



2004 saw 240 notified cases of acute hepatitis A; 186 males and 54 females. This figure was the highest since 1986, which can be ascribed to an outbreak among men who have sex with men (MSM), EPI-NEWS 52/04.

### Incidence

Most cases were notified in the Copenhagen area, [table 1](#).

**Table 1. Notified cases of hepatitis A, by county, and incidence per 10<sup>5</sup>, 2004 and (2003)**

County	No.	Incidence	
		2004	(2003)
Cph. Municip.	91	18.1	(5.4)
Frb. Municip.	14	15.3	(1.1)
Copenhagen	47	7.6	(2.1)
Frederiksborg	19	5.1	(0.3)
Roskilde	8	3.4	(0.4)
West Zealand	14	4.6	(0.3)
Storstrøm	6	2.3	(0.4)
Bornholm	1	2.3	(0.0)
Funen	9	1.9	(0.8)
South Jutland	2	0.8	(3.2)
Ribe	4	1.8	(0.4)
Vejle	4	1.1	(0.6)
Ringkøbing	9	3.3	(1.5)
Aarhus	9	1.4	(0.5)
Viborg	1	0.4	(0.4)
North Jutland	1	0.2	(0.4)
Other	1	-	-
<b>Total</b>	<b>240</b>	<b>4.5</b>	<b>(1.3)</b>

Most patients were Danish-born (83%), and of these, 154 (77%) were males  $\geq 18$  years. Distribution by age group appears in [table 2](#).

**Table 2. Notified cases of hepatitis A, by age and origin, and incidence per 10<sup>5</sup>, 2004**

Age (yrs)	Danish-born	Immigrants	Total	Incidence
0-9	10	20	30	4.4
10-19	7	5	12	1.9
20-29	27	5	32	4.9
30-39	46	9	55	6.8
40-49	48	2	50	6.6
50-59	44	0	44	5.8
60+	17	0	17	1.5
<b>Total</b>	<b>199</b>	<b>41</b>	<b>240</b>	<b>4.5</b>

Among the 65 males  $\geq 18$  years, at least 83 (51%) were MSM. It is assumed that most of the remaining men  $\geq 18$  years were also part of the outbreak among MSM. The remaining 75 cases, who were not men  $\geq 18$  years, were distributed as follows: 35 women  $\geq 18$  years and 19 girls and 21 boys  $< 18$  years.

## HEPATITIS A 2004

### Mode of transmission

Among the 75 cases that were not men  $\geq 18$  years, 38 had been infected with hepatitis A in Denmark, and 37 were imported cases, [table 3](#).

**Table 3. Notified cases of hepatitis A among women and children  $< 18$  years in Denmark, by origin and place of infection, 2004**

	Place of infection		
	DK	Abroad	Total
Danes	31	14	45
Immigrants	7	23	30
<b>Total</b>	<b>38</b>	<b>37</b>	<b>75</b>

Of the 38 persons infected in Denmark, eight were infected by a member of the household (distributed over five outbreaks), six by a child in an institution, four by an IV drug abuser, two by a family member outside the household, two via other person-to-person contact, one via ingestion of fresh dates (though not verified by subsequent analysis of the dates) and one while cleaning a toilet. In 14 cases, the source of infection was unknown. Of the six persons who were infected by a child in an institution, five children were from three different kindergartens with three, one and one case, respectively. In addition, one child-minder was infected. Of 37 persons infected abroad, six women and three children  $< 18$  years were part of a major outbreak among Europeans on holiday in Egypt. An epidemiological study identified one or more lots of frozen fruit juice as the source of infection, EPI-NEWS 37/04.

Seventeen persons were infected in Pakistan, including fifteen children; four children in Lebanon and one person in each of seven other countries. A total of 30 out of the 37 (81%) became ill in July, August and September.

### Comments

The outbreak in 2004 was the biggest recorded outbreak of hepatitis A among MSM in Denmark since the surveillance commenced in 1980, and for this reason the overall number of cases in 2004 was the highest in the last 18 years. Among women and children, there were secondary cases to MSM, and if these are deducted, the number of other cases was at the same level as in previous years. As in the preceding years, outbreaks were recorded as a result of secondary infection from sick children who had returned from endemic

mic areas. Children born in Denmark to immigrants from endemic areas should be vaccinated before visiting the country of origin, EPI-NEWS 38/04. Similarly, the outbreak among European guests at a hotel in Egypt emphasises the importance of immunoprophylaxis in the event of travel to endemic countries, EPI-NEWS 23a+23b/05. In cases of hepatitis A in Denmark, immunoprophylaxis is recommended for members of the patient's household. (M. Howitz, K. Mølbak, Department of Epidemiology)

## OUTBREAK OF MULTIDRUG-RESISTANT SALMONELLA

A series of persons have been infected with multidrug-resistant *Salmonella* Typhimurium DT104 after having eaten carpaccio (thin-sliced, marinated sirloin steak) from a buffet at an Italian restaurant in Aarhus County. The outbreak has presumably stretched over a 6-week period up to the end of August. So far, 22 persons registered in the laboratory surveillance system have independently provided information about eating at the restaurant a few days before the onset of symptoms. The actual number of infected persons is presumed to be many times higher. The source of the infection was beef imported from Italy. No samples have been taken from the meat that was used in the restaurant, but the outbreak strain, which is very rare in Denmark, was found immediately before the outbreak on import check of another lot of beef from the same Italian company. The outbreak strain had a resistance profile that is often seen in DT104 strains (resistance to ampicillin, chloramphenicol, streptomycin, sulphonamide, tetracycline and spectinomycin). The outbreak was detected through the DNA typing which is performed on all *S. Typhimurium* patient isolates. The outbreak strain was distinct on both PFGE and MLVA typing, and identical with the isolate from the Italian beef. Carpaccio is a raw meat product, and is thus a high-risk food. The outbreak is an example that an increasing number of *Salmonella* infections, especially with resistant *Salmonella* types, are caused by imported products. (S. Ethelberg, DBMP)

## NOROVIRUS OUTBREAK

See back page.

## Individually notifiable diseases

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

Table 1	Week 37 2005	Cum. 2005 <sup>1)</sup>	Cum. 2004 <sup>1)</sup>
AIDS	2	41	33
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	1
Creutzfeldt-Jakob	0	2	7
Diphtheria	0	0	0
Food-borne diseases	15	367	445
of these, infected abroad	7	88	68
Gonorrhoea	8	369	248
Haemorrhagic fever	0	0	0
Hepatitis A	1	46	164
of these, infected abroad	1	14	44
Hepatitis B (acute)	2	27	30
Hepatitis B (chronic)	0	98	98
Hepatitis C (acute)	0	1	2
Hepatitis C (chronic)	3	234	234
HIV	6	213	215
Legionella pneumonia	4	76	70
of these, infected abroad	0	21	20
Leprosy	0	0	0
Leptospirosis	0	9	2
Measles	0	2	0
Meningococcal disease	0	70	72
of these, group B	0	35	41
of these, group C	0	18	10
of these, unspec. + other	0	17	21
Mumps	0	6	1
Neuroborreliosis	4	53	79
Ornithosis	0	15	5
Pertussis (children < 2 years)	6	118	153
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	1	3
Listeria monocytogenes	0	1	1
Streptococcus pneumoniae	0	83	78
Other aethiology	0	12	6
Unknown aethiology	0	11	12
Under registration	2	16	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	4	79	54
of these, infected abroad	2	63	43
Syphilis	5	95	105
Tetanus	0	2	0
Tuberculosis	7	316	308
Typhoid/paratyphoid fever	1	29	16
of these, infected abroad	0	25	14
Typhus exanthematicus	0	0	0
VTEC/HUS	5	117	105
of these, infected abroad	1	39	19

<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 37 2005	Cum. 2005 <sup>2)</sup>	Cum. 2004 <sup>2)</sup>
Bordetella pertussis (all ages)	11	383	652
Gonococci	6	325	266
of these, females	2	33	35
of these, males	4	292	231
Listeria monocytogenes	3	28	29
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	14	681	116
Serum specimens <sup>4)</sup>	15	581	269
Streptococci <sup>5)</sup>			
Group A streptococci	4	87	95
Group B streptococci	2	56	59
Group C streptococci	0	19	17
Group G streptococci	5	92	79
S. pneumoniae	17	820	897
Table 3	Week 35 2005	Cum. 2005 <sup>2)</sup>	Cum. 2004 <sup>2)</sup>
Pathogenic int. bacteria <sup>6)</sup>			
Campylobacter	61	2,408	2,501
S. Enteritidis	19	431	350
S. Typhimurium	14	372	316
Other zoon. salmonella	28	395	333
Yersinia enterocolitica	2	155	148

<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](http://www.germ.dk)

## Yet another norovirus outbreak

On 8 September 2005, yet another outbreak of norovirus infection ("Roskildesyge") was registered.

At least 30 employees in a company in Skanderborg, DK, took ill after having eaten a buttermilk dessert with whole raspberries imported from Poland.

The five previously reported outbreaks were caused by frozen pieces of raspberries which could be traced back to one certain importer, EPI-NEWS 35/2005.

In the latest outbreak, however, other Polish exporters and Danish importers were involved. Even though the infected berries were immediately withdrawn, new outbreaks cannot be excluded. Treating physicians are encouraged to ask patients with norovirus infection if they have been eating frozen raspberries.

On suspicion on foodborne infection, the Medical Office of Health must be informed at once, and stool samples marked "raspberries" must be forwarded for norovirus testing. (G. Falkenhorst, K. Mølbak, Department of Epidemiology)