WORLD ORGANISATION FOR ANIMAL HEALTH
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OIE Situation Report for Avian Influenza

Latest update: 07/08/2017

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 07 of August 2017)

1. Avian Influenza strains causing disease events.

Strain	Count of countries affected	Increase /Decrease in countries from last report (10/07/2017)	# of ongoing outbreaks in poultry	# of ongoing outbreaks in wild birds	Increase/Decrease in ongoing outbreaks from last report (10/07/2017)	Aggregated count of poultry destroyed for ongoing outbreaks	Number of poultry destroyed since the last report (10/07/2017)
H5	0	0	0	0	0	0	0
H5N1	6	0	11	0	2	123 727	86 637
H5N2	1	0	176	1	12	1 590 006	131 656
H5N5	3	-1	0	3	-1	0	0
H5N6	2	-1	354	0	-14	24 695 023	0
H5N8	14	0	251	34	16	3 299 467	8 030
H7N3	0	0	0	0	0	0	0
H7N9	2	0	24	0	0	959 043	0
Total			816	38	15	30 667 266	226 323

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

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 (10/07/2017)
Africa	8	15%	Cameroon, Congo (Dem. Rep.), Egypt, Niger, Nigeria, South Africa, Togo, Zimbabwe.	0	H5N1, H5N8	424 048	5298
Americas	1	3%	United States of America	0	H7N9	127 956	0
Asia and the Pacific	5	14%	China, Chinese Taipei, India, Korea (Rep. of), Myanmar.	0	H5N1, H5N2, H5N6, H5N8, H7N9	29 451 069	221 025
Europe	6	11%	France, Germany, Italy, Montenegro, Russian Federation, Slovenia.	-1	H5N5, H5N8	664 193	0
Middle East	0	0%				0	0
Total	20	11%				30 667 266	226 323

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

3. Events declared closed since the last report

Country	No events closed since 10/07/2017	Species	Strain
Belgium	1	Poultry	H5N8
Chinese Taipei	1	Poultry	H5N6
Denmark	1	Poultry and Wild	H5N8
Laos	2	Poultry	H5N1, H5N6
Sweden	2	Poultry and Wild	H5N8
Vietnam	1	Poultry	H5N1

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

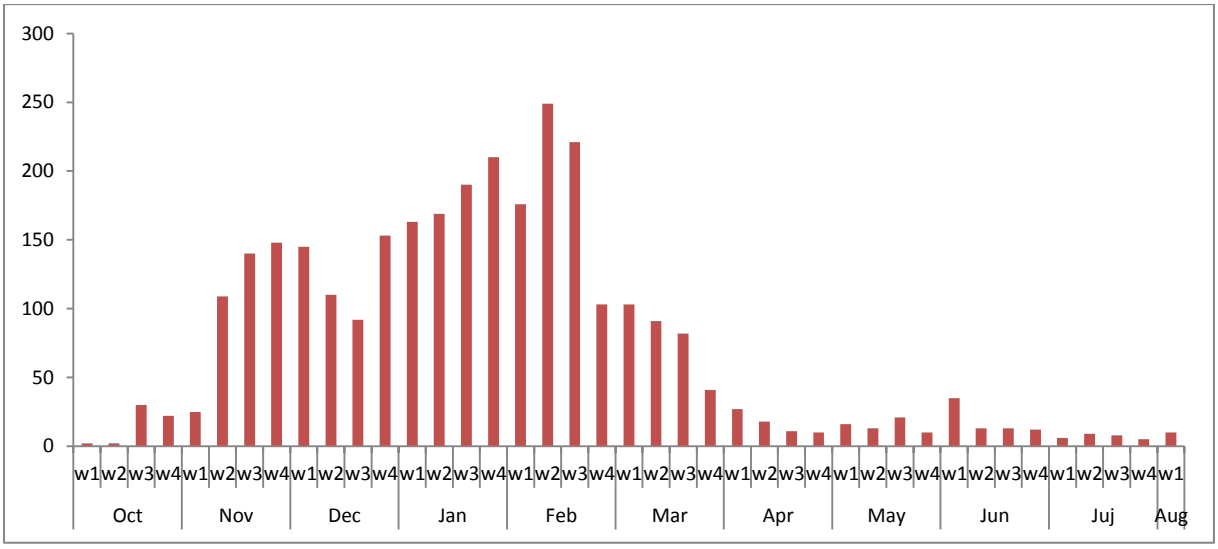

Figure 1. *Epidemic curve showing the weekly incidence of outbreaks of Highly Pathogenic Avian Influenza since October 2016.*

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

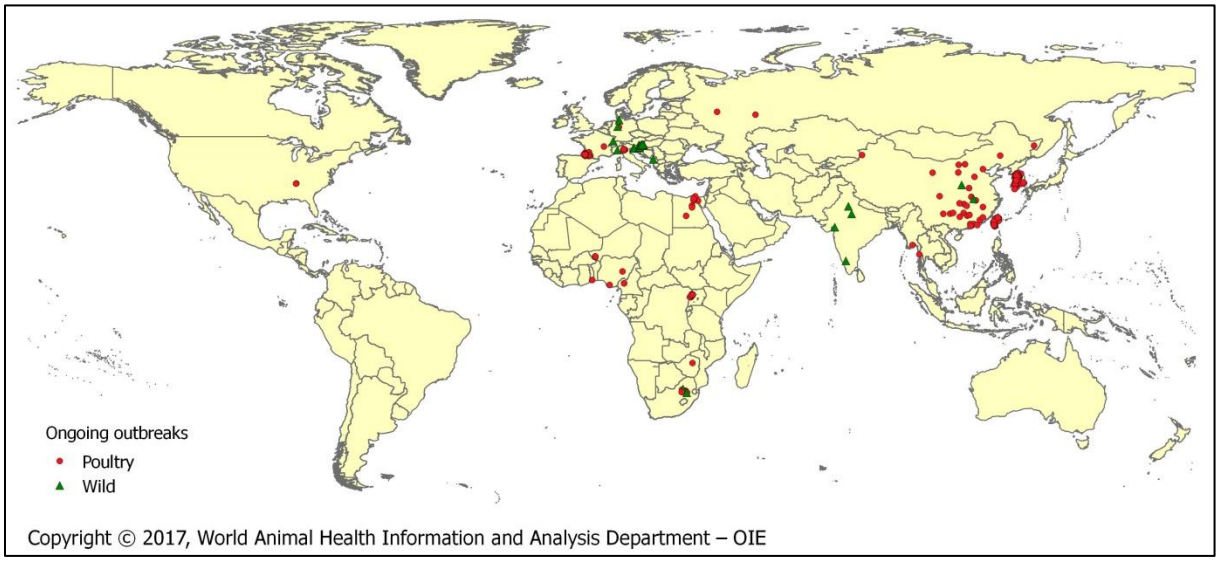

Figure 2. *Map displaying the on-going outbreaks of Highly Pathogenic Avian Influenza in poultry and wild birds.*

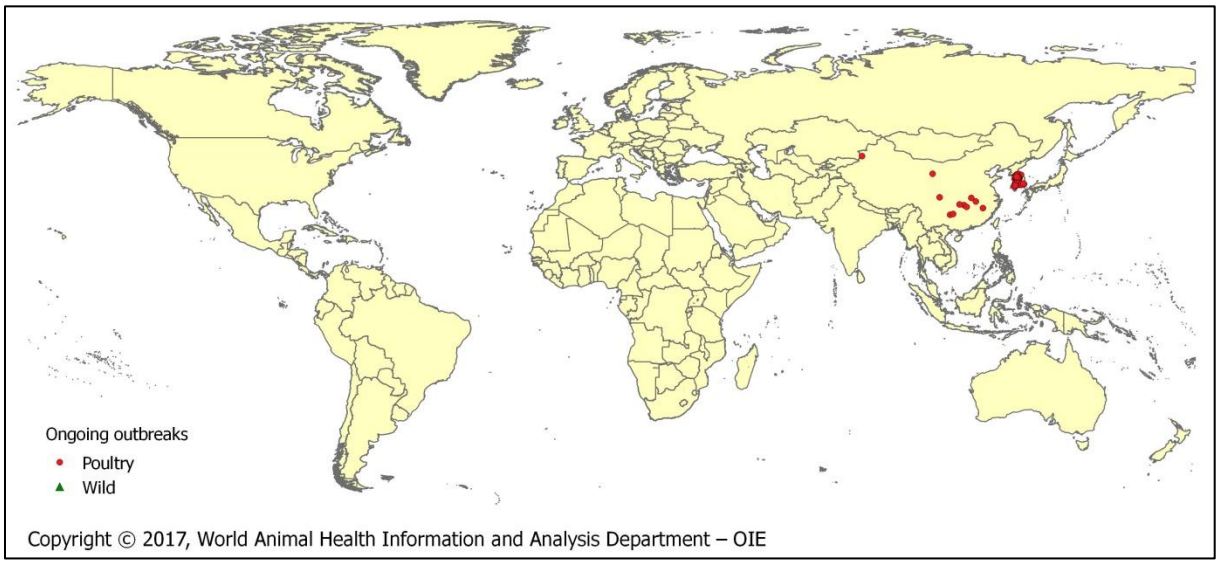

Figure 3. *Map displaying the global distribution of on-going outbreaks of HPAI* ***H5N6*** *in poultry and wild birds.*

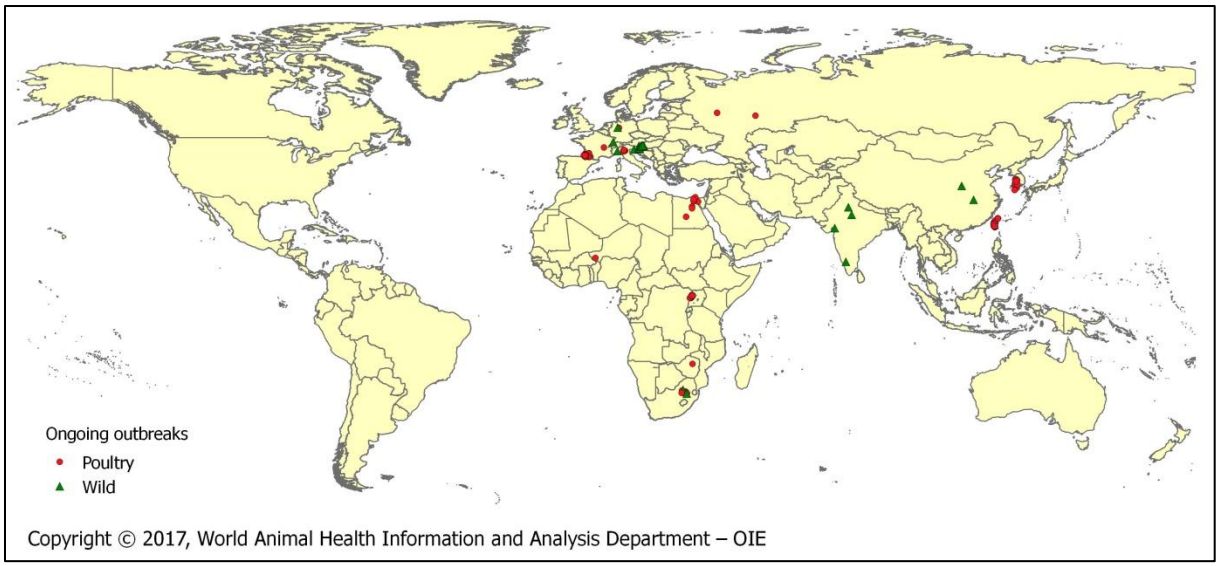

*Figure 4. Map displaying the global distribution of on-going outbreaks of HPAI **H5N8** in poultry and wild birds.*

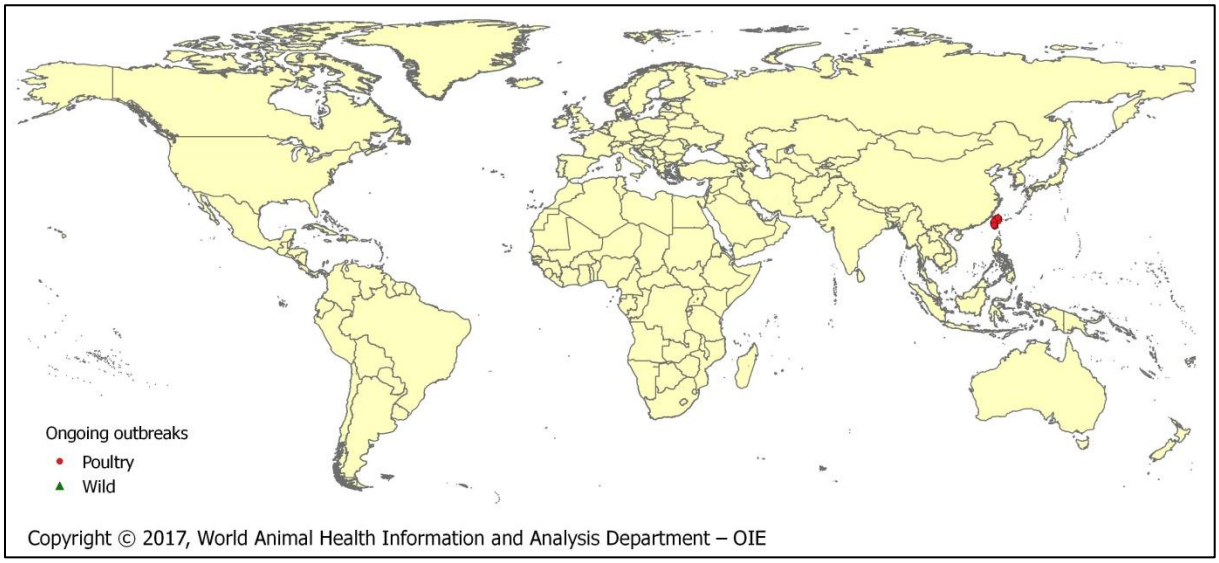

*Figure 5. Map displaying the global distribution of on-going outbreaks of HPAI **H5N2** in poultry and wild birds.*

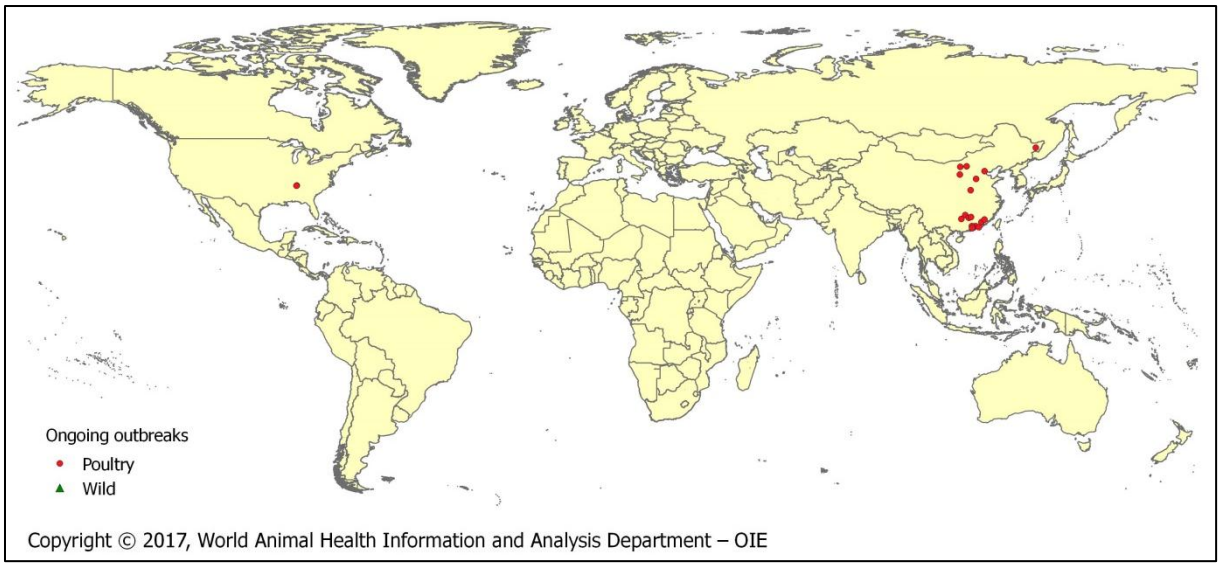

Figure 6. *Map displaying the global distribution of on-going outbreaks of HPAI* ***H7N9*** *in poultry and wild birds.*

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 1550 human infections (as of 7 August 2017). 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 2017, the Chinese Delegate to the OIE reported that samples from live bird markets of Guangdong, and Fujian provinces 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).

Following this, China conducted extensive active surveillance in all provinces to understand the extent of HP H7N9 distribution. HP H7N9 was detected in local layer farms of Guangxi, Hunan, Henan, Hebei, Tianjin, Heilongjiang, Inner Mongolia and Shaanxi provinces. There has been closure of live bird markets and farms 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.

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 in March 2017. 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 few countries of 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 affecting poultry and wild birds showed that the virus spread is still ongoing in Asia, Europe and Africa, though the peak epidemic curve is over. 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. The ongoing outbreaks in Zimbabwe and South Africa indicate an ongoing risk in this region.

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 continued to be reported from Asia in poultry and wild birds, particularly from China and Korea. The Asian lineage H5N6 causes severe clinical signs in poultry and associated mortality. The continuing outbreaks in these countries have led to significant destruction of poultry with more than 26 million birds destroyed for control measures by the veterinary authorities. Detection of HPAI H5N6 virus in migratory bird species pose a potential threat for the dissemination of this virus by wild birds outside Asia.

This group of H5N6 viruses has also been associated with human infection, including a number of deaths. A total of 16 laboratory-confirmed cases of human infection with influenza A(H5N6) virus, including six deaths, have been reported to WHO from China since 2014.

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 outbreaks of H5N8 in Europe are being brought under control through ongoing stamping out measures, with disease events being closed out, and there are encouraging signs in the same direction for H5N6 in Korea. H5N8 continues to circulate in Europe, Africa and Asia, however, and the ongoing outbreak in poultry in Zimbabwe and South-Africa indicates the geographical distribution of this strain is still increasing, and the Veterinary Authorities must continue to respond to this risk.

- 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
- Outbreak Assessment of "Highly Pathogenic Avian Influenza H5N8 in the UK and Europe" by UK DEFRA's Veterinary & Science Policy Advice Team
- https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/607559/uoa-avian-flu-europe-update13.pdf
- Risk assessment for the incursion of H5N8 Highly Pathogenic Avian Influenza into poultry premises during the spring to summer season https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/613652/updated-qra-avian-flu-may2017.pdf
- Epidemiological status of HPAI viruses from the clade 2.3.4.4. in Europe since October 2016 http://www.plateforme-esa.fr/article/situation-epidemiologique-des-virus-iahp-issus-du-clade-2344-en-europe-depuis-octobre-2016-0
- The Global Consortium for H5N8 and Related Influenza Viruses 2016. Role for migratory wild birds in the global spread of avian influenza H5N8. Science, 14 Oct 2016:Vol. 354, Issue 6309, pp. 213-217. DOI: 10.1126/science.aaf8852