RECOMMENDATIONS FOR THE EARLY DETECTION OF HUMAN CASES OF AVIAN INFLUENZA A(H5N1)

PAHO

Pan American Health Organization

World Health Organization

Americas Region

Context

While avian influenza outbreaks primarily affect animals, the growing evidence of infection in various species, including mammals, positions the avian influenza A(H5N1) virus as an increasingly concerning **candidate for a potential pandemic**. In November 2024, the Pan American Health Organization / World Health Organization (PAHO/WHO) conducted a rapid public health risk assessment related to the introduction and expansion of avian influenza A(H5N1) clade 2.3.4.4b in birds and mammals *(1)*. Based on the available information, it was concluded that the overall risk in the Americas, particularly in Latin America and the Caribbean, was "moderate," with a confidence level also rated as "**moderate**." PAHO/WHO, along with the Food and Agriculture Organization (FAO) and the World Organization for Animal Health (WOAH), urge Member States to strengthen intersectoral cooperation to protect animal health and human health *(2 - 5)*.

Although sentinel influenza surveillance allows for monitoring trends in seasonal influenza and viral circulation through a representative hospital network in each country, its sensitivity does not always enable the early detection of viruses with epidemic or pandemic potential. Between March 27, 2024, and February 5, 2025, the United States of America detected 70 human cases of avian influenza A(H5N1). According to CDC data *(6)*, 64 out of 70 cases were detected through a monitoring system targeting workers exposed to infected animals. Additionally, several cases detected through routine surveillance were only tested for avian influenza A(H5N1) after a history of contact with potentially infected animals was identified.

To improve the early detection of this virus, **it is essential to extend surveillance to people at higher risk of exposure**, particularly those in contact with infected animals. This document provides recommendations for strengthening the early detection of human cases of influenza A(H5N1) through surveillance of unusual event signals.

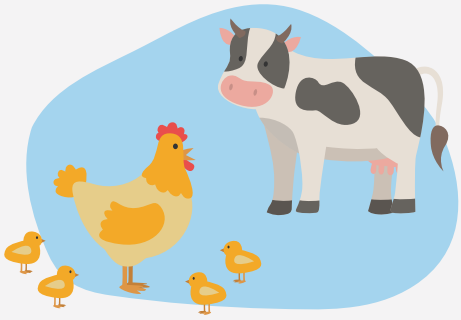
In this document, a **signal** refers to an indication of public health risk that, after verification, may become an unusual **event**. The early detection and verification of signals are key to identifying **risks** and responding to emerging **threats**.

Signals to Detect

To identify an unusual event potentially linked to avian influenza A(H5N1), the systematic detection and investigation of the following signals are recommended:

Signals related to potential virus exposure *(7)*:

- Respiratory illness, conjunctivitis, or encephalitis in individuals with **recent exposure to animals**, contaminated **environments**, or a **suspected or confirmed** human case of avian influenza (H5N1).
- Severe Acute Respiratory Infection (SARI)[1] in **healthcare workers** attending patients potentially exposed or suspected or confirmed cases of avian influenza A(H5N1).
- SARI in **laboratory workers** handling samples or **specimens potentially positive** for avian influenza A(H5N1).



Signals related to cluster identification:

- Cluster[3] of **SARI** in families, workplaces, or social centers.
- Cluster of cases with **atypical respiratory symptoms.**

To identify these signals, the implementation of signal-based surveillance systems in healthcare facilities and people at risk of exposure is recommended.

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[2]SARI: It is an acute respiratory illness with measured fever of ≥38 °C or history of fever, and cough with onset within last 10 days, requiring hospitalization.

[3]Cluster: It is defined as two or more people with symptom onset within the same 14 day period and who are associated with a specific setting, such as a classroom, workplace, home, family members, hospital or other residential institution, military barracks, or recreational field.

Surveillance Approaches for Detecting Signals

Signal Surveillance in Healthcare Facilities

Healthcare professionals, being on the front lines, can quickly identify **unusual clinical patterns or symptom clusters** in patients. It is essential to train them in **the early detection of patients with possible exposures to avian influenza A(H5N1),** such as veterinarians, poultry workers, individuals in contact with livestock (pigs, dairy cattle), those involved in outbreak control (including depopulation and disinfection), individuals in contact with wildlife, personnel attending infected patients, or those handling the virus in laboratories.

Combining clinical observations with exposure history collection allows healthcare personnel to identify and report signals to health authorities, facilitating the timely implementation of control measures and investigations.

The surveillance of unusual events through the detection of these signals should be implemented universally and include guidelines (or **Standard Operating Procedures (SOPs)**) that clearly describe the signal trigger, the flow of information in unusual event surveillance, and reporting channels.

Strengthening this surveillance should be ***prioritized*** in selected healthcare facilities based on **risk assessments** conducted jointly with veterinary and environmental services *(considering exposure risk zones, such as areas with agricultural production, high poultry density, high wild bird presence, migratory bird routes, or regions with previously identified zoonotic outbreaks).*

Surveillance of Populations at Risk of Exposure

It is recommended to implement **enhanced surveillance** for respiratory illness, conjunctivitis, or encephalitis in individuals whose professional activities involve contact with:

- **wild or farm animals, animal products**, or **environments contaminated** by them, such as commercial and backyard agriculture, animal markets, sanitation and conservation labors, slaughterhouses or handling of animal products for human consumption, among others.

Health authorities, in coordination with **official veterinary services and environmental experts**, should identify these risk groups and establish guidelines that include symptom detection, information flow, reporting channels, and signal verification processes.

Active Monitoring After an Animal Outbreak Detection

When an avian influenza A(H5N1) outbreak is confirmed in animals, all individuals involved in **high-risk activities** should be **actively monitored for 14 days** following their last exposure, according to national protocols.

High-risk exposure activities include:

- **Contact with** wild or domestic animals, alive or dead, **infected or potentially infected** with avian influenza A(H5N1) (e.g., culling infected animals, disposing, sanitation and work with sick animals) or environments such as exhibitions, markets, or farms with live animals.
- **Exposure to high-risk animal products**, such as raw milk, secretions, udders, or viscera from animals **infected or potentially infected** with avian influenza A(H5N1).
- **Contact with a person** presenting with respiratory symptoms after participating in high-risk activities.

Monitoring can be conducted through self-reporting systems or active follow-up by health authorities (via phone or other means) *(7, 8)*.

Any individual participating in high-risk activities who develops respiratory symptoms, encephalitis, or conjunctivitis should be considered a **suspected case of avian influenza A(H5N1) and tested**, perform **clinical management,** including disease severity assessment, risk factor analysis for complications, and isolation and timely treatment measures.

Laboratory Detection

Samples must be collected by trained personnel in compliance with all biosafety standards, including the use of appropriate personal protective equipment (PPE) for respiratory viruses. Upon identifying suspected human cases of avian influenza A(H5N1), a respiratory swab sample (and a conjunctival swab if the patient presents conjunctivitis) should be taken and sent to National Influenza Centers (NICs) and National Reference Laboratories (NRLs) for analysis. For more information, refer to these publications on respiratory **sample collection** and **the laboratory testing algorithm for samples from suspected avian influenza A(H5N1) patients.**

Notification of Human Cases

A suspected or confirmed case of human infection with avian influenza A(H5N1) must be **immediately reported** to the WHO Regional Contact Point for the **International Health Regulations (IHR)**, in accordance with Appendix 2 of the IHR. This notification should be made through the National IHR Focal Point (NFP) using the official email **ihr@paho.org**. The report must include available epidemiological and virological results.

It is recommended that health ministries establish intersectoral communication protocols, notifying agricultural and environmental authorities of any suspected or confirmed human case.

Recommendations for the Use of Personal Protective Equipment and Risk Reduction

When an avian influenza **outbreak** is detected at the **human-animal interface**, certain activities present a high risk of exposure. Therefore, all individuals with **occupational exposure risks** must receive training in personal protection and have access to appropriate PPE. Additionally, it is essential to train them in the correct use of **PPE**, including performing fit tests for particulate-filtering masks and training on their proper disposal or disinfection *(8)*.

For **healthcare personnel**, standard infection **prevention and control (IPC)** procedures must always be applied, and appropriate PPE should be used according to the level of risk, considering the most probable transmission modes. The use of PPE is essential when attending symptomatic individuals and in situations where person-to-person transmission is suspected *(9)*.

References

1. Pan American Health Organization. Public Health Risk Assessment associated with the potential occurrence of zoonotic avian influenza A(H5N1) clade 2.3.4.4b in Latin-American and the Caribbean. Available at: https://www.paho.org/sites/default/files/2025-01/2024-nov-07-rra-avian-influenza-phe-eng-final.pdf
2. World Health Organization (12 July 2023) Geneva. OMS; 2023. press release: Los brotes actuales de gripe aviar en animales suponen un riesgo para los seres humanos – Análisis de la situación y asesoramiento a los países por parte de la FAO, la OMS y la OMSA. Available at: https://www.who.int/es/news/item/12-07-2023-ongoing-avian-influenza-outbreaks-inanimals-pose-risk-to-humans.
3. World Health Organization (9 April 2024). Disease Outbreak News; Avian Influenza A (H5N1) – the United States of America. Available at: https://www.who.int/emergencies/disease-outbreak-news/item/2024-DON512
4. World Health Organization, Food and Agriculture Organization of the United Nations, & World Organization for Animal Health. (December 2024) Updated joint FAO/WHO/WOAH assessment of recent influenza A(H5N1) virus events in animals and people. OMS, FAO, OMSA; 2024. Available at: https://www.woah.org/app/uploads/2024/12/cleared-2024-12-10-fao-woah-who-h5n1-assessment-woah-fao.pdf
5. World Health Organization, Food and Agriculture Organization of the United Nations, & World Organization for Animal Health. (August 2024). Updated joint FAO/WHO/WOAH assessment of recent influenza A(H5N1) virus events in animals and people. OMS, FAO, OMSA; 2024. Available at: https://www.who.int/publications/m/item/updated-joint-fao-who-woah-assessment-of-recent-influenza-a(h5n1)-virus-events-in-animals-and-people
6. United States Centers for Disease Control and Prevention. H5 Bird Flu: Current Situation. Available at: https://www.cdc.gov/bird-flu/situation-summary/index.html
7. World Health Organization. Protocol to investigate non-seasonal influenza and other emerging acute respiratory diseases. Geneva: World Health Organization; 2018. License: CC BY-NC-SA 3.0 IGO. Available at: https://iris.who.int/bitstream/handle/10665/275657/WHO-WHE-IHM-GIP-2018.2-eng.pdf
8. United States Centers for Disease Control and Prevention. Interim Guidance for Follow-up of Close Contacts of Persons Infected with Novel Influenza A Viruses Associated with Severe Human Disease or with Potential to Cause Severe Human Disease, and Use of Antiviral Medications for Post-exposure Prophylaxis. Available at: https://www.cdc.gov/bird-flu/php/novel-av-chemoprophylaxis-guidance/index.html
9. Pan American Health Organization. Epidemiological Update Avian Influenza A(H5N1) in the Americas. (24 January 2024) Available at: https://www.paho.org/sites/default/files/2025-01/2025-jan-24-phe-epiupdate-avian-influenza-eng-final.pdf

Links of interest

- World Health Organization. Global Influenza Programme (GIP). WHO surveillance case definitions for ILI and SARI. (January 2014). Available at: https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/case-definitions-for-ili-and-sari
- World Health Organization. Public health resource pack for countries experiencing outbreaks of influenza in animals. Geneva: OMS; 2023. Available at: https://iris.who.int/handle/10665/375599.
- Pan American Health Organization. Report of the Regional Consultation for the Strengthening of Intersectoral Work in the Human-Animal Interface of Influenza. March 2023. Available at: https://www.paho.org/en/documents/report-regional-consultation-strengthening-intersectoral-work-human-animal-interface