The genetic change that enables a flu strain to jump from one animal species to another, including humans, is called “ANTIGENIC SHIFT.” Antigenic shift can happen in three ways:

A-1: A duck or other aquatic bird passes a bird strain of influenza A to an intermediate host such as a chicken or pig.

A-2: A person passes a human strain of influenza A to the same chicken or pig. (Note that reassortment can occur in a person who is infected with two flu strains.)

A-3: When the viruses infect the same cell, the genes from the bird strain mix with genes from the human strain to yield a new strain.

A-4: The new strain can spread from the intermediate host to humans.

B: Without undergoing genetic change, a bird strain of influenza A can jump directly from a duck or other aquatic bird to humans.

The new strain may further evolve to spread from person to person. If so, a flu pandemic could arise.