



## First Human Case of H3N8 Bird Flu

**For Prelims:** First Human Case of H3N8 Bird Flu, Influenza, SARS-CoV-2, Types of Influenza Virus

**For Mains:** Health, Economics of Animal-Rearing, Bird Flue & Influenza

### Why in News?

**China's National Health Commission (NHC)** announced that a four-year-old boy was found to have been infected with the **H3N8 variant of Bird Flu** after developing several symptoms, including fever.

- H3N8 variant has previously been detected elsewhere in the world in **horses, dogs, birds and seals**.
- However, before this no human cases of **H3N8 have been reported**.

### What is Bird Flue?

- Avian influenza—known informally as **avian flu or bird flu**—refers to “**influenza caused by viruses adapted to birds**”.
  - Most avian influenza viruses do not infect humans, however, some, such as **A(H5N1) and A(H7N9), have caused serious infections in people**.
- There is **no vaccine against H5N1**.
- **Most avian influenza viruses do not infect humans**, however some, such as A(H5N1) and A(H7N9), cross the species barrier and cause disease or subclinical infections in humans and other mammals as well.
- The Avian (H5N1) virus subtype, a highly pathogenic virus, **first infected humans in 1997 during a poultry epidemic outbreak in Hong Kong SAR, China**.

### What are Types of Influenza Virus?

- There are four types of influenza viruses: **influenza A, B, C, and D**.
- Influenza A and B are the two types of influenza that cause **epidemic seasonal infections nearly every year**.
  - Avian influenza Type A viruses
    - **Type A viruses are classified based on two proteins on their surfaces - Hemagglutinin (HA) and Neuraminidase (NA)**.
    - There are about 18 HA subtypes and 11 NA subtypes.
    - Several combinations of these two proteins are possible e.g., **H5N1, H7N2, H9N6, H17N10, H18N11 etc**.
- **Influenza C mainly occurs in humans**, but has been known to also occur in dogs and pigs.
- **Influenza D is found mainly in cattle**. It's not known to infect or cause illness in humans yet.

### Why are Bird Flu Viruses a Cause of Concern?

- Speculation about the origin of the **SARS-CoV-2** has heightened worries **about animal- and bird-**

**borne viruses.**

- The emergence of new strains, particularly among domesticated animals and birds, is a **story of evolution and inevitability, and sporadic reports of new viruses infecting humans abound.**
- As long as avian **influenza viruses circulate in poultry**, sporadic infection of avian influenza in humans is not surprising, which is a **vivid reminder that the threat of influenza [pandemic](#) is persistent**

## How Does it Spread to Humans?

- Several subtypes and strains of avian influenza viruses are now found around the world, some of them capable of **causing death among humans and others inflicting serious losses on poultry farmers.**
- Though **Human to Human transmission** — which takes place mostly after intimate and constant physical contact — is rare, the infection is virulent and, in an **estimated 60% of cases, fatal.**
- There are no known instances of the **flu spreading through ingestion of the bird**, even though people do contract it while **plucking or culling an infected bird without proper protection**, or if they are in a water body that has the droppings of an infected bird.
- In humans, the symptoms of bird infection are the same as that of any other seasonal flu — **fever, body ache, sore throat, runny nose, headache, fatigue, etc.**, however, it can turn **serious very quickly, and lead to respiratory distress.**

## How to Counter the Bird Flu Threat?

- As a major agricultural nation with a **large [poultry industry](#)**, India has implemented an action plan formulated by the **Centre's Department of Animal Husbandry, Dairying and Fisheries** to deal with avian influenza.
  - It incorporates a clear protocol for **preventive checks and testing**, for reporting an outbreak, removing farm birds from an affected area and compensating farmers.
  - It relies on a **broad-based periodic testing system** for farm birds and wet markets, and upgrading of apex scientific institutions such as the **National Institute of High Security Animal Diseases, Bhopal.**
  - The **early detection and identification** of the virus subtypes helps in launching containment measures.
- **Public health messaging**, with advice on poultry consumption during a suspected outbreak, is essential to contain the outbreak as well as **curtailing rumor mongering.**
- The efficacy of the measures naturally depends on the alacrity with which the animal husbandry apparatus at the **State level collects samples and sounds the alarm when a disease outbreak is imminent.**

## UPSC Civil Services Examination Previous Year Questions (PYQs)

**Q. H1N1 virus is sometimes mentioned in the news with reference to which one of the following diseases? (2015)**

- (a) AIDS
- (b) Bird flu
- (c) Dengue
- (d) Swine flu

**Ans: (d)**

**Explanation:**

- H1N1 virus is related to **[Swine Flu](#).**
- The World Health Organization declared the flu caused by H1N1 to be a global pandemic in 2009.
- Symptoms of Swine Flu include fever, cough, sore throat, chills, weakness and body aches.

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