



## TUBERCULOSIS 2005, PART II

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### Outbreaks

2005 saw several outbreaks among Danes belonging to risk groups such as homeless and/or alcoholics. One outbreak in Storstroem County was related to a drop-in centre and a mobile cabin. A total of five males aged 46-62 years were notified with TB, including two with occupational infection acquired while working at the mentioned locations. One of the occupationally infected died. DNA subtyping demonstrated that all cases were part of a substantial Danish chain of transmission, Cluster 2. An outbreak in Vejle County comprised two females and five males aged 33-60 years. Subtyping demonstrated that all cases formed part of either Danish clusters 1 or 2. Another outbreak in the mentioned county started in 2003 and comprised a total of eight persons, five males and three females aged 30-53 years. Three of these cases were notified in 2005. Subtyping revealed that all cases belonged to a minor Danish chain of transmission. All notified cases in Vejle County were related to local drop-in centres for socially marginalised.

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### Microbiological diagnostics

TB diagnosis verification by culture is needed to confirm the diagnosis, to test for susceptibility, and to monitor resistance, treatment outcome and chains of infection in Denmark.

In 2005, TB diagnosis was verified by culture in 326 of 424 (77%) notified cases, comprising 137 of 165 (83%) Danish cases and 189 of 259 (73%) immigrant cases. This level is comparable to the period 2001-2004 (75-77%), but constitutes a decrease compared with the period 1996-2000 (mean 82%).

Among a total of 295 notified cases of pulmonary TB ( $\pm$  other localisation), 233 (79%) cases were verified by culture, comprising 126 of 144 (88%) Danish cases and 107 of 151 (71%) immigrant cases.

Among 111 Danes with culture-verified pulmonary TB ( $\pm$  other localisation) and at least one test of sputum or tracheal secretion, 78 (70%) had positive microscopy and were regarded as infectious. The propor-

tion of Danes with culture-verified infectious pulmonary TB rose from 61% in 2002 to 71% in 2003 and 76% in 2004. Among immigrants, the proportion of infectious pulmonary TB cases was 62% (58 of 93 examined patients) in 2005. The corresponding 2004 proportion was 60%, EPI-NEWS 50/05.

Mycobacterium bovis was not found in 2005.

### Drug resistance

Susceptibility results were available for all 326 patients with culture-verified TB: 137 Danes and 189 immigrants.

Isolates from a total of 21 (6%) patients, comprising five Danes and sixteen immigrants, were resistant to one of the following first choice drugs: rifampicin, isoniazid, ethambutol or pyrazinamide. Five cases of multidrug-resistant TB (MDR) were detected, i.e. resistance to rifampicin and isoniazid and any further resistance, in two Danes and three immigrants. Isoniazid resistance was detected in a total of 13 patient isolates, including three from Danes and ten from immigrants. Finally, three immigrants had ethambutol resistant TB. Information on previous TB was available for four of the patients with resistant TB; three of whom were isoniazid resistant and one ethambutol resistant.

### XDR TB

The autumn of 2006 has brought considerable international attention to the so-called "extensive drug resistance" (XDR), defined as MDR with concurrent resistance to a fluoroquinolone and either amikacin, kanamycin or capreomycin. In a South African study, the survival among XDR TB patients averaged 25 days from the initial XDR resistance suspicion. Those of the patients who were tested for HIV all tested positive.

So far, no case of XDR TB has been detected in Denmark.

(Z. Kamper-Jørgensen, V. O. Thomsen, Mycobacteriology Laboratory)

### Comments to parts I and II

In 2005, the number of notified TB cases in Denmark rose by 10% from 386 cases in 2004 to 424 cases in 2005, EPI-NEWS 48/06. Among Danish patients, the increase constituted 13%, among immigrants 8%. Nevertheless, the overall number of cases

was 6% lower than average for the previous five-year period. In relative as well as absolute terms, more cases were notified among immigrants (61%). Children constituted 9% of the notified cases, 4% among Danes and 13% among immigrants. These levels correspond to the levels of previous years.

The proportion of infectious patients remained high. This is a consequence of late TB diagnosis, which contributes to continued spread of the infection. Each infectious patient is thought to infect 10-15 other persons per year.

The proportion of patients with TB risk factor information on homelessness and/or alcoholism doubled.

These risk factors are still considered to be under-reported. Consequently, it is essential to consider the TB diagnosis when relevant symptoms are observed, particularly in patients from known risk environments.

The proportion of culture-verified cases remained unchanged in comparison to recent years.

The total number of patients with resistant TB was comparable to the 2004 figure. In 2005, however, five cases of MDR TB were found, which is the highest number observed in the period 1991-2005. In all cases the diagnosis was confirmed by detection of mutations known to cause rifampicin and isoniazid resistance. At present, three cases of MDR TB have been detected in Denmark during 2006.

(P. H. Andersen, Department of Epidemiology, V. Ø. Thomsen, Mycobacteriology Laboratory)

### MENINGITIS VACCINE IN THE MEDIA

The vaccine currently referred to in the media is the conjugated pneumococcal vaccine which protects against pneumococcal bacteria and guards against pneumococcal meningitis. In the media, the vaccine has been described as a meningitis vaccine, which may lead to the erroneous understanding that the vaccine prevents meningococcal disease.

The introduction of the conjugated pneumococcal vaccine to the Danish childhood vaccination programme is currently being considered.

(Department of Epidemiology)

## Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2006 figures are preliminary)

Table 1	Week 48 2006	Cum. 2006 <sup>1)</sup>	Cum. 2005 <sup>1)</sup>
AIDS	1	41	54
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	22	2
Diphtheria	0	0	0
Food-borne diseases	5	530	541
of these, infected abroad	0	129	125
Gonorrhoea	7	398	461
Haemorrhagic fever	0	0	0
Hepatitis A	0	37	60
of these, infected abroad	0	19	22
Hepatitis B (acute)	0	19	31
Hepatitis B (chronic)	0	285	134
Hepatitis C (acute)	0	7	1
Hepatitis C (chronic)	0	424	289
HIV	3	223	251
Legionella pneumonia	4	120	107
of these, infected abroad	0	30	45
Leprosy	0	0	0
Leptospirosis	0	8	10
Measles	0	27	2
Meningococcal disease	0	66	87
of these, group B	0	32	40
of these, group C	0	14	22
of these, unspec. + other	0	20	22
Mumps	0	16	7
Neuroborreliosis	3	85	88
Ornithosis	0	11	19
Pertussis (children < 2 years)	3	48	140
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	3	4
Listeria monocytogenes	0	7	2
Streptococcus pneumoniae	0	70	105
Other aethiology	0	10	17
Unknown aethiology	0	17	17
Under registration	4	30	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	1	59	103
of these, infected abroad	0	48	81
Syphilis	2	68	117
Tetanus	0	2	2
Tuberculosis	15	375	393
Typhoid/paratyphoid fever	0	26	32
of these, infected abroad	0	24	30
Typhus exanthematicus	0	0	1
VTEC/HUS	6	134	143
of these, infected abroad	0	43	49

<sup>1)</sup> Cumulative number 2006 and in corresponding period 2005

## Selected laboratory diagnosed infections

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

Table 2	Week 48 2006	Cum. 2006 <sup>2)</sup>	Cum. 2005 <sup>2)</sup>
Bordetella pertussis (all ages)	6	207	469
Gonococci	7	395	418
of these, females	0	69	45
of these, males	7	326	373
Listeria monocytogenes	3	52	39
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	32	471	998
Serum specimens <sup>4)</sup>	22	385	752
Streptococci <sup>5)</sup>			
Group A streptococci	4	129	94
Group B streptococci	1	88	75
Group C streptococci	0	20	25
Group G streptococci	3	135	108
S. pneumoniae	19	872	993
Table 3	Week 46 2006	Cum. 2006 <sup>2)</sup>	Cum. 2005 <sup>2)</sup>
Pathogenic int. bacteria <sup>6)</sup>			
Campylobacter	81	2915	3450
S. Enteritidis	7	533	604
S. Typhimurium	4	376	515
Other zoon. salmonella	8	635	520
Yersinia enterocolitica	11	187	219
Verocytotoxin-producing E. coli	3	135	138
Enteropathogenic E. coli	4	265	248
Enterotoxigenic E. coli	1	210	343

<sup>2)</sup> Cumulative number 2006 and in corresponding period 2005

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

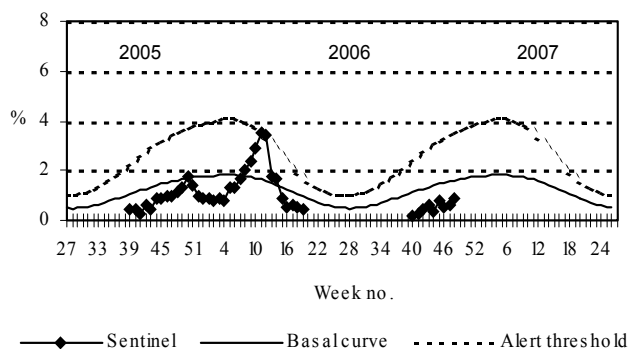
<sup>4)</sup> Serum specimens with pos. complement fixation test

<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, 2005/2006/2007



◆ Sentinel: Influenza consultations (as percentage of total consultations)  
 — Basal curve: Expected frequency of consultations under non-epidemic conditions  
 - - - Alert threshold: Possible incipient epidemic