



Credible Voice: WHO-Beijing and the SARS Crisis

In February 2003, the Beijing office of the World Health Organization (WHO) received an unconfirmed report that a virulent strain of a pneumonia-like disease had broken out in Guangdong province. Chinese health authorities confirmed the news but assured WHO that the outbreak was under control. However, over the next two months the world panicked as cases with similar symptoms emerged in Hong Kong, Vietnam, the US, Canada, Singapore and Taiwan; a number of patients died. Economies faltered and global travel plummeted as international health professionals rushed to determine whether this was a new disease and, if so, what caused it, how it spread, and how to stop it.

The world community turned to WHO for answers. The UN agency charged with managing global disease alerts and outbreak response mobilized infectious disease experts to analyze the illness, name it, identify its cause, contain it and find a treatment. On March 15, WHO headquarters announced that it was a new disease and dubbed it SARS (Severe Acute Respiratory Syndrome). The WHO office in Beijing was, in many ways, the epicenter of the crisis. The disease had possibly started in China, and determining its origins would help to combat its spread.

Yet the Chinese government remained chary with crucial information. Only on March 27 did it acknowledge that the disease had spread to Beijing, and on March 28 that the outbreak was SARS. Suspicions ran high that the Beijing city government was grossly under-reporting the number of cases, allowing it to spread unmonitored. The WHO-Beijing office had emerged as a reliable source of information on SARS, willing to say what it knew and, as crucially, what it did not know. WHO-Beijing Director Henk Bekedam had scheduled regular press conferences, and briefed the diplomatic community. The office also hosted successive WHO missions—teams of scientists from around the globe who came to China to try to find answers to the epidemiological questions.

On April 16, WHO held a press conference to report on the latest mission—which had visited Beijing, including secretive military hospitals. By then, SARS had spread to 19 countries

This case was written by Kirsten Lundberg, Director, Case Consortium @ Columbia, for the Mailman School of Public Health. The faculty sponsor was the John Snow Professor of Epidemiology and Professor of Neurology and Pathology Ian Lipkin of Mailman. (0213)

Copyright © 2013 The Trustees of Columbia University in the City of New York. No part of this publication may be reproduced, revised, translated, stored in a retrieval system, used in a spreadsheet, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise) without the written permission of the Case Consortium.

with 3,293 reported probable cases and 159 deaths.¹ Bekedam listened as the mission members took media questions. A key concern was the number of SARS cases in the capital—the Chinese had announced 37, but rumors put the number much higher. To the dismay of Bekedam and his No. 2, Alan Schnur, a mission member replied that Chinese officials had asked them to keep what they learned at two military hospitals confidential. A murmur of anger rose from the press corps.

The senior WHO-Beijing officials had seen the syndrome before—outsiders seduced by Chinese hospitality into acceptance of Chinese restrictions on information. Bekedam knew the global media would not accept the answer—and that such evasiveness could cost WHO the credibility it had so carefully built over a painful two months. Schnur, who had been a member of the Beijing mission, had a more accurate estimate. At the same time, to publicly contradict a mission member could be seen as unacceptable, not only by WHO leadership but by the Chinese government. Bekedam had built a reputation as reliable with both groups. Did he want to risk that by publicly contradicting the mission? Should he speak up now? To say what? Could he wait to correct the record until after the press conference ended? He had only seconds to deliberate.

Brief History of WHO

The World Health Organization was created in 1948 to coordinate health affairs within the United Nations system. Its initial priorities were malaria, tuberculosis, venereal disease and other communicable diseases, plus women and children's health, nutrition and sanitation. From the start, it worked with member countries to identify and address public health issues, support health research and issue guidelines. It also classified diseases. In addition to governments, WHO coordinated with other UN agencies, donors, non-governmental organizations (NGOs) and the private sector.² Investigating and managing disease outbreaks was the responsibility of each individual country, although under the International Health Regulations, governments were expected to report cases of a few contagious diseases such as plague, cholera and yellow fever. WHO had no authority to police what member countries did.

By 2003 WHO, headquartered in Geneva, was organized into 141 country offices which reported to six regional offices. It had 192 member countries and employed about 8,000 doctors, scientists, epidemiologists, managers and administrators worldwide; the budget for 2002-2003 was \$2.23 billion.³ Its director general was Gro Harlem Brundtland, a medical doctor and former prime minister of Norway. The majority of its funding came from annual assessments plus voluntary contributions from member countries. WHO had enjoyed a number of signal successes over the

¹ For a breakdown in the number of cases per country, please see:
http://www.who.int/csr/sarscountry/2003_04_16/en/

² For 2002-2003, 56 percent of expenditures were for regional and country offices, while 44 percent went to headquarters. For more information on WHO, see http://www.who.int/about/brochure_en.pdf as well as <http://www.who.int/en/>

³ For more 2002-2003 budget information, see http://apps.who.int/iris/bitstream/10665/21317/1/A59_28-en.pdf

years, most prominently a steep reduction in river blindness, and the eradication of smallpox (certified by the World Health Assembly in 1980). It was criticized, however, for being slow to react when HIV/AIDS exploded across the world.

Networks. A 1995 outbreak of Ebola virus in the Congo, which raged for three months unbeknownst to WHO, revealed a startling lack of global public health surveillance and notification systems. So in 1997, WHO (in collaboration with Canada) rolled out the Global Public Health Intelligence Network (GPHIN), which took advantage of information on the Internet to function as an early warning system for potential epidemics. Among other strengths, GPHIN could pick up even cases not officially reported if they were mentioned in blogs or online postings. WHO supplemented this in 2000 with the Global Outbreak Alert Response Network (GOARN) to analyze events once they were detected. GOARN linked 120 networks and institutes with the data, laboratories, skills and experience to take action swiftly in a crisis.

The country offices were WHO's primary contact points with governments. A country office provided technical support on health matters, shared relevant global standards and guidelines, and relayed government requests and requirements to other levels of WHO. It also informed and followed up with the host government on reports of disease outbreaks outside the country. The country offices had to balance two competing missions: support and cooperate with the host government, but also represent the interests of the other 191 member countries in the event of a global health event. Finally, a WHO country office provided advice and guidance on public health to other UN agency offices in-country.

WHO-Beijing

In 2003, the Beijing WHO office was small. It had 22 employees, of whom seven were international and the rest Chinese citizens. The country director was Dr. Henk Bekedam, who had trained as a medical doctor in his native Holland, with additional work in surgery and obstetrics. He had worked in Zambia (district hospital) and Malawi (regional health officer). He found clinical work rewarding, but moved into management and policy in the face of vast public health inadequacies in Africa. After earning a master's degree in economics, in 1996 he joined the World Health Organization in Cambodia. WHO sent him to Beijing in August 2002.⁴

The WHO-Beijing office reported to the WHO Western Pacific Regional Office (WPRO) in Manila, directed at the time by Dr. Shigeru Omi. Bekedam had regular contact with the WPRO director of program management, Dr Richard Nesbit. Bekedam also worked closely with Director of Disease Control Dr. Brian Doberstyn, and regional media spokesperson Peter Cordingley.

⁴ Bekedam, like many international civil servants, did not speak the local language (in this case, Mandarin). But all official meetings required translators anyway.

The seven international officers in Beijing included Alan Schnur, a 20-year career WHO official who was No. 2 in the office. He led the communicable disease team (including polio eradication) and was point person for influenza surveillance. In China since 1994, he had developed fair working Mandarin. Dr. Daniel Chin, a pulmonary specialist in China since 1999, was country advisor on tuberculosis to the Ministry of Health (MoH). The other international staff worked on immunization, health system issues, and administration and finance. The Chinese staff were either technical, or worked in support positions.

The WHO-Beijing office had a correct relationship with MoH. Bekedam interacted most often with the director general of the Department of International Cooperation (in 2003, Liu Peilong). There were some personal relationships between members of the two organizations: a 1998 flu investigation had allowed WHO officials to get to know their MoH and Guangdong provincial counterparts.⁵ Under Chinese law, government officials were required to report and investigate outbreaks of specified contagious diseases—but the reporting requirement applied only to illnesses on the list. China, like many other countries, did not welcome outside interference in domestic matters, and WHO fulfilled a largely advisory function.

Email from Guangdong

In the afternoon of Monday, February 10, 2003, just after the Chinese New Year weeklong holiday, Schnur received an email from the son of a former WHO staff member who was studying in the southern city of Guangzhou in Guangdong province. Schnur was catching up on backlogged work and put off the email until he wrapped up for the day. The email asked:

Am wondering if you would have information on the strange contagious disease (similar to pneumonia with invalidating effect on lung) which has already left more than 100 people dead in ... Guangdong Province, in the space of 1 week. The outbreak is not allowed to be made known to the public via the media...[but] there is a 'panic' attitude.⁶

The prospect of an influenza epidemic that could start in China and spread quickly had long been a worrying scenario for international public health officials. In Chinese provincial animal markets, civet cats, snakes, turtles, badgers, hedgehogs, frogs and others were for sale as delicacies. Disease experts had seen animal viruses jump the divide to humans, and in most cases it stemmed from close and unhygienic contact between animals and people. For example, market chickens were often kept in close proximity to ducks; if duck droppings fell on chickens, that could allow

⁵ A 1997 outbreak of avian flu (H5N1) in Hong Kong was thought to have originated in southern China, and WHO investigated in early 1998.

⁶ World Health Organization, *SARS: How a Global Epidemic was Stopped*. (Manila: WHO Western Pacific Region Publications), 2006. p.75.

the H5N1 virus to jump from ducks (which do not become sick from the virus) to chickens (which do).

The international public health community considered China ill-prepared for such an epidemic. The country's public health system was highly decentralized, with irregular reporting and no central repository of current health data. Health matters were largely the responsibility of the provinces, with guidelines from the center. With the economic changes in China, central control had declined even further, particularly in the wealthier eastern provinces. "There's very little money flowing from the central government to the provinces," explains Bekedam. "That means the government has very little influence on operations in the provinces."⁷ Moreover, public health had gone underfunded for years, as the government focused on other issues. Many rural areas lacked sufficient medical supplies or even basic laboratory equipment.

Nonetheless, the email did not alarm Schnur unduly. For one thing, WHO had been alert to the possibility of a renewed outbreak of H5N1 avian flu since the 1997 Hong Kong occurrence, which killed six people (of 18 infected) and occasioned the slaughter of millions of chickens to prevent its further spread. It was possible that this was bird flu, he thought. In fact, just three months earlier, in November 2002, an official at WHO-Geneva had heard rumors of avian flu in southern China, and the Beijing office had queried the MoH. The response had been "this is just ordinary flu, no problem," recalls Schnur.⁸ Even ordinary flu killed many people each year, particularly the elderly. As Bekedam points out: "Having many people die of flu in the flu season, you don't [notice] it so quickly."

Moreover, Schnur knew of cases where the chronically underfunded provincial Chinese health authorities had issued medically doubtful health alerts in order to create a market for vaccines—a moneymaker for their budgets. It was plausible that the report was based on such an alert. Nonetheless, before he left for the night he paraphrased the email and sent a query to his counterpart in the Ministry of Health, the deputy director general for communicable diseases. Schnur and the deputy had previously worked for months on creating a national system for influenza surveillance.⁹ Schnur also forwarded the email to Dr. Hitoshi Oshitani, the regional advisor for communicable diseases at the WHO office in Manila.

The next morning, Schnur asked several of the Chinese staff in the office to scan southern China or domestic health websites to see if there was anything that might confirm or invalidate the email report. To his surprise, they found a great deal: mention of multiple illnesses and deaths in

⁷ Author's interviews with Dr. Henk Bekedam on October 30 and 31, 2012, in Beijing. All further quotes from Bekedam, unless otherwise attributed, are from these interviews.

⁸ Author's telephone interview with Alan Schnur on November 15, 2012. All further quotes from Schnur, unless otherwise attributed, are from this interview.

⁹ At one time, the US Centers for Disease Control (CDC) had contracts with eight provinces to send it flu virus samples for possible use in vaccines; the Japanese National Institute for Infectious Diseases also had contracts with eight provinces. WHO was working with the China MOH, CDC and NIID to create a comprehensive system.

Guangdong, plus the disappearance of white vinegar from store shelves. This was telling, because many Chinese believed that boiling vinegar and putting it on door and window frames kept infection at bay.

Meanwhile, Bekedam had another source in Guangdong. The Dutch ambassador called him on Tuesday, February 11, with a question from the new coach for the Chinese football team, who happened to be Dutch. Coach Arie Haan was getting ready to play a match against world champion Brazil in Guangzhou on February 12. Haan reported to the ambassador that “people are dying in Guangdong,” and asked if it was safe to be there. Bekedam, who knew nothing about it, said he could not advise. He and Schnur both presumed the match would be canceled if there were a public health issue. “I’m thinking if you have a really serious problem, you don’t bring 60,000 people together into a football stadium,” says Schnur.

Evidence mounts

However, the web search led WHO-Beijing—which typically did not review the daily regional press—to accounts of two Guangzhou press conferences that day, February 11. There were no foreign media present, but Chinese journalists covered them. In the first, the vice mayor announced an epidemic of atypical pneumonia; in the afternoon, the Guangdong Health Bureau announced 305 cases and five deaths between November 16 and February 9 from atypical pneumonia of unknown cause. A third of the cases, it said, had affected health workers. Officials at both press conferences offered reassurance that the outbreak was contained.

To Schnur and Bekedam, the official statements seemed plausible; there was nothing unusual about an increase in atypical pneumonia cases in winter. The only piece which did not fit was “the clustering and the affecting of the health workers. That was unusual” for either ordinary flu or atypical pneumonia, notes Schnur. Moreover, H5N1 in its previous appearance had not sickened large numbers of people (and those mainly had contact with infected chickens). On Wednesday, February 12, Schnur drafted and Bekedam signed an official letter to the MoH which requested additional epidemiological information on the outbreak in Guangdong, and offered WHO’s assistance. The ministry officially responded on Friday that all was under control. It said the cause of the outbreak was unknown, but was likely viral. The letter acknowledged cases in six municipalities in Guangdong Province, but added that in three there were no recent ones.¹⁰

Bekedam and Schnur knew that any new, and more deadly, strains of avian influenza would likely be reported first as atypical pneumonia. It was also widely known that the central government had difficulty getting reliable data on many subjects, including health, from the provinces. Says Schnur:

¹⁰ WHO, *SARS*, p.6.

So the central government doesn't always believe the data they're getting out of the provinces. We had no basis to provide alternative data, but I think we were waiting for more information before taking it at full value.

Bekedam on Monday, February 17 sent MoH a follow-up letter, again requesting more detail and offering to help. The ministry replied on February 19 that the cause of the Guangdong outbreak was almost certainly *chlamydia* (a pathogen that also caused a common sexually-transmitted disease). "We will keep you informed of the further developments in due course," it concluded. The office found the *chlamydia* conclusion hard to credit. For one thing, says Bekedam, "the combination of infectiousness, the disease pattern [meant] it was not difficult to think that a virus was most likely the likely cause. *Chlamydia* just didn't fit." The WHO office was unsure how to respond. Recalls Schnur:

We weren't quite sure how big this was. If it was an ordinary outbreak, China certainly has capacity to investigate and respond to outbreaks. And it's not WHO's role to jump in on every outbreak.

But that same day, February 19, health authorities in Hong Kong reported to WHO the case of a family, recently returned from China, suffering from an unidentified respiratory disease—possibly bird flu. The WHO Western Pacific Regional Office, already concerned by the cases of atypical pneumonia in China, went on alert. Its experts wondered whether the Hong Kong cases might be related to whatever was going on in Guangdong. The only way to be sure was to go to Guangdong, take samples from patients and send them to a laboratory for analysis. On Thursday, February 20, WPRO Director Dr. Omi formally asked the Chinese Ministry of Health for permission to send a team of international health experts to help investigate the Guangdong outbreak.

But the ministry insisted that it needed no help—so the Beijing office asked instead that the team members be allowed into China to help local WHO staff. They were certainly in the dark. As Bekedam remembers: "It was uncertainty from the start. We didn't know what was going on... We didn't know what the causative agent was. And we didn't know how it would evolve."

Media Relations

Ignorant as it was, however, the WHO-Beijing office quickly found itself answering the world's questions. On February 19, Schnur to his surprise hosted a press briefing. The story of a mysterious illness in Hong Kong, with possible connections to China, was spreading fast. Some 20 journalists, frustrated by a lack of information from either MoH or the China Center for Disease Control and Prevention (CCDC), congregated in the lobby of the WHO office. WHO-Beijing had no public information officer, so Schnur invited them into the WHO library, where he told them the little he knew about the Guangdong outbreak of atypical pneumonia.

As it became clear that WHO would be a source of media information, Bekedam and Schnur strategized. As Bekedam notes, “the media can be your friend, but it can also be your worst enemy. You need to deal with it properly.” That meant telling reporters what they knew, but also what they did not know. In short order, Bekedam decided to organize a weekly press conference. “It was the only way of dealing with all the requests that we got, because it was enormous,” says Bekedam.

At first, the office welcomed journalists onto its premises, but in mid-March, Bekedam rented an extra office next door for press briefings; the first was March 17. Even then, it was crowded, with more than 130 journalists crammed in, including cameras from major broadcast networks. “It was completely packed. If anybody would have had SARS, at least 10 would have been infected during a few sneezes,” recalls Bekedam. Welcoming the press had consequences, he notes.

In February, I was doing as limited [public appearances] as I could. [But soon] I was every day on television. Of course, we needed to make very clear that’s not our thing. Our aim is about public health and how to support it.

Bekedam realized quickly that the press could provide useful information, serving as an informal part of the WHO surveillance network. “Rumors were referred and followed up,” he notes. “You have to be very careful how you deal with them. But rumor verification was important,” a function for which the press was well suited. “In the early phase, the media became part of our surveillance.” At one point, he recalls, a Mandarin-speaking journalist phoned to report that five hospitals had told him how many SARS cases they had—and it was more than WHO was reporting. When the reporter asked Bekedam for a reaction, the WHO-Beijing director responded enthusiastically: “I think that’s good information. Can you tell me what the numbers were?”

In the absence of a public information officer, Schnur became the point person for media inquiries. His only training was a stint on a college newspaper, plus the intense 1998 media attention when WHO visited Guangdong to look into avian flu. In 2003, “initially, there wasn’t that much interest, so one could handle the calls,” remembers Schnur. But before long, he drafted a Chinese-speaking colleague to work with him. She was able to help with Web searches, follow-up phone calls and other technical tasks.

In late February, in addition to the weekly press conferences, the office started regular email information updates. Before long, it also issued press releases, and provided opportunities for interviews with WHO staff. Finally, once WHO scientific teams started to arrive, the local office made sure to schedule a press conference at the end of each mission to report on findings.

But Bekedam did not forget that WHO-Beijing’s main responsibility was to the Chinese government. As was standard, each WHO mission to China would end with a briefing for the

MoH about what the team had learned. Bekedam decided that the MoH briefings would be held in the mornings, with a press briefing on the same day, but in the afternoon. He set a rule:

Whatever I said in the media I had in one way or another already discussed with the government. I did not want the China government or anybody else needing to listen to me at a press conference on what actually we as WHO had to say... If I had anything new, I would always share it first with the China government before saying it in a press conference.

Mission members were all briefed on the rule: tell the media nothing that will surprise the Chinese government.

Organizing for Crisis

Bekedam had to reorganize the office to deal with the overwhelming public interest. Starting in March, he instituted an hour-long staff meeting from 8-9 a.m. each morning, to touch base and coordinate activities. Every day, he left participants with specific action items—information or permissions or contacts that WHO needed—to give all employees the ability to answer questions. “I ended up having no more than three or four key messages for that day or for that week... At least [staff] didn’t need to make up points,” he laughs. It was also important, he says, “for them to understand the larger picture within the group, and for me to be able to direct the whole team.”

As the disease outbreak snowballed, the office also needed more personnel: experts in epidemiology, surveillance/response, infection control, laboratory work and research. For missions, it needed travel advisors, plus administrators to manage the extra staff and consultants. It took several weeks to bring in the necessary people; the office came up to speed only in mid-March.¹¹

Embassies. Then there were the embassies. Not only the media, but the diplomatic corps turned to WHO-Beijing for news. “If you have information, people are going to listen to you. Information is gold,” recalls Bekedam. “We had here embassies; their headquarters wanted to know what was happening in China. Their embassies were asking our office what was happening.” In late February, he and his staff began to brief the diplomatic corps, at first once a week and, as demand increased, twice. A rotating group of some 30-40 individuals attended each briefing, from ambassadors to first and second secretaries. Bekedam instructed his staff that all calls from embassies were to be answered immediately.

¹¹ Arthur Kleinman and James Watson, eds. *Prelude to Pandemic: SARS in China*. (Stanford; Stanford University Press), 2006. p.46.

As with the staff meetings, Bekedam used the briefings to convey “three or four simple messages—what are the next things that need to be done? We always made it something not too confusing.” For example, if China had provided the number of cases in a locality, WHO told the embassy reps that it needed to know how (or whether) those people were related. If it got the answer to that, it asked where they were from, or how they contracted the disease. The result was that Chinese government officials heard a uniform message from the diplomatic community on next steps.

For the missions, Bekedam decided that only senior WHO-Beijing international officers could be team leaders and negotiators. In his experience, visitors had scientific expertise but confronted with Chinese officials, “sometimes they’re completely overwhelmed and they don’t dare to say anything. And sometimes they are completely culturally insensitive, and start talking in a relatively rude manner, and then people start focusing not on what they say, but how they say it,” says Bekedam.¹² As negotiators, he designated himself, Schnur and Chin.

Bekedam also realized that appearances were important—especially what he personally did or did not do. One goal was to minimize panic. So, for example, he never donned a mask. But he also never went to a hospital, so that he would never need to wear a mask. “As long as I know what my environment is, I can make that decision. But I also said if I were to go to a hospital, I would wear a mask,” he remembers. Avoiding hospitals also minimized the danger that he would fall ill himself. His role was too important to risk being sick. He says:

There was agreement that I would be the chief negotiator. And the chief negotiator could not change. If I wasn’t protected well enough, I would have had to put myself in isolation for 10 days, and we couldn’t afford that.

National People’s Congress. Meanwhile, official China was much preoccupied with a major upcoming leadership change. Every 10 years, the Communist Party proposed in November a new slate of top leaders, which was endorsed the following March by the National People’s Congress (NPC).¹³ The NPC, with nearly 3,000 delegates in 2003, was China’s legislature and its highest state authority. About 70 percent of delegates were also members of the Communist Party. In November 2002, the Party had endorsed the transfer of power from General Secretary (and President) Jiang Zemin to Hu Jintao, and announced members of a new 400-member Central Committee as well as the nine members of the ruling Politburo Standing Committee. The transfer would be completed during a 10-day People’s Congress from March 5-14, 2003.

¹² Bekedam adds that the office could not ask its Chinese staff to conduct negotiations—“that’s impossible... because they’re talking to their superiors.”

¹³ The congress was held every five years, but most leaders held two, consecutive, five-year terms. China had some 82 million Party members, from a population of 1.4 billion.

Mission #1

As the Chinese prepared for the congress, the WHO sent in the mission it had proposed on February 20. The team arrived in Beijing on February 23. They were senior officials: Dr. Oshitani, the WPRO regional advisor on communicable diseases, Dr. Keiji Fukuda from the US CDC's influenza division, and Dr. Masato Tashiro an influenza expert from Japan's National Institute of Infectious Diseases. While admitted into China as WHO temporary advisors, they hoped for meetings with Chinese health officials. On February 24, WHO-Beijing faxed terms of reference for the team to MoH, asking for meetings in Beijing, plus Fujian and Guangdong provinces.

The ministry on February 27 gave permission, but for Beijing only. WHO could not dispatch a team to Guangdong without approval; even if the individuals traveled to Guangdong, without official permission no one would speak to them. As WHO-Beijing officer Chin explains it: "If the Chinese government is not opening up, doesn't allow you to travel, we cannot simply say I'm going to go to investigate. That's a non-starter."¹⁴

Only on March 3 was the team finally able to meet with officials at the Ministry of Health. On March 6-7, it visited the China CDC, where it was given clinical, epidemiological and laboratory information about Guangdong (and a potential avian flu outbreak in Fujian). Schnur recalls the team querying: "Do you have the equipment and reagents to do tests for new influenza viruses?" The Chinese accepted an offer of training, equipment and reagents from the US CDC to improve capacity for virus testing. But while there was much discussion about influenza as a possible cause, Dr. Hong Tao, a senior CCDC official, continued to advance the February 19 view that it was *chlamydia*.¹⁵

Chlamydia. "The Chinese kept talking about *chlamydia*," recalls Bekedam. He had been trying for two weeks to determine if there was any basis to the *chlamydia* claim. But he had found no one prepared to defend that hypothesis: the global experts he consulted "came back and said it's absolutely not possible." Even Chinese experts were "giving either hints or telling me that they were not happy that the China CDC was thinking it was *chlamydia*," he says. Yet his efforts to persuade CCDC to abandon the theory were fruitless. He knew what the problem was: the official advancing the theory was too senior to be contradicted. "Here, if the professor or whoever is the most senior person says something, the level of discussion is not sufficient for good science. And that was happening," he observes.

¹⁴ Author's interview with Dr. Daniel Chin in Beijing, November 2, 2012. All further quotes from Chin, unless otherwise attributed, are from this interview.

¹⁵ Unbeknownst to WHO and the international community, Chinese scientists on February 26 had isolated a coronavirus from Guangdong patients which made it clear the disease was not *chlamydia*. The scientists did not share this information with WHO. Source: WHO, *SARS*, p.9.

Guangdong didn't agree with it, Shanghai didn't agree with it. The universities didn't agree with it. It was just unfortunate that somehow within the system they didn't have enough possibilities to discuss [it].

Meanwhile, on March 6, Singapore reported cases of atypical pneumonia (travelers who had been in Hong Kong). Then on March 7, the team in Beijing received an urgent phone call from Vietnam. Says Schnur: "You heard this shouting and screaming in the background. It sounded like total chaos." WHO's Dr. Carlo Urbani was reporting from Hanoi that a strange respiratory disease had infected 12 staff in a hospital treating one patient.¹⁶ He asked for additional personnel. Dr. Oshitani flew to Hanoi on March 10; Dr. Fukuda to Hong Kong.

Virulent disease

WHO HQ found the reports alarming enough to notify the Global Outbreak Alert and Response Network about Hanoi. On March 7, the Western Pacific Regional office created an ad hoc emergency team and shortly afterward started daily teleconferences among the country offices in outbreak sites, Manila, and headquarters. WHO scientists and experts were uncertain what to think. Were the cases in Hanoi and Hong Kong linked? How about Singapore, or Guangdong? Was this the start of a global epidemic or pandemic? Or could it be some form of bioterrorism? Patients were not responding to the antibiotics that were often effective against atypical pneumonia. Some had died. No one was getting better. And health workers continued to be disproportionately stricken.

The need for international epidemiologists to visit Guangdong was growing only more urgent. On March 10, the WHO-Beijing office formally informed the Ministry of Health about the Hanoi outbreak, and again requested permission to visit Guangdong. As Bekedam says: "For sure we had a period that we did not agree with China." Ministry officials never seemed to hold him personally accountable for the messages he brought but, like all internationals posted to China, he knew that the Chinese government could deport foreigners whose conduct displeased it.

Global alerts. By March 12, the situation had deteriorated sufficiently that WHO headquarters decided to issue a global alert about atypical pneumonia in Hong Kong, Vietnam and Guangdong. It was the first time the agency had ever issued a global health alert. The same day, Bekedam requested a meeting with Chinese Minister of Health Zhang Wenkang to ask for more information about Guangdong.

When they met on March 13, Bekedam briefed Minister Zhang and his colleagues on the international situation, requested additional information, and offered to help by sending public

¹⁶ Dr. Urbani himself died of SARS on March 29.

health experts to Guangdong.¹⁷ He shared laboratory information from Hong Kong and Hanoi, and urged the ministry to reciprocate. The WHO group pointedly asked MoH whether it was conducting tests. The minister agreed that a WHO mission could investigate the cause of the Guangdong outbreak—but no date was set.¹⁸

A name. The disease continued its inexorable spread. On March 14, it appeared in Taiwan and Toronto. Then on March 15, officials in Germany removed from an international flight and isolated a doctor who had treated the Singapore patients and subsequently developed symptoms that were becoming familiar—a fever above 101.4 Fahrenheit, difficulty breathing, chills, a dry cough and muscle aches. That evening, WHO issued a global travel advisory and gave the mysterious disease a name: Severe Acute Respiratory Syndrome (SARS). It advised that health workers seemed at particular risk.

The next day WHO on its website named the affected areas: Guangdong, Hanoi, Hong Kong, Singapore, Toronto and Vancouver. It provided global health providers with a definition for a SARS case, plus reporting requirements and the tools to implement them. Until there existed a laboratory test, no country could report "confirmed" SARS cases, but the definition allowed them to record "suspected" cases and a higher level of "probable" cases.

WHO had two urgent goals: identify the original cause of the disease, and determine how it spread. To that end, on March 17 it set up a network of 11 laboratories in nine countries to share data on the cause of the virus. WHO provided a secure website, hosted teleconferences and enlisted scientists, epidemiologists and clinicians. It created a second network on March 20 to look at clinical aspects of the disease (78 clinicians in nine countries), and a third on March 28 to examine the epidemiology (nine sites in nine countries).¹⁹ The US CDC announced on March 17 that the US had 14 suspected SARS cases. Meanwhile, the Manila office organized action groups: an outbreak and preparedness team; a response team for affected areas; and a preparedness group for countries as yet unaffected.

By March 26, WHO was conducting twice-daily teleconferences among 80 clinicians from 13 countries on three continents to discuss the features, progress, treatment, and discharge procedures for SARS. The WHO experts had concluded that SARS almost certainly had originated in Guangdong—and was the same as the atypical pneumonia reported there.

Spinning the Wheels

China did not agree. The Ministry of Health on March 17 for the first time gave WHO a brief report on the Guangdong outbreak of what it still called atypical pneumonia. The report yet

¹⁷ Kleinman, Watson, p.38.

¹⁸ WHO, *SARS*, p.14.

¹⁹ Ibid, p.17.

again stated that the outbreak had tapered off. In Bekedam's view, the timing of the National People's Congress, which had just wrapped up on March 14, contributed to China's official silence and lack of engagement to date. "Things started moving rapidly in Beijing only after the new government took office," confirms Schnur.

Coronavirus. On March 19, MoH sent WHO a letter saying that researchers had found *chlamydia* in five atypical pneumonia patients. But the next day, scientists in Singapore identified coronavirus-like particles in samples from three SARS patients. On March 20, WHO provided a clinical picture of SARS based on the findings from patients in seven countries, as well as advice on the discharge and follow-up of SARS cases. On March 22, researchers in both Hong Kong and the US confirmed Singapore's finding that a coronavirus—a family of diseases that causes, among other ailments, the common cold—was the likely cause of SARS.

As it happened, both Chinese Minister of Health Zhang and WHO Regional Director Omi were in Hong Kong on March 22 for a public health event. The two met separately to discuss the SARS outbreak. The meeting was tense: Omi pressed for more information and access to Guangdong; the minister asserted that WHO had all the information China did. Through back channels, the ministry had in fact supplied information on the number of atypical pneumonia cases in China. But the information China had provided was insufficient—the world had moved well beyond numbers to needing to understand how the disease began, how it spread, and how to contain it. WHO needed answers from patients to such basic questions as: Where were you yesterday? What did you do? Where did you go? Whom did you meet? "If we would have known who had been infecting whom, it could have at least helped us," says Bekedam.

Mission #2. However, WHO persevered. Armed with the March 13 assurance from Minister Zhang that a mission could visit Guangdong, WHO on March 23 dispatched a second team to Beijing. In an encouraging sign, China relaxed its visa requirements, and the team arrived on short notice, intending to work in Beijing while awaiting permission to travel to Guangdong. It never came. "We thought we'd get permission," recalls Schnur. "We didn't fully understand that there was so much objection to putting people out in the field."

Between March 24 and 28, the team met several times with MoH staff in Beijing. The group was dismayed by the startling gaps in knowledge it encountered among the Chinese officials. On a positive note, China on Wednesday, March 26, issued its first list of atypical pneumonia cases since February 11: 792 cases (with 31 deaths) in Guangdong from November 16, 2002 through February 28, 2003. On Thursday, March 27, it added Beijing to the list of affected areas, reporting three deaths and five suspected cases (it also added Shanxi province). It was the first admission by China that the disease had spread to the capital.²⁰

²⁰ CNN Health, "China says 34 killed by virus," March 27, 2003. See: http://articles.cnn.com/2003-03-26/health/singapore.sars_1_sars-cases-severe-acute-respiratory-syndrome-virus?_s=PM:HEALTH

In another breakthrough, the Chinese finally agreed that the Guangdong cases were SARS. On March 27, the mission was finally able to meet with CCDC technical officers. After the Chinese presented their epidemiological data, Schnur commented: “It seems that if we look at your case definition, your symptoms—all that seems to match the ones found in Vietnam and Hong Kong. Can we agree that these are SARS cases?” They all nodded. The next morning, Bekedam met with officials at the Ministry of Health to update them on the WHO mission before the scheduled end-of-mission press conference. He noted that “our technical people agree with your technical people that these are SARS cases. Do you agree with that?” Again, the answer was yes. Bekedam issued a statement: “This week, China has become, very clearly, part of the global network in dealing with the disease.”²¹

The ministry also promised that starting April 1, it would provide WHO with regular, up-to-date reports on SARS cases from all provinces. By that point, says Bekedam, it was becoming clear that the Communist Party was starting to take over responsibility for SARS from the government. “The minister of health tried in his way to get information in the months of February and March, but he was unable to get it,” recalls Bekedam.

By the end of March, WHO had reports of some 1,408 suspected SARS cases in 12 countries and 14 geographic areas, plus 51 in the US. That included 53 deaths—or a 4 percent mortality rate.²² On March 29, the US government issued travel advisories for China, Hanoi, Singapore and Hong Kong. WHO had already recommended that travelers from outbreak areas be screened for SARS symptoms.

Getting to Guangdong

When MoH sent over its first reports of SARS on April 1, the information “looked quite reliable,” says Bekedam. But apparently the Chinese government was still conflicted about the wisdom of sharing information, because in early April Bekedam was summoned to the Ministry of Foreign Affairs. “They made the point that they were not happy,” he says. “They really felt that I should convey to the director general [of WHO] that they were working very hard on the issues, and that they were very serious.”

In Geneva, WHO decided on drastic action. For weeks, it had resisted pressure to issue travel bans for areas affected by SARS. Until now, it had given only travel “advice.” But on April 2, it published the most stringent travel advisory in its history for Hong Kong and Guangdong: consider postponing all but essential travel.²³ Whether by coincidence or not, that day the Ministry of Health finally gave permission for a WHO team to visit Guangdong.

²¹ WHO, *SARS*, p.24.

²² CNN Health, “Mystery illness spreads,” March 28, 2003. See: http://articles.cnn.com/2003-03-27/health/mystery.illness_1_mystery-illness-coronavirus-sars-patients?_s=PM:HEALTH

²³ Several governments had already independently issued travel advisories for their citizens.

On April 3, the latest WHO mission flew from Beijing to Guangzhou for a five-day visit. The mission leader was Dr. Robert Breiman, a CDC infectious disease specialist working at the time in Bangladesh. Its other members were Dr. James Maguire of the CDC-US, Dr. Wolfgang Preiser from Goethe University in Germany, Dr. Meirion Evans from the UK, plus Schnur and Dr. Li Ailan from the WHO-Beijing office. Geneva-based WHO press officer Christopher Powell had also insisted on joining the mission and was, reports Schnur, “key, because we were just inundated with the press.”

That evening, Minister of Health Zhang for the first time mentioned SARS on national Chinese television. He reassured the nation that the disease was under control, and acknowledged that Beijing to date had 12 SARS cases and three deaths. The mission went well. “We had good discussions with the technical people at the provincial CDC,” recalls Schnur. “They pulled out all the guidelines they had issued going back to January... They were first class, very good.” The guidelines, issued February 3, included a preliminary case definition for atypical pneumonia, and recommendations on how to prevent its spread.²⁴

Three consulates (Guangzhou had 22 commercial consulates) had requested that the team meet with them during their stay. Schnur decided to ask the local Health Bureau to help brief the consular officials. The Chinese accepted, and together with Schnur and James Maguire they presented their report that Guangdong had done a professional and effective job of curbing the outbreak, including isolating cases. Schnur was able to introduce the deputy director of the health bureau to the consular group, initiating a relationship that endured after the team departed.

The group held several press conferences to deal with the intense interest in SARS. Hong Kong reporters made a special impression, recalls Schnur: “Very tough. They’re resistant, they’re knowledgeable, intelligent, they are sharp, they do their homework, and they ask good questions.” The press wanted to know, for example, why Schnur wasn’t wearing a face mask. He responded that in a city of 8 million like Guangzhou, the chances of contracting SARS were minimal—but that every individual had to make his own risk assessment.

On the morning of Wednesday, April 9, back in Beijing, the mission presented its findings to the MoH. It said Guangdong had responded well, but expressed fears—based on their earlier Beijing-CDC visit while awaiting permission to visit Guangdong—that Beijing was not as well organized to deal with SARS.²⁵ The team presented a work plan for preventing the spread of SARS within China, including better surveillance, infection control and reporting mechanisms. It recommended that only specially designated hospitals be allowed to accept SARS patients. The mission members also requested permission for a WHO team to visit Beijing medical establishments.

²⁴ Kleinman, Watson, p. 36.

²⁵ Ibid, p.39.

ILO death. While the mission was in Guangdong, the WHO-Beijing office had learned on April 4 that a 53-year-old staff member of the International Labor Organization (ILO) had been admitted to the infectious diseases hospital in Beijing. Because the official had no known contact with a SARS patient, it seemed unlikely at first that he had contracted SARS. But when WHO staff member Chin visited the patient at ILO's request, it was clearly SARS. The source of the ILO official's infection was unknown and caused much anxiety among the international community in Beijing, which feared that the disease might be much more widespread than reported. Only later was it learned that he had caught SARS while sitting next to an infected person on a flight from Bangkok to Beijing. On April 5, he died—the first reported case of a foreigner dying of SARS in China.²⁶

The Dam Breaks

As the Guangdong mission was making its report, WHO Country Director Bekedam received an unexpected invitation: Vice Premier Wu Yi wanted to meet, that day. Madame Wu was a leading member of the government (one of four vice premiers) but, more importantly, she was a member of the powerful Communist Party Politburo. Among other accomplishments, she had led the negotiations for China to join the World Trade Organization. "She had quite a good reputation for getting things done," says Schnur. "I think she really wanted to have another outside, objective opinion" on SARS.

Wu meeting. Bekedam had only about 90 minutes' notice of the meeting—but he was ready. He took with him the available members of the Guangdong mission, including Dr. Evans, Dr. Maguire, Dr. Preiser, Schnur and Dr. Li. A delegation from the Ministry of Health was also in Vice Premier Wu's office. "I missed the minister, and I saw a new guy whom I didn't know," adds Bekedam.

Madame Wu asked the WHO team to describe what it knew about SARS in China, and listened carefully. "I think I made 12 points with her. I was scribbling while we were driving to the place," he says. Madame Wu was "very practical, quite direct, actually taking on things and ready to accept advice." In China, he explains, officials are unusually alert to hidden agendas. "I think by that time, it was already clear to them that we as WHO didn't actually have a hidden agenda, that this was big globally." The meeting lasted about an hour.

Jiang. There had been a key development the day before. On April 8, *Time* magazine reporters had interviewed and published a letter from a senior military doctor and Party member, Yanyong Jiang, which claimed the government had concealed the number of SARS cases in Beijing,

²⁶ The ILO tried to airlift him out, but for several days was unable to find an aircraft willing to fly someone with SARS. By the time they had one in the air, he died.

specifically in its military hospitals.²⁷ Instead of the officially announced 19 cases, Jiang said there were another 60 in one hospital alone (No. 39 People's Liberation Army Hospital)—and that seven had died. Doctors and nurses were among the afflicted.

Jiang said that military hospital medical staff had been briefed at the start of the National People's Congress in early March on the dangers of SARS, but instructed not to publicize what they knew. "As a doctor who cares about people's lives and health, I have a responsibility to aid international and local efforts to prevent the spread of SARS," Jiang wrote. The letter caused an uproar internationally and fueled accusations that China had willfully withheld key information that could have stemmed the outbreak earlier and saved lives.

Within days, China had shifted its response to SARS. On April 12, Premier Wen Jiabao conceded publicly that the SARS threat was "grave" and pledged that the government henceforth would "speak the truth." After SARS rose to the level of the premier, remembers Bekedam, "within 24 hours there was an agreement that every day we would get a full reporting on new cases... The numbers starting going up very quickly." On April 13, President Hu Jintao said on state TV that he was "very worried" about SARS. He called for screening train and boat passengers for SARS and quarantining any suspected cases. Facilities were in place the next day at Beijing's West Railway Station, among others.²⁸ As of April 15, China reported, 64 had died nationwide from SARS (it also reported cases in Inner Mongolia). On April 16, WHO confirmed that the new coronavirus was the cause of SARS. Internationally, SARS cases had been reported in 19 countries on four continents.

Mission in Beijing

But the greatest worry for WHO-Beijing remained the capital. Among other issues, WHO was concerned that Beijing health authorities were not properly tracing those who might have been exposed to SARS, especially in military hospitals. Bekedam says that Acting Vice Mayor Wang Qishan "at a certain moment... made it quite clear to me that he controlled the city, except for a few areas. And one of them was the military... He said, you should appreciate, within the system, it's very difficult."

On April 10, MoH gave WHO permission for a mission to visit Beijing hospitals and districts. A group of five, which included a couple from the Guangdong mission, toured Beijing from April 11-15.²⁹ The night before the team went out, it gathered around a speakerphone in a

²⁷ Susan Jakes, "Beijing's SARS Attack," *Time*, April 8, 2003. Jiang had sent his statement first to Chinese news outlets, which did not publish it. It then found its way to the Western media; the first to contact him was the *Wall Street Journal*. See: www.time.com/time/printout/0,8816,441615,00.html.

²⁸ Christopher Bodeen, "WHO Looks to Visit Beijing Hospitals for Unreported SARS Cases," *Associated Press*, April 15, 2003. See: <http://www.foxnews.com/story/0,2933,84187,00.html>

²⁹ Members of this Beijing mission were team leader Dr. James Maguire, Dr. Wolfgang Preiser, Dr. Jeff McFarland, from WHO-Manila, and Dr. Li Ailan and Alan Schnur from the WHO China office.

small meeting room at the WHO offices. They called Dr. Jiang—who, says Bekedam, had taken “an enormous risk” with his letter—to learn more about SARS cases in military hospitals. “He was not helpful,” says Schnur. “He said, I can’t talk with you. I have nothing more to say.”

The tour was not encouraging. The first stop was the Beijing Health Bureau (as distinct from the Beijing CDC). “They gave us this very long lecture, basically saying that everything is fine, we’re confident, don’t worry about us. You can go back to your hotel and relax because we have everything under control,” recalls Schnur. “We were a bit upset by this. It was not playing by the rules.” They also met with the Beijing CDC, and asked to see its mapping data for SARS cases in the capital. But the Beijing-CDC epidemiologists said the Health Bureau had the data. “They were not fully happy about the situation, but of course couldn’t complain,” notes Schnur. “It was quite remarkable that they didn’t have all the information at their fingertips. That was unexpected.”

The next step was to visit hospitals. Among others, the WHO team stopped at the Japanese-Chinese Friendship Hospital, where Schnur had heard from sources that there were SARS cases. But hospital officials said there were none. Some hospital personnel seemed to withhold information; others denied having a problem. “We were a bit upset with that,” says Schnur.

In China, if you don’t ask, there’s no need for people to tell you. That’s your fault... But normally, the rules were if we asked the right question, we expected an answer to that. Our team asked the right question and didn’t get the right answer. So that made us a bit unhappy.

What’s more, the government at first refused to allow the mission to visit military hospitals at all. Apart from Jiang’s report, Schnur and Bekedam had been hearing about additional military hospital cases for quite a while. Schnur, with his years of experience in China, had built up a network of trusted sources. If one understood the ground rules, it was possible to learn a great deal through back channels, he explains.

Working in China, one becomes very careful of protecting sources. One can establish fairly good working relationships with people once they understand that you know the rules: that if you put their name up to a higher level as saying something, they can get into serious trouble.

Various individuals had called Schnur in recent weeks to report a relative who worked at a hospital with SARS cases, or an acquaintance suddenly taken ill. An expatriate health center had also reported its suspicion of more cases. “There were several informal inputs which gave us to believe that the official data was not believable, and that the number of cases was more than we expected,” says Schnur. The government on April 14 raised its count of SARS cases in Beijing to 37

(including four deaths)—but this seemed hardly credible. Schnur had heard unconfirmed numbers as high as 200.

Finally, on Tuesday, April 15, the government relented: it would admit the mission to military hospitals. The team visited Nos. 301 and 309 military hospitals. They found what looked like lapses in hospital management as well as infection control. They also heard about SARS cases. “They were quite open actually,” recalls Schnur. “Not in terms of the number of cases they had seen; that they didn’t tell us. But they did mention that we have some cases.” They also asked for help: the hospital administrators suspected that air conditioning ducts were spreading the disease and wanted expert advice on possible modifications.

On the morning of April 16, the team reported back to MoH on its findings. It noted that surveillance in Beijing was inadequate, and recommended urgent improvement in surveillance, reporting and infection controls. It also said all hospitals should be included in the reporting system. The standard end-of-mission press conference was scheduled for the afternoon.

Intervention at what price?

The April 16 press conference was to be held in the adjoining office Bekedam had rented for the purpose. For about 10 days, Bekedam had had some media assistance. After repeated pleas, communications chief Cordingley at WHO-Manila had sent in two public relations specialists from the US, James Palmer and James Rademakers. “I called them Jim and Jim,” chuckles Bekedam. “They were helping me with the media part because we were completely overwhelmed.” The advisors expressed skepticism about the ability of the Beijing mission members to say anything critical of the Chinese government. “Henk, I feel very uncomfortable with the team,” commented one. So Bekedam emphasized to mission members before the press conference that “I expect you to report on this very clearly.”

The room was packed with some 80-100 members of the press from around the world. There were at least 25 cameras present. Those in front sat on the floor, others stood at the back. The panel of mission members first gave a brief summary, then took questions. The first two questions went to the heart of international concern: were there additional SARS cases in military hospitals, and had the authorities provided any updates on the situation in Beijing? One panel member answered that while they had indeed toured military hospitals, what they had learned was confidential. A second mission member responded that the mission had been excellent, that the Chinese counterparts had shared all necessary information and that they had had a lovely dinner. Bekedam was taken aback by their answers, although he comments that “you should not underestimate what kind of pressure they felt. The whole world was watching.”

At that point, a reporter from the *New York Times* interrupted to declare the answers unsatisfactory. He pointed out that he lived in Beijing, together with his family. He demanded

better, and fuller, information. “Fortunately,” says Bokedam, “the Jims had warned me. They said if this happens, what you need to do is distance yourself from the mission.” Schnur was sitting next to Bokedam and whispered that he was prepared to offer a more realistic figure. “There was this crisis at the press conference... We knew there were more cases than were being reported,” recalls Schnur.

Bokedam wondered what to do. “The media for sure was going to start getting angry. You could feel it,” he recalls. As he listened, he asked himself whether it was time to intervene in the proceedings, and give Schnur the opportunity to give a different account. If so, he would undercut the authority of the mission members. He might also anger the Chinese government, which had acknowledged only 37 cases. At the same time, if he did not intervene, he was sure the media would turn against the WHO and accuse it of being part of a cover-up. In addition, WHO might lose the trust of the public around the world, including the Chinese public. He had only an instant to make a choice: stand up and publicly contradict the mission members, or stay silent and deal with the situation some other way.