

## **H1N1 Puts Public Health System To The Test**

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One year ago this month, our state and nation faced the first-ever National Public Health Emergency with the arrival of H1N1 influenza. It has been a disease of historic proportion. The U.S. Centers for Disease Control estimates one in five Americans have been infected with the virus, and one in 5,000 of those infected have died. Unlike seasonal flu, which is typically most severe in the elderly, the impact of pandemic H1N1 has been on a younger population. In North Carolina, 88 percent of the more than 100 flu deaths reported since the pandemic started have been in people under 65. The past 12 months have tested our public health system and helped us identify opportunities for improvement.

While we had been preparing for years for a pandemic flu event – building infrastructure and systems to prevent and address widespread disease – this flu strain came much more quickly than we had anticipated. We expected the pandemic to arise in Southeast Asia, giving us several weeks to set up quarantine stations at our ports of entry. After the first cases of pandemic H1N1 were detected in Mexico, it arrived in North Carolina within a matter of weeks.

With no vaccine available, we used our pandemic preparation resources to educate the public about prevention. We taught schoolchildren to cough and sneeze into their sleeves, urged everyone to wash their hands more frequently, and encouraged employers to let workers to stay home if they were sick. When vaccine arrived in October, it came in small shipments, so we targeted it first to those at highest risk for complications. The public responded. In our state alone, more than 637,000 people were vaccinated against H1N1 in a seven-week period between October and November. When supplies ramped up, we expanded access and to date, more than 1.7 million North Carolinians have been immunized, thanks to the support of hundreds of partners like local health departments, private physicians and hospitals, school systems and university health centers, and pharmacies. The news media also has been an essential part of our effort to keep the public informed about H1N1.

So what are the lessons learned from this pandemic? First, planning and preparation remain essential. The first cases may arise literally in our own backyard, giving us little time to prepare. At the national, state and local levels, it is imperative to have protocols and personnel in place to respond as quickly as possible. In the case of H1N1, while vaccine was manufactured in record time, we were challenged with unpredictable supplies, hampering our distribution efforts.

Another critical component is good information. All pandemics spread rapidly, but we need to know early on how severe the infection is - how many are hospitalized and how many are dying - to help us decide whether emergency actions like mandatory isolation and quarantine are needed to curb the spread. While it is our job to sound the alarm, we must make sound medical decisions based on facts that are rapidly emerging in the field.

Last, we must continue to invest in preventive health. Four out of five deaths from H1N1 in our state occurred in people with underlying health conditions, none of whom had been immunized. These deaths and others may have been prevented with timely immunizations. Many underlying health conditions may be avoided by preventing tobacco use, another investment in prevention.

H1N1 has reminded us that influenza, no matter what strain, is a serious disease. Even if you aren't hospitalized, it can severely disrupt your life at any age. A vaccination is safe and effective and the best way to prevent the flu. As a reminder, flu deaths are continuing across the state, and it is not too late to be immunized against H1N1, especially if you are at risk for complications (if you are pregnant, have underlying medical illnesses such as heart, lung or kidney problems, or have immune deficiencies). Seasonal flu vaccines should be available as early as August this year and will provide protection against three strains of flu virus, including H1N1. Help us make the 2010-11 flu season a public health success by getting vaccinated this fall.