

The plague within: an Australian doctor's experience of SARS in Hong Kong

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IT BEGINS ON Tuesday afternoon, 11 March, with another bothersome call from hospital administration. They want to take over our Emergency Department (ED) observation ward because the Department of Medicine has a couple of doctors who feel ill. They think that this illness may be contagious to other staff and patients, so a ward with a separate entrance and separate air-conditioning would be ideal. I make them aware that this action would severely hamper operations within the ED and that they should manage these doctors the same way we have treated the five ED doctors who, at the moment, have some viral illness: send them home. My answer to their request: no way.

A short time later, the Professor of Medicine and the hospital's CEO visit my office — a very unusual event. They say they are very concerned because not just two but up to eight medical staff and a number of nurses are febrile and feel unwell. Being a pragmatic ED doctor, I point out that we have to make sure that this illness isn't just one of the many benign URTIs we see at this time of the year. After all, about 20% of our ED attendances relate to URTIs. So, we all agree to callback 40 medical and nursing staff and have them examined that evening. If it turns out they are suffering from some unusual disease, I will be more than happy to hand over the observation ward.

I go home at 7 pm in the certain knowledge that I will have a relaxed evening with my family and will turn up to work tomorrow to greet a red-faced professor, apologising profusely for trying to disrupt our emergency service.

But, at 9 pm, I take a call from the medical team: they have screened the first few patients and all have high fevers and pneumonic change on chest x ray. Within hours, 20 staff are patients in the observation ward, not desperately unwell but a little anxious about what will happen next.

An over-reaction?

The following day, we held a meeting of all the chiefs of clinical services to discuss what we should do next. Among many of the senior people, there was a fair degree of scepticism and more than a suggestion that we were over-reacting to

this mystery illness. Could it just be that influenza or mycoplasma infection was affecting a disproportionate number of our staff? An over-reaction to the usual round of spring respiratory infections? We had heard of an outbreak of atypical pneumonia in Guangzhou, but the reports were that this was now under control, although rumours suggested otherwise. Certainly, the features of the illness were typical of the reports of severe acute respiratory syndrome (SARS) in Vietnam. We decided to work on the assumption that all three of the illness clusters were related in some way.

The ED staff who had been away from work with a "viral illness" were assumed to have the same disease. Despite their protests that it was just another minor illness, they were forced to come in and be admitted to hospital. More medical and nursing staff became ill, as did patients from the same hospital ward. A number of senior staff refused to come into hospital until they became very ill; this resulted in the spread of the infection to their families.

Early scare

Despite treatment, the condition of all the patients seemed to deteriorate over the first few days. It was not clear whether anyone was going to improve. Only five days after the illness first became apparent in our hospital, I was facing the real prospect that a member of my own staff would die. One of my residents, gravely sick, now required intensive care; even with 100% oxygen, he could not maintain adequate arterial oxygen saturations. I prepared myself for his death and let my other staff know that it was likely that he would die. Overnight, he was given high-dose steroids; he improved marginally. By some miracle, his condition continued to improve and he survived. However, at this stage of the outbreak, eight other staff from my ED, as well as over 50 other healthcare workers, were still patients in hospital. This illness looked like it could eventually involve all the hospital staff; potentially, any or all of us could end up in the intensive care unit (ICU).

Empirical experience

Medical treatment was largely empirical because the causative agent responsible for the illness was unknown to us. Patients were initially treated with oseltamivir and broad-spectrum antibiotics to cover all likely known pathogens. Ribavirin and steroids were used, but there was no way of knowing whether this was altering the basic course of the disease. With experience, it became apparent that high-dose steroids had a major impact in halting deterioration late in the illness.

Managing an illness that you know little about, under the scrutiny of your colleagues (as your patients), is very difficult. The pressures on all medical units and ancillary staff were enormous. The whole medical department was involved in treating the patients, and the number of staff affected grew

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See also page 478

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steadily to more than 150. After considerable negotiation with the health authorities, normal operations within the hospital were suspended. Fortunately, there was a high degree of altruism and cooperation among the medical staff; all departments contributed to both staffing (in a high-risk situation) and to the overall management of this disaster. There were daily meetings of chiefs of services and forums for regular staff. Daily, factually accurate updates were posted electronically.

It was simply incredible to see staff turning up to work each day despite the fact that, in the first two weeks of this experience, each day about four or five more staff members would succumb to the illness. From Day 1, all staff wore masks and gowns, but we were still getting breakthrough cases. With meticulous attention to infection control, watched over by infection control "police" in each ward, we were able to reduce this occurrence to near zero.

Like a stakeout

At a personal level, this is the first time I have felt threatened by the work that I do. Perhaps, it's a similar experience to that of a policeman on his first "stakeout", when he realises he might get shot. As a doctor, you know you are potentially vulnerable to the getting of all sorts of illnesses, but rarely a devastating, life-threatening one. I was worried about going home in case I would infect my family. When I did get home, I felt physically exhausted and emotionally drained, and didn't really want to talk to anyone. I would not and could not touch my wife or children for fear of giving them the disease. I slept in a separate bedroom; I ate separately. Clothes and fomites were washed separately and chlorine bleach was everywhere. My youngest boy developed a nervous twitch as he was told tales of the disease and harassed to wash his hands and wear a mask. Some of my colleagues began sleeping in their offices, refusing to go to their homes at all for fear of infecting their families.

It wasn't a situation I could go on living with. My wife and I decided it would be easier for all of us if my family returned to Australia. A couple of weeks after they left, I realised how isolated I had become outside of my work setting. No one wanted to come near me for fear of getting the disease; any social encounters became uncomfortable. Even in the carpark, people would skirt around me to avoid close contact. There was little time off work, anyway, because of the constant meetings and service commitments occasioned by the outbreak.

By strange coincidence, news of the Iraqi war was being broadcast continuously on television. Disturbing as the images of this war were, I realised that the battle we were fighting here might well have a more long-lasting, devastating impact.

Missing the point

When I spoke with friends in Australia, I was struck by how little they had heard about the outbreak in the first weeks and how little preparation authorities seemed to have undertaken. Some "armchair experts" were even saying that it was irrelevant to Australia, just another "beat-up". In their minds, influenza was much more important. I tried to remember the last time influenza had put 250 healthcare workers into hospital, with 20% of them in an ICU. I tried to remember the last time all the ICU beds in a city had been filled by influenza cases. As far as I was concerned, these "experts" had clearly missed the point.

Also, initially there seemed to be a high degree of misinformation about the symptoms, signs and mode of spread of this disease. In general, the only definite symptom was fever. In the early stages of the illness, cough, rhinitis and other URTI symptoms were actually less prevalent in the SARS group than in other patients. I believe that information being promulgated by WHO and the Centers for Disease Control and Prevention (CDC) was, in some instances, inaccurate and at other times misleading. For example, early enthusiasm surrounding diagnostic tests proved misplaced when we found only a 10% positivity rate. I felt compelled to make time for some radio and television interviews to raise awareness of SARS.

Late warnings

In Hong Kong itself, I believe the authorities were initially very keen to keep the public "in the dark". This was followed by an attempt to blame the hospital (and staff) for allowing the disease to spread. Initially, for fear of creating pandemonium, no moves were made to educate the public about preventive measures. We tried, through official channels, to get these messages out; unfortunately, most officials seemed to me to be more concerned with protecting the economy and preventing panic than containing disease. Unfortunately, this response seems to have been the typical one in some other jurisdictions as well.

Although the Hong Kong government has since adopted widespread public health measures, at time of writing it still maintains that there is no crisis. I do not agree; there is no obvious end in sight. More and more of the public are becoming infected. There is a high likelihood that more healthcare workers will be struck down. It is distinctly possible that if the numbers of affected patients continue to rise the whole public health system may collapse. The most likely pressure point will be the intensive care setting: with over 100 cases already requiring intensive care, it is inevitable that untrained staff will have to manage critically ill patients. Also, hospitals will have to "triage" patients, allocating intensive care beds and technology to those most likely to benefit before those with a lesser or low chance of survival.

Today, despite my concerns for the community, my personal fear has receded. I feel more capable of managing this threat than I did in my first fortnight's experience of it. Although I am not 100% sure of the cause of this illness (despite the confident reports from scientists), I do understand something about its course and how to control its spread, at least within the hospital. I know that most people will survive the disease.

However, I remain extremely frustrated that others are not learning the lessons that we have learnt regarding the need for stringent infection control. Most medical staff think they know about infection control and how to manage a crisis, and are unwilling to take advice. As a result of this attitude, and despite direct knowledge of our experience, I believe that about 20 staff at another hospital in Hong Kong have contracted the disease.

As a healthcare worker, the likelihood of contracting an infectious disease that will kill you is usually quite small. When a new, mysterious illness smites down a whole hospital and its workers, it hits at the heart of the health system.

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