

TESTIMONY

**Thomas A. Farley, M.D.
Commissioner
New York City Department of Health and Mental Hygiene**

before the

**Committee on Homeland Security
U. S. House of Representatives**

*Beyond Readiness: An Examination of the Current Status and Future Outlook
of the National Response to Pandemic Influenza*

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I want to thank Chairman Thompson, Ranking Member King, and the other distinguished members of the Committee for convening this hearing about the current status and future outlook of the national response to pandemic influenza.

As you know, influenza is a serious viral disease. In New York City, on average 1,000 people die of seasonal influenza each year, the vast majority of whom are over the age of 65. Large densely-populated urban areas like New York City face unique challenges when combating highly contagious viruses such as influenza. The vast majority of New York City commuters travel by public transportation -- each day there are between 7 and 8 million trips on the subway, and the population of the city grows to nearly 12 million during the weekday. There are 1.2 million public school students attending about 1500 public schools in the city. These are ideal conditions for easy transmission of a virus such as influenza.

The new strain of the influenza virus, H1N1, arrived in New York City in late April, when a large number of students from a high school became ill over a few days. At that time we knew little about how easily the virus would be transmitted, the severity of the illness it might cause, and who among the New York City population was most at risk for infection or for severe illness.

Under the Citywide Incident Management System, the New York City Department of Health and Mental Hygiene (DOHMH) is a lead agency in responding to public health emergencies, including pandemics, along with the Police and Fire Departments. In preparation for such an event, the Department had developed a *Pandemic Influenza Preparedness and Response Plan*. The plan is grounded in the reality that we will not be able to prevent pandemic influenza from entering New York City once it emerges anywhere in the world, and that once it arrives we can try to slow its transmission, but will not be able to halt it. A key priority in our plan, which is very relevant in our current response, is minimizing severe illness and death by identifying and treating those New Yorkers who are most at risk as early as possible in the pandemic.

In response to the initial H1N1 outbreak at the high school, the Department activated its Incident Command System (ICS), drawing on all needed agency resources and providing the highest level of coordinated response during emergencies. Our response utilized the preparedness infrastructure capacity and capabilities that DOHMH has been building and enhancing since 2001, largely with the support of Federal funding. The Department's preparedness infrastructure enabled the agency to sustain an effective response over an eight week period, with over 200 Health Department staff working on response activities at the height of the outbreak.

The New York City Health Department constantly monitors influenza-like illnesses (ILI) activity in community and health care settings using a variety of surveillance methods. We routinely track hospital emergency department visits, pharmacy sales of antiviral and other medications, and influenza virus specimens taken from a network of sentinel physicians, among other indicators, to monitor trends and identify clusters of influenza-like illness.

Because H1N1 was a new virus and we had little information on its clinical and epidemiologic characteristics, our priority for surveillance was monitoring for more severe illness and death, which required scaling up our efforts. In partnership with the healthcare community and New

York City's Chief Medical Examiner, we established enhanced surveillance to track the number of persons who were hospitalized or had died with influenza-like symptoms. We actively worked with the healthcare providers reporting these suspect cases to arrange testing for H1N1 in our laboratory.

The Department's Public Health Laboratory provides a wide range of public health laboratory testing services. During the early period of the outbreak, the Laboratory was able to determine that the ILI at this high school was probable H1N1. We quickly acquired the technology necessary from CDC and were able to begin performing confirmatory tests for the new H1N1 by May 11. Our Laboratory was one of the first nationally to receive this test. Having this capacity locally improved our ability to obtain timely information about the virus. The development and distribution of such a test in such a short period of time is a remarkable feat, and we appreciate the support we've received from our partners at the CDC.

We observed some important patterns about this new H1N1 influenza virus from our early investigations. First, the virus appeared to spread rapidly among children. In contrast to seasonal influenza, the elderly were generally spared. Second, nearly all of the younger people who did become ill had mild symptoms, with most recovering completely in 5-6 days.

The Health Department continued to survey New Yorkers to determine what proportion of the city's population has experienced influenza-like illness since late April, and what types of symptoms people have experienced. The Health Department conducted two population-based telephone surveys, asking about influenza-like illness from early May through mid June. These surveys were designed to be representative of all New Yorkers, and from these data we estimate that at least several hundred thousand and perhaps as many as one million people in the city became ill from H1N1. With 47 recorded deaths from H1N1, the case-fatality ratio is approximately one per 10,000 cases, which is roughly the same as or lower than the case-fatality ratio for seasonal influenza.

The H1N1 community transmission in New York City appears to have been more widespread than elsewhere in the U.S. As of July 1, 909 people diagnosed with H1N1 have been hospitalized in New York City. An analysis of H1N1 hospitalization data found that the most common risk factor for complications due to H1N1 in New York City thus far has been asthma. We also observed that individuals who are younger than 2, pregnant or have a weakened immune system, diabetes or cardiovascular disease were at elevated risk during the current outbreak.

As with seasonal influenza, the H1N1 influenza has claimed lives, forty-seven so far in New York City since the outbreak began. While most of these deaths have involved people with underlying risk factors for influenza complications, some occurred in otherwise healthy people. These deaths are tragic, but not unexpected. An important part of our response is educating New Yorkers about why it is important for individuals with these risk factors or chronic underlying health problems to consult a health care provider when experiencing influenza-like illness. We also urged all New Yorkers to take measures to protect themselves from influenza, including avoiding close contact with people who have influenza-like illness, and washing hands often with soap and water.

During the outbreak, DOHMH recommended closing 57 schools for five days. The main goal of school closures was to protect those at highest risk of complications from influenza by slowing transmission in that particular school community and reducing exposures among those with underlying conditions. School closures were not expected to interrupt the spread of influenza in the city as a whole.

One of the greatest challenges facing the city during a pandemic is to provide quick, clear, consistent, and frequent emergency information to the public. Central to our communications strategy is the use of the news media to keep New Yorkers well informed about the progress of the outbreak and about what measures they can take to protect themselves.

Information was made widely available through Mayor Bloomberg's almost daily press briefings, and the Mayor's leadership in addressing the issue routinely played a significant role in educating the public about H1N1. The health department issued 25 press releases and held eleven press conferences and briefings, generating thousands of media stories. This method of communication is effective and efficient, and allows us to reach the maximum number of people with the latest and most up-to-date information.

The Department also issued a wide variety of fact sheets, brochures, posters and pamphlets targeting various populations, including the school community, employers, and faith and community leaders. We translated these documents into 12 languages, and developed low literacy materials. All of these materials were made available on a dedicated page on the DOHMH website.

Equally important to our public communications is our ability to distribute important clinical information to health care providers. With approximately 29,000 subscribers, our Health Alert Network provides an opportunity to get clinical recommendations and treatment guidance directly into the hands of providers with the click of a button; we sent out health alerts, as well as multiple clinical guidance documents and treatment recommendations during the course of the outbreak, providing physicians with the latest information on H1N1 activity in New York City. Our Provider Access Line, staffed by Health Department and Medical Reserve Corp personnel, fielded nearly 5,000 requests for assistance. We also conducted numerous conference calls with providers to review our guidance.

Importantly, regular teleconferences and communications with the Centers for Disease Control provided invaluable assistance and guidance to our efforts.

Planning for recurrence of H1N1

We are now planning for the expected return of H1N1 in the fall or winter, when influenza virus transmission traditionally peaks. We are focusing on assessment of current resources, addressing gaps and implementing enhancements. DOHMH has established formal planning workgroups, many of which have interagency participation, tasked with implementing solutions to gaps and weaknesses identified. This process will be greatly enhanced by the additional supplemental funding that Congress recently approved and we would like to express our thanks for that support.

Surveillance & Laboratory Capacity

Perhaps the greatest challenge we face—one that is common to pandemic planning and response—is the need to respond and make policy decisions in the face of medical and scientific uncertainty. Influenza can evolve in unpredictable ways; because we knew little about this virus when it first emerged, our surveillance system was intensive and relied heavily upon identifying and counting individual cases of persons hospitalized for influenza. With the knowledge we have gained, we expect to modify our surveillance approach in the fall to one that is more sustainable and less resource intensive. Since case-based hospital surveillance will likely be impractical during the expected upsurge in influenza like illness, the approach entails an overall assessment of the amount of influenza-like illness activity (for both mild and severe disease), combined with laboratory testing from a limited number of representative outpatient and hospital sites. Our primary approach to track the overall trajectory of the potential outbreak will be to monitor visits to hospital emergency departments for influenza-like illness, through what is called “syndromic surveillance,” and conduct periodic telephone surveys for symptoms of influenza-like illnesses.

Mass Vaccination and Antiviral Distribution

The best tool we have to prevent influenza infection and severe disease is vaccination. We are hopeful that a vaccine against H1N1 will be available before the virus returns. If ample supplies of this vaccine are available, we will provide it to people most likely to develop severe illness from influenza, people who are likely to spread the virus to those persons, and essential personnel who are likely to come in contact with the virus such as health care workers. However, because we do not yet know how much vaccine will be available, we must prepare for a range of options, both regarding who will be vaccinated and how vaccines will be administered. These include vaccination by private medical providers, vaccination in public clinics, mass vaccination clinics in schools, and vaccination using Point-of-Distribution (POD) sites. We have conducted numerous POD trainings and exercises for staff and volunteers over the last several years and have identified 200 POD sites within walking distance of most City residents.

If an H1N1 vaccine is not available in ample supplies before the virus returns, we will have to rely more on antiviral medications to protect persons at risk for severe disease. We are developing contingency plans for use of antivirals that will rely on distribution to hospitals as well as community health centers. We are aware that for some populations, such as homebound and incarcerated persons, accessing these sites will be difficult, so we are working on plans to address the needs of vulnerable populations as well.

As part of ongoing planning activities, we intend to define the threshold for releasing stockpiled pandemic influenza response items such as antivirals, personal protective equipment and ventilators and develop guidance for organizations that would receive supplies from the Strategic National Stockpile (SNS) and to refine plans for the delivery of supplies to hospitals, long-term facilities, home-based care agencies and other outpatient providers.

A significant challenge for public health departments will be responding to an H1N1 outbreak while we are also promoting vaccination against seasonal influenza. The overlap of these activities will further strain private providers, health care facilities, long-term care facilities, and the Health Department.

Healthcare Surge Capacity Planning

DOHMH works closely with New York City's hospitals, outpatient centers, congregate care facilities, and emergency medical service agencies to handle a surge in persons seeking care for influenza. We have developed medical surge protocols and built a local medical cache of ventilators and personal protective equipment. DOHMH has also conducted citywide pandemic influenza exercises and drills with local, state and federal partners, and hospitals and community health centers. DOHMH has also engaged congregate care facilities and major health agencies to provide guidance regarding care for patients at home or other residential settings during a pandemic.

During the peak of the pandemic this past spring, some hospital emergency departments were overwhelmed. Many emergency departments saw a 200% increase in the number of patient visits. To deal with overcrowding, some hospitals created additional space by setting up a tent outside of their emergency departments or used outpatient clinic space to allow those patients with influenza to be quickly separated from others. In response to the demands placed on hospitals, DOHMH provided clinical algorithms, screening and isolation guidelines. We also delivered personal protective equipment and pediatric Tamiflu suspension to hospitals.

DOHMH recognizes the need to take action to avoid this overcrowding in the future. We are working to develop better ways to guide people's decision-making about when it is necessary to seek medical assistance. To reduce visits to emergency departments by the "worried well", we plan to publicize the availability of up-to-date guidance on our website. The website will provide suggestions for people with mild cases of influenza-like symptoms so that they can confidently care for themselves at home. We plan to develop non-hospital sources of medical advice for patients who need it. We are working on ways to disseminate this information through community and faith-based organizations as well as schools. To provide an alternative to hospital emergency departments, DOHMH is also working with community health centers to assure that they have the resources needed to expand operations during resurgence of H1N1. DOHMH will also encourage hospitals to develop specialized influenza clinics or alternate emergency departments to treat patients with influenza-like illness so that they can handle the patient load and reduce exposure to influenza in patients seen in emergency departments for other reasons.

School Closure Policy

Under what conditions health officials should close schools to limit the spread of H1N1 is a question that will come up again in the Fall. Our current thinking is that if the virus does not increase in its severity from the spring, the New York City health department is not likely to recommend widespread or prolonged school closures because the disease has been mild in the nearly all children, because such closures would not stop the spread of the virus, and because the economic and social disruption caused by school closures is substantial. We will recommend that children and staff with symptoms stay home and that children or staff at risk for severe disease who come in contact with ill persons consult with their medical provider about taking antiviral medications. Individual schools may need to be closed by school authorities if too many staff members are ill for the school to administratively function. On the other hand, if there is evidence to suggest that the virus is more severe or the disease incidence is far greater than they were in the

spring, school closures and other measures to reduce contact among large numbers of persons may be considered.

Infection Control

DOHMH continues to refine its guidance concerning infection control in hospital, community, congregate and high-risk settings, including day care, universities, home visiting programs, and others. We are also refining worker protection guidance for all public and occupational groups, which will vary depending on the severity of the outbreak. On July 23, 2009, CDC's Healthcare Infection Control Practices Advisory Committee unanimously voted to recommend that surgical masks be worn by healthcare workers caring for H1N1 patients, except when specific medical procedures are performed, in which case N-95 masks are recommended. DOHMH strongly endorses this infection control recommendation.

Incident Response

The single most important way to build a strong preparedness foundation is to build a strong workforce. DOHMH, with help from CDC's Public Health Emergency Preparedness grant, supports staff positions with preparedness and response expertise. In addition, DOHMH trains all employees on the agency's Incident Command System. We have also developed automated notification systems so that all agency staff can be quickly mobilized to respond to any public health emergency. DOHMH has also created the largest Medical Reserve Corps in the country, with over 8,300 volunteers to call upon during an emergency response.

DOHMH also provides funding and expertise to key city partners to purchase stockpiles of pandemic countermeasures and facilitate development of pandemic influenza plans for City agencies and the populations they serve, including the Department of Homeless Services, the Human Services Administration, and the Department of Corrections, as well as coordinating plans with the Office of the Chief Medical Examiner.

Communications and Public Outreach

To communicate accurately and rapidly to the public about influenza, DOHMH is continuing to develop numerous templates for fact sheets and press releases in many languages. These materials help us provide well-considered information at very short notice to many audiences. DOHMH also continues to focus on the importance of healthcare provider awareness and education through regular communication and through our Health Alert Network, as providers may be the first to recognize unusual disease patterns that precede an outbreak.

To ensure timely communication with the public and the healthcare community, DOHMH plans to enhance its existing protocols for rapid development and clearance of public messages. CDC Public Health Emergency Response funds will be used to further develop our ability to communicate to New Yorkers in a variety of ways about H1N1. We will also develop pandemic specific public information and education initiatives, including a range of community and workplace outreach activities, especially to high-risk populations, and an advertisement campaign. In addition, funds will be used for healthcare provider education and training.

Funding Needs

To date, the cost of the H1N1 response for the City health department activities alone has been approximately \$4 million. Citywide, costs are estimated to exceed \$12.6 million. Core capacity

building at DOHMH to prepare for a fall recurrence of H1N1 are expected to cost the Department more than \$70 million, including laboratory equipment, information technology support tools, occupational health supplies and training, vaccine distribution, and procurement, storage and management of mechanical ventilators, and personal protective equipment for health department and other key city personnel. Citywide, the costs to fully prepare for a pandemic could exceed \$160 million, including costs to the city's school system, the Medical Examiner's Office, the Fire and Police Departments, and the city's public hospital system. The cost of response if the H1N1 recurrence is severe could be almost a half a billion dollars for all city agencies.

We are grateful for the additional funds recently provided by Congress and those being allocated through the Public Health Emergency Response Grants. The additional \$7 million New York City expects to receive for public health preparedness as well as \$2.4 million for hospital preparedness, will provide critical support as we continue to build our core capacity and prepare for the influenza season and the possibility that a more severe H1N1 virus will return. It is, however, only a fraction of the real need.

While there are many factors involved in planning for an influenza outbreak, the single most important resource is personnel. A well-trained workforce is critical to the successful response to any emergency. CDC's Public Health Emergency Preparedness grant, the Hospital Emergency Preparedness Program funding and the Urban Area Security Initiative funding have been extremely important to New York City's preparedness. However, the steady erosion of funding in the last few years hinders our ability to maintain progress and retain the critical workforce needed to respond to the unique risks and public health emergencies in New York City.

The primary source of support for the preparedness infrastructure in New York City, the Public Health Emergency Preparedness Cooperative Agreement through CDC, has steadily decreased since 2002 dropping approximately 26%. In 2004, the Cities Readiness Initiative program, initially provided to 21 high-risk cities, was created to prepare major U.S. cities and metropolitan areas to dispense antibiotics to their entire population within 24 hours. Recent formula changes have resulted in a 25% reduction in New York City's allocation, and we have been advised that we will receive another 25% reduction in the next grant year.

Although we appreciate the gap funding that is being provided through recent supplemental appropriations, this is one-time funding that cannot be used to close our personnel gaps – nor to replenish more than \$12.6 million in tax levy dollars we used for the recent H1N1 outbreak. In authorizing future funding mechanisms, we urge you to consider the need for stable, predictable and risk-based funding that helps localities maintain their emergency preparedness infrastructure. That is the key to real preparedness.

Thank you for the opportunity to testify. I will be happy to answer any questions you may have.

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