

2. Classification of Influenza as H5N1, H1N1 and Other Kinds

Prelims: Science & Technology

Mains: GS-III- Awareness in the fields of IT, Space, Computers, Robotics, Nano-Technology, Bio-Technology and issues relating to intellectual Property Rights.

Why in News?

- ▶ On September 3, India was again declared free of the H5N1 virus, which causes avian influenza or bird flu, the earlier such declaration having come in 2017. In the last two years, there had been outbreaks of the disease in Odisha, Bihar, and Jharkhand.
- ▶ According to the WHO, influenza is known to affect 5-10% of adults and 20-30% of children across the world every year. The many kinds of viruses causing influenza are identified by a standard nomenclature issued by the World Health Organization (WHO) in 1980.

The Four Influenza Types:

- ▶ The WHO defines influenza as “a contagious, acute respiratory illness caused by influenza viruses, usually influenza A or B subtypes.”
- ▶ The influenza virus, which causes the illness, is of four types: A, B, C, and D.
- ▶ According to the US Centers for Disease Control and Prevention (CDC), only the influenza A and B viruses are known to cause epidemics.
- ▶ The C type virus usually causes mild respiratory illness, while the D type virus typically affects cattle and is not known to infect humans.
- ▶ The disease is often confused with a heavy cold, which has the same symptoms – headaches, runny nose, cough, and muscle pains.
- ▶ According to WHO, influenza is known to kill 6.5 lakh people every year, especially affecting young children, the elderly, pregnant women, or those with vulnerable immune systems.

The Subtypes:

- ▶ Only the influenza A virus is divided into subtypes. The subtype is based on two proteins on the surface of the virus, hemagglutinin (H) and neuraminidase (N).

- ▶▶ Hemagglutinin has 18 further subtypes while neuraminidase has 11. They are named from H1 to H18 and N1 to N11 in a sequential system that applies uniformly to influenza viruses from all sources.
- ▶▶ According to the WHO, “Humans can be infected with avian, swine and other zoonotic influenza viruses, such as avian influenza virus subtypes A(H5N1), A(H7N9), and A(H9N2) and swine influenza virus subtypes A(H1N1), A(H1N2) and A(H3N2).”
- ▶▶ Novel strains of the H1N1 virus have appeared in 1918, 1957, 1968, and most recently in 2009 during the global bird flu outbreak, which the WHO designated a pandemic. The 2009 strain is now known to have replaced the previous strains.

