

**Human Cases of Influenza A (H1N1) of Swine Origin in the United States and Abroad**  
**Updated Key Points**  
**April 30, 2008: 10:00AM**

**Situation Update**

- CDC is reporting 109 human infections with this influenza A (H1N1) virus of swine origin in the United States. (Yesterday, CDC reported 91 cases reported.)
- The list of states with the numbers of people who are confirmed cases is updated daily at 11am at [www.cdc.gov/swineflu](http://www.cdc.gov/swineflu). Today: NY (50), TX (26), CA (14), MA (2), MI (1), KS (2), AZ (1), NV (1), IN (1), OH (1), and SC (10).
- Human infections with this new virus have been confirmed in 11 states at this time.
- Yesterday, CDC reported the nation's first death from this outbreak in the state of Texas in a 22-month-old child.
- We also are investigating other reports of critically ill and hospitalized patients and our work in this area will go on.
- But at this point, we need to move away from the focus on numbers.
- As I have been saying, we do expect that we will see more cases, more hospitalizations and more deaths from this outbreak over the coming days and weeks.
- Influenza is always serious – each year, in the United States, seasonal influenza results, on average, in an estimated 36,000 deaths from flu-related causes.
- This outbreak certainly poses the potential to be at least as serious as seasonal flu if not more so.
- Because this is a new virus, most people will not have immunity to it and so illness may be more severe and widespread as a result.
- The picture on the world stage is more somber today too.
- In response to the intensifying outbreak first detected in the United States at the end of March that has since spread to multiple countries, the World Health Organization raised the worldwide pandemic alert level to [Phase 5](#).

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- A Phase 5 alert is a “strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.”

**This is indeed sobering, but it’s important to keep in mind that we are not helpless.**

**What we are doing:**

The Federal Government is mounting an aggressive response to this outbreak.

- CDC’s goals during this public health emergency are to reduce transmission and illness severity, and provide information to assist health care providers, public health officials and the public in addressing the challenges posed by this newly identified influenza virus.
- To this end, CDC continues to update guidance.
- Yesterday we will post guidance for concerned parents and other caregivers of children on how identify symptoms; how to prevent infection; and what to do if your child get sick.
- Today we are issuing an MMWR Dispatch describing the initial outbreak of influenza A (H1N1) in Mexico. Findings in Mexico indicated that transmission in Mexico involves person-to-person spread with multiple generations of transmission. The clinical spectrum off illness is not yet well characterized in Mexico.
- Young children are at high risk for serious complications from seasonal flu and it would not be surprising to find a pattern where they also are at higher risk of serious complications from this new virus.
- We are taking steps to protect people who might be more vulnerable to serious illness and complications from this virus by pushing out our recommendations through partners to get the word out to these parents that they should take precautions; be aware of warning signs; and seek medical care sooner rather than later.
- New guidance is being issued continuously. I urge to you visit the CDC website at <http://www.cdc.gov/swineflu/> for more information or call 1-800-CDC-INFO.
- This is a rapidly evolving situation and guidance should be considered interim and will be updated frequently.

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- On April 27 CDC, issued a travel health warning recommending that travelers postpone all non-essential travel to Mexico until further notice. That remains in place.
- CDC is concerned that continued travel to Mexico poses a significant risk to those travelers.
- CDC has developed a real-time RT-PCR Detection Panel to expand and maintain the operational capabilities of public health or other qualified laboratories by providing a detection tool for the presumptive presence of this new influenza A /H1N1 virus.
- This diagnostic test is being distributed to states nationwide to increase their capacity to test at the state level.
- Yesterday we posted guidance for states on how to evaluate for possible infection with swine influenza A (H1N1).
- In addition, distribution of antiviral drugs, personal protective equipment, and respiratory protection devices from CDC's Division of the Strategic National Stockpile (SNS) to all 50 states and U.S. territories continues.
- The Strategic National Stockpile has 49.9 million regimens of antiviral drugs. Six million of this total quantity is designated for specific purposes (i.e., containment) and the remaining 44 million are allocated to the public health emergency preparedness project areas, based on their population.
- The SNS deployment includes approximately 11 million antiviral regimens, masks, N95 respirators, Gowns, Gloves and face shields 9
- Deployment to 9 states or project areas has been completed, the last 6 (in bold) in the last 24 hours:
  - New York City
  - Indiana
  - New York
  - **Texas**
  - **Kansas**
  - **Ohio**
  - **Illinois**
  - **New Jersey**
  - **D.C.**

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- 23 additional Project Areas have product en route since the last 24 hours.
- On Monday (April 27), the FDA issued Emergency Use Authorizations (EUAs) to address the off-label use of these FDA-approved products, since normal prescribing and dispensing requirements cannot be met.
- The EUAs allow for oseltamivir to also be used to treat children younger than 1 year of age, and prevent influenza in children 3 months to 1 year of age.

**Vaccine**

- We are aggressively taking those early steps in the vaccine manufacturing process, working closely with manufacturing and the rest of the government.
- Vaccines are a very important part of a response to influenza, including novel influenza that may become pandemic.
- CDC has isolated the new H1N1 virus and is working to make a vaccine seed strain that can be put into industry's hands to scale up for production of a vaccine.
  - There are many steps involved with producing a vaccine and we are committed to going forward with the NIH, and FDA, BARDA, and the manufacturing community, to see about developing a full scale vaccine production.
  - The first step in developing a vaccine is getting a good "seed" strain of the virus.
  - A high-yield "seed" strain is a sample of the virus that is used to grow the virus in mass quantities. Parts of the virus particles important for the immune response to a vaccine, called the virus antigens, are then purified to make the vaccine.
  - CDC is working to develop a vaccine seed virus specific to the recent human cases of influenza A (H1N1) of swine origin.
  - Making a "seed" virus is accomplished by combining genes from a virus that grows very well in eggs with genes that carry the immunizing antigens from the influenza A (H1N1) swine origin virus.

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- Without a high-yield seed virus, it can be very difficult to manufacture vaccine to protect against that strain of the virus.
- We are taking two approaches to creating the seed strain:
  1. We have grown the viruses in eggs and sent them to the New York Medical College and other WHO Collaborating Centers for production of the high-yield seed in eggs.
  2. We have used molecular genetic techniques to make a DNA copy of the genes encoding immunizing antigens from the influenza A (H1N1) swine origin virus. We are currently combining these genes with those of the high-yield virus to obtain seed virus for vaccine production. This process is known as reverse genetics. Parallel work is being conducted by FDA and WHO Collaborating Centers.
- We estimate that it will take about three weeks to create a high-yield seed virus, depending on its ability to grow in eggs.
- Once we have a seed virus it will be sent to the vaccine manufacturing companies.
- The companies need 8 to 11 weeks to make small lots of vaccine for testing to see whether the seed virus works well in the manufacturing process.
- These lots are studied through NIH sponsored trials that look at the best dosing; whether we need something called an adjuvant that can help with the immune response will also be evaluated.
- CDC also has provided the influenza A (H1N1) virus of swine origin to a private vaccine manufacturer for development of a live attenuated vaccine seed for use as an intranasal spray vaccine.
- But influenza vaccine production is pretty unpredictable.
- And we really need to be patient, and make sure that we're taking the careful steps to produce vaccine the way it's supposed to be.
- If things go well, and we develop a full scale production, it would be several months until the vaccine were available.
- By traditional methods, it takes about six months to produce large quantities of influenza vaccine.

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- So vaccine is an important tool for the future.
- But a vaccine won't be available for some time yet, so it's important to remember that we have other weapons in our arsenal in the fight against influenza in the meantime.

**Public:**

- We do have antiviral medications in our arsenal against flu.
- Influenza antiviral drugs are an important weapon against influenza.
- Many people believe that there is no treatment for a viral infection and that it must run its course. That is not true.
- Influenza antiviral drugs are prescription medicines (pills, liquid or an inhaler) with activity against influenza viruses, including swine influenza viruses.
- Antivirals work differently than vaccines or antibiotics and need to be taken according to your doctor's directions.
- In addition to being in our national stockpile, these drugs are available in drugstores by prescription. They are routinely used in the treatment of seasonal influenza.
- In addition to being in our stockpile, it also should be noted that these drugs are available commercially, since they are routinely used in the treatment of seasonal influenza.
- We will be using antiviral drugs mainly to treat infection with this virus.
- There are two influenza antiviral medications that are recommended for use against swine influenza. These are oseltamivir (trade name Tamiflu ®) and zanamivir (Relenza ®).
- Influenza antiviral drugs work best when started soon after illness onset (within two 2 days), but treatment with antiviral drugs should *still be considered after 48 hours of symptom onset, particularly for hospitalized patients or people at high risk for influenza-related complications.*
- Here in the United States, we have invested in our strategic national stockpile and we do have on hand quite a bit of antiviral drugs.

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- You have a role in protecting yourself and your family.
  - Stay informed. Health officials will provide additional information as it becomes available. Visit [www.cdc.gov](http://www.cdc.gov)
- 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 are sick, do not go to work or school.** CDC recommends that you limit contact with others to keep from infecting them.
  - Follow public health advice regarding school closures, avoiding crowds and other social distancing measures.
  - If you don't have one yet, consider developing a family emergency plan as a precaution. This should include storing a supply of extra food, medicines, facemasks and other essential supplies.

**What Communities Can Do:**

- At the local level, we are hearing reports that some schools are being closed in various states.
- Community-level social distancing efforts to slow the spread of disease will be in an important tool at our disposal against this swine influenza outbreak.
- Simply put 'social distancing' is a way of 'keeping our distance' from each other to lessen the spread of flu.

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- So communities may want to consider plans for and measures that can promote social distancing like school closures, teleworking, shift work and other social distancing measures.

**Recommendation re: Mexico Travel**

- We are recommending that people avoid non-essential travel to Mexico at this time.
- If you must travel to Mexico, there are steps you should take to reduce your risk of infection.
- Visit <http://wwwn.cdc.gov/travel> for the latest information on travel.

**Clinicians:**

- Laboratory testing on these viruses so far indicate that they are **susceptible** (sensitive) to **oseltamivir** and **zanamivir**. (This virus is resistant to amantadine and rimantadine so these drugs will **not** work against these swine influenza documents.)
- CDC recommends the use of oseltamivir or zanamivir for the treatment and/or prevention of infection with swine influenza viruses.
- Clinicians should continue to consider swine influenza infection in the differential diagnosis of patients with acute febrile respiratory illness who have either been in contact with persons with confirmed swine flu, or who were in one of the U.S. states that have reported swine flu cases or in Mexico during the 7 days preceding their illness onset.
- Patients who meet these criteria should be tested for influenza. At this point, specimens should be sent through the public health laboratory systems to conduct testing specific for swine influenza virus. Guidance of collection and testing of the specimens.
- Influenza antiviral drugs work best when started soon after illness onset (within two 2 days), but treatment with antiviral drugs should **still be considered after 48 hours of symptom onset, particularly for hospitalized patients or people at high risk for influenza-related complications.**

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- CDC continues to issue and update interim guidance daily on the website and through health alert network notices as information becomes available.
- Clinicians should visit <http://www.cdc.gov/swineflu/guidance>

**Other Key Points**

**Virus Name**

This is a rapidly evolving situation and current guidance and other web content may contain variations in how this new H1N1 virus of swine origin is referred to. Over the coming days and weeks, these inconsistencies will be addressed, but in the interests of meeting the agency's response goals, all guidance will remain posted and new guidance will continue to be issued.

**Pork**

- Swine influenza viruses are not transmitted by food. You cannot get swine influenza from eating pork products.