



2009 saw a total of 598 gonorrhoea notifications in 576 persons. This figure included 427 cases detected by culture and reported to the Laboratory Notification System (LNS) as well as to the Notification System for Infectious Diseases (NSID) at the Department of Epidemiology. Eighteen cases were only reported to the LNS and 153 only to the NSID.

Among these 153 notifications, 130 stated that the diagnosis had been made by DNA detection. Nearly all of these notifications were from Copenhagen. A total of 458 (77%) were males and 140 (23%) were females. The median age was 24 years for females (range: 15-58) and 28 years for males (range: 16-70). The geographical distribution is shown in [Table 1](#).

Table 1. Notified gonorrhoea cases and incidence per 10⁵, by country area, 2009.

Area	No.	Incidence
		per 10 ⁵
Copenhagen City	217	32.5
Copenhagen subs	36	7.1
Northern Zealand	20	7.0
Bornholm	3	7.0
Eastern Zealand	11	4.7
W & S Zealand	23	3.9
Funen	15	3.1
Southern Jutland	44	6.2
Eastern Jutland	85	10.4
Western Jutland	25	5.9
Northern Jutland	113	19.5
Other/unknown	6	-
Total	598	10.9

Notified cases

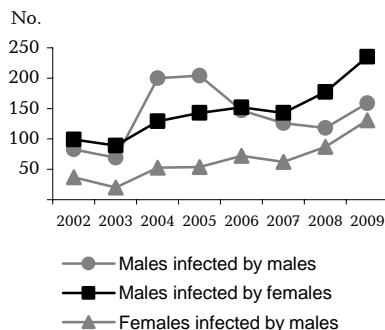
A total of 580 cases were notified, including 445 cases in 426 males and 135 female cases in 132 females. A total of 495 (84%) were Danish-born, 52 (9%) were immigrants, eight (1%) were second-generation immigrants and 13 (2%) were tourists. In 12 cases, the origin was not stated.

Transmission

Among males, 250 (56%) were infected by females, 174 (39%) by males (MSM), and in 21 (5%) cases the mode of infection was unknown, [Figure 1](#). Considerable geographical variation was seen among males notified as MSMs: from 9% in Northern Jutland to 69% in the City of Copenhagen.

Among MSMs, 158 (90%) were infected in Denmark and ten (6%) abroad, while the country of infection was unknown in six (3%) cases. For the heterosexually infected males, the corresponding figures were 182 (73%) infected in Den-

Figure 1. Cases notified with gonorrhoea, by sex and mode of infection, 2002-2009



mark, 51 (20%) abroad, including 22 (23%) in Thailand, and in 17 (7%) cases the country of infection was not stated. Among the heterosexually infected males > 40 years, 47% were infected abroad as opposed to 16% among the 15-39-year-olds. Among females, 120 (89%) were infected in Denmark and six (4%) abroad. In nine cases (7%), the country of infection was not stated. Among the heterosexually infected males and females, the share of repeatedly notified persons was 3%, while it was 5% among MSMs.

Resistance

Reference laboratory tests of the 445 submitted gonococcus isolates showed that 57% were penicillin resistant (38% in 2008) and 29% had reduced sensitivity; 14% were penicillinase-producing (16% in 2008). Fluoroquinolone resistance was found in 75% (63% in 2008), and a further 2% of the strains had reduced sensitivity (4% in 2008). A total of 76% were resistant to or had reduced sensitivity to both penicillin and fluoroquinolones (62% in 2008). Reduced sensitivity or resistance to fluoroquinolones was found in gonococcus isolates from 60% of the homosexual males, from 81% of the heterosexual males and from 82% of females. No ceftriaxon resistance was observed.

Specific anatomical localisations

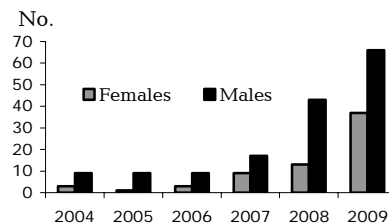
Gonococcal eye infection was observed in one 19-year-old male and Bartholin's abscess was found in one 17-year-old female.

Increase in North Denmark Region

The previously observed increasing trend in the occurrence of culture-confirmed cases of gonorrhoea in the North Denmark Region continued, [EPI-NEWS 22/09](#) and [Figure 2](#), as the number in this region nearly doubled from 57 cases in 2008 to 103

No. 36, 2010

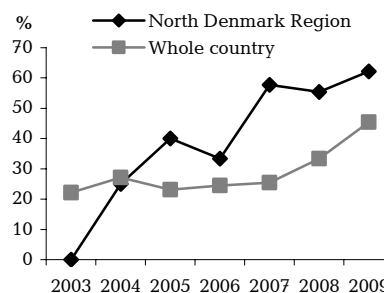
Figure 2. Culture-confirmed gonorrhoea in males and females in the North Denmark Region



in 2009. The share of females was 36% (23% in 2008 and 35% in 2007). The share of females also increased in the remaining parts of the country, but not as much.

The share of 15-24-year-olds rose across the country, but this trend was more pronounced in the North Denmark Region, where this share has been higher than the aggregate national level since 2005, [Figure 3](#).

Figure 3. Share (%) of 15-24-year-olds with culture-confirmed gonorrhoea in the North Denmark Region and in all of Denmark, 2003-2009



Commentary

The steady increase in the number of notified gonorrhoea cases continues, [EPI-NEWS 22/09](#).

As opposed to syphilis, [EPI-NEWS 35/10](#), the increase is observed in the share of heterosexual infectees, the share of infected females and the share of young infectees aged 15-24 years. This trend is particularly strong in the North Denmark Region. In 2009, only 22% of the strains were fully sensitive to fluoroquinolones; in these patients it is possible to use e.g. ciprofloxacin. Intramuscularly administered ceftriaxone 250 mg may be expected to be efficacious in all patients. In some countries, resistance to orally administered cephalosporins has been observed; however, such drugs have never been employed in the treatment of gonorrhoea in Denmark. Use of tetracyclines and macrolides, e.g. azithromycin, cannot be recommended. (G. St-Martin, S. Cowan, Dept. of Epidemiology, S. Hoffmann, DBMP)

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2010 figures are preliminary)

Table 1	Week 35 2010	Cum. 2010 ¹⁾	Cum. 2009 ¹⁾
AIDS	0	32	27
Anthrax	0	0	0
Botulism	0	1	0
Cholera	0	0	0
Creutzfeldt-Jakob	1	13	6
Diphtheria	0	0	0
Food-borne diseases	17	269	376
of these, infected abroad	0	62	69
Gonorrhoea	9	321	398
Haemorrhagic fever	0	0	0
Hepatitis A	4	38	21
of these, infected abroad	0	16	14
Hepatitis B (acute)	0	18	20
Hepatitis B (chronic)	0	134	119
Hepatitis C (acute)	0	2	4
Hepatitis C (chronic)	0	273	209
HIV	0	171	170
Legionella pneumonia	3	85	83
of these, infected abroad	0	14	14
Leprosy	0	0	0
Leptospirosis	0	2	0
Measles	0	4	9
Meningococcal disease	1	46	55
of these, group B	0	21	30
of these, group C	0	15	20
of these, unspec. + other	1	10	5
Mumps	0	25	10
Neuroborreliosis	2	23	23
Ornithosis	0	10	10
Pertussis (children < 2 years)	1	61	78
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	1	5
Listeria monocytogenes	0	5	4
Streptococcus pneumoniae	0	54	63
Other aethiology	0	15	9
Unknown aethiology	0	17	16
Under registration	1	3	0
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	3	62	74
of these, infected abroad	3	47	58
Syphilis	18	291	183
Tetanus	0	0	0
Tuberculosis	7	267	245
Typhoid/paratyphoid fever	3	27	18
of these, infected abroad	3	25	16
Typhus exanthematicus	0	0	0
VTEC/HUS	3	102	98
of these, infected abroad	1	26	20

¹⁾ Cumulative number 2010 and in corresponding period 2009

Selected laboratory diagnosed infections

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

Table 2	Week 35 2010	Cum. 2010 ³⁾	Cum. 2009 ³⁾
Bordetella pertussis (all ages)	9	141	153
Gonococci	11	277	303
of these, females	3	71	84
of these, males	8	206	219
Listeria monocytogenes	2	34	52
Mycoplasma pneumoniae			
Resp. specimens ³⁾	12	103	45
Serum specimens ⁴⁾	9	137	79
Streptococci ⁵⁾			
Group A streptococci	4	122	109
Group B streptococci	2	78	81
Group C streptococci	1	44	25
Group G streptococci	2	122	112
S. pneumoniae	11	698	752
Table 3	Week 33 2010	Cum. 2010 ²⁾	Cum. 2009 ²⁾
MRSA	21	540	459
Pathogenic int. bacteria ⁶⁾			
Campylobacter	136	2315	1946
S. Enteritidis	14	220	380
S. Typhimurium	16	397	591
Other zoon. salmonella	21	438	446
Yersinia enterocolitica	2	136	154
Verocytotoxin- producing E. coli	7	121	89
Enteropathogenic E. coli	11	118	123
Enterotoxigenic E. coli	15	290	193

²⁾ Cumulative number 2010 and in corresponding period 2009

³⁾ Resp. specimens with positive PCR

⁴⁾ Serum specimens with pos. complement fixation test

⁵⁾ Isolated in blood or spinal fluid

⁶⁾ See also www.germ.dk

Sentinel surveillance of the influenza activity

The sentinel surveillance ended in week 20, 2010