

# Venereology in Norway, with Reference to the Other Nordic Countries, Including Greenland

HARALD MOI

Olafiaklinikken, Oslo University Hospital, University of Oslo, Oslo, Norway. E-mail: harald.moi@medisin.uio.no



Norway has 5 departments of dermato-venereology. Walk-in examination for venereal diseases is offered at 4 of the departments, situated in Oslo, Bergen, Stavanger and Trondheim. The department in Tromsø only accepts patients by appointment. Opening hours vary considerably among the different clinics. The biggest venereal clinic, the Olafia Clinic, in the centre of Oslo, is administrated by Oslo University Hospital, and is a section of a large department including dermatology, infectious diseases and rheumatology. The Olafia Clinic has approximately 25,000 patient consultations per year, roughly the same as the venereology clinic at Bispebjerg Hospital, Copenhagen.

In contrast to the other Scandinavian countries, the Norwegian Society of Dermatology and Venereology has no working committee for venereal diseases. However, venereologists have been involved in issuing guidelines for the examination and treatment of sexually transmitted infections (STIs) for general practitioners and hospitals in Norway, and up-to-date guidelines have recently been completed and will be distributed shortly.

This overview describes what is happening on a national level regarding sexually transmitted diseases (STDs) in Norway, with a special focus on epidemiology, and with reference to the other Nordic countries. In Norway, gonorrhoea, syphilis and HIV have a combined, anonymous clinical and laboratory report, and genital chlamydia is reported from all laboratories.

## Condyloma acuminatum

In Norway the quadrivalent human papillomavirus (HPV) vaccine was introduced in 2009 for 12-year-old girls, without any catch-up programmes for older girls. Approximately 70% of the 1997 cohort has received at least 1 dosage of the vaccine, and 63% have received all 3 dosages. No catch-up programme is planned. However, the National Institute of Health has recently ordered a cost-benefit analysis of including boys. It is hoped that this will result in boys being included in the HPV vaccine programme.

As condylomas are not a notifiable STD in Norway, no statistics are available. However, it is estimated that the cost of treatment in Norway is similar to that in Denmark, at least 58 million NOK per year.

## Syphilis

Like many other western countries Norway has noticed an increase in cases of syphilis among men who have sex with men (MSM) during the last decade. During the 1990s, endemic syphilis was eradicated in Norway; only a few heterosexual men infected abroad were reported. In 1999, syphilis was again found in MSM in Oslo, and since that time an endemic spread has been registered, especially in Oslo, but also in other cities. All laboratory-verified cases of primary, secondary and early latent – less than one year, are reported. In MSM, the number of reported cases has doubled since 2008, from 56 to 109 per year. Half of them are HIV-positive (Fig. 1). As in Norway, most cases of syphilis in Sweden and Denmark are diagnosed among MSM. Denmark has registered almost a 6-fold increase in syphilis from 2006 to 2011, from 75 in 2006 to 434 cases in 2011, mainly in MSM, but also in women (Fig. 2). Two cases of congenital syphilis were registered in 2010–2011, and syphilis screening of pregnant women has been reintroduced (1). Finland has the lowest incidence of chlamydia, gonorrhoea and HIV in the Nordic countries, but has a high incidence of syphilis. In 1996 spread of syphilis from Russia in heterosexual men and women was registered, with an incidence rate of 2–4/100,000 in the subsequent decade. In recent years, Finland has also registered spread of syphilis among MSM, but has succeeded in controlling it. Greenland had a very high incidence of syphilis in the 1970s, but has succeeded in eradicating endemic syphilis.

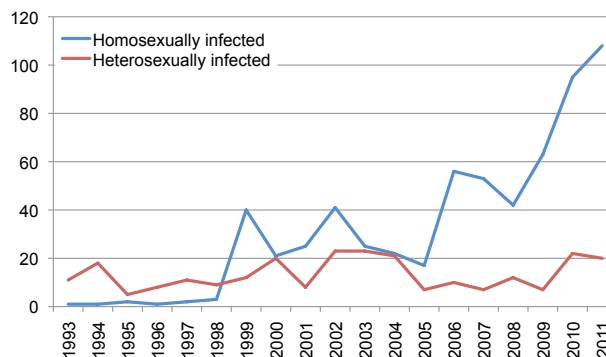


Fig. 1. Syphilis in Norway, in men who have sex with men and heterosexuals 1993–2011 (from the Norwegian National Institute of Health).

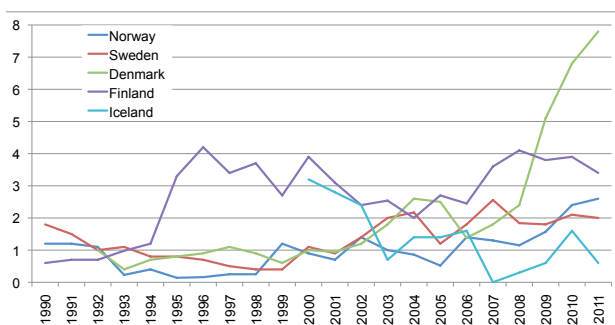


Fig. 2. Syphilis in the Nordic countries per 100,000 inhabitants, 1990–2011.

### Genital chlamydia

Genital chlamydia has nearly doubled in Norway, from the bottom line of 282/100,000 in 1998 to 496/100,000 in 2008. The increase has been similar in the Nordic countries except Finland, which has stabilized at approximately 260/100,000 cases in the last 10 years. Among the Nordic countries, Greenland and Iceland, with small populations of 56,000 and 320,000, respectively, have the highest incidence (Fig. 3). Greenland registered 3000 cases of chlamydia in 2010, equal to 5350/100,000, more than 10 times higher than the Scandinavian countries. The extremely high incidence of chlamydia in Greenland coincides with a formidable incidence of gonorrhoea. Greenland and Iceland have small populations with centralized registration, and all chlamydia cases are diagnosed in 1 central laboratory, which to some extent may explain the high incidence. Finland has the lowest incidence of chlamydia among the Nordic countries, and has not experienced the increase seen in the other countries in the last 10–15 years. One possible explanation may be the higher use of condoms in Finland. In recent years, 60% of men and 65% of women had used a condom at first intercourse (2). In Norway, only 40% used a condom at first intercourse with a new female partner (3).

It appears that the increase in chlamydia has stabilized in the last few years, with a slight decrease and, except for Iceland

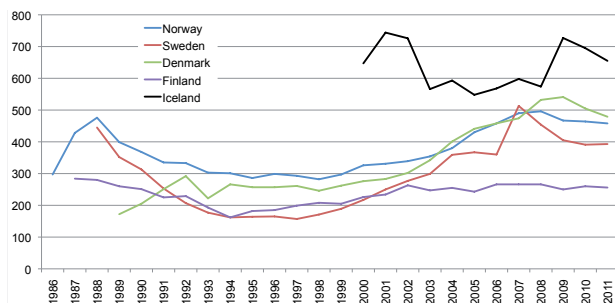


Fig. 3. Genital chlamydia in the Nordic countries per 100,000 inhabitants, 1986–2011.

and Greenland, Denmark now has the highest incidence. Only 39.2% of the laboratory-confirmed tests in 2011 were from men, similar to that of Denmark. Sweden has a higher proportion of diagnosed men (43%), probably due to more intensive partner tracing. MSM consulting the Olafia Clinic are offered screening for chlamydia from the anus as standard, and asymptomatic MSM can take an anal swab themselves. Every confirmed positive result of rectal chlamydia infection in MSM from the Olafia Clinic is genovar typed for lymphogranuloma venereum (LGV), but very few LGV strains have been isolated.

### Gonorrhoea

Gonorrhoea in Norway has increased from 166 reported cases in 1998 to 412 in 2010, with a slight decrease in 2011 to 368 cases. In 2011, males comprised 85% of the cases, of which 56% were MSM. The increase in gonorrhoea reported from Norway in 2010 was due to the introduction of nucleic acid amplification tests (NAAT) for diagnosing pharyngeal and anal gonorrhoea in MSM, with a much higher sensitivity than culture (Fig. 4). It is hoped that the decreasing incidence in 2011 indicates a reduced reservoir of asymptomatic gonorrhoea in MSM. The first case of cefixime-resistant gonorrhoea outside Japan was reported from the Olafia Clinic in 2010 (4), and the treatment has now been switched to ceftriaxone 500 mg intramuscularly plus azithromycin 2 g.

Greenland, with its small population of 56,000, has more cases of gonorrhoea than any of the other Nordic countries, with 1,239 cases reported in 2010 (5), which is a more than 200 times higher incidence than any of the other Nordic countries (Fig. 5). Iceland has approximately the same incidence of gonorrhoea as the other Nordic countries.

### Mycoplasma genitalium

*Mycoplasma genitalium* is a well-known cause of urethritis and cervicitis. In Norway, screening for *Mycoplasma genitalium* is not included in the standard screening for STD. However, the Olafia Clinic has included *Mycoplasma genitalium* as a routine test together with chlamydia, also in asymptomatic patients in the drop-in clinic and in tests requested online. *Mycoplasma genitalium* is found in 4–6% of the tests, which is approximately half the prevalence of chlamydia. Unfortunately also in Norway an increasing proportion of *Mycoplasma genitalium* has acquired a mutation, leaving the bacteria resistant to azithromycin. This may be explained partly by the fact that a single 1 g dose of azithromycin has been the first-line treatment of microscopic verified non-gonococcal urethritis (NGU) and chlamydia. Like Bispebjerg, the Olafia Clinic has changed the routine treatment of NGU from azithromycin to doxycycline. Doxycycline is also the first-line choice in the new National Guidelines. Test of cure for Mg after 4–5 weeks is essential, and 20–30% of cases are resistant to azithromycin.

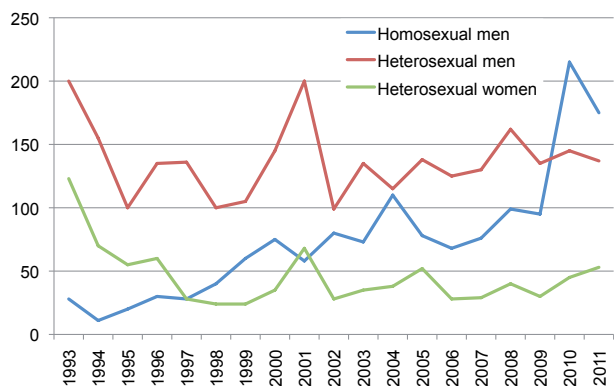


Fig. 4. Reported cases of gonorrhoea in Norway 1993–2011 (from the Norwegian National Institute of Health).

### HIV

The incidence of HIV in Norway doubled between 1998 and 2004, and has remained fairly constant for the last 8 years, with 250–300 cases per year (Fig. 6). However, the incidence in MSM is still increasing, and has tripled from 30 cases in 2002 to 97 in 2011. Of the 155 reported heterosexual cases of HIV in 2011, 70% were immigrants infected before coming to Norway. Most of the cases infected while resident in Norway, were men infected in South-East Asia, and women infected in Norway. The yearly incidence of HIV in intravenous drug users in Norway has stabilized at a low level; approximately 10 per year. This is probably due to an extensive needle exchange programme, including heroin “shooting galleries” (places for injecting illicit drugs) in Oslo, and methadone maintenance treatment programmes. The venereal clinics in Norway are involved in diagnosing HIV and consulting HIV-positive cases. The patients are referred to the departments of infectious diseases for anti-retroviral treatment. In order to increase the test activity, the Olafia Clinic recently opened an evening low-threshold drop-in for MSM, offering rapid testing for HIV, and screening for other STIs.

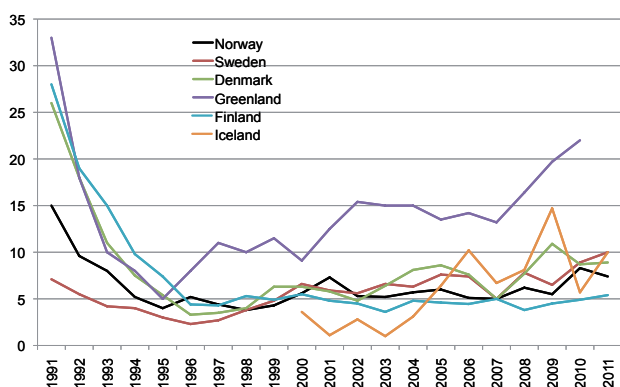


Fig. 5. Gonorrhoea in the Nordic countries (per 100,000 inhabitants), including Greenland (per 1000 inhabitants).

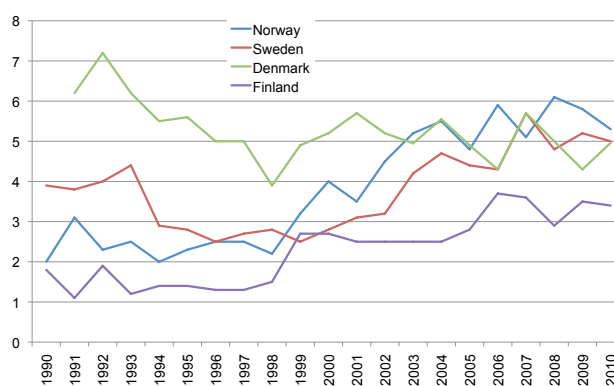


Fig. 6. HIV in the Nordic countries per 100,000 inhabitants, 1990–2010.

Greenland and Iceland are not included in Fig. 6. Because of the extremely high incidence of gonorrhoea and chlamydia in Greenland, spread of HIV in the population, similar to that in Sub-Saharan countries was feared in the late 1980s and 1990s. However, only small local outbreaks have been registered, and this has remained limited to a heterosexual, alcohol-abusing group of persons of low socioeconomic status living in 2 communities in western Greenland (6). At the beginning of 2009, there were 218 diagnosed cases of HIV in Iceland; 162 men and 56 women. However, in 2009 and 2010, 15 and 24 cases were registered, with a spread among injecting drug addicts (personal communication, Jon Hjaltalin Olafsson)

### Hepatitis B and C

MSM are offered screening for hepatitis B and C, as are intravenous (i.v.) drug users and patients from endemic countries with hepatitis B. Persons at increased risk of contracting hepatitis B (MSM and i.v. drug users) are offered hepatitis B vaccination free of charge at the Olafia Clinic.

### References

1. Statens Serum Institut. Epi-Nyt Available from: <http://www.ssi.dk/Aktuelt/Nyhedsbreve/EPI-NYT/2012.aspx>.
2. International encyclopedia of sexuality. Available from: <http://www.indiana.edu/~kinsey/ccies/fi.php>.
3. Nordmenn dårligst på dongi-Norden. Available from: <http://www.rfsu.se/no/Norsk/Kontakt/Presse/Pressemelding1/Nordmenn-darligst-pa-dong-i-Norden/>.
4. Unemo M, Golparian D, Syversen G, Vestheim DF, Moi H. Two cases of verified clinical failures using internationally recommended first-line cefixime for gonorrhoea treatment, Norway, 2010. *Euro Surveill* 2010; 15: 19721.
5. Grønlands statistik. Available from: <http://www.stat.gl/dialog/main.asp?lang=da&version=2012&link=SU&subthemecode=t11&colcode=t>.
6. Law DG, Rink E, Mulvad G, Koch A. Sexual health and sexually transmitted infections in the North American Arctic. *Emerg Infect Dis* 2008; 14: 4–9.