

Communicable Diseases Communiqué

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Swine influenza outbreak

The current outbreak

As of 27 April 2009, WHO has reported 40 laboratory-confirmed human cases of swine influenza A/H1N1 in the United States of America (USA). These include cases from New York (n=28), California (n=7), Texas (n=2), Kansas (n=2) and Ohio (n=1). The WHO has also reported 26 laboratory-confirmed cases and 7 deaths from Mexico where cases have occurred in at least 19 of 32 states. Several suspected cases and deaths in Mexico are still under investigation. All cases reported in the USA to date experienced a mild influenza illness and only one was briefly hospitalized. Laboratory-confirmed cases of swine influenza have also been reported from Spain (n=1) and Canada (n=6) with no deaths.* Influenza viruses isolated from the cases to date have been identical and represent a novel influenza A/H1N1 virus not previously detected in humans or swine. This raises serious concerns regarding the pandemic potential of this virus.

Urgent investigations are under way to better characterize the epidemiological and virological features of this virus. In response to these cases, WHO has raised the pandemic alert to level 4.

*The NICD is currently only reporting data verified by WHO.

Background information on swine influenza

Swine influenza is a well known acute respiratory infection in pigs. Outbreaks in pigs occur year round with increases in winter. They are caused by one of several swine influenza A viruses. These viruses are spread among pigs by aerosols and direct and indirect contact. Asymptomatic carriage can occur in pigs. Some countries routinely vaccinate swine populations against swine influenza.

Pigs have always been a species of interest with regards to the development of new subtypes of influenza A. This is because pigs can act as a "mixing vessel" for genetic reassortment of influenza viruses

as they can be infected by avian, human and swine influenza viruses.

Swine influenza viruses are usually species-specific but may cause disease in humans under certain circumstances. Disease in humans has generally been similar to that caused by seasonal influenza and can range from mild/asymptomatic infection to severe disease with pneumonia and death.

In most instances humans acquire swine influenza through contact with pigs or contaminated swine environments but in some cases a history of such contact is not established. Human to human transmission has been documented previously but has been limited to close contacts and/or closed environments.

Does this virus pose a risk for an influenza pandemic?

Theoretically, swine influenza viruses can cause a pandemic if they are efficiently transmitted from human to human. Most individuals do not have immunity to swine viruses and it is unknown whether existing immunity to seasonal influenza A H1N1 viruses will provide any protection. Similarly, the current seasonal influenza vaccine does not contain swine influenza and the degree of protection is unknown. More information is urgently required to assess the pandemic potential of this virus and additional means of protection.

Are antivirals effective?

Current data suggests this virus is sensitive to the neuraminidase inhibitors (Oseltamivir® and Relenza®) and these drugs are currently recommended for treatment of severe cases of suspected/probable and confirmed swine influenza A/H1N1, illness in high risk individuals and for prophylaxis of high risk contacts of suspected/probable and confirmed cases.

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Can infection be prevented?:

There is insufficient information regarding the potential effectiveness of current seasonal influenza vaccine against this virus. General respiratory hygiene measures can be observed to reduce the risk of infection and transmission and should be communicated to the public. These include:

- Frequent hand washing with soap and water
- Covering your nose and mouth with a tissue when coughing or sneezing. Disposal of used tissues in a dustbin
- Avoid overcrowded areas and keep at least a two metre distance from individuals with respiratory symptoms
- Stay at home if you have an acute febrile respiratory illness

Who should be tested for swine influenza A H1N1?

Health workers should consider swine influenza in

the differential diagnosis of any individual who meets the following case definition for a suspected case of swine influenza A/H1N1. Only individuals meeting this case definition should be tested for swine influenza as per NICD interim guidelines. A throat and nasal swabs in viral transport medium are the specimen of choice and should be sent to NICD as follows:

For urgent attention: Dhamari Naidoo: National Influenza Unit, National Institute for Communicable Diseases (NICD) 1 Modderfontein Road Sandringham Johannesburg

References:

1. WHO: <http://www.who.int/csr/disease/swineflu/en/index.html> Accessed 28 April 2009
2. Centers for Disease Control and Prevention: <http://www.cdc.gov/swineflu/> Accessed 28 April 2009

Interim Case definitions:

Suspected case of swine influenza A/H1N1:

An individual with recent onset of fever $\geq 38^{\circ}\text{C}$ **PLUS ONE OR MORE** of the following acute respiratory symptoms (sore throat, rhinorrhoea/nasal congestion, cough or myalgia) **AND** gives one of the following histories:

Travel within **7 days** prior to onset of symptoms to Mexico or other countries with confirmed community-wide outbreaks*.

Close contact** with an individual who is a suspected/confirmed case of swine influenza A/H1N1 in the 7 days prior to onset of symptoms

*For updates on countries currently reporting confirmed human cases of swine influenza A/H1N1 visit: <http://www.who.int/csr/disease/swineflu/en/index.html>

****Close contact** includes: having cared for, lived in the same household with, or had direct contact within 2 metres of a suspected or confirmed case of swine influenza A/H1N1.

Confirmed case of swine influenza A/H1N1:

An individual with acute respiratory infection in whom swine influenza A/H1N1 infection has been laboratory-confirmed by a designated reference laboratory.

This communiqué is published by the National Institute for Communicable Diseases (NICD) on a monthly basis for the purpose of providing up-to-date information on communicable diseases in South Africa. Much of the information is therefore preliminary and should not be cited or utilised for publication.

