

## SURVEILLANCE OF INFECTIOUS DISEASES 2004

No. 1, 2005

On 26 December 2004, a series of earthquakes in the Indian Ocean caused tsunamis that struck several countries, including Indonesia, Sri Lanka, India and Thailand. Nobody at present has an overview of the possible, epidemiological consequences of the natural disaster. The risk of outbreaks of disease in the aftermath is dependent on the extent of countermeasures. The situation emphasises the fact that the epidemiology of infectious diseases, conditions determined by nature, globalisation and economic and political circumstances are all closely related. From the start of 2004, the spread of avian influenza type A H5N1 came into focus to an extent not hitherto seen. From Thailand and Vietnam, there were reports of at least 45 persons becoming infected from poultry. With a total of 32 deaths, the mortality was high, but avian influenza does not in itself constitute a threat to public health, as the virus is not easily transmitted between humans. Consequently, avian influenza H5N1 in its current form cannot give rise to pandemic influenza. The risk is that mutations in the virus may lead to it becoming transmissible from person to person. For this reason, the situation has underpinned the need for preparedness against pandemic influenza. It is impossible to predict when a new influenza pandemic will come, just as it is far from certain that H5N1 will be a pandemic strain.

### Sexually transmitted infections

In Denmark, 2004 was marked by renewed awareness of sexually transmitted infections (STI). After a number of years with low incidence of syphilis, an increase was recorded from 2003, particularly among men who have sex with men (MSM). The increase continued in 2004. An increase in the incidence of gonorrhoea was also recorded in 2004, and again an increased number of cases among MSM contributed to the rise. The trend in STI among MSM is of significance because these diseases can increase the risk of transmission of HIV. At the same time, the increase may be a result of an altered risk perception of HIV infection and thus changes in sexual behaviour in parts of the MSM environment in the direction of the increased practice of unsafe sex. There is a need for surveys to shed light on these factors. In addition, surveys suggest that unsafe sex among MSM is related to low self-esteem, among other things. For this reason, it is important to combat

stigmatisation and discrimination. The increase emphasises the need for an increased validity in the surveillance of HIV, which will be secured by, among other things, the introduction from 1 January 2005 of what is known as the Soundex system, EPI-NEWS 51/04.

### Hepatitis A

Current figures for 2004 show 255 notified cases of hepatitis A; the highest recorded figure since 1984. The increase is attributed to an outbreak of hepatitis A among MSM, EPI-NEWS 52/04. An investigation of the outbreak showed that sex in Copenhagen saunas and with casual partners was associated with an increased risk of infection with hepatitis A. It is important to provide information about the possibility of prophylaxis by vaccination, especially for the risk groups. The investigation of the outbreak provided an opportunity to direct prophylactic measures, and also contributed to providing increased insight into parts of the MSM environment.

### First general outbreak of VTEC

2004 brought Denmark its first general outbreak of verocytotoxin-producing *E. coli* (VTEC) O157, EPI-NEWS 14/04. Through a case-control study, the outbreak, which involved 25 patients, was linked to milk from a certain dairy. There was thus a well-founded suspicion that milk for human consumption with a low level of contamination with VTEC was the cause of the outbreak. The outbreak stopped after the production was temporarily suspended and the plant was inspected and cleaned. However, follow-up investigations at the dairy and of tank milk revealed nothing that in itself could explain whether milk from this dairy was the cause. This was not unexpected, as the level of contamination with VTEC must have been very low. Experience abroad indicates that bacteriological confirmation is best performed through comprehensive investigations of herds, including culture of faeces from the individual milk cows. Such investigations were not conducted, and the outbreak cannot thus be considered fully resolved.

### Microbiological typing

In the investigation of the two outbreaks, microbiological typing was a key activity. In addition, during the course of the year several outbreaks of salmonella were identified and ac-

counted for through the ongoing bacterial typing. Determination of type is also essential for surveillance and risk assessment in the case of influenza. This emphasises that modern disease surveillance requires strong national reference laboratories, as well as the need for close cooperation between microbiologists, epidemiologists, doctors and veterinarians.

### DEPT. OF EPIDEMIOLOGY: 25<sup>th</sup> ANNIVERSARY

On 1 January 2005, it was 25 years since the establishment of the Department of Epidemiology. The department was founded to manage the Danish National Board of Health's notification system for infectious diseases, and as a part of this process the department began to publish EPI-NYT, the link to the country's doctors, which thus also celebrates its 25th anniversary (the English version, EPI-NEWS, was introduced in 1996). At present, the department also oversees the coverage of the child vaccination programme and provides advice to health professionals. The need for disease surveillance, counselling and management of outbreaks has not decreased since the department was established. We are living in a time in which the spectrum of infectious diseases is developing and changing. New diseases are arising, while familiar ones are appearing in new forms or with a different distribution. Many factors contribute to these circumstances: globalisation, increased communication, changes in agricultural production, trade in live animals, consumption of antibiotics for humans and animals, ecological changes and climatic changes, as well as political, social and economic circumstances. At the same time, greater demands are being placed on the transmission of knowledge and on cooperation at both national and international level. One of the new cooperation partners on the international stage will be the new European Centre for Disease Prevention and Control, which will become operational in 2005. It is the hope of the department that this centre will contribute to reinforcing efforts against infectious diseases. (K. Mølbak, Department of Epidemiology)

The Department of Epidemiology wishes all readers a happy new year.

## Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2004 figures are preliminary)

Table 1	Weeks 52-53 2004	Cum. 2004 <sup>1)</sup>	Cum. 2003 <sup>1)</sup>
AIDS	2	48	39
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	1	0
Creutzfeldt-Jakob	0	8	8
Diphtheria	0	0	0
Food-borne diseases	16	622	543
of these, infected abroad	4	117	117
Gonorrhoea	11	350	175
Haemorrhagic fever	0	0	0
Hepatitis A	4	229	76
of these, infected abroad	0	65	41
Hepatitis B (acute)	2	43	44
Hepatitis B (chronic)	3	153	214
Hepatitis C (acute)	1	4	7
Hepatitis C (chronic)	4	266	371
HIV	9	331	259
Legionella pneumonia	0	103	90
of these, infected abroad	0	38	27
Leprosy	0	0	0
Leptospirosis	1	16	4
Measles	0	0	0
Meningococcal disease	0	85	104
of these, group B	0	48	56
of these, group C	0	11	21
of these, unspec. + other	0	26	27
Mumps	0	85	104
Neuroborreliosis	1	99	76
Ornithosis	1	7	14
Pertussis (children < 2 years)	3	231	114
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	4	4
Listeria monocytogenes	0	2	2
Streptococcus pneumoniae	1	87	107
Other aethiology	0	8	5
Unknown aethiology	0	15	13
Under registration	9	27	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	6	102	96
of these, infected abroad	3	87	79
Syphilis	1	118	72
Tetanus	0	0	0
Tuberculosis	11	436	403
Typhoid/paratyphoid fever	2	25	30
of these, infected abroad	1	23	24
Typhus	0	0	0
VTEC/HUS	4	152	119
of these, infected abroad	2	37	29

<sup>1)</sup> Cumulative number 2004 and in corresponding period 2003

## Selected laboratory-diagnosed infections

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

Table 2	Weeks 52-53 2004	Cum. 2004 <sup>2)</sup>	Cum. 2003 <sup>2)</sup>
Bordetella pertussis (all ages)	48	1108	548
Gonococci	25	441	267
of these, females	1	50	34
of these, males	24	391	233
Listeria monocytogenes	0	39	29
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	132	812	201
Serum specimens <sup>4)</sup>	65	606	515
Pathogenic int. bacteria <sup>5)</sup>			
Campylobacter	46	-	-
S. Enteritidis	9	-	-
S. Typhimurium	7	-	-
Other zoon. salmonella	14	-	-
Yersinia enterocolitica	5	-	-
Streptococci <sup>6)</sup>			
Group A streptococci	6	117	142
Group C streptococci	2	24	20
Group G streptococci	7	107	115
S. pneumoniae	48	1258	1188

<sup>2)</sup> Cumulative number 2004 and corresponding period 2003

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

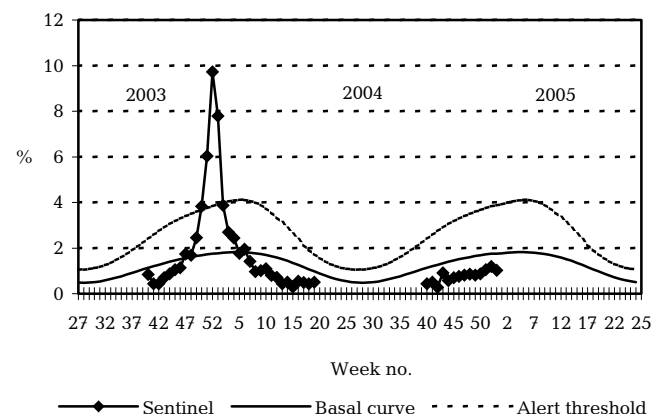
<sup>4)</sup> Serum specimens with pos. complement fixation test, MPT

<sup>5)</sup> See also [www.germ.dk](http://www.germ.dk). (Cumulated figures for 2003 & 2004 will be published later on [www.germ.dk](http://www.germ.dk))

<sup>6)</sup> Isolated in blood or spinal fluid

## Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2003/2004/2005



Sentinel: Influenza consultations (as percentage of total consultations)

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

Alert threshold: Possible incipient epidemic