# **EPI-NEWS**

NATIONAL SURVEILLANCE OF COMMUNICABLE DISEASES

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## LABORATORY DIAGNOSED WHOOPING COUGH 2002-2004 No. 46, 2005

This report includes whooping cough diagnosed on culture and/or PCR in the period 2002-2004, and is nationwide, <u>table 1</u>.

Table 1. Laboratory diagnosed cases of whooping cough in 2002-2004, by age. Incidence per  $10^5$  in ( )

Age	No.					
(yrs)	2002		2003		2004	
< 2	352	(265)	126	(97)	260	(201)
2-4	321	(159)	62	(31)	183	(91)
5-9	746	(212)	220	(63)	391	(112)
10-14	184	(58)	60	(18)	189	(56)
15-19	43	(15)	13	(5)	34	(12)
20-29	46	(7)	19	(3)	32	(5)
30-39	131	(16)	32	(4)	81	(10)
40-49	63	(8)	19	(3)	51	(7)
50+	60	(3)	20	(1)	52	(3)
Total	1946	(36)	571	(11)	1273	(24)

The report is based on data from laboratory diagnosed cases of whooping cough from Copenhagen County (Clinical Microbiology Department, Herlev Hospital (culture)), Viborg County (Clinical Microbiology Department, Viborg (PCR)) and Funen County (Clinical Microbiology Department, Odense University Hospital (PCR)), SSI, Department of Bacteriology, Mycology and Parasitology, DBMP, (culture and PCR)), covering the rest of Denmark, <u>table 2</u>.

#### Table 2. Laboratory diagnosed cases of whooping cough 2002-2004, by diagnostic lab. Percentage in ( )

	No.					
	2002		2003		2004	
SSI	1913	(98)	556	(97)	1169	(92)
Herlev	33	(2)	15	(3)	20	(2)
Viborg	-	-	-	-	29	(2)
Odense	-	-	-	-	55	(4)
Total	1946	-	571	-	1273	-

Since 1 January 1998, reports of laboratory diagnosed whooping cough have included cases confirmed by culture and/or PCR; each case is only counted once, table 3.

#### Table 3. First specimen for whooping cough investigation 2001-2004, by diagnostic method in %

	Cul-	PCR	Culture	Total
Year	ture		& PCR	
2001	38%	38%	24%	6544
2002	33%	44%	23%	14284
2003	30%	48%	23%	5527
2004	25%	58%	17%	7808

In the period 1999 to 2001, around 1,000 cases were diagnosed annu-

Figure 1. Cases of laboratory diagnosed whooping cough per  $10^5$  per annum, diagnosed by culture, January 1995 - December 1997, and by culture and/or PCR, January 1998 - December 2004



ally, and the average incidence of whooping cough for the whole population was  $18 \text{ per } 10^5 \text{ per annum}$ . In the period 2002-2004, the average incidence was  $24 \text{ per } 10^5 \text{ per annum}$ .

#### Specimen-taking and diagnostics

For investigation by culture and/or PCR, nasopharyngeal secretions submitted in Stuart's transport medium is still recommended. Culture results are available after 4-6 days, PCR results after 1-2 days. It is recommended to take at least two specimens simultaneously. On investigation for infectiousness culture should be used, as PCR detects DNA from both dead and live bacteria.

#### Commentary

Whooping cough appears epidemically every three to five years. The year 2002 was an epidemic year with two to three times higher incidence than for non-epidemic years. 2002 saw thus an expected increase in incidence of whooping cough five years after the last epidemic in 1997. The change in the diagnostic methods used is of significance when one compares with the incidence of whooping cough before 1998, fig. 1. After the introduction of PCR for whooping cough diagnosis, there has apparently been an increase in the incidence in all age groups. An increased number of specimens and a higher sensitivity of PCR may explain the fact that the incidence of laboratory diagnosed whooping cough has also increased in nonepidemic years. In 2004, whooping cough diagnostics were introduced in a further two Clinical Microbiology Departments, table 2. A continued nationwide surveillance of diagnosed whooping cough in all age groups is important for the continued

evaluation of the pertussis vaccinetion programme, and there is, in addition, great support for the clinical notification system for whooping cough in children under the age of two, EPI-NEWS 22/05. In the first three quarters of 2005, 485 cases of whooping cough were notified to the SSI national laboratory surveillance of whooping cough in the DBMP. (M.S. Kaltoft, DBMP, J. Madsen, QA Dept., J.O. Jarløv, Herlev Hospital, T.G. Jensen, Odense University Hospital, J. Prag, Viborg Hospital)

#### **RATIONAL USE OF TAMIFLU**

The recent discussion of avian influenza has brought about a great pressure on the GPs to issue prescriptions for Tamiflu® (oseltamivir) for purposes including private stocks and use in foreign travel. For this reason, the National Board of Health has decided to provide advice about the rational use of Tamiflu® in the event of seasonal influenza, avian influenza and a possible influenza pandemic. Tamiflu is for the time being the only pharmaceutical agent on the Danish market for the treatment of influenza. It can be used for both treatment and prevention as a supplement to influenza vaccination. Tamiflu does not replace influenza vaccination. Under normal circumstances. avian influenza does not constitute a risk of infection to humans. For this reason, there is no indication to prescribe Tamiflu to people travelling to areas abroad with avian influenza, unless they come into very close contact with sick birds (this will usually be for occupational reasons). Nor is there a need for private stocking in case of an influenza pandemic. (National Board of Health)

## Individually notifiable diseases

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

Table 1	Week 45	Cum.	Cum.
	2005	2005 -	2004 -
AIDS	0	50	40
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	1
Creutzfeldt-Jakob	0	2	7
Diphtheria	0	0	0
Food-borne diseases	13	494	556
of these, infected abroad	1	120	98
Gonorrhoea	7	434	301
Haemorrhagic fever	0	0	0
Hepatitis A	1	62	211
of these, infected abroad	0	20	59
Hepatitis B (acute)	0	31	38
Hepatitis B (chronic)	1	125	124
Hepatitis C (acute)	0	1	3
Hepatitis C (chronic)	7	273	266
HIV	6	235	261
Legionella pneumonia	0	104	91
of these, infected abroad	0	41	28
Leprosy	0	0	0
Leptospirosis	0	9	9
Measles	0	2	0
Meningococcal disease	0	78	84
of these, group B	0	38	48
of these, group C	0	20	11
of these, unspec. + other	0	20	25
Mumps	0	7	1
Neuroborreliosis	7	82	112
Ornithosis	0	18	6
Pertussis (children < 2 years)	0	135	202
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	2	4
Listeria monocytogenes	0	2	2
Streptococcus pneumoniae	0	95	86
Other aethiology	0	14	8
Unknown aethiology	0	13	13
Under registration	1	18	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	2	93	79
of these, infected abroad	1	74	65
Syphilis	1	111	113
Tetanus Tech e grade gin	10	2	0
Tupbeid (paraturbaid four	10	300	303
of these infected charged		31	10
Turbus overthematicus	1		19
	2 1	125	125
of these infected abroad	ວ 1	133	20
U Generalistica merchan 2005	L	4/	43

<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 45 2005	Cum. 2005 <sup>2)</sup>	Cum. 2004 <sup>2)</sup>
Bordetella pertussis			
(all ages)	3	435	870
Gonococci	11	391	356
of these, females	2	41	44
of these, males	9	350	312
Listeria monocytogenes	3	35	31
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	29	853	323
Serum specimens <sup>4)</sup>	15	683	373
Streptococci 5)			
Group A streptococci	1	91	106
Group B streptococci	1	71	75
Group C streptococci	0	22	20
Group G streptococci	1	103	93
S. pneumoniae	12	942	1036
Table 2	3 35   29 853   15 683   1 91   1 71   0 22   1 103   12 942   Week 43 Cum.   2005 2005 <sup>21</sup>	Cum.	Cum.
Table 5	2005	2005 <sup>2)</sup>	2004 <sup>2)</sup>
Pathogenic int. bacteria <sup>6)</sup>			
Campylobacter	70	3206	3253
S. Enteritidis	18	571	454
S. Typhimurium	17	476	401
Other zoon. salmonella	9	488	439
Yersinia enterocolitica	2	204	193

<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

#### **Additional commentary**

In week 45, a clinical case of typhus exanthematicus (rickettsiosis) was notified. The patient had been bitten by a tick during travel in South Africa.

## Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2004/2005/2006

