Updated Outbreak Assessment

Update on Highly Pathogenic Avian Influenza: Europe, America and the Middle East

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Disease Report

Germany has reported three further outbreaks of H5N8 highly pathogenic avian influenza (HPAI), since the last Preliminary Outbreak Assessment on the 23rd December 2014. One was in captive birds at Rostock Zoo (Meklenberg Western Pommerania), in a White Stork (Ciconia ciconia). Disease control measures, including culling 39 birds, have taken place and epidemiological investigations are underway (OIE, 2015). The other two outbreaks were reported in January on backyard holdings of ~ 200 birds in one case and ~100 birds in the second, also in Meklenberg Western Pommerania. Disease control measures are in place. In addition, the Authorities have also reported more H5N8-infected wild birds (both hunted and found dead): a gull (unspecified species) in Lower Saxony (where outbreaks in turkeys and ducks were reported in December 2014) and a mallard (Anas platyrhynchos) in Thuringia region (see map).

Bulgaria has reported a case of H5N1 HPAI in a wild bird (Dalmatian pelican, Pelicanus crispus) found dead in Burgas region. This is the first report of H5N1 HPAI in the European Union since 2010 (Reid et al. 2011). The authorities have implemented control measures in line with Commission Decision 2006/563/EC, which specifically applies to H5N1 HPAI in wild birds and no other subtype, (OIE, 2015a). Sequence confirmation is expected soon to determine if this is related to the Central Asian strains circulating in wild birds and associated with the incursion in 2010.
Israel and Palestine have reported further cases of H5N1 HPAI in poultry (H5 only confirmed in Palestine): two outbreaks in Haifa in commercial poultry (turkeys and broiler grandparents) and in West Bank, two outbreaks in commercial turkeys and layer hens (OIE 2015b and c). Disease control measures are in place. Sequence confirmation is expected soon to determine if this is a poultry-adapted strain found in this region previously.

USA continues to report avian influenza. The first H5N8 HPAI outbreak in commercial birds (domestic turkeys) has been reported in California. This follows the reports of an outbreak of H5N8 HPAI in a backyard flock in Oregon and one of H5N2 HPAI in backyard poultry in Washington State as well as four wild bird cases of H5N8 HPAI – two in California, (a gadwall Anas streporepsa, and a green winged teal Anas carolinensis), one in Utah (American wigeon, Anas americana) and one in Idaho (mallard, Anas platyrhynchos). In addition, as part of enhanced surveillance activities, a case of H5N1 HPAI has also been reported in a green winged teal in Washington State. This is the first time H5N1 HPAI has been reported in the USA but can be clearly differentiated from other contemporary H5N1 HPAI viruses since genetic analysis has revealed that this virus is a re-assortant virus between the Eurasian lineage H5 gene of the H5N8 HPAI virus already identified in the USA and the N1 gene of North American LPAI wild bird lineage. This is suggestive that the introduction of the Eurasian H5N8 virus into the Pacific flyway in late 2014 has resulted in mixing with North American lineage viruses leading to the emergence of H5N2 HPAI and now H5N1 HPAI viruses in USA and Canada (OIE, 2015d).
Situation Assessment

There has been a considerable increase globally in the frequency of avian influenza outbreaks and reports of infected wild birds. Although we have reported on the outbreaks which are of most concern to the UK (in Europe or other trade partners), Asia has also reported many additional affected poultry holdings. For example, Japan has reported 12 outbreaks of H5N8 HPAI; Taiwan has reported over 420 outbreaks of H5N2 HPAI, H5N3 HPAI and H5N8 HPAI in the space of a month. On another note, the human cases of avian influenza H7N9 in China have started to increase again, for the third year in a row; including for the first time a new human case outside of Asia in a Canadian who had recently returned home after travelling to China. Nigeria has reported 24 outbreaks of H5N1 HPAI in poultry in the north and south of the country after an absence of seven years.

The outbreaks of H5N8 HPAI reported in 2014 in the four European Union Member States including the UK, have all largely been resolved. Restrictions have now been lifted and no further spread as a direct contact with these outbreaks has been reported. Extensive epidemiological investigations in all four member states has failed to show any direct links between all the premises and therefore the indirect contact with wild birds is the most likely explanation. Fomite transmission from environments contaminated with wild bird faeces into poultry holdings seems likely. The continued reports from Germany means we cannot be complacent and we consider that at the present time the risk level has increased from low to low-medium of another introduction occurring in the UK. The impact that incursion will have will depend on the biosecurity of poultry farms. The case in Bulgaria reminds us that H5N1 HPAI is still circulating and will cause significant problems for poultry with potential for human infection in rare circumstances. The map above indicates, the distribution in Europe for the two different viruses (H5N8 and H5N1) fall within two distinct flyways for waterbirds and shorebirds (Taken from JNCC report (Boere et al., 2006). The eight broad flyways of waders/shorebirds. Source: International Wader Study Group). Nevertheless the co-circulation of multiple lineages and subtypes of H5 HPAI will likely result in further genetic diversity within this group of viruses with unknown implications for maintenance and spread.
Conclusion

The continuing outbreaks of HPAI occurring across the EU, their geospatial characteristics and timelines make it likely the source of infection is through indirect contact with infected wild birds. This means the likelihood of the UK having another outbreak is increased for the upcoming period. There is no significant increase in risk as a direct result of the disease in Germany, Bulgaria, the Middle East or the USA as there has been no trade recently, but vigilance for our poultry keepers and any attending veterinarians should continue to be enhanced.

We will continue to report on the situation. We would like to remind all poultry keepers to maintain high standards of biosecurity and report any suspect clinical signs promptly. For reports of wild birds (any number of swans, ducks and geese or >5 other birds) found dead by the public, please notify the Defra helpline on 03459 33 55 77 and see the Gov.uk website for more information: https://www.gov.uk/avian-influenza-bird-flu

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References


OIE (2015a) Highly Pathogenic Avian Influenza in Bulgaria: Immediate Notification (28/01/2015) Reference 17083


OIE (2015d) Highly Pathogenic Avian Influenza in USA: Follow-up Report No.5 (Reference OIE: 1706, Report Date: 25/01/2015)