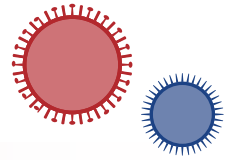
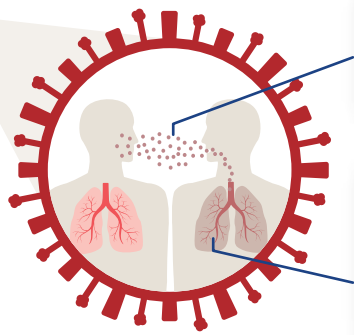
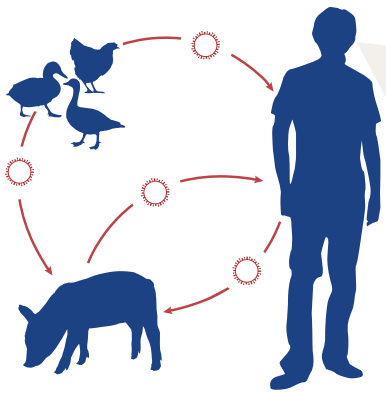


INFLUENZA VIRUSES



Transmission of influenza viruses from animals to humans

Influenza viruses circulating in animals pose a public health risk as they sometimes cross the species barrier and infect humans. If the viruses acquire the ability to spread from person to person, they can cause a pandemic. The flu epidemic of 1918, for example, killed more people than World War I.

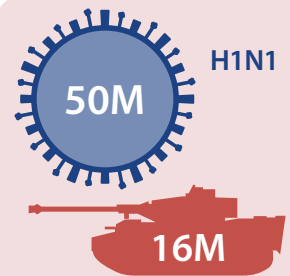


H1N1 2009

- spreads easily
- symptoms are mild

H5N1 1997-current

- human transmission is rare
- symptoms are extremely severe



Number of deaths for Flu epidemic of 1918 and World War I

How does a virus cross the species barrier?

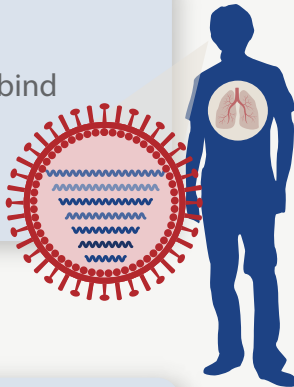
Understanding how viruses jump to humans is important to be better prepared for the next pandemic. The ability of an influenza virus to infect humans and the possibility of people coming into contact with infected animals are the main factors to determine whether a virus will jump from animals to humans.

There are three important questions that the scientific community needs to answer:

1 What are the characteristics of the virus that enable it to infect humans?

This includes:

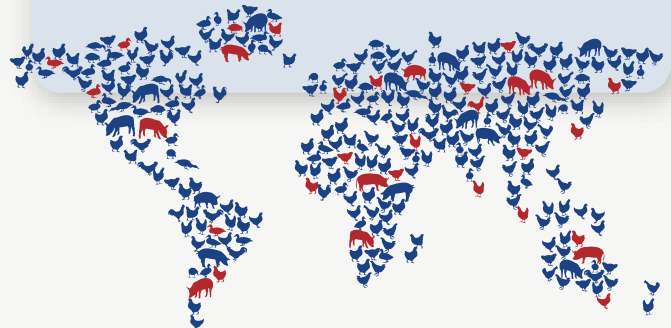
- the ability of the virus to bind to human cells
- the presence of genetic mutations



2 How does the virus behave in animals?

This includes:

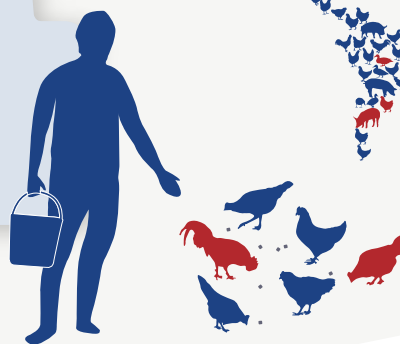
- number of infected animals
- infected species
- geographical location of the outbreak



3 What are the possibilities of contact between infected animals and humans?

This includes:

- frequency of contact
- length of contact



Assessment of risks to public health

Monitoring influenza viruses in animals and collecting relevant data is needed to identify public health risks. Public health and veterinary authorities must collaborate closely (for instance, the One Health initiative, an example of integration of human and veterinary medicine).

EFSA's work on influenza

- EFSA analyses influenza in animals, its impact on animal health and potential risks for humans.
- EFSA sponsored a project, called **FluRisk**, that ranks animal influenza strains according to their potential to infect humans.
- To carry out its scientific work, EFSA cooperates with food safety authorities across the European Union, the EC, the ECDC, EMA, WHO, OIE, FAO and OFFLU - the OIE/FAO Network on animal influenza.

