



# Disaster Preparedness Volunteer

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## Pandemic Influenza

The **flu** is a contagious respiratory illness caused by **influenza viruses**. It can cause mild to severe illness, and at times can lead to death. There are many different strains of the flu virus and these are known as **subtypes**. Each has a specific structure and combination of proteins on its surface and can cause you to develop "the flu". When the protein combinations change, the virus structure changes and a new subtype develops. A significant shift in the virus's genetic structure could result in the entire population being vulnerable to the new strain.

An **influenza pandemic** is a global outbreak of disease that occurs when a new influenza subtype appears or "emerges" in the human population, causes serious illness, and then spreads easily from person to person worldwide. Pandemics are different from seasonal outbreaks or "epidemics" of influenza. Seasonal outbreaks are caused by subtypes of influenza viruses that are already in existence among people, whereas pandemic outbreaks are caused by the new subtypes, subtypes that have never circulated among people, or subtypes that have not circulated among people for a long time. Past influenza pandemics have led to high levels of illness, death, social disruption, and economic loss.

During the 20th century, the emergency of new influenza A virus subtypes caused three pandemics, all of which spread around the world within one year of being detected. 1918-19, Spanish flu, [A(H1N1)],

caused the highest number of known influenza deaths: more than 500,000 people died in the US and up to 50 million worldwide. 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. Influenza A(H1N1) viruses still circulate today after being introduced again into the human population in the 1970s.

1957-58, Asian flu, [A(H2N2)], caused about 70,000 deaths in the US. First identified in China in late February 1957, the Asian flu spread to the US by June 1957.

1968-69, Hong King flu [A [H3N2]], caused about 34,000 deaths in the US. This virus was first detected in Hong Kong in early 1968 and spread to the US later that year. Influenza A (H3N2) viruses still circulate today. Experts agree that future pandemics of influenza are likely, if not inevitable. In the US alone, preliminary estimates indicate that an influenza pandemic would cause between 89,000 and 207,000 deaths and that the economic impact would range from \$71 billion to \$166 billion, not including disruptions to commerce and society.

Pre-pandemic planning is essential if influenza pandemic-related morbidity, mortality, and social disruption are to be minimized. The sudden and unpredictable emergence of pandemic influenza and its potential to cause severe Health and social consequences necessitate developing a national

plan and implementing preparedness activities called for by that plan.

### PANDEMIC PREPAREDNESS

In the event of a pandemic, good surveillance, timely vaccine development and production, and the ability to administer vaccine to large numbers of people in a short amount of time will be very important.

The vaccination program during a pandemic will probably be different from current annual flu shot programs in several respects:

- More people will want and need the vaccine, so we will need a larger supply.
- The warning period before a pandemic is likely to be short. Because the current vaccine manufacturing process takes a minimum of six months, it is likely that there will not be enough vaccine at the beginning of a pandemic to vaccinate every who wants it.
- It may be necessary for an individual to receive two doses of vaccine to be fully protected against the virus.

In addition, communication and emergency response systems will have to be in place to assist managing a pandemic.

Since 1993, Federal, State and local health officials have been working on several different preparedness efforts to reduce Pandemic Influenza related deaths, illnesses, and social disruption.

### How Serious Might a Pandemic Be?

There is no easy answer to the question of how serious a pandemic might be. The impact cannot be measured by the number of deaths. It depends on various factors, such as how serious is the disease, how rapidly the disease can spread and the effectiveness of pandemic prevention and response efforts. One must take into account the social consequences as well. The health-care system is at risk if healthcare workers get sick. The safety of the community may be at risk if the majority of law enforcement becomes ill. All transportation would come to a halt, if all traffic controllers are sick at one time.

Fortunately, pandemics don't occur very often. There has not been a pandemic influenza since 1968. In 1997, however, a flu virus that had previously infected only birds caused an outbreak of illness in humans. The virus, known as the "avian flu" resulted in 18 illnesses and six deaths in Hong Kong but did not easily spread from person to person. Still, it provided a frightening reminder that the next pandemic could occur at any time.

If you are not currently a volunteer through the Mid Ohio Valley Health Department's Threat Preparedness Unit or Medical Reserve Corps but would like to sign up or obtain additional information, please contact 304-485-7493 or e-mail [marthalamp@wvdhhr.org](mailto:marthalamp@wvdhhr.org)