**September 1, 2017**

* One human infection with a novel influenza A virus in Ohio was reported in this week’s [FluView](http://www.cdc.gov/flu/weekly/) report.
* The person was infected with an influenza A (H1N2) variant (H1N2v) virus.
* 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.”
* The patient reported exposure to swine in a fair setting in the week before experiencing flu-like symptoms.
* This patient was younger than 18 years of age, was not hospitalized, and has fully recovered from their illness
* While it is rare for influenza viruses that normally infect pigs to spread to people, it is possible.
* No person to person spread of this virus has been identified.
* To date, a total of 20 variant virus infections have been reported in the United States during 2017.
* Eighteen of these were H3N2v viruses (Texas [1], North Dakota [1], Pennsylvania [1], and Ohio [15]) and two were H1N2v viruses (Ohio [2]).
* There have been 421 variant virus infections reported in the United States 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) (<http://www.cdc.gov/flu/swineflu/variant-cases-us.htm>).
* Illnesses associated with variant virus infections so far have been mostly mild with symptoms similar to those of seasonal flu. However, variant virus infections can also result in serious illness, resulting in hospitalization and death.
* Limited human-to-human spread of variant viruses have been detected in the past, but no sustained or community spread has been identified.
* Agricultural fairs are one setting that can result in many human exposures to swine.
* Early identification and investigation of human infections with novel influenza A viruses are critical to ensure timely risk assessment so that appropriate public health measures can be taken.
* Additional information on influenza in swine, variant influenza infection in humans, and strategies to interact safely with swine can be found at <http://www.cdc.gov/flu/swineflu/index.htm>.

**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) (<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.
* 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, 20 variant virus infections (inclusive of all variant virus subtypes) have been reported in the United States.
* Eighteen of these were H3N2v viruses (Texas [1], North Dakota [1], Pennsylvania [1], and Ohio [15]) and two were H1N2v viruses (Ohio [2]).
* 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.
* 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>.