



## SURVEILLANCE OF INFECTIOUS DISEASES 2005

No. 1, 2006

### Influenza

In 2005, there was a continued focus on the spread of avian influenza type A H5N1. Disease among poultry spread from South-East Asia to the European countries of Romania and Croatia. Concurrent with this historically unique dissemination of highly pathogenic avian influenza, the WHO reported (in 2005) a further 93 human cases. This number is very low relative to the great number of exposed persons, but it is worrying that 39 of them died. The situation has given rise to speculation as to whether H5N1 can become a source of a future influenza pandemic. For this to occur, the current H5N1 virus must change in such a way that it can transmit itself efficiently from human to human. This has not occurred in 2005, and we do not know whether it will ever happen or how serious it will be if it happens. There is no historical precedent, since the periods preceding the known pandemics, including the Spanish 'flu of 1918, do not seem to have much in common with the current situation with widespread outbreaks of highly pathogenic avian influenza A of the type H5N1.

After the known outbreaks of avian influenza type A H5N1 in Europe, the risk of a pandemic may on the face of it seem closer. However, the comprehensive spread of disease among birds does not in itself constitute a threat to public health if outbreaks are handled correctly.

For an ongoing assessment of the risk of a pandemic, it is essential to gather knowledge of changes in the genetic and epidemiological circumstances of H5N1 virus, regardless of geographical localisation. Systematic international surveillance and research are therefore necessary to complete the many gaps in our knowledge of the pandemic threat.

### Food safety

Denmark was struck by a series of outbreaks of foodborne norovirus infection in 2005. A total of six outbreaks, involving more than 1000 patients, were traced back to imported Polish raspberries, EPI-NEWS 35/05 and 38/05. This was the first time that outbreaks of norovirus have been associated with frozen berries sold in Denmark, but the problem has previously been described in countries including France, Sweden and Finland. The outbreaks created great publicity, but were not the only

foodborne outbreaks associated with imported products. The account of salmonella infections prepared by the Danish Zoonosis Centre reports a trend observed in recent years that a greater proportion of Salmonella infections in humans come from imported products. This is a consequence of the fact that Danes are consuming more foodstuffs produced abroad, a trend that is set to continue. An example of this is an outbreak of multi-resistant Salmonella as a result of imported beef served raw (carpaccio), EPI-NEWS 38/05. In 2005, in addition, a foodborne outbreak of cryptosporidiosis was recorded, in which 99 employees in a company were infected in their canteen, EPI-NEWS 42/05. The source of infection was in all probability carrots served from a water dish. The dish of carrots had probably become contaminated because of inadequate hand hygiene in one of the company's staff who was excreting the parasite's oocysts in his/her faeces. The "raspberry case", increased risk of resistant Salmonella in imported foodstuffs and the outbreak of cryptosporidiosis indicate new sources of infection and new causes of foodborne infections. Formerly, it was almost exclusively animal foodstuffs that were associated with foodborne infection. Now it is important to consider non-heat-treated fruit, vegetables and also spices as potential sources of infection.

### Hepatitis B

Vaccination against hepatitis B is included in most countries' child vaccination programmes. But several countries in Western Europe, including the Nordic countries, United Kingdom and Ireland, have not introduced this vaccination. In 2005, the Danish National Board of Health concluded, partially on the basis of a health technology assessment, that there is currently no need to change this policy. The infection pressure of hepatitis B in the general Danish population is modest. The National Board of Health found that systematic screening of relevant persons, counselling of those known to be infected and vaccination of exposed persons can keep the number of chronically infected cases (carriers) so low that there is no need for general vaccination of the whole population.

In the argument against the introduction of hepatitis B vaccination,

there was also a wish to protect the Danish child vaccination programme. It is important that the population's support not be weakened by the fact that some parents may lose faith in the programme as a result of the introduction of a vaccine against a disease that does not constitute a risk to their children.

To increase control of hepatitis B, free hepatitis B vaccination was offered to all substance abusers and their long-term sexual partners in 2005, EPI-NEWS 12-13/05. In addition, as a two-year trial scheme, a routine screening of pregnant women for hepatitis B was introduced, EPI-NEWS 41/05. The objective is to find all pregnant women with chronic hepatitis B infection (HBsAg), so that their children can be vaccinated just after birth and thus avoid contracting chronic hepatitis B infection.

### "The new normal"

The international spread of avian influenza and the increasing significance of "exotic" causes and sources of infection for foodborne infections are examples of the significance of globalisation for the epidemiology of the infectious diseases. This development was signalled by the emergence of HIV/AIDS, and also included disease such as SARS and the many new zoonoses. This has been called "the new normal" in the epidemiology of infectious diseases.

"The new normal" is partially a consequence of the information society and the media's interest. Only a few years ago, there was limited current information about the incidence of disease in remote countries. Today, this knowledge is available, thanks to increased diagnostic facilities and exchange of information, particularly over the Internet. But part of the development is real and is due to factors including ecological circumstances such as the encroachment of new land areas, demographic changes, increased international trade, other forms of production and increased travel activity. As globalisation has come to stay, the future will continue to offer surprises and challenges concerning the monitoring of infectious diseases, and place demands on modern disease surveillance and outbreak management. (K. Mølbak, Department of Epidemiology)

## Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2005 figures are preliminary)

Table 1	Week 52 2005	Cum. 2005 <sup>1)</sup>	Cum. 2004 <sup>1)</sup>
AIDS	1	55	48
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	1
Creutzfeldt-Jakob	0	2	9
Diphtheria	0	0	0
Food-borne diseases	7	570	621
of these, infected abroad	2	136	114
Gonorrhoea	10	500	350
Haemorrhagic fever	0	0	0
Hepatitis A	1	64	230
of these, infected abroad	0	23	61
Hepatitis B (acute)	0	32	44
Hepatitis B (chronic)	2	140	145
Hepatitis C (acute)	0	1	6
Hepatitis C (chronic)	5	318	302
HIV	7	274	308
Legionella pneumonia	4	116	103
of these, infected abroad	0	45	33
Leprosy	0	0	0
Leptospirosis	0	12	15
Measles	0	2	0
Meningococcal disease	0	86	96
of these, group B	0	41	56
of these, group C	0	22	13
of these, unspec. + other	0	22	27
Mumps	0	8	6
Neuroborreliosis	3	92	120
Ornithosis	0	20	7
Pertussis (children < 2 years)	0	141	231
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	2	4
Listeria monocytogenes	0	2	4
Streptococcus pneumoniae	0	101	103
Other aethiology	0	16	12
Unknown aethiology	0	16	15
Under registration	7	29	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	1	107	102
of these, infected abroad	1	85	84
Syphilis	0	124	118
Tetanus	0	2	0
Tuberculosis	9	444	397
Typhoid/paratyphoid fever	0	36	24
of these, infected abroad	0	33	22
Typhus exanthematicus	0	1	0
VTEC/HUS	2	156	153
of these, infected abroad	1	55	36

<sup>1)</sup> Cumulative number 2005 and in corresponding period 2004

## Selected laboratory diagnosed infections

Number of specimens, isolates, and/or notifications received in SSI laboratories

Table 2	Week 52 2005	Cum. 2005 <sup>2)</sup>	Cum. 2004 <sup>2)</sup>
Bordetella pertussis (all ages)	2	495	1060
Gonococci	16	459	425
of these, females	3	49	49
of these, males	13	410	376
Listeria monocytogenes	3	44	39
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	22	1131	812
Serum specimens <sup>4)</sup>	11	805	642
Streptococci <sup>5)</sup>			
Group A streptococci	1	101	111
Group B streptococci	0	78	92
Group C streptococci	0	25	22
Group G streptococci	1	111	100
S. pneumoniae	0	1081	1210
Table 3	Week 50 2005	Cum. 2005 <sup>2)</sup>	Cum. 2004 <sup>2)</sup>
Pathogenic int. bacteria <sup>6)</sup>			
Campylobacter	27	3605	3628
S. Enteritidis	5	637	532
S. Typhimurium	5	554	451
Other zoon. salmonella	8	552	505
Yersinia enterocolitica	2	235	218

<sup>2)</sup> Cumulative number 2005 and in corresponding period 2004

<sup>3)</sup> Resp. specimens with positive PCR

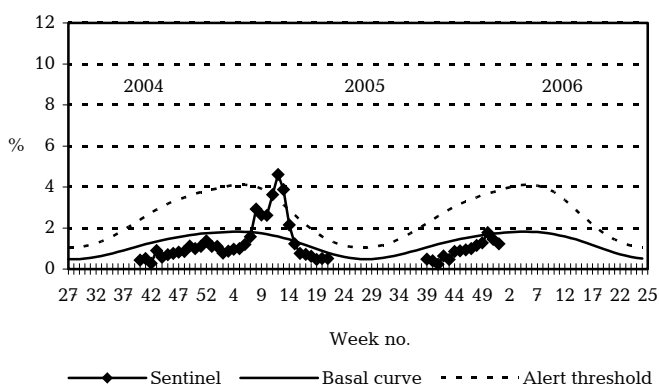
<sup>4)</sup> Serum specimens with pos. complement fixation test

<sup>5)</sup> Isolated in blood or spinal fluid

<sup>6)</sup> See also [www.germ.dk](http://www.germ.dk)

## Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2004/2005/2006



Sentinel: Influenza consultations (as percentage of total consultations)

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

Alert threshold: Possible incipient epidemic

4 January 2006