



STATUS FOR OUTBREAK OF AVIAN INFLUENZA IN ASIA

No. 10, 2004

The outbreak of avian influenza A (H5N1) among poultry and other birds is still ongoing in eight countries in Asia, [fig. 1](#). Large numbers of poultry are now being culled. Over the last two months, >100 million birds have either died from the disease or been culled in Asia. Moreover, in China, >10 million poultry have been vaccinated. Pakistan and Taiwan have also reported deaths among poultry, but the cause has been avian influenza A viruses other than H5N1.

Transmission to humans

Thailand and Vietnam are the only countries where transmission from poultry to humans has been reported. There have been reports of a total of 33 patients: 10 patients in Thailand, of whom seven died, and 23 patients in Vietnam, of whom 15 died.

There is no evidence of human-to-human transmission. Four cases from the same family in Vietnam have previously been reported, EPI-NEWS 6/04. It has now been established that this was not a case of human-to-human transmission.

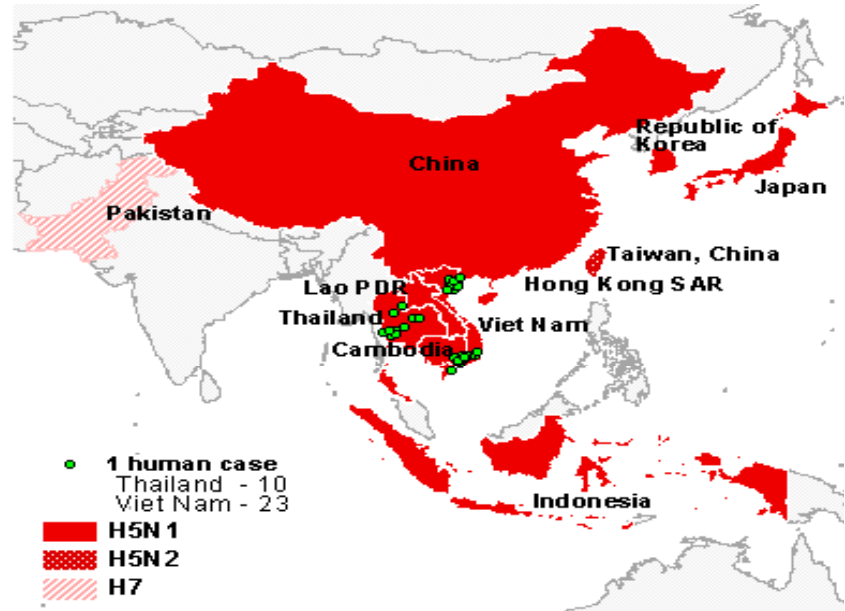
Symptoms and course of the disease

The first provisional descriptions of symptoms and the course of the disease are available now. For 10 patients in Vietnam, of whom eight died, one was recovering and one had recovered, it was found that:

- Mean age was 13.7 years.
- All were previously healthy.
- All had fever >38°C, shortness of breath and a cough.
- None had sore throat, conjunctivitis, rash or running nose.
- All had clinically significant lymphopenia.
- In all patients, there were marked abnormalities on chest radiography. Major abnormalities included extensive infiltration bilaterally, lobar collapse, focal consolidation, and air bronchograms.
- Seven patients had diarrhoea.
- The median time from exposure to onset of illness was 3 (2-4) days.
- The median time from onset of illness to admission was approx. 6 (3-8) days.
- The median time from onset of illness to death was 9 (6-17) days.

For five patients in Thailand, more or less the same symptoms were found. Four of the patients were 6-7 years, one was 58 years; all five died. Other early symptoms included sore throat, rhinorrhoea, and myalgia. None had

Fig. 1. Avian influenza in Asia as of 3 March 2004.
 Source: www.wpro.who.int



had diarrhoea. Mild to moderate elevations in hepatic transaminases were found in four patients. Two patients developed renal impairment as a later manifestation. None had documented evidence of secondary bacterial infections.

Analysis of virus

On antigen analysis and genetic sequencing, it is possible to differentiate between influenza viruses that usually circulate either among birds (avian) or among people (human). Investigations of H5N1 virus isolated from five patients in Vietnam and Thailand have shown that all genes are of avian origin. There are no signs of genetic exchange between avian and human influenza viruses. If this were the case, the risk of human-to-human transmission would be increased. Furthermore, the current H5N1 virus is found to be antigenically different from the H5N1 virus that was isolated from people in the outbreaks in Hong Kong in 1997 and 2003.

The current H5N1 virus has genetic characteristics consistent with resistance towards amantidine and rimantidine, which is confirmed by a sensitivity test. The virus is sensitive to the neuraminidase inhibitor oseltamivir, while the result for zanamivir is not yet available.

Risk of infection for humans

In the light of the many millions of birds that have been sick from avian flu during recent months, the risk of

infection for humans must be considered to be very limited. Everything suggests that infection requires close contact with sick birds or their excrement. Avian influenza therefore constitutes a special risk of infection for people who have occupational contact with sick birds, e.g. in connection with the culling of infected poultry flocks.

The risk of infection for tourists in the area is considered to be very limited, and no restrictions on travel have been introduced.

Precautions in Denmark

Imported avian influenza may bring the infection to poultry flocks in Denmark. Travellers to Asia are thus issued with information about how to avoid bringing avian influenza to Denmark. This and other information may be seen on: www.fdir.dk, www.sst.dk and www.ssi.dk. On suspicion of infection with avian influenza in an acutely ill patient, a department of infectious diseases should be contacted. The Danish National Board of Health has issued guidelines to the clinical departments of microbiological and infectious diseases in Denmark concerning diagnostics on suspicion of avian influenza in humans.

Suspicion of infection with avian influenza does not in itself lead to isolation of the patient, but isolation should be considered according to the usual criteria on admission.

(S. Glismann, Dept. of Epidemiology)
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Patients with selected individually notifiable diseases

Notifications received during the 4th quarter of 2003, compared with the corresponding period in 2002

County	Tuberculosis		Meningococcal disease		Pertussis < 2 yrs		Chronic Hepatitis B		Hepatitis A		AIDS	
	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002
Cph. Municipality	27	28	-	4	6	8	26	4	9	2	3	3
Frb. Municipality	1	2	-	-	1	2	-	1	1	-	-	-
Cph. County	7	19	3	2	2	8	8	5	4	3	1	3
Frederiksborg	4	5	2	-	3	9	19	2	-	1	1	1
Roskilde	3	1	-	2	-	2	7	-	-	-	2	-
West Zealand	3	1	1	1	1	3	-	-	-	-	2	-
Storstrøm	3	4	-	1	1	6	-	-	-	-	-	1
Bornholm	-	-	-	-	-	-	-	-	-	-	-	1
Funen	7	2	5	3	1	3	1	2	-	6	3	-
South Jutland	1	3	1	-	-	3	-	1	-	-	-	-
Ribe	2	2	-	-	1	4	-	-	-	-	-	-
Vejle	2	-	2	3	2	6	3	-	1	-	-	-
Ringkøbing	-	3	4	1	2	10	2	11	-	10	-	1
Aarhus	15	12	1	-	3	14	4	10	-	3	-	-
Viborg	1	3	-	4	3	6	2	1	-	-	2	-
North Jutland	4	9	1	3	1	1	-	1	1	-	-	1
Other	1	-	-	-	-	-	1	-	-	-	1	1
Total	81	94	20	24	27	85	73	38	16	25	15	12

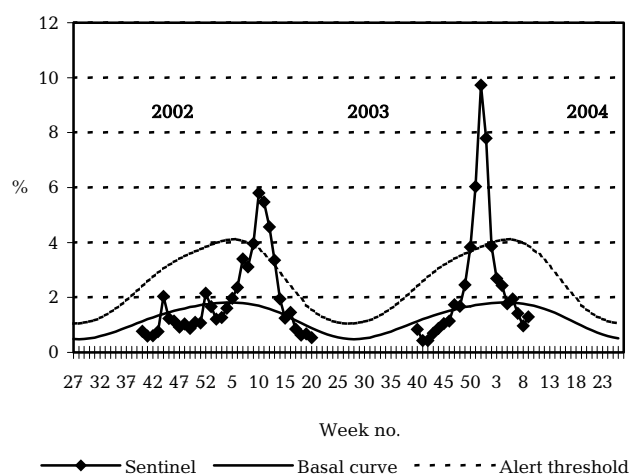
Patients with other individually notifiable diseases

Notifications received during the 4th quarter of 2003 compared with the corresponding period in 2002, DK

	4th quarter	
	2003	2002
Creutzfeldt-Jakob disease	1	-
Foodborne diseases	133	156
Hepatitis B - acute	7	10
Hepatitis C - acute	1	-
Hepatitis C - chronic	175	64
Hib-meningitis	1	-
Legionella pneumonia	32	32
Measles	-	-
Mumps	1	-
Neuroborreliosis	39	24
Paratyphoid fever	4	1
Pneumococcal meningitis	23	16
Psittacosis (ornithosis)	7	7
Shigellosis	16	51
Typhoid fever	2	4
VTEC/HUS	28	34

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2001/2002/2003



Sentinel: Influenza consultations as percentage of total consultations

Basal curve: Expected frequency of influenza consultations under non-epidemic conditions

Alert threshold: Possible incipient epidemic

(Dept. of Epidemiology)