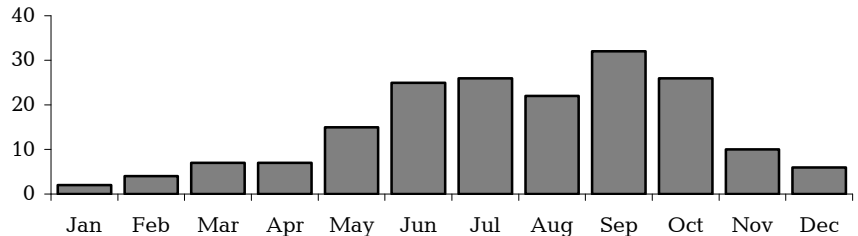




## LEGIONELLA PNEUMONIA 2007

No. 22, 2008

Figure 1. Travel-associated legionella cases per month, 2003-2007



### Notified cases

2007 saw 125 notified cases of legionella pneumonia, 79 males and 46 females. The median age was 60 years, range 31-90 years. In 50 cases, a reminder was sent for a written notification. In 104 cases the diagnosis was verified, please refer to EPI-NEWS 43/03 for the verification criteria. Among the non-verified cases, 18 were detected by PCR for Legionella spp. and in three cases only positive antibody titres had been detected. A predisposing factor was stated for 22 patients.

A total of 16 (13%) patients died, [Table 1](#).

**Table 1. Notified cases of legionella pneumonia, 2007**

Category	To-tal	Veri-fied	Disp. fact.	Deaths
Travel-assoc.	39	36	1	1
Nosocomial	14	10	9	4
Other, DK	72	58	12	11
<b>Total</b>	<b>125</b>	<b>104</b>	<b>22</b>	<b>16</b>

Table 2 shows verified notified cases presumably infected in Denmark, by country area.

**Table 2. No. and incidence per 10<sup>6</sup> of notified verified cases of legionella pneumonia acquired in Denmark, 2007**

Area	2007	Incidence per 10 <sup>6</sup>
Copenhagen City	6	9.1
Copenhagen subs	6	11.9
Northern Zealand	4	9.1
Bornholm	0	-
Eastern Zealand	2	8.6
W & S Zealand	6	10.2
Funen	4	8.3
Southern Jutland	5	7.0
Western Jutland	9	21.2
Eastern Jutland	15	18.5
Northern Jutland	13	22.5
Other/unknown	0	-
<b>Total</b>	<b>70 *</b>	<b>12.7</b>

\* Including two travel-associated cases acquired in Denmark

### Travel-associated/imported cases

A total of 39 cases were travel-associated, [Table 3](#). Among these, 33 were notified to the European Working Group for Legionella Infections (EWGLI). The reason that not all cases were notified to the EWGLI was insufficient travel information, stays at private addresses in connection with the journey, or uncertain diagnosis. The most frequently reported countries of infection were France and Spain which in conjunction with Italy and Turkey comprised 56% of the Danish travel-associated

cases. Countries of infection outside Europe included South Africa, USA, Brazil, India and Thailand.

A married couple was presumably infected during a stay at a camping site in France. Three Danish cases were involved in clusters associated to hotels in France, Germany and Portugal. In one culture-verified case, the DNA type of the isolates from the patient corresponded to the type of the isolates from a water sample from the hotel in Spain.

**Table 3. Travel-associated legionella-pneumonia cases by country of infection, 2007**

Country of infection	No. of cases
France	7
Spain	6
Italy	5
Turkey	4
Greece	2
Denmark	2
Portugal	2
Rest of Europe	6
Outside of Europe	5
<b>Total</b>	<b>39</b>

### Nosocomial cases

A total of 14 cases of nosocomial legionella pneumonia were notified and the diagnosis was verified in ten of these. Nine had predisposing factors and four cases were fatal. Two cases were associated to the same hospital department. In six cases DNA typing was used to compare isolates from water and from patients, and in four cases the isolates matched.

### Laboratory confirmed cases

The SSI has knowledge of 129 laboratory diagnosed cases of legionella pneumonia in 2007, including 106 verified cases: 17 cases were only detected by legionella PCR for L. pneumophila and six only by PCR for Legionella spp. (non-pneumophila). In seven of these cases, no notification was received. Legionella species were isolated by culture from 56 patients. The distribution of the isolates was: 38 L. pneumophila serogroup (sg) 1 (32

Pontiac and 6 non-Pontiac), 11 sg 3, five sg 6, one sg 5, one sg 10, one sg 15, and one L. bozemanii. From one patient, L. pneumophila sg 3 as well as 6 was isolated.

### Commentary

The number of legionella cases in 2007 was relatively high and at par with the 2006 level, but the cases detected in 2007 were more evenly distributed over the year than in 2006 when a late summer/autumn peak was observed. In 2007 the number of verified cases exceeded 100 for the first time ever.

(S. Uldum, DBMP, L. Finne, K. Mølbak, Dept. of Epidemiology)

### TRAVEL-ASSOCIATED LEGIONELLA PNEUMONIA

Travel-associated legionella pneumonia peaks in the summer season as well as in September and October, a period in which a considerable number of elderly persons travel, [Figure 1](#). Legionella pneumonia should be considered and tests performed correspondingly in pneumonia cases which present during travels and up to 14 days after returning. The initial symptoms may be gastrointestinal or neurological and the disease may be relatively mild and may occur in otherwise healthy and relatively young persons. Nearly all cases are caused by L. pneumophila, serogroup 1, subgroup Pontiac, for which all Legionella urine kits show good sensitivity. LUT (legionella urine test) is therefore suitable for the diagnosis of travel-associated legionella pneumonia. A negative result, however, does not exclude the diagnosis, as negative LUT may be found, even in connection with serogroup 1 Pontiac infection. Travel-associated legionella pneumonia should be reported immediately using form 1515. Timely notification is essential to facilitate investigation and monitoring procedures at the suspected places of accommodation. (S. Uldum, DBMP, L. Finne, K. Mølbak, Dept. of Epidemiology)

28 May 2008

## Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2008 figures are preliminary)

Table 1	Week 21 2008	Cum. 2008 <sup>1)</sup>	Cum. 2007 <sup>1)</sup>
AIDS	0	12	26
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	3	4
Diphtheria	0	0	0
Food-borne diseases	23	143	185
of these, infected abroad	2	28	35
Gonorrhoea	4	132	142
Haemorrhagic fever	0	0	0
Hepatitis A	0	16	13
of these, infected abroad	0	6	6
Hepatitis B (acute)	1	7	10
Hepatitis B (chronic)	1	68	106
Hepatitis C (acute)	0	4	2
Hepatitis C (chronic)	0	139	111
HIV	0	93	112
Legionella pneumonia	3	41	32
of these, infected abroad	1	14	4
Leprosy	0	0	0
Leptospirosis	0	2	6
Measles	0	6	1
Meningococcal disease	0	25	32
of these, group B	0	12	16
of these, group C	0	4	10
of these, unspec. + other	0	9	6
Mumps	0	20	3
Neuroborreliosis	0	20	26
Ornithosis	0	1	1
Pertussis (children < 2 years)	3	45	29
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	0	1
Listeria monocytogenes	0	1	6
Streptococcus pneumoniae	0	37	57
Other aethiology	0	12	6
Unknown aethiology	0	10	9
Under registration	4	26	-
Rabies	0	0	0
Rubella (congenital)	0	1	0
Rubella (during pregnancy)	0	0	0
Shigellosis	1	28	22
of these, infected abroad	1	24	12
Syphilis	0	36	38
Tetanus	0	0	0
Tuberculosis	7	170	148
Typhoid/paratyphoid fever	0	13	4
of these, infected abroad	0	11	4
Typhus exanthematicus	0	0	2
VTEC/HUS	2	50	62
of these, infected abroad	0	18	22

<sup>1)</sup> Cumulative number 2008 and in corresponding period 2007

## Selected laboratory diagnosed infections

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

Table 2	Week 21 2008	Cum. 2008 <sup>2)</sup>	Cum. 2007 <sup>2)</sup>
Bordetella pertussis (all ages)	5	54	58
Gonococci	9	147	138
of these, females	1	29	19
of these, males	8	118	119
Listeria monocytogenes	0	17	21
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	0	44	229
Serum specimens <sup>4)</sup>	2	52	262
Streptococci <sup>5)</sup>			
Group A streptococci	6	71	60
Group B streptococci	6	52	41
Group C streptococci	2	6	9
Group G streptococci	5	52	50
S. pneumoniae	12	535	558
Table 3	Week 19 2008	Cum. 2008 <sup>2)</sup>	Cum. 2007 <sup>2)</sup>
MRSA	5	188	-
Pathogenic int. bacteria <sup>6)</sup>			
Campylobacter	31	646	846
S. Enteritidis	4	97	130
S. Typhimurium	48	273	99
Other zoon. salmonella	15	286	228
Yersinia enterocolitica	6	112	114
Verocytotoxin-producing E. coli	3	46	59
Enteropathogenic E. coli	2	29	52
Enterotoxigenic E. coli	3	105	62

<sup>2)</sup> Cumulative number 2008 and in corresponding period 2007

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

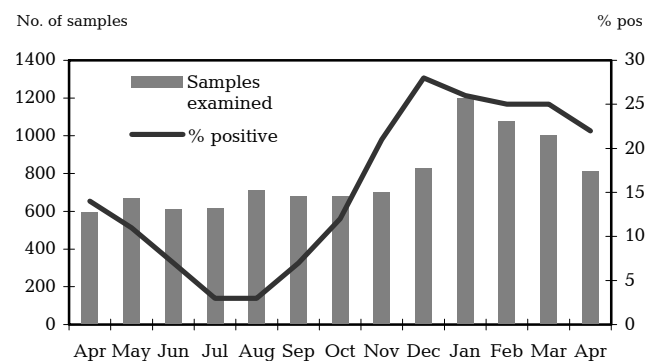
<sup>4)</sup> Serum specimens with pos. complement fixation test

<sup>5)</sup> Isolated in blood or spinal fluid

<sup>6)</sup> See also [www.germ.dk](http://www.germ.dk)

## Norovirus 2007-2008

Examined samples and percent positive, Apr 07- Apr 08



Samples from clinical microbiology departments at Odense Hospital, Copenhagen University Hospital, and the Department of Virology, SSI

28 May 2008