

AFTER SARS

FIVE YEARS SINCE A KILLER VIRUS HIT, OUR FIVE-PART SERIES LOOKS AT THE IMPACT OF THE DISEASE AND LESSONS LEARNED

PART 1 HONG KONG'S EXPERIENCE

Outbreak of fear

The appearance of a mysterious virulent disease that no one knew how to treat or stop from spreading gripped a terrified city, writes **Sarah Monks**

It was the run on white vinegar, herbal remedies and antibiotics in Guangzhou that first hinted at something seriously amiss over the border in early 2003.

For weeks, text messages had fanned rumours of a mysterious pneumonia-like illness killing medical workers in Guangzhou. At first, Hong Kong was bemused by talk of Guangzhou residents boiling vinegar to fumigate their homes. But by the second week of February, white vinegar was flying off the shelves of supermarkets in Hong Kong.

So began the saga of what became known as severe acute respiratory syndrome (Sars), the first severe infectious disease to emerge in the 21st century and pose a global threat to health.

The disease is thought to have had its roots in Foshan (佛山), Guangdong province, in November 2002. By August 2003, the killer virus had spread to 29 countries or regions, with 8,098 cases and 774 deaths reported. In economic terms, Sars cost East Asian economies about US\$20 to US\$25 billion, according to the World Bank.

An official Hong Kong Sars inquiry marks March 10 as the date the local epidemic began, when 11 health-care workers from ward 8A of Prince of Wales Hospital in Sha Tin all went on sick leave. The epidemic lasted three months and infected 1,755 individuals, including 386 health-care workers. Of the 299 people who died, eight were health-care workers. Hong Kong was an eerie city of masks, empty streets and fear as it suffered its worst contagious outbreak in 50 years.

Much has been published about how the crisis unfolded and what was learned. At the time, Sars was a terrifying mystery. The world was initially kept in the dark about the seriousness of the outbreak in Guangdong, a stance Beijing later changed. There were even rumours the virus might be a bio-terror attack. Nobody knew what caused the pneumonia-like disease, how it was spread or how long victims remained infectious. There was no diagnostic test.

Hong Kong initially moved to calm rising fears about the mysterious pneumonia outbreak in Guangdong. Yeoh Eng-kiong, the secretary for health and welfare at the time, said on February 11 of that year: "We understand ... that there have been about 300 cases of which there are five fatalities. But many of the infections have been mild and there is no need for people to worry and to panic."

Hong Kong, the mainland and the World Health Organisation had been on

alert for some time but for a different disease – bird flu (the H5N1 virus). On February 17, 2003, bird flu claimed its first human victim in Hong Kong since six people died of the disease in 1997 – a 33-year-old man who had visited relatives in Fujian province (福建).

Medical experts worried about Hong Kong's state of readiness. An associate professor in the department of microbiology at Chinese University warned on February 20: "We are not prepared for an epidemic." With only a few isolation wards, he said: "You cannot create them in one day."

A senior WHO official in Tokyo voiced unhappiness at the way mainland officials were handling the bird flu incident in Fujian and recent pneumonia outbreak in Guangdong. "We are worried that it is the beginning of an epidemic," he said.

It is a holocaust. It is a war with an unknown enemy. My hands have shaken for two nights. It is the worst medical disaster I have ever seen

Sydney Chung Sheung-chee, former dean of medicine, Chinese University

On February 21, a 64-year-old medical professor from Guangzhou arrived in Hong Kong with his wife to attend a relative's wedding. They stayed one night in room 911 of the Metropole Hotel in Mong Kok. The following day – five years ago today – the professor, who had treated atypical pneumonia patients in hospital in Guangzhou, sought treatment at Kwong Wah Hospital, where he was admitted with severe pneumonia. He died on March 4.

For the next couple of weeks Guangdong's fatal "atypical pneumonia" outbreak all but vanished from view as other concerns dominated Hong Kong headlines, including final preparations for the war in Iraq and the proposed Article 23 security legislation.

Then the onslaught began in earnest. On March 12, the *South China Morning Post* ran a headline: "Ward isolated after hospital staff fall ill with mysterious flu". The article detailed the sudden illness of medical workers in Ward 8A of Prince of Wales Hospital. Contact-tracing connected the outbreak to the Metropole Hotel. The Guangzhou professor was identified as the

index case for the chain of outbreaks in Hong Kong, Singapore, Canada and Vietnam that was spread through infected hotel guests and visitors.

As Hong Kong case numbers soared towards the end of March – spiking at more than 100 new patients per day on March 24 and 25 – fears mounted that the public hospital system would be overwhelmed.

"It is a holocaust. It is a war with an unknown enemy. My hands have shaken for two nights. It is the worst medical disaster I have ever seen," said Sydney Chung Sheung-chee, who at the time was Chinese University dean of medicine at Prince of Wales Hospital. He had earlier challenged suggestions by health chief Dr Yeoh that the disease had not spread to the community.

The worst community outbreak, at the Amoy Gardens estate in densely populated Kwun Tong, sparked days of terror amid fears the virus might be airborne, which was later disproved. This added to fears that the isolation and evacuation of Amoy Gardens Block E residents might have been bungled, allowing Sars to spread.

There were also fears emerging that the anti-viral drug ribavirin, used to treat the most serious cases, would cause harmful, long-term side effects. A nervous populace was also rattled by rumours that Hong Kong would be treated like a "plague city" and its borders closed. When the new coronavirus identified as the cause of Sars was linked to wild civet cats, fear spread that household cats could carry the disease.

At the height of the outbreak, Hong Kong's domestic economy was devastated. Malls, restaurants and cinemas were deserted as people avoided public places, stayed at home or spent their weekends in outlying areas. April retail sales were down 15.2 per cent from the previous year. The airport resembled a ghost town as visitor arrivals plummeted from 1.3 million in March to 500,000 in April and 400,000 in May. Hotel occupancy rates collapsed from 79 per cent in March to 22 per cent in April and 18 per cent in May.

By contrast, the external economy firmly held its ground. Despite disruption to trade shows and other face-to-face business contacts, Pearl River Delta production was unfazed and exports continued to grow.

The Hong Kong Institute of Economics and Business Strategy at the University of Hong Kong later noted that the Hang Seng Index dropped by only 1.78 per cent between March 12 (when the WHO raised the global alert) and April 30.

With the closure of schools, significant numbers of expatriate mothers and their children left Hong Kong to wait out the time in non-Sars affected countries. Some were cooped up in hotels for 10 days as relatives insisted they quarantine themselves.

Daily life in Hong Kong carried on in a subdued fashion. Rush hours were quieter and many employees worked offsite under contingency plans to keep operations going should their offices be hit by Sars.

The cleaning of the city and tackling of "black spots" by government hygiene teams was applauded. Temperature checks at borders provided reassurance, along with mats soaked in disinfectant at the entrances to office buildings, and regular disinfection of lifts. Homes were aired and thoroughly cleaned with bleach. Personal hygiene habits changed for the better, with regular hand-washing and wearing of masks if unwell. Any unguarded sneeze or cough drew accusing looks.

While government wrestled with the



A couple wear protective masks as fear grips Hong Kong during the Sars outbreak in March 2003. The epidemic lasted for three months and infected 1,755. Photo: Robert Ng

crisis, civil society came to the fore. Community groups, business chambers and the media organised campaigns to overcome fear, provide comfort and bolster confidence. These ranged from raising money for N95 masks for medical staff to helping children of Sars victims and planning activities that would speed Hong Kong's eventual recovery.

When the WHO lifted its travel advisory on Hong Kong on May 23 the celebrations were brief. There was work to be done to get the city back on its feet. The Trade Development Council staged an extra trade show in July to make up for the disrupted spring events. The government's HK\$1 billion Economic Relaunch Programme went into high gear, aimed at "restoring Hong Kong's reputation and communicating Hong Kong's recovery to the world". The plan eventually included the controversial Harbour Fest concerts staged in October and November at Tamar with The Rolling Stones, Jose Carreras, Prince, Neil Young and others.

The recovery defied initial alarmist predictions of prolonged damage from Sars. By the end of August, the number of passenger flights was nearly back to pre-Sars levels. Hotel occupancy was up to 71 per cent by early July. Retail sales reached their pre-outbreak levels by the end of July.

Property prices began rising from the August low point as homebuyers looked for bargains. The economy was further buoyed by more good news from Beijing about the Closer Economic Partnership Arrangement and individual visits by mainland tourists.

The Sars epidemic in Hong Kong was officially declared over on June 23, when the WHO removed the city from the list of areas with recent local Sars transmission. With relief came much soul-searching.

In October, the independent Sars Expert Committee appointed by the then chief executive Tung Chee-hwa reported its findings and recommendations. Co-chairs Sir Cyril Chantler and Professor Sian Griffiths, both from Britain, noted the extraordinary service, hard work, attention to duty and acceptance of responsibility shown by many during the outbreak.

In their covering letter they also wrote that there were system failures in the response to the epidemic, particularly in the early phase. "Lessons must be learnt, and there is much that needs to be done to strengthen the public health function, to improve the co-ordination of the different parts of the health sector, to provide clarity in roles and responsibilities and to improve communications."

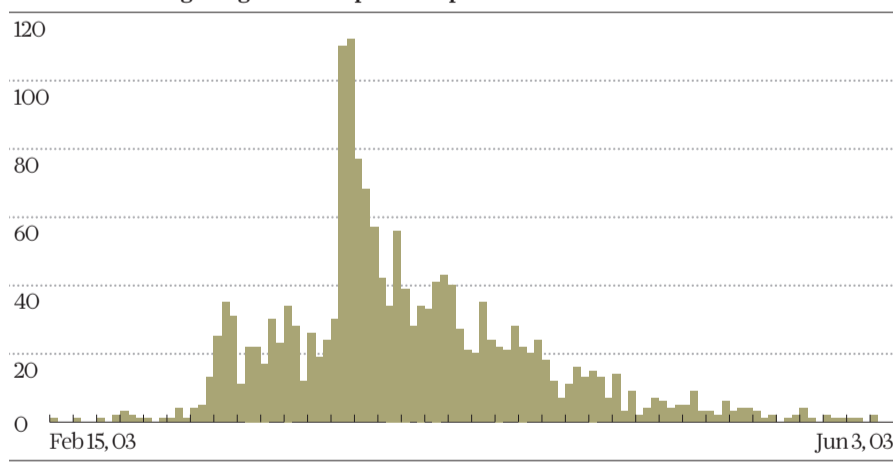
The independent think-tank Civic Exchange, which produced a book on the Sars outbreak, said in its 2003 annual report that at a time of crisis, Hong Kong people proved they could be generous, compassionate, co-operative and professional. "The experience gave Hong Kong people back their sense of dignity and pride, which has suffered in recent years as a result of self doubt and uncertainty about how Hong Kong fits into a rapidly modernising China," wrote chief executive officer Christine Loh Kung-wai.

"The Sars outbreak also helped Hong Kong people to see which aspects of life were truly important to them. These included the ability to question authority, a free media and an independent and dedicated medical profession."

Tomorrow How HK's health system responded and adapted; plus how the world responded as the disease spread

Tracking a killer

Sars cases in Hong Kong: how the epidemic spread



SCMP GRAPHIC SOURCE: SARS EXPERT COMMITTEE REPORT

Turbulent days from local rumour to international alert

January 2003

23 Guangdong health officials produce an internal report on cases of atypical pneumonia in the province. Rumours of mystery killer disease spread in Guangzhou.

February

10 Hong Kong media start reporting on Guangdong outbreak. Hong Kong health officials unsuccessfully seek information from their Guangdong counterparts.

11 Beijing's Ministry of Health informs WHO of 300 cases of an acute respiratory syndrome in Guangdong, including five deaths.

13 The Hospital Authority begins notifying the director of health of suspected and confirmed severe cases of community acquired pneumonia.

17 A 33-year-old Hong Kong man dies of bird flu after visiting Fujian. His nine-year-old son is also infected but recovers.

19 Hong Kong steps up public education on prevention of bird flu.

21 A 64-year-old medical professor from Guangzhou checks into the Metropole Hotel in Mong Kok. He will become the index patient for the Sars outbreak in Hong Kong from where it will spread around the globe.

22 The Guangzhou professor is admitted to intensive care at Kwong Wah Hospital.

March

4 The Guangzhou professor dies.

10 Eleven health care staff go on sick leave from Ward 8A at Prince of Wales Hospital. The ward is isolated but visitors are allowed in, wearing masks and protective clothing.

12 Hong Kong authorities alert WHO of the outbreak and brief the media.

14 Health secretary Yeoh Eng-kiong says "this is still not an outbreak". The man who will become the index case for the Amoy Gardens outbreak stays overnight at his brother's flat in the private housing estate.

15 The WHO issues a rare emergency travel advisory in response to reported outbreaks in a number of countries, names the illness severe acute respiratory syndrome (Sars) and confirms it is a worldwide health threat.

17 Sydney Chung Sheung-chee, dean of medicine at Chinese University, tells media the government's Sars numbers are leaving out infections in the community.

22 The University of Hong Kong announces that a coronavirus is responsible for Sars. A diagnostic test is developed.

23 Hospital Authority chief executive William Ho Shiu-wei is admitted with Sars. He recovers and resumes duty on April 30.

25 A high-level Sars steering committee, chaired by the chief executive, is established.



Health workers deliver food and supplies to Amoy Gardens residents sealed inside under quarantine. Photo: Robert Ng

26 United Christian Hospital admits 15 suspected Sars cases from seven households, all living in Amoy Gardens.

27 The chief executive announces emergency measures, among them a one-week closure of schools. The Rolling Stones cancel their concerts scheduled for the weekend.

29 All arriving passengers required to fill out health forms. The WHO's Dr Carlo Urbani, who brought Sars to the attention of the international community, dies of the disease.

31 An isolation order is served on Block E of Amoy Gardens. Undeterred by Sars, 30,000 fans attend the final of the Rugby Sevens.

April

1 Government experts find evidence that sewerage and drains might have been involved in the vertical spread of Sars in Amoy Gardens' Block E. Residents are evacuated to holiday camps to continue their 10-day quarantine. The eventual toll is 329 infected, with 42 deaths.

2 The WHO revises its advice to international travellers, recommending postponing all but essential travel to Hong Kong and Guangdong.

3 The government extends the suspension of school classes until April 21.

10 The government announces that all household contacts of confirmed Sars patients will be quarantined at home, with no visitors

allowed, for up to 10 days. In total, 1,262 people are confined; 34 develop the disease.

11 Hong Kong and Guangdong agree on Sars-related co-operation measures.

12 The government starts releasing on a daily basis the names of buildings with Sars patients admitted to hospitals within the past 10 days.

15 Hong Kong's disease prevention law is amended to allow stronger measures to prevent the spread of Sars.

23 The government proposes a HK\$11.8 billion package of Sars relief measures.

24 Body temperature checks begin for transit and arriving passengers at the airport, and at Lo Wu and Hung Hom railway station.

28 Secondary 1 and 2 students resume classes.

May

3 Experts from the Chinese Medicine Hospital of Guangdong province arrive to advise on the use of Chinese medicine in treating Sars patients.

5 Chief secretary Donald Tsang Yam-kuen is appointed chairman of a "Team Clean" taskforce to improve Hong Kong's environmental hygiene and cleanliness.

5 HK\$1 billion is earmarked to promote Hong Kong as a travel destination.

12 Students in Primary 4 and up resume classes.

23 The WHO lifts its travel advisory.

24 After reports that the coronavirus has been

found in civet "cats", Hong Kong suspends imports of civet game meat.

28 The chief executive announces the setting up of an Expert Committee to review the management and control of the Sars outbreak.

June

11 The last Sars case is confirmed and reported.

23 The WHO removes Hong Kong from its list of areas with recent local transmission of Sars, declaring Hong Kong Sars-free.

July

1 Forty-one Sars heroes are given awards in chief executive Tung Chee-hwa's honours list.

October

2 The Sars Expert Committee reports its findings and recommendations.

17 Harbour Fest concerts begin at Tamar site, ending with The Rolling Stones on November 9.

July 2004

7 Health secretary Yeoh Eng-kiong resigns after being blamed in a Legco report for not being sufficiently alert when Guangdong was hit by atypical pneumonia, and for sending confusing signals to the community.

Sarah Monks