

## PANDEMIC INFLUENZA: A PRIMER

Seasonal influenza is a highly contagious respiratory virus that occurs annually. Each year, an average of 200,000 Americans is hospitalized and 36,000 die from influenza infection or a secondary complication like pneumonia. Most of the people who are seriously affected by seasonal influenza are the very old and the very young.

Pandemic influenza is different than the seasonal influenza. It occurs when a new influenza virus surfaces – one that people have no immunity against. Because people have no immunity – and there is no vaccine against this new strain – large numbers of people across the world will get sick and some of them will die.

There were three influenza pandemics during the 20<sup>th</sup> century. The “Spanish” flu pandemic of 1918-19 was the most notorious; over 20 to 40 million people died worldwide. In the United States, over 500,000 people died; most of these deaths occurred in healthy young adults.

Influenza viruses are constantly changing; they have the ability to mutate in two different ways. Small mutations occur almost every year; that’s why there is a new flu vaccine every year.

Large mutations occur every 20- 40 years or so. This results in a new influenza virus to which the human population has no protection. These large mutations are almost always followed by an influenza pandemic.

Avian influenza (bird flu) viruses can be a source of new influenza viruses. Humans can not catch bird flu easily; however, the recent bird flu outbreak in Asia has shown that this does happen. As of January 23 there have been 151 human cases in Cambodia, Indonesia, Thailand, Vietnam, and Turkey; 82 of these people have died. Health experts say this high mortality rate is probably misleading; only the very sick are being diagnosed. There are probably other people who have been infected but weren’t sick enough to seek a diagnosis. Most of the known cases occurred from very close exposure to sick birds. In many cases, the infected people were literally living with chickens.

The fear is that a person infected with the seasonal flu could become infected with the Avian flu, and the two viruses could combine into a new virus that can easily be spread person to person. So far, that hasn’t happened. But the possibility of that happening is why the entire world health community is focused on the Avian or bird flu.

Based on observations from previous pandemics, the Centers for Disease Control and Prevention (CDC) has estimated that the economic losses in the United States associated with the next pandemic will range from \$71 billion to \$166 billion. The impact of an influenza pandemic on the healthcare system could be devastating. In the United States, between 40 and 100 million will become clinically ill; 18 to 45 million will require outpatient care; 300,000 to 800,000 persons will be hospitalized; and between 88,000 and 300,000 people will die. The potential for high levels of sickness and death, as well as the significant disruption to society, make planning for the next influenza pandemic imperative.

The purpose of planning for pandemic influenza is to:

- reduce sickness
- reduce death
- minimize social disruption

## **Selected Resources**

1. The North Carolina Pandemic Influenza Preparedness and Response Plan can be found at [www.ncpublichealth.com](http://www.ncpublichealth.com)
2. International preparedness efforts as well as situation updates on human infections with avian influenza can be found at the World Health Organization website <http://www.who.int/en/>
3. Information on influenza, including avian influenza for healthcare providers and the public can be found at the Centers for Disease Control and Prevention website <http://www.pandemicflu.gov>.