

## LEGIONELLA PNEUMONIA 2002

No. 43, 2003

### Notified cases

In 2002, 96 cases of legionella pneumonia were notified, 67 males and 29 females. The median age was 60 years, range 23-86. A total of 39 (41%) notifications were received after a reminder had been sent. In 71 cases, the diagnosis was confirmed, [table 1](#).

**Table 1. Notified cases of legionella pneumonia, 2002**

Category	To- tal	Veri- fied	Disp. fact.	Deaths
Travel-assoc.	33	29	8	1
Nosocomial	15	8	11	3
Others, DK	48	34	15	5
<b>Total</b>	<b>96</b>	<b>71</b>	<b>34</b>	<b>9</b>

Legionella pneumonia is confirmed by clinical pneumonia together with a positive result of one of the following laboratory analyses: 1) culture, 2) legionella urine antigen test or 3) legionella antibody test (significant increase in titre to *L. pneumophila* serogroups (sg) 1, 3 or 6). Combinations of other laboratory analyses may also confirm the diagnosis.

In 25 cases, the diagnosis was not confirmed, but supported by clinical and laboratory findings.

For a total of 34 (35%) patients, a predisposing factor was stated. Of these, eight were observed among travel-related cases, 11 among nosocomial cases and 15 among other patients, [table 1](#). A total of nine patients died. In five of these cases, a predisposing factor was stated. The distribution by county of confirmed cases of legionella pneumonia acquired in Denmark is shown in [table 2](#).

### Travel-associated/imported cases

A total of 33 cases were travel-associated, but in 15 cases, the travel details were either so unclear that they could not be reported to the European Working Group for Legionella Infections (EWGLI), or the patients stayed privately abroad or worked on a boat. The remaining 18 travel-associated cases were notified to EWGLI. Three cases were part of an outbreak on St. Croix, the Virgin Islands, United States. Turkey and Spain (four cases each) were the most commonly recorded destinations. One case was associated to hotel residence in Denmark, and one case to travel in Thailand. The other patients had travelled in one or more European countries, primarily in Southern Europe.

### Nosocomial cases

A total of 18 cases of nosocomial legionella pneumonia were recorded,

**Table 2. No. and incidence per 10<sup>6</sup> of notified confirmed cases of legionella pneumonia acquired in Denmark 2002 (2001)**

County	2002	(2001)	Incidence per 10 <sup>6</sup>
Cph. Mcp.	3	(1)	6.0
Frb. Mcp.	1	(0)	11.0
Cph. County	9	(9)	14.6
Frederiksborg	4	(4)	10.8
Roskilde	1	(5)	4.3
West Zealand	1	(1)	3.3
Storstrøm	0	(0)	0.0
Bornholm	0	(2)	0.0
Funen	1	(4)	2.1
South Jutland	2	(0)	7.9
Ribe	2	(4)	8.9
Vejle	5	(3)	14.2
Ringkøbing	2	(3)	7.3
Aarhus	6	(9)	9.3
Viborg	2	(0)	8.5
North Jutland	2	(2)	4.0
Other	0	(1)	-
Unstated	1	(0)	-
<b>Total</b>	<b>42</b>	<b>(48)</b>	<b>7.8</b>

[table 3](#). Of these, three cases were not notified. The criteria for [table 3](#) are described in EPI-NEWS 47/02.

**Table 3. Nosocomial cases of legionella pneumonia, by hospital, 2002**

Hospital	Definite	Possible	Total
Herlev	6	3	9
RH/Rønne	2	1	3
Roskilde	1	0	1
Vejle	0	1	1
Gentofte	1	0	1
Odense	1	0	1
Aalborg	1	0	1
Skejby	0	1	1
<b>Total</b>	<b>12</b>	<b>6</b>	<b>18</b>

Three of the six definite cases were patients from Herlev Hospital, admitted to the same ward but infected with different serogroups of *L. pneumophila*. For six of the 12 definite nosocomial cases and four of the six possible nosocomial cases, the diagnosis was confirmed, and for the remaining eight, only positive legionella PCR results were available. Seven of the 18 cases were confirmed by culture of *L. pneumophila*. For two patients, the same *L. pneumophila* strain was cultured from both patient and water samples from the hospital. A total of 16 patients had underlying predisposing disease or had recently undergone operation. Three patients (17%) died.

### Laboratory-diagnosed cases

The Serum Institute is aware of 102 laboratory-diagnosed cases of legionella pneumonia in 2002 (confirmed cases and cases positive by legionella PCR). The cases were diagnosed at the Serum Institute or local clinical microbiology departments. In 14 of these cases, notification was not received. *L. pneumophila* was isolated from specimens from the lower airways from 42 patients. The distribution of the isolates was: 27 *L. pneumophila* sg 1 (16 Pontiac and 11 non-Pontiac), seven sg 3, one sg 4, one sg 5, five sg 6 and one sg 12. In 2002, legionella species other than *L. pneumophila* were not isolated from patients. On the basis of typing of patient isolates and isolates from water, infection could in two cases be attributed to the water supply in the patients' own home. Four of the culture-positive cases were not notified. For at least 72 patients, a positive legionella PCR was available. Of these, 67 were positive for *L. pneumophila*. PCR was thus the analysis that was most commonly positive for patients with legionella pneumonia, but it should be emphasised that a positive PCR result should be confirmed by another method for the case to be considered confirmed.

### Comments

The study shows an unchanged occurrence of travel-related and nosocomial cases, whereas the number of other cases has decreased from 56 notifications in 2001 to 48 in 2002.

(M. S. Nielsen, K. Mølbak, Dept. of Epidemiology, S. Uldum, Dept. of Bacteriology, Mycology and Parasitology, E. T. Jensen, National Center for Antimicrobials and Infection Control)

### PNEUMOCOCCUS REVACCINATION

The Institute receives many enquiries concerning when revaccination should be performed after a primary pneumococcus vaccination. We refer to EPI-NEWS 46/02, which may be obtained on [www.ssi.dk](http://www.ssi.dk). (Department of Epidemiology)

### INFLUENZA SURVEILLANCE

Reports from general practitioners to the sentinel surveillance programme commenced in week 40. The result may be seen each week on the back page of EPI-NEWS and on the SSI web site under Influenza-Nyt (only available in Danish). (Department of Epidemiology)

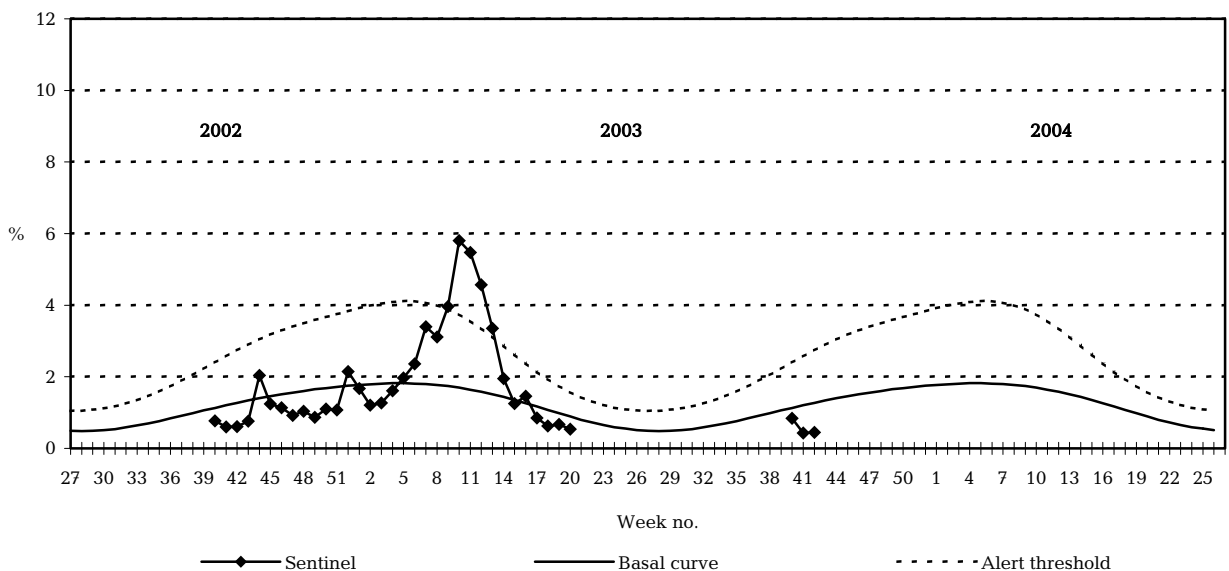
**Serum specimens positive for *Mycoplasma pneumoniae* by complement fixation test**  
 3rd quarter of 2003 compared with 3rd quarter of 2002 and average for 3rd quarter of 1998-2002

	July	August	September
Positive specimens during 3rd quarter of 2003	26	28	39
Positive specimens during 3rd quarter of 2002	25	52	70
Positive specimens, average 3rd quarter 1998-2002	35	55	80

(Dept. of Bacteriology, Mycology and Parasitology)

**Sentinel surveillance of influenza activity**

Weekly percentage of consultations, 2002/2003/2004



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

(Dept. of Epidemiology)