**EPI-NEWS**
NATIONAL SURVEILLANCE OF COMMUNICABLE DISEASES

Editor: Susanne Samuelsson
Dept. of Epidemiology
Statens Serum Institut • 5 Artillerivej • DK 2300 Copenhagen S
Tel.: +45 3268 3268 • Fax: +45 3268 3874
www.ssi.dk • epinews@ssi.dk • ISSN: 1396-4798

# WHOOPING COUGH 2002-2003

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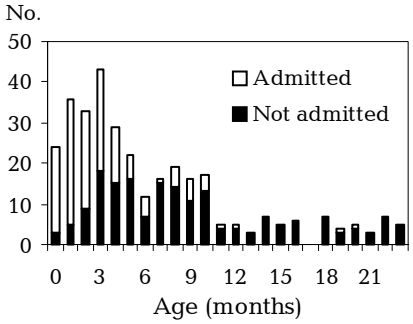
Whooping cough is notifiable for children under 2 years, when the case has been laboratory-confirmed. In 2002 and 2003, there were 329 and 117 cases, respectively, of whooping cough in children, 200 boys and 246 girls. It was necessary to send a reminder for 60% of the notifications. The annual incidence for children under the age of 2 was 247 per $10^5$ in 2002 and 90 per $10^5$ in 2003.
In 2002, most notified cases occurred in July and August, while in 2003, most cases occurred in January, February, November and December.
The age distribution for the two years was as follows:
139 children (31%) were under 3 months, 236 (53%) were under 5 months and 374 (84%) were under 1 year.
Most of the notified cases were detected by PCR alone. Since the method was introduced as a routine diagnostic method in 1998, the proportion of notified cases detected by this method has risen from 32% in 1998 to 83% in 2003.

**Hospital admissions and sequelae**
The proportion of children under 6 months who were admitted because of whooping cough was high (81%). Only four children aged 1-2 years were admitted, fig. 1.

**Fig. 1. Notified cases of whooping cough in children < 2 years, by age and hospital admission, 2002-2003**




A 2-month-old child died of whooping cough in 2003. This is the first reported death from whooping cough since 1999, EPI-NEWS 48/99. In the years 2002 and 2003, there was no information about other serious sequelae of whooping cough.

**Vaccination status**
Vaccination status and hospital admission among notified cases appear in table 1.
The vaccine effectiveness of the acellular whooping cough vaccine used in Denmark has previously been estimated as high on the basis of knowledge of vaccination status among notified cases and vaccination coverage, EPI-NEWS 44/02. A new Danish whooping cough study, based on 514,387 person risk years, has confirmed that the protective effect against hospital admission is very high after three vaccinations, 93% (CI 78-98%). The protection against illness after three vaccinations is also high, 78% (CI 59-88%).

**Table 1. Notified cases of whooping cough in children < 2 years, by vaccination status and hospital admission, 2002-2003**

| | Total | Admitted | |
|---|---|---|---|
| Vaccinated | no. | no. | % |
| 0 times | 182 | 140 | 76.9 |
| 1 time | 88 | 41 | 46.6 |
| 2 times | 114 | 25 | 21.9 |
| 3 times | 55 | 1 | 1.8 |
| Unknown | 7 | 3 | 42.9 |
| Total | 446 | 210 | 47.1 |

**Source of infection**
The source of infection was unknown for 55% of the notified cases. Siblings constituted 23%, other family members 6%, infection in childcare institutions 2%, other known persons 8% and whooping cough in the environment 6%.
One child was thought to have been infected in hospital and one child was thought to have been infected abroad.

**Comments**
The number of notified cases in 2002 was the highest since 1995, when whooping cough became notifiable for children under 2 years. 2002 must be characterised as an epidemic year.
The number of notified cases in 2003, in contrast, was somewhat lower than the average for the period 1995-02, when there were 167 cases.
The fact that one child died and many children under 6 months of age were admitted shows that whooping cough is still a serious illness in infants. Prophylaxis for exposed children should be considered, EPI-NEWS 45/02
(A. H. Christiansen, P. H. Andersen, Department of Epidemiology)

**WEST NILE FEVER IN IRELAND**
The Irish health authorities have stated that two persons have probably been infected with West Nile fever virus in connection with tourist travel to the Algarve in Portugal. Both have recovered.
West Nile fever has not previously been diagnosed in Western Europe, but in recent years there have been outbreaks in Romania, Russia and Israel. In 1999, the illness was diagnosed for the first time in the United States, where it has since spread from New York to most of the United States and southern Canada.
The two cases in Ireland have led to increased awareness of the possible occurrence of West Nile fever virus in Western Europe. In southern Portugal, investigations are currently under way to provide information about occurrence in mosquitoes and mammals.
There have been no reports of other patients in the EU, nor have any special restrictions for people travelling to Portugal been introduced.
West Nile fever virus is found particularly in wild migratory birds, from which the virus can be transferred by mosquitoes to other birds, mammals, (particularly horses) and humans. Under normal circumstances, West Nile fever is not transmitted from other animals to humans or from person to person.
About 80% of all infections in humans have an asymptomatic course. The remainder have mild symptoms with fever, rigors, malaise, headache and retroorbital pains. In some cases, a rash appears on the body. Spontaneous recovery is observed in most cases after 3-5 days. Less than 1% suffers from severe illness, EPI-NEWS 04/03.
(S. Glismann, Dept. of Epidemiology)

**NEW STAFF MEMBERS/APPOINTMENTS**
As per 1 May: Charlotte Kjelsø, Nurse, and Philip Haugaard, Project Assistant. As per 1 July: Michael Howitz, Registrar. As per 1 August, Steffen Glismann has been appointed Senior Medical Officer.
(Department of Epidemiology)

**NEW EDITOR OF EPI-NEWS**
Since I have decided to seek new challenges outside of SSI, I would like to take this opportunity to thank writers and readers for a good working relationship. Peter H. Andersen is appointed new editor as per 1 September 2004.
(S. Samuelsson, Department of Epidemiology)

18 August 2004

## Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, Statens Serum Institut.
Figures for 2004 are preliminary.

| Table 1 | Week 33 2004 | Cum. 2004 [1] | Cum. 2003 [1] |
|---|---|---|---|
| AIDS | 2 | 26 | 19 |
| Anthrax | 0 | 0 | 0 |
| Botulism | 0 | 0 | 1 |
| Cholera | 0 | 0 | 0 |
| Creutzfeldt-Jakob | 0 | 6 | 5 |
| Dipththeria | 0 | 0 | 0 |
| Food-borne diseases | 21 | 346 | 265 |
| of these, infected abroad | 5 | 46 | 57 |
| Gonorrhoea | 6 | 213 | 93 |
| Haemorrhagic fever | 0 | 0 | 0 |
| Hepatitis A | 6 | 116 | 41 |
| of these, infected abroad | 4 | 26 | 12 |
| Hepatitis B (acute) | 0 | 20 | 32 |
| Hepatitis B (chronic) | 1 | 105 | 122 |
| Hepatitis C (acute) | 0 | 1 | 5 |
| Hepatitis C (chronic) | 1 | 174 | 168 |
| HIV | 7 | 189 | 137 |
| Legionella pneumonia | 1 | 49 | 54 |
| of these, infected abroad | 0 | 9 | 14 |
| Leprosy | 0 | 0 | 0 |
| Leptospirosis | 0 | 1 | 2 |
| Measles | 0 | 0 | 0 |
| Meningococcal disease | 2 | 87 | 73 |
| of these, group B | 0 | 32 | 39 |
| of these, group C | 0 | 6 | 17 |
| of these, unspec. + other | 2 | 49 | 17 |
| Mumps | 0 | 3 | 2 |
| Neuroborreliosis | 1 | 41 | 15 |
| Ornithosis | 0 | 0 | 0 |
| Pertussis (children < 2 years) | 0 | 0 | 0 |
| Plague | 0 | 0 | 0 |
| Polio | 0 | 0 | 0 |
| Purulent meningitis | | | |
| Haemophilus influenzae | 0 | 1 | 2 |
| Listeria monocytogenes | 0 | 1 | 1 |
| Streptococcus pneumoniae | 1 | 59 | 76 |
| Other aethiology | 0 | 3 | 2 |
| Unknown aethiology | 0 | 10 | 11 |
| Rabies | 0 | 0 | 0 |
| Rubella (congenital) | 0 | 0 | 0 |
| Rubella (during pregnancy) | 0 | 0 | 0 |
| Shigellosis | 0 | 44 | 60 |
| of these, infected abroad | 0 | 35 | 51 |
| Syphilis | 2 | 92 | 33 |
| Tetanus | 0 | 0 | 0 |
| Tuberculosis | 7 | 283 | 267 |
| Typhoid/paratyphoid fever | 0 | 16 | 29 |
| of these, infected abroad | 0 | 11 | 17 |
| Typhus | 0 | 0 | 0 |
| VTEC/HUS | 3 | 86 | 60 |
| of these, infected abroad | 2 | 11 | 13 |

[1] *Cumulative number of cases notified in 2004 and in the corresponding period of 2003*

## Selected laboratory-diagnosed infections

Number of specimens, isolates, and/or notifications received at Statens Serum Institut.

| Table 2 | Week 33 2004 | Cum. 2004 [2] | Cum. 2003 [2] |
|---|---|---|---|
| Bordetella pertussis (all ages) | Presented from week 35 | | |
| Gonococci | 6 | 235 | 159 |
| of these, females | 2 | 31 | 21 |
| of these, males | 4 | 204 | 138 |
| Listeria monocytogenes | 3 | 26 | 18 |
| Mycoplasma pneumoniae | | | |
| Resp. specimens [3] | 5 | 101 | 112 |
| Serum specimens [4] | 10 | 229 | 332 |
| Streptococci [5] | Presented from week 35 | | |
| Group A streptococci | | | |
| Group C streptococci | | | |
| Group G streptococci | | | |
| S. pneumoniae | | | |
| **Table 3** | **Week 32 2004** | **Cum. 2004 [2]** | **Cum. 2003 [2]** |
| Pathogenic int. bacteria [6] | | | |
| Campylobacter | 86 | 2013 | 1797 |
| S. Enteritidis | 14 | 288 | 409 |
| S. Typhimurium | 15 | 256 | 228 |
| Other zoon. salmonella | 18 | 280 | 310 |
| Yersinia enterocolitica | 4 | 124 | 138 |

[2] *Cumulative number in 2004 and in the corresponding period of 2003*

[3] *Resp. specimens with positive PCR*

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

[5] *Isolated in blood or spinal fluid*

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

**Comments**

Last week, the new back page of EPI-NEWS gave rise to more publicity than expected, especially concerning the individually notifiable diseases. The cumulated number of cases in 2003 and 2004 is - like the number for the individual weeks - calculated on the date of receipt of the notification. Figures are thus provisional. Changes in notification practice, e.g. introduction of reminder procedures, may affect the number of notified cases independent of a possible increase in the incidence of the disease. Both at the start of September 2003 and the end of March 2004, reminder procedures were introduced for gonorrhoea. This has resulted in a large number of notifications received during the following months. The current outbreak of syphilis has led to an increased awareness leading to an increasing frequency of notification. Finally, during 2004, the Department of Epidemiology has received a large number of notifications of neuroborreliosis from one county, which concerned illness arising in the period before 2003. The number of notifications was 22. As a result, these will be omitted in this and subsequent calculations of cumulative cases received in 2004.

(Department of Epidemiology)

18 August 2004