

Testimony
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regarding
Severe Acute Respiratory Syndrome (SARS)
Before the
The Senate Committee on Governmental Affairs'
Permanent Subcommittee on Investigations
United States Senate
May 21, 2003

Good morning, Chairman Coleman, Ranking Member Levin and Members of the Committee. I am Dr. Thomas R. Frieden, Commissioner of the New York City Department of Health and Mental Hygiene (DOHMH). Thank you for the opportunity to discuss New York City's response to Severe Acute Respiratory Syndrome, also known as SARS.

New York City is one of the world's largest hubs for international travel and commerce. Every day, we welcome almost 100,000 incoming air travelers, including some 30,000 from international locations. On Saturday morning, March 15, my Department was notified that one traveler was a patient from Singapore with suspected SARS. He had attended a large conference in New York City. The patient, an infectious disease physician, had cared for two of the index SARS patients in Singapore. The patient saw a physician in New York City for his illness, then boarded a plane to fly back to Singapore, and was taken off the plane in Frankfurt, Germany, where he was hospitalized. His wife and mother-in-law, with whom he was traveling, both developed SARS.

That Saturday afternoon and evening, we faced a series of decisions that illustrate the challenges of addressing the threat of SARS and the importance of good, basic public health services – services which have weakened to the point of endangering the public's health in many parts of the country. Although New York City is fortunate to have robust communicable disease investigation and monitoring capacity, many areas do not have this capacity. And New York City, like many areas, has critical needs in the area of public health laboratory capacity, surge capacity, and other areas. All too often, clinical and public health laboratories are the poor relations in the health field, and unfortunately this is all too often what is happening at the national, state, and local levels in the United States today.

When we heard of the SARS case, we rapidly took the following actions:

1. With facilitation from CDC, contacted the patient's physicians and interviewed the patient by telephone in his isolation room in Germany.
2. Determined that the patient met the case definition for SARS.
3. Determined with whom the patient had come into contact in New York City.
4. Advised the hotel where he had stayed of what precautions, if any, they should take.
5. Notified the organizers of the conference which he had attended and informed them of what precautions they should take, and provided them with materials so they could make a presentation to the conference participants the next day.
6. Identified persons who may have come into contact with the patient, and ensured that they would be rapidly assessed if they developed illness.
7. Found the physician who had treated the patient, and ensured that he and his entire office staff were aware that they should not come to work if they became ill.
8. Informed health care workers that Saturday evening, particularly those staffing emergency departments and intensive care units, through an urgent blast fax/email, of the diagnosis of SARS and of the importance of rapid detection and isolation. Since then, we have distributed SARS information signs for posting at the entrance to emergency departments and clinics, reminding patients and staff of the need to monitor for SARS. We have also provided detailed guidance on the importance of immediately placing potential SARS cases into an isolation room, the need for all medical care staff to wear full protective equipment, and the importance of reporting all suspect or probable cases.
9. Heightened our index of suspicion in our syndromic surveillance system – tracking all ambulance runs, most emergency department visits, many prescriptions, and absentee data;
10. Decided on a public communication strategy including targeted outreach to our Asian community to address their specific concerns about SARS and to try to alleviate the stigmatization that has resulted from this outbreak by clarifying that this is a disease of travel, not ethnicity.

Our response to the threat of SARS illustrates that the detection of and response to any infectious disease outbreak, whether natural or intentional, requires a strong local public health infrastructure with an effective working relationship with the medical community.

Thanks to recent funding from the CDC, our Communicable Disease program has been able to hire additional medical, nursing and surveillance staff

with the expertise required to handle these substantial efforts. Department staff are available 24 hours a day, 7 days a week to discuss potential SARS cases with health care providers and to determine if a case meets the CDC criteria for SARS. If a case does meet the criteria, we ensure that appropriate laboratory specimens are obtained and provide detailed information to the medical provider on guidelines for isolation in both the hospital setting and at home upon discharge. DOHMH staff actively monitor all cases through daily telephone calls for 10 days after their symptoms subside, to ensure that they stay in isolation until they are no longer contagious. Also, all patients and their household contacts are provided detailed instructions on how to prevent spreading or contracting the virus. Given the great diversity of our City, all educational materials for our case-patients and their close contacts have been translated into the appropriate languages, and the DOHMH has access to bilingual translation services to ensure that all persons fully understand our instructions.

With our active outreach to the medical community, we have had more than 180 calls regarding potential cases, every one of which has been evaluated by our Communicable Disease staff. Most did not meet the criteria for SARS, and to date there have only been 22 cases – including 3 probable and 19 suspect cases – all of whom recently traveled to affected areas in Asia or Canada. All of the cases have since recovered. None of these potential SARS cases had a serious illness and none has yet tested positive for the new SARS-related coronavirus. Thus far, there has been no community transmission of SARS in New York City, as we have had no secondary cases among household or health care worker contacts. In fact, I would not be surprised if none of these 22 cases turned out to actually have coronavirus infection as the clinical criteria we use for surveillance purposes is quite broad, and our aim is to err on the side of caution as the risk of missing a case is very high.

Partly due to our early and proactive response and partly due to luck, SARS has not become an emergency in New York City. But given the outbreaks in China, Hong Kong, Singapore, Toronto, and Taiwan, we cannot afford to be complacent. We continue to work on our contingency planning to ensure that we are ready to respond to an outbreak. Efforts include planning for a large-scale surveillance and epidemiologic response if we see local transmission; developing the capacity to conduct SARS testing at our public health laboratory using the assays provided by the CDC; continuing to develop multi-lingual educational materials to address the many community concerns that SARS has raised; working closely with hospitals to provide guidance on preparing for and responding to a hospital-wide or community outbreak; and developing contingency plans for an event in which large-scale isolation and quarantine measures are needed to control a significant SARS outbreak.

Given the large number of travelers coming to New York City, we need to remain vigilant as long as the outbreaks continue overseas. It would not be unexpected if a highly contagious SARS patient arrived in New York City with the

potential to initiate a large outbreak. As the West Nile virus outbreak in 1999 also illustrated, infectious disease outbreaks in distant countries should be both a national and local concern, given the ease and volume of air travel today.

The best approach to prepare for new and emerging diseases like SARS is to strengthen the nation's public health infrastructure. With recent bioterrorism preparedness grants from CDC and HRSA, my Department has significantly improved its ability to respond to infectious diseases threats. The systems we have put in place will help us respond to both natural and intentional outbreaks, as the issues that arise are, in many ways, the same. In most jurisdictions, the public health agency is now recognized as a first responder, requiring the staff and the technology to ensure a 24/7 response and a sound and redundant emergency communication system.

Our emergency preparedness initiatives have helped us to improve communication among the Department, medical providers and hospitals, as well as within our Department, and between other city agencies and the public. We have enhanced our website to make it an up-to-date health information source for the medical community and the public, with daily updates on SARS. These basic infrastructure enhancements enabled us to promptly post on our website patient information sheets in Chinese and Vietnamese shortly after outbreaks were confirmed in China and Vietnam. We have also developed speaker's bureaus to provide presentations to community groups and answer questions, and have issued press releases in Chinese to the Chinese media. Because of the fear and stigmatization caused by this new disease, we strive to communicate openly with local immigrant communities and address their concerns.

One of New York City's most significant accomplishments has been the development of a syndromic surveillance system. The syndromic surveillance system collects statistical data gleaned from 911 calls, emergency department logs, pharmaceutical purchases, and workplace absenteeism and analyzes these findings every day of the year to detect any increase or clustering of symptoms that might represent an infectious disease outbreak. The system is programmed to detect increases in "syndromes," such as flu-like symptoms, which could indicate that the initial phases of illness are occurring in a group of people recently exposed to a biological agent. This data provides the potential for earlier detection of a large outbreak than a traditional surveillance system dependent on medical provider reporting.

The additional personnel made possible by the federal grant have been essential to the Department's response to SARS. Over the past few months, more than 20 DOHMH Communicable Disease staff have been deployed to investigate potential SARS cases. Without this additional staff, employees would have to be diverted to an even greater extent than they have been from other

essential public health duties in order to accommodate SARS monitoring and planning activities.

Since the events of September 11, 2001, New York City's public health, hospital and emergency management sectors have collaborated closely to continuously strengthen New York City's ability to respond effectively to chemical, radiologic and biological terrorism. However, any disaster requires the coordination of multiple public sector agencies, including well-trained first responders. The City's Office of Emergency Management (OEM) plays a crucial role in this coordination, not just within the City, but also with surrounding communities. OEM is a key partner in emergency preparedness planning to combat public health threats, whether man-made or naturally occurring.

If community transmission of SARS does take place in the future, DOHMH would move rapidly to protect others from exposure. If necessary, as we have already done in two cases, DOHMH would invoke its legal authority to ensure that individuals remain isolated and do not spread the disease to others. We are currently in the process of amending the NYC health code, to strengthen our authority to detain – with full respect for the individual's right to due process – suspected or confirmed cases or contacts of contagious diseases that pose an immediate threat to the public's health (e.g., smallpox, pneumonic plague and outbreaks caused by unknown agents). We are also in the process of identifying appropriate isolation and quarantine facilities that could be used in the event of large-scale, contagious respiratory disease outbreaks, as would occur if there were community transmission of SARS in New York City. These facilities would also be needed in the event of a smallpox or pneumonic plague outbreak.

One concern is the large number of staff that would be required to respond to a SARS outbreak in which large-scale isolation and quarantine were required. A significant event would require federal assistance to provide everything from supplemental medical and security staff to food and wage reimbursement for quarantined and isolated civilians. We recommend that FEMA develop contingency plans for providing critical supplementary services in the event of a large-scale disease outbreak in the United States. As we have learned from the SARS outbreak in China, a poorly-controlled disease outbreak and the potential unrest that would follow would not only strain hospitals and public health departments, but also police, fire, public transportation and human services resources. It would also have enormous negative economic impact. We suggest expanding the national Disaster Medical and Mortuary Assistance Teams, developing a national medical reserve corps which addresses emergency licensing and credentialing issues, and developing the capacity to install emergency temporary housing and hospital facilities in an urban setting for use during a large isolation and quarantine scenario.

DOHMH has made significant steps toward emergency preparedness. However, the Department still has a number of benchmarks to reach. Perhaps

our most urgent need is the city's Public Health Laboratory, which is a critical and essential part of the New York City's public health infrastructure. Funding cuts in the early 1990s drastically reduced the Public Health Laboratory's capacity to respond to public health emergencies, and the Department is currently renovating and modernizing the laboratory facility. The facility, designed in the late 1950s, is not conducive to modern technologies and laboratory practice. Without the proper security, surge capacity and technological enhancements, the Public Health Laboratory could become incapacitated during a large disease epidemic or bioterrorist attack, just when it would be needed the most. Despite New York City's fiscal crisis, the City has made available more than \$30 million of its own capital funds for renovation, but this is only about half of what is required. As it is the only public health reference laboratory for eight million New Yorkers, it is essential that we identify funds to complete this project. We must ensure that the proper resources are in place before an epidemic occurs.

In fact, there is a critical need to rebuild the infrastructure of public health laboratories across the country. Many laboratories have suffered from waning financial support over the past several decades. The response to SARS requires that CDC transfer technology to laboratories already hampered by inadequate facilities and by increasing caseloads of pathogens such as West Nile and SARS. Laboratories will need a usable set of clinical tests, some of which we understand are soon to be released by CDC; acceptable testing and reporting algorithms that distinguish between recently acquired infections and older infections; very clear standards, as well as financial and technical assistance in the development and building of adequate and safe facilities to perform such testing; and resources to develop and staff the computer systems to accommodate the testing and tracking of these new pathogens.

Federal grant money provided for hospital emergency preparedness has been woefully inadequate to meet the needs required by a city of our size and complexity. In this federal fiscal year, \$2.9 million was distributed equally among 72 acute care facilities in New York City, which amounted to only \$40,000 per facility. The funding for the new grant period beginning in July 2003 was increased to almost \$13 million, and we have been given authority to distribute up to 20 percent of this award immediately. However, while we have been able to complete some initiatives, our hospitals still have a large number of critical benchmarks to reach. Additional funding is needed to assist hospitals in expanding surge capacity through building additional airborne isolation rooms, stockpiling and maintaining inventory for a three-day supply of pharmaceutical supplies, conducting internal tabletop drills and increasing security at hospitals. A terrorist attack could happen in any location, and, with the widespread use of public transportation in New York City, victims exposed to chemical, biological or radiological agents could travel to many locations before realizing they had been exposed. Likewise, with a naturally-emerging disease like SARS, a contagious patient could present anywhere. Therefore, all hospitals in our city need the capacity to identify, isolate and treat large numbers of contagious patients.

It is essential that the allocation of national bioterrorism funding be targeted toward the extraordinary needs of large, densely populated cities that are high on the list of potential terrorist targets. The current funding formula does not take these factors into consideration. New York City's need for extraordinary levels of preparedness is driven by its disproportionate risk. As a financial, cultural, and media capital of the world, it is a prime target for terrorists – which has already been demonstrated by the two attacks on the World Trade Center, as well as the anthrax-contaminated letters targeting major media organizations in NYC. New York also has a unique susceptibility to imported infectious diseases with more than 65,000 international air travelers arriving and departing each day. More than eight million residents live within just 321 square miles, giving us a population density of about 25,000 per square mile, which is orders of magnitude greater than the national average. And our population increases to ten million each workday as regional commuters funnel into the City's three central business districts. The impact of a bioterrorism attack or an emerging infectious disease on New York City is potentially devastating, with national and worldwide implications.

I would like to emphasize the important role of the CDC in New York's City SARS response. The CDC has shown leadership by providing public health departments and the medical care community with up-to-date information on this evolving international outbreak and by rapidly distributing educational materials through its website and frequent teleconferences. The CDC's laboratory expertise is an invaluable national resource. Health departments throughout the country look to the CDC laboratories to rapidly develop new testing methodologies, and to disseminate these assays to state and local public health laboratories. The responsiveness of CDC as our national reference laboratory was demonstrated by the West Nile outbreak, when within six months of the introduction of this new virus, serologic and nucleic assays were developed and distributed to public health laboratories nationwide to expand our capacity to monitor the rapid spread of this new virus.

However, we are concerned about the ability of CDC to continue as one of the world's pre-eminent public health agencies. The CDC has endured significant budget cuts over the past decade, and its laboratories and its expertise have been negatively impacted. Responding to outbreaks that involve numerous states, as well as responding to the threat of imported diseases from overseas, requires the leadership and the experienced staff of the CDC to ensure a coordinated local and national response. It also requires significantly more financial resources.

The best protection against the threat of a new disease is a strong public health infrastructure working in close partnership with the medical community. It is more imperative than ever that our nation's public health infrastructure be financially supported and strengthened. In New York City, my department has

identified immediate needs requiring at least \$104 million. These needs include the cost of upgrading our laboratory, retrofitting our facilities for emergency use, planning and establishing points of distribution (POD) sites for preventive mass treatment, and equipment and computer software to enhance our capacity to respond to chemical, biological and radiological events. In addition, our public hospitals alone need more than \$35 million to address their immediate needs to prepare for public health emergencies. And this does not even begin to address the financial needs of other first responders, such as fire, police, the EMS system, and our emergency preparedness coordinators. To ensure speed and effectiveness in the grant process, it is of critical importance that federal funding continues to come directly to the City. The threats of terrorism and of new or re-emerging infectious diseases will remain a concern for the foreseeable future. Only a concerted, sustained federal investment in public health will ensure our capability to respond and protect our communities.

Thank you for the opportunity to testify on this important matter. I will be happy to try to answer any questions you may have.

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