

OIE Situation Report for Avian Influenza

Latest update: 10/04/2017

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 10 of April 2017)

1. Avian Influenza strains causing disease events.

Strain	Count of countries affected	Increase /Decrease in countries from last report (27/03/2017)	# of ongoing outbreaks in poultry	# of ongoing outbreaks in wild birds	Increase/Decrease in ongoing outbreaks from last report (27/03/2017)	Aggregated count of poultry destroyed for ongoing outbreaks	Number of poultry destroyed since the last report (27/03/2017)
H5	3	 1	4	2	 1	120	0
H5N1	9	 1	29	3	 13	44 005	5 773
H5N2	1	 -1	126	1	 17	1 087 733	165 093
H5N5	7	0	4	7	 -1	22	0
H5N6	5	 -1	47	0	 -2	541 667	0
H5N8	24	 -4	448	344	 -121	3 844 890	152 424
H7N9	2	0	10	0	0	299 135	0
Total	51	 -4	668	355	 -93	5 817 572	322 442

Table 1. Global situation for on-going outbreaks of Highly Pathogenic Avian Influenza in poultry and wild birds, by strain

2. Regional situation

Region	Count of countries affected by ongoing outbreaks	Percentage of countries within the Region	List of countries	Difference regarding last report	List of Strains	Aggregated count of poultry destroyed for ongoing outbreaks	Number of poultry destroyed since the last report (27/03/2017)
Africa	6	11%	Cameroon, Egypt, Niger, Nigeria, Tunisia, Uganda.	 1	H5 H5N1, H5N8	10 525	5 460
Americas	1	3%	United States of America	0	H7N9	127 956	0
Asia and the Pacific	8	22%	China, Chinese Taipei, India, Korea (Rep. of), Lao, Malaysia, Nepal, Vietnam	 -1	H5N1, H5N2, H5N6, H5N8, H7N9	2 642 481	173 645
Europe	20	38 %	Bosnia and Herzegovina, Bulgaria, France, Germany, Greece, Croatia, Hungary, Italy, Macedonia (former Yugoslav Rep. of), Montenegro, Netherlands, Poland, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden & Ukraine.	 -2	H5, H5N5, H5N6 H5N8	3 037 113	144 185
Middle East	0	0%		 -1		0	0
Total	35	19%				5 818 075	323 290

Table 2. Regional situation for on-going outbreaks of Highly Pathogenic Avian Influenza in poultry and wild birds

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

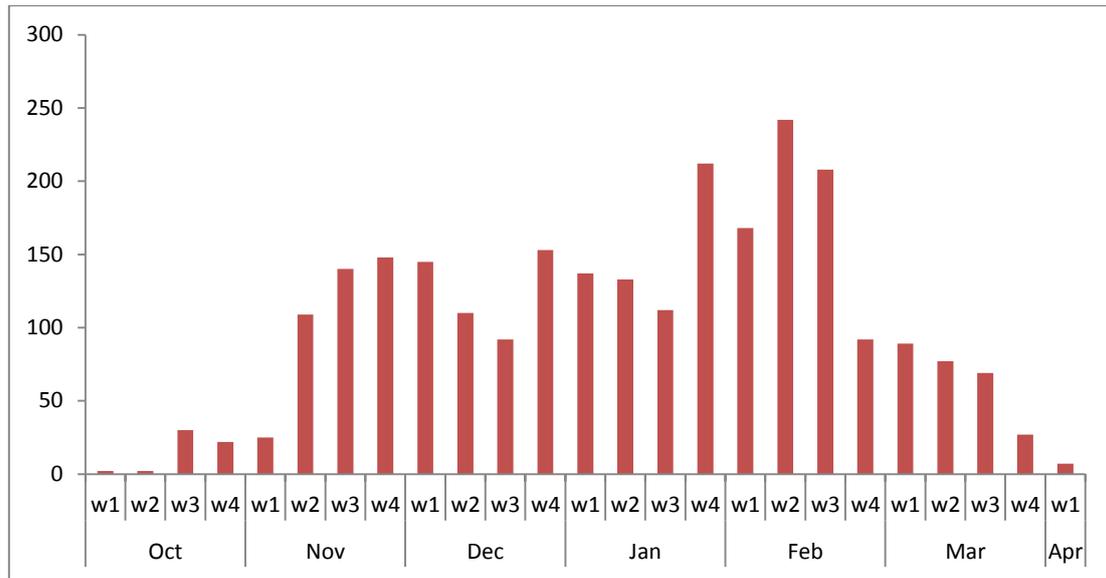


Figure 1. Epidemic curve showing the weekly incidence of outbreaks of Highly Pathogenic Avian Influenza since October 2016.

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

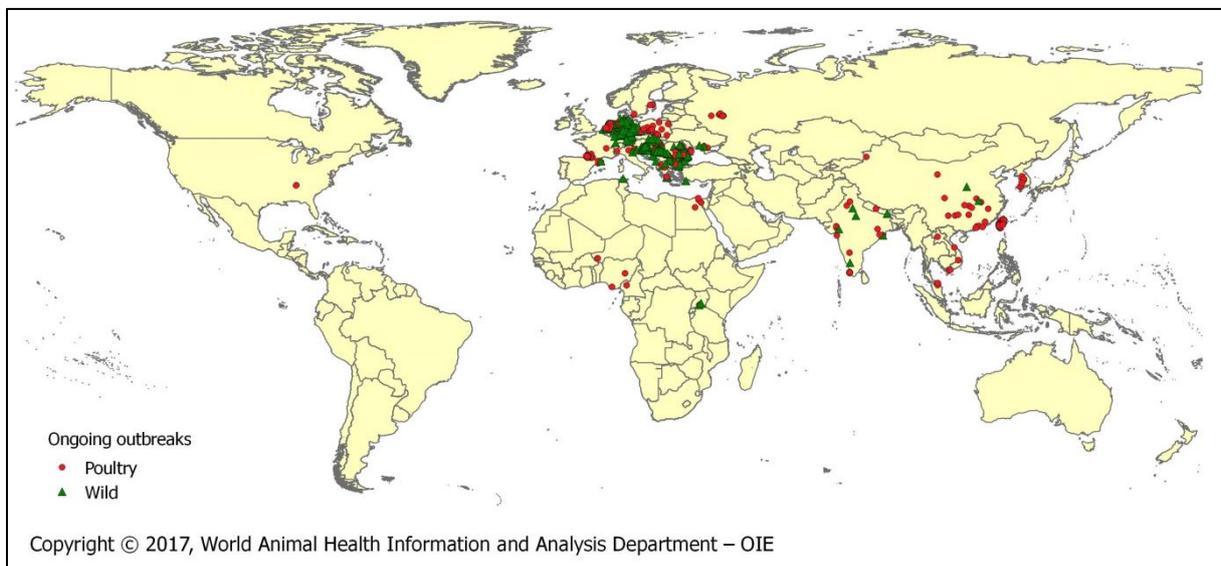


Figure 2. Map displaying the on-going outbreaks of Highly Pathogenic Avian Influenza in poultry and wild birds.

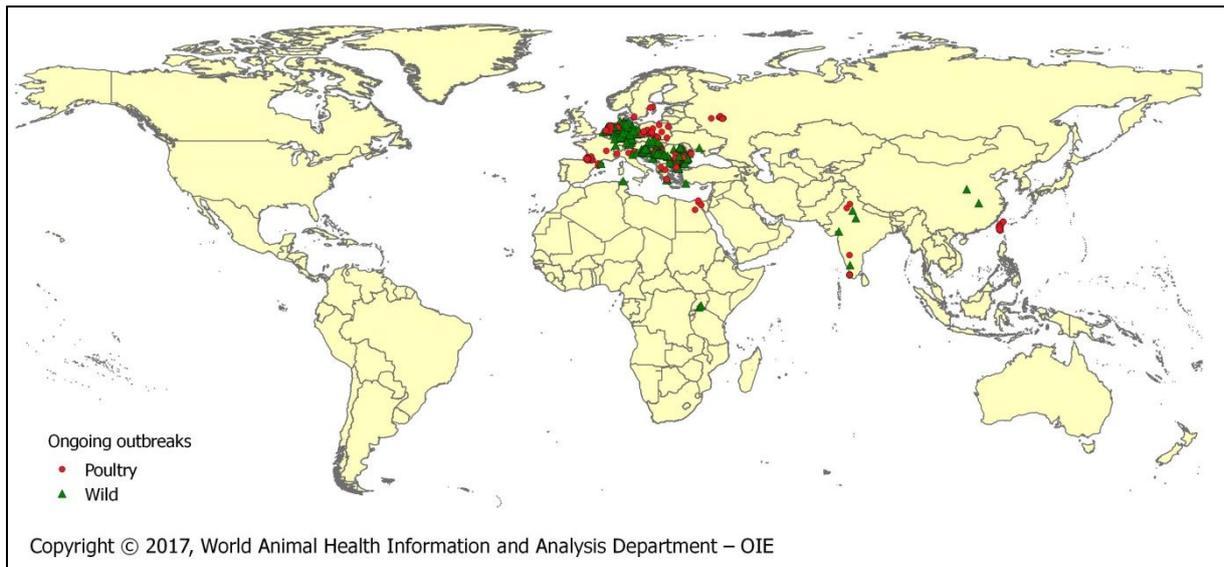


Figure 3. Map displaying the global distribution of on-going outbreaks of HPAI H5N8 in poultry and wild birds.

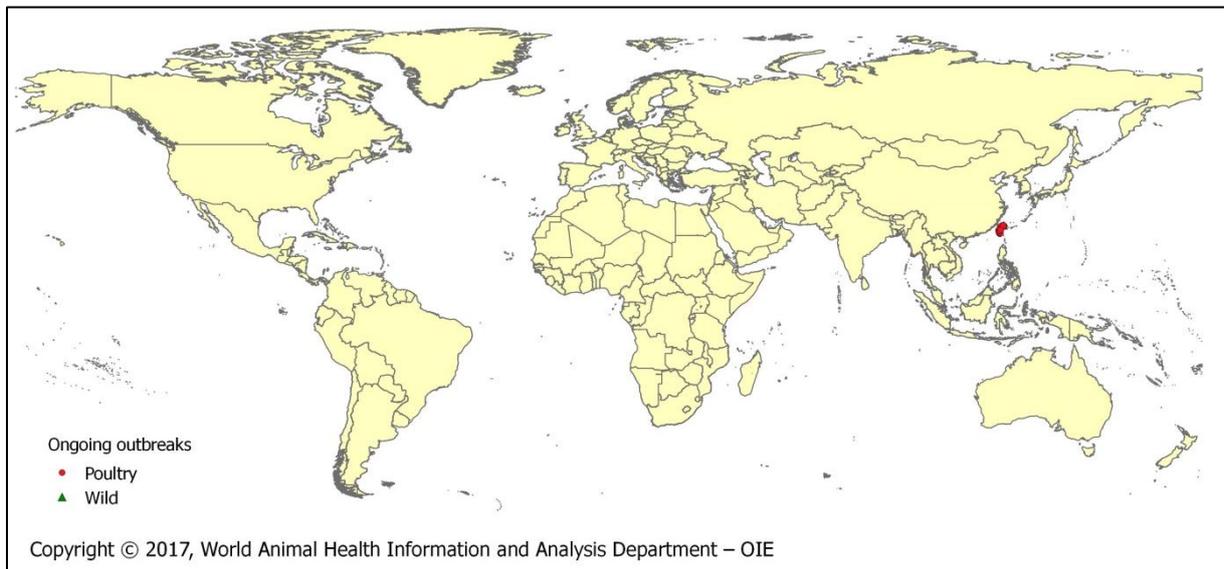


Figure 4. Map displaying the global distribution of on-going outbreaks of HPAI H5N2 in poultry and wild birds.

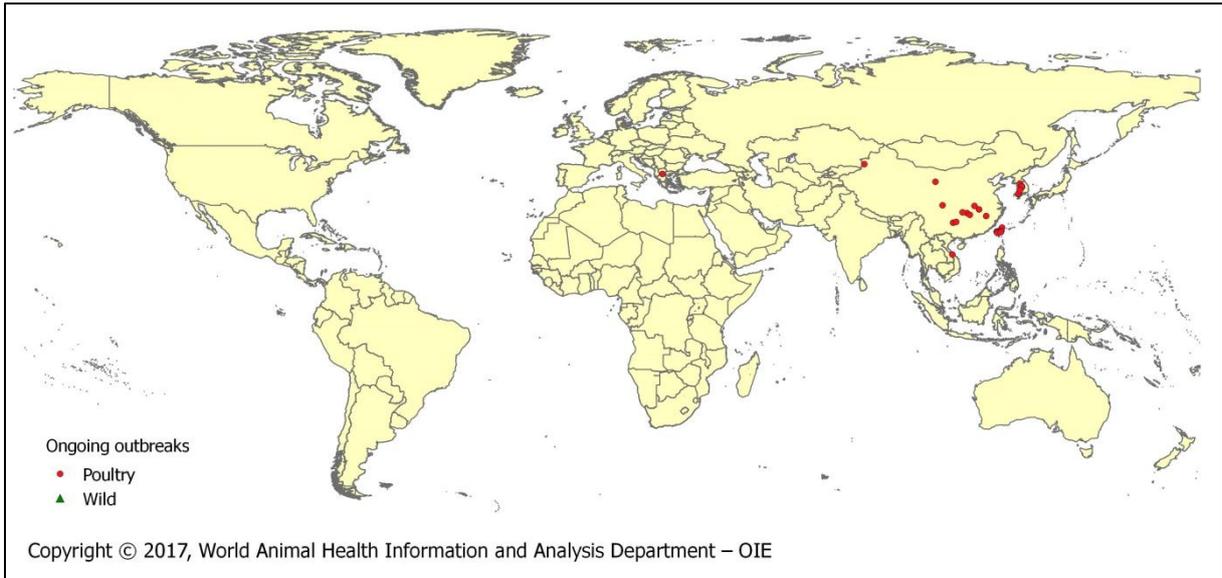


Figure 5. Map displaying the global distribution of on-going outbreaks of HPAI H5N6 in poultry and wild birds.

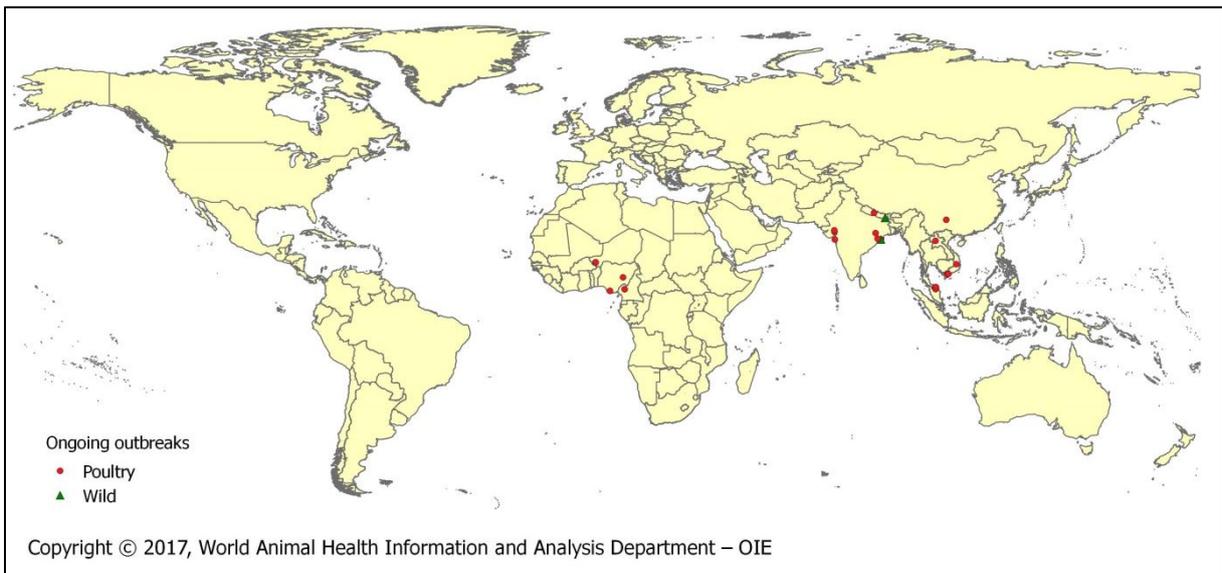


Figure 5. Map displaying the global distribution of on-going outbreaks of HPAI H5N1 in poultry and wild birds.

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 1300 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.

In February and March 2017, the Chinese Delegate to the OIE reported that samples from live bird markets of Guangdong province and birds in layer farm of Hunan 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. 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.

USA also reported a different strain of HPAI H7N9 of North American wild bird lineage in a chicken broiler breeder flock. Based on full genome sequence analysis, this virus is NOT the same as the China H7N9 virus that has impacted poultry and infected humans in Asia. The United States H7N9 is a very different virus, genetically distinct from the China H7N9 lineage. Depopulation of the affected flock was done and enhanced surveillance was implemented.

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 showed a decrease in the number of new outbreaks over the past two weeks from Europe and Africa. 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. Greece is the first country in Europe to report an outbreak of H5N6 in 2017. The Greece H5N6 virus was described as a reassortant of the current H5N8 viruses present in Europe. It has no relationship to the zoonotic HPAIV H5N6 viruses detected in SE Asia.

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