

# Biology2.1

[Science](#), [Biology](#)



Bird Flu According to Brown, " Bird flu is an infection caused by avian (bird) influenza (flu) viruses" (140). It is imperative to posit that these viruses occur naturally in birds and do not typically infect human beings. This virus in other words can be transmitted from animals to human, a process referred to as zoonosis (Banks et-al 21). Since birds harbour the virus that causes the flu, then they can be referred to as disease reservoirs (Banks et-al 39). Asia is one of the most populated continent in the world and hence people live in close proximity. Transmission of the virus to humans occurs as a result of human contact with an already infected fowl as well as contaminated surfaces (Centres for Disease Control and Prevention, par. 13). By definition, transmission is the spread or passing of a contagious infection from one person to another or from a contaminated surface or animal to humans. Contamination is very likely to occur in Asia due to poor hygiene amongst Asians contributed by high population. In these areas therefore, a pandemic is most likely to occur when birds are infected. In laymans terms, a pandemic is an outbreak.

Centres for Disease Control and Prevention notes that the mortality or death rate as a result of a Bird Flu infection is between 90-100 per cent in most cases in forty eight hours (par. 3). This virus can pose a global threat if it changes to a form that can enhance or enable its transmission from one human being to another (Centres for Disease Control and Prevention, par. 15). Bird Flu replicates through a lytic cycle. Lytic cycle is whereby the virus invades the genetic material of the host animal and subsequently exploit the host cells to reproduce till the cells rupture hence killing them. In comparison, the virus in a lysogenic cycle reproduces without killing the cell

(Brooker 379).

Once a pathogen, in this case the virus attacks the human, the body reacts through adaptive immunity whereby it is able to identify the virus in case of re-infection and immediately produces antibodies that starts to attack the virus to destroy or kill it. The cells responsible for this process are B-cells and T-cells. T-cells kills the cells infected with the virus and trigger production of cells referred to as interferon that slows down its reproduction (Nathanson 88). To treat viral infections, antiviral drugs to prevent replication of the virus can be administered or drugs to kill the infected cells without killing the host (Nathanson 238). Flu vaccines are made using dead viruses. These dead viruses are made up of protein that activate the production of antibodies to kill the virus (Stoker n. p). These in other words are referred to as antigens for their ability to activate production of antibodies. As a conclusion, we are not doing enough to address the threat posed by Bird Flu in terms of public health. Hygiene is still an issue particularly in developing countries in Africa and Asia. There is need therefore to implement strategies aimed at promoting hygiene in developing and highly populated countries in order to avoid spread of the flu in case of an epidemic.

#### Works cited

Banks, Ron E, Shapr Julie, Boss Sonia, and Vanderford Deborah. Exotic Small Mammal and Husbandry. Danvers: John Wiley & Sons, 2009. Print.

Brooker, Robert J. Genetics: Analysis & Principles. New York: McGraw Hill Irwin, 2009. Print.

Brown, D M. The U. S. Governments War on Bird Flu: Speeches, Testimony and Advisories Documenting the Official Response to a Potential Avian

Influenza Pandemic. Raleigh: Lulu, 2005. Print.

Centres for Disease Control and Prevention. " Key Facts About Avian Influenza (Bird Flu) and Highly Pathogenic Avian Influenza A (H5N1) Virus." CDC. 21 November 2010. Web. 22 Sep. 2014. < [http://www. cdc. gov/flu/avian/gen-info/facts. htm](http://www.cdc.gov/flu/avian/gen-info/facts.htm)>.

Stoker, Richard. Beat the Flu: Protect Yourself and Your Family from Swine Flu, Bird Flu, Pandemic Flu and Seasonal Flu. New York: Gold Egg Investing LLC, 2013. Print.