MARYLAND
Department of Health
Larry Hogan, Governor · Boyd Rutherford, Lt. Governor · Dennis Schrader, Secretary

September 21, 2017

Dear Colleague,

We are writing to alert you that the MDH has identified 7 presumptively positive cases of influenza A (H3N2) variant virus (H3N2v, colloquially known as "swine flu") among Maryland residents who had close contact with pigs exhibited at the recent Charles County Fair (which ran September 14-17, 2017). Among pigs exhibited at the same fair, five symptomatic pigs tested positive through the National Veterinary Services Laboratory for influenza A H3N2. In response, we ask that you have heightened suspicion to identify potential human cases of variant influenza virus.

Background on variant influenza viruses

Swine flu viruses do not normally infect humans. However, sporadic human infections with influenza viruses that normally circulate in swine have occurred. When this occurs, these viruses are called "variant viruses" and are denoted by adding the letter "v" to the end of the virus subtype designation.

Since 2005, there have been 421 human cases of swine flu detected in the United States, and these have been the H1N1v, H1N2v, and H3N2v viruses. In 2017, there have been 20 reported cases; eighteen of these were H3N2v viruses (Texas [1], North Dakota [1], Pennsylvania [1], and Ohio [15]) and two were H1N2v viruses (Ohio [2]). In 2012, in Maryland, there were 13 cases among people who had direct contact with sick pigs at the Queen Anne's County Fair.

Human infections with swine flu typically occur in people with exposure to infected pigs (e.g. children handling pigs at agricultural fairs or workers in the swine industry). Limited human-to-human spread of swine flu has been detected previously, but no sustained or community spread has been identified.

When to suspect variant influenza virus

Variant influenza virus infection ***cannot*** be distinguished by clinical features from seasonal influenza virus infection, or from infection with other respiratory viruses that can cause influenza-like illness (fever and either cough or sore throat). Therefore, the key to suspecting variant virus infection in an ill patient is to **elicit an epidemiological link to recent swine exposure in the 7 days prior to illness onset**, specifically:

- Direct contact with swine (e.g., showing swine, raising swine, feeding swine, or cleaning swine waste); or
- Close contact (within 2 meters or approximately 6 feet) with an ill person who had recent swine exposure or is known to be infected with a variant virus.

A weaker epidemiological link would be:

- Indirect exposure to swine (e.g., visiting a swine farm or walking through a swine barn), especially if swine were known to be ill

How to conduct testing for variant influenza virus

For any ill person with direct or close contact, as defined above, we recommend testing for variant influenza virus. For any ill person with indirect exposure, testing on a case by case basis can be considered in consultation with local health departments. Follow these steps carefully to ensure testing is completed quickly and accurately:

1) Contact your local health department to coordinate testing and specimen transport to the MDH Laboratories administration. (Variant influenza virus testing **cannot** be done through commercial laboratories and rapid influenza testing is not a reliable method for detecting variant influenza virus.)
2) Obtain a nasopharyngeal swab.
3) Place the swab in viral transport medium.

Testing should NOT be conducted on individuals who do not have influenza-like illness, regardless of exposure.

Infection control reminders:

- Ensure all persons with symptoms of a respiratory infection adhere to respiratory hygiene, cough etiquette, hand hygiene, and triage procedures throughout the duration of the visit.
- Provide surgical facemasks to patients with signs and symptoms of respiratory infection.
- Health care personnel should also wear surgical face masks when interacting with patients who have symptoms of respiratory infection.
- Provide supplies to perform hand hygiene (soap and water preferred, alcohol base hand sanitizer acceptable) to all patients upon arrival to facility and throughout the entire duration of the visit to the healthcare setting.
- Provide space and encourage persons with symptoms of respiratory infections to sit as far away from others as possible. If available, facilities may wish to place these patients in a separate area while waiting for care.

Treatment of people with suspected variant influenza virus

In general, clinical management of variant influenza virus infection is similar to management of seasonal influenza virus infections. CDC recommendations for treatment include:

- Oral oseltamivir, inhaled zanamivir, or IV peramivir are the recommended antiviral drugs for treatment of variant virus infections. Most variant viruses are resistant to amantadine and rimantadine and these medications should **not** be prescribed if variant virus is suspected.
- For persons suspected of having a variant virus infection and who are hospitalized, have severe or progressive illness, or are in a high-risk group, empiric antiviral treatment should be started as soon as possible, without waiting for the results of influenza testing.

    - For hospitalized patients and patients with severe or complicated illness, treatment with oral or enterically administered oseltamivir is recommended.
- While early antiviral treatment (within 48 hours of illness onset) is generally most effective, antiviral treatment may still be effective when administered later in patients with moderate and severe illness.
- Antiviral treatment also can be considered for any previously healthy, symptomatic outpatient not at high risk with confirmed or suspected variant virus infection on the basis of clinical judgment, if treatment can be initiated within 48 hours of illness onset.
- In general, antiviral chemoprophylaxis guidelines for variant influenza virus are the same as for seasonal influenza virus. Chemoprophylaxis for close contacts of confirmed human variant influenza virus cases can be considered on a case by case basis. Chemoprophylaxis is not recommended for asymptomatic individuals who have been in contact with swine.

Ill persons who are suspect or confirmed variant virus infections and who do not require hospitalization should be isolated at home away from other family members as much as possible. Household members who are at increased risk for influenza complications should avoid coming within 2 meters (or approximately 6 feet) of ill persons.

Preventive recommendations for the public

The spread of influenza, including the possible spread of H3N2v, between humans can be prevented by:

- Covering your nose and mouth with a tissue when you cough or sneeze.
- Washing your hands often with soap and water, especially after you cough or sneeze. If soap and water are not available, an alcohol-based hand rub may be used.
- Avoiding touching your eyes, nose or mouth.
- Trying to avoid close contact with sick people.
- Staying home from work or school if you are sick until you are fever free for 24 hours without fever reducing medicines.
- Getting the seasonal influenza vaccine when it becomes available. Although it is not effective against H3N2v, it is protective against other common strains of influenza.

The spread of influenza between pigs and humans can be prevented by:

- Washing your hands frequently with soap and running water before and after exposure to animals.
- Never eating, drinking or putting things in your mouth in animal areas.
- Considering avoiding exposure to pigs and swine barns, especially if sick pigs have been identified and if you are high risk of complications from influenza.
- Watching your farm animals, including pigs, for signs of illness and calling a veterinarian if you suspect they might be sick.
- Avoiding close contact with animals that look or act ill, and
- Avoiding contact with pigs if you are experiencing flu-like symptoms.

People who are at high risk of serious influenza complications, including 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) should avoid pigs and swine barns.

Additional resources

- Further guidance for clinicians on swine flu: https://www.cdc.gov/flu/swineflu/interim-guidance-variant-flu.htm
- CDC information about swine flu, including key facts and details on past cases: https://www.cdc.gov/flu/swineflu/index.htm
- CDC guidance for people attending agricultural fairs or other settings where swine might be present: http://www.cdc.gov/flu/swineflu/variant/preventspreadfactsheet.htm
- CDC information about influenza, including prevention recommendations, surveillance data, and other facts: https://www.cdc.gov/flu/index.htm.
- USDA APHIS swine disease information: https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/swine-disease-information

Thank you for your collaboration and we will continue to keep you updated on this issue. If you have questions, contact your local health department (https://health.maryland.gov/Pages/departments.ASPX) or MDH at 410-767-6700.

Sincerely,

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Maryland Department of Health