing help. There was no fear, no emotion, absolutely nothing. The next moment I was in the CT room and experienced it for the first time. After that was done, I was again by myself facing the ceiling. Ages passed, with occasional people entering my visual field to do something, like this dreadful nasopharyngeal swab that got me choked like hell. After a while, I was wheeled to the ICU. That was when incessant activities began. Several people were working on my body and four limbs at once, explaining what they were doing all the way, and I remembered just kept on saying thank you, thank you.

That night was terrible with swinging fever, heavy sweating, chills, myalgia and headache. There was no day and night in that isolation room with no windows, and there was no day and night in the activities. Because of the large volume infusions from two drips plus oral intake, I had to get up every two hours or so to pass water. Imagine doing that so very often amid all the fever and discomfort, and with the clumsiness of being hooked up with drips and monitors. I went through quite an emotional phase in the first few days, not so much because of the illness. In fact, after three and a half very tough years going through a lot of difficulties, this easily occurred when I had the time and silence I needed. Then naturally I reflected on how I treated my family all these years, and how much I owed my kids, almost like since they were born.

My condition worsened in the ensuing two days, with the chest shadow doubling in size. I needed some more oxygen than room air. The team was quite concerned, but I was not, because I was getting used to the room and the pattern of activities. Moreover I had to squeeze time to write my first Letter to Colleagues and making phone calls. Fortunately I responded to the third pulse of steroid. But unfortunately I developed complications to the treatment. My peripheral veins got thrombosed and inflamed, with tender clots running all the way up, and the whole right forearm was hot and swollen. The left arm was no better either. Eventually I needed a central line. The insertion was quite scary, painful too, especially when the first go was not successful. I became paranoid all the while imagining what structure the advancing needle tip was up to. But although I was groaning and moaning during the procedure, I actually felt more sorry for the poor doctor who had to do it on the CE than for myself.

So there I was with something hooked on my neck, with swollen and painful arms. But after a while I figured out how to self-help in unplugging sockets, treat the beeps in the intravenous pump, carry the drip set along to reach the washing basin, tidy up things and so on in that little room. And I did not feel confined at all. I suppose this

speaks volumes about the patient's perspectives in terms of information, anticipation, autonomy and the sense of control. Just a small degree of freedom would already do a great deal for the psychological well-being.

When I was transferred out of the ICU to the other room in the SARS ward, new complications developed. I almost lost my voice entirely, from small muscle weakness. In fact by that time, I was already quite scared at the rate my big muscles were wasting. The loss of voice created some sort of morale problem, because I had difficulty communicating with anyone over the phone. Then the night sweat was really bothersome. Every night I went asleep at around 11 o'clock, only to get up at 12 o-clock soaked right through, had to change clothes, pillowcase etc.; tried hard to sleep again, only to get up at 2 o'clock, again to dry myself. After a while it became very difficult to fall asleep, so the days became very confused. Getting up and down the bed, changing clothes and going to toilet like that with the central line on was very troublesome. My liberation finally came when the line was eventually taken off. I could, after ten odd days, enjoy my first real hot shower. That was simply luxury. There are many things in life we don't treasure until we lose them, and we never realize how wonderful they are.

The illness to me was not wholly negative. At least it gave me a break after a long, long while. I of course had been utilizing my time well, keeping myself busy even in the first week. When email and video-conferencing became possible in the room, I became busier still. There were daily morning round up meetings with all Directors and Cluster Chief Executives. There were some afternoon video-conferencing with staff, the largest being the one with Kowloon West Cluster, with 200 colleagues in PMH conference hall alone, and broadcast to hundreds others in five hospitals simultaneously. Then there were Dear Colleague letters to write, emails and phone calls to answer, statistics to analyze, and decisions to make. In fact, all major operational decisions since early April had my participation, so I could not and would not escape from any responsibilities thereon.

In retrospect, I believe the high dose steroid had fooled me when actually I should need more rest. I was constantly in a hyper state - working, eating and reading. After a while I could not even fall asleep. The side effects gradually took their toll. Palpitation became constant and very annoying, with blood shooting up my carotids whenever I lay down. I developed a bulging abdomen from over-eating but the limbs were all wasted with loss of muscle tone. There was blurring of vision, and I actually received an email asking me why was I using larger and larger fonts on the email. Then I developed severe dumping syndrome. I tried small frequent feeds, only to result in frequent dumping, even more bothersome. In my student days I always had difficulty appreciating what was dumping syndrome. Now I know.

On the other hand, there were welcome signs of resolution in the Chest X ray. My voice came back, and night sweat gradually decreased. I was finally discharged on day 21 with 50mg methyl prednisolone a day, quite a high dose still. I must say how much I appreciated the true dedication and high professionalism of the medical teams

who had saved my life and given me the best care in the world. I want to specifically thank the nurses as well not only for their tender, loving care, but also for their accommodation of my myriads of requirement. I could appreciate how difficult it was to arrange all the activities in tandem: the meals, the doctors rounds, the daily X ray, blood taking, nursing procedures – all had to tie in silky smooth with my video-conferencing and other busy schedules. I kept the fax machine in the ward busy as well.

If you think that's a bit too much for a SARS patient, I would say all these kept me sane. At least I found myself contributing when everyone else was fighting, and thereby ignoring all the physical discomfort. On the mental side, I again utilized my sickness well, because I sought help from my clinical psychologist colleague. The moment nurses heard about it, they were sort of concerned and asked me in an oblique way whether I was all right. Well I did not seek psychiatric help; I sought psychological help. This came from the realization that I could not go on doing the current job like that. Functionally and operationally I was doing fine, but I realized for some while that emotionally the stress level kept on building up. Frustrations just got suppressed and swept to the side unfixed. It was not the difficulty of the problems I faced. It was more the constraints from everywhere that I could do little about. The feeling of being squeezed, working in a very narrow gap years on end, to ease out problems rather than fundamentally solving problems by virtue of the surgeon instinct in me, required tremendous endurance and emotional control. I never had time to really come to terms with that.

So what more opportunity could I ask for than a hospital admission? I only asked for two visits of my psychologist colleague, knowing how busy she was dashing around to help SARS patients and their families. But that was enough because all I needed was just a catalyst. I knew what I was looking for. With her help, I learned some basic meditation theory and techniques to calm the mind. I discovered much more about my own thinking process. I re-examined my life and to an extent, grounded myself. In addition, I discovered new insights on how I should function in the CE position, and how my top team should function. It was quite a precious experience. On the day of discharge, I felt a bit weak from anaemia, a bit cushingoid, and a bit tremorous. But I felt I was walking out of Queen Mary Hospital with flying colors. Now you understand why I said I was privileged to be a SARS patient. As a matter of fact, I heard from quite a number of colleagues who got SARS that they also discovered great revelations during the sickness, and gained mental calmness like never before.

Returning to the real world was not easy though. The steroid and anaemia kept me from functioning normally. I remember the day when I did the recording for RTHK for the Hong Kong Letter. By the time I finished reading the seven pages in one go, I was panting for air, yet wouldn't like the reporter to notice it. My physicians and the HA Board Members strongly advised I should not go back to my office as yet. Officially I followed their advice as far as my Argyle Street office was concerned, although in reality, I was working daily in a secret vacant office in the Queen Elizabeth Hospital quarters, with a bed in the next room. The critical situation of the organization at that time would not allow otherwise. It was quite apparent my key lieutenants were on

breaking point. Even my Chairman was exhausted. They had been working continuously for long hours non-stop for too long, and under immense stress from the daily bombardment by the public. At one stage, I thought the HA was to be taken over. I had to come out and defend the organization.

Even during my hospital days, I had been forewarned to conserve energy for stormy days after SARS was brought under control. The fact that the peak was over was just the beginning of more troubles to come. We had to explain why there should still be outbreaks here and there, and why healthcare workers continued to be infected. My own Board members felt they had been left in the cold, unable to contribute in this crisis. We tried to make up for it, resulting in twice weekly meetings of the Board's Task Force, essentially the full Board, and thrice weekly hospital audit visits by Board members. We had difficulties even catching up with the production of papers for Board meetings.

Then there began the period of review panels, two in a roll. We again worked to the small hours of the days preparing detailed chronology of events, reports on every single outbreak, explanatory graphs and presentation material to meet all kinds of deadlines. It was one matter to make decisions in quick succession in response to rapid developments during the crisis, and quite a different matter to retrospectively capture and justify all the decisions made. Whole days were spent in these inquiries, going through the thick documents and producing answers to questions posed.

Meanwhile, work did not stop in the HA. There was urgency to renew an insurance policy that was going to expire, at a time when insurance companies had no interest in the HA in view of SARS. There was urgency to go through all the files for potential medico-legal consequences. There was urgency to improve ventilation systems in wards. And there was urgency to produce capital work plans to increase isolation facilities, so that a bid could be tabled before the Legislative Council for funding approval before its summer recess. There was also the need to ensure the greatest respect being given to colleagues who sacrificed their lives in the SARS battle, in terms of official recognition, memorial services, funeral arrangements, special payments and other assistance to the families. The one aspect that I had no time to address satisfactorily was HA's budgetary situation. In times of crisis, I had to leave this worry to a later date.

Sometimes I wonder, when will these ever end? But however busy we are dealing with the day-to-day issues, we have to look beyond. Beyond all the human sufferings in this crisis and all the fanfare of activities, what have we gained in terms of insights? There are certainly many "standard answers" to this question, like:

- It is time to re-emphasize public health, communicable diseases, and infection control.

- Government will put more money into healthcare delivery and research.

- HA should build more hospitals with isolation facilities, reduce activities and increase manpower.

- The strengths and weaknesses of hospitals in the HA have shown up so clearly, that the internal management strategies have to change.

To me, there are certainly yes and no to these standard answers, perhaps except the prediction that more money will come. In the short term may be yes, in terms of one off funding, but I doubt it very much that Government will waver in its savings program.

It is certainly true that the SARS epidemic has awakened us to the recognition that infectious disease epidemics are not things of the past, and that Hong Kong needs strengthening in public health. But in the bigger scale of things, do we not know about the problem of public health development in Hong Kong ever since the separation of HA from DH twelve years ago? It is certainly true that our hospital wards are congested, and we need to space out beds and do less. For the moment, activities in the HA are truly a lot less even when SARS is practically gone. But would we expect this will last, or that after SARS, there will be no more political pressure on the HA in terms of the waiting list? As regards the internal management in the HA, I only know too clearly where the pockets of strengths and weaknesses are. We certainly are not short of sweeping organizational reforms in these few years in an attempt to improve organizational performance. In other words, there are not many present surprises. But the SARS epidemic does open up opportunities to highlight things we already know, so that perhaps we have a better chance to make changes in the right direction.

However there is one significant point that stands out above the rest: Healthcare workers have finally regained the reputation and respect that we deserve. It is indeed most heartening that our effort through blood and sweat is recognized. I hope this one will last. My optimism stems from the general craving in our community for that most precious scarcity – men and women of high integrity and noble motives risking their lives for the common good, caring for the disadvantaged in society. No stepping back, no regret, no discrimination. Our colleagues have demonstrated human values of the highest order in times of crisis, something that shines brilliantly across the world and even surpasses workers elsewhere. It is also heartening to note that the transparency by which we conduct business here in Hong Kong, as well as the spirit of scientific pursuit, have won world recognition.

Nowadays, there have been a lot of talks about heroes. Perhaps we do need heroes in this era of mediocrity. But I believe our colleagues achieved what they did without starting off to plan for heroic deeds or recognition as such. They just responded to the call of the day, to fulfill their duties. Heroism is not romantic. Colleagues here did not discover the Coronavirus by chance over a glass of red wine, but through sheer might, ingenuity and determination over many sleepless nights. Useful data did not just pop up from the computer system, but through the countless hours of dedicated input, selfless sharing, and unsung heroes in the background doing the donkey work and

pulling people together into cooperation. Heroism is certainly not romantic when it comes to death. My heart goes to the healthcare workers who lost their lives because of SARS. It is one matter that we consider them epitomizing the spirit of medicine, but quite another matter for their family members to face the harsh reality. I have had the privilege of paying tribute to all six of them in the memorial services held in their hospitals, in the funeral parlors, and in the graveyard. I could feel the pain and suffering of loss in the eyes of the relatives, friends, and their own colleagues. To them, victory over SARS has no meaning. To them, their loved ones are gone, many at a young age. This Monday, I met the relatives again, in the HKCEC where the Chinese Premiere honored them. Some had apparently recovered, while others couldn't, or wouldn't. No words of praise or condolence, no medals or honors, would bring their loved ones back.

When I was in hospital, a colleague gave me a book titled Sheckleton's Boat Journey. This great explorer and his crew faced the most trying adversities when his ship was caught and later sunk by the crushing ice off the coast of Antarctica. They had to survive under the severest conditions not for one or two days, but almost one and a half years with no rescue. But through superb leadership, Shackleton did not lose a single man of his crew. I lost six, and it was very painful to me. With hindsight, perhaps I could do a little better here or there. Yet I also know, that I had probably done the best I could during the time, and the same could be said of my team.

SARS attacked us out of the blue, and then vanished, leaving some permanent scars in this place. There was bitterness and there still is. On the other hand, there were also many fond memories of how we had fought this war together, with great professionalism, courage and solidarity. This experience should keep us going amid great challenges. As for me, if I were unlucky I could have died. Now I am still alive, I got to utilize my days well. There is much meaningful work to serve others and to serve humanity that awaits you and me. I believe I have shown you that even a SARS patient could contribute something to others and to himself. More importantly, we can indeed learn a whole lot even among adversities, or especially in adverse times, and achieve personal growth along the way.

Before I close, I just share with you one more little experience in Queen Mary Hospital that warmed my heart. One evening during my hospital stay, my wife brought me a beautiful bouquet of sunflowers, but of course she could not come in because of the "no visiting policy" that I was duty bound to enforce. I asked the nurse whether she would be kind enough to find me a flask and put the flowers in. After a while she came in with a narrow flask of flowers with one hand, and three remaining flowers with the other hand. "Dr Ho," she said, "I've tried my best to squeeze in as many flowers into the flask, but still these last three have to be thrown away." I of course thanked her whole-heartedly, and said, "Never mind. It's already very kind of you." Then she went off, and I was preparing to do some reading before going to bed. But after a while, she returned. Surprise, surprise, she was holding a specimen rack with three de-capped blood tubes on it, each with one sunflower cut short. "This is the best I can do," she said. I was totally moved, and kept staring at the three flowers on the table. And this

was so stylish – sunflowers in blood tubes on a bedside table, lit by the warm glow of a hospital lamp. Whenever I think about SARS, I remember those three flowers.

Thank you so much.