

OIE Situation Report for Avian Influenza

Latest update: 28/02/2017

This report presents an overview of current disease events reported to the OIE by its Members. The objective is to describe what is happening currently, explain what we are seeing, and consider what might happen next. The epidemiology of avian influenza is complex. The virus constantly evolves and the behavior of each new type (and strains within types) and the risks they present can vary, as will the response in different countries. So the global situation must be considered as distinct epidemics that share some characteristics. We briefly present the key risks driving current events - how the strains are interacting with hosts (both wild birds and poultry, and sometimes humans) and the environment (season and climate, livestock husbandry systems, ecosystems) – and how the event may evolve in the months ahead.

Current Global Situation (ongoing outbreaks as of 28 February 2017)

1. Avian Influenza strains causing disease events.

Strain	Aggregated count of countries affected	Difference regarding last report	# of ongoing outbreaks in poultry	# of ongoing outbreaks in wild birds	Difference regarding last report	Aggregated count of poultry destroyed for ongoing outbreaks	Difference regarding last report
H5	4	N/A	9	3	N/A	908 900	N/A
H5N1	7	N/A	16	2	N/A	44 093	N/A
H5N2	2	N/A	44	2	N/A	208 932	N/A
H5N5	7	N/A	3	11	N/A	30 750	N/A
H5N6	4	N/A	32	1	N/A	503 092	N/A
H5N8	31	N/A	457	596	N/A	3 815 854	N/A
H7N9	1	N/A	1	0	N/A	0	N/A
Total	39	N/A	562	614	N/A	5 469 176	N/A

Fifty-six outbreaks out of the 1 177 (4.7%) on-going outbreaks for HPAI in poultry and wild birds started before September 2016. These outbreaks correspond to China (Aug. 2014), Chinese Taipei (Jan. 2015) and Niger (Feb. 2016).

Table 1. Global situation for on-going outbreaks of Highly Pathogenic Avian Influenza in poultry and wild birds, by strain (N/A: Not Applicable).

2. Regional situation

Region	Aggregated count of countries affected by ongoing outbreaks	Percentage of countries within the Region	List of countries	Difference regarding last report	List of Strain	Aggregated count of poultry destroyed for the ongoing outbreaks	Difference regarding last report
Africa	5	9%	Tunisia, Uganda, Egypt, Niger, Nigeria.	N/A	H5, H5N1, H5N8	5 056	N/A
Americas	1	3%	United States of America	N/A	H5N2	0	N/A
Asia and the Pacific	7	20%	Bangladesh, China, Chinese Taipei, India, Korea (Rep. of), Lao, Vietnam	N/A	H5N1, H5N2, H5N6, H5N8, H7N9	1 479 049	N/A
Europe	25	47%	Austria, Bosnia and Herzegovina, Bulgaria, Czech Republic, Finland, France, Germany, Greece, Croatia, Hungary, Italy, Macedonia (former Yugoslav Rep. of), Montenegro, Netherlands, Poland, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom of Great Britain & N. Ireland.	N/A	H5, H5N5, H5N8	3 985 071	N/A
Middle East	1	5%	Israel	N/A	H5N8	0	N/A
Total	39	15%	N/A	N/A	N/A	5 469 176	N/A

Table 2. Regional situation for on-going outbreaks of Highly Pathogenic Avian Influenza in poultry and wild birds (N/A: Not Applicable).

3. Epidemic curve: Global epidemic curve of total number of outbreaks by week (since October 2016)

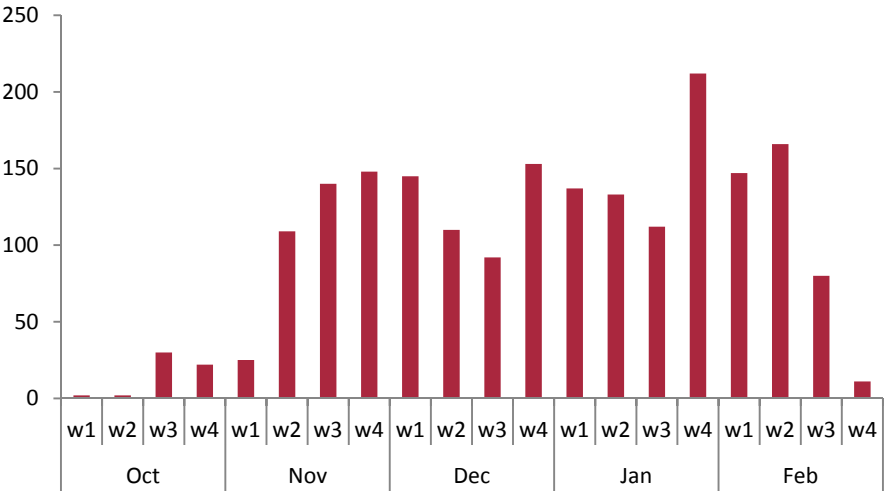


Figure 1. Epidemic curve showing the weekly incidence of outbreaks of Highly Pathogenic Avian Influenza since October 2016.

4. Global maps of ongoing outbreaks and special focus on the most reported strains

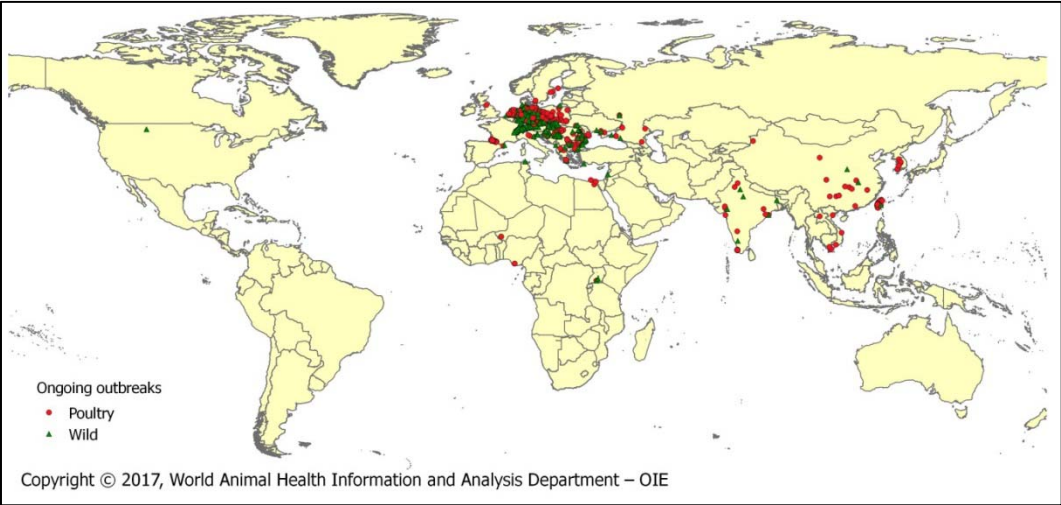


Figure 2. Map displaying the on-going outbreaks of Highly Pathogenic Avian Influenza in poultry and wild birds.

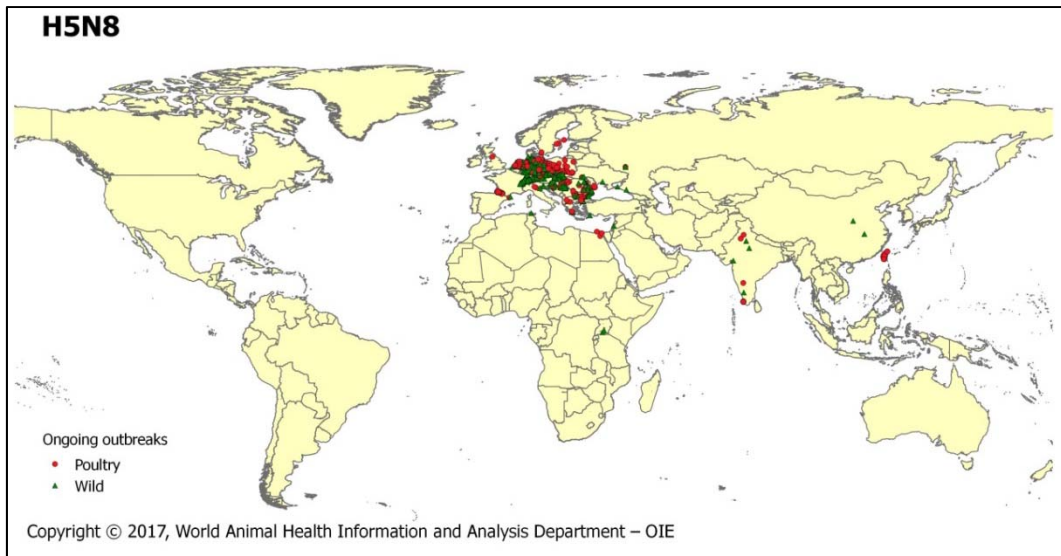


Figure 3. Map displaying the global distribution of on-going outbreaks of HPAI H5N8 in poultry and wild birds.

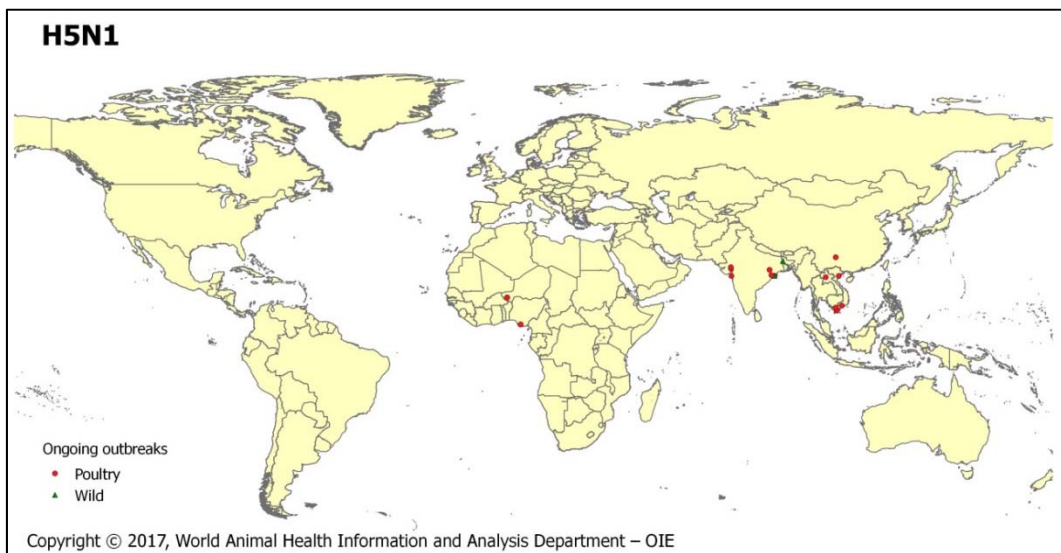


Figure 4. Map displaying the global distribution of on-going outbreaks of HPAI H5N1 in poultry and wild birds.

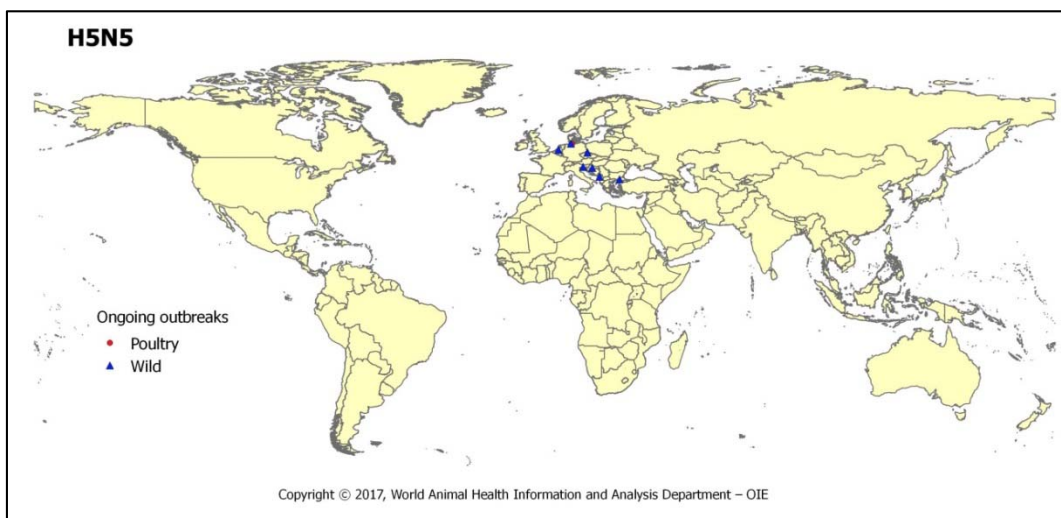


Figure 5. Map displaying the global distribution of on-going outbreaks of HPAI H5N5 in poultry and wild birds.

Understanding the Current Global Situation

1. H7N9

Since its origin in 2013, the H7N9 virus remained low pathogenic (LP) in poultry mainly in China but caused over 1200 human infections. Live bird markets remain the main source of virus spreading among poultry and from poultry to humans. Most human cases were reported during the period December to April in the past years.

On 21 February 2017 the Chinese Delegate to the OIE reported that samples from live bird markets of Guangdong province tested positive for highly pathogenic avian influenza (HPAI) H7N9 virus. This indicates that the LP H7N9 virus has mutated to become HPAI H7N9 virus. The affected birds showed mild to no clinical signs without any mortality. This may be due to the cross immunity protection of LP H7N9. Experimentally the virus is very lethal in chickens and the intravenous pathogenicity index of the virus is 2.8 to 3 (i.e. all experimentally inoculated birds died within 24 hours).

China is focusing on conducting extensive surveillance in samples collected from all provinces to understand the extent of HP H7N9 distribution. There has been closure of live bird markets in affected provinces and stamping out of positive birds. Poultry movement control in affected provinces and biosecurity measures has increased. The highest risk of H7N9 introduction remains live poultry trade with affected areas.

It remains to be seen how prevalent this new highly pathogenic virus is in poultry species and what the implications are for spread between birds and from birds to humans. There is currently no indication that this will change the disease expression or transmission in humans. As long as humans are exposed to infected animals and their environments, further human cases can be expected.

2. H5N1

The Asian lineage HPAI H5N1 continued to be reported from Asia and Africa in poultry and wild birds. The virus has become enzootic in Asia and Africa and continues to cause outbreaks in poultry and sporadic human infections. All cases of H5N1 infection in people have been associated with close contact with infected live or dead birds, or H5N1-contaminated environments. Countries affected should focus on strengthening biosecurity measures to prevent introduction of disease into flocks and avoid contact of wild birds with poultry.

3. H5N8

Immediate notifications and follow up cases of HPAI H5N8 continued to be reported from Europe, Middle East and Africa. Twenty-seven (27) European countries have experienced outbreaks in poultry, wild birds and captive birds. Genetic analysis of the European virus indicates that the incursion happened via wild birds through two separate geographical origins, northern and central Europe from Asia.

Since HPAI H5N8 subtypes of the virus cause high mortality in domestic poultry, Veterinary Services in at-risk countries have recommended increase prevention efforts through bio-security to minimize contact between wild birds and poultry and enhanced surveillance and preparedness. They are also strengthening their targeted wild bird surveillance activities in areas where viruses have been detected and in other areas where there are significant populations of migratory waterfowl.

The majority of wild bird migration across Europe, Africa and Asia subsides after the winter season. While wintering locations of these migratory birds are often stable, additional movement within a region may be affected by local weather conditions, food resources, access to open water, etc.

4. H5N6

Highly pathogenic avian influenza H5N6 was reported from Asia in poultry and wild birds. This group of H5N6 viruses has been associated with human infection, including a number of deaths.

5. H5N5

Outbreaks of HPAI H5N5 have been reported in poultry and wild birds for the first time from 7 European countries. The HPAI H5N5 showed similarity with the circulating H5N8 viruses in Europe indicating that it may be due to reassortment. The reassortant viruses arise when different high and low pathogenic influenza viruses are circulating in the same population.

Key messages

- The Northern Hemisphere winter season is typically associated with an increased avian influenza risk. In 2016-17 this risk has seen significant epidemics of H5N8 in Europe and H5N6 in Asia. Veterinary Authorities in some countries in Europe and Asia have responded to outbreaks in poultry with stamping out measures, heightened surveillance and recommendations to poultry owners to increase biosecurity.
- The zoonotic avian influenza strains that have become endemic in China (H7N9) and in parts of Africa and Asia (H5N1) create the most significant public health risks. Veterinary Authorities have struggled to get on top of the situation, which has allowed these viruses to circulate in poultry populations. This creates the risk of mutations from co-infections, and public health risks through exposure of people during rearing and slaughter. Although there are seasonal trends, the risk is year round since the viruses have become established and self-sustaining in bird populations. The role of commercially farmed poultry, backyard poultry, live bird marketing systems and wild birds of differing species in maintenance of the virus and transmission will have a local context that needs to be understood through epidemiological study.
- The OIE Standards and the transparency of reporting through the OIE's World Animal Health Information System provide the framework for Veterinary Services to implement effective surveillance, reporting and controls for avian influenza. Wild bird surveillance can indicate periods of heightened risk, and at these times measures to improve on-farm biosecurity will reduce the likelihood of exposure of poultry. The Veterinary Services of OIE Members respond to their national situations in accordance with their national policies and their economic and technical resources.

There is no scientific evidence that supports the killing or culling of free-ranging wild birds or other free-ranging wildlife to control avian influenza. Detections of avian influenza, including highly pathogenic avian influenza in wild birds only do not result in a country losing its status as free from Highly Pathogenic Avian Influenza, and there is no justification for imposition of measures on trade in poultry or poultry products for such countries.

Further Information Resources

- OIE Avian Influenza Portal www.oie.int/avianflu
- OIE Latest Notifications on Avian Influenza from Members www.oie.int/en/animal-health-in-the-world/update-on-avian-influenza/2017/
- OIE WAHIS Interface www.oie.int/wahis_2/public/wahid.php/Wahidhome/Home
- OFFLU - OIE and FAO Network of Expertise on Animal Influenza www.offlu.net/
- World Health Organization (WHO) influenza website www.who.int/influenza/en/
- Food and Agriculture Organization EMPRES website for Avian Influenza www.fao.org/avianflu/en/index.html