



SARS and W.H.O. (Part 7)

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Editorial note:

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18 JUNE 2003 "UPDATE 83 – 100 DAYS INTO THE OUTBREAK"

WHO first alerted the world on 12 March to the SARS threat. From the 55 cases recognised on that day, alarmingly concentrated in hospitals in Hong Kong, Hanoi and Singapore, the outbreak exploded within a month to cause some 300 cases and more than 100 deaths in 20 countries on all continents. By that time, the public face of SARS was symbolised by a mask. The causative agent was conclusively identified on 17 April. Overall case fatality was 15%. The number of cases passed 4,000 on 23 April, 5,000 on 28 April, 6,000 on 2 May, and 7,000 on 8 May, with cases reported from 30 countries. At the peak of the global outbreak, near the beginning of May, more than 200 new cases were being reported daily. There were 8,000 cases on 22 May.

During June, the number of new cases gradually declined and this was not a "natural phenomenon" that could be attributed to a change in the virulence or infectivity of the SARS virus, as often happens with new diseases that quickly "burn out." Instead, the dramatic reduction in SARS cases was the result of monumental efforts on the part of governments and HCWs supported by a well-informed and cooperative public.

SARS is the first severe and readily transmissible new disease to strike a globalised society. As such, its history to date illustrates the favourable conditions, both for the devastating spread of a new disease and solidarity in its containment, that have come to characterise a closely interconnected, interdependent and highly mobile world. On the negative side, the volume of international air travel allowed SARS to spread around the world with unprecedented speed. The close interdependence of economies and markets amplified the economic impact of SARS considerably, while instantaneous electronic communications elevated public concern often to the point of panic and fear, and further added to the social and economic disruptions caused by SARS.

SARS has vividly depicted a truism of the infectious disease situation in a globalised world: an outbreak anywhere places every country at risk. The world's electronic interconnectedness contributed to the effectiveness of the first global alert to SARS. The initial 12 March alert, followed three days later by a stronger and more specific warning, provided a clear

line of demarcation in the early history of SARS. Areas with cases prior to the alert experienced the most devastating outbreak. These occurred in Hong Kong, Hanoi, Singapore, Toronto and China.

One of the most important lessons learned to date is the decisive power of high-level political commitment to contain an outbreak. The centuries old control measures of isolation, contact tracing and follow up, quarantine and travel restrictions proved effective even when applied on a monumental scale. Vietnam broke the chain of transmission on 28 April, as did the Philippines on 20 May and Singapore on 31 May.

SARS has repeatedly demonstrated its resilience with the resurgence of cases in Toronto. Single highly infectious persons have been known to set off trains of transmission that have led in the worst cases, to almost 100 additional infections. In Singapore, five patients accounted for 103 of the total 206 cases in the outbreak.

WHO sees a need for at least a full year of surveillance to determine whether the disease has established endemicity and to ensure that no cases have spread undetected to countries with poor surveillance and reporting systems. As of today, there is still no reliable point of care diagnostic test. Pending the availability of such a test, every case of atypical pneumonia has the potential to arouse suspicion and spark a panic. Any hospital-based cluster of febrile patients with respiratory symptoms will need extensive investigation. Any person with a fever or cough could be barred from international travel.

WHO CRITERIA FOR SARS LISTING

Although Singapore suffered a setback in its quest to become SARS-free earlier than 31 May 2003, what were the criteria WHO used to declare countries free of local transmission of SARS? When Singapore was heading towards 31 May, the US was no longer advising its citizens to avoid non-essential travel here on 8 May. (This travel advisory was issued on 13 March.) Further, the US CDC downgraded Singapore to the alert list, which only spells out health concerns and precautions. Julie Gerberding, CDC Director, said that Singapore is off the list as it has contained its SARS outbreak. Yet on 8 May, Singapore was still on the WHO list of SARS-affected countries and our last case was yet to be diagnosed on 11 May.

On 8 May, Singapore had fewer than 60 SARS patients in hospital; reliable data; fewer than five cases in three days, including imported cases; and had not exported the bug. However, there was one criterion still unfulfilled – no new

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case for 20 days, that is, twice the incubation period of SARS. Only then would Singapore be declared SARS-free. (*Straits Times*, 8 May 2003, pg 3.) En route to 31 May, we were almost derailed by an external party – “KL to report Singapore to WHO.” (*Straits Times*, 22 May 2003, pg 4.) The Deputy Director-General of Health of Malaysia cited three cases that he said slipped through Singapore’s screening systems undetected. Therefore, Malaysian authorities said they intended to send a report on the matter to the WHO.

Taiwan, the last country to come off the list on 5 July also had to meet the five criteria. On 3 June, Taiwan said it had met four of the five criteria required to lift the WHO SARS travel advisory against it. (*Straits Times*, 4 June 2003, pg A2.) The chief of the Cabinet’s SARS contingency committee said Taiwan had registered a downward trend in the epidemic, and had no more than five cases for three straight days. The island had also not exported the disease and was able to trace almost all new infections. Taiwan was trying to meet the last requirement, which was to keep the number of hospitalised SARS cases to no more than 60.

CASE DEFINITIONS CHANGE

Patients suspected of having SARS should be isolated when they test positive for the coronavirus that causes the disease, said the WHO. (*Straits Times*, 3 May 2003, pg 4.) Until then, only those whose X-rays showed signs of pneumonia, or were severely ill were put in isolation wards. This followed a major change in case definition so that a “probable” SARS case now included someone who tested positively for the virus even if his chest X-ray looked normal. Previously, X-rays had to show signs of infection in the lungs for a patient to be classified as a “probable” case. This decision resulted in more patients being considered “probable” rather than “suspected” cases, meaning more patients would be put in isolation to reduce the chances that they will infect others. This move was part of an effort to further reduce the chances that an infected person would spark a new outbreak of SARS. As a result of this new case definition, Singapore’s total number of SARS cases rose from 206 to 238, and therefore the fatality rate has fallen from 16% (33/206) to 13.8% (33/238). WHO had originally stated a mortality rate of 6% to 10% for SARS but revised this to 15%, after taking into account the length of time that patients have survived. So the death rate was 14% in Singapore, 15% in Hong Kong and 8% in Vietnam. (*Straits Times*, 9 May 2003, pg A4.) Furthermore, WHO reviewed the incubation period and continued to conclude that the maximum is 10 days.

MORE BITE FOR WHO

Although WHO issued the global alert on SARS on 12 March

2003, it had no explicit authority to do so. Until the change, the International Health Regulations that outline the WHO’s authority and the responsibilities of its 192 member states required nations to report only three diseases – smallpox, cholera and the plague. Further, WHO had no power to independently verify that a government’s measures to contain a disease outbreak were adequate. All this has changed. At the World Health Assembly in May, the 192 member states voted unanimously to give WHO the power to act promptly should a new health crisis arise. This constitutes the first significant expansion of WHO’s mandate in 30 years. If necessary, WHO can now proactively send its own teams into problem areas to verify if enough is being done to prevent a health threat to other countries. This resolution could not have happened without SARS. (*Straits Times*, 29 May 2003, pg 3.)

So WHO will attempt to build up capability in disease control modelled on the US Centres for Disease Control and Prevention based in Atlanta, Georgia. The SARS episode showed WHO at its best and not so good. It rallied governments and the aviation industry quickly in running up clinical firewalls. But it had to borrow epidemiologists and microbiologists from member nations and private research institutes. Singapore was one of the members tapped for its research expertise. A UN agency could not be effective relying on goodwill and sovereign resources whenever crises struck. WHO aims to be a supranational CDC. With the new capacity, the WHO will be in a better position to collaborate closely with its member countries in disease monitoring and reporting. China’s shortcomings, which surfaced during the SARS outbreak, were as much the WHO’s deficiency. (*Editorial “WHO in the Age of SARS” – Straits Times*, 23 July 2003, pg 12.)

As part of this new capability, WHO wants Singapore to become a full member of its global outbreak alert and response network (GOARN) and Singapore has agreed. (*The New Paper*, 25 May 2003, pg 35.) As a full member, Singapore would join countries such as the US, UK, Japan and Australia, which provide experts to help when there are disease outbreaks around the world.

TREATMENT

Initial research shows that steroids are most effective against SARS when given five or six days after a patient develops the first symptoms of the disease. (*The New Paper*, 13 July 2003, pg 18.) The report further said that ribavirin and steroids do not cure SARS but may help fight infections caused by the disease.

CONCLUSION

I hope readers will have a better idea of how WHO operates to control communicable diseases. Every public pronouncement by the WHO has tremendous social and economic impact.

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As a small nation state, we can scarcely shoulder the burdens of negative publicity in any shape, form or size. It is indeed an accolade to be invited by WHO to be part of its new capability. We must do our best to live up to that trust. We need to thank the many WHO staff who worked with us and helped us in Singapore. We thank them most sincerely.

They are: Dr Osman David Mansoor, Dr Stephen Lambert, Dr Cathryn Murphy, Dr Julia Fitzner, Dr Garrett Noel Smyth, Dr Suzuki Nahoko, Dr Kande-bure O'Bai Kamara, Dr Ali S. Khan, Dr Daniel H. Rosen, Dr Lisa Rotz, and Ms Marta White.

QUOTATIONS FROM WHO

1. Dr Rob Condon, epidemiologist with the Manila-based WHO Western Pacific Office.

"We are still trying to identify the cause but it is behaving very much like a virus that is passed through respiratory methods."

"We have also advised hospitals that the number of caregivers and visitors be reduced to a minimum. It would be good if family members could view the patients through a glass screen without contact that would put them at risk."

"We are leaving travel advisories to the individual governments but we are providing advice to them. Singapore's travel advisory is definitely reasonable considering the circumstance." (*The New Paper*, 16 March 2003, pg 15.)

2. Dr Gro Harlem Brundtland, Past WHO Director-General.

"Carlo Urbani's death saddens us all deeply at WHO. His life reminds us again of our true work in public health. Today, we should all pause for a moment and remember the life of this outstanding physician." (*Quoting Washington Post COX Newspaper, L A Times and AFP – Straits Times*, 31 March 2003, pg 5.)

3. A WHO spokesperson.

"WHO is not 100 percent sure that all of the cases in that estate are SARS related." (*Referring to the Amoy Gardens cases that had "complicated" matters – Today*, 1 April 2003, pg 2.)

4. Dr Aileen Plant, coordinator of the WHO team sent to help Hanoi with the outbreak.

"The French Hospital is quite an enclosed community with people working close together. It may be that rather than spreading the virus externally, they infected each other. In the end, we've guessing, and we couldn't really know until the outbreak pans out in Hong Kong and Singapore." (*Straits Times*, 2 April 2003, pg 6.)

5. Dr Robert Breiman, leader of WHO team in Guangdong, China.

"The Chinese in Guangdong have yet to hand over to the WHO team laboratory samples that are needed to analyse the virus. China also lacks the technology to test viruses. China must hand over the specimens for tests and allow equipment to be brought in." (*Straits Times*, 7 April 2003, pg 6.) (*WHO was finally granted permission to enter Guangdong on 2 April 2003.*)

6. Dr David Heymann, Executive Director of Communicable Diseases at WHO.

"China has finally been forced by international pressure to change its attitude and cooperate with the international country's efforts to contain the spread of SARS. By the time President Hu Jintao urged full-scale corporation with the WHO, five months had passed since the SARS outbreak erupted in Guangdong last November. And after Premier Wen Jiabao made it the first item on the agenda of a recent state council meeting, approval was at last given for WHO officials to carry out investigations in the stricken province. These are very positive steps taken by China." (*Straits Times*, 7 April 2003, pg 8.)

7. Dr Gro Harlem Brundtland, Past WHO Director-General.

"China is cooperating with WHO in efforts to hunt down the origin of the SARS outbreak. But China should have accepted international help before the deadly outbreak spread worldwide. Would it have been better if WHO had been given an opportunity with its experts to enter into Guangdong and be able to help the authorities there? The answer is yes. It would have been helpful, and it should have happened earlier in my opinion." (*Straits Times*, 8 April 2003, pg 4.)

8. Dr Ali Khan, representing WHO assisting MOH in Singapore.

"I think the Singapore Government has done an excellent job and I really would not characterize it as draconian. I would say they have put in state of the art public health measures, with complete transparency" (*Straits Times*, 27 April 2003, pg 3.)

9. Dr David Heymann, when in Bangkok to brief ASEAN leaders.

"It appears from reports we have from Hong Kong, Singapore, Toronto and Vietnam that the epidemic has peaked in those countries and now they've having fewer cases every day, and in some countries, no new cases, such as Vietnam. In most countries now,

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they've had one or two peaks and they're on the way down. We believe...they will stay down. We are receiving more and more reports now of cases in China, and it doesn't appear that it's peaked in China yet. We're very satisfied with what China is giving us but we know that there's more." (*Straits Times*, 29 April 2003, pg 1.)

10. Mr Pascale Brudon, WHO representative in Vietnam.

"Vietnam has been able to show the world that there is hope that SARS can be contained... It is a very good day for all of us in Vietnam. Vietnam's speed of action, leadership and transparency shown by the government had been crucial." (*Streets*, 29 April 2003, pg 1.) (*Vietnam was the first country declared SARS-free.*)

11. Dr Klaus Stohr, WHO's top SARS scientist.

"It's the first time we have hard data on the survival of the virus. Before that, we were just speculating. This means that if the virus is being kept at lower temperatures, we have to think about next winter. These studies are very important for designing strategies for cleaning and disinfecting." (*Straits Times*, 5 May 2003, pg 3.)

"We are sailing a boat while we are building it." (*Streets*, 5 May 2003, pg 8.)

12. Mr Iain Simpson, WHO spokesman.

"Toronto would be back on the list". (*Straits Times*, 27 May 2003, pg 3.) (*WHO could put Toronto back on the list of areas where SARS is spreading just 12 days after*

it was taken off after it confirmed 8 new cases of SARS and reported 3 deaths.)

13. Mr Henk Bekedam, WHO's chief representative in China.

"I dare to say that the SARS epidemic is over its peak. We can see this globally and also in China." (*Straits Times*, 6 June 2003, pg A2.)

14. Dr Daivd Heymann, at the WHO Global SARS conference in Kuala Lumpur.

"The WHO's global alert in March may have been the most important factor in preventing the spread of the disease around the world. Tomorrow, the March 12 alert will have been in place for 100 days and already, the WHO expects the outbreak to be over soon. No other country except Taiwan has had an outbreak since 15 March though there have been imported cases. It will take 12 months to determine whether SARS has been eradicated, as it is not known whether the bug will return with winter." (*Straits Times*, 18 June 2003, pg 6.)

15. Dr Gro Harlem Brundtland, Past Director-General of WHO.

"Attempts to conceal cases of an infectious disease for fear of social and economic consequences must now be recognized as carrying a very high price. This includes loss of credibility in the eyes of the international community, damage to the health and economies also for neighboring countries, and a very real risk that outbreaks within the country's own territory can spiral out of control." (*Straits Times*, 18 June 2003, pg 6.) ■