EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

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ECDC MANAGEMENT BOARD
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Document: Actions Taken in connection with Avian Influenza *(See with paper MB4/12/20 on Pandemic Preparedness for more general areas e.g. on risk monitoring, communication)*	
Date: 17 October 2005	**Reference**: MB4/12/21
To: Members of the Management Board	**From**: ECDC – Angus Nicoll

Action: For information and advice. Management Board members are asked to note, inform their colleagues in their countries of relevant ECDC action and to comment on the document.

Time for discussion at the meeting will be short members so Board Members are invited to also send comments to influenza@ecdc.eu.int

Summary: The risks to human health from Avian Influenza are two-fold firstly those around any outbreak of Highly Pathogenic Avian Influenza (HPAI) in Europe such as that in the Netherlands in 2003 and the secondly that an HPAI might change to become a pandemic strain in humans.

To deal with the first threat ECDC has established a partnership with the relevant parts of the Commission and the European Food Safety Authority ECDC has identified for the Commission potential risk groups for Avian Influenza should there be an outbreak in Europe. The Unit of Scientific Advice is rapidly developing generic guidance for human health protection and surveillance, investigation and protection should further outbreaks occur in Europe. This will draw on previous guidance developed in the Netherlands and Ireland. Since the confirmation of the emergence of H5N1 in Romania and Turkey ECDC has undertaken a scientific Risk Assessment for H5N1 and human health in Europe to underpin its general approach of risk monitoring. It is also working with a number of Stakeholders on how to deal with a major problem of Risk Communication whereby the public and opinion-makers are confusing avian and pandemic influenza. Other activities include:

- Covering the topic of avian influenza in our joint country assessments undertaken with the Commission and WHO, this included Turkey
- Producing advice for travellers consistent with that of WHO
- Sending a specialist on the WHO-ECDC mission to Romania following the request from the Romanian Authorities
- Constantly refreshing the ECDC web-site with the latest information and specific information for the public

Other work relevant work is within the general work on pandemic preparedness.

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Essential Background

1. Species such as birds, horses and pigs have their 'own' influenza strains, which are different from the strains causing disease in humans. .I.e. the virus is well adapted to the particular host species, reproduces easily and only kills the occasional individual

2. Avian influenza strains are those well adapted to birds, porcine are well adapted to pigs etc. These are the equivalent to human seasonal influenza but for other species

3. Birds are probably the natural hosts for influenza viruses. They can become infected by a large number of different strains. Many are referred to as Low Pathogenic Avian Influenza – that is they rarely cause disease in birds. Low Pathogenic Avian Influenza (LPAI) is very well adapted to a number of wild species and is found in certain wild fowl (ducks and geese) without their showing any symptoms.

4. Occasionally a more dangerous strain of avian influenza emerges - a Highly Pathogenic Avian Influenza (HPAI) which can quickly kill birds without immunity to it, such as chickens and turkeys. Domestic and commercially bred chickens are especially at risk because they often live in crowded conditions. It is known that LPAI occasionally converts to HPAI so that even LPAI can be dangerous in domestic flocks.

5. Since 1997, one strain, A/H5N1 has emerged to cause major and severe outbreaks of HPAI disease in birds in South East and East Asia. Much of the spread there is attributed to commercial movements of birds (legal and illegal) and poor biosecurity. In 2003 it was appreciated that this was widespread in commercial and domestic flocks though current thinking is that it had been around for longer than previously imagined (back to at least 1996).

6. There had been intense recent speculation that migratory birds like duck and geese can spread LPAI and perhaps also HPAI. The routes of bird migration and mixing are complex and changing and it is conceivable that LPAI could spread to Europe through migration. It is less clear that migratory birds would spread HPAI because it tends to make them sick and kill them. Other plausible ways of spread for HPAI are the movement of commercial (legal and illegal) birds, movement of waste products of birds, smuggling and poor biosecurity.

7. A comprehensive qualitative risk assessment by the European Food Safety Authority around the threat to animal health in Europe was completed in September. However it is encountering the problem that even a qualitative risk assessment is quickly rendered out of date by new developments such as those in Russia, Romania and Turkey.

8. More recently it has been reported that A/H5N1 has been recognized in some birds in Russia East of the Urals and Kazakhstan. Initial results from Russia strongly suggest there is some A/H5N1 present in that area. However caution is needed around even this conclusion until the virus is typed and confirmed by the network of international reference laboratories. The Russian authorities are only cautiously starting to open up

their procedures to scrutiny though the EU seems to be making more progress than most other agencies.

9. An additional issue is that some other laboratory based groups are gaining specimens but not putting then through the proper procedures of the OIE

10. No human cases of A/H5N1 have been reported from Russia. WHO procedure is that if this occurred the infection would need to be confirmed outside the country in one of the international reference laboratories recommended by WHO before it was stated that human A/H5N1 had occurred.

Avian Influenza Confirmed in Europe (Romania and Turkey)

11. In early October A/H5N1 appeared in Europe (Romania and Turkey) in commercial and wild birds close to sites where migratory birds focus. The Romanian and Turkish Authorities were very open in seeking EU and WHO assistance on public health issues and in sharing specimens. Hence these are confirmed findings. In the light of this it has become almost certain that migrating birds can and do spread the virus, and that the potential exists for the virus to spread elsewhere in Europe.

12. ECDC has undertaken a rapid risk assessment of the additional risk associated with the appearance of A/H5N1 in Europe and this will be considered this week by the Advisory Forum.

A Risk Communication Challenge

13. There is much confusion in the minds of many people over Avian and Human Influenza. For example during the recent concern over migrating birds perhaps spreading HPAI some people has the impression that they were spreading a new human pandemic strain. Now that A/H5N1 has appeared in Europe some people are genuinely thinking pandemic influenza has arrived.

Threats to Human Health - Transmission from birds to humans

14. Despite many tens of millions of cases of H5N1 influenza estimated among birds, to date (last WHO report August 5th) only 112 humans have been reported as being infected in four of the affected countries (Cambodia, Indonesia, Thailand and Viet Nam). Of these 57 are known to have died showing the virus is currently highly pathogenic to humans. The vast majority had close contact with affected birds or their waste products. There is evidence that mild and asymptomatic cases are surprisingly rare. Human-to-human transmission of A/H5N1 has occurred rarely and there have been no chains of transmission.

15. The Netherlands experienced an outbreak of another HPAI (A/H7N7) in poultry in 2003. This was controlled at great expense by the culling of millions of birds. The origins were never discovered (the first poultry were not free ranging). It is thought to have caused mild disease in at least 89 people mostly involved in culling. However it also killed one previously well veterinary officer.

16. A particular problem in Europe is that contract and casual labour is used in the unpleasant task of large scale culling. It is especially difficult to ensure that protective measures are taken (protective clothing and masks; influenza vaccination and possibly use of antivirals) to undertake health monitoring and surveillance in the groups involved who may come from other countries and even be illegal migrants.

Threat to human health – Emergence of a Human Pandemic

17. The second and greater threat to the human health comes from the potential of Avian Influenza converting to a novel human form by mutation or recombination with other influenza viruses such as seasonal human viruses which transmit readily. Hence this could cause a pandemic. This is most likely to happen where there is intense contact between animals and humans such as in South East Asia and China. The last two pandemics are thought to have emerged in that Region though the precise mechanism for this is unknown.

Specific ECDC Actions on Avian Influenza (See also Paper on Pandemic Preparedness for more general areas e.g. on risk monitoring, communication– AF3 /14)

18. ECDC has established a partnership with the relevant parts of the Commission in DG Sanco – those dealing with Human Health (C3) and Animal Health and Welfare (E2) and the European Food Safety Authority (EFSA). A weekly teleconference is held to ensure liaison.

19. ECDC has identified for the Commission potential risk groups for Avian Influenza should there be an outbreak in Europe.

20. The Unit of Scientific Advice is developing generic guidance for human health protection and surveillance, investigation and protection should further outbreaks occur in Europe. This will draw on previous guidance developed in the Netherlands and Ireland and other guidance identified by Advisory Forum members.