The European Union One Health 2018 Zoonoses Report

Background
Zoonoses are infectious diseases that are spread between animals and humans and can be caused by microorganisms such as bacteria, viruses, fungi and parasites. They are among the most common foodborne diseases (commonly referred to as food poisoning) and can also be spread to humans either by direct contact with a sick animal or by contact with a vector (or carrier). Foodborne diseases in this context include those that are spread by water. In the European Union there are typically about 5,000 reported outbreaks of foodborne zoonoses per year involving more than 40,000 individuals. Many victims need to be hospitalised and some cases are fatal. Many milder food poisoning episodes may go unreported. Together, these represent a significant public health concern and have important implications for trade within the EU and with other countries.

Data sources
Every year, the European Centre for Disease Prevention and Control (ECDC) and the European Food Safety Authority (EFSA) compile data from EU Member States and other European countries on zoonotic diseases. The data cover the occurrence of zoonotic microorganisms in food sources and food-producing animals as well as human zoonotic illnesses which may be randomly occurring or related to specific foodborne disease outbreaks. ECDC and EFSA analyse the data and issue an annual report to identify trends in the occurrence of zoonotic diseases and their sources. They do these analyses in order to inform food safety authorities and policy makers when taking action to reduce the disease burden.

Scope of this report
The annual report provides detailed occurrence data on the eight main zoonoses that must be reported to EFSA by the food safety and veterinary authorities and to ECDC by the public health authorities, as well as diseases that are monitored depending on how frequently they occur. The former includes well-known causes of food poisoning including Salmonella, Campylobacter and Listeria while the latter includes less common and emerging zoonoses such as West Nile virus.

Main findings and trends in 2018
In 2018, the two most commonly reported zoonoses in humans were the gastrointestinal diseases campylobacteriosis and salmonellosis with a total of 246,571 and 91,857 human cases reported, respectively. Until about 2013, the number of confirmed human cases of campylobacteriosis was increasing and those of salmonellosis decreasing, however the numbers for both diseases have
stabilised since then. No change was seen in the proportion of human salmonellosis cases due to *Salmonella* Enteritidis acquired in the EU: it causes one in five of all food poisoning cases in the EU.

Reducing the levels of zoonotic microorganisms in live animals is an important way of controlling these diseases. In 2018, 16 Member States met all targets to reduce certain types of *Salmonella* in poultry, whereas 11 failed to meet at least one target. The prevalence of certain types of *Salmonella* in breeding hens, laying hens, broilers and fattening turkeys has stabilised in recent years but not in turkeys used for breeding purposes in which prevalence fluctuated.

The prevalence of *Salmonella* in pig carcasses and poultry tested through national control programmes by the food safety authorities (official control samples) was higher than that found by self-monitoring in food businesses. The reasons for such differences should be investigated as good implementation of control programmes by Member States is critical in the reduction of *Salmonella* prevalence.

The third most commonly reported zoonosis was caused by a type of *Escherichia coli* called STEC which can produce life-threatening toxins. STEC infections are commonly associated with consumption of contaminated beef and drinking well water. The number of reported cases of STEC infections in humans has increased in the EU from 5,901 confirmed cases in 2014 to 8,161 in 2018. Infections due to *Yersinia*, which may be associated with eating undercooked meat, were the fourth most frequently reported zoonosis in humans with little change in the period 2014–2018. The number of confirmed cases of *Listeria* infections continued to increase in 2018, although levels of the bacterium remained largely within the safe limits in ready-to-eat foods which are commonly associated with this zoonosis.

A large increase in human West Nile virus infections (1,605 cases) was reported in 2018 compared with 2017 (212 cases). This disease tends to occur mainly in summer and autumn and the virus is typically transmitted by mosquito bite.

**Common food sources**

*Salmonella* in eggs and egg products remains one of the most common risks of food poisoning for EU consumers. In 2018, 121 egg-borne salmonellosis outbreaks were recorded involving 1,801 illnesses, 341 consumers hospitalised and two deaths. Mixed foods which have a wide range of ingredients such as rice dishes and curries are also a significant source of foodborne zoonoses. Other prominent food category sources included vegetables and juices (*Listeria monocytogenes*), milk and milk products (*Campylobacter* and STEC) and shellfish (*Norovirus*).