EPI-NEWS

NATIONAL SURVEILLANCE OF COMMUNICABLE DISEASES

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WHOOPING COUGH 2008

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This report comprises all cases of laboratory-diagnosed whooping cough found in Denmark in 2008 by culture and/or PCR.
The report is based on data covering whooping cough cases (numbers in parenthesis) diagnosed at Statens Serum Institut (188), DCM Herlev Hospital (14), DCM Hvidovre Hospital (14), DCM Odense University Hospital (143), DCM Århus University Hospital, Skejby (133) and DCM Viborg Regional Hospital (21).
2008 witnessed the detection of 513 cases of whooping cough, and the overall incidence was 9 per 10^5. The number of cases and incidence by area are shown in Table 1.

Table 1. Laboratory confirmed whooping cough cases by area, and incidence per 10^5, 2008

Area	No.	Incidence
Copenhagen city	36	5
Copenhagen subs	15	3
Northern Zealand	34	8
Bornholm	3	7
Eastern Zealand	11	5
Southern Zealand	26	4
Funen	127	26
Southern Jutland	46	6
Western Jutland	33	8
Eastern Jutland	150	18
Northern Jutland	31	5
Other/not stated	1	-
Total	513	9

Age and sex

The distribution by age and sex is shown in Table 2.
The highest rate of whooping cough was seen in children < 1 year and children aged 5-14 years (particularly those aged 8-13 years). These age groups comprised 19% (96 cases) and 39% (198 cases), respectively, of the total number of diagnosed cases. Adults aged 18 year or older comprised 26% (133 cases).
The highest incidence observed was that of infants, with 149 cases per 10^5.

Commentary

All whooping cough cases are notifiable for the laboratory performing the test, EPI-NEWS 42-43/08.
In the years 2005, 2006 and 2007, the incidence was 11, 6 and 8 per 10^5, respectively. For comparison, the incidence during the latest epidemic in 2002 reached 36 per 10^5, EPI-NEWS 46/05. Consequently, the whooping cough occurrence has remained at a low level during the past four years.

Table 2. Laboratory confirmed whooping cough cases in 2008 by age, age, F/M ratio and incidence per 10^5

Age group	Number	(%)	F/M ratio	Incidence
<1 yrs	96	19	1.1	149
1 yrs	18	4	1.6	27
2-4 yrs	44	9	1.6	23
5-9 yrs	84	16	1.0	25
10-14 yrs	114	22	0.8	32
15-19 yrs	28	5	1.8	8
20-29 yrs	26	5	2.7	4
30-39 yrs	40	8	3.0	5
40-49 yrs	29	6	2.2	4
50+	34	7	1.0	2
Total	513	100	1.2	9

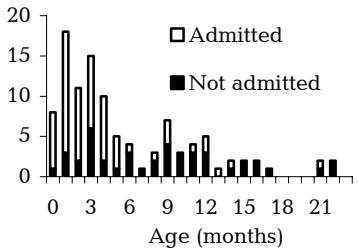
The occurrence in Eastern Jutland and Funen exceeded the average of the remaining parts of Denmark by 2-3 fold.
As in previous years, the majority of cases in most age groups were female, Table 2. The reason for this remains unexplained.
Whooping cough epidemics typically occur at 3-5 year intervals.
The cyclic nature of these epidemics is primarily due to the fact that neither vaccination against the condition nor actual infection with the disease provides life-long protection, but rather 5-10 years of protection.
Whooping cough is an extremely infectious bacterial infection, and adults comprise a significant source of infection of small children. It is therefore important to be aware that adults may also become infected and that the disease course can be uncharacteristic and mild in such cases.
(T. Dalby, J.J. Christensen, DBMP)

WHOOPING COUGH IN CHILDREN < 2 YEARS

For children < 2 years, whooping cough is individually notifiable on form 1515 once the case has been laboratory-confirmed.
2008 saw a total of 106 notified cases of children with whooping cough in children < 2 years, 45 boys and 61 girls. Reminders were sent out for 39% of the notifications.
Discrepancies between the number of laboratory-confirmed and notified cases < 2 years are due to different registration practices at year's end.
By age distribution, 37 children (35%) were ≤ 2 months, 25 (24%) were 3-4 months, 27 (25%) were 5-11 months and 17 (16%) were 12-23 months.
Among 106 notified children < 2 years, 59 (56%) were unvaccinated, while seven (7%) had received three whooping cough vaccinations.

The share of children < 6 months who were admitted to hospital due to whooping cough was 49%; in addition, six children aged 6-11 months and five aged 12-22 months were admitted, Figure 1.

Figure 1. Notified whooping-cough cases in children < 2 years, by age in months, and admission, 2008



Mode of transmission

The source of infection was unknown for 41% of the notified cases among children. Among known infection sources, siblings comprised 65%, other family members 14%, other known persons 9%, whooping cough in the environment 9% and day-care institutions 2%. Antibiotic prophylaxis for exposed children was described in EPI-NEWS 45/02.

Commentary

The occurrence of whooping cough in children < 2 years in 2008 slightly exceeded the previous two years in which 94 and 55 children, respectively, were notified. To date, 2009 has seen 60 notifications of children < 2 years, and there are currently no signs to suggest that the 2008 increase should continue into 2009.
Whopping cough vaccination does not provide 100% coverage, and some cases of whooping cough should be expected even among children who have fully complied with basic vaccination requirements.
(A.H. Christiansen, P.H. Andersen, Dept. of Epidemiology)

28 October 2009

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2009 figures are preliminary)

Table 1	Week 43 2009	Cum. 2009 [1]	Cum. 2008 [1]
AIDS	2	32	33
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	1
Creutzfeldt-Jakob	0	7	4
Diphtheria	0	0	0
Food-borne diseases	12	460	718
of these, infected abroad	2	82	122
Gonorrhoea	9	462	316
Haemorrhagic fever	0	0	0
Hepatitis A	1	30	41
of these, infected abroad	0	22	25
Hepatitis B (acute)	0	22	20
Hepatitis B (chronic)	1	141	149
Hepatitis C (acute)	0	13	6
Hepatitis C (chronic)	3	249	258
HIV	0	206	205
Legionella pneumonia	5	114	105
of these, infected abroad	0	26	37
Leprosy	0	0	0
Leptospirosis	0	0	5
Measles	0	9	10
Meningococcal disease	0	58	52
of these, group B	0	34	24
of these, group C	0	19	16
of these, unspec. + other	0	5	12
Mumps	2	13	24
Neuroborreliosis	5	43	49
Ornithosis	0	11	2
Pertussis (children < 2 years)	3	96	84
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	5	4
Listeria monocytogenes	0	4	1
Streptococcus pneumoniae	0	62	74
Other aethiology	0	9	18
Unknown aethiology	0	13	18
Under registration	8	26	-
Rabies	0	0	0
Rubella (congenital)	0	0	2
Rubella (during pregnancy)	0	0	0
Shigellosis	2	90	67
of these, infected abroad	0	71	55
Syphilis	3	232	107
Tetanus	0	0	2
Tuberculosis	7	304	312
Typhoid/paratyphoid fever	0	21	30
of these, infected abroad	0	18	24
Typhus exanthematicus	0	0	0
VTEC/HUS	7	128	124
of these, infected abroad	0	29	42

[1] *Cumulative number 2009 and in corresponding period 2008*

Selected laboratory diagnosed infections

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

Table 2	Week 43 2009	Cum. 2009 [2]	Cum. 2008 [2]
Bordetella pertussis (all ages)	1	177	159
Gonococci	7	358	302
of these, females	1	95	64
of these, males	6	263	238
Listeria monocytogenes	1	71	41
Mycoplasma pneumoniae			
Resp. specimens [3]	4	64	68
Serum specimens [4]	5	97	68
Streptococci [5]			
Group A streptococci	0	124	120
Group B streptococci	0	103	107
Group C streptococci	1	31	18
Group G streptococci	0	140	109
S. pneumoniae	21	851	757

Table 3	Week 41 2009	Cum. 2009 [2]	Cum. 2008 [2]
MRSA	7	606	579
Pathogenic int. bacteria [6]			
Campylobacter	67	2731	2763
S. Enteritidis	44	543	536
S. Typhimurium	10	694	1674
Other zoon. salmonella	9	588	858
Yersinia enterocolitica	3	193	269
Verocytotoxin-producing E. coli	6	134	130
Enteropathogenic E. coli	4	173	163
Enterotoxigenic E. coli	4	263	330

[2] *Cumulative number 2009 and in corresponding period 2008*

[3] *Resp. specimens with positive PCR*

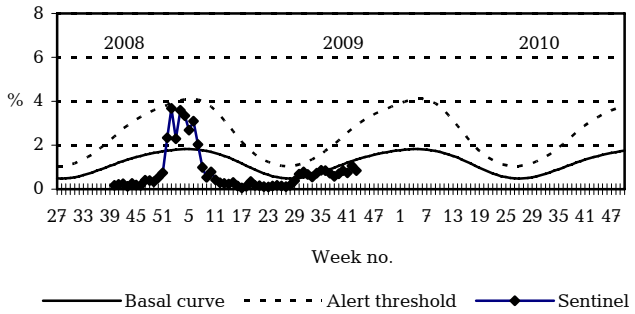
[4] *Serum specimens with pos. complement fixation test*

[5] *Isolated in blood or spinal fluid*

[6] *See also www.germ.dk*

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2008/2009/2010



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

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