

Interim WHO surveillance recommendations for human infection with avian influenza A(H7N9) virus

As of 10 May 2013

Background

On 31 March 2013, the first human infection with avian influenza A(H7N9) virus was reported to WHO by Chinese authorities. In the past, human infections with influenza A(H7) viruses have been associated with poultry outbreaks and resulted mainly in sporadic and mild human infections¹. Thus far, however, most reported cases with confirmed H7N9 infection have presented with pneumonia, with most of these patients being severely ill. There is currently no evidence of ongoing human-to-human transmission. In contrast to avian influenza A(H5N1), this H7N9 virus has molecular markers suggesting “low pathogenicity” in chickens; the virus appears to cause mild or no clinical disease in poultry. Although this may change over time, it will be difficult to monitor the spread of this infection among poultry, owing to the lack of visible disease.

In general, the interim surveillance guidance for H7N9 is similar to surveillance guidance for highly pathogenic avian influenza

A(H5N1): http://www.who.int/influenza/surveillance_monitoring/global_surveillance_h5_guidelines_06_02_2004/en/index.html. Interim guidance for surveillance of H7N9 is summarized below and will be updated as more information becomes available.

Objectives of surveillance

The objectives are:

1. To detect human cases of H7N9 infection.
2. To monitor the incidence of new cases over time and the geographical distribution.
3. To detect sustained human-to-human transmission of the virus early.

¹ <http://www.who.int/wer/2013/wer8813/en/index.html>.

Recommendations for surveillance and investigation of human infection with H7N9

For all countries

- Increase awareness among all clinicians and health care workers about the possibility of human infection with H7N9 virus and how to report cases.
- In hospital settings, clinicians should consider testing patients with severe unexplained acute respiratory disease. This should be emphasized especially if: the patient had, within two weeks of the onset of illness, a history of recent travel to an area known to have H7N9 circulating in humans or animals; or had exposure to wild or domestic animals or to environments such as markets or farms where live animals are kept or sold; or had been exposed to other individuals with recent severe respiratory illness.
- Monitor and test all clusters² of unexplained severe acute respiratory infections (SARI).
- Test any health care worker who develops SARI and has been caring for patients with SARI.
- Monitor existing surveillance systems for acute respiratory disease for unexpected changes in reporting or other aberrations in the data.

In addition to the above, for currently affected countries and areas bordering affected countries³

- In hospital settings, clinicians should **strongly** consider testing patients with severe unexplained acute respiratory disease.

In addition to all of the above, for currently affected countries³

- Monitor influenza-like illness and test selectively based on assessment of risk (i.e. contact with animals or live animal markets or occupational exposure), taking into account available capacity and infrastructure.

Testing and investigation of cases

- Information on tests for detection of H7N9 virus infections can be found at: http://www.who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html
- All positive but unsubtypeable specimens of influenza A should be sent immediately to a WHO Collaborating Centre for further analysis: http://www.who.int/influenza/gisrs_laboratory/collaborating_centres/en/.
- All H7N9 confirmed cases should be further investigated and close contacts monitored to detect potential human-to-human transmission and to better understand exposure risks. More detailed guidance can be found in the WHO guidelines for investigation of human cases of avian influenza

² A “cluster” is defined as two or more persons with onset of symptoms within the same 14-day period and who are associated with a specific setting, such as a classroom, workplace, household, extended family, hospital, other residential institution, military barracks or recreational camp.

³ For affected countries see:

http://www.who.int/influenza/human_animal_interface/influenza_h7n9/Data_Reports/en/index.html

A(H5N1): http://www.who.int/influenza/resources/documents/h5n1_investigations/en/index.html

- Close collaboration with the animal health sector is essential to understand the extent of the risk of human exposure and to prevent and control the spread of animal influenza.

Case definitions of confirmed and probable cases

Confirmed case

A person with laboratory confirmation of a recent infection⁴ caused by the H7N9 virus.

Probable case

A person with an acute respiratory infection and clinical, radiological, or histopathological evidence of pulmonary parenchymal disease (e.g. pneumonia or Acute Respiratory Distress Syndrome [ARDS]); AND a history of close contact⁵, in the two weeks before illness, with a laboratory-confirmed case of H7N9 virus infection.

Reporting of confirmed cases

Until more is known about this virus, national authorities are requested to report all confirmed cases of H7N9 within 24 hours of identification, as well as any apparent changes in patterns of transmission or severity, through the Regional Contact Point for International Health Regulations at the appropriate WHO Regional Office.

Results of ongoing surveillance activities and special studies should be communicated immediately to WHO to inform global risk assessment and guidance. In addition, national authorities are encouraged to share with WHO additional information, including onset dates, age and sex, outcome, information on the clinical spectrum of illness, underlying conditions, exposure information, travel history and treatment information. A form for the collection of detailed case-based data can be found in the Annex.

Global surveillance results

Results of human H7N9 surveillance can be found at: http://www.who.int/influenza/human_animal_interface/influenza_h7n9/en/index.html.

Current information about animal surveillance results can be found at:

OFFLU: <http://www.offlu.net/>

OIE: <http://www.oie.int/en/animal-health-in-the-world/web-portal-on-avian-influenza/>

⁴ Currently, the only available diagnostic test is polymerase chain reaction (PCR). However, in the future other testing, such as serology, may be available. This guidance will be updated at that time.

⁵ Close contact includes anyone who provided care for the patient, including a health care worker or family member, or who had other similarly close physical contact; anyone who stayed at the same place (e.g. lived with, visited) as a probable or confirmed case while the case was symptomatic.

FAO: <http://www.fao.org/avianflu/en/index.html>

Annex 1. Example of data collection

WHO Minimum Data Set Report Form: Human infection with an influenza virus with pandemic potential*

Please complete ALL fields. If data are not available, please write in "no data."

* This form is requested for human infections with any influenza virus of a strain not currently circulating widely in humans, including but not

Date form completed: ____ / ____ / ____

Patient Information

| | | | |
|------------------------------------|--|--------------------|---|
| National patient identification | _____ | Sex / Gender | Male <input type="checkbox"/> Female <input type="checkbox"/> |
| Age | _____ (years) _____ (months; please add months only if < 3 years of age) | | |
| Date of disease onset (dd/mm/yyyy) | ____ / ____ / ____ | Influenza subtype: | H__N__ |

Pre-existing medical illnesses or co-morbid conditions

| | |
|--|---|
| Did the patient have any of the following pre-existing medical illnesses or co-morbid conditions*? | |
| Chronic respiratory disease; Asthma; Diabetes; Chronic cardiac disease; Chronic liver disease; Chronic renal disease; Chronic neurological or neuromuscular disease; Immunodeficiency, including HIV; Obesity. | |
| Please specify | _____ |
| Pregnant | Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> If yes, approx. duration _____ (weeks or trimester) |

*Mark with a circle as appropriate

Clinical signs

| | |
|---|-------|
| Did the patient show any of the following clinical signs*? | |
| Fever $\geq 38^{\circ}\text{C}$ or History of fever; Cough; Conjunctivitis; Gastrointestinal signs; Neurological signs. | |
| Please specify | _____ |
| Other clinical signs (specify and provide details) | _____ |

*Mark with a circle as appropriate

Clinical course and outcome

| | Yes | No | Unknown | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------------|--------------------|
| Visit to health care facility | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Date ¹ (dd/mm/yyyy) | ____ / ____ / ____ |
| Pneumonia | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Date (dd/mm/yyyy) | ____ / ____ / ____ |
| Hospitalized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Date admitted (dd/mm/yyyy) | ____ / ____ / ____ |
| | | | | Date released (dd/mm/yyyy) | ____ / ____ / ____ |
| Admitted to Intensive Care Unit | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Date admitted (dd/mm/yyyy) | ____ / ____ / ____ |
| | | | | Date released (dd/mm/yyyy) | ____ / ____ / ____ |

| | | | | | |
|------------------------|------------------------------------|-------------------------------|--------------------------|-----------------------------|----------------|
| Mechanical ventilation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Date initiated (dd/mm/yyyy) | ____/____/____ |
| | | | | Date stopped (dd/mm/yyyy) | ____/____/____ |
| Antiviral treatment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Date initiated (dd/mm/yyyy) | ____/____/____ |
| | | | | Date stopped (dd/mm/yyyy) | ____/____/____ |
| Outcome | recovered <input type="checkbox"/> | died <input type="checkbox"/> | | Date of death (dd/mm/yyyy) | ____/____/____ |

[†]please put date of first contact with any medical institution including traditional care

Place of current residence and travel

| | |
|--|-------|
| 3 rd administrative level (Town/village/municipality) | _____ |
| 2 nd administrative level (Region/district) | _____ |
| 1 st administrative level (Province) | _____ |
| Country | _____ |
| Did the patient travel outside the province (1st administrative level) in the 14 days prior to onset of illness? | |
| Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> If yes, please indicate destination: | _____ |

Occupation

| | |
|---|--|
| Occupation (please describe) | _____ |
| Health care worker Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please specify : | Animal health <input type="checkbox"/> Human health <input type="checkbox"/> |
| Laboratory worker Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please specify : | Animal health laboratory <input type="checkbox"/> Human health laboratory <input type="checkbox"/> |
| Does the patient have contact with live animals or animal products in their occupation? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Does the occupation of the patient include work in a live animal market (a market where live animals are sold)? | Yes <input type="checkbox"/> No <input type="checkbox"/> |

Exposure History

From the point of view of the investigator (or patient), what is the most probable source of infection for this patient, and the most likely geographical location (second admin level) of exposure?

In the 14 days before onset of illness, was the patient exposed to a person showing similar signs of illness? Yes No Unknown If yes, please complete requested information below.

| | | |
|---|-------|---|
| National ID of suspect/ case (if available) | _____ | Confirmed influenza? Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Relationship to contact | _____ | Blood link: Yes <input type="checkbox"/> No <input type="checkbox"/> |

Are there animals living in the patient's house or workplace, or in the area immediately surrounding the patient's house or workplace? (Note: if patient is a child, please answer for the location(s) where the child spends the majority of the day) Yes No Unknown

If yes, what types of animals: Birds Swine Cattle dogs/cats other _____

If yes to previous question, have any of these animals been sick or died in the 14 days before onset of illness in the patient? Yes No Unknown

If yes, what types of animals: Birds Swine Cattle dogs/cats other _____

Have these animals been diagnosed as being infected with influenza? Yes No Unknown

Have any animals in the wider community been sick or died in the 14 days before onset of illness in the patient? Yes No Unknown

If yes, what types of animals: Birds Swine Cattle dogs/cats other _____

Have these animals been diagnosed as being infected with influenza? Yes No Unknown

Did the patient visit a live animal market in the 14 days before onset of illness?

Yes No Unknown

Additional comments
