

# Pandemic H1N1 Virus May Hit U.S. in Waves

BY BETSY BATES

Americans may need to brace for a long winter of “rising and falling” waves of pandemic influenza A(H1N1) outbreaks, Kathleen Sebelius, Secretary of the Department of Health and Human Services, warned during a telebriefing.

The notion that the H1N1 pandemic may have peaked in October, as it became widespread in 46 states, “may be overly optimistic,” she said. “It is totally unpredictable what’s going to happen. How many [bell] curves we will see, our scientists tell me they don’t know.”

During the 1950s, rolling waves of serious influenza outbreaks buffeted various regions of the country, with peaks occurring both in the fall and the winter. The same phenomenon may occur this year and even into the spring, she said.

“We could see months of disease outbreaks rising and falling.”

According to the most recent figures available, more than 97,000 Americans had been hospitalized for H1N1 influenza through Oct. 17, and 3,983 patients died, of whom 540 were children.

Unlike most years, this year’s powerful fall influenza season followed a spike last spring of cases and hospitalizations, most from the H1N1 strain.

Both Sec. Sebelius and Janet Napolitano, Secretary of the Department of Homeland Security, offered reassurances at their joint press conference that widespread vaccine shortages would ease.

Unforeseen problems with manufacturing of the H1N1 vaccine led to sluggish production in the early



weeks of an outbreak that quickly spread throughout the country, outpacing health officials’ ability to provide inoculations to groups considered at high risk of complications, including pregnant women, children and young adults, caregivers of infants, health care workers, and people with underlying medical conditions.

Sec. Sebelius explained that the H1N1 virus strain proved to grow slowly using 50-year-old egg-based technology, which is considered safe but sluggish in comparison with experimental cell-based technologies that have yet to be fully evaluated and approved.

Vaccine distribution also was hampered by early problems with manufacturers’ stepped-up production line schedule, which she compared to glitches associated with the “roll-out of a new restaurant.”

When scenarios were first conceived about how to ramp up production and distribution in anticipation of the fall outbreak, “it seems that we were getting some pretty rosy scenarios,” she said.

It turned out that the “yield was lower than anticipated.”

Subsequently, however, a “robust” supply of a safe and efficacious vaccine was on its way to 150,000 vaccination sites from five manufacturers, with state and local governments deciding who to vaccinate first, where, and when, she said.

“It is frustrating to stand in line and wait for vaccine,” Sec. Napolitano acknowledged.

“For those who are ill or whose loved ones have passed away, our sympathies couldn’t be higher,” she said. “But this is not a situation that is cause for panic. We have vaccine. It is being produced. It is being distributed.”

All 50 states and U.S. territories have ordered vaccine, which is distributed on a per capita basis, she noted.

Sec. Napolitano emphasized that the specifics of vaccine clinics and prioritization of recipients are managed on a state and local level, analogous to national disaster response.

The federal government in this case is providing “actions and assistance ... well grounded in science and well grounded in facts.” But “nobody is sitting here in [Washington]” deciding, for example, where pregnant women in Arizona should go for a vaccine.

Sec. Sebelius said some school-based clinics in Maryland that had already planned to administer seasonal flu shots decided to direct limited H1N1 vaccine supplies there first.

In Illinois and some states in the Northeast, ob.gyns. were directly calling their pregnant patients into their offices for H1N1 vaccination.

Other localities decided to concentrate on vaccinating health care workers as their highest priority.

Such choices were expected to become less difficult as a result of distribution of a total of 250 million doses of vaccine—far more than the 100 million doses of seasonal influenza vaccine typically produced for the nation, she said.

Sec. Sebelius directed consumers to flu.gov, a government Web site that provides information on where vaccinations can be obtained. The list is continually updated.

A new link on the Web site (flu.gov/evaluation) enables consumers to connect to an H1N1 Flu Self-Evaluation tool, “not to take the place of anyone’s doctor” but to alert high-risk individuals to the need for seeking vaccination or medical care, and to reassure the “worried well [so they do not] overwhelm our health care providers,” Sec. Sebelius said. ■

**‘We could see months of disease outbreaks rising and falling.’**

SEC. SEBELIUS

## Preparation Paid Off When H1N1 Emerged in Megacities

BY HEIDI SPLETE

The response to the pandemic influenza A(H1N1) virus by the governments and public health officials of Mexico City and New York City in the spring of 2009 reveals successful strategies, but also points to issues that need to be addressed, according to a report from the Centers for Disease Control and Prevention.

“In each case, advance planning laid the foundation for enhanced surveillance and a generally effective response, made possible by an extensive public communications campaign and effective political leadership,” wrote Dr. David M. Bell of the CDC and his associates.

The researchers summarized the responses of Mexico City and New York City to the H1N1 virus in spring 2009 (Emerg. Infect. Dis. 2009 [doi: 10.3201/eid1512.091232]).

“These megacities may not be representative of cities in low-income countries, which face more daunting problems,” the researchers noted.

After the novel H1N1 virus was identified on April 23, 2009, Mexico City followed a pandemic influenza preparedness plan that had been developed for any virus that originated outside Mexico. Efforts to decrease the spread of the virus included an intense media campaign encouraging people to stay home if they

were sick and to avoid close contact such as hugging or kissing in greeting.

“Early in the epidemic, the federal government released antiviral drugs from the national strategic reserve and controlled their distribution,” Dr. Bell and his colleagues wrote.

The government successfully introduced a mass media campaign that addressed Mexico City’s diverse population and range of literacy rates. In addition, it mobilized private businesses, such as grocery stores and pharmacies, to deliver health messages. The Ministry of Health also used text messages and e-mails to convey public health messages.

The closure of thousands of businesses in Mexico City and throughout Mexico is estimated to have cost the country more than \$2.3 billion, and large gatherings such as sporting events were canceled or postponed, the researchers said.

Despite these costs, the researchers concluded that Mexico City’s preparations paid off. “The preexisting pandemic plan and planning process facilitated collaboration, decision making, and rapid development of a communications campaign,” they said. But the emergency of the pandemic illustrated several areas in need of improvement, including a limited capacity of laboratories to handle tests and a lack of criteria for reopening schools that closed because of the outbreak.



**Advance planning led to a generally effective response to H1N1 outbreaks.**

In New York City, 77% of emergency departments collect electronic information from more than 90% of patient visits. “During spring 2009, these systems were essential for real-time monitoring of the pandemic in NYC,” allowing public health officials to track the spread of the virus through the city, the investigators emphasized.

The New York City government kept the public informed during the spring 2009 H1N1 outbreak with press conferences in both English and Spanish, and a government information hotline staffed with live operators answered 98% of calls within 30 seconds, the researchers said. About 50 schools in New York City closed for approximately 1 week.

Unlike Mexico City, New York City did not distribute antiviral drugs from the emergency stockpile because “normal distribution channels sufficed,” Dr. Bell and his associates said, but emergency plans called for the distribution of antivirals from the stockpile via hospitals, public clinics, and community health centers if necessary.

Decision making based on flu severity in New York City proved challenging, given that the case-fatality ratio was unknown. Other challenges included deciding when and whether to close and reopen schools and how to keep children from gathering in groups elsewhere when schools were closed.

In response to the surge in emergency department visits from individuals with flulike symptoms, New York City hospitals were able to plan for additional care sites to handle the expected surge in cases of influenza-like illness in the fall and winter of 2009, the researchers said.

Overall, they concluded that the early responses of Mexico City and New York City to the H1N1 virus outbreak were promising.

The problems that did occur would likely have been worse if the disease had been more severe or if schools and businesses had remained closed for longer periods, they wrote. More research is needed to continue to identify best practices for pandemic situations in cities. ■