22 November 2016: OFFLU Wildlife/Wild Bird Technical Activity Conference Call

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Situation update of H5N8 outbreaks in wild birds and poultry (Europe and Asia)

Europe:

Prof. Ian Brown presented the H5N8 outbreaks that have occurred in the last few weeks in Europe (start of event 26/10/16). 83 incidents reported of which 18 outbreaks occurred in poultry settings (Germany, Austria, Hungary). These outbreaks have involved turkeys, chickens and ducks with several farms being of small outdoor production types. Clinical signs variable but high mortality including in domestic anseriformes. Eight countries had reported H5N8 in wild birds which included Austria, Croatia, Denmark, Germany, Hungary, Poland, Switzerland and Netherlands. These incursions have been reported in various wild bird species including Tufted Ducks, Coots, Common Pochard, gull species, curlews, great crested grebes, wild geese and wild swans. A number of these mortalities have been associated with much larger wild bird mortality events than typically observed.

Prof Timm Harder presented the situation from German outbreaks. Germany experienced outbreaks in aquatic wild bird populations since early November. Cases started in the North along the Baltic Sea coast and in the South at Lake Constance. Initially mainly diving duck species such as Tufted ducks, Common pochards and Greater scaups seemed to be affected by lethal H5N8 HP infections. Currently cases continue to be detected and both the geographic pattern and the number of species affected is widening. Additional cases are now being found in several species of gulls, and birds of prey (common buzzard but also white-tailed eagles). Very few cases so far have been reported in mallards and other dabbling duck species. Spill-over transmission has caused several outbreaks in small scale and backyard poultry holdings mainly located in the norther epicentre of the outbreaks.

Asia:

Dr Yoshi Sakoda presented the recent H5N6 outbreaks happened in Japan. H5N6 HPAIVs were isolated in Japan since Nov. 14th, 2016 from only wild birds and related samples and not from poultry. Last detection of HPAIV in Japan was H5N8 clade 2.3.4.4 in 2014-2015 winter seasons and the current H5N6 detection is first in Japan. Isolates in Japan were closely related with each other and genetically classified into group C in the viruses of clade 2.3.4.4. Homology between these isolates and H5N6 human isolates were relatively high. Sequence information of representative strain, A/black swan/Akita/1/2016 (H5N6) was deposited in DDBJ/EMBL/GenBank as LC198525-LC198532.

Dr Nagarajan presented the situation update of India with respect to recent H5N8 outbreaks. So far, the H5N8 virus has been detected in six states of India viz. Haryana (ducks and migratory birds), Punjab (ducks), Kerala (ducks, crows and chicken), Karnataka (chicken), Delhi (painted stork, duck, goose, pelican, heron and crow) and Madhya Pradesh (painted stork). The H5N8 viruses isolated from water fowls (ducks and painted storks) in zoological parks (Delhi and Madhya Pradesh),India in October 2016 are highly pathogenic to poultry and belong to phylogenetic clade 2.3.4.4, which had not been reported earlier indicating new introduction. All genes, except the PA and NP, showed high nucleotide sequence identity (> 99%), whereas in PA and NP, it was 94.8 – 95.9% suggesting involvement of two independent gene pools of H5N8 virus in the outbreaks in waterfowls. The Indian viruses shared close genetic identity with H5N8 viruses isolated from wild birds in Tyva Republic (including Uvs-Nuur Lake virus) in summer 2016.

Diagnostic protocols for current H5N8 virus detection:

Prof. Brown asserted that the Eurasian H5 real time RT-PCR remained fit for purpose. No additional nucleotide changes have emerged to date in the current H5N8 outbreaks in Europe. As things stand, this test is sufficiently sensitive for detection of the H5N8 outbreaks in Europe.

The protocols used by the APHA, UK and FLI, Germany and are available on the OFFLU website.

http://www.offlu.net/fileadmin/home/en/resource-centre/pdf/Eurasian_H5_RRT-PCR.pdf

http://www.offlu.net/fileadmin/home/en/resource-centre/pdf/NRL_AI_PCR_NN_RTqPCR_N8.pdf

Update of OFFLU guidance document on H5N8:

An OFFLU guidance document on H5N8 which provides current situation update, guidance on wild bird surveillance, diagnostics available, reporting and response was circulated to the group to provide their comments.

> Action: Experts will provide their comments within 24 hours to the document and the updated document to be posted on the OFFLU website.

Guidelines and recommendations for laboratories and countries:

The experts were asked to share any guidelines and recommendations that could be used by the laboratories and countries in handling the present H5N8 outbreaks.
Prof. Timm Harder shared the publication 'Epidemiological and Molecular Analysis of an Outbreak of Highly Pathogenic Avian Influenza H5N8 clade 2.3.4.4 in a German Zoo: Effective Disease Control with Minimal Culling'

Dr David Swayne shared the publication 'Novel Reassortant Highly Pathogenic Avian Influenza (H5N8) Virus of Clade 2.3.4.4 in Wild Aquatic Birds, Russia, 2016'

Rapid risk assessment on Outbreaks of highly pathogenic avian influenza A(H5N8) in Europe.
http://ecdc.europa.eu/en/publications/Publications/risk-assessment-avian-influenza-H5N8-europe.pdf

Assessment of risk associated with influenza A(H5N8) virus by WHO
http://www.who.int/influenza/human_animal_interface/avian_influenza/riskassessment_AH5N8_201611/en/

Concerning Possible Activities in Response to Detection in Wildlife

Following detection of HPAI viruses in wildlife, agencies should carefully consider response objectives, not only to minimize impacts of HPAI spread, but also to ensure that response actions do not inadvertently increase viral spread by disturbance of wildlife species or impact sensitive wetland environments through actions such as spraying of disinfectants. In all cases, responses should be based on current scientific understanding of the transmission and persistence of influenza viruses in wild birds and appropriately differentiated from mitigation actions that are employed in domestic settings.

Global consortium on H5N8:

Dr Ron Fouchier explained about the "Global Consortium for H5N8 and Related Influenza Viruses" which was established for the global sharing of virus genetic data in real time, and to apply a "forensics" approach to trace back the evolutionary and

epidemiological history of the viruses causing the outbreaks. Countries are encouraged to contribute virus sequences by contacting t.kuiken@erasmusmc.nl, mark.woolhouse@ed.ac.uk or martin.beer@fli.de. The consortium provides rapid feedback on the evolutionary relationships of national virus collections in the context of global virus emergence through http://virological.org.

Ornithologist's expertise:

It was advised to bring in the expertise of ornithologists to the group to provide inputs about the migration of wild birds.

> Action: Nicolas Gaidet, Taej Mundkur and Thijs Kuiken to work together on this aspect.

Discussion on Algeria H7N1 outbreaks in wild birds:

A mass mortality of wild birds was reported in October 2016 at Sebkhet El Melah (El Goléa lake), in El Menia, Algeria. This site is located in the center of the Algerian Sahara, about 700 km south of the Mediterranean coast (latitude 30°N), in an arid environment (mean annual precipitation of 60 mm/year). This complex made up of two freshwater and saltwater bodies is a wetland of international importance for waterbirds (listed as a Ramsar site and an Important Bird Area). This site is a stopover for Eurasian birds migrating to/from sub-Saharan Africa, an important wintering site for Eurasian migratory birds (including ducks, shorebirds, egrets, and flamingos), as well as a breeding site for some waterbird species (including coots, ducks and shorebirds).
A total of 1709 dead wild birds have been reported (OIE reports 02/11/2016 and 10/11/2016), including 1066 Ruddy Shelducks. This represents about one third of the total Northwest African population of this species. These locally breeding birds are nomadic, undertaking only short-distance movements within the NW African region (Morocco, Algeria, Tunisia) and occasionally to the South of Spain. The main other species found dead include another NW African nomadic duck species (Marbled Teal) as well Eurasian migratory ducks wintering in North Africa (Northern Shoveler, Common Teal). A total of 23 different species have been reported including locally breeding waterbird species (Ruddy Shelduck, Ferruginous Pochard, Common Coot, Common Moorhen, Black-winged Stilt) and wintering species (ducks, egrets, shorebirds, ibis and spoonbills).