OFFLU avian influenza teleconference
Thursday, 12th December 2024, 12 noon to 13.30h CET

This meeting was held to discuss and share latest global epidemiology updates and any vaccination information, which can be used to support analyses of the Vaccine Composition Meeting (VCM) February 2025 data package.

Purpose of the meeting: In response to the ongoing Avian Influenza outbreaks, considering infections in birds and mammalian species, current focus on vaccination and OFFLU contributions to the Vaccine Composition Meeting **to share epidemiological and genetic information in this teleconference.**

Objective of the meeting: To enhance understanding of the current global avian influenza situation, fill knowledge and surveillance gaps, understand limitations and to encourage the sharing of viruses, sequence data and epidemiological information.

Participants: Gounalan Pavade, Lina Awada, Megumi Fukui (WOAH), Lidewij Wiersma, Lorcan Carnegie, Akiko Kamata, Lineke Begeman (FAO) Laura Roberts (South Africa), Clement Meseko (Nigeria), Abdelsatar Arafa (Egypt), Erik Karlsson (Cambodia), Eun-Kyoung Lee (Korea), Jiming Chen (China), ARRIAH (Russia), Daniela Queiroz Baptista, Maria Blaiklock, Denise Rodrigues (Brazil), Francesco Bonfante (Italy), Timm Harder, (Germany), Éric Niqueux (France), Ashley Banyard (UK), Mia Torchetti, David Suarez (USA), David Swayne, Ian Brown (OFFLU SC), Ruth Cromie (Scientific task force, wild birds), Radhika Gharpure (CEPI). Information shared in advance by Canada, South Africa, India and Australia by Yohannes Bearne, Celia Abolnik, Chakradhar Tosh and Frank Wong.

Agenda of the meeting: Round table from invited participants by region:

Africa

South Africa – Laura Roberts

Remains quiet in terms of avian influenza outbreaks – there have been no new detections since April of H5s (wild seabirds). There are ongoing disinfection efforts from the H7N6 outbreaks. There have been no new outbreaks since early this year however some of the outbreaks were mild and were challenging to manage without compensation. Marion Island, a sub-Antarctic territory 2000km south east from Cape Town, has had a suspected outbreak with increased mortality rates in certain bird species. There have also been suspected cases in elephant seals, but no clear evidence of any abnormal mortality. Clinical signs are being monitored through videos and remains inconclusive in this species. Fur seals don't appear to be affected. However, testing is challenging, there is no confirmation yet and the next opportunity to test collected samples is expected to be in February 2025. Vaccination for HPAI has been approved in principle in South Africa however is not yet being undertaken – barriers are regulatory with concerns around surveillance and its affordability and no consensus has been reached with industry.

Celia Abolnik – additionally an H7N7 LPAI outbreak occurred in ostriches, this was unrelated to HPAI events.

Nigeria – Clement Meseko.

The last confirmed case of 2.3.4.4b H5N1 was in August 2024 in commercial poultry farm. There are no laboratory confirmed cases which have been reported since, though suspected cases exist in farms and live bird markets, however these remain unreported due to lack of compensation for affected farmers. There are seasonal patterns of H5N1 in Nigeria due to increased bird movement during the festive season, as well as the movement of migratory birds into sub-Saharan Africa. However, there are limited efforts to monitor wetlands. Current surveillance is inadequate with limited resources for monitoring live bird markets. Discussions are ongoing within the government to shift from a no-vaccination policy to implementing vaccination for H5. H9N2 is endemic in Nigeria and is often co-detected with cases with high mortality attributed to H5 viruses. There is no dedicated funding for routine monitoring in markets and wetlands. Post-2008 efforts to reorganise markets have largely lapsed.

Egypt - Arafa:

Egypt remained an endemic country for avian influenza and surveillance is primarily focused on poultry. Limited to no surveillance is conducted in wild birds nor mammals. In 2023/2024 sporadic cases were reported: most in live bird markets, some in backyard poultry and some in farms – these are distributed across the regions of Egypt. Both H5N1 and H5N8 clade 2.3.4.4b strains are circulating in the same geographical areas. Egypt has

relied on vaccination for control of AI for many years now, current vaccines include the Chinese RE-14, locally developed vaccine seeds from H5N1 and H5N8 including recent isolates from 2018, 2022 and 2023. Egypt conducts genomic sequencing in country to monitor viral evolution.

Asia

Cambodia – Erik Karlsson, IPC

There have been 16 human cases of H5 infections reported between February 2023 and August 2024. 14 of these were associated with a reassortant genotype virus with external genes of 2.3.2.1e (unpublished nomenclature) and internal genes from clade 2.3.4.4b and LPAI viruses. There are numerous surveillance gaps in the region. H5 viruses are detected in live bird markets. Reports indicate potential outbreaks in wild secondary hosts such as herons especially during the dry season when water levels drop and free ranging ducks intermingle with nesting sites. Outbreaks coincide with festival seasons with peak seasons in January and February. Anecdotal reports of outbreaks in poultry exist but no sample data is available.

Korea – Eun-Kyoung Lee, APQA

In South Korea, during the winter season beginning in October, the first case of H5N3 highly pathogenic avian influenza (HPAI) was detected in wild bird. Genetic analysis revealed the H5N3 virus was a reassortant, was comprised of N3 genes from a Eurasian lineage LPAI viruses in wild birds, with the other genes from current clade 2.3.4.4b H5N1 viruses circulated in East Asian region. Except one H5N3 case, H5N1 viruses were detected in wild birds and poultry.

India – Chakradhar Tosh

In India, highly pathogenic avian influenza (H5N1) outbreaks in domestic poultry were reported in 5 states during February – September 2024. Phylogenetic analysis has identified circulation of two genetic clades 2.3.2.1a and 2.3.4.4b. The clade 2.3.4.4b viruses are genetically closely related to H5N1 viruses detected in wild birds in Japan/South Korea during 2023. Clade 2.3.2.1a virus is persisting since quite some time in this region. Limited surveillance was undertaken in dairy cattle, sheep and goats in HPAI outbreak epicenters, however, no influenza A virus was detected.

Americas

Brazil – Daniela

In Brazil, the first outbreak of H5N1 highly pathogenic avian influenza (HPAI) occurred in May 2023, with subsequent outbreaks in wild birds and mammals until December 2023. Additional outbreaks in wild birds were recorded in February 2024, with the last outbreak

reported in September 2024. Genetic sequencing linked the detected viruses to those found in Uruguay, Argentina, and Chile, likely originating from the Pacific migratory route. Only three cases in total have been reported in backyard birds. Colombia have started reporting outbreaks and so surveillance has been reinforced in case there are introductions. There is some passive surveillance in seals and some outbreaks in October, close to the coast with Uruguay.

USA – Mia Torchetti, NVSL

Slower start to the season with only LPAI viruses detected initially. However, more significant reassortments of H5 HPAI were eventually detected, and there were 6 total genotype introductions into the U.S. since 2021 (2 on the Pacific Flyway and 4 on the Atlantic Flyway). The most notable of these is H5N5, which has only been found in wild migratory birds, especially the greater black-backed gulls on the upper Atlantic flyway. B genotypes were predominant over fall, and a new genotype has been introduced into the pacific flyway which is reassorting. Multiple genotypes are circulating in given areas. In late October and November multiple poultry establishments were infected across the 4 flyways. Ongoing surveillance is monitoring this situation, and there are continuous reports of poultry infections linked to wild bird-mediated introductions. Additionally, the B.3.13 outbreak continues in dairy cows, although this is not related to wild bird-mediated transmission.

USA- David Suarez, SEPRL

Dairy Outbreaks: The outbreak of H5N1 in dairy farms in California continues, with most cases occurring in areas with high dairy concentrations. There was a recent case reported in Nevada, and California remains the hotspot for these dairy infections. While outbreaks appear to subside after a period of time, testing continues, and new measures have been introduced, including a national bulk milk testing program. This program involves testing in dairy processing plants and will extend to identifying infected herds in specific areas. The USDA has introduced a new nationwide surveillance program to test for H5N1 in dairy processing plants and related areas. The testing aims to track and control the spread of the virus in dairy herds, especially in states with large dairy populations, like California. Californian condors continue to be vaccinated since 2023 and no AI detections have been reported.

Canada – Yohannes Berhane, CFIA

The 2.3.4.4b H5N5 virus has been present in Canada's Atlantic flyway since 2022 and has now spread to Mississippi and Central flyways. Thus far it has been detected in mammals and wild birds with no domestic poultry outbreaks associated with this virus. The D1.1 genotype H5N1 viruses are responsible for a large outbreak in domestic poultry primarily in

British Colombia (BC) and few cases in Alberta and Saskatchewan. The D1.1 genotype H5N1 viruses were also detected in wild birds and mammals. In British Colombia, we have detected D1.1 genotype viruses with a mutation in the neuraminidase which confers resistance to tamiflu. Viruses with this mutation have been detected in layer and turkey farms, but not in wild bird samples, nor in humans. We have also detected D2.1 H5N2 viruses in a couple of poultry farms and wild birds in BC.

Europe

Francesco Bonfante – IZSVe

Europe has shifted from 12 genotypes in 2023 to 3 predominant genotypes being detected in 2024 – of these, the DI genotype dominates accounting for over 90% of wild bird and poultry cases. The DI genotype is segregating into 2 subgroups one in Northern and one in Southern Europe with co-circulation in some countries ie Austria, France and Germany. This genotype emerged in late 2023 in Eastern Europe and has since spread. The BB genotype has been linked to wild birds – Laridae has re-emerged after quieter activity over the spring and summer of 2024. The H5N5 subtype has been circulating in Northern Europe for over four years and has also been detected in North/SE Asia and Americas. It appears linked to gulls, seabirds, raptors and scavenging birds though was only detected in some localised north European areas during the summer of 2024, but it has caused a small number of outbreaks in poultry in few countries since September. Since September 250 outbreaks have been reported across 26 of 29 European countries involving wild birds and poultry.

Germany – Timm Harder, FLI

Fewer cases in wild birds compared to the previous year. Unexpected findings of healthy wild birds testing positive for HPAI particularly among hunted birds (low CT of virus in the brain) which may reflect an enzootic situation where birds are carrying the virus without showing severe symptoms but still shedding enough virus to spread it. There has been a significant impact on turkey production in the north west of Germany.

UK – Ash Banyard, APHA

UK has seen significant activity of H5N5 in wild birds, especially gulls, corvids, skuas, gannets and some apex predators like red kites and buzzards. Spillover into pheasants from released pheasant farms have been noted. These are all the I genotype with an NA stalk deletion and did not contain any mammalian adaptations. H5N1 activity had been much lower than previous years however more recently gulls have been associated with outbreaks in a backyard flock. Three new H5N1 cases have been reported in Turkeys.

HPAI (H5N1) has been confirmed on Gough Island, part of a British overseas territory.

France - Éric NIQUEUX, ANSES

France began a preventive vaccination campaign in October 2023, targeting the duck production sector (poultry establishments keeping more than 250 ducks). The vaccination is compulsory for ducks reared for production ('foie gras' and fattening duck sectors); voluntary vaccination of duck breeders is also allowed, provided the products of these vaccinated breeding flocks (like hatching eggs and ducklings) are not intended for export to other countries. The vaccination involves two doses, although a three-dose protocol is being used in specific regions and during specific high-risk periods. For the previous epidemiological year, there were 2 outbreaks in vaccinated duck flocks (detected through the general passive surveillance scheme) out of a total of 10 outbreaks in poultry. One of these outbreaks occurred in older ducks, likely due to a decline in post-vaccination immunity, while the other involved younger ducks who had only received one dose of the vaccine (according to their age at the time when HPAI virus infection occurred). In the 2nd semester 2024, there have been 15 outbreaks in poultry and captive birds, 4 of which involved vaccinated duck flocks. Some of these outbreaks occurred in older birds, supporting the hypothesis that reduced immunity could be a factor in these infections. Two genotypes were involved in these outbreaks: BB and DI. The outbreaks in vaccinated flocks were detected through active surveillance, including outbreak-related surveys, rather than clinical signs. In some cases, clinical signs were noticed during culling, but these were not observed at the time the HPAI-positive samples had been collected for active surveillance.

Antarctica – Lineke Begeman, ERASMUS

Avian influenza outbreaks in Antarctica began earlier this year compared to last year, with unusual mortalities observed in the Peninsula and further east. Some cases still need confirmation, but it appears that highly pathogenic avian influenza (HPAI) has started spreading earlier in the region this year, though other colleagues reported relatively quiet activity in other areas.

Australia – Frank Wong, ACDP

Surveillance has increased along Australia's coastlines. Historical H7 outbreaks occurred from 1976–2013, with a few recent cases involving three different serotypes (H7N3, H7N9, and H7N8) in 2024. These outbreaks were linked to independent spillover events from wild birds and lateral spread between farms. Genetic evidence suggests connections to wild waterfowl strains within Australia.