

Influenza Pandemic Preparedness

Can we handle the truth?

It's hard to take a lesson from history and imagine how we might respond to a seemingly endless string of human disasters, both natural and manmade. The Spanish Influenza pandemic of 1918, for example, hit the world during the dying days of World War I, as if that man-made tragedy were not already too much to bear. But living memory of that health care crisis is fading fast, just as the possibility of another influenza pandemic comes to light so shortly after hurricanes Katrina, Rita, and Wilma. Have we learned from mistakes made in 1918, in the 2004 influenza vaccine shortage, and in the 2005 hurricane responses?

Leading public health experts fear we may not have. In late September, Department of Health and Human Services (HHS) secretary Michael Leavitt warned in a Capitol Hill briefing that as many as 100,000 to 2 million deaths could occur in this country in the event of an avian flu pandemic. He asserted that the United States is better prepared than ever but admitted that full preparedness is far beyond the scope of any government worldwide.

On November 2 President Bush asked Congress to appropriate \$7.1 billion over five years to prepare for an outbreak of avian influenza and announced the release of the *National Strategy for Pandemic Influenza*. According to the White House Web site, the plan will direct national "preparedness and response to an

influenza pandemic, with the intent of (1) stopping, slowing or otherwise limiting the spread of a pandemic to the United States; (2) limiting the domestic spread of a pandemic, and mitigating disease, suffering and death; and (3) sustaining infrastructure and mitigating impact to the economy and the functioning of society." A summary of the plan can be found online at www.whitehouse.gov/homeland/nspi.pdf.

The HHS portion of the national strategy, a 396-page document called *HHS Pandemic Influenza Plan*, which Leavitt released on November 2, presents a three-pronged approach to pandemic preparedness: "Part 1, the Strategic Plan, outlines federal plans and preparation for public health and medical support in the event of a pandemic. . . . Part 2, Public Health Guidance for State and Local Partners, provides detailed guidance to state and local health departments in 11 key areas. . . . Part 3, which is currently under development, will consist of HHS Agencies' Operational Plans. Each HHS component will prepare, maintain, update and exercise an operational plan that itemizes their specific roles and responsibilities in the event of a pandemic." The entire document can be found online at www.hhs.gov/pandemicflu/plan/pdf/HHSPandemicInfluenzaPlan.pdf.

TIMING IS EVERYTHING

The only real hope for developing an effective vaccine against any strain of influenza—and enough of it—is to detect the emerging dangerous strain as early as possible and isolate it. The subsequent work of manufacturing, distributing, and

administering a vaccine against a new strain can take six to eight months, according to the HHS. And that's plenty of time for a pandemic to have already begun.

A further complication is that early stores of vaccine might be hard to maintain in the event of a fast-spreading virus. The Centers for Disease Control and Prevention has placed nurses and other health care workers who provide direct patient care on its high-priority list to receive the annual vaccine, but many nurses neglect to get it, for various reasons.

"Some nurses mistakenly believe that they might get influenza if they receive the influenza vaccine," said Nancy Hughes, MS, RN, director of the Center for Occupational and Environmental Health at the ANA. "It is very important to keep nurses and other health care workers healthy. When a nurse takes the influenza vaccination, it helps to protect not only the nurse, but his or her family, patients, and the community from getting influenza" (see *Health & Safety*, page 96).

To spread the word that RNs—and also nursing students—should receive the annual influenza vaccine, even in light of possible shortages, the ANA has teamed with GlaxoSmith Kline to disseminate important information about how, when, and where to get the vaccine.

Meanwhile, as the vaccine is being developed and distributed, the HHS hopes to curb the spread of the virus by resorting to stockpiles of antiviral medications. The only medicine known to date to be effective in the face of a possible avian

Margaret Kay is the periodicals manager for the ANA.

influenza pandemic is oseltamivir (Tamiflu), but a delay on the part of the administration to purchase sufficient quantities of the drug has left the United States in the position of having to stand in line behind other nations, including Great Britain, France, and Japan, which have ordered enough oseltamivir to treat 20% to 40% of their populations. According to Tamiflu's manufacturer, Roche Pharmaceuticals, the U.S. stockpile would treat less than 2% of its population. Furthermore, Roche believes it

tainment include travel restrictions, such as those implemented during the 2003 outbreak of sudden acute respiratory syndrome, and quarantines.

Officials believe that quarantines would be difficult if not impossible to enforce. A quarantine could be limited to regions, towns, homes—the possibilities are legion. Quarantines could include closing schools, office buildings, and public facilities as well as canceling cultural or sporting events. President Bush reportedly suggested that National Guard troops could be used to enforce large-scale quarantines, but he didn't elaborate on how they could be deployed or how effective they might be in protecting the public from widespread contagion.

It's hard to know if the HHS's preparedness plan would work to halt or limit the spread of an influenza pandemic. Much depends on the numbers of people infected, the speed of spread, and the virulence of the strain, and according to the World Health Organization (WHO), such figures are hard to predict. The WHO estimates that numbers of deaths could run from 5 million to 150 million, and David Nabarro, senior United Nations system coordinator for avian and human influenza, warned reporters in September that "we're not going to know how lethal the next pandemic is going to be until the pandemic begins."

Just how likely is the occurrence of such a pandemic? No one knows for sure, but the administration, rattled by the effects of the Gulf hurricanes and its own admittedly inade-

quate response, has decided that it's time to act as though it's inevitable. In light of that possibility, what would be the affect on the average nurse or other health care worker?

Providing that enough vaccine is available and that health care workers receive it, they nevertheless face difficulties thanks to the worldwide nursing shortage. Staffing shortages, even if nurses are healthy, could lead to fatigue and morale problems, in addition to inadequate patient care in the event of an onslaught of disease. Possible shortages of equipment, such as ventilators, could compound the problem. Although hospitals will take customary influenza precautions—such as expecting workers and patients with symptoms to wear masks, encouraging frequent handwashing, providing tissues and bags for discarding them, and restricting hospital visits from children who are at high risk of transmitting the virus—ordinary measures may not be sufficient to face a pandemic.

Some solutions to the nurse staffing shortage, such as the Nurse Reinvestment Act of 2002, which the ANA lobbied Congress hard to pass, could help if only a pandemic can hold off long enough for their positive effects to be felt. In the end, too many variables come into play to enable anyone to predict with any accuracy the likelihood or timing of an influenza pandemic. But federal, state, and local responses to hurricanes Katrina and Rita have highlighted the need for comprehensive preparedness plans, even if those plans can't possibly comprehend what might come. ▼

Just how likely is a pandemic?
No one knows for sure, but the
administration has decided to
act as though it's inevitable.

unlikely that it would be able to manufacture enough of the drug to meet U.S. needs until the end of next year. The antiviral zanamivir (Relenza) may also be effective, but the United States has purchased only 84,300 doses of that drug.

CONTAINMENT OF CONTAGION

In addition to early isolation and vaccination and antiviral distribution—or if all else fails—the HHS plans to rely on containment of the contagion. Once again, the United States would need to work with governments around the world to agree on plans to keep the sick where they are. Possible measures of con-