SARS 2002-2003: 
A CASE STUDY IN CRISIS MANAGEMENT

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Introduction,

There have been as many plagues as wars in history; yet always plagues and wars take people equally by surprise.

Albert Camus

Seldom does a domestic health emergency spin out of control the way the Severe Acute Respiratory Syndrome (SARS) crisis did in China during the early months of 2003, threatening global health and economic stability. After over 5 months of denial, as information of the spread of the disease to Beijing was exposed, growing external pressure forced Chinese leaders to shift into action. The Chinese Communist Party (CCP), headed by General Secretary Hu Jintao since the November 2002 16th Party Congress, when the epidemic emerged, was forced to dramatically shift its SARS response strategy between late March and early April 2003, as foreign confidence that the leadership had the situation under control evaporated. Fearing economic and international implications, the CCP leadership initiated aggressive and highly visible actions in the fight against SARS by mid-April 2003.

The CCP’s strategy of denial and deception had served it well from November 2002 to February 2003, as SARS spread from Guangdong Province into Hong Kong and radiated out internationally. The uncertainties of the origins, nature, and vector of the disease aided the Beijing leadership to delay its release of information, while obscuring facts that were known. As SARS spread, official dissemination of inaccurate and incomplete information to an increasingly skeptical international media and officials became less effective.

If the Chinese Communist Party and State leaders hoped the SARS problem would go away with minimal consequences if they
simply ignored it, by late March their strategy unraveled as scrutiny became more intense and critical and the effects of SARS in Beijing became publicly known. On March 31, the Wall Street Journal published a commentary entitled “Quarantine China,” that bluntly criticized Chinese officials for withholding information about the spread of SARS. It called for a temporary ban on travel to infected areas, including China, and the screening and quarantine of persons who had been exposed to SARS. WHO issued a travel advisory the following day.

Between late March and April 1, international events scheduled for Beijing, such as the International Ice Hockey Federation 2003 Women’s World Championship, were cancelled or postponed. By April 1, word that the China Economic 2003 Summit, scheduled to start on April 14 in Beijing, was postponed, raised concerns about the economic repercussions of SARS and heralded another flood of postponements and cancellations.

On April 6, Finnish national Pekka Aro became the first foreigner to die in China of SARS. Although Beijing health officials tried to obscure his case, blaming his infection on foreign exposure, the efficacy of continued deception weakened further. It collapsed by April 9, the same day that Time Magazine published leaked information of falsification of SARS statistics that Jiang Yanyong, a military doctor at the 301 military hospital, had provided the China Central Television and Hong Kong-based Phoenix television on April 4.

The Party and government were joined in their belated fight by the mobilization of the People’s Liberation Army (PLA), particularly health and anti-chemical assets, under the direction of Central Military Commission (CMC) Chairman Jiang Zemin. Working together, the Party, government, and military curbed further spread of the epidemic by June 24, 2003, when the World Health Organization (WHO) removed its travel advisory for Beijing. As a result, China’s leadership largely regained international confidence and enjoyed praise for its “decisive” action against SARS. Even though China’s eventual response to the crisis showed how national resources could be concentrated for a short period of time, what is more telling is the protracted failure to respond effectively to the epidemic during the 5 months between mid-November 2002 and mid-April 2003.
This chapter will focus on how the CCP’s crisis response methodology allowed SARS to spread within China and internationally. It raises questions about the CCP’s ability to handle future crises, especially public welfare problems. As the Party’s key guarantor of stability and power, the PLA’s mixed record and shortcomings in civil-military cooperation will also be discussed.

The SARS crisis illustrates how the CCP’s priorities have become so intertwined with the Party’s own survival and maintaining a monopoly on power that the Party leadership from the bottom to the top often cannot balance public interest against their own self-interests. Further, the SARS case illustrates that the CCP has also become dependent on foreign investment and trade to underwrite its legitimacy that it will delay decisions and conceal information in order to protect foreign economic interests, rather than promote the public welfare. This latter point was driven home when the CCP only decided to take action after SARS had radiated out internationally from China, and information about the rate of infection in Beijing had been leaked to the international community. But, in the end, foreign pressure and scrutiny can still encourage Beijing to take positive action.

The SARS Crisis and China’s Response—a View from Beijing.

Rumors of a previously unknown and deadly fever first surfaced in November 2002. When reports of incidents of an “atypical pneumonia” occurring in Southern China (Guangdong Province, later identified as Fushan City) reached Beijing. Southern China is not only known as an economic powerhouse for China’s modernization, it is also one of the world’s disease hot spots. Scientists have determined that most new flu strains originate in Southern China, where humans and animals live in close proximity. After an initial flurry of rumors, the mysterious disease seemed to disappear until early 2003, when it resurfaced in Vietnam and Hong Kong. On March 12, 2003, the WHO issued a global alert for “atypical pneumonia” cases in Guangdong Province, Hong Kong, China, and Vietnam.

Appendix I presents a timeline of events related to SARS from November 2002, when the first known cases occurred in Fushan City, Guangdong Province, until late 2003/early 2004, when a second
outbreak of SARS occurred in China. Information on specific actions taken or not taken is spotty for the period between mid-November and the end of the year 2002. By early January 2003, however, there is evidence that at least some in the PLA in Beijing already were aware of the seriousness of the disease. Guangdong Provincial authorities officially knew of the deadly disease at least by the beginning of January. They issued guidance in January that was ambiguous enough to avoid disrupting the New Year holiday. By late January, Guangdong leaders officially reported the situation to Beijing, but underreported the rate of infection and recommended Beijing impose a media blackout. In early February, the CCP propaganda organization issued guidelines for reporting SARS that directed all should stress that the situation is under control.

News of the SARS epidemic leaked out via the internet during early February after a SARS patient was treated at the Guangdong No. 2 Hospital, where he infected hospital staff. The Guangdong Party Secretary, Zhang Dejiang, continued to enforce a complete media blackout until February 11, when Guangdong health officials convened a press conference. They reported that only 305 people had been infected, five of whom had died, but they insisted the disease was under control. (This number was subsequently adjusted to 792 cases, and 31 deaths at this time.) At the press conference, the head of the Guangdong Health Department, Huang Qingdao, further obscured the situation when he implied that the disease could be prevented, even cured, and that Guangdong had taken the right steps to control it. The reality, however, was that critical information about the rate of infection and the effectiveness of basic hygiene measures was not collected and shared even within Guangdong Province. The Guangzhou Air Force Hospital, for example, did not have any spread of infection, mainly by employing basic infection procedures. But the hospital did not share what it had experienced, which may have allowed the disease to spread unchecked and into the capital, Guangzhou, and beyond.

On February 12, the Nanfang Military Hospital in Guangdong Province was the first to perform an autopsy on a SARS patient. The hospital concluded that the patient’s death was caused by a virus-caused pneumonia. It distributed tissue samples from the SARS
patient to the Guangdong CDC, Guangzhou CDC, and the No. 8 People’s Hospital (which provided the corpse).

The following day, the Academy of Military Medical Sciences (AMMS), which has oversight of possible biological and chemical attacks, sent two researchers, with the approval of the General Logistics Department (GLD) and the Ministry of Health (MOH), to collect a specimen. Even though the Guangzhou Military Region and Nanfang Military Hospital provided assistance to the researchers, they were only permitted to collect a thumb-sized lung tissue sample, some serum samples, and a few drops of saliva.

By mid-February, two lung tissues from the Nanfang autopsy were provided to the Beijing Center for Disease Control (CDC). These samples were divided between Hong Tao, the CDC’s chief virologist, and two other researchers. All three conducted separate studies. Hong’s conclusion that chlamydia, a common sexually transmitted bacterium that is not particularly deadly, was the pathogen for the atypical pneumonia became the officially accepted theory.

Zhu Qingyu, one of the AMMS scientists who obtained a small sample from the Nanfang Hospital, detected a distinct halo of spikes, which indicated coronavirus, on February 20. On February 26, Zhu concluded that a new coronavirus was linked to the atypical pneumonia, but his findings, which challenged Hong’s chlamydia theory, were rejected. Between March 21 and 22, Zhu conducted more tests on SARS samples in Beijing which provided even more evidence that a new coronavirus was linked to atypical pneumonia. He reported his findings to the GLD and MOH for approval. Chinese research of atypical pneumonia was inhibited by the officially accepted, but erroneous, chlamydia theory from February until early April, and the lack of cooperation within and between military and civilian researchers. The overarching policy issued by the CCP propaganda department, however, ensured that information was concealed or underreported, while the threat of the disease was downplayed. This state of affairs lasted through March, when the 10th National People’s Party Congress was held in Beijing.

By mid-April, however, confidence in the Central Government’s ability to handle the crisis dissipated when the Minister of Health was exposed for deliberately concealing information on the rate of infection in Beijing. Health concerns within the foreign community

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in Beijing fueled panic, as news of official deception leaked to the Western Press during April 4-9, 2003. Text messages had been circulating within Chinese circles since early February, but this was the first official acknowledgement of the seriousness of the situation and the presence of the disease in the national capital. The key source of the leak was Jiang Yanyong, a 72-year old military surgeon, who worked at the 301 PLA Hospital in Beijing. Reacting to Minister of Health Zhang Wenkang’s April 2, 2003, press conference claim that there were only 12 SARS cases in Beijing, Jiang passed information directly to China Central Television and Hong Kong-based Phoenix television on April 4. Neither released the information. The information then passed to the Western press. Jiang revealed that Beijing 301 military hospital alone had more than 100 SARS cases and six deaths.¹¹ Once the story broke and the government acknowledged a coverup by mid-April, it raised even more questions about how much more the government might be concealing about the extent of the epidemic in Beijing and elsewhere.

In Beijing, which would eventually experience the largest known outbreak of the disease during 2003,¹² reports of atypical pneumonia were largely overshadowed in March by the 10th National People’s Congress (NPC) that began on March 5, and the Iraq War, which began soon after the conclusion of the NPC. Ironically, on the same day the NPC started, a jewelry saleswoman traveled from Guangzhou to Beijing with atypical pneumonia symptoms and introduced SARS into the city.¹⁴

Although WHO issued a global alert in Beijing on March 12, 2003,¹⁵ it was not until after word spread of the death of a 52-year-old Finnish national, Pekka Aro, from SARS on April 6, that foreigners began a hasty evacuation from Beijing and other cities in China.¹⁶ By late April, Chinese citizens also fled from Beijing without any checks or restraints until roadblocks (official and local) were set up to restrict movement into and out of the city.

Official, commercial, and tourist visits to China were delayed or cancelled, although almost empty flights continued for several weeks. Travelers who did venture out of Beijing from April to June were subject to frequent temperature checks (high fever being a possible, but not foolproof indicator of SARS infection, but one that was embraced with draconian gusto by May). The PLA Armament
Engineering Academy, and perhaps other units, adapted military technology to take the temperature of moving crowds at 30 meters. These walking detectors were placed at airports and train stations throughout China. As far as Qinghai Province, which had no reported cases of SARS, body temperatures were scanned at airport, railroad stations, and road side check points using infrared scanning devices. Small infrared devices or conventional thermometers were also used at hotels and other locations to record body temperatures.

Some foreign companies temporarily suspended business or relied on local staffs to maintain limited operations. Western Embassies and businesses authorized nonessential personnel and families to leave the country for months until the WHO travel advisory was lifted in late June. During April and May, the crowds of Beijing dramatically thinned out as foreigners departed and locals fled, and those that remained stayed inside their homes or, in the case of an estimated 30,000 persons, were under quarantine.

During the May holiday, normally one of the busiest times of the year, Beijing streets were empty, while people stayed home watching an endless stream of special television programming. For those caught on the inside during a quarantine of a work compound or college campus, life was greatly circumscribed, although some continued to move freely in and out of compounds. Children continued their studies at home on the computer and television. Military compounds restricted personnel, although necessities continued to enter compounds through side doors. With the exception of taxi drivers, who lamented the poor business, drivers in Beijing enjoyed the emptied streets, rather than the regular choke of cars and trucks on Beijing’s ring roads and streets. Those who ventured out not only could move freely, unusual bargains were to be had from shopkeepers eager to sell.

Ubiquitous white cotton masks hid the faces of many Chinese and a few foreigners. The cotton was a useless defense against a microscopic virus, but it provided a sense of reassurance, just as vinegar, incense, and other old folk remedies provided the illusion of safety against SARS. For a brief period, even the sound of hacking and spitting stopped, as people became more attentive to public hygiene. Outdoor cafes and restaurants ballooned around the city of Beijing as people concluded they were safer outside in the air.
Although some in Beijing had feared the SARS epidemic would spread further with the exodus of residents and floating population during late April, the worst fears never materialized. Even though SARS was contagious and sometimes deadly, it proved far less contagious than flu. The nightmare scenario of a pandemic flu, which could surpass the 1918 global flu, when 50 million died (or as high as 100 million, by some estimates) out of a population of 1.8 billion, did not materialize.\(^{17}\)

In retrospect, although significant, the number of deaths and infections from SARS proved to be relatively modest. Worldwide the total number infected was 8,098. Of these, 774 people died. Although about 30 countries were infected with SARS, the hardest areas hit were China (5,327 infected, 349 dead), Hong Kong Special Administrative Region (1,755 infected, 299 dead), Canada (251 infected, 43 dead), and Singapore (238 infected, 33 dead).\(^{18}\) Even allowing for possible underreporting in Beijing and elsewhere in China, the health damage from SARS was relatively minor. Economic damage resulting from the crisis proved recoverable for China within a matter of months.\(^{19}\)

As a health crisis management case, even though SARS did not result in a pandemic, it should be viewed as a warning to China and the world of the necessity of early detection and response to new diseases. In China, SARS was able to develop unchecked from November 2002 to April 2003, largely due to China’s inability to effectively respond to the disease. The crisis shows how the politics of deceit in the midst of a major health crisis with international implications can squander precious time, which can permit a new virus to spread and evolve with deadly consequences. Although the leadership under Hu and Wen eventually did a better job managing the disease and cooperating internationally, once official underreporting was exposed by Doctor Jiang in mid-April, there is also mixed evidence that China cannot be expected to respond proactively in the future in terms of surveillance, detection, and control of newly developing diseases, without international pressure and monitoring.

Publicly, WHO was extremely patient with China during the 2002-2003 SARS crisis, praising China for its cooperation even before mid-April\(^{20}\) when Chinese officials admitted to underreporting SARS cases. Once China shifted to a political style mobilization campaign against SARS during mid-April, the implications of how
the crisis had been mishandled between November 2002 and April 2003 became clearer. In early April 2003, David L. Heymann, a WHO official testifying before the U.S. Congress said, “We feel that China is taking the measures now [that] they can . . . If these measures had been taken in November, perhaps the disease would not have spread.”

While the world health community concluded that greater openness and action at the inception of a new disease is essential, China’s leadership from Beijing down to the local (provincial and below) governments appears to have reached a different conclusion. As the point of origin for SARS, Guangdong Province did not suffer any serious sanctions for failing to adequately report the disease to the Beijing beginning in November 2002. Neither Guangdong nor Beijing expressed any concern or contrition that SARS had become a global event because of a failure in China’s own crisis management.

The CCP’s approach to problem solving, which demands secretiveness and deception, will likely even continue, as China’s belated response to the reoccurrence of SARS during late 2003-early 2004 demonstrated. Without strong incentives to change, and lacking checks and balances on a one-party system, the world can expect a slow response from China during the next new disease. If that disease proves to be a more highly contagious new influenza, for example, China could inadvertently play the key role in spreading a pandemic.

SECTION 1. CRISIS MANAGEMENT—CCP STYLE

‘[I]t is fine not to tell the public’ because [I] am not legally required to do so.

Guangdong Health Chief, February 11, 2003

To analyze the CCP’s handling of the 2002-03 SARS epidemic, it is necessary to review the context of the period. Throughout this time, the overriding backdrop for the Chinese leadership was preparation for the leadership transition that would be announced during the 16th Party Congress in November 2002 and the 10th National People’s Congress in March 2003. The Party leadership, as well as China watchers, was obsessed with the wrangling and horse trading that
takes place prior to these major meetings from the local level up to the Central government. These meetings were significant, especially since they seemed to indicate a major generational shift between the leadership of Jiang Zemin to Hu Jintao. All were preoccupied with who would move up, who would move out, and how Jiang’s legacy (encapsulated in the Three Represents) would be portrayed.

Major changes during an election year in a Western system can also be disruptive, but in China, the transition, which does not involve any change in the Party in power, is more protracted and secretive. Decisions, compromises, wins, and defeats are fought out largely behind the scenes among Party members, who are directed not to discuss these matters outside of party channels until decisions have been reached and the unified line is ready for public viewing.

Given that this major leadership transition was the backdrop for SARS, it is little wonder that the Chinese government was slow to react to the SARS crisis. But this should not be exaggerated, and, in fact, it only reinforces how brittle China’s one-party system can be. The CCP’s routine behavioral, organizational, and informational crisis management characterized China’s response to SARS. Lacking institutionalized checks and balances and a watchdog free press, the CCP is largely unable to police itself to eliminate even the endemic corruption within the Party, which has been an ongoing struggle for much of China’s recent history. A crisis, such as SARS, threatens the delicate balance the Party maintains to perpetuate its own legitimacy, while also balancing broad reaching challenges that are posed by a large, diverse country undergoing one of the most extensive modernization and economic development transformations in modern history.

In addition to the pending leadership transition, the CCP faced a number of crises with international implications during 2001-03. Among these, the April 2001 EP-3 crisis, the September 11, 2001 (9/11), attack on America and subsequent invasion of Afghanistan, and the SARS crisis during late 2002–mid 2003 are particularly noteworthy. All three of these crises provided China’s leadership with opportunities to promote or degrade China’s regional and international national interests. They also provided situations where individual leaders, mainly Jiang Zemin and Hu Jintao, could demonstrate their abilities during a crisis.
During each of these crises before SARS, CCP leaders relied on routine and predictable characteristics for crisis management. The overriding priority in any crisis for the CCP is to preserve its power and reputation as the essential vanguard political party, regardless of the costs. An extreme example of this was during the June 4, 1989 incident, when the Chinese leadership used the PLA to suppress peaceful protest. But the CCP has been equally obsessed with self-preservation even when the threat is relatively minor, as they have demonstrated with the relentless pursuit of Falugong, even if its heavy-handed action tarnishes its international reputation.

Fearful of any potential loss of power, Party leadership is less motivated to analyze even a health crisis, such as SARS, based on empirical information, and they are less motivated to collect objective data that would assist decisionmaking, as well as ensuring synergy between government, Party, and military national assets.

Consequently, protection of the Party leads to a defense mentality when dealing with a crisis. The leadership will “circle the wagons” by delaying acknowledgement of an event and concealing and/or distorting relevant information, while the collective Party leadership negotiates its position. Even a leader of Jiang Zemin’s stature is not usually free to make a unilateral decision based on his position and authority within the Party leadership. His self-proclaimed initiative to extend his condolences to the United States without Party approval after watching the attacks on New York and Washington, DC, on September 11, 2001, evidences how unusual it is for noncollective decisionmaking in the post-Deng Xiaoping political environment.

Internal negotiations to reach a Party decision can be so protracted; they inevitably result in delays even in openly acknowledging a crisis. In the case of a medical emergency such as SARS presented, such paralysis through negotiation can prove disastrous to domestic and international health interests.

The collective leadership may even be unable to take any action at all during an initial phase of assessment and negotiation to reach the Party line. Consequently, those who are authorized to speak for the Party during this phase will often deny and distort facts to stall for time. If information about the incident has been made public, the Party will generally blame others—foreigners and/or domestic troublemakers are most usually to blame, regardless of the situation.
In the late 1980s, for example, when cases of acquired immune deficiency syndrome (AIDS) were exposed in China, it was an article of faith that only Westerners could have AIDS. When it became known that Chinese were infected, the focus shifted to blaming Westerners for infecting Chinese nationals, rather than in determining the extent of the infection and how to minimize the spread of the disease within China. In another more recent case, the EP-3 incident in April 2001, there was never any question that the Chinese pilot’s error could have contributed to the accident.

Once the Party line is reached, the Party and government propaganda departments work collectively to disseminate the official story. Information that contradicts the Party line is ignored, denied, or ruthlessly suppressed.

In the case of the SARS crisis in April 2003, PLA doctor Jiang Yanyong directly challenged the official line on SARS when he questioned the Minister of Health’s deliberate deception and underreporting. Once he went public to the Western media, the Party was presented with a difficulty, but at the time they had little choice but to temporarily ignore the characterization of Jiang as a national hero of conscience.

As happens frequently during a crisis, the CCP and/or individual leaders will take the opportunity of a crisis to promote an advantage. For example, the Chinese negotiators sought to use the EP-3 incident as a means to promote recognition of China’s broad sovereignty claims, which extend well beyond international limits, while it negotiated the release of the crew and later the aircraft with the United States. During April 2003, SARS presented Hu and Wen with an opportunity to consolidate their power, and may have ultimately helped encourage Jiang Zemin to step down from his position as CMC Chairman in September 2003. But the SARS crisis was also an international public relations opportunity for them, for by doing anything, they were largely perceived as new and open leaders that the West could work with.

In general, the CCP’s crisis management style is time-consuming and may be disconnected from the “facts,” which could be counterproductive to handling a health emergency. In the case of SARS, China’s delay in handling the epidemic and cooperating with
the international community created the conditions for the disease to spread within China, including to the capital, as well as to some 30 countries.

The lack of oversight and transparency in the CCP’s crisis management style encourages a high degree of groupthink and inflexibility when confronting a crisis. Once a decision has been made, it is very difficult to acknowledge an error by the Party. Scapegoats, such as the minister of health and the mayor of Beijing, who were both sacked in April, must be found, even if they are largely symbolically punished.

Hu’s and Wen’s consultation with non-Party public relations and medical experts in mid-April to assess the extent of the health crisis and determine what actions were required at that point to regain international confidence and contain the disease may have demonstrated the shortcomings of a politically-motivated crisis management system. But it is not likely to result in dramatic political change in China, since CCP cohesion and discipline are essential to its continued rule, and even Hu and Wen seek to improve the Party rather than replace it or add political competition.

Since alternative views are not encouraged and may be harshly sanctioned, CCP problem solving is highly limited. Adjustments after the party line has been reached are extremely difficult without a triggering event, such as Dr. Jiang’s leaking of information and international pressure, which helped prompt Hu and Wen to take seemingly bold and open initiatives to confront the crisis in mid-April.

Role of the Military—An Assessment.25

As a sub-element of the Party,26 the PLA’s contribution to the crisis and its resolution is an interesting case within a case. Information about SARS infection at the PLA 301 Hospital were certainly concealed until Doctor Jiang leaked the information, but it is not entirely clear whether or not the PLA independently concealed information from the MOH. It seems more likely that the MOH, which had coordinated with the GLD on SARS since at least February, was aware that the SARS infection had reached the PLA 301 Hospital in March, particularly since the patient was a civilian. In fact, the
opening of military hospitals to civilians with money to pay for care complicates the PLA’s ability to control information about military health care. More likely, the PLA was enforcing Party propaganda guidelines to conceal information prior to mid-April. Nonetheless, the rate of infection among military personnel was withheld from public reporting in Beijing until mid-May, when WHO released statistics that about 150-160 military personnel were infected with SARS. Guangdong military hospitals, however, had agreed to report SARS infection rates to WHO during mid-April. Although the PLA can be criticized for withholding information on the number of military personnel that were infected, it is understandable that they would feel the need to conceal this information since it directly reflected on personnel readiness at the time. What is less understandable, however, is why Guangdong military units, such as the Guangzhou Air Force Hospital, did not disseminate critical health information to other military units. In particular, although the hospital suffered no cases of staff infection, the unit apparently did not share this information through the chain of command. If it had, SARS infections of staff in the PLA 301 and 302 hospitals could have been avoided.

The AMMS’ difficulty in getting samples from the first autopsy from the Nanfang Military Hospital in early February showed how problematic civil-military cooperation was prior to the Party order in April. Even another military unit with top level support from the GLD and MOH, as well as the Guangzhou Military Region, could only obtain a limited amount for its research. Once the academy’s own researcher, Zhu Qingyu, made an initial discovery of coronavirus that contradicted the Chinese CDC theory, the academy was prevented from putting its theory forward. If they had, China would likely have been first to identify the pathogen for SARS and this information might have encouraged China’s leadership to react more quickly to the threat.

The most important role the military played in the crisis came with full mobilization when military technology, primarily from biochemical capabilities, was adapted to civilian use. The PLA produced numerous protective devices, which were often developed in collaboration with civilian companies. Leading the PLA in these efforts were units and research activities of the GLD, which has
purview over military medical assets, and the General Armament Department, which included anti-chemical capability. Several military regions also contributed to the effort.

Lessons for the Future.

Being proactive is crucial. A reactive approach costs lives.

Barbara Wahl, President
Ontario Nurses Association

The relative transparency that Hu Jintao and Wen Jiabao displayed during the SARS crisis mobilization was largely reactive and reflected political pragmatism in the face of increasing international pressure. Domestically, it provided an opportunity to positively promote the new leadership team. Although China’s efforts to contain SARS within Beijing and the rest of the country after mid-April can be praised for intense action in a short period of time, the fact remains that inaction and deception between November 2002 and March 2003 resulted in the spread of the disease.

China’s inaction and concealment of the next SARS outbreak during late 2003 and 2004 showed that the CCP’s natural tendency to conceal information and delay crisis response remains largely intact. While China’s response to the spring 2004 outbreak was better and indicated that international pressure can encourage a faster response to SARS, questions still remain about China’s ability to handle a serious health crisis. Even with the best of intentions and consolidated power, Hu Jintao would face an uphill battle to try to change the crisis management character of the CCP from the top down, assuming he even wants to do this.

Transparency, openness, and cooperation with the international community will likely continue to be carefully balanced against the Party’s own imperatives of survival and dominance. In the case of SARS, Party interests ultimately converged with international demands for greater accountability and action. In the future, however, the Party leadership cannot be expected to risk CCP dominance, regardless of the cost to public health or other issues. The tendency to conceal and deceive in order to maintain stability while preserving
foreign interests will likely remain the central guidepost for CCP decisionmaking during a crisis. Hence, like Party corruption, the pattern of crisis management displayed during the 2002-03 SARS crisis will likely continue to characterize how China responds in the future. These limitations argue for intensified international cooperation and monitoring of China’s health crisis management to encourage China to modernize its health care system to curb the spread of pandemic disease.
Phase One – “Atypical Pneumonia” begins in Guangdong Province

2002

November 2002

November 8-14 - 16th Party Congress convenes in Beijing.

November 16 - First case occurs in Fushan (Foshan) City, Guangdong Province. At least two patients become infected with an atypical pneumonia of unknown origin. Similar cases are soon reported in five Guangdong cities. A 35-year-old chef working in Shenzhen is transferred to the Heyuan People’s Hospital, Heyuan City, where he infects at least 11 people.

November 2003-January 2004 - An unusual pneumonia spreads through the Pearl River Delta. State-run newspapers strongly deny any outbreak. WHO asks Chinese Health Ministry to comment on reports that health workers are becoming infected. The Health Ministry claims it is a minor outbreak of influenza B.

December 2002

Mid-December – Two SARS patients seek treatment in Heyuan City. They infect eight medical workers.

Late December – Following the small outbreak in Heyuan City, Guangdong Province imposes a local news blackout.

2003

January 2003

Early January – Exaggerated rumors spread about the death of three medical workers in Heyuan. Many people line up to buy antibiotics. Local officials try to calm the public by denying the existence of the disease in local newspapers and meetings.

A retired Chinese military logistics officer privately warns an American diplomat to avoid hospitals in Beijing because of a “deadly disease” that is spreading.

January 1 – On or about January 1, the Guangdong authorities learn of the deadly disease. Guangdong Provincial health team goes to Heyuan City to investigate cases at the People’s Hospital.

January 2 – A second breakout occurs in Zhongshan, infecting over 12 patients and hospital workers.

January 21 – On or about the 21st, Guangdong Province issues a vague warning to provincial hospitals and health officials regarding the seriousness of atypical
pneumonia, but fails to emphasize how infectious the disease is and identify what steps should be taken. Many officials did not begin to act on the warning until about February 7, after the Chinese New Year holiday.

Late January – Leading Guangdong epidemiologists survey the outbreak and conclude that the disease is an unusual form of pneumonia. Although the provincial public health bureau leaders have been aware of the outbreak, they do not report it to Beijing until late January as the disease continues to spread rapidly. They report only 600 cases, while 600 more cases remain hidden as “suspected” cases. They recommend Beijing initiate a media blackout on any news of the epidemic to preempt international criticism and maintain domestic stability.

Phase Two - Infection Spreads through Guangdong and Beyond (Hong Kong, Vietnam, Canada, Singapore)

February 2003

Early February – Based on the recommendation of Guangdong authorities, the Propaganda Department of the Chinese Communist Party directs that reports of SARS should follow specified guidelines and should emphasize that the situation is under control. Guangdong authorities use the directive to tighten control over media that openly discuss the disease. They issue up to three prohibition statements per day and crack down on the more outspoken media.

February 3 – A 40-year old man checked into the No. 2 Hospital in Guangzhou with symptoms of atypical pneumonia. He infects members of the hospital staff.

February 7 – Southern Daily, the official CCP paper in Guangdong Province, reports that the province has notified Beijing of the outbreak. Washington Post reports that the Southern Daily circumvented a news ban by obtaining the permission of the Provincial Governor, Huang Huahua, reportedly allied to Hu Jintao.

February 8 – Text message sent to mobile phones in Guangzhou: “There is a fatal flu in Guangzhou.” Message will be resent 40 million times that day, 41 million times the next day, and 45 million times on the third day after the original message, according to Southern Weekend paper, published in Guangzhou. During February 8-10, as rumors spread, people in Guangdong rush to buy banlangeng (a Chinese medicine to treat colds), vinegar (believed to kill germs), antibiotics, masks, and salt. Prices of these products soar.

February 9 – Beijing reported to have sent an investigation team headed by Deputy Minister Ma Xiaowei to Guangdong Province.

February 10 – Rumors of outbreak appear on Teachers.net.com website when an American fourth-grade teacher receives an e-mail from a Guangzhou colleague, asking: “Have you heard of the terrible sickness in my city?” She passes the e-mail to a former Navy physician, who is an international health consultant in Washington, DC. He relays the question to ProMED, run by the International Society of Infectious Disease, which has over 130,000 subscribers.
February 11 – Provincial Party Secretary Zhang Dejiang said to have reimposed a ban on news coverage, which was violated on February 11 when the Guangzhou Daily reported on infections and deaths in the province from atypical pneumonia. On or immediately prior, Politburo Member and Minister of Public Security Zhou Yongkang instructs the PSB on its role in the outbreak. Acting on orders, Guangdong police increase patrols, station officers outside markets to prevent hording of medicines, increase measures against rumors and on-line information that could be “harmful.”

Guangzhou remains silent about SARS until a press conference, convened on February 11 by provincial health officials, who report that 305 people have been infected and five have died. (These statistics were later revised to 792 cases and 31 deaths.) They assert the disease is under control, however. During the press conference, Dr. Zhong Nanshan, director of the Guangzhou Institute of Respiratory Disease, names the disease “atypical Pneumonia.” When asked if Hong Kong should restrict entry of people coming from Guangdong Province, Huang Qingdao, head of the provincial health department, says, “Atypical pneumonia isn’t an unpreventable or untreatable disease. With the right preventive measures, it is absolutely possible to prevent infections. We can see from the measures our province has taken and from the [disease] control situation that we’ve achieved definite results . . . And up to now, Hong Kong has no reports of illness.”

Huang also defends official silence, stating, “Atypical pneumonia isn’t a disease we’re legally required to report, so we didn’t feel it was necessary to make it public. Now, because it has a big social impact, we have decided to make it public.” Another report of the February 11 press conference, quotes Huang as saying “it was fine not to tell the public,” since epidemics are state secrets.

The first autopsy is performed on a SARS patient at the Nanfang Military Hospital in Guangzhou. Tissue samples are distributed to the Guangdong Center for Disease Control (CDC), Guangzhou CDC, and the Guangzhou No. 8 People’s Hospital (which provided the corpse).

February 12 – Nanfang Military Hospital attributes the death of the autopsied patient to a virus-caused pneumonia. The Chinese Academy of Military Medical Sciences (AMMS), which has purview over possible biological and chemical attack, dispatches epidemiologists from the Institute of Microbiology and Epidemiology to Guangzhou to obtain a SARS specimen. The academy sends epidemiologist Cao Wuchun and virologist Zhu Qingyu after obtaining the approval of the General Logistics Department Health Division. Although the PLA No. 1 Hospital, the PLA Guangzhou Military Region Hospital, and the Nanfang Military Hospital all assist, the military researchers could only obtain a thumb-sized lung tissue, some serum samples, and a few drops of saliva.

February 14 – Guangdong Party Secretary, Zhang Dejiang, a Politburo member senior to the Minister of Health, tries to allay public fears when he orders provincial officials to tell the public to “voluntarily uphold social stability, not believe in rumors, and not spread rumors.”
Mid-February – Two lung tissues are brought to the Beijing CDC from the Nanfang autopsy. The samples are divided in three. One part is provided to Hong Tao, the CDC’s chief virologist and a China Academy of Engineering (CAE) member, who conducts an electron microscope examination. Virologist Li Dexin conducts a polymerase chain reaction (PCR) test. The third part is used for bacterium cultivation. Hong Tao concludes that chlamydia, a common bacterium that is not particularly deadly, is the pathogen for atypical pneumonia.

February 18 - The Chinese CDC holds a press conference to announce Hong Tao’s discovery that chlamydia is the pathogen for atypical pneumonia. Some scientists and physicians within the Chinese CDC question Hong’s findings and methodology. Doctors in Guangzhou refuse to treat patients with the protocol suggested by the Chinese CDC based on chlamydia.

February 20 – The virologist, Zhu Qingyu, AMMS, Institute of Microbiology and Epidemiology, Beijing, working with colleagues from the Institute of Microbiology and Epidemiology, detects a distinctive halo of spikes, which indicates the coronavirus may be the pathogen for the disease.

Guangdong Southern Daily, the official paper of the Guangdong Province Communist Party Committee, reports that provincial health officials realized they had an emergency on February 6 when 45 new cases were recorded on one day. The paper said Guangdong reported the matter to party leadership and the State Council on February 8 where the report was brought to the attention of Wen Jiabao. Wen then dispatched Vice-Minister of Health Ma Xiaowei to Guangdong to investigate.

February 21 – Dr. Liu Jian-Lun, a 64-year-old medical professor at Zhongshan University, who had cared for infected patients at the No. 2 Hospital, Guangzhou, where over 50 medical staff members became infected, travels to Hong Kong. Although he does not feel well, he takes time off to attend a relative’s wedding. He and his wife check into the Metropole Hotel in Kowloon on February 21. He stays in Room 911. Johnny Chen and others on the 9th floor of the hotel become infected with SARS, which would spread quickly to different cities and countries.

February 23 – Washington Post reports that, following a week of relatively open media reporting, Provincial Party Secretary Zhang Dejiang reimposes the media ban, with the reported support of Hu Jintao, arguing that too much criticism could fuel instability.

26 February – Further testing at the Military Medical Sciences Academy, Beijing, tentatively linked the new coronavirus to the atypical pneumonia, but the chlamydia theory was too well-established to challenge. The findings are not made public.

Late February – Cases in Guangdong Province had doubled from 305 to 792, with 31 people dead. The province did not admit this until March 26, 2003.
Phase Three – SARS Spreads to Beijing, Taiwan, and Mongolia.

March 2003

March 3 – In Hanoi, Johnny Chen, a 47-year old American businessman based in China, became sick. He had arrived from Hong Kong on March 1.

March 4 – Dr. Liu dies in Hong Kong.

March 5 – A 78-year-old woman (Sui-chu Kwan), who had traveled to Hong Kong in February 2003, dies of SARS in Toronto. The Tenth National People’s Congress opens in Beijing. Meetings are held during March 5-18.

SARS outbreak begins in Beijing. The first apparent case is a 27-year-old businesswoman who developed symptoms on February 22 while traveling in Guangdong Province. She sought treatment in Shanxi Province, where SARS afterwards developed in two doctors and one nurse who cared for her. After she returns to Beijing, she is hospitalized in a military hospital, and then transferred to an infectious disease hospital. Ten healthcare workers who are exposed to her at the two hospitals develop SARS. Eight family members and friends in Beijing also develop SARS.

March 9 – Vietnam government permits WHO to send additional staff.

March 12 – WHO issues global SARS alert. The announcement comes too late for a WHO employee, Dr. Urbani, becomes infected in Vietnam. The global alert is the first in 10 years, but the alert came “too late” to prevent the spread of SARS around the world.

March 15 – A 72-year-old man who developed SARS symptoms on March 14 while visiting relatives in Hong Kong returns to Beijing on China Air Flight 112. He is evaluated at a Beijing hospital, but not admitted. On March 16, his family takes him to a second Beijing hospital, where he dies on March 20. Fifty-nine cases of SARS infections will be traced to him in Beijing. In addition, China Air Flight 112 is linked to cases in Inner Mongolia and Taiwan. Flight attendant Meng Chunying spreads the infection to her husband, who dies of SARS. She also infects other members of her family in Hohot, Inner Mongolia. Meng considers filing a lawsuit against Air China for withholding information about known SARS exposure, but drops the idea because of a lack of evidence. Among others who were infected on CA flight 11 was Zhu Hong, China Ministry of Trade, who likely infected Pekka Aro, while sitting next to him on Thailand Air Flight 614 from Bangkok on March 23.

March 17-23 - All-Army “Three Defenses” (anti-nuclear, biological, and chemical warfare) rescue training is held in Guangzhou Military Region. Experts from AMMS, Beijing, and other institutes provide the training. (The training did not openly acknowledge any SARS threat, but the biochemical aspects of the emergency training could be applicable to the SARS medical emergency.)

March 19 – Hu Jintao and Wen Jiabao officially become President and Premier, respectively. Zhu Hong falls ill on March 19/20, while in Bangkok, and visits a clinic.
March 20 – Hong Kong health officials link recent global spread of SARS to a guest in the Metropole Hotel. Epidemiologists trace the illness to Professor Liu who was visiting Hong Kong from China. Five other people who come down with SARS also stayed at the Metropole. Some were on the same floor as the professor.

March 21-22 – Following more testing on samples in Beijing, the AMMS, Beijing, is able to develop more evidence to link the coronavirus to the atypical pneumonia cases and report their findings to the General Logistics Department (GLD) and the Ministry of Health (MOH) for approval. Microbial Infectious Disease Institute researcher Zhu Qingyu is credited as the first person in China to isolate the virus from samples taken from victims. His findings are later confirmed in early April by Canadian researchers working in coordination with other scientists.

March 23 – WHO expert team visits Beijing. Zhu Hong travels on Thailand Air Flight 614 to Beijing. He sits in seat 12B, which is next to Pekka Aro in 12A. Aro later told WHO physician Daniel Chin, that Zhu seemed weak and complained of not feeling well.

March 24 – Singapore health minister orders hundreds of people who may have been exposed to SARS into 10-day quarantine. *Stars and Stripes Newspaper* reports that Pacific Command (PACOM) has restricted travel to China and that port calls by the U.S. Seventh Fleet to Southern China and Hong Kong have been cancelled.

March 26 – Zhu Hong is hospitalized in the Ditan Hospital SARS ward. No known attempt is made to contact, screen or quarantine other passengers on the Thailand Air Flight 614, including Pekka Aro, who sat next to Zhu during the flight. Pekka Mykkänen, reporting in the Helsingin Sanomat, quoted an anonymous ILO official who said, “They new that Zhu had SARS. They knew that Pekka Aro sat next to him. But they did not do anything.”

Ontario declares a public health emergency and orders thousands of people to quarantine themselves in their homes. There are 27 probable cases of SARS in the province. Toronto begins to bar visitors from hospitals.

The Chinese government acknowledges that the disease has spread outside of Guangdong Province. The news gets low-key treatment, however. Under orders of the city propaganda authorities, the identical three-paragraph story is buried within Beijing newspapers under an optimistic headline reading; “Imported Atypical Pneumonia in Our City Has Been Effectively Controlled.” Guangdong officials admit that by the end of February, 15 days after they claimed the disease was under control, cases within Guangdong Province had doubled from 305 to 792, with 31 deaths.

March 27 – Hong Kong quarantines over 1,000 people and closes schools. The Rolling Stones concert in Hong Kong is postponed. Researchers in Hong Kong report they have evidence SARS is coronavirus. They claim to have a quick test for the virus, but Toronto experts question its effectiveness.

Singapore closes its schools. A Taiwanese engineering company closes because five of its employees have SARS symptoms. This causes Taipei to go on medical
alert. WHO asks airlines to screen passengers for SARS on flights leaving from Toronto, Hong Kong, Singapore, Hanoi, Taiwan, and Guangdong Province. WHO reports 1,400 cases worldwide, including 53 dead. Ontario health officials order Toronto hospitals closed to visitors, exempting only those who are visiting the critically ill and children.

March 28 – Pekka Aro becomes ill with symptoms of gastroenteritis. He remains in his hotel room, unaware that he is infected with SARS.

Hu Jintao reported to say the Chinese media should do less reporting on official meetings and more on matters that the people care about.

WHO reports 85 new cases of SARS around the world. During a press conference in Beijing, Dr. Henk Bekedam and Professor John Mackenzie, team leader, of a WHO investigation team, say China has basically “become part of [the] SARS global network” and has agreed to provide reports on cases of atypical pneumonia. Dr. Bekedam says, “We are pretty certain that most cases of atypical pneumonia that Chinese authority has recognized from the middle of November until the end of February were indeed cases of SARS.” He says, “China has agreed to provide up to date reports of SARS throughout China . . . I would emphasize again that China has agreed to provide updates from all provinces on a regular basis in real time to WHO.”

The Chinese government tells WHO it will make SARS a Category B disease, which obligates provincial health officials to notify central health authorities of cases. Although there has been sporadic reporting on the successful handling of SARS, the Chinese media continue to imply that SARS is a distant problem. For example, by highlighting the cancellation of the Rolling Stones concert in Hong Kong because of its serious SARS problems, while downplaying the cancellations of the concert in Shanghai and Beijing, even though it was also because of SARS.

March 30 - The International Ice Hockey Federation (IIHF) announced its decision to cancel the 2003 IIHF Women’s World Championship, scheduled to be held in Beijing during April 3-9, citing health risks from SARS.

March 31 – Wall Street Journal publishes article entitled, “Quarantine China,” which highlights China’s initial cover-up and that people going out of China are continuing to carry SARS elsewhere. It called for a travel ban out of Hong Kong and China, and the quarantine of those who have been exposed to SARS. The author wrote: “Isolating a large country would certainly cause economic losses . . . But these have to be weighed against the cost of doing nothing . . . As to panic, information and resolute action are the best antidotes.”

Beijing health officials tell a visiting WHO delegation that they have put enhanced SARS surveillance measures in place. In an interview, Hong Tao insists chlamydia is the pathogen for atypical pneumonia, despite evidence to the contrary at the AMMS, Beijing. Chlamydia continues to be the officially authorized theory into April.
The *Beijing Evening News* publishes guidelines on how people can protect themselves from SARS, but provides no context for why this might be necessary. Among the guidelines: maintain good air flow within work and living spaces, avoid crowded areas, wear a 16-layer mask when visiting the sick, wash hands frequently with soap and running water, and seek medical treatment at the first sign of symptoms. The newspaper also advises against randomly taking preventive medicines.

Late March – Long Yongtu, China’s former chief trade negotiator, scoffs to a Hong Kong press conference that 300 deaths from SARS (the count at that time) is insignificant for a population of 6 million. He chides the press for being “biased” and causing “anxiety among members of the public.”

**Phase Four – Cover-up Revealed and Anti-SARS Campaign Initiated.**

**April 2003**

April 1 – The World Economic Forum announced its decision to postpone its annual China Business Summit, scheduled to be held in Beijing on April 14. The meeting was held later in the year during November 6-7.

Pekka Aro seeks medical attention.

U.S. State Department authorizes nonessential personnel and families to leave Guangdong Province. WHO advises travelers to avoid Hong Kong and China. A plane flying from Asia is quarantined in San Jose, CA, after the pilot and several passengers complain of SARS-like symptoms. Emergency vehicles and medical staff garbed in protective clothing meet the plane to examine the passenger. All are later released from the hospital. None are SARS cases.

April 2 – Peka Aro is admitted to the Ditan Hospital.

China reports 361 new cases of SARS for the month of March and a total of 1,153 cases in Guangdong. After some delay, the Chinese permit five WHO experts to visit Guangdong.

News media coverage of Iraq War is reduced, Matt Lauer returned home to NBC, SARS coverage picks up. WHO issues its first travel advisory in its 55-year history, cautioning against travel to Guangdong and Hong Kong. Wu Kejun, Department of International Cooperation of the Ministry of Health, is quoted as telling reporters that “[t]he ministry has required local governments to report to the central government about SARS cases once in a while but how to classify SARS is still under discussion.” Shanghai authorities acknowledge a possible SARS case (a cook who had traveled from southern China), but Liu Jun, chief of the Shanghai Health Department, is reported as saying he is unable to recall when the case was identified or which hospital is treating the patient.

April 3 – “SARS Is Nothing to Be Afraid Of” published by Chinese state-run publishing house. Minister of Health, Zhang Wenkang, holds his first press conference on the SARS crisis. He says China is safe, and SARS is under control. He claims there are only 12 cases of SARS in Beijing. Zhang tries to convey the
message that it is safe to travel to China. He mocks those who worry about SARS transmissions, saying, “I am confident that all of you sitting here are safe, whether you wear a mask or not.” State Council Information Office Vice-Minister Wang Guoqing also criticizes the foreign media for “irresponsible” reporting on SARS that raises fears about the situation in China and Beijing.

April 4 – Jiang Yanyong sends an email to the China Central Television and the Hong Kong-based Phoenix television station accusing Minister of Health Zhang Wenkang of lying. Jiang claims that in the PLA 301 hospital alone, he knows of more than 100 cases of SARS and that six people have died.

Chinese health officials apologize for not being more forthcoming with information. Li Liming, director of the Chinese CDC, says, “We want to apologize to everyone,” during a press conference for Hong Kong and Beijing journalists. He says, the failure of mainland state-controlled media to report more fully on SARS has “affected the public’s understanding of the illness and their ability to protect themselves.” The apology is not covered in the China press.

Health and Human Services Secretary Tommy Thompson and Chinese Minister of Health Zhang Wenkang talk for 45 minutes on the telephone and agree to increase cooperation in the fight against SARS. Japan Ministry of Foreign Affairs issues SARS warning for travel to China, Macau, and Taiwan. Sun Gang, deputy director of China’s National Tourism Administration, insists China is safe despite WHO warnings against travel to southern China. Sun claims that tourism during the upcoming May Day Holiday will prove China is safe.

April 5 – There are 163 probable or suspected cases of SARS in the Toronto area, an increase to 149 from the previous day.

April 6 - Pekka Aro dies in Ditan Hospital, becoming the first foreigner to die from SARS in China. At least 24 persons, who were believed to have come in contact with him (UN workers and chauffeurs) are placed in quarantine after his death.

Premier Wen Jiabao meets with the Chinese CDC. The official Xinhua News Agency reports that Wen announces that the Chinese Communist Party and government are making the public’s health and welfare their top priority. Wen says government at all levels needs to recognize the complicated and arduous nature of preventing and treating SARS and must be prepared for setbacks. Wen also promises the public health departments will report to the public on SARS at regular intervals.

Residents of Sanlitun Diplomatic compound in Beijing witness a standoff between a man in a car circled by People’s Armed Police Hospital staff members who are clad from head to toe in white body suits, trying to prevent the man from leaving his car. The PAP hospital posted a sign a few days earlier announcing the hospital will close for “internal rectification.” After several hours, the man is allowed to leave his car and enter a hospital building. His vehicle is driven away. Subsequently, a guard reveals that the hospital has suspected SARS cases. One staff member reports these cases have been taken to another location, but the
PAP hospital remains closed and Chinese authorities release no information to the public.

April 7 – Guo Jiyong of the Beijing Health Bureau was reported to have said that Pekka Aro believed he had contracted SARS during his international flight from Bangkok and that no one who had contact with Aro after his arrival had contracted SARS. Guo said Aro’s infection came from outside Beijing. Many foreigners who are able decide to evacuate Beijing.

China claims the outbreak is slowing down, but the number of cases in Hong Kong is climbing—44 new cases are reported, bringing the total to 928. Singapore says it will deploy army medical personnel to help fight SARS and considers installing WebCams in the homes of quarantined persons. David L. Heymann, a WHO official, testifies before the U.S. Congress saying, “We feel that China is taking the measures now they can . . . If these measures had been taken in November, perhaps the disease would not have spread.”

Wen Jiabao visits China’s Center for Disease Control. The number of suspected and probable cases in Canada reaches 226, of which 188 are in Toronto.

April 9 – Following a leak to Time Magazine, the information Jiang Yanyong provided on SARS presence in the PLA 301 hospital is posted on the worldwide web. Various countries in Asia tighten rules on people entering. Malaysia stops issuing entry visas to travelers from China. Indonesia tells its people to stop spitting in public. The Philippines advises against unnecessary travel to Hong Kong or Guangdong Province. Roman Catholic priests in Singapore are asked to stop hearing confession. Taiwan CDC announces that three doctors will travel to Beijing to consult on SARS.

April 9-10 – Non-party experts brief Hu Jintao and Wen Jiabao. Consensus reportedly reached that China should stop covering up and begin working closely with WHO and other agencies.

The number of suspected and probable cases in Toronto rises by 11 to 206. On April 10, Air China flight CA 117 flies from Beijing to Hong Kong with a 71-year-old passenger who is diagnosed with SARS after complaining of illness when she disembarks from the plane.

Noon television report compares the number of Chinese SARS dead (60) to those from traffic accidents (25,395) on Chinese roads during the first quarter of 2003. At the April 10 press conference, Vice-Minister of Health Ma Xiaowei tells reporters that Beijing city has “designated some hospitals with relatively good conditions that are relatively strong technologically, to provide medical services to foreign patients.” He says a group of top medical professionals is being assembled to treat foreigners in Beijing.

April 11 – Hu Jintao travels to Guangdong Province. About the same time, Jiang Zemin flees to Shanghai with an entourage that includes Zeng Qinghong and others.

China establishes a formal link to Hong Kong regarding health issues.
Combinations of factors (Iraq War, SARS, terrorist threats, etc.) cause the largest global exodus (1,400 from 17 countries) of U.S. diplomats and families since 1991.

Bi Shengli and Li Dexin, who both were Hong Tao colleagues and oppose his “new variant chlamydia” theory, announce their coronavirus findings to local newspapers. Both are criticized by Minister of Health Zhang Wenkang for showing disrespect to the official conclusion. They are barred from further publication. Bi Shengli already had been locked out of the Institute of Virology for disagreeing with Hong Tao. Subsequently, the Ministry of Health declares on CCTV that any announcements about SARS that lack the prior approval of the Chinese Ministry of Health SARS Prevention and Treatment Leading Group are unauthorized.

April 12 – Wen Jiabao makes his first visits to a hospital in Beijing that is treating SARS cases. Wen wears no protective clothing and shakes hands with the medical staff. Wen urges the staff to take a “highly responsible” attitude regarding the public’s health.

April 13 – Wen Jiabao chairs a national meeting on SARS. He instructs that “China must take resolute measures” to stem the spread of SARS, improve cooperation with WHO and Hong Kong, and keep the world informed on the treatment and prevention of SARS. Wen says it will be “difficult to avoid” SARS having a “temporary impact” on China’s tourism, travel, commerce, and international exchanges. He orders that priority must be placed on protecting the health of those attending international events in China.

April 14 – Hong Kong begins screening departing airline passengers for SARS. There are random checks on those entering Hong Kong from China. China announces 4 more deaths, which brings the total to 64. Taiwan Health Minister sends a report on SARS in Taiwan to WHO.

April 15 – Chinese scientists from the AMMS, Beijing, Microbiology and Epidemic Research Institute and the Chinese Academy of Science in Beijing report sequencing the coronavirus genome.

Beijing agrees to permit a WHO team to visit Beijing military hospitals.

April 16-19 – Beijing Municipal Government establishes a Joint SARS Leading Group to oversee crisis management through 10 task forces.

WHO reports that two Chinese labs recently joined an international SARS research effort.

April 17 – Hu Jintao calls an unscheduled meeting of the Politburo Standing Committee of the CCP, where he acknowledges that the government has lied and commits the CCP to an all out campaign against SARS. Beijing designates six hospitals for SARS treatment, two of which are military hospitals, which helped integrate military medical care into the overall fight against SARS. WHO reports that military hospitals in Guangdong recently agreed to report their SARS cases, which may set a precedent for other military units.

April 18 – Xinhua News Agency reports a SARS task force has been set up headed by Liu Qi, Beijing Party Secretary and Politburo member. Deputies include Minister
of Health Zhang, Beijing Mayor Meng Xuenong, and Deputy Director, PLA, GLD
Wang Qian.

April 19 – A ward in Royal Columbian Hospital near Vancouver is closed when a second nurse displays SARS symptoms. British Columbia health care workers now are required to wear goggles in addition to gowns, masks, and gloves. Hong Kong death toll climbs by 12 to 81 deaths. Hong Kong is officially the worst hit location for SARS. The chief executive admits its public health officials were slow to respond to the SARS threat. Apartments, office buildings, food markets, and back alleys are scrubbed. Passengers arriving in Hong Kong’s airport must have their temperatures taken. A temperature over 38 degrees celcius becomes a symptom of SARS. The 14th victim of SARS dies in Canada.

April 20 – New Executive Vice-Minister of Health, Gao Qiang, addresses a press conference. He admits to both foreign and domestic reporters that the incidents of SARS are nine times higher than the number reported 5 days earlier (339 versus 37). He adds that Beijing has an additional 405 suspected SARS cases in hospitals. Within 1 hour, Xinhua News Agency releases a two-sentence dispatch stating that Minister of Health Zhang Wenkang (a former military doctor who, reportedly, is a friend of Jiang Zemin) and Beijing Mayor Meng Xuenong both have been removed from their Communist Party posts. Wu Yi takes over as new Minister of Health. Beijing reporters were told both would appear at the press conference that day, but they never appeared.

China reports 12 more deaths and another 400 cases in Beijing—nearly a 10-fold increase. The Chinese government cancels the May Day holiday in an effort to reduce mass movement of people.

Singapore reports a SARS outbreak in its largest vegetable market, spreading fears that the disease will spread into its population of four million. Japan MOFA extends travel warning to Inner Mongolia.

PLA 302 Hospital reported to have discovered that simultaneous basic immunizations and other treatments (hormones, oxygen, anti-viral medicines, and antibiotics) can prevent and treat SARS.

April 22 – The Philippine government institutes screening of U.S. military personnel arriving in the Philippines for the Balikatan 03 exercise. U.S. Air Force (AF) said to have confirmed that two retired AF officers contracted SARS during a trip to Asia in March and recovered, but this was denied by the Air Force on May 5. Experts from the U.S. CDC arrive in Toronto to determine why hospital workers are getting sick despite taking precautions against SARS.

The Mainland Affairs Council (MAC) advocates reducing cross-Strait exchanges because of SARS. Xinhua News Agency releases a speech by Wen Jiabao in which he says that cases of SARS must be reported quickly and accurately, and that “local and departmental leaders will be held strictly responsible” if they do not comply.

April 23 – The Chinese State Council forms a command center for preventing and fighting SARS. A fund of 2 billion yuan is established for fighting SARS.
WHO recommends postponing all nonessential travel to Beijing, Shanxi Province, China, and Toronto, Canada. These locations join Hong Kong and Guangdong Province on the WHO list. One large Beijing hospital with 41 probable cases of SARS is closed. The patients are moved to SARS-designated hospitals. The remaining patients, staff, and visitors are quarantined for 2 weeks.

Construction begins on the Xiaotangshan Hospital in northwest Beijing. Over 1,300 military medical personnel are immediately dispatched from major military regions to work at the facility. During this time, 11 more hospitals will be designated as SARS treatment facilities. Sixty-three hospitals in Beijing also are designated to treat fever patients.

April 24 – A medical emergency command center is established in Beijing. It is organized into a fever clinic that conducts triage of patients and includes designated SARS area within hospitals for specialized care and isolation. Protective equipment is provided to health care workers. Community-based prevention and control measures are established based on detection, isolation, quarantine, and community mobilization. Beijing authorities also have established protocols for triage, isolation, case management and administrative controls, which prohibits visitors to hospitals and separates patients with suspected SARS symptoms from other patients. To address an anticipated shortfall in hospital beds, the 1,000-bed Xiaotangshan hospital is finished in 8 days.

U.S. CDC officials say a travel ban for Toronto is not warranted because public health officials understand the patterns of transmission within the city, but British medical officials support the advisory. SARS forces the closure of a major hospital in Beijing. All public schools in China are also ordered closed for 2 weeks. Another 125 people have come down with SARS in China, and the disease has claimed 110 lives in China.

Taiwan bars people from SARS-affected areas (including China) to enter Taiwan. Chengdu Military Region convenes videoconference on security and stability. Military Region Deputy Commander, Chen Shijun, notes that the security work is more challenging than the previous year. He says that the burden of tasks associated with controlling and preventing SARS are especially burdensome to security forces.

Third-fourth week of April – The SARS outbreak in Beijing reaches its peak. Cases probably number over 100 per day for several days. An increased ratio of patients with no known contact with SARS patients is also reported.

April 25 – Public health officials in Toronto insist that the SARS outbreak is under control. They announce three more people have died, raising the death toll to 19. Ontario health officials say there have been no new probable cases of SARS in the Toronto area since April 9, with the exception of a few hospital workers. Japan announces it will send assistance to China for the fight against SARS. The materials include surgical masks and protective clothing.

April 26 – A 79-year-old woman in Toronto is the 21st SARS victim to die in Canada. WHO says its advisory against nonessential travel to Toronto may be lifted after experts examine new SARS data on April 29.
Although China was reportedly monitoring all passengers on all transport, only cursory, self-monitoring measures are in place at Beijing International Airport on this date. ASEAN health ministers meet in Bangkok, Thailand. During a telephone call, President Bush discusses China’s efforts against SARS with President Hu Jintao and U.S.-China cooperation to resolve the North Korea nuclear development issue.

April 27 – Baltimore Sun reports that Fort Detrick has been working on SARS since early April 2003.

In Beijing, all patients suspected with SARS had been relocated to designated treatment and isolation areas within hospitals. “At one point, 27 municipalities and 21 district hospitals [are] providing care to SARS patients.”

Ottawa announces it will appeal Taiwan’s decision to turn back Canadian travelers because of fears they might have SARS. On the same day, Taiwan announces it will temporarily stop issuing visitor and residency visas to people from countries hardest hit by SARS.

April 28 – Beijing government orders residents to stop blocking roads. They had spontaneously blocked people from entering and leaving their neighborhoods and villages out of a fear of the spread of SARS.

“SARS refugees,” who began to flee Beijing on or about April 20, continue to leave the city without serious restrictions.

Premier Wen Jiabao attends ASEAN heads of government meeting in Bangkok. This is his first official trip outside China since assuming his position in March. On April 29, ASEAN issued a declaration containing a statement of measures that member countries had committed to in order to share information promptly.

The Chinese State Food and Drug Administration approves clinical testing of a nose spray that was developed by the Academy of Military Medical Science Microbiology and Epidemiology Research Institute to safeguard against SARS. The spray was originally developed for treatment of Hepatitis B and C.

Late April – PLA delegation, headed by General Xing, departs China for official visit to the United States. The delegation members observed quarantine and took western medicines (antibiotics) as a preventive measure prior to their departure.

North Korea suspends its twice-weekly Beijing flights, initiates strict quarantine on land crossings, and stops the ferry from Japan. More than 100,000 visitors are affected.

In Beijing hospitals, daily SARS admissions exceed 100 per day for several days; 2,521 cases of probable SARS have been detected.

April 29 – WHO announces it will lift a travel advisory against Toronto effective April 30. It had been 20 days since a new case and WHO director general, Dr. Gro Harlem Brundtland, says the magnitude of cases in Toronto has decreased. ASEAN-China emergency summit on SARS held in Bangkok, Thailand.
April 30 – Ontario announced two more SARS deaths – a 72-year-old and a 39-year-old, which is the youngest person to die in Canada. Conference on SARS opens in Toronto.

Late April – Chinese officials confidently tell foreign embassy representatives in Beijing that SARS would be finished no later than mid-May, which raises questions about whether or not the Party would attempt to fudge figures to achieve resolution of the problem as quickly as possible.

**Phase Five – China’s Mobilization Pushes toward “Victory.”**

**May 2003**

May 1 – SARS peaks in Hong Kong, Toronto, and Vietnam. WHO officials conclude a SARS conference in Toronto, stressing the need for better international cooperation to control the disease.

Xiaotangshan Hospital officially opens in Beijing. One hundred fifty-six SARS patients from 15 hospitals within the Beijing area are relocated to the hospital.

The PLA Anti-Chemical Warfare Research Academy is praised for producing protective equipment (nose and mouth masks, face masks, protective clothing, boots, and gloves) for over 50 hospitals, as well as Public Security and People’s Armed Police units in the Beijing area. The unit also has provided disinfectants to schools and hospitals, and rushed 1,000 sets of special biological protective clothing to the newly opened Xiaotangshan Hospital. The PLA unit additionally has also set up a hotline to provide technical advice on protection measures to relevant units, such as the General Logistics Department, Ministry of Public Health, and Ministry of Public Security.

May 2 – Beijing concurs with WHO officials visiting Taiwan.

Japanese government officials meet to develop an anti-SARS strategy.

May 3 – Two WHO officials arrive in Taiwan to provide assistance.

China reports its No. 361 Ming submarine descended on routine training mission killing 70, 2 weeks prior on April 16. The accident was not discovered until 10 days after the accident.

One day after Chinese authorities say the disease has crested, Beijing reports 200 new cases, and nine deaths. Chinese announce they have permitted WHO investigators to visit Taiwan.

May 4 – China says more than one million school children in Beijing will stay home for another 2 weeks. Government officials will conduct classes on television or the Internet.

May 5 – Chinese official television shows Hu Jintao and Jiang Zemin meeting with family members of No. 361 Ming submarine, demonstrates unprecedented openness.

May 6 – Authorities in Nanjing order 10,000 people into quarantine as China announces 138 new cases of SARS and 8 deaths. WHO reports that SARS is receding in Vietnam and Canada.
During one of the twice-weekly SARS press conferences in Beijing, Chinese officials read an official statement for 90 minutes and permit no questions. No information is released about what Chinese officials understand how the disease is transmitted, prevention measures, etc.

U.S. Secretary Thompson conducts a phone conversation with the new Chinese Minister of Health, Wu Yi, on how the two countries can cooperate on SARS treatment and prevention. Wu Yi states that Beijing’s policy against Taiwan joining WHO has not changed.

The Harbin Polytechnic University reports developing SARS isolation and monitoring cubicles that are self-contained and protected from spreading infection. The General Logistics Department Military Equipment Research Center reports developing improved SARS-resistant protective clothing and masks. The unit has also developed a disinfecting washing machine for bedding and clothing, as well as foodstuffs and drinks for fighting SARS.

May 7 – The Bush administration is reported to have authorized the use of force to detain persons suspected of having SARS, which strengthens the Executive Order signed in April that permits the U.S. Government to quarantine people infected with SARS.

WHO sends a four-person team to two Chinese provinces where it is believed the rural health systems may not be able to cope with spreading SARS.

The first major study of SARS estimates that about 20 percent of the people who are sent to the hospital with SARS in Hong Kong are dying.

The Japanese government directs Health Minister Sakaguchi to establish an anti-SARS system in Japan.

By this time, Beijing’s ability to house and treat SARS patients has significantly improved, including the establishment of 63 hospitals for treating fever patients.

May 8 – All probable cases have been concentrated into 16 SARS-designated municipal hospitals. Thirty district hospitals are also providing care for patients with suspected SARS, and more than 60 fever clinics had been established throughout Beijing to triage patients and quickly isolate suspected SARS cases.

WHO estimates that 15 percent of the people who get SARS will die. The rate among the elderly is over 50 percent. WHO issues travel warnings for Taiwan and Tianjin and Inner Mongolia Provinces.

Xinhua reports that 120 officials had been relieved for dereliction of duty.

The U.S. Department of State announces a $500,000 emergency grant to assist China’s SARS fight. Secretary Thompson proposes a multi-year, multi-million dollar project to promote collaboration in epidemiological training and to develop greater laboratory capacity in China.

The Japanese Minister of Health sends additional anti-SARS assistance to China.

May 9 – The official number of SARS cases in Beijing is cut from 94 to 48. The reduction eases popular anxiety, and people begin to return to the streets.
In a *Washington Post* commentary, President Chen Shui-bian makes the case that Taiwan should join WHO. A Cross-Strait videoconference on SARS is held. Taiwan press reports U.S. military members have departed Taiwan following the conclusion of the Huanguang Exercise.

May 10 – The PLA Armament Engineering Academy reports developing a thermal imaging infrared thermometer that is capable of taking accurate body temperatures of moving crowds at 30 meters.

May 11 – Japan Minister of Health announces an additional relief package for China.

May 12 – A suspected case of SARS in Finland keeps Canada on the WHO list of countries affected by the disease. The man is Finland’s first suspected SARS case and officials claim he got sick in late April while visiting Toronto. Canadian health officials reject this claim.

May 14 – WHO reports on May 13 that SARS has spread to the PLA. Eight percent of Beijing’s 2,000 cases—about 150-160 people—are identified as military personnel, but no information is provided on who these people are, or how they contracted the disease.

Canadian Prime Minister Jean Chretien announces that WHO has removed Toronto from its SARS-affected areas list. There have been no new local transmissions for 20 days.

A new fabric for biological protective clothing for medical and health workers fighting SARS is reportedly developed through the joint cooperation of the Shandong Ketele Company, the Academy of Military Medical Science, the PLA Anti-chemical Research Academy, the GLD Blood Products Technical Research Institute, the Beijing University of Chemical Engineering, the Guangdong Microbiological Analysis and Testing Center, and other units. The material has been tested by the PLA Microbiology and Epidemiology Research Institute and other units, which are developing anti-SARS equipment for health workers and patients. The anti-SARS equipment includes clothing that has been developed in cooperation with China Textile Institute. The institute also has developed a new type of positive pressure hood with the assistance of the Academy of Military Medicine Sciences Health Equipment Institute, and an isolation capsule to transport SARS patients.

May 15 – China threatens to execute or impose a life sentence on anyone who breaks SARS quarantine orders or deliberately spreads SARS.

Officers of the China State Anti-SARS Command, report that an anti-SARS positive pressure respiratory protective system that was developed by the General Armament Department Anti-chemical Warfare Research Academy had passed a technical appraisal test and demonstrated that it can filter 99.995 percent of the SARS virus emissions.

May 17 – WHO announces that the SARS epidemic shows signs of ending everywhere except China.
May 18 – The AMMS, Beijing, Hygiene (Health) Equipment Research Institute and Microbe and Epidemic Disease Research Institute report jointly developing an emergency vehicle for handling contagious disease cases, an isolation chamber for transporting contagious patients, a negative pressure ambulance for contagious patients, as well as reusable biological protective clothing and biological protection masks.

The GLD Military Supplies and Equipment (Quartermaster) Research Institute, Anti-chemical Warfare Research Academy, Aerospace Medical Engineering Research Institute, and China Weapons and Equipment Research Academy are praised for developments in protective materials and equipment.

May 19 – WHO issues a travel advisory for Taiwan after it reports a record daily increase in probable SARS cases by 65. The total for Taiwan is 483—the third highest after China and Hong Kong.

May 20 – The total of reported SARS cases at this time is 2,444, with a fatality rate of 6.4 percent.

President Chen Shui-bian calls for a referendum on Taiwan membership in WHO. Beijing blocks Taiwan participation in a World Health Assembly (WHA) panel on SARS.

Chinese military personnel and units are praised for developing new medicines and equipment to fight SARS. Units identified for praise include: AMMS, Beijing; GLD Quartermaster Research Institute; Guangzhou Military Region General Hospital; Guangdong People’s Armed Police Hospital; Beijing People’s Armed Police Hospital; First Military Medical University; Third Military Medical University, Oral Hospital; and PLA number 301, 302, 309, 320, and 371 hospitals. Personnel who are praised include: Huang Wenjie, Director of the Guangzhou Military Region General Hospital Pulmonary Medicine Department; Zhou Guotai, Deputy Director of the GLD Quartermaster Research Institute; Xu Zhali, Professor of the Fourth Military Medical University, GLD, Xi’an, Oral Hospital; and Zhang Dezhou, Director of Infectious Disease, PLA 371 Hospital.

May 21 – U.S. Secretary Thompson expresses support for Taiwan participation in a WHA panel.

May 22 – The Fourth Military Medical Academy Cell Engineering Center director, Chen Zhinan, reportedly has discovered 9 polypeptides and 13 antibodies that can restrain the coronavirus. The China Center for Disease Control reportedly has tested these and found them to be effective in restraining the SARS virus.

May 23 – Toronto’s SARS infection list grows. Canadian health officials say they are now dealing with at least 25 suspected and probable cases in two Toronto hospitals. Two recent deaths are suspected SARS cases.

China’s Association for Relations Across the Taiwan Straits (ARATS) sends a message to Taiwan’s Straits Exchange Foundation (SEF) offering aid for SARS fight.

Japan announces closing two plants in China due to SARS.
The Lanzhou Military Region Highland Disease Research Institute reports that it distributed a new book on how to prevent and treat disease in low oxygen environments and disseminated information on “scientific” medicines to its border defense units.

The Anti-chemical Warfare Research Academy is reported to have developed a protective canister for facemasks to protect against SARS. The canister passed the technical appraisal of the State Development and Reform committee, Ministry of Science and Technology and Ministry of Health.

May 24 – At least 500 people in the Toronto area are quarantined as a precaution, while health officials investigate two dozen possible SARS cases. Public health officials confirm they are looking at 33 new cases.

Beijing blocks a Taiwan representative from briefing the United Nations press corps on SARS. The Taiwan Executive Yuan endorses idea of referendum on WHO membership.

The Fourth Military Medical University, GLD, Xi’an, Oral Hospital reports developing, in cooperation with the Xi’an High Oxygen Medical Treatment Equipment Company, two devices that provide oxygen to SARS patients.

May 25 – SEF rejects an offer of SARS aid from ARATS. Two more WHO officials arrive in Taiwan to assist.

May 26 – A *Washington Post* commentary charges that “China’s secrecy and dishonesty . . . allowed the SARS virus to become an international problem.”

Toronto officials claim the current SARS outbreak has been contained. About 2,200 people are quarantined in Ontario—almost half of these are in Toronto.

Hu Jintao arrives in Russia for an official visit.

The Academy of Military Medical Science reports developing a new anti-viral skin emulsion, which was produced at the Beijing Huitongtianli Biotechnology Company. The product combines biotechnology, nanometric technology, and “disinfecting technology.” The emulsion is reported to be the first domestic nanometric-disinfecting product to obtain a State-level health permit.

The Second Military Medical University, GLD, Shanghai, Physiotherapy Research Office reports developing new anti-SARS medicines, which were approved for clinical study by the State Food and Drug Control Administration. Clinical trials for a SARS vaccine is reported to have advanced to the animal testing stage in Guangdong.

May 27 – A school in the Toronto area is closed after a student comes down with SARS symptoms. The student has a definite link to the North York General Hospital, the source of the latest SARS outbreak and now closed. The school’s 1,500 students and 100 teachers are ordered into quarantine as a precaution.

The *People’s Daily* details Beijing’s efforts to assist Taiwan with SARS.
May 28 - Two more SARS deaths are announced in Toronto. The Ontario government meanwhile announces that it will spend $720 million to assist healthcare workers and facilities involved in the SARS fight.

A WHA SARS resolution is developed which provides the basis for WHO contacts with Taiwan.

May 29 - The number of SARS cases in Toronto rises as Canada adopts WHO SARS classification method. Doctors in Toronto say the system is simpler and better reflects the extent of the problem. Under WHO’s definition, any unexplained case of pneumonia is listed as “probable SARS.”

The Third Military Medical University, GLD, Chongqing, reports it has developed a protection filtration face guard for SARS patients. The face guard is said to filter 99.9 percent infected airborne particles. The PLA University has also reportedly developed protective materials for hospital personnel. The PLA Medical Library reports donating computers and Internet equipment to the Xiaotangshan Hospital. The hospital was able to open a long-range medical information mobile workstation at Chanping with access to over 20 databases, 30,000 medical textbooks, and nearly 10,000 periodicals and texts online.

The General Armament Department Anti-chemical Warfare Research Academy reports it developed a protective system for pathological research on SARS. The Academy also has developed a protective system for Ditan Hospital autopsy rooms storing SARS corpses, which the Ministry of Science and Technology and Ministry of Health has approved. The system was developed based on military anti-chemical technology and designed to protect autopsy personnel from infection. The system was development under the urgent initiative of the State 863 Plan to “Research into the Pathologic Anatomy, Specimen Collection, and Pathological Mechanisms of SARS.”

May 30 - The Academy of Military Medical Science reports developing a protein chip that detects SARS antibodies. The protein chip can be used to screen and diagnose SARS, as well as for research.

The Chinese Academy of Medical Science and the General Armament Department Anti-chemical Warfare Military Representatives Bureau report jointly developing a “BWT Model Positive Pressure Protective System” that has been operational at the Xiehe Medical Science University since mid-May. The system maintains a zero infection rate among hospital personnel who perform tracheal procedures and medical research, as well as personnel who handle SARS corpses.

May 31 - President Bush signs new legislation regarding Taiwan’s admission to WHO.

June 2003

June 1 - At the G-8 conference, Hu Jintao repeats Beijing’s opposition to Taiwan independence to President Bush.
June 2 – A review of old cases identifies another SARS death in Toronto, bringing the total to 32. An Ontario nurse calls for an inquiry into how the Canadian health system handled the SARS outbreak.

June 3 – During a Beijing SARS symposium, China’s vice minister of health appeals to Asian countries to increase information sharing on SARS. A New York Times article dismisses those who believe SARS will do for China what Chernobyl did to USSR (i.e., political change).

June 7 – Ontario health officials announce the death of two more people in the Toronto area on June 6, bringing the total number of deaths in Canada to 33. Canadian officials say 25 of the deaths are connected to the first cluster, which broke out in Canada during March 2004.

June 9 – Japan cancels travel warnings for all areas of China, except Beijing and Guangdong.

June 12 – A consulting firm reports that Toronto’s tourist industry has lost nearly $190 million because of the SARS outbreak. ASEAN health ministers declare the Asia-Pacific region SARS-free.

June 16 – A total of 190 deaths are reported among 2,053 probable SARS cases in Beijing. The fatality rate is 8.4 percent fatality rate.

June 17-18 – A WHO conference on SARS is held in Malaysia. WHO lifts its travel advisory for Taiwan.

June 18 – Senior Thai and Chinese health officials meeting in Beijing agree to increase cooperation to control of SARS.

The Taiwan CDC director addresses a panel at a WHO SARS conference.

June 19 – In Beijing, a total of 30,172 persons, who had close contact with SARS patients, are quarantined for 2 weeks after their last exposure.

Ontario Province rejects $250 million in SARS relief from the Federal government as insultingly low. The Province seeks Ottawa to cover 90 percent of the estimated $1.5 billion in health-care costs.

June 20 – Washington Post reports a crackdown of Chinese media that ended a brief period of relative openness.

June 23 – Ontario announces that two more people have died from SARS. This raises the Canadian death toll to 38 since the outbreak began in mid-March. All are in the Toronto area.

June 24 – WHO removes its travel advisory for Beijing, announcing the situation has greatly improved in the capital since the WHO advisory was issued on April 23. WHO reports that the last new case in Beijing was isolated on May 29, Beijing had been isolated for over 20 days. Cases after this date were ruled out as SARS. Other recent cases were traced to known transmission cases. The report says that for reasons not yet understood, areas of Mainland China experienced a lower fatality ratio than most other outbreak areas, but China’s statistical reporting could have skewed the ratio.
June 30 – Canada’s deaths from SARS rise to 39 when a 51-year-old nurse, who worked at the North York General Hospital, becomes Ontario’s first health worker to die from SARS.

June 29 – Report of Jiang Zemin’s invitation for a private meeting in Beijing with former Health Minister is widely interpreted as a sign of political conflict between Hu Jintao and Jiang.

Through end of June – a total of 2,521 patients with probable SARS are hospitalized in Beijing.

**July 2003**

July 2 – WHO removes Toronto from its list of SARS-affected cities after 20 days have passed since the last known infection. This is double the normal length of incubation for SARS. It is the second time Toronto is removed from the WHO list. Toronto was removed on May 14, but suffered a second outbreak on May 16.

Taiwan is the only remaining country where the disease is still not under control.

July 4 – A total of 8,439 probable cases and 812 deaths from SARS had been identified in 30 countries.

July 5 – WHO Director-General declares that the SARS epidemic is over “for the time being.” She says: “We do not mark the end of SARS today, but we observe a milestone: The global SARS outbreak has been contained.” Speaking in Geneva, she adds: “This is not the time to relax our vigilance. The world must remain on high alert.”

July 11 – The Guangzhou Military Region General Hospital reports it has developed the “BG-95 Nitric Oxide Treatment (breathing) Apparatus” for the treatment of SARS. BG-95 won a State invention patent and an Army Second Class Science and Technology Progress award. The apparatus was approved by the State for clinical application to treat people with respiratory problems. The apparatus is said to have been used successfully during the SARS epidemic for rescuing five seriously ill patients in the China-Japan Friendship and Xuanwu Hospitals in Beijing.

July 21 – An international team of scientists announces it has conclusively identified a corona virus (CoV) as the responsible agent for SARS.

July 26 – The Chinese Minister of Science and Technology, Xu Guanhua, says that although SARS has been effectively controlled around the world, many problems still have not been resolved. SARS still poses a threat. Xu notes that many problems, such as the origin and means of SARS transmission, have not been solved. Xu stresses three key issues that need to be addressed: (1) to clearly determine the source of SARS and its laws of transmission, to provide the scientific foundation and methods to cut off the route of transmission and control the disease; (2) to start research and develop specific, flexible, fast and accurate early diagnostic technology and drug testing, and provide reliable technological methods for virus detection and clinical diagnosis; (3) to accelerate the research and development of efficient medicines and vaccines, in order to effectively prevent and treat SARS.
After the Victory—What Next?

September 2003

September 29 – Ontario’s SARS inquiry opens first of 3 days of public hearings in Toronto.

October 2003

October 7 – Dr. David Naylor, dean of medicine at the University of Toronto, releases a report investigating what went wrong during Toronto’s SARS crisis. The report, commissioned by Health Canada, suggests Canada needs a public health agency similar to the U.S. Center for Disease Control. It calls for $700 million in new health spending.

2004

January 2004

January 1 – Beijing reports its fiscal revenues are up 18.2 percent for the 9th consecutive year, despite the SARS outbreak.

January 2 – Xinhua reports initial gene sequencing tests show a man with suspected SARS has possible corona virus, according to the Guangdong Provincial center for disease prevention and control. Xinhua reports that during the 2003 outbreak, 5,327 were infected, and 349 died in China.

January 5 – China reports the first case of SARS since the global epidemic was declared over in July 2003. The patient is a 32-year-old television producer working in southern Guangdong Province.

January 7 – A crackdown on Southern Metropolis Daily, the first newspaper to report on newest outbreak during late December, is reported:

The World Health Organization has praised China’s cooperation in dealing with SARS since the latest outbreak. But journalists in Guangdong and around the country say that propaganda officials are strictly limiting coverage of the disease to official statements and strongly discouraging the news media from reporting widely on the topic.

April 22-29 – The Chinese government reports a total of nine SARS cases to WHO. Four of these cases are confirmed. All the cases are believed to be traced to the National Institute of Virology, Beijing. (On May 6, after a full investigation of these cases, this was not substantiated since the workers at the lab did not work with SARS samples.) About 1,000 people in Beijing and Anhui Province, the home of one of the victims, are quarantined. WHO praises China for its quick reaction.

May 4 – Beijing confirms three more SARS cases, which confirms all nine cases identified in April 2004 are SARS.

May 18 – WHO declares China’s latest SARS outbreak is over after 3 weeks passed without any new infection. The origin of the outbreak remains a mystery, although WHO expresses concerns about biosafety. Of the nine person infected, one died on April 19, 2004, and the others were released from hospital by May 12.

APPENDIX II

PLA UNITS, PERSONALITIES, ACCOMPLISHMENTS, AND COLLABORATION IDENTIFIED IN OPEN PRESS REPORTS ON SARS BETWEEN APRIL-JULY 2003

General Logistics Department—coordinated with Ministry of Health.

- Personalities: Wang Qian, Major General, Deputy Director, GLD.
  - Deputy, SARS task force headed by Li Qi, Beijing Party Secretary and Politburo Member. Included Minister of Health Zhang Wenkang, and Beijing Mayor Meng Xuenong.

- Subordinate Organizations:
  - Health Department.
  - Military Supplies and Equipment (Quartermaster) Research Institute – Zhou Guotai, Deputy Director.
    - Collaborated with Shandong Ketele Company, PLA Anti-chemical Research Academy, Academy of Military Medical Sciences, Beijing University of Chemical Engineering, Guangdong Microbiology and Epidemiology Research Institute, among other units, to develop new fabric for protective clothing (reported May 14, 2003).
  - Academy of Military Medical Sciences (AMMS), Beijing.
    - Developed a new anti-viral skin emulsion, which was produced at the Beijing Huitongtianli Biotechnology Company (reported May 26, 2003).
    - Collaborated with Shandong Ketele Company, PLA Anti-chemical Research Academy, GLD Blood Products Technical Research Institute, Beijing University of Chemical Engineering, Guangdong Microbiology and Epidemiology Research Institute, among other units, to develop new fabric for protective clothing (reported May 14, 2003).
    - Personalities. Cao Wuchun, epidemiologist, and virologist, Zhu Qingyu.

Subordinate units:
- Health Equipment Institute (Hygiene Equipment Institute).
  - Developed a new type of positive pressure hood in cooperation with Microbiology and Epidemiology Research Institute.
Institute of Microbiology and Epidemiology.

- Virologist Zhu Qingyu detected a distinctive halo of spikes on 20 Feb 2003, which indicated the coronavirus may be the pathogen for the disease. Zhu is credited as the first person in China to isolate the virus from samples taken from victims.
- Adapted Hepatitis B and C nasal spray to SARS – approved by State Food and Drug Administration.
- Tested new biological fabric developed by collaboration between Shangdong Kelete Company, Academy of Military Medical Sciences, et al. Developed clothing in cooperation with China Textile Institute.
- Developed anti-SARS equipment for health workers and patients.
- Developed a new type of positive pressure hood in cooperation with Health Equipment Institute.

- First Military Medical University, GLD, Guangzhou, Guangdong Province.
- Second Military Medical University, GLD, Shanghai.
  - Physiotherapy Research Office.
  - Developed anti-SARS medicines that were approved for clinical study by the State Food and Drug Administration. Animal testing was conducted in Guangdong Province (reported May 26, 2003).
- Third Military Medical University, GLD, Chongqing, Sichuan Province.
  - Oral Hospital.
  - Developed filtration face guard for SARS patients that filters 99.9% of infected airborne particles, and protective materials for hospital staff (reported May 29, 2003).
- Fourth Military Medical University, GLD, Xi’an, Shaanxi Province.
  - Oral Hospital – Professor Xu Zhali.
  - Developed devices to provide oxygen to SARS patients in collaboration with the Xi’an High Oxygen Medical Treatment Equipment Biotechnology Company (reported May 24, 2003).
  - Cell Engineering Center – Chen Zhinan, director.
- PLA Number One Hospital.
Doctor Jiang Yanyong revealed the number of known SARS cases at 301 Hospital on April 4 and 9, 2003.

PLA 302 Hospital.
- Discovered simultaneous basic immunizations and other treatments (hormones, oxygen, anti-viral medicines and antibiotics) can treat and prevent SARS (reported April 20, 2003).

PLA 309 Hospital.
PLA 320 Hospital.
PLA 371 Hospital.
- Infectious Disease (Department) – Zhang Dezhou, director.

Nanfang Hospital.
- First autopsy of a SARS victim performed here on February 12, 2003.

General Armament Department.
- Subordinate Organizations:
  - PLA Anti-chemical Warfare Research Academy.
    - Produced protective equipment for over 50 local hospitals, Public Security and PAP in Beijing; provided over 1,000 sets of protective clothing to Xiaotangshan Hospital; set up hot line to provide technical advice to GLD, Ministry of Health, and Ministry of Public Security.
    - Collaborated with Shandong Ketele Company, Blood Products Technical Research Institute, GLD, Academy of Military Medical Sciences, Beijing University of Chemical Engineering, Guangdong Microbiology and Epidemiology Research Institute, among other units, to develop new fabric for protective clothing (reported May 14, 2003).
    - Developed a protective system, which was approved by the Ministry of Science and Technology and the Ministry of Health, for the Ditan Hospital autopsy rooms, which stored SARS remains. The system was based on military anti-chemical technology (reported May 29, 2003).

Anti-chemical Warfare Military Representatives Bureau.
- Developed a “BWT Model Positive Pressure Protective System” in collaboration with the Military Medical Science
Academy. The system was in operation at the Xiehe Medical Science University from mid-May (reported May 30, 2003).

- Aeronautic (Aerospace) Medical Engineering Research Institute.

Other:
- PLA Medical Library.
  - Donated computers and internet equipment for new Xiaotangshan Hospital, Chanping, Beijing (reported May 29, 2003).
- PLA Armament Engineering Academy.
  - Developed a thermal imaging infrared thermometer capable of accurately reading moving crowds at a distance of 30 meters (reported May 10, 2003).

- China Weapons and Equipment Research Academy.

- Guangzhou Military Region.
  - GMR General Hospital.
    - Developed “BG-95 Nitric Oxide Treatment [breathing] Apparatus” that won a State patent and an Army Second Class Science and Technology Progress Award. The device, which was approved by the State, was credited with saving patients at the China-Japan Friendship and the Xuanwu Hospitals, Beijing (reported July 11, 2003).
  - Pulmonary Medicine Department – Huang Wenjie, director.

- Lanzhou Military Region.
  - Highland Research Disease Research Institute.

- Chengdu Military Region.
  - Deputy Commander, Chen Shijun – convened videoconference on security and stability on April 24, 2003.

- People’s Armed Police.
  - Beijing People’s Armed Police Hospital.
  - Guangdong People’s Armed Police Hospital.
ENDNOTES - APPENDIX II

1. This Appendix is primarily based on military information extracted from Appendix I.

2. Coordination between the General Logistics Department and the China Center for Disease Control does not appear to have been as close as the coordination with the Ministry of Health, as evidenced by the disagreement over the chlymidia theory, which was advocated by CDC chief virologist Hong Tao.
1. The author would like to thank Susan V. Lawrence, Andrew Scobell, Larry Wortzel, and Donald Boone, among others who were in China during the 2002-2003 SARS epidemic and preferred not to be mentioned by name, for their input to the research for this paper, as well as comments on early drafts.


3. Other studies of the SARS epidemic in China have ably discussed numerous factors that contributed to the mishandling of this crisis in China during late 2002 to early 2003. Among these factors, for example, were the disruptive role that elite politics played during a time of leadership transition during the November 2002 16th Party Congress and the March 2003 National People’s Congress. Additionally, the highly compartmentalized People’s Liberation Army played its part by withholding information on the spread of the disease within military hospitals in Beijing by March 2003. A recent publication, John Wong and Zheng Yongnian, eds., *The SARS Epidemic—Challenges to China’s Crisis Management*, Singapore: World Scientific Publishing Co., 2004, comprehensively discusses the SARS crisis from the perspective of China’s ailing and increasingly commercialized health care system, its lack of a free press, and other economic, legal, and political factors that contributed to the crisis.


7. PLA activities are included within the Appendix I timeline. Appendix II extracts details of PLA units that were mentioned in open press reports, as well as their accomplishments, collaboration with military and civilian activities and some individuals that were recognized for their contributions.


10. Chinese researchers did not cooperate with international research until mid-April, when two laboratories linked into the network of international labs that were cooperating on SARS. WHO Update 31—Coronavirus never seen before in humans is the cause of SARS, April 16, 2003, available online at http://www.who.int csr/archives, accessed December 27, 2004.


12. Unconfirmed rumors of continued underreporting of cases persisted during 2003, even after mid-April when the Chinese government initiated its anti-SARS campaign in Beijing and cooperated with WHO officials. There are at least four reasons why the number of reported cases in Beijing and elsewhere may not be completely accurate: (1) Openness may have been limited to an acceptable number of cases, which inhibited reporting; (2) Strict controls on who could say a case was SARS may have lead to some undiagnosed cases; (3) There was considerable pressure at the local level to overcome SARS as quickly as possible. In late April, Party officials readily declared that SARS would be eliminated no later than mid-May, a deadline that could not be met, but which may have provided a disincentive for reporting of potential SARS cases and encouraged local officials to declare success sooner than the disease may have been achieved; and, (4) Poorly managed and compartmentalized information may have resulted in the loss of information, despite best efforts of health care givers.


14. Ibid.

15. The SARS Epidemic, p. 168.

16. Pekka Aro, an International Labor Organization (ILO) employee, flew from Finland via Bangkok to attend the China Employment Forum in Beijing. He stayed in Bangkok during March 18-23. On March 23, Aro flew on Thai Airways Flight 614 to Beijing. He sat next to Zhu Hong, an official of the Chinese Ministry of Trade. Zhu had flown from Hong Kong to Beijing on China Air Flight 112 on March 15, according to Helsingin Sanomat investigative reporter, Pekka Mykkänen. This flight carried a 72-year-old super-infector, who spread the infection to stewardess Meng Chunying, among others. Meng spread the infection to her husband, who later died, and other family members in Hohot, Inner Mongolia. Zhu complained of illness while in Bangkok and sought treatment at a Thai clinic before boarding the flight, apparently unaware of the risks. According to Mykkänen, Zhu was admitted to the SARS ward at Ditan Hospital on March 26, 2003, two days before Pekka Aro became ill. The reporter believed Chinese authorities were aware that Zhu was exposed to SARS as early as March 20, but they took no action to inform other members of Thai Air Flight 614. Unaware that the man he sat next to on the flight from Bangkok was infected with SARS, Pekka Aro remained ill in his hotel room until April 1, 2003, according to Mykkänen’s reporting, when Aro sought medical treatment. He was admitted to the Ditan Hospital SARS ward on April 2 and died four days later. At an April 7 news conference, Guo Jiyong, Beijing Health Bureau, said Aro had immediately sought treatment on March 28, when he


20. See “Severe Acute Respiratory Syndrome—Press Briefing, Beijing, China, March 28, 2003, available online from http://www.who.int/csr/sars/2003_03_28/en/print.html, accessed February 17, 2004, for example, which stated that the Chinese had agreed to provide up to date reports on SARS cases for all provinces on a real time basis to WHO.


23. During the late summer of 2002, these restrictions on party members against talking about possible leadership changes at the upcoming 16th Party Congress were reinforced based on personal direct and indirect discussions by the author with Party members in Beijing.

25. Also see Appendix II, which highlights PLA actions beyond mere propaganda efforts.

26. The near-symbiotic relationship between the PLA and CCP rests upon the subordination of the military to the Party, but also depends upon Party penetration throughout the military since military officers and others within the military are Party members. The Party’s leading role is also strengthened by the prominent role of the General Political Department, which is represented down to the lowest level by the political officers.


29. The PLA was not the only organization having difficulty obtaining specimens in February. Chinese news reported hospitals in Guangdong Province refused to give specimens to representatives from the Beijing Genomics Institute (BGI), for example, who were forced to steal specimen. (See The SARS Epidemic, p. 166.) Among the reasons for this possessiveness was economic competition, since hospitals and research units hoped to patent a “cure” for SARS. There may also have been a shortage of specimens since a limited number of autopsies were conducted worldwide out of a fear of infection. Canada appears to have led the world, with 21 autopsies conducted in Toronto. See Anne-Marie Tobin, “SARS Coronavirus Found in Lungs, Other Organs of Those Who Died: Autopsies,” December 20, 2004, reported online at http://news.yahoo.com, accessed December 26, 2004. The biggest problem, however, was a lack of leadership that would have directed coordinated investigation of the disease in China.


32. See Appendix 1, 2004, Addendum to Timeline. China’s performance during late December 2003 and early 2004 was similar to the original outbreak of SARS, although the timeline for action was shortened. The later outbreak in the spring, however, was more promising, although problems remain in China’s ability to handle biohazards, and the source of the infection could not be fully traced.