EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR HEALTH AND FOOD SAFETY

Public Health, Cancer and Health security
Health Security

Opinion of the Health Security Committee on zoonotic avian influenza

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1. BACKGROUND: AVIAN INFLUENZA IN THE EU/EEA

Since 2020, highly pathogenic avian influenza (HPAI) belonging to A(H5N1) clade 2.3.4.4b viruses have caused large epidemics in wild and kept birds in the EU/EEA leading to mass mortality events in wild birds and serious losses to the poultry industry. Moreover, since October 2022, the virus has more frequently infected mammalian species, in particular wild carnivores, fur farm animals, marine mammals and pets. In October 2022, an outbreak of avian influenza occurred in a fur farm in Spain and outbreaks are affecting farmed foxes, minks and racoon dogs in Finland ([1]). Direct or indirect contact with wild birds could have initiated these outbreaks, however investigations on the source are still ongoing. In France A(H5N1) virus was detected in a domestic cat presenting neurological and respiratory symptoms ([2]) and Italy reported asymptomatic infections among a domestic cat and five dogs ([3]). These animals were kept in establishments where outbreaks

([1]) Lindh E, Lounela H, Ikonen N, Kantala T, Savolainen-Kopra C, Kauppinen A, et al. Highly pathogenic avian influenza A(H5N1) virus infection on multiple fur farms in the South and Central Ostrobothnia regions of Finland, July 2023. Euro Surveill. 2023;28(31):2300400. https://doi.org/10.2807/1560-7917.ES.2023.28.31.2300400 PMID: 37535475

([2]) Briand FX, Souchaud F, Pierre I, Beven V, Hirchaud E, Hérault F, et al. Highly pathogenic avian influenza A(H5N1) Clade 2.3.4.4b virus in domestic cat, France, 2022. Emerg Infect Dis. 2023;29(8):1696-8. https://doi.org/10.3201/eid2908.230188 PMID: 37379514

([3]) Moreno Ana, Bonfante Francesco, Bortolami Alessio, Cassaniti Irene, Caruana Anna, Cottini Vincenzo, Cereda Danilo, Farioli Marco, Fusaro Alice, Lavazza Antonio, Lecchini Pierdavide, Lelli Davide, Maroni Ponti Andrea, Nassuato Claudia, Pastori Ambra, Rovida Francesca, Ruocco Luigi, Sordilli Marco, Baldanti Fausto, Terregino Calogero. Asymptomatic infection with clade 2.3.4.4b highly pathogenic avian influenza A(H5N1) in carnivore pets, Italy, April 2023. Euro Surveill. 2023;28(35):pii=2300441. https://doi.org/10.2807/1560-7917.ES.2023.28.35.2300441

of HPAI were confirmed in poultry (Italy) or in the vicinity of an outbreak in poultry (France). In Poland, during the summer 2023, an outbreak of respiratory and neurological symptoms occurred in cats, with 25 cats testing positive to A(H5N1). The source of this outbreak has not been identified. Simultaneously, in the Republic of Korea another HPAI outbreak in cats was reported ([4]) and a study conducted in the Netherlands has detected asymptomatic infections in domestic and stray cats ([5]).

In the EU/EEA, to date no human infections with avian influenza A(H5N1) have been detected. In Spain, two asymptomatic poultry farm workers participating in culling activities tested positive for virus clade 2.3.4.4b virus. However, the lack of symptoms, the low viral load, and the absence of specific H5 antibodies against the A/H5 virus suggested that those were environmental contaminations and not productive or systemic infections ([6]).

There is an extensive set of EU legislation ([7]) ([8]) ([9]) ([10]) protect workers from risks to health and safety. This is to be fully implemented by the countries, also in establishments with risks for HPAI outbreaks. Measures include physical distancing, enhanced ventilation, dust- and aerosol-avoiding measures (for example, when cleaning and handling litter), and using appropriate personal protective equipment (PPE).

2. RATIONALE FOR THE PREPARATION OF THIS OPINION

Although the circulating HPAI viruses are still predominantly adapted to avian receptors, mutations that are markers of virus adaptation in mammals have been identified mainly in viruses isolated from infected mammals. In Finland sequencing analyses of avian influenza viruses isolated from fur farms suggest a possible transmission between mammals at affected fur farms via contact through animal secretions, feed or contaminated bedding and care equipment ([11]). To date there have been no human infections detected in Finland nor in other EU Member States and EEA countries over the course of similar events.

([4]) https://www.mafra.go.kr/home/5109/subview.do?enc=Zm5jdDF8QEB8JTJGYmJzJTJGaG9tZSUyRjc5MiUyRjU2NzAzMSUyRmFydGNsVmlldy5kbyUzRg%3D%3D

([5]) https://afludiary.blogspot.com/2023/11/netherlands-utrecht-university-study-of.html

([6]) Aznar E, Casas I, González Praetorius A, Ruano Ramos MJ, Pozo F, Sierra Moros MJ, et al. Influenza A(H5N1) detection in two asymptomatic poultry farm workers in Spain, September to October 2022: suspected environmental contamination. Euro Surveill. 2023;28(8):2300107. https://doi.org/10.2807/1560-7917.ES.2023.28.8.2300107 PMID: 36820643

([7]) Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work (the Framework Directive)

([8]) Directive 2000/54/EC on the protection of workers from risks related to exposure to biological agents at work

([9]) Directive 89/656/EEC on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace

([10]) Regulation (EU) 2016/425 on personal protective equipment

([11]) Lindh E, Lounela H, Ikonen N, Kantala T, Savolainen-Kopra C, Kauppinen A, Österlund P, Kareinen L, Katz A, Nokireki T, Jalava J, London L, Pitkäpaasi M, Vuolle J, Punto-Luoma AL, Kaarto R, Voutilainen L, Holopainen R, Kalin-Mänttäri L, Laaksonen T, Kiviranta H, Pennanen A, Helve O, Laamanen I, Melin M, Tammiranta N, Rimhanen-Finne R, Gadd T, Salminen M. Highly pathogenic avian influenza A(H5N1) virus infection on multiple fur farms in the South and Central Ostrobothnia regions of Finland, July 2023. Euro Surveill. 2023 Aug;28(31):2300400

ECDC assesses the risk of infection with currently circulating avian H5 influenza viruses of clade 2.3.4.4b in Europe as low for the general population in the EU/EEA, low to moderate for occupationally or otherwise exposed people to infected birds or mammals (wild or domesticated).

In the context of more frequently identified and reported infections among wild mammals, high-density mammalian population (i.e. fur farms) and pets, the virus might adapt to infect more efficiently humans. In addition, with the upcoming influenza season, there is an increased risk of reassortment between different influenza viruses including zoonotic one, like the H1N1 subtype that circulates in kept and wild pigs.

The European Commission has conducted and planned a series of initiatives over the last months in line with the call for a One Health approach included in the Serious Cross-Border Threats to Health (SCBTH) Regulation 2022/2371.

This opinion of the Health Security Committee is a call to action to promote prevention and preparedness in the light of the risks associated with the large circulation of H5N1 virus in the last seasons and the upcoming seasonal human influenza period. The actions recommended may be also relevant for the prevention of, preparedness for and response to other subtypes of avian influenza A relevant for public health.

3. CALL FOR ACTION

3.1 ONE HEALTH APPROACH

Ensure that Standard Operation Procedures are in place guaranteeing close cooperation and swift communication between the human health and veterinary authorities at all levels, including setting up coordination bodies and relevant joint governance structures when necessary.

When possible, set up integrated surveillance systems building on existing networks, legal frameworks and know-how fostering data exchange and joint assessments. Review and identify areas where diagnostic pathways to ensure effective surveillance in animals and humans (including genomic surveillance) might need to be updated.

Foster joint outbreak investigation and response when human and animal populations are affected in the outbreak. Encourage joint integrated training activities, workshops and simulation exercises. Ensure rapid alert of public health authorities by veterinary services in situations of detection of avian influenza with zoonotic potential (e.g. preferably even before confirmation by genomic sequencing) and ensure sustained effective bidirectional communication between animal and human health authorities.

3.2 HUMAN HEALTH SECTOR ACTIONS

a. Reporting of avian influenza in humans

Laboratory confirmed human infections with avian influenza and other novel influenza strains are notifiable under the International Health Regulations and through the Early Warning and Response System, in line with EU Regulation 2022/2371 on serious cross-border threats to health. Use the European alert and response systems (EWRS, EpiPulse)

and the European Surveillance System (TESSy) for notification, exchange of information and monitoring of human infections.

b. Strengthening respiratory infections surveillance

Consider the ECDC proposal on a risk-based targeted approach for testing for avian influenza viruses in areas with ongoing avian influenza outbreaks in poultry and detections in wild birds and other animals ([12]). The focus should be on outbreaks and severe respiratory or unexplained neurological disease cases in humans. Wastewater surveillance could be considered as an additional monitoring system.

c. Monitoring humans exposed to infected animals: follow up and testing

Monitor closely persons exposed to infected animals (either occupationally or through contact with infected birds, pets, other mammals, etc.) for 10-14 days for the development of symptoms. The ECDC suggests to consider testing those exposed independently from symptoms taking into account their level of exposure. If symptoms develop after exposure to an infected animal, the person should be isolated, tested and public health authorities should be informed. ECDC provided specific guidance on testing ([13]).

d. Preventing human exposure and infection

Consider discussing with National Immunisation Technical Advisory Groups to include people at risk of occupational exposure to HPAI among those groups for which seasonal influenza vaccine is recommended and free of charge. Specific national vaccination programmes against seasonal influenza, will decrease the risk of co-infection with seasonal and animal influenza viruses and therefore decrease the risk of emergence of a reassortant influenza virus with pandemic potential.

In addition, countries should also consider pre- and post-exposure prophylaxis with antivirals in persons occupationally exposed to infected animals.

e. Ensuring health and safety at work for farm and other concerned workers

Ensure that the relevant EU legislation to protect workers from health and safety risks is fully implemented, including by ensuring the availability and correct use of personal protective equipment for professionals working in settings with exposures to HPAI, including veterinarians, ornithologists, pathologists.

f. Ensuring availability for and use of personal protective equipment by healthcare professionals

Infection Prevention and Control guidance and treatment protocols, including training on the use of personal protective equipment (PPE) should be in place in referral hospitals for the management of human avian influenza virus infections. Recommended PPE for healthcare workers taking care of patients with avian influenza virus infection includes eye protection, FFP2 respirator, water resistant gown and gloves.

([12]) https://www.ecdc.europa.eu/en/publications-data/avian-influenza-infections-surveillance-eu-eea

([13]) https://www.ecdc.europa.eu/en/publications-data/zoonotic-influenza-virus-infections-humans-testing-and-detection

g. Preparedness and Medical Countermeasures

Finalise national preparedness plans against pandemic influenza / respiratory viruses, including medical countermeasures (MCM) response. Participate in EU-wide exercises on avian influenza.

Gather and share with the Health Emergency preparedness and Response Authority (HERA) information on national capacities, strategies, gaps and needs for MCM response (including on diagnostics, vaccines, therapeutics and personal protective equipment for human use), in order to inform EU support to MCM research and development, as well as the organisation of joint procurement where relevant. The scope and granularity of information to be shared, and means for sharing this information, will be agreed with MS within the HERA governance bodies (HERA Board and Advisory Forum).

h. Raising awareness and pro-active risk communication

Participate in seminars/webinars organised by ECDC to update and inform animal and public health experts of different networks working on avian influenza and surveillance. In these scientific seminars, experts from countries, ECDC, EFSA and the EU Reference Laboratory share the latest information on outbreaks, investigation protocols or other ongoing projects.

Continue to develop and implement actions providing information and raising awareness on avian influenza and potential human exposure or infection to target health professionals, particularly in areas with ongoing avian influenza outbreaks in poultry and detections in wild birds or other animals. Ensure clear advice to the public on avoiding contact with sick and dead animals. Provide clear instructions regarding contacting and reporting to relevant health authorities.

Consider using/adapting the ECDC infographics ([14]) ([15]) and short videos to support awareness-raising among the public.

3.3 ANIMAL HEALTH SECTOR ACTIONS

Even if HPAI in Europe is currently only affecting animals with no human cases reported, public health authorities rely on certain animal health actions – notably the rapid sharing of information - to inform subsequent public health action (e.g. rapid testing of potentially infected individuals, quarantine, etc.). Considering that HPAI is now affecting a number of mammals, that the circulation of viruses in mammals increases their zoonotic potential and that some mammals can be "mixing virus vessels" potentially leading to the emergence of new strains of the virus, HPAI surveillance and control measures in animals are crucial also to help prevention and preparedness action on the human health side.

a) Surveillance and response in animal populations

([14]) Poster: Effective hand-washing (europa.eu)

([15]) Infographic: Using face masks in the community (europa.eu)

Explore options to extend and enhance surveillance (including genomic surveillance, in line with the guidance ([16]) of the EU Reference Laboratory for Avian Influenza) of avian influenza in animals (birds and mammals), in accordance with the EU legal requirements (Union surveillance programme in CDR (EU) 2020/689 ([17]) as amended by CDR (EU) 2023/1798) which prompts relevant information sharing if the disease occurs in mammals.

Countries can explore additional actions or response.in line with art 257 (on the Emergency measures to be taken by the competent authority of the Member State in the territory of which an outbreak of a listed disease or emerging disease, or a hazard occurred) or art 171 (on National measures designed to limit the impact of diseases other than listed diseases) of the Regulation (EU) 2016/429 ([18]).

Ensure early, regular and consistent availability of information of avian influenza viral genetic characteristics of virus from infected animals in order to assess timely the potential zoonotic risk, as well as the results of any epidemiological investigation including also those regarding asymptomatic animals. This information should be immediately and efficiently shared with relevant human health authorities in order to allow implementation of public health measures and development of medical countermeasures.

Consider preparing national guidance for close involvement and coordination (animal and human health authorities) in investigation of avian influenza outbreaks including among mammals when there is potential zoonotic risk, from the predominant strains circulating in the affected area to allow for early awareness and thus support rapid prevention, preparedness and response action on the human health and veterinary side (while respecting the requirements of the EU legislation).

Where vaccination of poultry and captive birds is planned, according to EU legislation and considering EFSA recommendations weighting its pros and cons also as a measure to limit an outbreak of zoonotic avian influenza, ensure surveillance in accordance with EU legislation, including post-vaccination surveillance in line with Delegated Regulation (EU) 2023/361. The results of this surveillance, especially any detected or suspected identification of escape mutants, should be communicated to public health authorities, establishing an effective bidirectional communication flow.

b) Reinforcing HPAI awareness

Reinforce HPAI awareness in veterinary services, veterinarians, medical doctors, poultry and captive bird keepers, fur animal keepers, zoos staff, pet animal keepers, hunters, wildlife organisations and other relevant groups.

c) Continuing preparedness measures

Continue high level HPAI preparedness, prevention including biosecurity in poultry production systems, and ensure laboratory capacity to investigate zoonotic potential. Biosecurity should be also ensured in fur animal farms, where protection of farmed mammals from wild birds (especially seabirds and waterfowl) should be prioritized, as for

([16]) https://www.izsvenezie.com/documents/reference-laboratories/avian-influenza/useful-resources/guidance-representative-genomic-avian-influenza-virus.pdf

([17]) http://data.europa.eu/eli/reg_del/2020/689/oj

([18]) https://eur-lex.europa.eu/eli/reg/2016/429/oj

EFSA guidance. Reinforce HPAI preparedness in animal species other than birds, including fur animals.

d) Participating in active surveillance project for wild birds

Consider to participate in active surveillance for wild birds: EFSA is preparing the launch of a grant to perform pilot project focusing on targeted active wild bird surveillance at certain relevant areas of Europe to detect which viruses are entering along the most important wild bird flyways. A pilot project ([19]) done at one location was successful and in this follow up project the number of sites will be expanded.

([19]) https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/sp.efsa.2022.EN-7791