
Swine and Pandemic Influenza — April 2009

1. What is influenza?

Influenza (flu) is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness and at times lead to death. Every year in the United States an average of 5 to 20 percent of the populations gets the flu. Some influenza viruses can also infect birds, pigs, horses, seals, whales and other animals.

2. What is swine flu?

Swine Influenza (swine flu) is a respiratory disease of pigs caused by type A influenza viruses that cause regular outbreaks in pigs. People do not normally get swine flu, but human infections can and do happen. Swine flu viruses have been reported to spread from person to person, but in the past, this transmission was usually limited and not sustained beyond three people.

3. Is this swine flu virus contagious?

CDC has determined that this swine influenza A (H1N1) virus is contagious and is spreading from human to human. However, at this time, it not known how easily the virus spreads between people.

4. What are the signs and symptoms of swine flu in people?

The symptoms of swine flu in people are similar to the symptoms of regular human flu and include fever, cough, sore throat, body aches, headache, chills and fatigue. Some people have reported diarrhea and vomiting associated with swine flu. In the past, severe illness (pneumonia and respiratory failure) and deaths have been reported with swine flu infection in people. Like seasonal flu, swine flu may cause a worsening of underlying chronic medical conditions.

5. How does swine flu spread?

Spread of this swine influenza A (H1N1) virus is thought to be happening in the same way that seasonal flu spreads. Flu viruses are spread mainly from person to person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose.

6. How can someone with the flu infect someone else?

People who are infected with swine flu may be able to infect others starting one day before symptoms develop, and up to seven or more days after, they become sick. That means that you may be able to pass on the flu to someone else before you know you are sick, as well as while you are sick. People pass the virus by coughing or sneezing on another person, or by transferring the virus to an object (e.g. silverware, door handle, keyboard) that is touched by someone else, who then transmits the virus through the mouth or nose by way of contaminated hands or eating utensils.

7. What should I do to keep from getting the flu?

First and most important: wash your hands thoroughly and often. Try to stay in good general health. Get plenty of sleep, be physically active, manage your stress, drink

plenty of fluids and eat nutritious food. Try not to touch surfaces that may be contaminated with the flu virus. Avoid close contact with people who are sick.

8. What is the best technique for washing my hands to avoid getting the flu?

Washing your hands often will help protect you from germs. Wash with soap and water, or clean with an alcohol-based hand sanitizer. The CDC recommends that when you wash your hands -- with soap and warm water -- that you wash for 15 to 20 seconds. When soap and water are not available, alcohol-based disposable hand wipes or gel sanitizers may be used. You can find them in most supermarkets and drugstores. If using gel, rub your hands until the gel is dry. The gel doesn't need water to work; the alcohol in it kills the germs on your hands.

9. How long can viruses live outside the body?

We know that some viruses and bacteria can live 2 hours or longer on surfaces like cafeteria tables, doorknobs and desks. Frequent hand washing will help you reduce the chance of getting contamination from these common surfaces.

10. What can I do to protect myself from getting sick?

There is no vaccine available right now to protect against swine flu. There are everyday actions that can help prevent the spread of germs that cause respiratory illnesses like influenza. Take these everyday steps to protect your health:

- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
- Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective.
- Avoid touching your eyes, nose or mouth. Germs spread this way.
- Try to avoid close contact with sick people.
- If you get sick with influenza, CDC recommends that you stay home from work or school and limit contact with others to keep from infecting them.

11. What is the best way to keep from spreading the virus through coughing or sneezing?

If you are sick, limit your contact with other people as much as possible. Do not go to work or school if ill. Covering your mouth and nose when you sneeze or cough is courteous and will help to reduce the spread of pandemic flu. Use a tissue when possible, and wash your hands or use hand sanitizer immediately afterwards. If you do not have a tissue, cough into your arm or elbow. Some studies have shown that virus transmission can be reduced if the sick person wears a surgical or N-95 mask.

12. What should I do if I get sick?

If you live in areas where swine influenza cases have been identified and become ill with influenza-like symptoms, including fever, coughing, body aches, runny nose, sore throat, nausea, or vomiting or diarrhea, you may want to contact their health care provider, particularly if you are worried about your symptoms. Your health care provider will determine whether influenza testing or treatment is needed.

If you are sick, you should stay home and avoid contact with other people as much as possible to keep from spreading your illness to others.

If you become ill and experience any of the following warning signs, seek emergency medical care:

In children, emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

In adults, emergency warning signs that need urgent medical attention include:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting

PANDEMIC FLU

13. Where does pandemic flu come from?

Viruses are constantly changing, producing new strains. A new pandemic virus may be the result of viruses exchanged between animals and humans that produce a new strain. This is the reason that any “novel” flu (such as swine or avian flu) is such a concern, even if there has not yet been any sustained human to human transmission. Pandemics occur when a new strain is so different from previous strains that few people, if any, are immune to it. This allows the new strain to spread widely and rapidly, affecting many hundreds of thousands of people world wide.

14. What is the difference between seasonal flu and pandemic flu?

The seasonal flu is caused by a flu virus already circulating in the human population whereas a pandemic flu is caused by flu virus that has not circulated among people. Seasonal flu occurs at about the same time every year, beginning in December and ending in March. Most people who get seasonal flu recover within a week or two and do not require medical treatment. The very young, the very old and the very sick are most likely to become seriously ill from seasonal flu.

Pandemic flu is more serious than a “typical” flu. It is caused by a new flu strain that humans have not been exposed to, so they have no natural resistance or immunity to it. Pandemic flu is different from seasonal flu because it infects large numbers of people of different ages all over the world and causes serious illness and deaths. During a

pandemic people are more likely to get the flu and it is more likely to be deadly, even among young and healthy people.

15. Have pandemics occurred in the past? If so, when?

Yes, past influenza pandemics have led to high levels of illness, death, social disruption, and economic loss. During the 1900's, there were three influenza pandemics. The 1918 influenza pandemic caused at least 500,000 deaths in the United States and up to 40 million deaths worldwide. The 1957 influenza pandemic caused at least 70,000 deaths in the United States and 1-2 million deaths worldwide. The 1968 influenza pandemic caused about 34,000 deaths in the United States and 700,000 deaths worldwide.

16. How often do flu pandemics occur?

There have been three flu pandemics in the last 100 years. A flu pandemic seems likely to happen in the next few years, but there is no way to predict when it would happen and at what time of the year.

UNDERSTANDING THE RISK

17. How likely is it that a flu pandemic will occur in the United States?

The World Health Organization (WHO) is constantly on the look out for the first signs of a flu pandemic. At first sign of a pandemic, WHO will take immediate steps to try to contain it. With the numbers of people that travel by airplane, the chances of it reaching the United States are much increased since the last flu pandemic of 1968. Once a flu pandemic affects other countries, it will most certainly reach the United States.

18. How will we know when pandemic flu has spread to the United States?

The World Health Organization (WHO) will inform governments worldwide when a flu pandemic starts. The Centers for Disease Control and Prevention (CDC) will make announcements in the United States advising on the best course of action using television, radio, print and the Internet throughout different phases of the pandemic.

19. Who will be impacted by pandemic flu?

Few people will have a natural immunity to pandemic flu; therefore most of the population is at risk. It is likely to impact people of all ages, backgrounds and locations.

20. Why pandemics are such dreaded events?

Influenza pandemics are remarkable events that can rapidly infect the population in virtually all countries. Once international spread begins, pandemics are considered unstoppable because they are caused by a virus that spreads very rapidly. The fact that people infected with the flu can spread the virus before symptoms appear adds to the risk of international spread via air travelers without symptoms.

The severity of disease and the number of deaths caused by a pandemic virus vary greatly, and cannot be known prior to the emergence of the virus. During past two pandemics, 25 to 35 percent of the total population became ill. Under the best circumstances, assuming that the new virus causes mild disease, the world could still

experience an estimated 2 million to 7.4 million deaths (projected from data obtained during the 1957 pandemic).

PREPARING FOR A POTENTIAL PANDEMIC

21. Should I keep extra food and water in my home?

Stocking extra food, water and supplies at home will reduce the need to go out during a local flu pandemic and thereby reduce potential for exposure to the virus. If a person does get sick and has extra supplies on hand, they will help reduce the spread of pandemic flu by staying home.

22. How long should I plan for extra supplies and water?

Plan to store a two-week supply of food and water. Select foods that do not require refrigeration, preparation or cooking. Insure that formula for infants and any child's or older person's special nutritional needs are a part of your planning. Store one gallon of water per person, per day in clean plastic containers. Avoid using containers that will decompose or break, such as milk cartons or glass bottles

23. Should I plan to go to work during a pandemic?

Learn now about the plans in your workplace for employees who get sick during a pandemic. This information will have an important impact on your plans and decisions during an influenza pandemic.

- Ask your employer about sick-leave plans to allow staff to stay home when sick.
- Ask about your employer's plans to keep the business functioning if key staff can't come to work.
- Ask if there are any special considerations regarding sick leave, benefits and wages when there is a pandemic in the community and employees are asked to remain at home.

24. Should I plan for my children to go to school or day care during a pandemic?

Find out now about the plans at your child's school or day care during an influenza pandemic.

- Ask how the school plans to encourage parents to keep children who are sick to stay home to reduce the spread of disease.
- Ask if the school would close if a pandemic were to occur in the community.

Discussing these questions now with school administrators, teachers and other parents will have a significant impact on your plans, decisions and peace of mind during an influenza pandemic or once the threat of the possibility becomes more evident.

25. Who will care for me if I become ill?

Plan now to care for yourself or loved ones who get the flu. Gathering the supplies ahead of time will allow you to provide care at home. Decide how the person will be cared for, which may mean that you or someone else in the household will need to stay home from work, school or other activities.

26. What can I expect from my health care provider? I've heard in the news they will be overwhelmed.

When you or your family members get sick, help may not be available from the usual sources because healthcare services are likely to be overwhelmed during a flu pandemic. Find out what other sources for help may be available locally. Contact your health care provider, local health department or other local government agencies now to find out about your role and their role during a flu pandemic. Ask where your nearest clinic is that is available to provide treatment.

27. What makes a pandemic different from other natural disasters? What are the similarities?

Unlike other disasters, a flu pandemic is an infectious disease that does not damage homes, utilities, buildings and other structures. However, if the workforce who keeps them running are unable to work, daily life will be disrupted. A flu pandemic is similar to other disasters because it will disrupt your daily routines and you will be asked to take personal action to reduce the spread of the flu pandemic virus.

VACCINES**28. Is there a vaccine that I can take now to protect myself and those I care about from pandemic influenza?**

Unlike seasonal flu, there is no vaccine for pandemic flu until researchers and pharmaceutical companies are able to create one, which takes time. Even if a vaccine is developed for pandemic flu, it will be a challenge to manufacture and dispense the vaccine to everyone in a timely manner.

The best way to protect yourself and others is to practice healthy hygiene to keep you well now and during a flu pandemic. Practicing these actions now will make them easier to do later. These actions include washing your hands, covering your cough and staying home when you are sick to slow the spread of illness.

29. Why won't the seasonal flu vaccine protect people against pandemic influenza?

Seasonal flu viruses are different from the virus likely to cause pandemic flu. Vaccines are designed to protect against a specific virus, so a vaccine cannot be produced until a new influenza virus emerges and is identified.

30. How much time does it take to develop and produce an influenza vaccine?

The influenza vaccine production process is long and complicated. Traditional influenza vaccine production in the United States relies on the use of chicken eggs which is labor-intensive and takes nine months from start to finish.

The flu vaccine production process is further complicated by the fact that influenza virus strains continually change. Thus, seasonal flu vaccines must be modified each year to match the strains of the virus that are known to be in circulation among humans around the world. As a result of this constant viral evolution, seasonal influenza vaccines

cannot be stockpiled year to year.

Large amounts of vaccine cannot be made before knowing exactly which virus will cause the pandemic. Once the virus is identified, it could then take up to 6 months before a vaccine is available and in only limited amounts at first. It may be a few years before the United States will have the capability to produce a vaccine for everyone in the United States. This is the reason why it will be important for everyone to practice healthy habits to reduce their exposure to a pandemic flu.

31. What is the difference between a vaccine and an antiviral?

Vaccines are usually given as a preventive measure. Currently available viral vaccines are usually made from either killed or weakened versions of the live virus, or pieces of the virus that stimulate an immune response to the virus. When immunized, the body is then better able to prevent infection more effectively.

Antivirals are drugs that may be given to treat people who have been infected by a virus. When given to treat people who have been infected, antiviral medications may help limit the impact of some symptoms and reduce the potential for serious complications, especially for people who are in high risk groups.

WHAT TO EXPECT DURING A PANDEMIC

32. How long will an influenza pandemic last?

Influenza pandemics may come in two or more waves several months apart and each wave will last six to eight weeks in a particular location. It is difficult to predict how far apart the pandemic waves will occur. In the 1957 pandemic, the second wave began three months after the first wave, but in the 1968 pandemic, the second wave began 12 months after the first wave.

33. How will this impact my community?

Since most people will be fully susceptible to a pandemic influenza virus, local rates of illness could peak fairly rapidly. This could cause large numbers of people seeking medical or hospital treatment, temporarily overwhelming health services. High rates of worker absenteeism can also interrupt other essential services, such as law enforcement, transportation and communications. Since an influenza pandemic wave is expected to last six to eight weeks in a particular location, this means that local social and economic disruptions may be temporary. These disruptions may be amplified in today's closely interrelated and interdependent systems of trade and commerce. Based on past experience, a second wave of global spread should be anticipated within a year.

34. How would pandemic flu affect communities and businesses?

If an influenza pandemic occurs, many people could become sick at the same time and would be unable to go to work. Many would stay at home to care for sick family members. Schools and businesses might close to try to prevent disease spread. Large group gatherings might be canceled. Public transportation might be unavailable. These are examples of challenges that local communities, schools, civic organizations, and

businesses need to work together on to prepare for a pandemic response.

35. Will I be expected to shelter-in-place?

Shelter-in-place is a short term action to protect you from exposure to hazardous materials, like a chemical gas. Sheltering-in-place won't protect you and your household from pandemic flu because pandemic flu is passed from person to person. During a local pandemic, you may be asked to stay at home or limit contact with others to help prevent the spread of the flu.

36. What should I do to protect myself and those I care about?

The best way to protect yourself and others is to practice healthy hygiene to keep you well during a flu pandemic. Practicing these actions now will make them easier to do later. These actions include washing your hands, covering your cough and staying home when you are sick to slow the spread of a pandemic.

Knowing that the flu is spread through contaminated droplets that exit the mouth and nose during coughing or sneezing can help make the difference between staying healthy and getting sick. Acting responsibly to prevent the spread of germs during a flu pandemic will help you protect yourself and those you care about.

PREPARING YOUR BUSINESS OR WORKPLACE**37. If I let my employees stay home during a pandemic, how will the work get done?**

Allowing employees to stay home when they are sick may stop the spread of pandemic flu in the workplace. Flexible programs that meet both employee and business needs will maintain productivity and promote a healthier workplace during the challenging time of a pandemic flu event. Some of these programs may be:

- Allowing employees to make up lost hours
- Telecommuting
- Alternative hours

38. What can I do to encourage healthy behaviors in my business?

Provide a healthier workplace by reducing the spread of pandemic flu. Post signs to remind employees to clean their hands frequently and keep bathroom soap dispensers stocked. Supply alcohol-based sanitizers wherever employees gather for greater convenience.

39. What should I do if I cough or sneeze?

Covering your mouth and nose when you sneeze or cough is courteous and will help to reduce the spread of pandemic flu. Use a tissue when possible, and wash your hands or use hand sanitizer immediately afterwards. If you do not have a tissue, cough into your arm or elbow.

40. How can I greet someone politely and still avoid contact?

The way we greet others often includes touching or standing close to one another,

which could spread pandemic flu. Thinking about other ways to show our care and interest, while limiting contact, may help keep you well. For example, waving, making eye contact or nodding your head instead of shaking hands could prevent the spread of disease.

41. How can I talk to someone without spreading the flu?

One way to reduce the spread of pandemic flu is by standing farther away from others when talking. This may feel awkward yet it helps to let others know that you are trying to keep both of you as healthy as possible. You may also choose to avoid groups when you have heard that lots of people are said to be sick.

42. Are there restrictions on my daily routine that I should plan for in a pandemic?

If a flu pandemic occurs in the United States, you may be asked to limit your travel and daily activities. Restrictions could be placed on you as an individual, or as part of larger public health precautions taken for the whole community.

COPING WITH A PANDEMIC

43. I don't see others around me concerned about a pandemic.

Some people may not be concerned at all about a flu pandemic — which may be an initial reaction. It's okay to be concerned and take steps to protect you and your family

As you recognize the threat of a pandemic occurring sometime in the future, you may feel scared or not want to think about this at all. This is normal. Getting ready for such an event may help you cope with the threat before it happens.

44. How can I prepare mentally and emotionally for a pandemic?

Thinking about how you handle stress and knowing your strengths will help you plan for, get through and recover from a flu pandemic.

During a flu pandemic, there will be many unknowns and the situation will change quickly. This will cause frustration for some people. You may need to be willing to make decisions based on incomplete information.

45. How can I be social and stay in touch with people during a pandemic without the risk of spreading the flu?

During a flu pandemic, limit your face-to-face contact with people but continue to communicate with friends and family using other means such as the telephone, mail and the Internet.

QUARANTINE PROTECTS EVERYONE

47. What is quarantine?

Quarantine is the separation persons who have been exposed to the virus, but not yet ill (such as someone who have been in close contact with a family member who has pandemic flu), from those who have not been exposed.

48. What is the purpose of quarantine?

Quarantine protects people from the spread of highly contagious and dangerous diseases, like pandemic flu. If you have been exposed to pandemic flu you may be quarantined or separated from others who have not been exposed. Quarantine benefits everyone, and works best when you and everyone who is asked to quarantine cooperates. This collective action may keep pandemic flu from spreading.

49. How would quarantine look in my community?

Quarantine includes a range of approaches that may be used separately or in combinations to control the spread of pandemic flu. Examples are:

- People volunteering to stay home for short periods of time
- Restrictions on people gathering, such as school or community events
- Cancellation of public gatherings and public events
- Closing public places, such as theatres and libraries
- Closing mass transit
- Schools and business close following severe weather plans
- Restrictions on passage into and out of an area

50. Why would I be quarantined?

There are different reasons why you may be quarantined. You may have been in close contact with someone who has pandemic flu and decide to stay at home. You also may be asked to stay home even when you feel fine and aren't aware of any exposure to disease. People asked to quarantine may receive special care, like food delivery and monitoring for early signs of illness.

51. How long should I expect to be quarantined?

Adults under mandatory quarantine would most likely be restricted for about 10 days. For children under the age of 12, quarantine is most likely to last up to 14 days. It is important to remember that you may not show any signs of the flu, yet can still pass it to other people. The actual length of quarantine may vary based on a number of factors related to the specific circumstances of a flu pandemic.

WHEN A PANDEMIC HITS HOME**52. Can I do something ahead of time to keep my household safe?**

Learn the signs of the flu and decide when to limit contact with others. Learn how to keep track of the symptoms and make yourself or the person in your care comfortable. Learn how to determine when medical attention is needed.

53. Where can I get help during a pandemic?

You, your family and friends need to be able to rely on each other when you cannot depend on the services you normally use. It is important to check with services you rely on to determine what their plans are should a pandemic occur.