

# Science Media Centre Factsheet

## Avian flu

### What is it?

- Avian flu is a type of flu which infects birds. Wild birds carry the disease without necessarily developing illness, but it can cause illness and death in chickens, ducks and turkeys.
- The two most virulent strains of the virus are H5 and H7 – both are categorized as either highly pathogenic or low pathogenic, based on distinctive genetic features of the virus and the severity of the disease they cause in poultry.
- The virus strains are divided into subtypes and are named on the basis of two proteins on the surface of the virus: haemagglutinin (H) and neuraminidase (N). The various different types and combinations of these two proteins give rise to different strains of the virus, e.g. H5N1.
- Bird viruses do not usually infect humans, but there have been a small number of people who have caught avian flu from close contact with infected birds. Strains that have infected humans are: H5N1, H7N3, H7N7 and H9N2. The most serious type of avian flu that can affect humans is the H5N1 virus, which can cause severe illness and death.
- (H stands for haemagglutinin protein and N for neuraminidase protein – both of these are proteins on the surface of the virus – there are different types of proteins and different combinations of these proteins in different strains of avian flu).
- Some scientists have raised concerns that avian flu may mutate and potentially spread from person to person infecting larger numbers of people.

### What are the symptoms?

- Initial symptoms in birds include oedema (swelling of the head), cyanosis (blue discolouration of the neck and throat area), loss of appetite, diarrhoea, and respiratory distress. Death following infection is rapid.
- Other signs include inactivity and a drop in egg production.

### How is the virus spread among birds?

- The most common mode of transmission is faecal-to-oral transmission. Infected birds can carry the virus in their intestines and shed it in faeces and saliva and nasal secretions.

### What are the symptoms in humans?

- First symptoms occur 3 to 5 days after being exposed to the virus and the severity of the illness depends on the strain.
- Early symptoms are similar to that of human flu, for example, fever, sore throat and coughing.
- Other symptoms include muscle aches, conjunctivitis (eye infections), breathing difficulties, lethargy and chest pains.

### Control measures:

- When dealing with the highly pathogenic disease, the key initial control measure is rapid culling of all infected or exposed birds and proper disposal of carcasses, as well as quarantining and disinfection of affected farms.
- In addition, affected farms are subject to strict biosecurity measures and restrictions on the movements of live poultry.
- Farms in close proximity are subject to increased disease security, and movement of poultry and poultry products on these is restricted.

**Treatments and vaccines:**

- There are two main ways avian flu can be dealt with medically; **vaccines**, which would prevent people catching avian flu, and **antiviral drugs** which could treat a person after they have caught the infection.

**Sources / further information**

**World Health Organisation**

[http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

**Department of Health:**

<http://www.dh.gov.uk/PolicyAndGuidance/EmergencyPlanning/PandemicFlu/fs/en>

**Health Protection Agency:**

[http://www.hpa.org.uk/infections/topics\\_az/avianinfluenza/menu.htm](http://www.hpa.org.uk/infections/topics_az/avianinfluenza/menu.htm)

**Centers for Disease Control and Prevention (US):**

<http://www.cdc.gov/flu/avian/gen-info/facts.htm>

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