

Avian influenza A(H5N8): data on exposure, testing and follow-up of people involved in outbreaks, EU/EEA, 2016/17

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INTRODUCTION and OBJECTIVES

During more than 2,000 outbreaks of highly pathogenic avian influenza virus A(H5N8), A(H5N5) and A(H5N6) more than 25 million birds were affected between October 2016 and March 2018 in 25/31 EU/EEA countries (Map, Table 1). Direct contacts between humans and infected birds provide the potential for avian influenza viruses to transmit to humans. Early identification of such exposure and transmission events is crucial to prevent potential onward spread to the community.

Map: Overview of affected countries during the highly pathogenic avian influenza A(H5Nx) outbreaks and countries participating in the ECDC survey, EU/EEA Member States, October 2016 – March 2018 (as of 8 March 2018); avian influenza affected EU/EEA countries+Israel in green, countries participating in ECDC's survey shaded.



METHODS

The European Centre for Disease Prevention and Control (ECDC) performed an online survey where all national experts within the ECDC influenza network of were asked to provide information about follow-up of exposed people, criteria for identification of possible cases as well as number of tested people for A(H5N8) (Figure). The European Food Safety authority (EFSA) asked the veterinary experts to provide data on the outbreaks e.g. size of the affected holding, bird species, type of the outbreak, holding specifications as well as number of involved people being exposed for the period October 2016–June 2017. EMPRES-I data (October 2016 – March 2018) was included to extrapolate the number of exposed people during the whole outbreak by using the mean number of people exposed by size and characteristics of the affected bird holding multiplied by number of total outbreaks.

Figure: Epicurve of avian influenza outbreaks in birds, EU/EEA Member States, October 2016 - March 2018 (as of 8 March 2018)

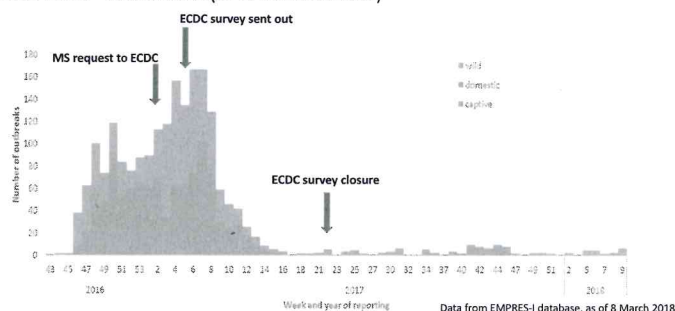


Table 1 Number of avian influenza outbreaks by bird classification, EU/EEA Member States, October 2016 -March 2018 (as of 8 March 2018)

Susceptible animals	Number of outbreaks		
	Captive	Domestic	Wild
0-50	3	158	866
51-200	3	91	11
201-1000	2	107	1
1001-10,000	-	340	-
>10,000	-	276	-
Sum	8	1,163	910

Data from EMPRES-I database, as of 8 March 2018

RESULTS

Nine countries provided data about exposed people to EFSA, 22 countries provided public health data to ECDC. During 258 avian A(H5N8) outbreaks altogether, 1,570 people were exposed (Table 2): 960 during outbreaks in commercial holdings, 340 in non-commercial farms. Outbreaks in commercial holdings required a higher number of people involved in culling operations due to a larger number of birds compared to non-commercial farms, which also include findings in wild birds.

Table 2: Number of avian influenza outbreaks by bird classification, EU/EEA Member States, October 2016 - March 2018 (as of 8 March 2018)

Susceptible animals	Commercial farms		Non-commercial farms	
	Number of outbreaks (mean number of birds/outbreak)	Sum of exposed workers (mean number/outbreak)	Number of outbreaks (mean number of birds/outbreak)	Sum of exposed workers (mean number/outbreak)
0-50	1 (50)	3 (3)	65 (24.3)	185 (2.8)
51-200	3 (152.7)	14 (4.7)	35 (88.9)	131 (3.7)
201-1,000	8 (667.8)	62 (7.8)	6 (424.2)	24 (4)
1,001-10,000	45 (4,898)	258 (5.7)	-	-
>10,000	42 (36,453)	623 (14.8)	-	-

We extrapolated approximately 10,000 people being exposed during the outbreaks with more in commercial farming due to higher number of affected animals (Table 3).

Table 3: Extrapolation of the number of people involved in the different outbreaks, summed estimates, October 2016 - March 2018 (as of 8 March 2018)

	Number of people exposed - Commercial outbreaks*	Number of people exposed - Non-commercial outbreaks**	Total
0-50	474	2,433.2	2,907.2
51-200	427.7	51.8	479.5
201-1,000	834.6	12	846.6
1,001-10,000	1,938	-	1,938
>10,000	4,084.8	-	4,084.8
Total	7,759	2,497	10,256

*Commercial= number of outbreaks in domestic birds x mean number of exposed workers

**Non-commercial = number of wild-captive birds x mean number of exposed workers

In the ECDC survey, six countries reported to have followed up 256 people exposed to infected birds actively, and 274 people in four countries passively. Five countries did not have follow-up information at national level, and seven countries reported that no one was monitored. Six countries reported testing 29 people in total for A(H5N8), all were negative.

CONCLUSIONS

Challenges remain to collect the number of exposed people due to split responsibilities between relevant authorities at local, regional and national levels. An extrapolated 10,000 people have been involved in culling activities related to infected birds/affected holdings, however, not taking the number of days of each culling operation or the involvement of the same people in different outbreaks into account. Stronger frameworks to share comprehensive human exposure data for early response and better evidence generation are needed.

ACKNOWLEDGEMENT

Austria (Andrea Hoefflechner-Poeltl, Eveline Wodak), Belgium (Philippe Houdart, Katie Vermeersch, Bénédicte Lambrecht, Marjorie Piret, Mieke Steensels), Bulgaria (Aleksandra Mitcheva, Anna Zdravkova), Croatia (Zlatko Krovina, Tihana Mišić), Cyprus (Georgios Krasias), Czech Republic (Marie Vagnerová, Milada Dubská, Petr Šatran, Martina Havliczkova, Jan Kyndl), Denmark (Thorikild Bastholm, Torben Grubbe, Pernille Dahl Nielsen, Stig Møllgaard, Tyra Grove Krause), Estonia (Kärt Jaarma, Helen Prommik, Irina Dontsenko), Finland (Tiia Tuupainen, Niina Ikonen, Outi Lyytikäinen), France (Loïc Evain, Isabelle Guerry, Alexandra Troyano-Groux, Mohamed Boukottaya, Anne Bronner, Alexandre Fediaevsky, Claire Guinat, Adeline Huneau-Salaün, Mathilde Paul, Isabelle Bonmarin), Germany (Franz Conraths, Andrea Coßmann, Silke Buda), Greece (Sokratis Perdikaris, Vasileia Konte, Kostas Mitrou), Hungary (Zsófia Szepesiné Kökány, Zsolt Terjék, Gabor Wyszoczky, Gerda Pálai, Anna Luca Vesseli, Katalin Kristalovics), Ireland (Stephanie Ronan, Eoin Ryan, Joan O'Donnell), Israel (Shepherd Roe Singer), Italy (Anna Sorgente, Tiziana Dorotea, Leana Bonfanti, Stefano Marangon, Paolo Mulatti, Caterina Rizzo, Maria Rita Castrucci, Luca Busani), Latvia (Rudite Varna, Raina Nikiforova), Liechtenstein (Marina Jamnicki Abegg), Lithuania (Paulius Busauskas, Rasa Liausiediene), Luxembourg (Roger Gindt), Malta (Joseph Caruana, Tanya Melillo), the Netherlands (Nina Berendsen, Dennis Bol, Geert Eleveld, Marcel Spiereburg, André Jacobi, Marit de Lange, Adam Meijer), Norway (Ragnhild Tønnessen, Nina Sørknes), Poland (Edyta Swieton), Portugal (Yolanda Vaz), Romania (Ioana Neghita, Alexandru Supeanu, Claudiu Stroe, Nicolae Drăgan, Odette Popovici, Rodica Popescu), Slovakia (Vilem Koprivá, Barbora Pavliková, Adriana Mačochová), Slovenia (Aleksandra Hari, Katarina Prosenec, Maja Socan), Spain (Ana Fernandez Martin, Inés Moreno, María José Sierra Moros), Sweden (Annika Wallén Norell, Anders Wallensten), United Kingdom (Adam Brouwer, Helen Roberts, Ian Brown, Gavin Dabrera);

The authors are grateful to all people involved during the recent avian influenza outbreak events.