

# *Just the Facts...*      *Pandemic Influenza Fact Sheet for Leaders*

## **Introduction**

Pandemic influenzas are extremely contagious viruses that may spread quickly throughout the world causing illness and death even among generally healthy groups such as military personnel. During the 20th century, the emergence of new influenza A viruses caused three pandemics, all of which spread around the world within one year of being detected. The most severe of these was the 1918-19, "Spanish flu," [A (H1N1)]. More than 500,000 people died from the "Spanish flu" in the United States, and 20-40 million people died worldwide. U.S. military operations in World War I were impacted as 48,000 U.S. military members died from this influenza and subsequent pneumonias. Many people died within the first few days after infection, and others died of complications later. Nearly half of those who died were young, healthy adults.

The U.S. Centers for Disease Control and Prevention (CDC) has estimated that within a 3 to 4 month period of the pandemic's first wave, the U.S. could have up to 200 million cases with 800,000 hospitalizations and 300,000 influenza-related deaths. Age groups and geographical areas not affected by the first wave are often vulnerable during the second wave pandemic wave months after the first wave. In the past, the second wave has also been more severe.

## **Influenza and the Military Mission**

In an influenza pandemic, the Department of Defense's (DOD) mission is to preserve combat capabilities and readiness, save lives, reduce human suffering and slow the spread of infection. Military personnel will be vaccinated as soon as a pandemic influenza-specific vaccine becomes available though it may be 3-6 months or more after the pandemic starts before vaccine is available. If an effective vaccine is unavailable, military readiness may be

affected. Military and civilian medical systems may be overwhelmed by dramatic increases in patient numbers. Staff availability may also be limited as medical personnel and their families become infected. Limited antiviral drug supplies as well as the lack of an effective vaccine will exacerbate the situation early during the pandemic. Interventions such as restriction of movement may slow the spread of disease but will not stop it. Because DOD is committed to protecting the health and well-being of our forces, much has been done to prepare for the possibility of another influenza pandemic.

## **Influenza Viruses**

Seasonal outbreaks caused by routine influenza viruses are familiar to humans. Influenza typically kills about 36,000 Americans annually. Pandemic outbreaks are caused by new subtypes, or subtypes that have not circulated among people for a long time. The agent that causes pandemic influenza is the influenza type A virus. The avian influenza (influenza A H5N1) first documented in Hong Kong in the winter of 1997-98 is the current virus of greatest pandemic concern.

Pandemic viruses emerge as a result of a process called "antigenic shift," which causes a sudden, major change in a particular influenza A virus. These changes are caused by new combinations of proteins on the surface of the virus, resulting in a new influenza A virus subtype. The appearance of a new influenza A virus is the first step toward a possible pandemic, but the new virus also must be easily spread from person-to-person and cause severe illness to be a pandemic influenza threat. The CDC, WHO and DOD have large surveillance programs to monitor and detect influenza activity around the world. These programs are designed to detect possible pandemic strains of influenza virus in human and animal populations in its early stage. Many remote areas, however, do not have thorough surveillance coverage or reporting.

## **Transmission**

Influenza may be transmitted across long distances by persons traveling by air, ship, train or motor vehicles. It can easily spread in the air among crowded populations in enclosed spaces, but can also be spread through contact. Close contact, within 3 feet, is usually required for transmission according to the CDC. Influenza has a relatively short incubation period of about three days, and infected individuals may be capable of spreading the virus to others up to two days before showing symptoms. Once ill, adults will continue to be infectious for about 5 days (longer for children). This ability to infect others early in the illness allows rapid spread of influenza virus among populations and may frustrate the effectiveness of certain public health measures such as isolation of sick individuals, population movement control and military post closures. The CDC recommends sick people stay home, cover their mouth and nose when sneezing, wash hands often and wear surgical masks in crowded environments such as hospital clinics to prevent spreading the virus.

## **Pandemic Influenza Planning**

The DOD has issued Guidance for Preparation and Response to an Influenza Pandemic [http://www.geis.fhp.osd.mil/GEIS/SurveillanceActivities/Influenza/DoD\\_Flu\\_Plan\\_040921.pdf](http://www.geis.fhp.osd.mil/GEIS/SurveillanceActivities/Influenza/DoD_Flu_Plan_040921.pdf). Military Treatment Facilities are required to have response plans for public health emergencies and pandemic influenza that are coordinated and synchronized with local health authorities. Additionally, DOD Directive 6200.3, Emergency Health Powers on Military Installations requires installation commanders to designate a Public Health Emergency Officer who is incorporated into emergency response plans.

Current planning for pandemic influenza includes improved surveillance and monitoring for the emergence of new viruses, stockpiling of antiviral drugs, drug distribution system development, strategic planning for the development and distribution of new vaccines and improved communication. The World Health Organization's (WHO) global surveillance system, FluNet, has laboratories in 83 countries including CDC and DOD laboratories.

## **Vaccines and Antiviral Medications**

The best force protection measure against pandemic influenza would be immunization if a vaccine were available. An effective vaccine probably will not be available in the early stages of an influenza pandemic. Once a potential pandemic strain of influenza virus is identified, it may take 6-9 months before a vaccine will be widely available. The DOD will use the same vaccine formulation as the civilian population. Department of Health and Human Services will lead the national effort to coordinate vaccine development, quality assurance and distribution. Once the vaccine is available and supplies are adequate, military units can be immunized within a few weeks. Protective immunity may require two doses of vaccine administered weeks apart.

In the absence of an effective vaccine, antiviral drugs may reduce the impact on military units. Four different influenza antiviral medications {amantadine, rimantadine, oseltamivir (Tamiflu), and zanamivir} are approved by the U.S. Food and Drug Administration for the treatment and/or prevention of influenza. All four work against influenza A viruses. However, influenza virus strains can become resistant to one or more of these drugs, and thus the drugs may not always work. For example, the influenza A (H5N1) viruses identified in human patients in Asia in 2004 and 2005 have been resistant to amantadine and rimantadine. Monitoring of avian viruses for resistance to influenza antiviral medications is continuing. There is evidence that H5N1 is sensitive to oseltamivir (Tamiflu); however, its supply is extremely limited worldwide, and its use will be prioritized. Antiviral medication can be used for prevention of infection (prophylaxis) as well as to treat those already infected. The DOD's top priority for the use of vaccine or antiviral medications is in forward deployed operational forces.

Pandemic influenza poses a distinct threat to military operations. For current information on pandemic influenza visit the following websites.

WHO – Avian Influenza Frequently Asked Questions  
[http://www.who.int/csr/disease/avian\\_influenza/avian\\_faqs/en](http://www.who.int/csr/disease/avian_influenza/avian_faqs/en)

CDC - Information about Influenza Pandemics  
<http://www.cdc.gov/flu/avian/gen-info/pandemics.htm>

Send suggestions or submissions to:  
[CHPPM-HIO\\_Staff@amedd.army.mil](mailto:CHPPM-HIO_Staff@amedd.army.mil)