



# Influenza cases by a new sub-type: Regional Update



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On 18 April 2009, the National IHR Focal Point of the **United States** notified the laboratory confirmation of 2 human cases of swine influenza A/H1N1 in two children of 9 and 10 years old living in the State of California (one in the County of San Diego and the other one in Imperial County).

To date, a total of 91 human cases of swine influenza have been confirmed in the United States (1 in Arizona, 14 in California, 1 in Indiana, 2 in Kansas, 2 in Massachusetts, 2 in Michigan, 1 in Nevada, 51 in New York City, 1 in Ohio and 16 in Texas). The first death attributable to swine influenza in the United States has been confirmed. A child of 22 months old that came from Mexico died in a hospital of the Houston area.

Other suspected cases are being investigated. Indigenous transmission has been demonstrated only in one case, in Kansas. The most recent cases detected as well as the registered death suggest that more serious cases could appear in the United States.

This virus has been described in the United States as a new subtype of swine influenza A/H1N1 not previously detected in pigs or humans.

In addition, since the end of March 2009, **Mexico** observed an unusual pattern of acute respiratory infection (SARI) cases which increased even more in the first weeks of April. From 17 to 28 April, 1,551 suspected cases of influenza with severe pneumonia were reported including 84 deaths. These figures are smaller than those reported yesterday due to the investigation work and clean-up of data that are being carried out in field. The suspected cases were recorded in 31 of the 32 states of Mexico.

There are 286 probable cases of swine influenza A/H1N1. Most of the suspected cases of influenza with severe pneumonia have occurred in the Federal District, Guanajuato, State of Mexico, and San Luis Potosí, the majority of them in previously healthy young adult people. There have been few cases in individuals under 3 or over 59 years old.

To date, the number of cases confirmed remains valid (26 cases). However this figure can significantly vary on the next two days when the laboratory tests of the probable cases under investigation are completed.

Furthermore, the number of confirmed dead cases remains in 7. This figure is also subject to variations depending on the new laboratory information.

In **Canada**, to date 13 human cases of swine influenza A/H1N1 have been confirmed (2 in Alberta, 4 in the province of New Scotland, 3 in British Columbia and 4 in Ontario) some of them with recent trip history to Cancun, Mexico. All the cases developed a mild form of influenza like illness. 2 of the cases presented, in addition, gastrointestinal symptoms. All of them are currently recovered and none required hospitalization. Laboratory tests were conducted in Winnipeg, Canada. `Indigenous` transmission is not discarded since not all the confirmed cases have trip history to Mexico

The press has reported information on suspected cases in several countries of the Region; however this information has not been confirmed.

In relation to the laboratory results; in the two first confirmed cases in the United States, virus A/California/04/2009 and A/California/05/2009 were isolated. They show a pattern of genetic reassortment of a virus of swine influenza from the Americas with a swine influenza virus from Eurasia. This particular genetic combination had not been detected in the past. Both proved to be resistant to amantadine and rimantadine, but sensitive to neuraminidase inhibitors, oseltamivir and zanamivir. Both have been cultured in MDCK cells and inoculated in ferrets for the production of antisera. The complete genome of the virus A/California/04/2009 has been published and is available in the database of the GISAID ([www.gisaid.org](http://www.gisaid.org)). The viruses of other confirmed cases in the United States correspond to the same new strain.

In sum:

- There is evidence of circulation of a strain previously undetected in pigs and humans.
- Studies are being conducted in order to determine the extent of the human to human transmission.

## **Epidemiological surveillance and outbreak investigation in the affected countries**

In the United States investigations are being conducted to determine the source of infection and if there are additional cases. So far, none of the cases have previous contact with pigs.

On the other hand, in Mexico prevention and control measures are being coordinated including intensified surveillance activities. As precautionary measure the closing of day-care centers, schools, and universities was enacted in the city of Mexico. Similarly social and cultural activities were suspended for a period of 10 days.

This new sub type of the virus could be circulating in the population of pigs; which is being reviewed and investigated.

## **International Health Regulations (IHR)**

At the request of the Director-General (DG) of WHO, the IHR Emergence Committee has been summoned and is advising the DG on the event. On its first day of deliberation, 25 April, it concluded that the present event constitutes a Public Health Emergency of International Concern. To date, no temporal recommendations have been taken.

The second meeting of Emergency Committee was held on 27 April. The Committee advised about the need of raising the alert level, and accordingly the DG has raised the pandemic alert level from 3 to 4.

Efforts should be aimed at mitigating rather than trying to contain the virus because it has spread quite far and containment is not longer feasible.

The Director-General recommends not closing borders or restricting travel. However, it is prudent for people who are sick to delay travel. Moreover, returning travelers who have become sick should seek medical attention in line with guidance from national authorities.

Production of seasonal vaccine should continue but at same time, WHO should facilitate the process to develop vaccine for swine influenza A/H1N1.

The Committee will continue to advise the DG on the basis of the available information.

## Recommendations

### Enhanced surveillance

At this time, enhanced surveillance is recommended. On its Web page, PAHO has published orientations for the enhancement of surveillance activities, which are directed to the investigation of:

- Clusters of cases of ILI/SARI of unknown cause
- Severe respiratory disease occurring in one or more health workers
- Changes in the epidemiology of mortality associated with ILI/SARI; increase of observed deaths by respiratory diseases; or increase of the emergence of severe respiratory disease in previously healthy adults/adolescents.
- Persistent changes observed in the response to the treatment or evolution of a SARI.

The following risk factors should also cause suspicion of swine influenza A/H1N1 virus:

- Close contact with a confirmed case of swine influenza A/H1N1 while the case was sick.
- Recent travel to an area where there are confirmed cases of swine influenza A/H1N1 have been confirmed

### Virological surveillance of swine influenza A/H1N1

It is recommended that National Influenza Centers (NIC) immediately submit to the WHO Collaborating Center for influenza (CDC of the United States) all positive but unsubtypable specimens of influenza A. Shipment procedures are the same as those used by NICs for seasonal influenza specimens.

The test protocols for the detection of seasonal influenza by Polymerase Chain Reaction (PCR) cannot confirm swine influenza A/H1N1 cases. The Centers for Disease Control and Prevention of the United States are preparing testing kits that will include the primers and probes as well as the required positive control samples. The kits will be sent in the first week of May to those NICs that currently use the CDC protocol.

### Infection prevention and control in health care facilities

Since the main form of transmission of this disease is by droplets it is recommended strengthening the basic precautions to prevent their dissemination, for example the hygiene of hands, adequate triage in the health facilities, environmental controls, and the rational use of the personal protective equipment in accordance with the local regulations.

The complete guides "Epidemic-prone & pandemic-prone acute respiratory diseases Infection prevention & control in health-care facilities" are available at:

[http://new.paho.org/hq/index.php?option=com\\_content&task=blogcategory&id=805&Itemid=569](http://new.paho.org/hq/index.php?option=com_content&task=blogcategory&id=805&Itemid=569)