# Human Infection with influenza A (H1N2) variant ("H1N2v") virus
# Key Points

**August 4, 2017**

- This week's FluView includes one report of a human infection with an influenza A (H1N2) variant ("H1N2v") virus in the state of Ohio.
- When an influenza virus that normally infects pigs is found in people, it is called a variant influenza virus and is designated with the letter "v."
- While it is rare for influenza viruses that normally infect pigs to spread to people, it is possible.
- The infection occurred in a child who reported direct exposure to swine at an agricultural fair in the week preceding illness onset.
- Last week, 11 H3N2v virus infections were reported among people attending another agriculture fair in Ohio.
- This is the first H1N2v virus infection reported this year and the 10th such infection since 2005.
    - See Case Count: Detected U.S. Infections with Variant Influenza Viruses by State since December 2005 (http://www.cdc.gov/flu/swineflu/variant-cases-us.htm).
- CDC has confirmed this to be an H1N2v virus, similar to other H1N2v viruses detected in recent years.
- The patient was not hospitalized and has fully recovered.
- No person to person spread with this virus has been identified.
- Agricultural fairs are one setting which can result in many human exposures to swine.

**CDC Recommendations**

- CDC has long-standing guidance for people attending agricultural fairs or other settings where swine might be present, including additional precautions for people who are at high risk of serious flu complications. (http://www.cdc.gov/flu/swineflu/variant/preventspreadfactsheet.htm)
- CDC recommendations for people at high risk:
    - Anyone who is at high risk of serious flu complications (http://www.cdc.gov/flu/about/disease/high_risk.htm) and planning to attend a setting where pigs will be present should avoid pigs and swine barns.
    - People who are at high risk of serious flu complications include children younger than 5 years, people 65 years and older, pregnant women, and people with certain long-term health conditions (like asthma and other lung disease, diabetes, heart disease, weakened immune systems, and neurological or neurodevelopmental conditions).
- CDC recommendations for people not at high risk:
    - Do not take food or drink into pig areas; do not eat, drink or put anything in your mouth in pig areas.
    - Do not take toys, pacifiers, cups, baby bottles, strollers, or similar items into pig areas.
    - Avoid close contact with pigs that look or act ill.

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- Take protective measures if you must come in contact with pigs that are known or suspected to be sick. This includes minimizing contact with pigs and wearing personal protective equipment like protective clothing, gloves and masks that cover your mouth and nose when contact is required.
- Wash your hands often with soap and running water before and after exposure to pigs. If soap and water are not available, use an alcohol-based hand rub.
- To further reduce the risk of infection, minimize contact with pigs in the pig barn and arenas.
- Watch your pig (if you have one) for illness. Call a veterinarian if you suspect illness.
- Avoid contact with pigs if you have flu symptoms. Wait to have contact with pigs until 7 days after your illness started or until you have been without fever for 24 hours without the use of fever-reducing medications, whichever is longer. If you must have contact with pigs while you are sick, take the protective actions listed above.

- People with high risk factors who develop flu symptoms should call a health care provider. Tell them about your high risk condition and any exposure to pigs or swine barns you have had recently. Providers should alert the local or state public health department if variant influenza infection is suspected. Prescription influenza antiviral drugs can treat infections with these viruses in people, especially when initiated early.
- People who go to a health care provider for flu symptoms following direct or close contact with swine (pigs) should tell their health care provider about this exposure. CDC recommends that people at high risk of flu complications get influenza antiviral treatment as quickly as possible if they have confirmed or suspected influenza, including variant influenza.

**Background**

- Swine flu viruses do not normally infect humans. However, sporadic human infections with influenza viruses that normally circulate in swine have occurred.
- When this happens, these viruses are called "variant viruses." They also may be denoted by adding the letter "v" to the end of the virus subtype designation.
- Human infections with H1N1v, H1N2v, and H3N2v viruses have been detected in the United States. Since January 1, 2017, 13 variant virus infections (inclusive of all variant virus subtypes) have been reported in the United States.
- Most commonly, human infections with variant viruses occur in people with exposure to infected pigs (e.g., children near pigs at agricultural fairs or workers in the swine industry).
- There have been documented cases of multiple persons becoming sick after exposure to one or more sick pigs and also cases of limited spread of variant influenza viruses from person to person.
- The vast majority of human infections with variant influenza viruses do not result in person to person spread.

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- However, each case of human infection with a variant influenza virus should be fully investigated to a) be sure that such viruses are not spreading in an efficient and ongoing way in humans, and b) to limit further exposure of humans to infected animals if infected animals are identified.

**What CDC Does**

- CDC works to improve global control and prevention of seasonal and novel influenza, including swine influenza viruses.
- In collaboration with domestic and global partners, CDC's Influenza Division:
  - Builds surveillance and response capacity.
  - Monitors and assesses influenza viruses and illness.
  - Improves vaccines and other interventions.
  - Applies research to provide science-based enhancement of prevention and control policies and programs.
- In addition, to prevent and respond to variant influenza and other zoonotic diseases, the Centers for Disease Control and Prevention (CDC) established the Public Health Youth Agriculture Education partnership pilot program in 2011.
- At a national level, this program is designed to educate youth about zoonotic infections and deliver prevention and mitigation messages targeting these infections.
- As part of the program, the Ohio Department of Health and the Ohio State University have just been awarded a third year of grant funding from CDC and CSTE to pilot education and evaluation efforts related to variant influenza for youth exhibiting swine at fairs.
- More information about this program is available at https://www.cdc.gov/flu/swineflu/youth-agriculture-education-program.htm.