

## ZOONOTIC INTESTINAL INFECTIONS 2004

No. 9, 2005

Zoonoses are diseases transferred from animals to humans. Zoonotic intestinal infections arise after ingestion of contaminated foodstuffs or water, or after contact with infected animals.

### General development

Since 1999, *Campylobacter jejuni/coli* has been the most common bacterial zoonosis. In 2004, 3724 episodes were registered in the laboratory notification system (69 per 10<sup>5</sup>). The incidence declined in both 2002 and 2003, but increased by 5% in 2004 compared with 2003, [figure 1](#).

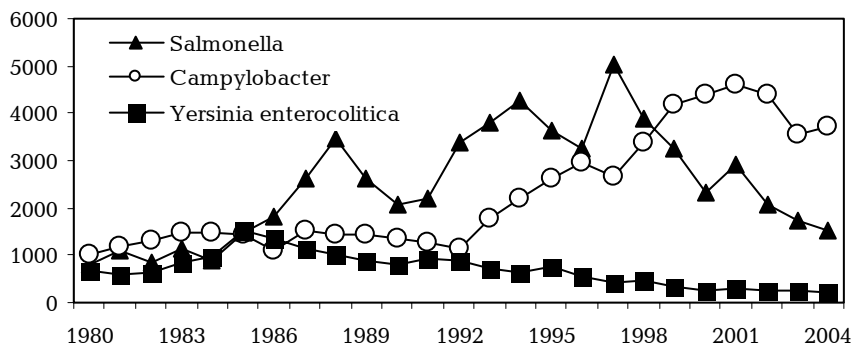
The incidence of salmonellosis has generally been declining since 1997. In 2004, a total of 1538 cases (28 per 10<sup>5</sup>) were recorded, 11% fewer than in 2003, which is the lowest number since 1985. The total number covers a decline of 26% for *S. enteritidis* (546 cases), an increase of 4% for *S. typhimurium* (467 cases) and an unchanged level for the group of other serotypes (525 cases). *S. enteritidis*, which is primarily transferred via hen's eggs, is still the most common serotype, [table 1](#), but is now almost at a level with *S. typhimurium*, which is primarily transferred from pork and poultry.

**Table 1. Number of salmonella episodes by serotype, 2004**

Serotype	No.	(%)
<i>S. Enteritidis</i>	546	(36)
<i>S. Typhimurium</i>	467	(30)
<i>S. Virchow</i>	38	(2)
<i>S. Newport</i>	36	(2)
<i>S. Stanley</i>	35	(2)
<i>S. Infantis</i>	32	(2)
<i>S. Dublin</i>	27	(2)
<i>S. Uganda</i>	25	(2)
<i>S. Kentucky</i>	18	(1)
<i>S. Saintpaul</i>	18	(1)
Other	296	(19)
Total	1538	(99)

A total of 227 cases of *Yersinia enterocolitica* (4.2 per 10<sup>5</sup>) were registered, representing a decline of 7% relative to the previous year. 168 cases of verocytotoxin-producing *E. coli* (VTEC) (3.1 pr. 10<sup>5</sup>) were registered; 30% more than in 2003. In 2004, 47 (28%) of the cases were caused by serogroup O157, which has traditionally been considered the most virulent.

**Figure 1. Number of recorded infections caused by Salmonella, Campylobacter and Yersinia enterocolitica, 1980-2004**



**Table 2. Zoonotic intestinal infections 2004, age-specific incidence per 10<sup>5</sup>**

Age (yrs)	Campylobacter	S. Enteritidis	S. Typhimurium	Other salmonella	Yersinia enterocolitica	VTEC
< 1	76	12	29	54	25	9
1-4	106	24	19	19	32	21
5-14	48	9	7	6	6	3
15-24	122	11	7	10	2	2
25-44	92	7	8	10	2	2
45-64	47	11	8	9	2	2
65+	31	10	9	7	2	2
Total	69	10	9	10	4	3

In 2004, there were five notified cases of haemolytic uraemic syndrome (HUS). All patients had verified VTEC infections.

The age-specific incidence, [table 2](#), follows the pattern from the preceding years, EPI-NEWS 9/04.

Further information about the number of bacterial intestinal infections is presented on [www.germ.dk](http://www.germ.dk).

### Comments

Human infections with *Campylobacter* were in 2004 more than twice as common as infections with *Salmonella*. The main source of *Campylobacter* is thought to be poultry. In the preceding years, the poultry industry has been collaborating with the Danish Veterinary and Food Administration to reduce the content of *Campylobacter* in fresh poultry. The declining human incidence in 2002 and 2003 has probably reflected this initiative, but it has not been possible to attain a further reduction in the number of cases last year. In contrast to this, through a targeted effort in the preceding years it has been possible to effectively combat *Salmonella* in the production of eggs, poultry and pork. The action plan against *Salmonella* in table egg production resulted in a

continued decline in the number of *S. enteritidis* cases in 2004, while the number of cases with other *Salmonella* types remained largely unchanged. For five successive years, the number of infections with *Yersinia enterocolitica* was at a constant, low level.

Particular attention is paid to VTEC infections because of the risk of HUS. In 2004, the annual increase continued in the number of cases observed since recording commenced (apart from a decline in 2003). Part of the increase is probably due to improved diagnostics, but the increase is also due to two outbreaks: a general outbreak that is thought to be associated with milk, EPI-NEWS 14/04, and an outbreak associated with goats on a farm open to the public, EPI-NEWS 25/04.

Patients with proven VTEC infection will up to November 2005 still be invited to participate in a case-control study that aims to uncover risk factors for infection with VTEC, EPI-NEWS 20/03.

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## Individually notifiable diseases

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

Table 1	Week 8 2005	Cum. 2005 <sup>1)</sup>	Cum. 2004 <sup>1)</sup>
AIDS	1	17	6
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	1	2
Diphtheria	0	0	0
Food-borne diseases	9	50	54
of these, infected abroad	1	10	8
Gonorrhoea	4	119	54
Haemorrhagic fever	0	0	0
Hepatitis A	2	22	18
of these, infected abroad	0	4	4
Hepatitis B (acute)	0	10	4
Hepatitis B (chronic)	2	19	33
Hepatitis C (acute)	0	1	0
Hepatitis C (chronic)	2	49	66
HIV	0	18	48
Legionella pneumonia	0	14	14
of these, infected abroad	0	2	1
Leprosy	0	0	0
Leptospirosis	0	5	1
Measles	0	0	0
Meningococcal disease	0	12	18
of these, group B	0	10	13
of these, group C	0	1	2
of these, unspec. + other	0	1	3
Mumps	0	1	0
Neuroborreliosis	1	12	43
Ornithosis	0	2	2
Pertussis (children < 2 years)	2	49	39
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	0	0
Listeria monocytogenes	0	0	1
Streptococcus pneumoniae	0	10	21
Other aethiology	0	0	1
Unknown aethiology	0	0	3
Under registration	4	28	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	1	19	15
of these, infected abroad	1	18	13
Syphilis	0	13	28
Tetanus	0	2	0
Tuberculosis	6	69	50
Typhoid/paratyphoid fever	0	3	3
of these, infected abroad	0	2	2
Typhus	0	0	0
VTEC/HUS	2	18	21
of these, infected abroad	2	11	4

<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 8 2005	Cum. 2005 <sup>2)</sup>	Cum. 2004 <sup>2)</sup>
Bordetella pertussis (all ages)	17	145	134
Gonococci	13	72	47
of these, females	1	9	11
of these, males	12	63	36
Listeria monocytogenes	0	6	4
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	24	458	32
Serum specimens <sup>4)</sup>	24	298	82
Streptococci <sup>5)</sup>			
Group A streptococci	2	25	26
Group C streptococci	0	4	5
Group G streptococci	1	25	11
S. pneumoniae	24	236	299
Table 3	Week 6 2005	Cum. 2005 <sup>2)</sup>	Cum. 2004 <sup>2)</sup>
Pathogenic int. bacteria <sup>6)</sup>			
Campylobacter	51	288	260
S. Enteritidis	4	32	35
S. Typhimurium	2	46	35
Other zoon. salmonella	8	42	49
Yersinia enterocolitica	6	30	21

<sup>2)</sup> Cumulative number 2005 and corresponding period 2004

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

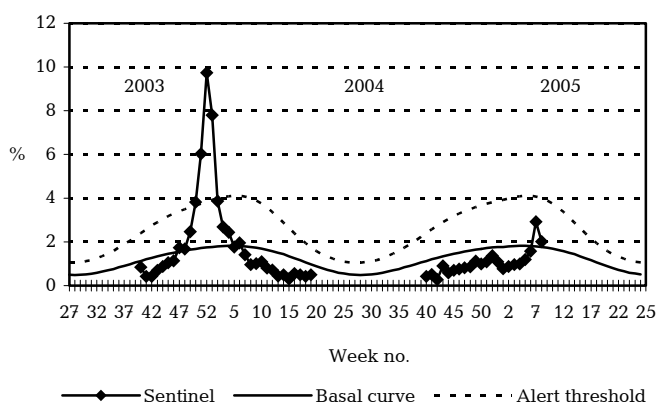
<sup>4)</sup> Serum specimens with pos. complement fixation test, MPT

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

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

## Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2003/2004/2005



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