United States Environmental Protection Agency

Pandemic Influenza Fact Sheet for the Water Sector

What is Pandemic Influenza?
A pandemic is a global disease outbreak. A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity, and for which there is no vaccine. The disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in very short time. In June 2009, the World Health Organization declared a global H1N1 influenza pandemic.

Why Should the Water Sector be Concerned About Pandemic Influenza?
In a severe pandemic, absenteeism will increase from illness, the need to care for ill family members, and the fear of infection. This absenteeism can affect drinking water and wastewater system operators and their capability to operate and maintain their systems adequately, thereby increasing the risks to public health. Absenteeism would also affect workers from other essential and interdependent sectors such as the transportation, power, and chemical sectors. It can have an adverse impact on services such as delivery of chemicals and other essential materials and supplies.

Will Influenza Spread Through Drinking Water?
There are no reports of flu outbreaks from ingesting water. Influenza viruses are typically spread by exposure to respiratory droplets created when infected persons cough or sneeze, not from ingesting drinking water. Generally speaking, research has shown that chlorination and filtration methods that are typically used are effective in removing viruses from drinking water. Where groundwater is used, virus particles become diluted due to mixing with large volumes of groundwater. In those cases where there is concern that untreated groundwater may have become contaminated with an influenza virus, public water suppliers and private well users should contact their local and state drinking water and health experts to determine if precautions should be taken before the well water is used for drinking water.

Will Influenza Spread Through Wastewater?
Viruses may survive in untreated wastewater. Thus, utilities should take extra precaution to ensure that workers do not come into direct contact with untreated wastewater. However, research conducted to date on water treatment has shown that chlorination, ultraviolet (UV) radiation, and anaerobic digestion are effective in eliminating certain influenza A virus subtypes from water. H1N1 and H5N1 are influenza A virus subtypes.

What Can Water and Wastewater Utilities do to Prepare?
Utilities that do not prepare for the likelihood of pandemic flu may find themselves without the staff, equipment, or supplies necessary to continue providing safe drinking water or treating wastewater for their community. Utilities should integrate pandemic planning into existing business continuity and emergency response plans using available guidance documents for assistance. Planning actions that utilities may undertake include (1) identifying essential functions, services, processes, critical staffing needs, and interdependent relationships, (2) assessing supply chains and coordinating with vendors, (3) developing a communications strategy, and (4) working with community pandemic planners.

What is EPA Doing to Help Utilities Prepare?
EPA offers free tools and guidance materials to help utilities develop plans to prepare for and respond to pandemic influenza outbreaks. All of these documents are available at a new EPA webpage (http://cfpub.epa.gov/safewater/watersecurity/pandemicflu). Available resources include a Pandemic Flu Tabletop Exercise for water and wastewater utilities, EPA Region 1's *Top 10 List: Pandemic and Natural Disasters Notebook*, this fact sheet, and links to other useful websites and planning information.

What Other Flu Specific Guidance is Available to Help Utilities Prepare?

- Current guidance is available at www.flu.gov including updated guidance and a communication toolkit for businesses and employers.
- The Department of Homeland Security *Annex: Water and Wastewater Sector Pandemic Guideline* is available at (www.amwa.net/cs/security).
- The National Rural Water Association's *Small System Pandemic Influenza Checklist* Association of Metropolitan Water Agencies' *Business Continuity Planning in the Event of an Influenza Pandemic: A Reference Guide* are available from these associations.
- Read your State's pandemic plan (www.flu.gov/plan/states/stateplans.html).
- Also, consult OSHA guidelines on how to prepare your workplace and protect employees during a pandemic (www.osha.gov/Publications/influenza_pandemic.html).

Will Vaccines be Available?

Vaccination is one of the most effective ways to minimize suffering and death from influenza. The U.S. Department of Health and Human Services is the lead agency for expanding domestic influenza vaccine production capacity and producing a pandemic influenza vaccine. However, at the beginning of a pandemic, the scarcity of a vaccine will require that the limited supply be allocated or prioritized for distribution and administration. The U.S. Government has developed *Guidance on Allocating and Targeting Pandemic Influenza Vaccine* (www.flu.gov/vaccine/allocationguidance.pdf). This document provides guidance to states, territories, and tribes on the allocation of limited supplies of pandemic vaccine to different population groups, such as those who maintain essential community services like the water sector. This guidance may be modified based on the status of vaccine technology, the characteristics of pandemic illness, and risk groups for severe disease—factors that are unknown until a pandemic actually occurs.

CDC's Advisory Committee on Immunization Practices (ACIP), a panel made up of medical and public health experts, met July 29, 2009, to make recommendations on who should receive the new H1N1 vaccine when it becomes available. While some issues are still unknown, such as how severe the virus will be during the fall and winter months, the ACIP considered several factors, including current disease patterns, populations most at-risk for severe illness based on current trends in illness, hospitalizations and deaths, how much vaccine is expected to be available, and the timing of vaccine availability. Additional information on these recommendations is available at http://www.cdc.gov/h1n1flu/vaccination/acip.htm.

What Other Interventions May be Used?

There are a number of interventions that will be implemented to mitigate the effects of an influenza pandemic. Non-pharmaceutical interventions such as social distancing and infection control techniques such as hand-washing and cough etiquette will play a critical role in pandemic mitigation. Antiviral drugs may help prevent infection in people considered at risk and lessen the impact of symptoms in those infected with influenza. Antiviral drugs can also be used for prevention, and public and private sector entities may choose to stockpile antiviral drugs for this purpose.

Where Can I go for Additional Information?

Visit www.flu.gov. This site is managed by the U.S. Department of Health and Human Services and provides one-stop access to U.S. government pandemic, H1N1, and avian (H5N1) influenza information.