

*Perspective*

# Characterization of avian influenza on epidemiological examination

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## DESCRIPTION

WHO received word of a human infection brought on the Highly Pathogenic Avian Influenza (H5) virus. The case involved a nine-year-old girl who was exposed to backyard poultry a week before to the commencement of her symptoms. She lived in a remote part of Ecuador's province of Bolvar. She is currently receiving antiviral medication while being treated in isolation in a hospital.

The epidemiological examination conducted in response to the outbreak revealed that a week prior to the family bought several poultry, which perished on December 19, 2022, for no apparent reason. Additionally, the epidemiological studies showed that the same neighbourhood where the family lived had experienced multiple instances of backyard fowl (chickens and ducks) dying.

The majority of human cases of avian influenza are brought on by direct or indirect contact with infected living or dead poultry or contaminated settings.

This is the first instance of avian influenza A (H5) virus infection in humans that has been documented in Ecuador, as well as in the rest of Latin America and the Caribbean. This human instance was exposed to chickens that mysteriously passed away. Ecuador's provinces of Cotopaxi (Highly Pathogenic Avian Influenza A (H5N1)) and Bolvar have recently had outbreaks of highly virulent avian influenza.

The majority of influenza viruses that are present in birds are not zoonotic. However, some HPAI strains are capable of infecting people, endangering the general public's health. Direct or indirect contact with diseased animals or faces-contaminated environments and surfaces is the greatest risk factor.

Direct contact with diseased poultry (such as domesticated chickens, ducks, and turkeys) or contact with surfaces covered

with saliva, mucus, or excrement from infected birds have been the most common ways for humans to contract avian influenza. Direct exposure occurs when virus particles in dust or droplets that have been aerosolized are breathed in or come into contact with mucous membranes like the mouth, nose, or eyes.

Exposure can also happen when someone contacts their mouth, nose, or eyes after touching a contaminated surface, object, or material. The type of surface and environmental elements, such as temperature and humidity, can affect how long avian influenza viruses can survive on surfaces. Compared to warm, dry environments, they can endure cold and rainy conditions for weeks to months (hours to days). Therefore, it is advised to regularly clean and disinfect locations that could get contaminated with infectious particles. There have been isolated instances of human-to-human transmission.

The majority of these incidents have included a sick patient and a caretaker having lengthy, close, unprotected contact. There have been a few isolated incidences of human infection despite the fact that avian influenza typically does not infect humans. The H7N9 and H5N1 subtypes of avian influenza viruses are to blame for the majority of human illnesses.

The intensity of the sickness in people does not seem to be related to the virus type low pathogenic or highly pathogenic (LPAI or HPAI). The signs and symptoms might be non-existent or mild (such as minor upper respiratory symptoms or eye redness) or severe (such as pneumonia), necessitating hospitalization.

A fever or feeling feverish, a cough, a sore throat, a runny or stuffy nose, headaches, exhaustion, and shortness of breath are among symptoms that may be present. Seizures, nausea, vomiting, and diarrhoea are less frequent symptoms. There might not always be a fever.

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