



**Testimony**  
**Committee on Energy and Commerce**  
**Subcommittee on Oversight and**  
**Investigations and**  
**Subcommittee on Health**  
**United States House of Representatives**

**Safeguarding our Nation: HHS**  
**Response to the H1N1 Outbreak**

*Statement of*

**Nicole Lurie, MD, MSPH**

*Assistant Secretary for Preparedness and Response*  
*U.S. Department of Health and Human Services*



**For Release on Delivery**  
**Expected at 10:00am**  
**Tuesday, November 18, 2009**

Good morning Chairmen Pallone and Stupak, Ranking Members Deal and Walden, and Members of the two Subcommittees. I am Dr. Nicole Lurie, the Assistant Secretary for Preparedness and Response (ASPR) at the U.S. Department of Health and Human Services (HHS). As Secretary Sebelius emphasized in her testimony before the Senate in October, slowing the spread and reducing the impact of 2009 H1N1 is a shared responsibility, and we all need to plan for what would need to be done as the flu impacts our communities, schools, businesses, and homes this fall. I appreciate the opportunity today to discuss our role as well as some of the challenges and successes we have encountered in responding to the 2009 H1N1 influenza outbreak.

Before I go further, let me take the opportunity to thank you not only for the rapid congressional appropriations to respond to this current influenza threat but also for the foresight in providing significant resources since FY 2006 to lay the foundation for our Nation's pandemic preparedness. These resources have demonstrated a strong return on investment and have dramatically improved our ability to respond. However, our work in this area is far from done. We look forward to working with you and your congressional colleagues in the future to continue to build our response capabilities not only for an influenza virus but also the wide range of natural and manmade threats that we face.

## **Overview of the Outbreak**

Since the initial spring outbreak of 2009 H1N1 influenza, this virus has triggered a worldwide pandemic, and was the dominant flu strain in the southern hemisphere during that hemisphere's winter flu season. Data about the virus from around the world have shown that the circulating pandemic H1N1 virus has not mutated significantly since the spring. The virus remains similar to the virus chosen for the 2009 H1N1 vaccine, and remains susceptible to the antiviral drugs oseltamivir (Tamiflu) and zanamivir (Relenza), with rare exception. As with seasonal influenza, persons with some chronic health disorders and pregnant women have a higher risk of severe disease. In contrast to seasonal influenza, elderly persons have proven less likely to contract the virus; nevertheless, many elderly persons who do contract the virus have had serious complications. Early treatment with antivirals is recommended for elderly persons as well as for pregnant women, others at high risk for complications, and for anyone who becomes seriously ill.

Unlike our typical seasonal flu, we continued to see flu activity in the United States over the summer, notably among school-aged children and young adults. More recently, we have seen widespread influenza activity in almost all states. Visits to doctors for influenza-like illness are much higher than levels expected for this time of the year.

Over the next several months, seasonal influenza viruses may circulate along with the 2009 H1N1 influenza virus, and it will not be possible to determine quickly if ill individuals have 2009 H1N1 influenza, seasonal influenza, or other respiratory conditions based on symptoms alone. Because of this, close monitoring of viruses in the United States will be critical to ensure that the best guidance about treatment and prevention of influenza can be provided.

### **Office of the Assistant Secretary for Preparedness and Response (ASPR)**

The Pandemic and All-Hazards Preparedness Act (the Act) designated the HHS Secretary as the lead Federal official for public health and medical response to public health emergencies and incidents covered by the National Response Plan developed pursuant to section 502(6) of the Homeland Security Act of 2002, or any successor plan, and created the Assistant Secretary for Preparedness and Response. Under the Act, ASPR plays a pivotal role in coordinating emergency response efforts across the various HHS agencies and among our federal interagency partners.

### **2009 H1N1 Task Force**

In July 2009, the White House National Security Staff (NSS) released the *National Framework for 2009 H1N1 Influenza Preparedness and Response* (*National Framework*) to ensure a coordinated and focused national strategy. In response, ASPR created the 2009 H1N1 Task Force to: coordinate and consolidate H1N1 strategic program activities; serve as the focal point for policy

coordination; and ensure that HHS's National Framework activities and accomplishments are reported to DHS according to NSS timelines.

The Task Force addresses the National Framework's four key capability "pillars:" surveillance, mitigation measures, vaccination, and communication and education. The Task Force meets regularly with me and the HHS Chief of Staff to review ongoing activities to ensure our successful execution of the National Framework strategy. The Task Force has closely collaborated with DHS to establish a Common Operating Picture (COP) for 2009 H1N1, a single display of relevant information to facilitate collaborative planning and to achieve situational awareness.

#### *ESF #8 Response Activities*

Under the National Response Framework, ASPR is responsible for coordinating the Emergency Support Function (ESF) #8 response – Public Health and Medical Services. ASPR provides the mechanism for coordinated federal assistance to supplement State, local, territorial and tribal resources in response to public health and medical care needs during an emergency.

Specifically with regard to the 2009 H1N1 influenza outbreak, ASPR coordinates the interagency public health and medical response activities through a series of twice-weekly ESF #8 calls. During these calls, HHS regional health administrators and regional emergency coordinators report updates on their

regions' pandemic influenza preparedness and response activities. Federal interagency partners also report their activities for group discussion and integration.

Other coordination activities include weekly calls between ASPR and the State health departments to discuss any challenges and issues that might necessitate federal assistance. ASPR has also conducted calls with intensive care physicians to better understand the clinical picture of patients requiring extensive care in hospitals and to share information and experience to help identify best practices to improve patient outcomes. One of our critical concerns is to prevent local healthcare system failures from becoming regional healthcare system failures. Proactive measures to support our local partners in preventing system failure include 1135 waivers to decompress overburdened hospitals and deploying federal assets (where necessary) including clinical staff, temporary medical facilities and any needed logistical support.

### Hospital Preparedness

Since its inception in 2002, ASPR's Hospital Preparedness Program (HPP) has provided more than \$3 billion to fund the development of medical surge capacity and capability at the State and local level. HPP funds are awarded to State and territory departments of public health, which in turn fund projects at hospitals and other healthcare entities. As a result, hospitals can now communicate with other responders through interoperable communication systems; track bed and

resource availability using electronic systems; protect their healthcare workers with proper equipment; train their healthcare workers on how to handle medical crises and surges; develop fatality management, hospital evacuation, and alternate care plans; and coordinate regional training exercises.

As a result of Congress's investment in the Hospital Preparedness Program our hospitals are better prepared to respond to the current 2009 H1N1 outbreak.

Since the inception of funding, pandemic influenza preparedness and development of alternative care sites have been two priorities of the HPP program. In 2007, \$75 million was awarded to States and territories specifically for pandemic influenza planning, including pandemic exercises and purchases of equipment, such as ventilators, that would aid in their response to a pandemic. Of the grantees receiving these funds, 79% conducted pandemic influenza exercises to hone their preparedness capabilities. In 2009, \$90 million was awarded from the Supplemental Appropriations Act, 2009 for purchase of personal protective equipment, such as N-95 respirators for healthcare workers, and to develop plans for alternative care sites. CDC has also been providing support to States for vaccine program implementation and to help State and local health departments.

HPP has required recipients to implement a system of bed counting, called the "Hospital Available Beds in Emergencies and Disasters" (HAvBED). This system requires reports of available beds, including a count of available adult and

pediatric general beds and ICU beds, to State and HHS emergency operations centers within four hours of request. For the past couple of months, HAvBED has been operational and collecting information from States about hospital status and has enhanced our 2009 H1N1 medical surge response.

Furthermore, based on the lessons learned from the spring 2009 H1N1 response, HAvBED was modified to also collect information on emergency department stress and hospital stress. ASPR worked with the HPP grantees, the American Hospital Association and private vendors to develop a core set of measures (including daily census counts and equipment shortages) for the level of stress on the healthcare system. Within 48 hours of receiving information, we have senior ASPR experts discuss and analyze data to determine if any hospitals are showing signs of stress or if there are indicators of equipment shortages. On occasions where the data indicates stress, we engage our Regional Emergency Coordinators to work with State health departments in conducting an investigation. To date, state and local officials have been able to accommodate the increased patient loads, but this is something we monitor very closely, and are prepared to respond quickly if the situation warrants. In addition, the declaration by the President of H1N1 as a national emergency, coupled with the Secretary's Declaration of a Public Health Emergency, allows us to temporarily waive legal provisions or modify certain Medicare, Medicaid, CHIP, and HIPAA requirements under the Secretary's waiver authority under Section 1135 of the Social Security Act. This authority can provide hospitals with additional flexibility

in certain circumstances to deal more effectively with patient surge rather than restrictive paperwork. This move has been welcomed by local hospitals many of whom can now make requests of the Centers for Medicare and Medicaid Services for 1135 waivers in anticipation of increased patient loads. These requests are reviewed within 24 hours and can be granted retroactively to the beginning of the emergency period (that is, back to October 23, 2009) if needed.

### Other Activities

ASPR is working with the Society for Critical Care Medicine and has conducted a ventilator survey that will enable HHS to understand how many ventilators are available and where any regional shortages might exist. We are also working with professional organizations to train physicians in care of patients on ventilators.

The National Disaster Medical System (NDMS) has trained personnel to become vaccinators to assist State and local jurisdictions in that activity. Additionally, NDMS teams have received training on 2009 H1N1 influenza and are standing by, ready to assist States/locals in the delivery of care to pandemic influenza patients or to augment non-flu treatment needs so that hospitals can divert their internal resources to H1N1 if needed.

## **Responding to H1N1**

Responding to 2009 H1N1 influenza has provided challenges and valuable lessons that will assist our response efforts going forward. As this emergency unfolded, it became clear that significant resources would be necessary to respond to the pandemic with potentially large impacts. Further, based on a number of factors such as state readiness and vaccine effectiveness, we would not be able to plan response requirements with certainty and thus, how resources would need to be allocated. As a result, we greatly appreciate the flexible funding that the Congress provided for these efforts.

As we learn from the experiences of 2009 H1N1, we look forward to working with you to improve strategies to ensure that our Nation has the right assets at the right time to minimize the health impacts of an influenza pandemic, hurricane or bioterrorism event. The timely access to a flexible response fund has provided us with a nimbleness to quickly augment capabilities – such as hiring personnel on the front line of public health – where the speed of our response translates to lives saved.

Now, I will briefly discuss both our response efforts and a few of the challenges we encountered in our vaccine research and development, antiviral stockpiling, situational awareness, private sector collaboration, and international assistance.

## Vaccine Research and Development

ASPR's investment over the past six years in medical countermeasure advanced research and development enabled the Department to complete 2009 H1N1 vaccine development with unprecedented speed. ASPR's Biomedical Advanced Research and Development Authority (BARDA) has worked with industry to build and sustain a domestic manufacturing infrastructure. Under the *HHS Pandemic Influenza Plan* (November 2005), the Department's key goals for vaccine preparedness were:

- Stockpile enough pre-pandemic influenza vaccines to cover 20 million persons in the critical workforce;
- Develop sufficient domestic manufacturing capacity to produce pandemic vaccine for the entire U.S. population of just over 300 million persons within six months of pandemic onset.

To establish domestic pre-pandemic influenza vaccine stockpiles, BARDA supported the development and manufacture of vaccines against different H5N1 avian virus strains. Today, BARDA continues to support a secure supply of raw materials, including eggs for domestic manufacturing of seasonal and novel influenza vaccines and the development and manufacturing of novel influenza vaccine candidates for clinical evaluation. BARDA also provided cost-sharing support to expand the domestic influenza vaccine manufacturing infrastructure by retrofitting existing vaccine manufacturing facilities and building new cell-based influenza vaccine manufacturing facilities. This facility will be operational in

2010. Additionally, FDA was fully engaged with industry to substantially increase the number of US licensed seasonal influenza vaccine manufacturers and their overall production capacity, a necessary infrastructure for pandemic vaccine development and production. It was through the licensed seasonal influenza vaccine framework that we were able to license and rapidly make available H1N1 vaccine.

The rapid responses of HHS agencies, including CDC, the National Institutes of Health, and the Food and Drug Administration, in terms of surveillance, viral characterization, pre-clinical and clinical testing, and assay development, were greatly aided by preparedness efforts for influenza pandemics set in motion by the H5N1 outbreak in 2003. Stockpiling for pandemic preparedness began in 2004, with H5N1 vaccine (23 million doses). In 2005 and 2006, the first six contracts for cell-based vaccines were initiated with manufacturers at a cost of \$1.3 billion. In 2007, two manufacturers were contracted for work on adjuvants, which are vaccine-boosting compounds (\$137.5 million). Throughout, clinical studies have been supported by ASPR/BARDA and the National Institutes of Health/ National Institute of Allergy and Infectious Diseases (NIH/NIAID).

These initial activities to prepare for H5N1 provided valuable lessons that have informed our efforts to respond to the current 2009 H1N1 outbreak. We learned, for example, that coordination between ASPR/BARDA, CDC, NIH/NIAID and

FDA was necessary to learn about the immunogenic properties of the virus and to conduct clinical trials. Working with our industry partners, we learned that, just as for seasonal influenza vaccines, one dose of the H1N1 vaccine induces a response that is likely to be protective in adults and older children. We also learned that vaccine distribution through Points of Distribution (POD) should not be the only option considered. Instead, we need to develop our planning and contractual relationships to allow for flexible distribution--in this case, through a third-party--to 150,000 State-specified locations.

Since September 30, when the 2009 H1N1 vaccine was first made available to states to distribute, the number of doses that has been produced, distributed, and administered has grown steadily, and states are executing their plans for providing vaccine to high-priority populations. Our goal is to ensure that everyone who wants to get vaccinated will ultimately be able to do so. While modest amounts of vaccine have been made available ahead of schedule, poor production yields with the initial vaccine strains; late completion of seasonal influenza vaccine manufacturing; and equipment failures on new production lines have caused significant delays in the manufacturers' timelines. In addition, one country where vaccine is manufactured claimed priority for their vaccine, resulting in a reduced amount of anticipated H1N1 vaccine available to the US. These delays are affecting both the U.S. and global H1N1 vaccine supplies.

Manufacturers assure us they are taking active steps to overcome the remaining challenges, and we are doing all in our power to help them.

Moreover, BARDA conducts regular site visits to the vaccine manufacturers and constantly monitors the progress of every lot produced, working to make up ground wherever possible. We also now have full time staff at two of the facilities to monitor and assist in addressing any problems that may occur. FDA has been actively involved in the review and approval of new fill and finish facilities to increase capacity. Finally, on October 29, Secretary Sebelius personally spoke with the CEOs of each of the five manufacturers to emphasize the importance of accelerating production in the coming weeks, and I had additional calls with the CEOs last week.

Our experience with the ups and downs of the vaccine manufacturing process has made clear the need to enhance our country's vaccine manufacturing capability. Going forward, HHS planning efforts will continue to support the advanced development of seasonal and pandemic influenza vaccines. In 2005 and 2006, the first six contracts for advanced development of cell-based influenza vaccines were initiated. Several of these contractors have made significant advances toward U.S. licensure of their cell-based influenza vaccines. In 2008, one of these contractors started to build a new state-of-the-art cell-based influenza vaccine manufacturing facility with a surge production capacity of 150 million doses of pandemic vaccine in six months using HHS/ASPR

support. Additionally, HHS is supporting the advanced development of a recombinant influenza vaccine, which promises to have a shorter timeframe for production of pandemic vaccines and expects to fund development of more recombinant vaccines soon. HHS also provided cost-sharing support to expand the domestic influenza vaccine manufacturing infrastructure by retrofitting existing domestic vaccine manufacturing facilities, securing year-round supply of eggs and other supplies for existing U.S.-based egg-based facilities, and supported the construction of new U.S.-based cell-based influenza vaccine manufacturing facilities. These investments will advance U.S. pandemic preparedness goals and decrease dependence on foreign manufacture of influenza vaccines.

### Antiviral Stockpiling

Under the *HHS Pandemic Influenza Plan*, HHS was required to:

- Establish national influenza antiviral drug stockpiles to treat 25 percent of the U.S. population during a pandemic, plus an immediate readiness cache of 6 million treatment courses for containment at pandemic onset;
- Support the advanced development of new and promising influenza antiviral drugs toward U.S. approval; and
- Boost U.S.-based production of antiviral drugs.

To accomplish these mandates, ASPR awarded contracts in 2004-2007 totaling more than \$924 million to establish and coordinate the federal and State pandemic stockpiles of antiviral drugs. We procured 50 million treatment courses for storage in the Strategic National Stockpile (SNS) by the end of 2007, completing the federal contribution to the antiviral goal. Additionally, using funding provided by Congress, ASPR subsidized States in their purchase of 25 million treatment courses of antivirals towards the 31 million treatment course goal for State stockpiles.

In the spring, anticipating commercial market constraints, HHS deployed 11 million courses of antiviral drugs from the Strategic National Stockpile (SNS) to ensure the nation was positioned to quickly employ these drugs to combat H1N1 and its spread. This action has been effective in allowing the nation to deal with spot shortages of antiviral drugs and limitations on supplies of products targeted for young children, including liquid preparations authorized for emergency use in infants less than 1 year of age. To replenish the SNS, HHS purchased 13 million treatment courses (\$260 million) of Tamiflu® (10.4 million treatment courses) and Relenza® (2.6 million treatment courses). In October, HHS made available to states an additional 300,000 regimens of the antiviral pediatric oral suspension to mitigate a predicted near-term national shortage indicated by commercial supply data.

To support antiviral development and manufacturing ramp-up activities, BARDA awarded a contract in 2007 for \$102.7 million for advanced development and domestic industrialization of a new influenza antiviral drug. Beginning in 2008, BARDA also solicited and awarded additional contracts for new and combination influenza antiviral drugs. These efforts directly benefited pediatric and critically ill populations.

We know that antiviral resistance is a threat. So our acquisition strategy for additional antivirals needed to be flexible. A lesson learned from the 2009 H1N1 outbreak is that rare cases of H1N1 have been Tamiflu resistant. As a result, ASPR has increased efforts to stockpile an alternative antiviral, Relenza. We also know from this outbreak that children are disproportionately affected by 2009 H1N1 influenza, leading us to procure more pediatric courses of antivirals.

Another challenge presented by 2009 H1N1 influenza is the treatment of critically ill individuals, who potentially may require an intravenous antiviral formulation. Currently there are no influenza antiviral drugs licensed for parenteral use (such as I.V.), and further research is important to determine optimal therapy in this setting. Since January 2007, HHS has supported the advanced development of a new antiviral drug, Peramivir, which may be administered intravenously to hospitalized influenza patients. Intravenous administration may provide more dependable dosing for those critically ill patients who have seriously limited ability to absorb drugs given through the gastrointestinal tract, and it is hoped they

might offer a clinical benefit for that reason. On October 23, an Emergency Use Authorization was issued by the FDA for the utilization of Peramivir to treat critically ill patients with H1N1 virus infections. In addition, intravenous formulations of two other antiviral drugs, oseltamivir and zanamivir, for which other formulations are already approved, are being studied. ASPR is procuring intravenous (I.V.) influenza antiviral drugs for stockpiling to be used under Emergency Use Authorization.

### *Situational Awareness*

Situational awareness is an essential component of any incident response. During the 2009 H1N1 influenza response, HHS worked very closely with the Department of Homeland Security (DHS) to develop a National Situation Report (SitRep) which is then inserted into the Homeland Security Information Network (HSIN). Working cooperatively, DHS and HHS have modified the SitRep to accurately reflect public health and medical issues. HHS has also been working with DHS to enable State and local public health officials to gain access to the HSIN so they can maintain their situational awareness.

### *Public-Private Sector Collaboration*

HHS has engaged many private sector partners in a series of problem-solving dialogues related to the vaccine dispensing program. The Association of State and Territorial Health Officials (ASTHO) worked with ASPR to convene a series of meetings with America's Health Insurance Plans (AHIP), individual insurers,

American Pharmacists Association, retail pharmacy chains, American Medical Association (AMA), National Vaccine Program Office, and other State and federal partners. The private sector demonstrated a firm commitment to working through complex issues of vaccine administration, billing processes, and other policy issues that would facilitate a successful vaccine campaign with the goal of providing easy access to the 2009 H1N1 influenza vaccine for every person in the United States who wants it.

Many issues related to vaccine administration, including billing and payment issues, were raised. Partnerships with the HHS Centers for Medicare & Medicaid Services and the AMA yielded the development of specific vaccine codes, and unique vaccine administration codes for both Medicare recipients and the privately insured. In addition, the health insurers and pharmacies agreed upon a set of principles for billing practices and payment procedures and developed associated draft templates to support State vaccine program consistency.

### *International Assistance*

There is broad international recognition that the 2009 H1N1 pandemic is a global health challenge. Millions of people around the world have been affected, thousands have died and the virus continues to spread across international borders. Like most diseases, 2009 H1N1 infection knows no borders. The health of the American people is inseparable from the health of people around the world. Early in the outbreak, HHS and other federal agencies received

multiple requests for international assistance. HHS has provided 769 laboratory and diagnostic kits to 147 countries, 400,000 treatment courses of antivirals to Mexico and 420,000 treatment courses to the Pan American Health Organization to provide assistance to Latin America and the Caribbean. Similarly, the U.S. Government has received requests for more than 30 million doses of vaccine from 21 countries. Recognizing the needs of developing countries, President Obama committed to make 10 percent of the US 2009 H1N1 vaccine supply available to them through the World Health Organization (WHO). Vaccine will be donated on a rolling basis, as it becomes available, in order to assist countries that will not otherwise have direct access to the vaccine. We are taking this action in concert with international partners: Australia, Brazil, France, Italy, New Zealand, Norway, Switzerland, Japan, Germany, and the United Kingdom.

On October 5, we met with the Governments of Mexico and Canada to review current 2009 H1N1 efforts and decided to re-institute the North American Plan for Avian and Pandemic Influenza Coordinating Body to ensure continued international coordination in the areas of human health, animal health, border issues and emergency management. On October 31, Secretary Sebelius discussed efforts to coordinate donor contributions, maximize the impact of our collective efforts, and mitigate the effects of this pandemic on the poorest regions of the world with the World Health Organization (WHO) Director General, United Nations System Influenza Coordinator (UNSIC), United Nations Secretary General, and United Nations Children's Fund (UNICEF) Executive Director.

## **Conclusion**

I want to assure the Subcommittees that the Administration is taking the public health challenges of 2009 H1N1 seriously and is implementing a comprehensive strategy to monitor and address this influenza outbreak throughout the fall and winter. HHS continues to work in close partnership with virtually every part of the federal government under a national preparedness and response framework for action that builds on the efforts and lessons learned from this spring.

Working together with governors, mayors, tribal leaders, state and local health departments, the medical community, and our private sector partners, the federal government has been actively implementing a vaccination program and continues to revise and refine our pandemic influenza plans and activities based on new data and information.

It is important to reiterate that our current level of preparedness and subsequent ability to respond is a direct result of the investments and support of Congress; the hard work of State, local, tribal, and territorial public health officials; and our partners in the private and not-for-profit sectors. Building strong systems to track and monitor seasonal influenza has allowed us to closely monitor the impact of this novel virus on our communities.

Our Nation's investment in public health infrastructure, particularly at the state and local levels, remains a critical challenge that has real life consequences.

Today, these consequences are impacting our communities, our schools, our workplaces and our homes.

Investments in science and the public health infrastructure will enable us to better prepare and respond to threats, such as 2009 H1N1, that arise in the future. For instance, the President's 2010 budget includes funding for advanced development of antiviral drugs and invests in new vaccine technology. This will advance our on-going commitments to developing new cell-based and recombinant vaccine production methods and help complete a domestic cell-based production facility, currently under construction here in the U.S. In addition, our work on new antivirals and important medical devices, including rapid diagnostics, continues to yield exciting results. These investments hold the promise of more effective treatments that can be developed over shorter timeframes and made available more quickly to families and individuals. It is also critical to increase investments in our State and local health departments, which have been chronically underfunded. We have made great strides in leveraging information technology to enhance surveillance of diseases threats, but need to increase our support for building the workforce of epidemiologists and other public health specialties that are vital to preventing, identifying and containing outbreaks. We also must ensure that we have the ability on the ground to reach at-risk populations with core public health interventions, such as communication strategies designed to mitigate the spread of disease and clearly define the risks of an emerging threat. This will pay dividends with more resilient communities

that are better prepared for a flu pandemic and can withstand, absorb, and adapt to other public health incidents before they become emergencies. Moreover, these investments require our continued attention and commitment over the long-term and should not depend solely on the occurrence of a public health emergency. Our experience with 2009 H1N1, and the lessons we have learned, demonstrate a need to examine new paradigms for leveraging the public health infrastructure and our healthcares systems to develop the needed capabilities to ensure every community is prepared to respond to and recover from future disasters.

Thank you for your time and interest. I am happy to answer any questions.