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Sexually transmitted infections

Sexually transmitted infections, including HIV, in the Netherlands in 2011

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Rapport in het kort

Seksueel overdraagbare aandoeningen, waaronder hiv, in Nederland in 2011

Consulten en bezoekers soa-centra
In 2011 hebben in totaal 113.180 mensen zich bij een van de centra in Nederland laten testen op een seksueel overdraagbare aandoening (soa), 8 procent meer dan in 2010. De soa-centra bieden hoogrisicogroepen een laagdrempelige aanvullende curatieve zorg. Er waren in 2011 vooral meer consulten van mannen die seks hebben met mannen (MSM), een stijging van 11 procent ten opzichte van 2010. In 14 procent van de consulten werd één of meerdere soa gevonden (bij 20 procent van de MSM en 13 procent van de heteroseksuele bezoekers), dit is vergelijkbaar met voorgaande jaren. Er zijn 3005 mannen en 11.282 vrouwen voor een Sense-consultatie gekomen.

Chlamydia
Het aantal infecties is opnieuw toegenomen in 2011, evenals het percentage positieve chlamydiatesten (n=12.913 respectievelijk 11,5 procent). Meer dan de helft van de infecties werd gevonden bij jongeren tot 25 jaar. 12 procent van de heteroseksuele bezoekers van soa-centra had een chlamydia-infectie, onder heteroseksuelen jonger dan 25 jaar was dit 15 procent.

Gonorroe
Zowel het aantal infecties (n=3.575) als het percentage positieve gonorroetesten (3,2 procent) is toegenomen in 2011. In Nederland is nog geen gonorroestam gevonden die (klinisch) resistent is tegen derde generatie cefalosporines. Wel zijn meer stammen gevonden die hiervoor minder gevoelig zijn. Monitoring van resistentie blijft daarom van belang om – indien nodig – tijdig behandeladviezen bij te kunnen stellen.

Syfilis
In 2011 nam het aantal nieuwe syfilisdiagnoses en het percentage positieve testen (n=476 respectievelijk 0,4 procent) verder af. Syfilis werd vooral gediagnosticeerd bij MSM (90 procent van alle syfilisdiagnoses).

Hiv
Het aantal nieuwe hiv-diagnoses bij de Nederlandse hiv-behandelcentra schommelt de laatste jaren rond de 1100 (in 2010: 1090). In 2011 werden 812 nieuwe hiv-diagnoses gesteld (onvolledig door rapportagevertraging). In 2010 werden in dezelfde periode 825 nieuwe hiv-diagnoses gesteld. Het aantal hiv-infecties gediagnosticeerd in de soa-centra is in 2011 gestegen tot 415, een stijging van 11 procent ten opzichte van 2010, hoewel het percentage positieve hiv-testen bij de soa-centra gelijk bleef (0,4 procent). Sinds 2010 worden alle bezoekers van soa-centra op hiv getest, tenzij dit expliciet geweigerd wordt (opting-out); dit jaar weigerde 2 procent van alle bezoekers die niet wisten of ze hiv hadden. In 2011 werd bij 30 procent van de bekend hiv-positieve MSM een of meerdere andere soa's gevonden.

Abstract

Sexually transmitted infections, including HIV, in the Netherlands in 2011

Consultations and STI clinic attendees

In 2011, a total of 113,180 persons were tested at one of the sexually transmitted infection (STI) clinics in the Netherlands. This was 8 percent more than in 2010. STI clinics offer easily accessible diagnosis and additional curative care to high-risk populations. There were especially more consultations by men who have sex with men (MSM) in 2011, an increase of 11 percent compared with 2010. One or more STIs were found in 14 percent of the attendees (in 20 percent of MSM and in 13 percent of heterosexual attendees). These figures are comparable with previous years. 3,005 men and 11,282 women came in for a Sense consultation.

Chlamydia

The number of infections increased again in 2011, as well as the positivity rate (n=12,913 respectively 11.5 percent). More than half of the infections were found in clients younger than 25 years. Of the total heterosexual attendees, 12 percent had a chlamydia infection compared with 15 percent in the group of heterosexuals younger than 25 years.

Gonorrhoea

The number of gonorrhoea infections as well as the positivity rate (n=3,575 respectively 3.2 percent) increased compared with 2010. No third-generation cephalosporin-resistant gonorrhoea strains have been found in the Netherlands yet. However, an increasing number of strains less sensitive to antibiotics have been detected. Therefore, monitoring of resistance remains important in case adjustments of treatment advice are necessary.

Syphilis

In 2011, there was a further decrease in the number of new diagnoses of infectious syphilis and the positivity rate in comparison to 2010 (n=476 respectively 0.4 percent). This slight downward trend has been going on for several years. MSM accounted for 90 percent of all infectious syphilis diagnoses.

HIV

The number of new HIV diagnoses, as reported in the Dutch HIV treatment centres, has fluctuated in recent years around 1,100 (in 2010: 1,090). In 2011, 812 new HIV diagnoses were reported (incomplete due to reporting delay). In 2010, in the same period, the number was 825. The number of positive HIV tests in the STI clinics was 415, an increase of 11 percent compared with 2010. However, the proportion of positive HIV tests at the STI clinics remained stable (0.4 percent). Since 2010, all STI clinic attendees have been tested for HIV, except those who explicitly refused, known as opting-out testing. In 2011, 2 percent of all STI clinic attendees not knowing their HIV status refused an HIV test. Among those MSM known to be HIV-positive, 30 percent were diagnosed with one or more STIs in 2011.

Preface

This annual report presents the national surveillance data and a review of the epidemiology of sexually transmitted infections (STI), including HIV/AIDS, in the Netherlands in 2011. The report provides an overview of recent trends and current developments in the field of STI. This is done by presenting a summary of recent trends ('key points') followed by tabulations and figures of STI by a range of relevant characteristics and risk groups over time from available data sources and an overview of the major discussions and recommendations.

We hope that this report will contribute to further awareness of the distribution and determinants of STI, including HIV, in the Netherlands, resulting in development and targeting of (preventive) interventions and assessment of their effectiveness on STI transmission. The information is meant to support policy makers and researchers in the field of STI and related subjects as well as others interested in STI trends in the Netherlands. More information on STI and HIV trends in the Netherlands is available at www.soahiv.nl and www.hiv-monitoring.nl. A copy of this report can also be downloaded in PDF format from www.soahiv.nl.

Acknowledgements
We gratefully acknowledge the cooperation of many physicians, public health doctors and nurses, microbiologists, epidemiologists, dermatologists, behavioural scientists, prevention workers and other professionals working in the field of STI and HIV. We would like to thank the following organisations for their continuing collaboration in collecting data: the STI centres (STI clinics and public health services), Stichting HIV Monitoring (SHM) and GGD Nederland. We also thank SOA AIDS Nederland, Rutgers WPF, HIV Vereniging, Schorer Stichting, Netherlands Institute for Health Services Research (NIVEL), in particular the general practitioners participating in the Netherlands Information Network of General Practice (LINH), Dutch Working Group on Clinical Virology, the Chlamydia Screening Implementation group (CSI), as well as the other units at the Centre for Infectious Disease Control: Laboratory for Infectious Disease and Screening (CIb/LIS), the Policy, Management and Advice Unit (CIb/BBA) and the Preparedness and Response Unit (CIb/LCI) for their support. Furthermore, we would like to thank Petra Oomen for the data on pregnant women (Praeventis), Joke Korevaar, Irina Stirbu-Wagner and Sara Dorsman for LINH/NIVEL data and analysis and Paul van Beek and Anouk Urbanus for the data on participants in the HBV vaccination programme. Also, Hein Boot, Han de Neeling, Daan Notermans, Tineke Herremans (all CIb/LIS), Nina Koper, Emma Heerkens (both CIb/EPI) and Silke David (CIb/BBA) are thanked for their contributions.

Further information
Any comments or suggestions can be sent to info@rivm.nl.

Contents

Samenvatting

In 2011 werden in totaal 113.180 nieuwe soa-consulten uitgevoerd bij de soa-centra, een stijging van 8 procent ten opzichte van 2010. De soa-centra zijn bedoeld voor hoogrisicogroepen die in de reguliere zorg niet voldoende bereikt worden. Om deze groepen te bereiken passen de centra een landelijk afgestemd triagesysteem toe. De hoogrisicogroepen, waaronder mannen die seks hebben met mannen (MSM) (19 procent van de bezoekers in 2011), personen afkomstig uit soa/hiv endemische gebieden (24 procent van de bezoekers in 2011) en jongeren tot 25 jaar (45 procent van de bezoekers in 2011), worden gratis en op verzoek anoniem getest. In 2011 voldeed 99 procent van de soa-consulten aan minimaal een van de gestelde criteria voor hoogrisicogroepen of betrof anonieme testen. Huisartsendata laat zien dat het aantal soadiagnoses in 2010 licht afnam ten opzichte van 2009. Naast data van de soa-centra worden, waar beschikbaar, trenddata uit de reguliere zorg, zoals hiv-behandelaren, de aangifteplicht en andere surveillancebronnen geanalyseerd.

Bacteriële soa

In 2011 was chlamydia opnieuw de meest gediagnosticeerde bacteriële soa in de soa-centra met 12.913 gerapporteerde gevallen. Het percentage positieve testen steeg licht naar 11,5 procent in 2011 ten opzichte van 11,2 procent in 2010. De hoogste percentages positieve testen werden gezien onder heteroseksuele mannen en vrouwen (respectievelijk 12,1 procent en 11,4 procent). De meerderheid van de chlamydia-infecties bij heteroseksuelen werd bij jongeren onder de 25 jaar gediagnosticeerd (56 procent). LGV, een agressieve variant van chlamydia, wordt sinds de uitbraak in 2004 nog steeds regelmatig gevonden, in 2011 werden in totaal 69 gevallen van LGV gerapporteerd.
Het percentage positieve gonorroetesten in de soa-centra nam toe tot 3,2 procent in 2011 (3.575 positieve testen). Gonorroe werd vooral gediagnosticeerd bij MSM: 9,0 procent testte positief, vergeleken met 1,8 procent van de heteroseksuele soa-centra bezoekers. Sinds 2008 wordt bij zowel heteroseksuelen als MSM een toename gezien in percentage positieve gonorroetesten. Monitoring van resistentie blijft van belang, zeker gezien de recent gerapporteerde toenemende resistentie tegen derde generatie cefalosporines in Europa.
Het percentage positieve testen van infectieuze syfilis blijft verder afnemen: van 4,3 procent in 2007 naar 2,0 procent in 2011. In totaal werden er in 2011 476 infectieuze syfilis diagnoses gesteld, waarvan 90 procent bij MSM.

Virale soa, inclusief hiv

In de soa-centra werden 415 nieuwe hiv-diagnoses gesteld in 2011. Het percentage positieve hiv-testen voor MSM blijft gelijk ten opzichte van 2010: 2,0 procent. Bij heteroseksuele mannen en vrouwen bleef dit ook stabiel op 0,1 procent.
In 2011 werden 1.227 nieuwe aanmeldingen van hiv-positieve personen in zorg gerapporteerd in de nationale hiv-registratie bij de Stichting HIV Monitoring, waarvan er 812 gediagnosticeerd werden in 2011. Eind 2011 waren in totaal 19.231 personen met hiv in Nederland geregistreerd. Het aandeel nieuw gerapporteerde hiv-infecties bij MSM steeg licht tot 67 procent. Bij 25 procent van de nieuw gediagnosticeerde hiv-positieve MSM die de soa-centra bezochten werd een chlamydia en/of gonorroe-infectie gevonden.
In de landelijke hiv-database steeg het aantal 50-plussers met hiv van 173 in 2009 naar 205 in 2010, een toename van 18 procent. De sterkste stijging werd waargenomen bij heteroseksuele mannen in deze leeftijdsgroep (van 33 in 2009 naar 58 in 2010, +76 procent).

Het aantal diagnoses van genitale wratten nam in 2011 in de soa-centra af tot 2.380. Het aantal diagnoses van genitale herpes (HSV) daalde in 2011 met 13 procent. Hierbij moet worden opgemerkt dat onderzoek van genitale wratten en HSV alleen op indicatie gebeurt, waardoor het aantal diagnoses en het percentage positieve testen niet vergelijkbaar zijn met die van bacteriële soa en hiv, waarop routinematig getest wordt. Uit de aangiftedata van hepatitis B bleek dat de dalende trend van het aantal gevallen van acute hepatitis B infecties zich voortzette in 2011: een afname van 22 procent ten opzichte van 2010. Het aantal gerapporteerde acute hepatitis C gevallen nam toe van 30 in 2010 tot 62 in 2011; vooral het aandeel gerelateerd aan MSM transmissie steeg sterk.

In het kort, het aantal soa-consulten en het percentage positieve soa-testen blijft nog steeds jaarlijks toenemen. Hoewel in verschillende soa een stagnatie of daling in aantallen en percentage positieve testen gerapporteerd wordt, nam het percentage positieve testen nog steeds toe door de toename van chlamydia- en gonorroe-infecties. Een sterke soa-surveillance blijft essentieel om zicht te houden op relevante trends. De bestrijding zou verder ondersteund kunnen worden door het versterken van intersectorale samenwerking tussen de verschillende zorgverleners, het nog actiever monitoren van opkomende soa en trends binnen hoogrisicogroepen, het bevorderen van partnerwaarschuwing en door het systematisch onderzoeken van gonorroe bij hoogrisicogroepen om de transmissie van pandrug-resistente stammen te kunnen voorkomen.

Summary

In 2011, 113,180 new STI consultations were carried out in the national network of STI centres in the Netherlands, an increase of 8 percent compared with 2010. The STI centres target high-risk groups by patient selection based on a standardised list of criteria. High-risk groups, such as men having sex with men (MSM) (19 percent of all attendees in 2011), persons originating from STI/HIV endemic areas (24 percent of all attendees in 2011) and people under 25 years of age (45 percent of all attendees in 2011), are tested free of charge and when they request anonymously. In 2011, 99 percent of attendees fulfilled one or more of the criteria for high-risk groups or wanted to be tested anonymously.
Data from general practitioners shows that the number of STI diagnoses has slightly decreased in comparison with 2009.
Besides data from the STI centres, data from regular care like HIV treatment centres, notifiable diseases and other surveillance sources are also reported.

Bacterial STI
With 12,913 reported cases, chlamydia remained the most commonly diagnosed bacterial STI in the STI centres in 2011. The overall positivity rate was 11.5 percent compared with 11.2 percent in 2010. The highest positivity rates were found in heterosexual men and women (12.1 and 11.4 percent respectively). The majority of chlamydia cases in heterosexuals were diagnosed in persons younger than 25 years of age (56 percent). LGV, an aggressive strain of chlamydia, has been found frequently since the detection of the LGV outbreak in 2004; there were 69 new LGV cases diagnosed in 2011.
The positivity rate for gonorrhoea in STI centres increased to 3.2 percent in 2011 (3,575 positive tests). Gonorrhoea was most prevalent among MSM (57 percent). Monitoring resistance remains important, especially given the recent reports of increasing resistance against third-generation cefalsporines in Europe.
The positivity rate of infectious syphilis showed a further decreasing trend: from 4.3 percent in 2007 to 2.0 percent in 2011. In total, 476 positive infectious syphilis tests were reported, including 90 percent MSM.

Viral STI, including HIV
At the STI centres, a total of 415 HIV infections were diagnosed in 2011. The 2011 data showed similar HIV positivity rates for MSM in comparison with 2010: 2.0 percent. The positivity rate in heterosexual men and women remained stable at 0.1 percent.
In 2011, 1,227 HIV-infected persons in care were newly registered in the national database of the HIV treatment centres (SHM); 812 of them were diagnosed in 2011. As of December 2011, a total of 19,231 HIV patients in medical care had been recorded in the Netherlands. The proportion of MSM among the newly diagnosed showed a slight increase to 67 percent. 25 percent of the newly diagnosed HIV-positive MSM consulting the STI centres were co-infected with a chlamydia and/or gonorrhoea infection.
In the national HIV database an increase in the number of HIV diagnoses among people of 50 years or older was observed (from 173 in 2009 to 205 in 2010, +18 percent). The largest increase was found among heterosexual men in this age group (from 33 in 2009 to 58 in 2010, +76 percent).

The reported number of genital warts decreased in 2011 in the STI centres to 2,380 and the number of genital herpes (HSV) decreased by 13 percent in comparison with 2010. These two STIs are tested by

indication only, so the number of diagnoses and the percentages testing positive is not comparable with the bacterial STI and HIV as described above (routinely screened at all consultations). The notification data on acute hepatitis B showed a decrease of 22 percent compared with 2010. The total number of reported acute hepatitis C cases showed an increase from 30 in 2010 to 62 cases in 2011; this rise was especially visible in MSM.

In short, both the number of STI consultations and the overall STI positivity rate show an increasing trend. Although in different STI a stagnation or decrease in number of cases and positivity rates was reported, the overall positivity rate was still increasing due to the increase of chlamydia and gonorrhoea infections. Strong STI surveillance remains essential to monitor relevant trends. STI control could be supported by strengthening of intersectoral cooperation between the different care providers, monitoring emerging STI and trends for high-risk groups, promoting partner notification and systematically researching gonorrhoea diagnosed in high-risk groups to prevent transmission of pandrug-resistant strains.

Introduction

This report describes current trends in the epidemiology of STIs, including HIV, in the Netherlands. It was prepared by the Centre for Infectious Disease Control (CIb) at the National Institute for Public Health and the Environment (RIVM). The CIb collaborates with various partners in the field of STI to collect data for surveillance and to generate insights into trends and determinants: the STI centres, the Stichting HIV Monitoring (SHM), public health laboratories, general practitioners (GPs) and other health care providers.

The data systematically collected among high-risk groups by the nationwide network of STI centres under the responsibility of the Public Health Services are the backbone of the Dutch STI surveillance on STI trends and risk factors. Other available STI data from surveys, screening programmes, national registries, cohort studies and other surveillance systems are included as much as possible. Together they provide an overview of the current status of STI, including HIV, in the Netherlands. Preliminary data have been presented in the Thermometer Seksuele Gezondheid (April 2012).

Outline of the report

In chapter 1 the methodology of STI surveillance in the Netherlands is described, including all data sources used for this report. In chapter 2 the characteristics of STI centre consultations and attendees and data from Sense are presented for 2011, and data from the general practitioners for 2010 are presented as well as trends in specific risk groups for 2004–2011. Chapters 3–5 present data on bacterial STI (chlamydia, gonorrhoea and syphilis) and chapters 6–10 focus on viral STI, including HIV, genital warts, genital herpes and hepatitis B and C. Conclusions and recommendations are provided in chapter 11.

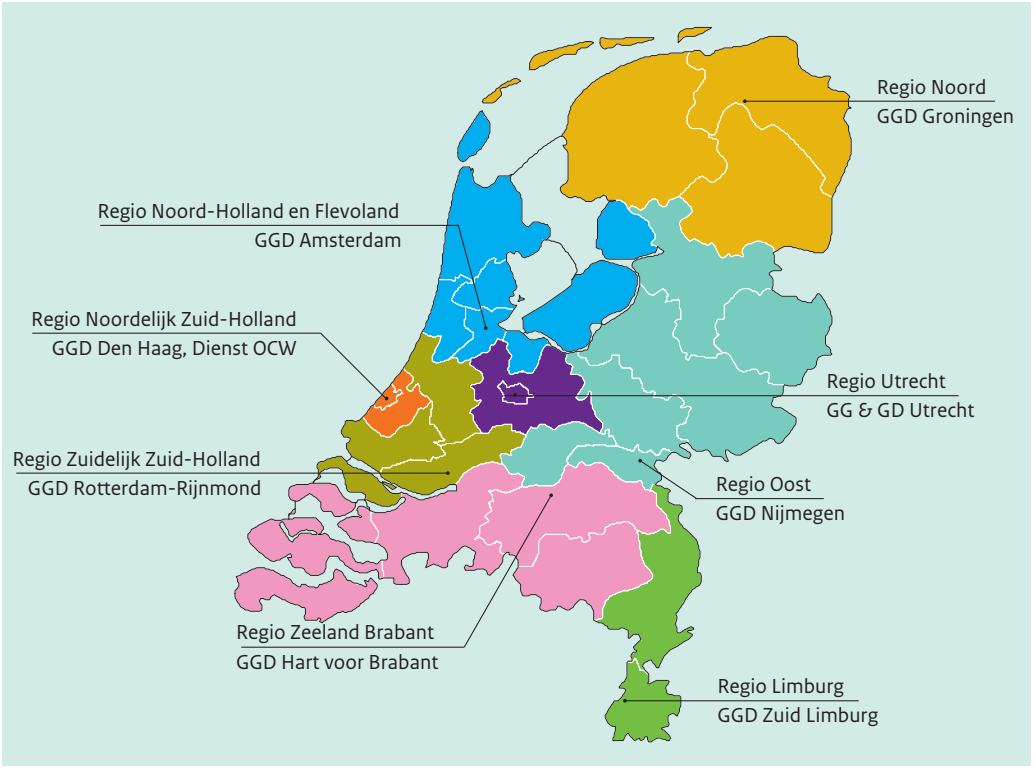
1 Methodology of STI and HIV surveillance

Tables and figures for this report are based on a variety of data sources to provide an up-to-date overview of the STI/HIV epidemic in the Netherlands. The foundation of this overview is the systematic surveillance among high-risk groups seen in the nationwide system of STI centres. Data from general practitioners, who perform the bulk of STI consultations, are extrapolated from the LINH network. To gain insight into trends among HIV patients in care, data from the anonymous HIV surveillance at STI centres and the HIV treatment centres (Stichting HIV Monitoring) have been obtained. Other data sources are Sense, laboratory surveillance, the Chlamydia Screening Implementation (CSI), the Gonococcal Resistance to Antimicrobials Surveillance programme (GRAS), antenatal screening and the data on hepatitis B and C notifications, the hepatitis B vaccination programme for risk groups and blood donor registration.

1.1 National surveillance at STI centres

Since 1995, STIs have been registered in an STI database at the RIVM in the Netherlands. In 2003, an STI sentinel surveillance system was put in place, which reached national coverage in 2004 with the inclusion of all major STI centres. Since 2006, reporting to the national STI surveillance system has been organised into eight regions. In each region, there is one STI centre that is responsible for the regional coordination of STI control (figure 1.1). Testing and treatment offered in the STI centres are subsidised by the Ministry of Health in order to facilitate low threshold care to groups who are considered to be at increased risk for STI acquisition. In total, 26 STI centres, mostly within the public health services and some of them with different test locations, provide low-threshold STI/HIV testing and care, free of charge, targeted at high-risk groups and at people who want to be tested anonymously. Currently, persons matching one or more of the following criteria are considered to be at high risk of STI acquisition: (1) reporting STI-related symptoms, (2) notified or referred for STI testing, (3) aged below 25 years, (4) MSM, (5) involved in commercial sex, (6) originating from an HIV/STI endemic area, (7) having three or more sexual partners in the previous six months or (8) having a partner from a risk group. Furthermore, persons who indicate they want to be tested anonymously can also make use of the STI centres to guarantee 'low-threshold' STI care. All attendees are mandatorily offered testing for chlamydia, gonorrhoea and syphilis and there

Figure 1.1 Eight regions with coordinating STI centre indicated.



is an opt-out policy for HIV testing. Other STIs tested on indication are hepatitis B and C, genital herpes, trichomonas and LGV. All consultations and corresponding diagnoses are reported online to the CIb for surveillance purposes, facilitated by a web-based application (SOAP). The unit of analysis is 'new STI consultation' and anonymised reports contain epidemiological, behavioural, clinical and microbiological data on a wide range of STI.
In this report, the results of national surveillance of STI centres are presented with respect to the number and nature of new consultations and diagnoses. Trends in positivity rates by risk profile (based on demographic and behavioural indicators) in time are based on data from the STI centres under national surveillance since 2004. Where data were not complete for a specific period or STI centre, this is indicated. We focus on the major bacterial and viral STI, including HIV infection.

1.2 Sense

To strengthen primary prevention and promote sexual health among adolescents (< 25 years), a nationwide network of consultation centres (Sense) was established, under the coordination of the same Public Health Services (PHSs) that coordinate the STI centres. To these Sense locations young adults

can anonymously address themselves for information and personal consultations on a broad range of subjects relating to sexual health; for example: (problems with) sexual intercourse, unwanted pregnancy, birth control, STI, homosexuality, sexual violence, loverboys, etc. For this purpose, two consultations per person and per personal question are offered free of charge. Sense consultation locations are available through a nationwide network. Data on the numbers of Sense consultations are presented.
In addition to personal consultations, Sense offers a website (www.sense.info) containing information covering subjects related to STI, pregnancy, birth control and sexuality. Via this website, clients can anonymously access the Sense info line (phone, email or chat) for more information or personal questions.

1.3 STI surveillance in general practice

Data from 2002 to 2010 on STI diagnoses in general practice were obtained from the electronic medical records database of general practitioners (GPs) participating in the Netherlands Information Network of General Practice (LINH) (2011 data not yet available at time of reporting).[1] In 2010, 123 practices participated, encompassing a representative sample of 516,157 listed patients, about 2.7 percent of the Dutch population. The number of practices in the network varies from year to year as some practices leave and others join. This number varied between 61 and 83 practices in 2002–2008. The network expanded in 2009 and consisted of 123 practices in 2010. Complaints and illnesses were recorded using the International Classification of Primary Care (ICPC-1). Trends in reporting rates of STI episodes were calculated using multivariate multilevel analyses (three levels: patient, practice and year), adjusting for the duration of the patients' registration within each year.[2] Annual estimates of the total number of episodes seen at GPs in the Netherlands were made by extrapolation of the reporting rates in these practices to the total number of Dutch residents, as obtained from Statistics Netherlands (CBS).
Patients' characteristics include age and sex. For chlamydia, which does not have a main ICPC code, we counted ICPC main codes with appropriate prescription and ICPC specific subcodes (chlamydia). In women these subcodes were for cervicitis, vaginitis and Pelvic Inflammatory Disease (PID), in men we counted subcodes for orchitis/epididymitis and other genital diseases. For HIV and syphilis, the number of cases reported was too small for reliable trend estimates. Data for 2011 were not yet available.

1.4 Laboratory surveillance

National laboratory surveillance data are not available for STI, except for data from the weekly virological reports, which include the total number of *Chlamydia trachomatis* positive tests conducted. Data were analysed from 17 laboratories (consistently reporting since 2000, covering an estimated 40 percent of the

1 Verheij RA, van Dijk CE, Abrahamse H, et al. Landelijk Informatienetwerk Huisartsenzorg. Feiten en cijfers over huisartsenzorg in Nederland. Utrecht/Nijmegen: NIVEL/WOK, < http://www.nivel.nl/over-linh >, accessed 10-04-2012.

2 van den Broek IVF, Verheij RA, van Dijk CE, Koedijk FDH, van der Sande MAB, van Bergen JEAM. Trends in sexually transmitted infections in the Netherlands, combining surveillance data from general practices and sexually transmitted infection centres. BMC Family Practice, 2010, 11:39.

main laboratories in the Netherlands).[3] There is overlap in the laboratories reporting in this system and the laboratories connected to the STI centres.

1.5 Chlamydia screening

The Chlamydia Screening Implementation (CSI) was the first large-scale intervention programme, piloting a sustainable, selective, systematic and Internet-based chlamydia screening during the period 2008–2011. A total of 315,000 16 to 29-year-old residents of Amsterdam, Rotterdam and South Limburg were invited in annual screening rounds. In the high-prevalence urban areas, all sexually active people were encouraged to participate, while in the lower-prevalence area of South Limburg, only those who matched a certain risk profile were invited. The PHSs have implemented the screening and STI AIDS Netherlands was coordinating the programme. The Centre for Infectious Disease Control, RIVM, in collaboration with the PHSs and STI AIDS Netherlands, has conducted the evaluation of the programme. The evaluation did not show that a national roll-out of *Chlamydia trachomatis* screening in the Netherlands would be cost-effective; systematic screening has therefore not been rolled out following the end of the CSI programme. For more information see van Bergen et al.[4] and van den Broek et al.[5]

1.6 Antimicrobial resistance of gonococci

In 1999, the surveillance of antibiotic resistance of gonococci at national level was discontinued and since then, insight into gonococcal susceptibility patterns has been limited. Concern for increasing resistance to quinolones at (inter)national level led to the implementation of an annual RIVM laboratory survey of the resistance of gonococci in 2002. The results demonstrated the need for a nationwide systematic surveillance of gonococcal antimicrobial resistance. Therefore, in 2006, the Gonococcal Resistance to Antimicrobials Surveillance programme (GRAS) was implemented in the Netherlands. This surveillance consists of the systematic collection of data on gonorrhoea and resistance patterns linked with epidemiological data. 80 percent of the STI centres participate, which were responsible for 83 percent of all gonorrhoea diagnoses in 2011.[6]

3 van de Brandhof WE, Kroes ACM, Bosman A, Peeters MF, Heijnen MLA. Rapportage van virologische diagnostiek in Nederland: representativiteit van de gegevens uit de virologische weekstaten. Infectieziekten Bulletin 2002, 13(4):110–3.

4 JEAM van Bergen, JSA Fennema, EEAG Brouwers, et al. Rationale, design, and results of the first screening round of a comprehensive, register-based chlamydia screening implementation programme in the Netherlands. BMC Infectious diseases, 2010, 10:293.

5 IVF van den Broek, CJPA Hoebe, JEAM van Bergen, et al. Evaluation design of a systematic, selective, Internet-based, chlamydia screening implementation in the Netherlands, 2008–2010: implications of first results for the analysis. BMC infectious diseases, 2010, 10:89.

6 GRAS Voortgangsrapportage (7), December 2011, RIVM, Bilthoven.

1.7 Congenital syphilis

For many years, RIVM has offered Immunoglobulin M (IgM) diagnostics for neonates and young infants (< 1 year) who are suspected of being infected with congenital syphilis. In this report, results from 1997–2011 are presented.

1.8 Antenatal screening

Around 185,000 pregnant women are screened annually in the Netherlands for syphilis (since the 1950s), HBV (1989) and HIV (2004). The blood sample is collected during the first midwife appointment (< 13th week of the pregnancy) according to the opting-out principle, whereby all pregnant women undergo the test after having been provided with information, unless they explicitly state they do not wish to participate. Virtually all pregnant women in the Netherlands participate in this infectious diseases screening programme.[7,8] The screening programme is coordinated by the Centre for National Screening Programmes (RIVM).

1.9 National registration of patients registered at HIV treatment centres

From January 2002, an anonymous HIV/AIDS reporting system for patients entering care was implemented in the Netherlands. Longitudinal data of all newly registered HIV-infected individuals are collected by the SHM (www.hiv-monitoring.nl). The goal of SHM is to monitor HIV-infected individuals registered in the 25 recognised HIV treatment centres (including four children's centres) in the Netherlands to study changes in the epidemic, the natural history of HIV and the effects of treatment. All HIV-infected individuals registered in this cohort are followed prospectively from the time of reporting for care. HIV-infected individuals in care, who were diagnosed prior to the start of SHM, were included in the cohort retrospectively. HIV cases diagnosed before 1996 include only persons who survived up to the start of the ATHENA clinical cohort in 1996. The epidemiological data on newly reported HIV infections, as well as trends in new AIDS diagnoses after 2000, are reported in collaboration with the CIb at the RIVM. Between 1987 and 2002, AIDS cases were reported on a voluntary basis to the Inspectorate of Health (national AIDS registry, IGZ). With the start of the SHM monitoring system in 2002 the national AIDS registry was ended. In this report, data on AIDS cases from 1999 or earlier are obtained from the AIDS registry. From 2000, AIDS cases from the SHM monitoring system were used. Data on deaths among HIV/AIDS patients were obtained from 2002 onwards through the SHM (before 2002 from National Statistics Netherlands (www.cbs.nl)).

7 Procesmonitoring prenatale screening infectieziekten en erythrocytenimmunisatie 2005–2007, TNO, Leiden, 2009.

8 ELM Op de Coul, JWM van Weert, PJ Oomen, et al. Prenatale screening op hiv, hepatitis B en syfilis in Nederland effectief. Ned Tijdsch Geneeskd, 4 December 2010; 154(48):2219–2225.

1.10 Amsterdam Cohort Studies among MSM and IDU

Amsterdam Cohort Studies among MSM and IDU are obtained from the Amsterdam Cohort Studies (ACS) on HIV/AIDS, which started in 1984 among MSM and in 1985 among intravenous drug users (IDU). From 1995 and 1998, special recruitment started among young (< 30 years) MSM and IDU, respectively. Since April 2006, participation has been open again for MSM of all ages with at least one sexual partner in the preceding six months. The ACS are a collaboration between the PHS Amsterdam, the Academic Medical Centre Amsterdam, the Sanquin Blood Supply Foundation and the University Medical Centre Utrecht. The programme is financially supported by the RIVM (www.amsterdamcohortstudies.org).

1.11 Notification of hepatitis B and C

The obligatory notification includes epidemiological data on newly diagnosed acute hepatitis B virus (HBV) infections (since 1976), chronic HBV infections and acute hepatitis C virus (HCV) infections (both since April 1999). Since 2002, all PHSs notify HBV and HCV infections by using the web-based application OSIRIS.

1.12 Hepatitis B vaccination programme for risk groups

Being a low-endemic country, the Netherlands adopted a vaccination programme targeted at behavioural high-risk groups in 2002. The programme offers free vaccination to MSM, commercial sex workers and drug users. Heterosexuals with an indication for an STI exam were also considered a risk group until October 2007. Vaccination takes place at the local public health service and at STI clinics and is offered free of charge according to the six-month schedule. Participants are tested serologically for markers of previous or current hepatitis B infection during their consultation for a first vaccination. Data were collected from the registration system especially developed for the vaccination programme. Universal infant HBV vaccination was introduced in the Dutch national immunisation programme in August 2011.

1.13 Blood donors

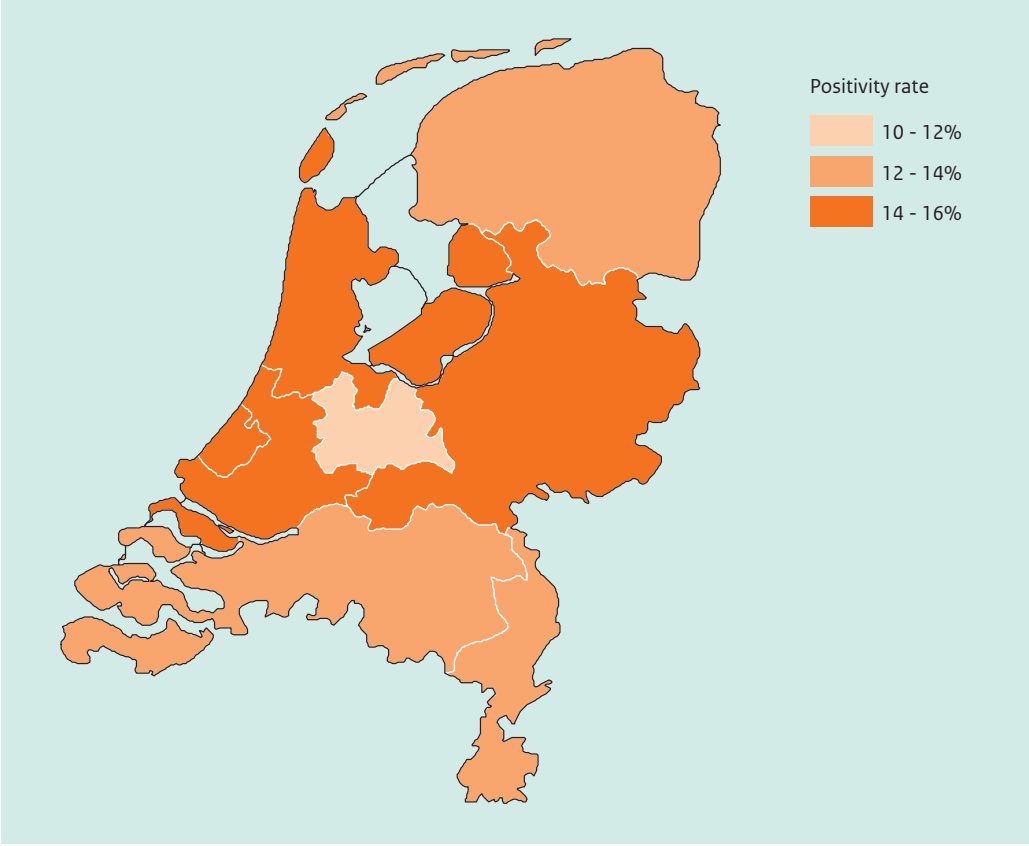
Since 1985 blood donated by (new and regular) blood donors is screened for HIV, hepatitis B and C, and syphilis, and positive blood is not used for blood transfusion. Volunteers are checked according to quality and safety guidelines and people who report specific risk factors for blood transmitted infections are not accepted as donors. Records are kept in the national donor register, which provides good information on the prevalence and incidence of these infections in a low-risk population. Data are reported from 1998 onwards. Incidences were calculated with the data provided by the blood bank register (www.sanquin.nl).

2
STI and Sense consultations

2.1 Key points

- In 2011, 113,180 new consultations were registered in the national surveillance in STI centres, an increase of 8 percent compared with 2010. The increase was highest in MSM (11 percent).
- Since 2004, the percentage of positive STI tests has increased from 12.3 percent to 14.3 percent (in 2011).
- Characteristics of attendees were as follows: young age (45 percent under 25 years); Dutch origin (65 percent); female and heterosexual male (48 percent and 33 percent, respectively); 8.6 percent with a history of STI in the previous 2 years and 38 percent not previously tested for HIV.
- Of the attendees, 95 percent had both an STI examination and an HIV test, 5 percent had only an STI examination (tested for chlamydia, gonorrhoea or syphilis) and 0.1 percent had only an HIV test. Of the 5 percent not tested for HIV, 66 percent were known HIV-positives.
- 47 percent reported three or more sex partners in the past six months: for MSM this was 72 percent. Of the attendees indicating the last contact as casual, 64 percent reported using no condom versus 81 percent when the last contact was steady.
- 99 percent of all STI centre attendees fulfilled one or more of the criteria set as indicators of high risk or were tested anonymously.
- In GP registrations, the estimated number of reported episodes of fear of STIs and diagnoses of STIs (STI-related episodes based on ICPC codes) was estimated at 172,575 (95 percent CI 143,000–210,500) in 2010 (48 percent men and 52 percent women), a small decrease (4 percent) since 2009 but maintaining a higher rate compared with earlier years.
- There were 14,287 Sense consultations, of which 79 percent were for women. Main topics for women were birth control and STI; men mostly had an STI question. The Sense website was viewed 577,826 times in 2011.

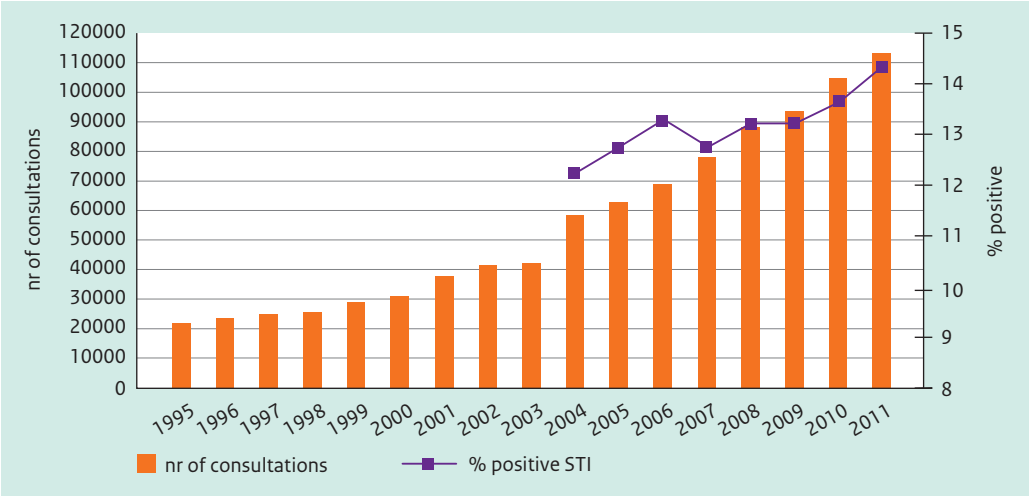
Figure 2.1 Positivity rates of STI by STI centre, the Netherlands, 2011.



Footnote: STI include: chlamydia, gonorrhoea, infectious syphilis, HIV and infectious hepatitis B.

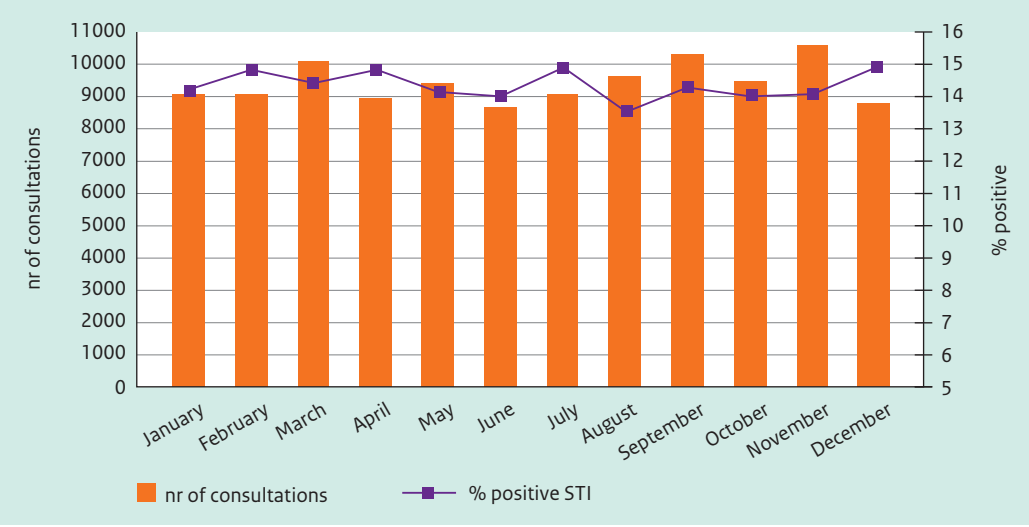
2.2 Consultations and characteristics of STI centre attendees

Figure 2.2 Number of consultations and percentage of positive STI in the national STI surveillance in the Netherlands, 1995–2011



Footnote: 1995–2002: STI registration; 2000: STI centre Erasmus Medical Centre Rotterdam was included; 2003: Implementation of STI sentinel surveillance network; 2004–2011: National STI surveillance network.
Footnote: STI include: chlamydia, gonorrhoea, infectious syphilis, HIV and infectious hepatitis B.

Figure 2.3 Number of consultations and percentage of positive STI in the national STI surveillance in the Netherlands per month in 2011.



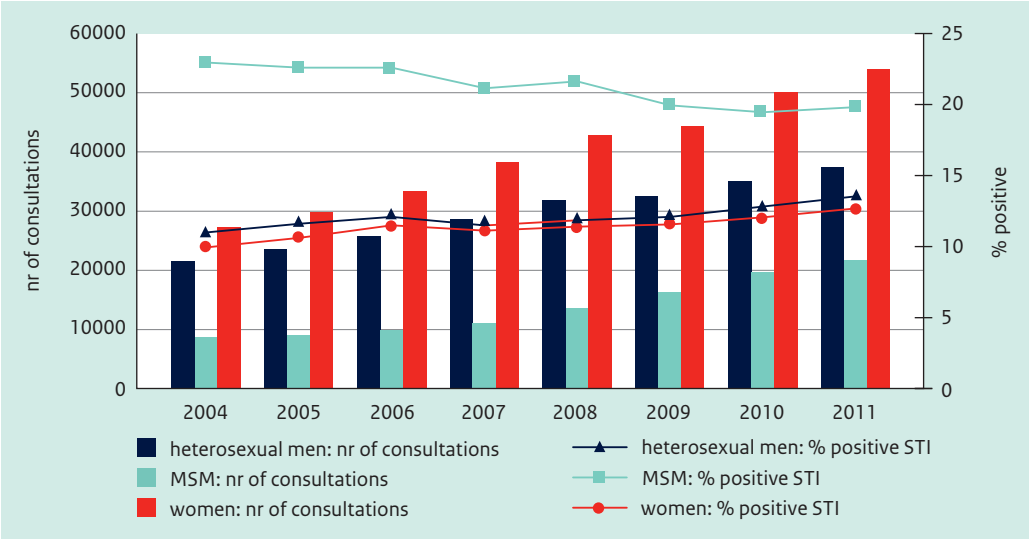
Footnote: STI include: chlamydia, gonorrhoea, infectious syphilis, HIV and infectious hepatitis B.

Table 2.1 Number of consultations by sexual risk group, 2007–2011.

Gender and sexual preference	2007 n (%)	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)
Heterosexual men	28,689 (36.8)	31,770 (35.9)	32,584 (34.9)	35,112 (33.4)	37,434 (33.1)
MSM	11,048 (14.2)	13,764 (15.6)	16,332 (17.5)	19,579 (18.6)	21,783 (19.2)
Women	38,209 (48.9)	42,796 (48.4)	44,291 (47.5)	50,177 (47.8)	53,849 (47.6)
Transgender*	29 (0.04)	34 (0.04)	47 (0.1)	76 (0.1)	46 (0.04)
Sexual preference unknown*	87 (0.1)	71 (0.1)	77 (0.1)	72 (0.1)	68 (0.1)
Total	**78,062**	**88,435**	**93,331**	**105,016**	**113,180**

*Categories 'transgender' and 'sexual preference unknown' are not included in the remainder of the report.

Figure 2.4 Number of consultations and percentage of positive STI in the national STI surveillance in the Netherlands per gender and sexual preference, 2004–2011.



Footnote: STI include: chlamydia, gonorrhoea, infectious syphilis, HIV and infectious hepatitis B.

Table 2.2 Number of consultations by age, gender and sexual preference, 2011.

Age (years)	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
≤ 14	14 (0.04)	1 (0.01)	92 (0.2)	107 (0.1)
15–19	2220 (5.9)	592 (2.7)	7391 (13.7)	10,203 (9.0)
20–24	13,099 (35.0)	2654 (12.2)	24,330 (45.2)	40,083 (35.5)
25–29	8753 (23.4)	2811 (12.9)	10,134 (18.8)	21,698 (19.2)
30–34	4217 (11.3)	3034 (13.9)	4092 (7.6)	11,343 (10.0)
35–39	2660 (7.1)	2718 (12.5)	2391 (4.4)	7769 (6.9)
40–44	2266 (6.1)	3059 (14.0)	2204 (4.1)	7529 (6.7)
45–49	1810 (4.8)	2820 (12.9)	1654 (3.1)	6284 (5.6)
50–54	1125 (3.0)	1846 (8.5)	960 (1.8)	3931 (3.5)
≥ 55	1264 (3.4)	2245 (10.3)	590 (1.1)	4099 (3.6)
Unknown	6 (0.02)	3 (0.01)	11 (0.02)	20 (0.02)
Total	**37,434**	**21,783**	**53,849**	**113,066**

Figure 2.5 Percentage of positive STI tests in the national STI surveillance in the Netherlands by age and sexual preference, 2011.

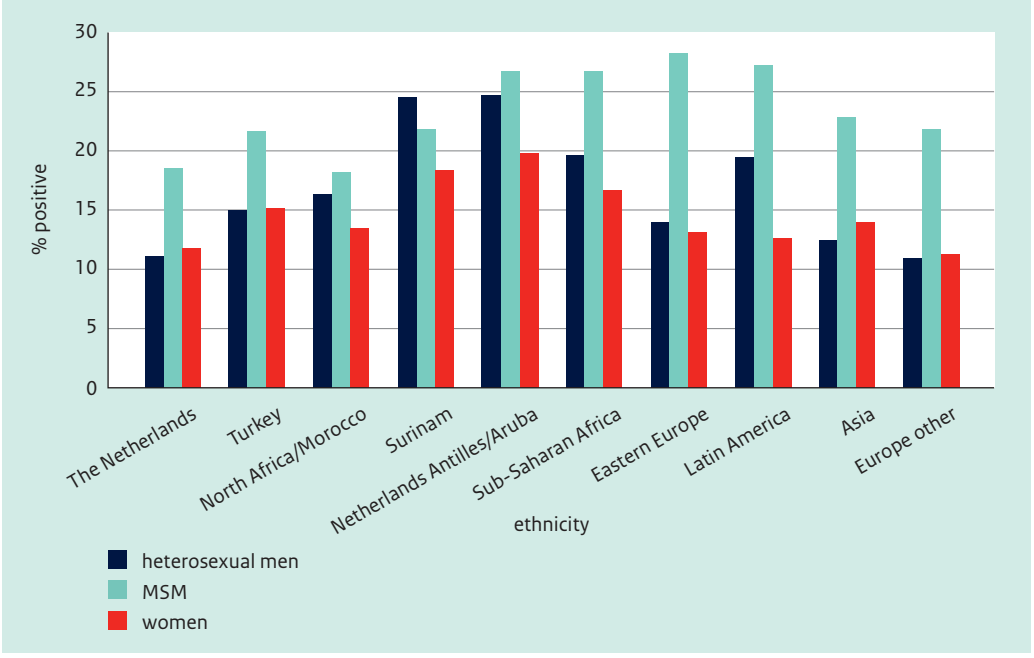
Footnote: STI include: chlamydia, gonorrhoea, infectious syphilis, HIV and infectious hepatitis B.

Table 2.3 Number of consultations by ethnicity, gender and sexual preference, 2011.

Ethnicity	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
The Netherlands	22,966 (61.4)	15,047 (69.1)	35,239 (65.4)	73,252 (64.8)
Turkey	874 (2.3)	189 (0.9)	437 (0.8)	1500 (1.3)
North Africa/Morocco	1361 (3.6)	213 (1.0)	861 (1.6)	2435 (2.2)
Surinam	3107 (8.3)	524 (2.4)	3099 (5.8)	6730 (6.0)
Netherlands Antilles/Aruba	1414 (3.8)	403 (1.9)	1310 (2.4)	3127 (2.8)
Sub-Saharan Africa	1211 (3.2)	183 (0.8)	1125 (2.1)	2519 (2.2)
Eastern Europe	535 (1.4)	512 (2.4)	2592 (4.8)	3639 (3.2)
Latin America	546 (1.5)	638 (2.9)	1309 (2.4)	2493 (2.2)
Asia	1575 (4.2)	1052 (4.8)	2180 (4.0)	4807 (4.3)
Europe other	1924 (5.1)	1666 (7.6)	2599 (4.8)	6189 (5.5)
Other	283 (0.8)	293 (1.3)	362 (0.7)	938 (0.8)
Unknown	1638 (4.4)	1063 (4.9)	2736 (5.1)	5437 (4.8)
Total	**37,434**	**21,783**	**53,849**	**113,066**

Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Figure 2.6 Percentage of positive STI tests in the national STI surveillance in the Netherlands by ethnicity and sexual preference, 2011.



Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Table 2.4 Number of consultations by (sexual) behavioural characteristics, gender and sexual preference, 2011.

	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
Number of partners in past 6 months				
0 partners	439 (1.2)	199 (0.9)	676 (1.3)	1314 (1.2)
1 partner	8326 (22.2)	2501 (11.5)	17,175 (31.9)	28,002 (24.8)
2 partners	8664 (23.1)	2492 (11.4)	13,920 (25.9)	25,076 (22.2)
3 or more partners	19,228 (51.4)	15,671 (71.9)	18,516 (34.4)	53,415 (47.2)
Unknown	777 (2.1)	920 (4.2)	3562 (6.6)	5259 (4.7)
Condom use if last sexual contact was casual*				
No	11,055 (65.7)	6545 (62.6)	14,147 (63.7)	31,747 (64.1)
Yes	5689 (33.8)	3821 (36.5)	7949 (35.8)	17,459 (35.3)
Unknown	80 (0.5)	90 (0.9)	117 (0.5)	287 (0.6)
Condom use if last sexual contact was steady*				
No	14,353 (77.3)	7133 (82.6)	23,710 (82.5)	45,196 (80.8)
Yes	4028 (21.7)	1468 (17.0)	4760 (16.6)	10,256 (18.3)
Unknown	182 (1.0)	31 (0.4)	276 (1.0)	489 (0.9)
Previous GO/CT/syphilis in anamnesis				
No	31,526 (84.2)	18,361 (84.3)	44,591 (82.8)	94,478 (83.6)
Yes	2492 (6.7)	2383 (10.9)	4901 (9.1)	9776 (8.6)
Do not know	2266 (6.1)	383 (1.8)	2827 (5.2)	5476 (4.8)
Unknown	1150 (3.1)	656 (3.0)	1530 (2.8)	3336 (3.0)
Previous HIV test				
No	17,779 (47.5)	2561 (11.8)	22,293 (41.4)	42,633 (37.7)
Yes, positive	63 (0.2)	3715 (17.1)	86 (0.16)	3864 (3.4)
Yes, negative	18,975 (50.7)	15,239 (70.0)	30,277 (56.2)	64,491 (57.0)
Yes, result unknown	96 (0.3)	83 (0.4)	190 (0.4)	369 (0.3)
Unknown	521 (1.4)	185 (0.8)	1003 (1.9)	1709 (1.5)
CSW				
No	37,131 (99.2)	21,093 (96.8)	48,176 (89.5)	106,400 (94.1)
Yes, in past 6 months	122 (0.3)	382 (1.8)	5312 (9.9)	5816 (5.1)
Unknown	181 (0.5)	308 (1.4)	361 (0.7)	850 (0.8)
Client of CSW, men				
No	33,193 (88.7)	21,220 (97.4)		54,413 (91.9)
Yes, in past 6 months	4029 (10.8)	430 (2.0)		4459 (7.5)
Unknown	212 (0.6)	133 (0.6)		345 (0.6)
Swinger**				
No	22,461 (92.5)	8862 (89.5)	31,375 (91.4)	62,698 (91.5)
Yes	1753 (7.2)	996 (10.1)	2731 (8.0)	5480 (8.0)
Unknown	61 (0.3)	44 (0.4)	238 (0.7)	343 (0.5)
Injecting drug use				
No	36,952 (98.7)	21,448 (98.5)	53,024 (98.5)	111,424 (98.5)
Yes, ever	130 (0.3)	100 (0.5)	139 (0.3)	369 (0.3)
Yes, in past 6 months	72 (0.2)	60 (0.3)	74 (0.1)	206 (0.2)
Unknown	280 (0.7)	175 (0.8)	612 (1.1)	1067 (0.9)
Socioeconomic status (SES)				
Very high	4302 (13.1)	3073 (15.7)	6025 (13.0)	13,400 (13.6)
High	9197 (28.1)	5885 (30.0)	13,305 (28.6)	28,387 (28.7)
Medium	9783 (29.9)	5524 (28.1)	14,476 (31.2)	29,783 (30.1)
Low	5977 (18.2)	3532 (18.0)	8234 (17.7)	17,743 (17.9)
Very low	3513 (10.7)	1620 (8.3)	4421 (9.5)	9554 (9.7)
Unknown	4662 (14.2)	2149 (10.9)	7388 (15.9)	14,199 (14.4)

* Type of sexual contact was missing for 6 percent (n=6891).

** Voluntary question, answered by 61 percent (n=68,521).

Table 2.5 Reported indication by gender and sexual preference, 2011.

Indication	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
STI/HIV endemic area	9262 (24.7)	3501 (16.1)	12,052 (22.4)	24,815 (21.9)
Symptoms	12,440 (33.2)	5544 (25.5)	17,421 (32.4)	35,405 (31.3)
Partner in risk group	10,468 (28.0)	19,839 (91.1)	16,598 (30.8)	46,905 (41.5)
Notified	5483 (14.6)	3297 (15.1)	5399 (10.0)	14,179 (12.5)
Anonymous test	16,613 (44.4)	7881 (36.2)	24,890 (46.2)	49,384 (43.7)
No indication	523 (1.4)	0 (0.0)	572 (1.1)	1095 (1.0)

Footnote: Percentages do not add up to 100 percent since one client can have more than one indication.
Footnote: Other indications not shown in the table are: aged 24 years or younger, 3 or more partners in previous 6 months, MSM, CSW, client of CSW (men).

Figure 2.7 Percentage of positive STI tests in the national STI surveillance in the Netherlands by risk factor and sexual preference, 2011.

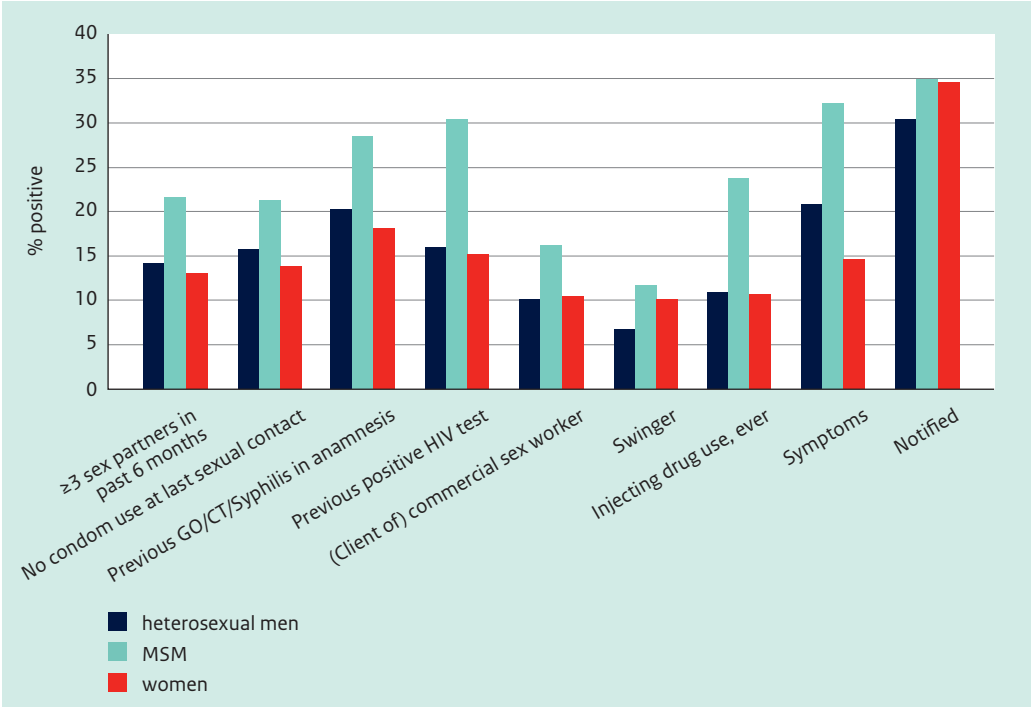


Table 2.6a Number of STI diagnoses and percentage of positive tests by gender and sexual preference, 2011.

Diagnosis	Heterosexual men n (% pos.)	MSM n (% pos.)	Women n (% pos.)	Total n (% pos.)
Chlamydia	4496 (12.1)	2284 (10.5)	6133 (11.4)	12,913 (11.5)
Gonorrhoea	713 (1.9)	1957 (9.0)	905 (1.7)	3575 (3.2)
Syphilis, infectious*	26 (0.1)	429 (2.0)	21 (0.04)	476 (0.4)
HIV	34 (0.1)	351 (2.0)	30 (0.1)	415 (0.4)
Hepatitis B, infectious	86 (0.4)	49 (0.6)	68 (0.3)	203 (0.4)
Genital warts	965 (14.8)	504 (4.8)	911 (10.1)	2380 (9.1)

* Infectious syphilis includes primary and secondary infection and latens recens.

Table 2.6b Number of STI diagnoses by gender and sexual preference, 2011.

Diagnosis	Heterosexual men n	MSM n	Women n	Total n
Syphilis				
primary	7	132	10	149
secondary	6	123	1	130
latens recens	13	174	10	197
latens tarda	27	68	39	134
not specified	6	11	4	21
Genital herpes				
primary: HSV1	75	28	137	240
primary: HSV2	114	64	118	296
primary: HSV unknown	21	1	34	56
recurrent	11	4	18	33
Hepatitis B, recovered	562	639	549	1750
Hepatitis C	0	3	0	3
Non specified urethritis	848	523	1	1372
Candidiasis	308	83	883	1274
Bacterial vaginosis	8	0	1257	1265
Trichomoniasis	11	2	170	183
Scabies	6	14	0	20
Pubic Lice	0	1	0	1
Ulcus e.c.i.	28	50	39	117
Lymphogranuloma venereum	0	69	0	69
Proctitis	1	267	6	274

2.3 Focus on specific risk groups

Figure 2.8 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands in MSM by age group, 2004–2011.

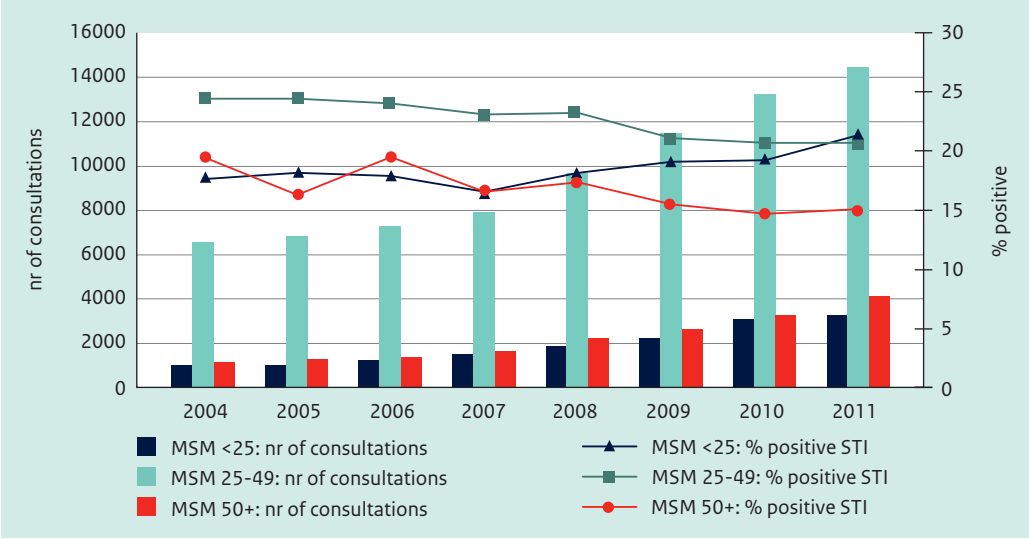
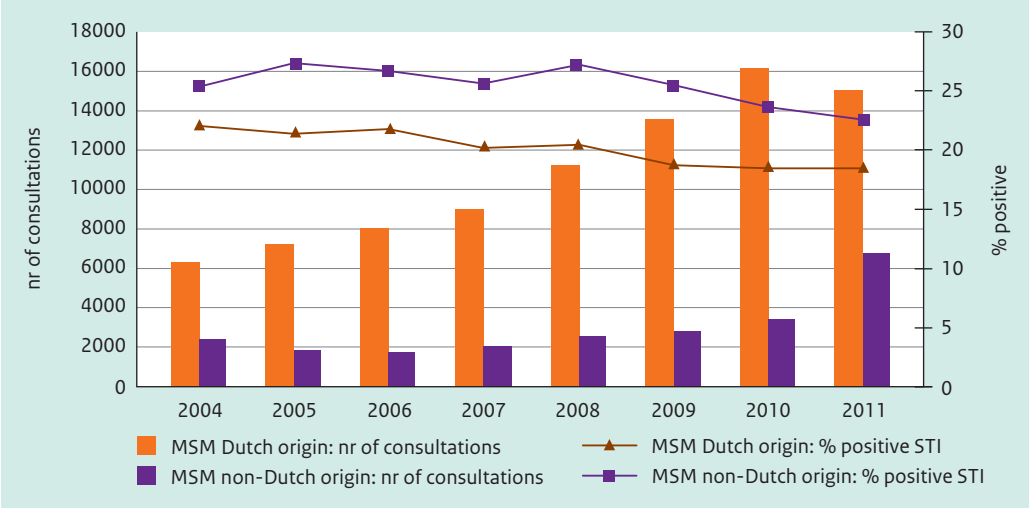


Figure 2.9 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands in MSM by ethnicity, 2004-2011.



Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Figure 2.10 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands in MSM by HIV status, 2004–2011.

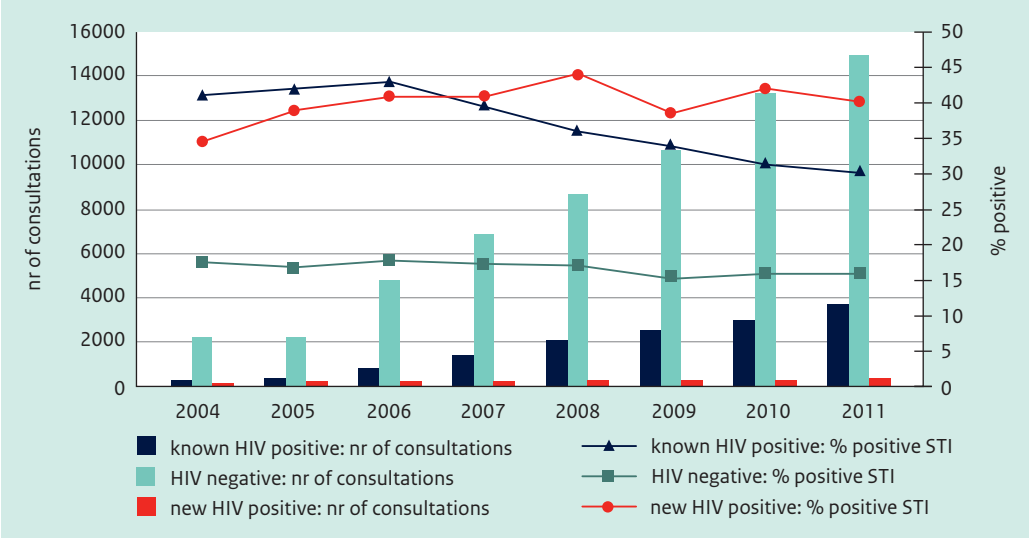


Figure 2.11 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands in commercial sex workers, 2004–2011.

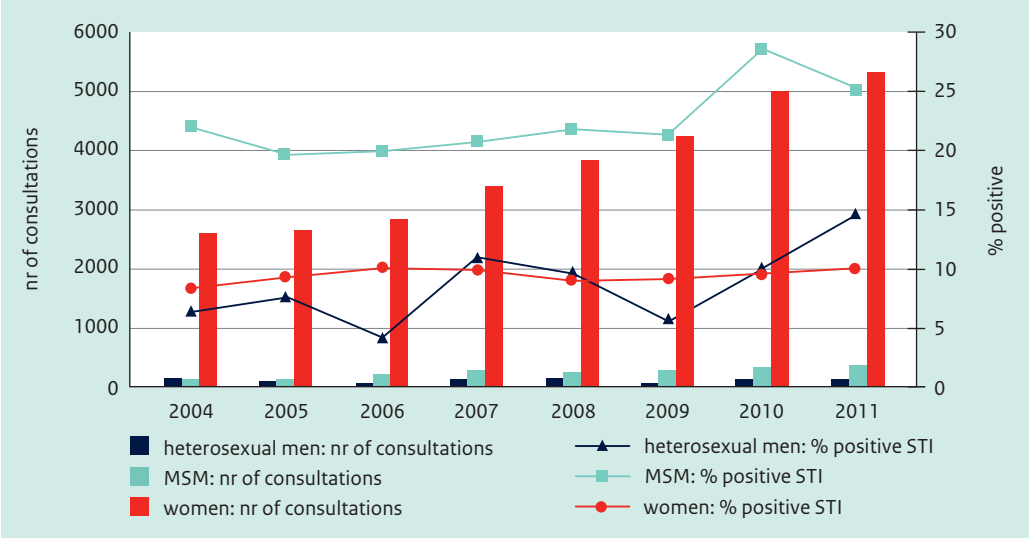


Figure 2.12 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands in the young age groups, 2004–2011.

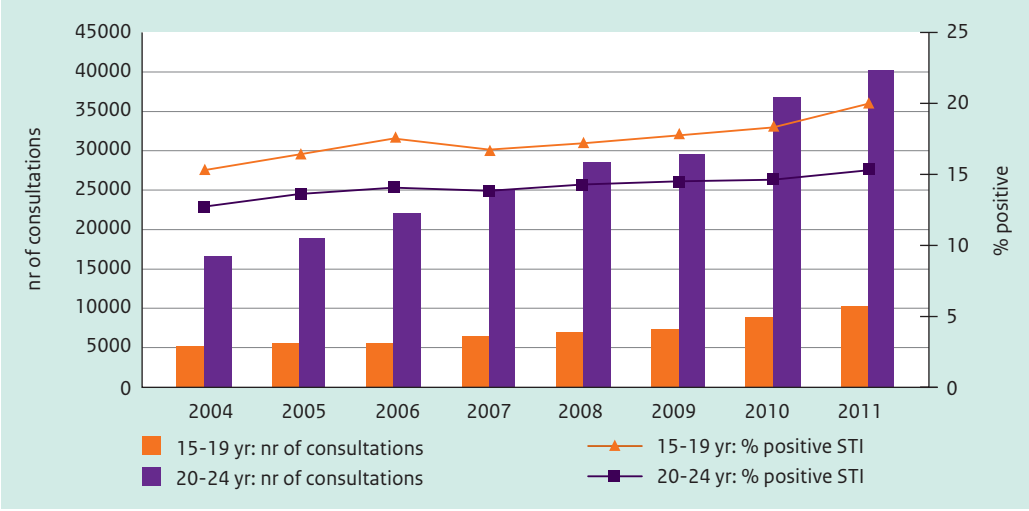
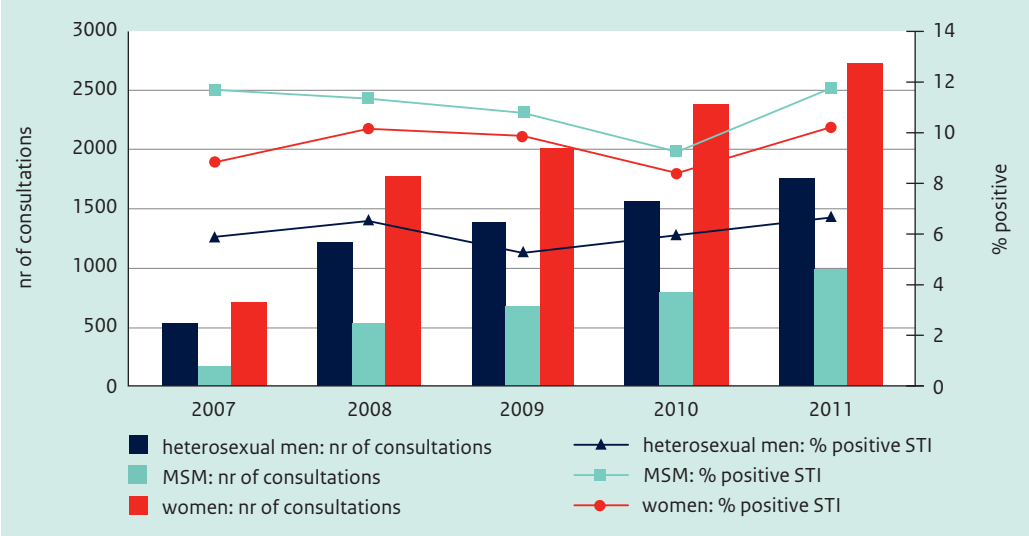
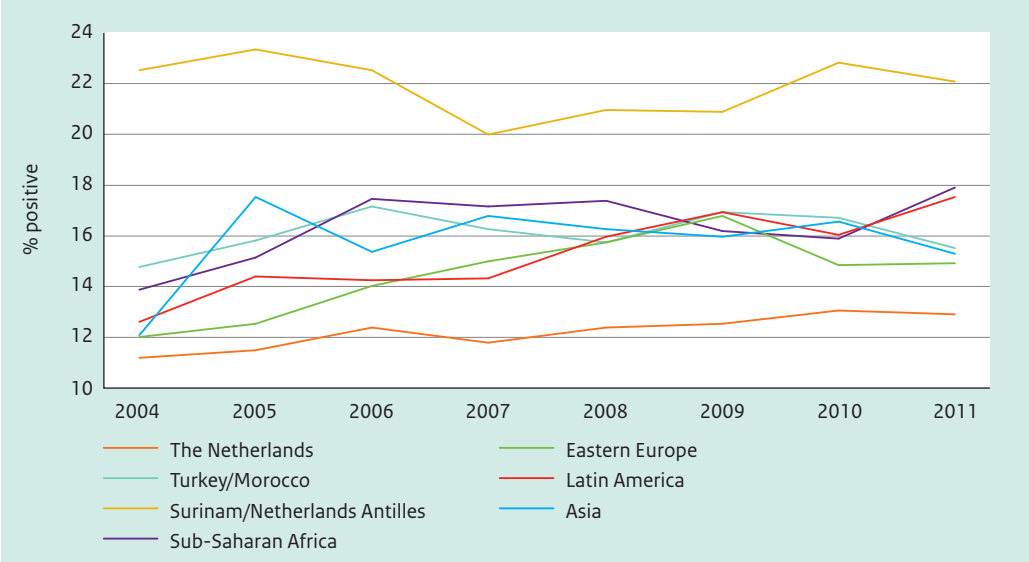


Figure 2.13 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands in swingers*, 2004–2011.



* Voluntary question, asked since 2007.

Figure 2.14 Percentage of positive STI tests in the national STI surveillance in the Netherlands by ethnicity, 2004–2011.



Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

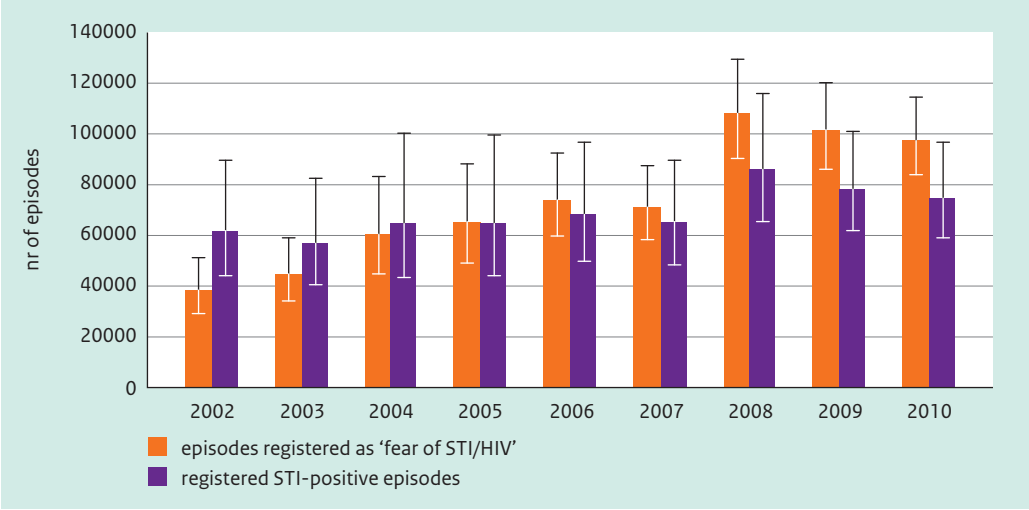
Table 2.7 Number of consultations by ethnicity, 2004–2011.

Ethnicity	2004	2005	2006	2007	2008	2009	2010	2011
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
The Netherlands	41,565 (71.3)	48,726 (77.7)	55,611 (80.6)	62,602 (80.2)	71,429 (80.8)	78,062 (83.6)	88,642 (84.4)	73,314 (64.8)
Turkey	591 (1.0)	612 (1.0)	559 (0.8)	640 (0.8)	712 (0.8)	574 (0.6)	588 (0.6)	1503 (1.3)
North Africa/ Morocco	651 (1.1)	977 (1.6)	835 (1.2)	910 (1.2)	1086 (1.2)	848 (0.9)	923 (0.9)	2438 (2.2)
Surinam	2356 (4.0)	3270 (5.2)	3223 (4.7)	3476 (4.5)	3519 (4.0)	2809 (3.0)	2929 (2.8)	6733 (5.9)
Netherlands Antilles/Aruba	977 (1.7)	1083 (1.7)	1075 (1.6)	1248 (1.6)	1420 (1.6)	1191 (1.3)	1039 (1.0)	3131 (2.8)
Sub-Saharan Africa	1181 (2.0)	1238 (2.0)	1238 (1.8)	1333 (1.7)	1550 (1.8)	1218 (1.3)	1157 (1.1)	2523 (2.2)
Eastern Europe	1018 (1.7)	1058 (1.7)	1109 (1.6)	1392 (1.8)	1635 (1.8)	1808 (1.9)	2989 (2.8)	3641 (3.2)
Latin America	990 (1.7)	1116 (1.8)	1092 (1.6)	1180 (1.5)	1387 (1.6)	1294 (1.4)	1461 (1.4)	2504 (2.2)
Asia	879 (1.5)	1074 (1.7)	1061 (1.5)	1303 (1.7)	1426 (1.6)	1261 (1.4)	1380 (1.3)	4813 (4.3)
Europe other	1037 (1.8)	1204 (1.9)	1192 (1.7)	1789 (2.3)	2092 (2.4)	2008 (2.2)	1480 (1.4)	6193 (5.5)
Other	1282 (2.2)	1715 (2.7)	1733 (2.5)	2011 (2.6)	2079 (2.4)	2143 (2.3)	2338 (2.2)	938 (0.8)
Unknown	5761 (9.9)	671 (1.1)	249 (0.4)	178 (0.2)	100 (0.1)	115 (0.1)	90 (0.1)	5449 (4.8)
Total	**58,288**	**62,744**	**68,977**	**78,062**	**88,435**	**93,331**	**105,016**	**113,180**

Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

2.4 General practitioner

Figure 2.15 Estimated number (and 95 percent CI) of registered episodes of fear of STI/HIV and positive diagnoses of STIs at GPs, based on extrapolation from 61–123 practices in the surveillance network of GPs in the Netherlands, 2002–2010.



Footnote: Diagnoses included are chlamydia, gonorrhoea, syphilis, HIV, trichomonas, genital herpes, genital warts, non-specific urethritis. (Source: LINH).

Table 2.8 Reporting rate (number of STI-related episodes per 100,000 population) of diagnoses and fear of STI/HIV at GPs in the Netherlands by gender, 2002–2010.

	Men		Women		Total	
	n/100,000	95% CI	n/100,000	95% CI	n/100,000	95% CI
2002	569	(415–798)	674	(489–955)	622	(454–874)
2003	547	(401–768)	704	(523–985)	625	(463–875)
2004	676	(485–978)	862	(600–1277)	769	(544–1126)
2005	754	(545–1077)	838	(590–1230)	796	(569–1152)
2006	816	(636–1065)	928	(702–1254)	872	(671–1158)
2007	785	(618–1008)	881	(680–1163)	833	(650–1084)
2008	1152	(940–1424)	1217	(963–1578)	1185	(953–1499)
2009	1065	(880–1299)	1113	(910–1378)	1089	(895–1338)
2010	1056	(880–1277)	1026	(845–1264)	1041	(863–1270)

CI = confidence interval.
Footnote: Diagnoses included are chlamydia, gonorrhoea, syphilis, HIV, trichomonas, genital herpes, genital warts, non-specific urethritis. (Source: LINH).

2.5 Sense

Table 2.9 Subjects of Sense consultations by gender, 2011.

Subjects	Men n (%)	Women n (%)
STI	1932 (64.3)	3333 (29.5)
Sexuality	532 (17.7)	1228 (10.9)
Birth control	72 (2.4)	3519 (31.2)
Unwanted sexual behaviour/sexual violence	20 (0.7)	314 (2.8)
Unintended pregnancy	24 (0.8)	1082 (9.6)
Fertility	1 (0.03)	32 (0.3)
Other	319 (10.6)	800 (7.1)
Unknown	105 (3.5)	974 (8.6)
Total	**3005**	**11,282**

Table 2.10 Number of Sense consultations by age and gender, 2011.

Age (years)	Men n (%)	Women n (%)	Total n (%)
≤ 14	48 (1.6)	271 (2.4)	319 (2.2)
15–19	856 (28.5)	4414 (39.1)	5270 (36.9)
20–24	2101 (69.9)	6597 (58.5)	8698 (60.9)
Total	**3005**	**11,282**	**14,287**

Figure 2.16 Number of Sense consultations by gender, 2010–2011.

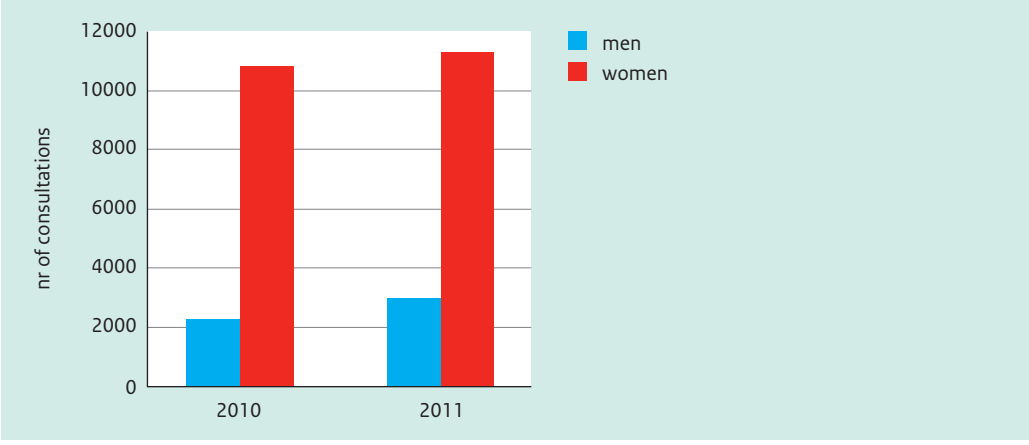


Table 2.11 Number of Sense consultations by country of birth and gender, 2011.

Country of birth	Men n (%)	Women n (%)	Total n (%)
The Netherlands	2587 (86.1)	9924 (88.0)	12,511 (87.6)
Netherlands Antilles	76 (2.5)	196 (1.7)	272 (1.9)
Surinam	33 (1.1)	99 (0.9)	132 (0.9)
Morocco	22 (0.7)	30 (0.3)	52 (0.4)
Turkey	19 (0.6)	29 (0.3)	48 (0.3)
Other	268 (8.9)	1004 (8.9)	1272 (8.9)
Total	**3005**	**11,282**	**14,287**

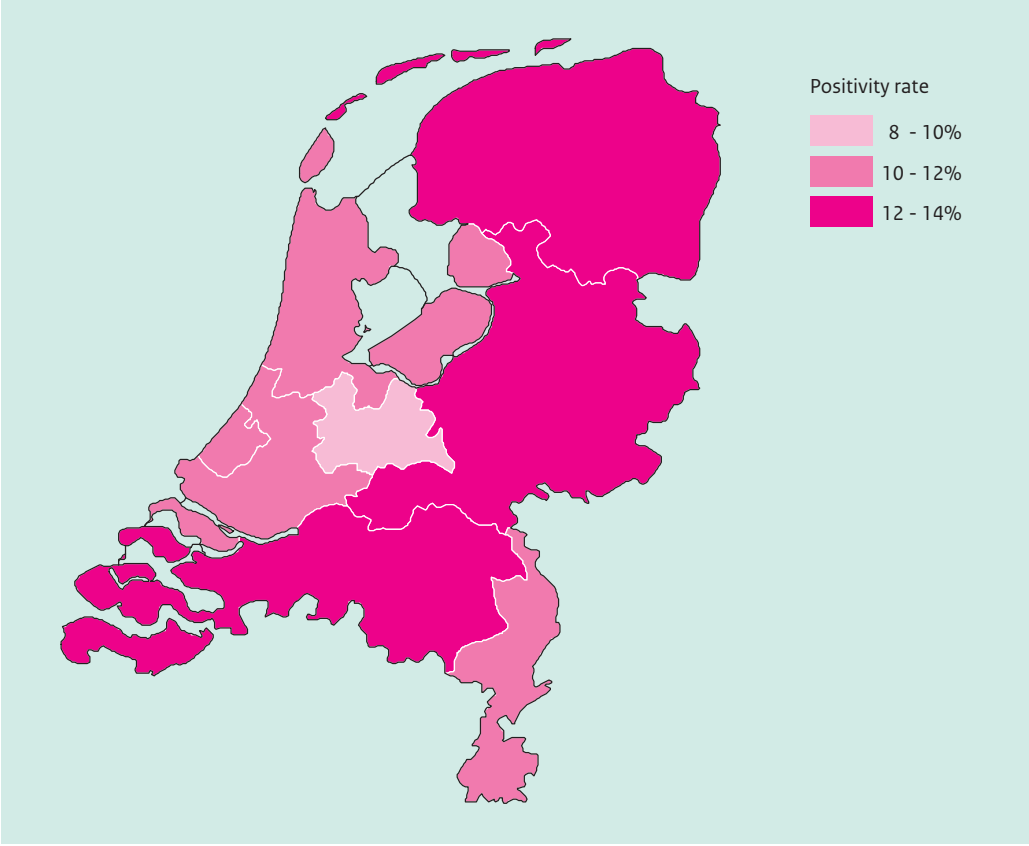
BACTERIAL STI

3 Chlamydia, including lymphogranuloma venereum

3.1 Key points

- Chlamydia remained the most commonly diagnosed bacterial STI: 12,913 cases were diagnosed in the STI centres in 2011, with an overall positivity of 11.5 percent.
- The number of cases increased by 12 percent compared with 2010, while the overall positivity rate increased slightly (11.2 percent to 11.5 percent), most obviously in heterosexual men (11.3 percent to 12.1 percent), and less so in women and MSM. A relatively large rise was seen among 50+ heterosexual clients (4.2 percent to 5.2 percent).
- Of all chlamydia-positive cases in 2011, 47 percent were women, 35 percent heterosexual men and 8 percent MSM; 56 percent were under 25 years old. The highest positivity rates were observed in women and heterosexual men of 15–19 years (18 percent and 20 percent, respectively). The rising trend since 2004 is quite prominent in this group (from 14 percent to 19 percent).
- Other high-risk groups were persons from Surinam or the Netherlands Antilles (18 percent positive), persons who reported a previous STI (16 percent) as well as known HIV-positive MSM (18 percent).
- Condom use (at last sexual contact), with either a casual or a steady partner, was related to lower chlamydia positivity (7.1 percent and 8.3 percent in heterosexuals). Among people who were involved in 'swinging' or in paid sex, a lower chlamydia positivity was found, probably related to condom use and/or frequent testing.
- At GPs, reporting rates for chlamydia were 176 and 173 per 100,000 population for men and women respectively, in 2010, slightly reduced compared with previous years.
- 19.8 percent of the MSM with chlamydia had a co-infection with gonorrhoea or syphilis; in heterosexuals, this increased from 4.2 percent in 2010 to 5.6 percent in 2011.
- The chlamydia screening in Amsterdam, Rotterdam and South Limburg tested another 29,000 people for chlamydia and detected 1,178 cases among 16–29 year olds. This did not influence numbers tested and treated in this age group at the regional STI centres.
- The number of LGV tests has increased from 342 in 2006 to 1,195 in 2011 (83 percent of anorectal Ct), but the number of cases has not increased. In 2011, 69 new LGV cases were diagnosed in the STI centres. All were MSM and 79 percent (n=55) were known to be HIV-positive; in two patients a new HIV infection was diagnosed.

Figure 3.1 Positivity rates of chlamydia by STI centre, the Netherlands, 2011.



3.2 STI centres: characteristics, risk groups and trends

Table 3.1 Number of positive tests and persons tested for chlamydia by age, gender and sexual preference, 2011.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤ 14	0	14	0	1	10	92
15–19	447	2215	64	590	1341	7375
20–24	2006	13,073	303	2650	3182	24,304
25–29	1118	8725	294	2805	946	10,115
30–34	403	4198	367	3025	258	4077
35–39	174	2645	258	2713	118	2377
40–44	142	2248	340	3052	98	2198
45–49	100	1798	314	2817	80	1647
50–54	48	1117	168	1840	59	954
≥ 55	58	1259	176	2237	39	586
Unknown	0	6	0	3	2	10
Total	**4496**	**37,298**	**2284**	**21,733**	**6133**	**53,735**

Figure 3.2 Percentage of positive tests for chlamydia by age, gender and sexual preference, 2011.

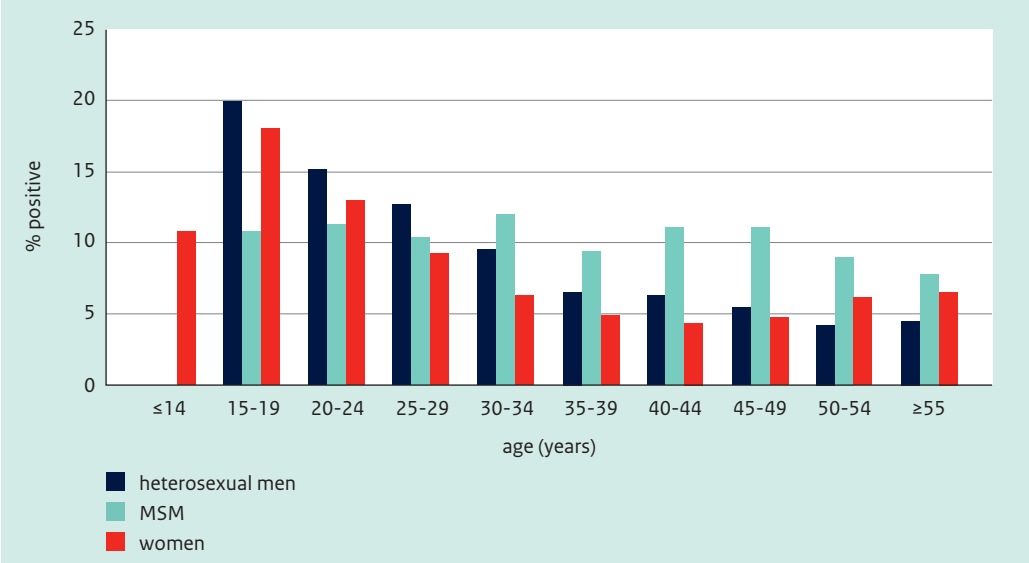
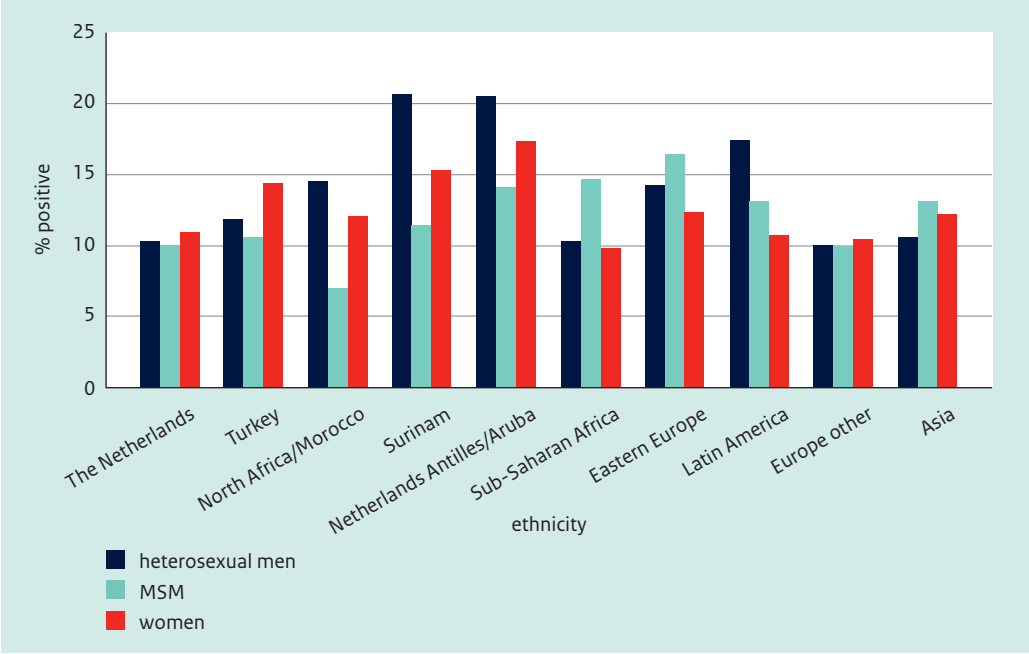


Table 3.2 Number of positive tests and persons tested for chlamydia by ethnicity, gender and sexual preference, 2011.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	2363	22,880	1506	15,010	3841	35,173
Turkey	103	871	20	189	63	436
North Africa/Morocco	198	1357	15	213	104	854
Surinam	638	3097	60	524	474	3093
Netherlands Antilles/Aruba	291	1413	57	402	227	1304
Sub-Saharan Africa	172	1205	30	183	139	1120
Eastern Europe	55	533	75	510	255	2587
Latin America	95	545	84	637	140	1307
Asia	166	1571	138	1050	267	2177
Europe other	193	1918	166	1665	270	2596
Other	24	283	22	293	36	362
Unknown	198	1625	111	1057	317	2726
Total	**4496**	**37,298**	**2284**	**21,733**	**6133**	**53,735**

Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Figure 3.3 Percentage of positive tests for chlamydia by ethnicity, gender and sexual preference, 2011.



Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Table 3.3 Number and percentage of positive tests and total persons tested for chlamydia by sexual behavioural characteristics, gender and sexual preference, 2011.

	Heterosexual men		MSM		Women	
	n positive/ N tested	%	n positive/ N tested	%	n positive/ N tested	%
Number of partners in past 6 months						
0 partners	17/436	3.9	8/197	4.1	34/672	5.1
1 partner	891/8727	10.2	182/2490	7.3	1908/17,126	11.1
2 partners	1083/8633	12.5	203/2487	8.2	1755/13,889	12.6
3 or more partners	2438/19,184	12.7	1799/15,648	11.5	2144/184,981	1.2
Unknown	67/773	8.7	92/911	10.1	292/3550	8.2
Condom use if last sexual contact was steady*						
No	1591/11,021	14.4	748/6533	11.4	1680/14,125	11.9
Yes	470/5673	8.3	404/3806	10.6	636/7939	8.0
Unknown	7/80	8.8	10/88	11.4	5/117	4.3
Condom use if last sexual contact was casual*						
No	1953/14,298	13.7	780/7122	11.0	3178/23,660	13.4
Yes	284/4005	7.1	137/1466	9.3	420/4748	8.8
Unknown	5/180	2.8	1/31	3.2	10/275	3.6
Previous GO/CT/syphilis in anamnesis						
No	3640/31,403	11.6	1869/18,316	10.2	4773/44,491	10.7
Yes	440/2487	17.7	358/2380	15.0	796/4895	16.3
Do not know	288/2261	12.7	30/383	7.8	377/2826	13.3
Unknown	128/1147	11.2	27/654	4.1	187/1523	12.3
Previous HIV test						
No	2349/17,720	13.3	271/2553	10.6	3009/22,248	13.5
Yes, positive	7/63	11.1	649/3714	17.5	9/85	10.6
Yes, negative	2081/18,900	11.0	1348/15,205	8.9	2980/30,213	9.9
Yes, result unknown	9/95	9.5	6/82	7.3	13/190	6.8
Unknown	50/520	9.6	10/179	5.6	122/999	12.2
CSW						
No	4475/36,997	12.0	2231/21,046	10.6	5687/48,069	11.8
Yes, in past 6 months	14/122	11.5	50/382	13.1	412/5306	7.8
Unknown	7/179	3.9	3/305	1.0	34/360	9.4
Client of CSW, men						
No	4170/33,078	12.6	2261/21,174	10.7		
Yes, in past 6 months	317/4011	7.9	19/429	4.4		
Unknown	9/209	4.3	4/130	3.1		
Swinger**						
No	2693/22,371	12.0	1014/8826	11.5	3859/31,302	12.3
Yes	86/1751	4.9	61/995	6.1	183/2727	6.7
Unknown	4/61	6.6	4/42	9.5	22/238	9.2
Socioeconomic status (SES)						
Very high	431/4282	10.1	337/3067	11.0	616/6010	10.2
High	1039/9174	11.3	573/5874	9.8	1507/13,285	11.3
Medium	1174/9745	12.0	573/5507	10.4	1618/14,450	11.2
Low	776/5955	13.0	358/3522	10.2	1021/8207	12.4
Very low	526/3506	15.0	201/1619	12.4	609/4415	13.8
Unknown	514/4636	11.1	242/2144	11.3	462/7368	6.3

* Type of sexual contact was missing for 7 percent (n=7,599) of persons tested for chlamydia.
** Voluntary question, answered by 61 percent (n=68,313) of persons tested for chlamydia.

Figure 3.4 Total number of tests and positivity rate of chlamydia by gender and sexual preference, 2004–2011.

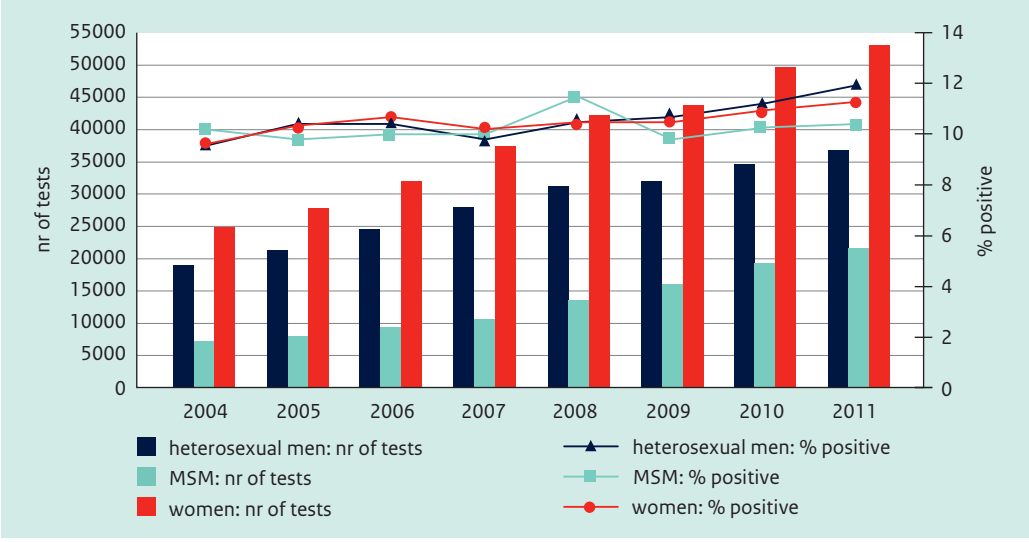


Figure 3.5 Trends in positivity rate of chlamydia in heterosexuals by age group, 2004–2011.

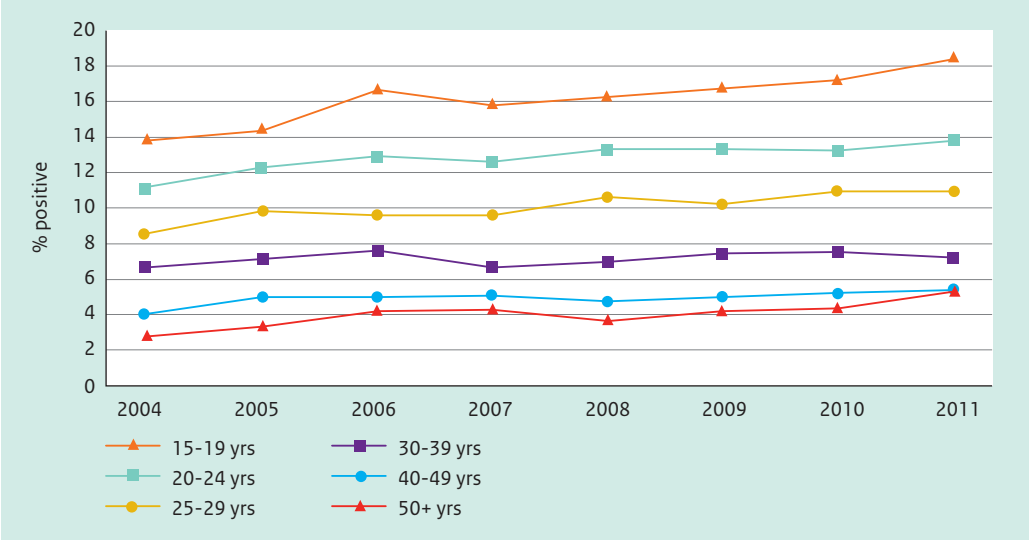


Table 3.4 Concurrent STI by gender and sexual preference among persons diagnosed with chlamydia, 2011.

Concurrent infection	Heterosexual men (N=4496) n (%)	MSM (N=2284) n (%)	Women (N=6133) n (%)
Gonorrhoea	255 (5.7)	452 (19.8)	343 (5.6)
Infectious syphilis	1 (0.02)	97 (4.2)	3 (0.05)
HIV newly diagnosed	6 (0.1)	87 (3.8)	0 (0.0)
Genital herpes	16 (0.4)	13 (0.6)	29 (0.5)
Genital warts	113 (2.5)	130 (5.7)	117 (1.9)
Hepatitis B, infectious	11 (0.2)	7 (0.3)	6 (0.1)

Table 3.5 Location of chlamydia infection by gender and sexual preference, 2011.

Location	Heterosexual men (N=4496) n (%)	MSM (N=2284) n (%)	Women (N=6133) n (%)
Urogenital only	4460 (99.2)	623 (27.3)	5138 (83.8)
Anorectal only	9 (0.2)	1232 (53.9)	126 (2.1)
Oral only	5 (0.1)	107 (4.7)	97 (1.6)
Urogenital and anorectal	7 (0.2)	200 (8.8)	366 (6.0)
Urogenital and oral	5 (0.1)	11 (0.5)	205 (3.3)
Anorectal and oral	0 (0.0)	79 (3.5)	4 (0.1)
Urogenital and anorectal and oral	1 (0.02)	18 (0.8)	46 (0.8)
Pooled samples*	9 (0.2)	14 (0.6)	151 (2.5)

*Pooled samples are samples from more than one anatomical site tested in one molecular test, so that location of the infection is unknown.

Table 3.6 Number and percentage of positive tests for chlamydia by location, gender and sexual preference, 2007–2011.

	2007 n positive (%)	2008 n positive (%)	2009 n positive (%)	2010 n positive (%)	2011 n positive (%)
Heterosexual men					
Urogenital	2807 (9.9)	3343 (10.6)	3480 (10.8)	3922 (11.3)	4434 (11.9)
Anorectal	0 (0.0)	2 (0.8)	7 (1.6)	13 (2.8)	17 (2.8)
Oral	10 (1.3)	6 (1.1)	4 (0.5)	10 (1.0)	11 (0.8)
MSM					
Urogenital	454 (4.2)	651 (4.8)	661 (4.1)	790 (4.1)	852 (3.9)
Anorectal	710 (10.4)	1046 (11.7)	1081 (9.5)	1381 (9.5)	1537 (9.1)
Oral	35 (1.5)	72 (2.1)	81 (1.5)	134 (1.8)	218 (1.2)
Women					
Urogenital	3757 (9.9)	4385 (10.3)	4521 (10.3)	5386 (10.7)	6109 (11.4)
Anorectal	306 (9.4)	328 (9.4)	380 (9.2)	439 (9.2)	551 (9.3)
Oral	139 (2.9)	134 (2.3)	214 (2.9)	239 (2.6)	416 (2.8)

Footnote 1: Percentages do not add up to 100 percent since one client can have a positive test result at more than one location.
Footnote 2: Heterosexual men and women are not often tested anorectal or oral; therefore, the fluctuation of positivity rates through the years has to be interpreted with caution.

3.3 General practitioner

Figure 3.6 Estimated number (and 95 percent CI) of episodes of chlamydia at GPs by gender, based on extrapolation from 61–123 practices in the surveillance network of GPs in the Netherlands, 2002–2010.

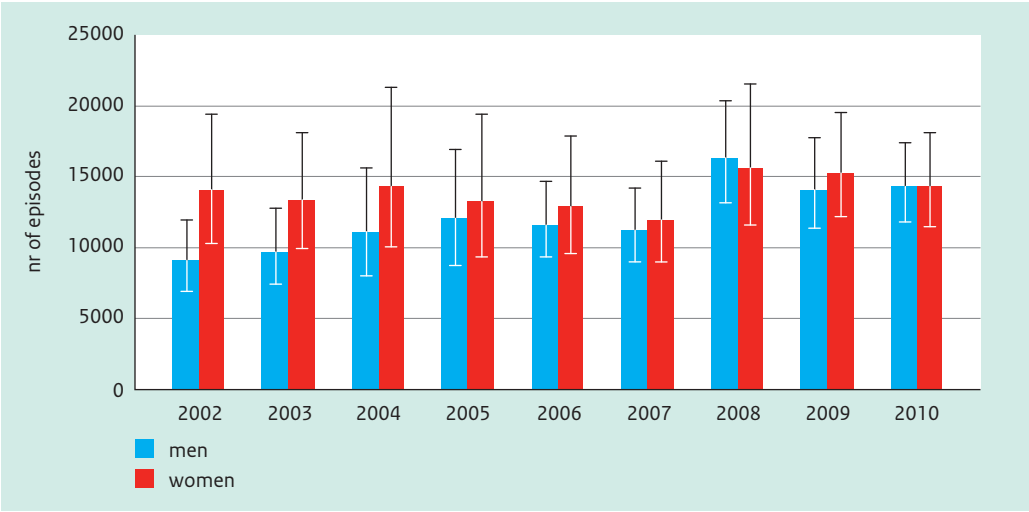


Table 3.7 Reporting rate (number of episodes per 100,000 population) of chlamydia at GPs in the Netherlands by gender, 2002–2010.

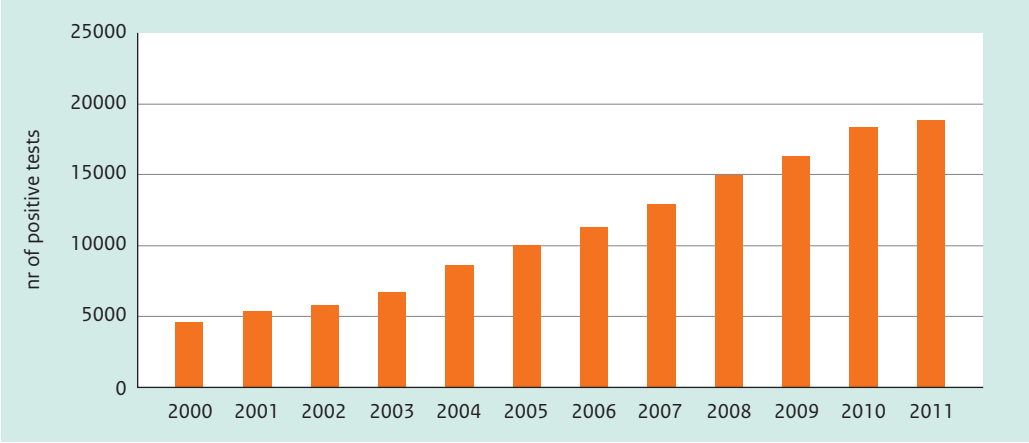
Year	Men		Women		Total	
	n/ 100,000	95% CI	n/ 100,000	95% CI	n/ 100,000	95% CI
2002	115.1	(88.9–151.1)	174.3	(127.7–241.6)	144.7	(108.3–196.3)
2003	122.7	(94.5–161.5)	164.7	(123.4–224.4)	143.7	(108.9–193.0)
2004	139.7	(101.8–195.5)	176.9	(123.6–262.6)	158.3	(112.7–229.0)
2005	151.2	(110.1–212.1)	162.8	(115.0–237.8)	157.0	(112.5–224.9)
2006	145.5	(116.4–183.8)	158.4	(117.6–218.1)	152.0	(117.0–201.0)
2007	140.8	(112.1–177.8)	145.8	(109.8–196.6)	143.3	(110.9–187.2)
2008	203.1	(163.8–253.8)	190.5	(141.2–262.0)	196.8	(152.5–257.9)
2009	175.2	(140.9–219.3)	185.9	(148.2–237.4)	180.6	(144.6–228.3)
2010	176.2	(145.5–214.5)	172.7	(138.2–218.5)	174.5	(141.8–216.5)

CI = confidence interval

Footnote: The rates reported here for women from 2002–2008 are different from those reported in 2009/2010 because of a correction in the calculated rates of the episodes of code X84 vaginitis. (Source: LINH).

3.4 Laboratory surveillance

Figure 3.7 Number of positive test results for Chlamydia trachomatis from 17 hospital and regional laboratories, 2000–2011.



(Source: weekly virological reports).

3.5 Chlamydia Screening Implementation

Table 3.8 Number of persons (16–29 years old) invited for the Chlamydia Screening Implementation during the third screening round 2010/2011 and numbers participating and testing positive, per region, compared to persons tested and found positive in this age group in the regional STI centres.

	Chlamydia Screening 3rd round, 2010/2011			STI centres age group 16-29 years, 2011		
	Men	Women	Total	Men	Women	Total
South Limburg						
Invited	19,823	18,486	38,309			
Participated/tested	891	1792	2683	1589	2069	3658
Positive (%)	26 (2.9)	74 (4.1)	100 (3.5)	229 (14.4)	288 (13.9)	517 (14.1)
Amsterdam						
Invited	71,358	81,399	152,763			
Participated/tested	4187	11,435	15,674	7865	10,806	18,671
Positive (%)	132 (3.2)	402 (3.5)	538 (3.4)	1125 (14.3)	1210 (11.2)	2335 (12.5)
Rotterdam						
Invited	60,462	61,240	121,705			
Participated/tested	3452	7022	10,544	3368	4140	7508
Positive (%)	166 (4.8)	369 (5.3)	540 (5.1)	467 (13.9)	616 (14.9)	1083 (14.4)

(Source: CSI group including Public Health Services Amsterdam, Rotterdam, South Limburg and the RIVM).

3.6 Lymphogranuloma venereum

Table 3.9 Characteristics of MSM diagnosed with LGV, 2008–2011.

	2008 (N=100) n (%)	2009 (N=84*) n (%)	2010 (N=66) n (%)	2011 (N=69) n (%)
Median age (range)	42 (26–63)	41 (20–61)	41 (21–65)	40 (21–67)
Dutch ethnicity	74 (74.0)	64 (97.0)	56 (84.8)	40 (57.1)
Known HIV positive	71 (71.0)	59 (89.4)	49 (74.2)	55 (78.6)
LGV with anorectal chlamydia infection only	96 (96.0)	75 (113.6)	58 (87.9)	53 (75.7)
LGV with urethral chlamydia infection only	3 (3.0)	0 (0.0)	0 (0.0)	2 (2.9)
LGV with anorectal and urethral chlamydia	1 (1.0)	9 (13.6)	8 (12.1)	5 (7.1)
Concurrent gonorrhoea	26 (26.0)	24 (36.4)	14 (21.2)	17 (24.3)
Concurrent syphilis	11 (11.0)	3 (4.5)	5 (7.6)	9 (12.9)
Concurrent new HIV diagnosis	2 (2.0)	2 (3.0)	1 (1.5)	2 (2.9)

* In addition one case was reported in a man with unknown sexual preference.

Figure 3.8 Number of cases of LGV diagnosed per quarter in STI centres, the Netherlands, 2004–2011.

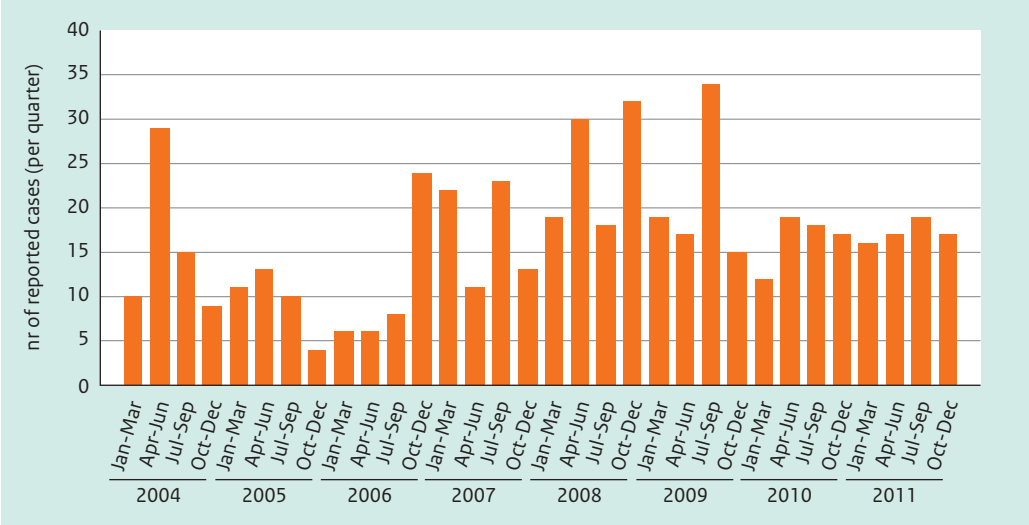
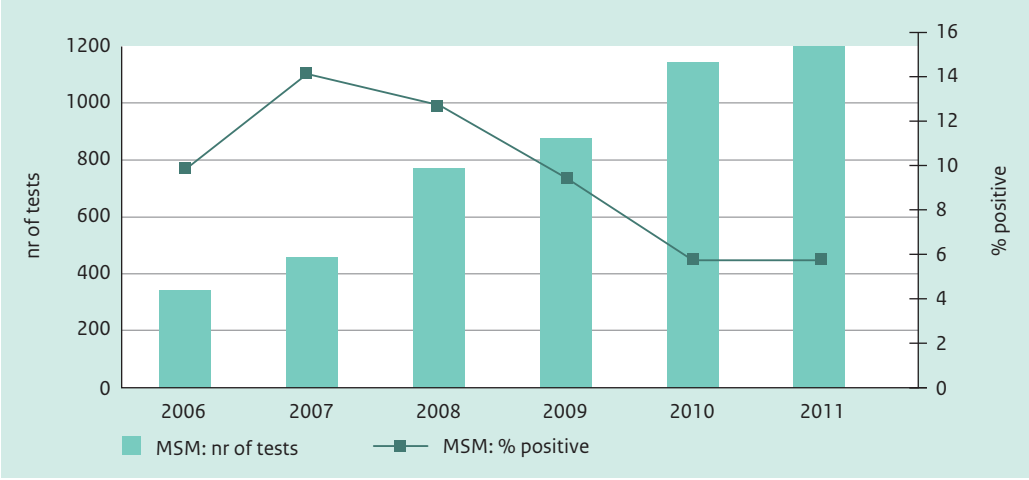


Figure 3.9 Number of tests for Lymphogranuloma venereum and positivity rate in STI centres, the Netherlands, 2006–2011.

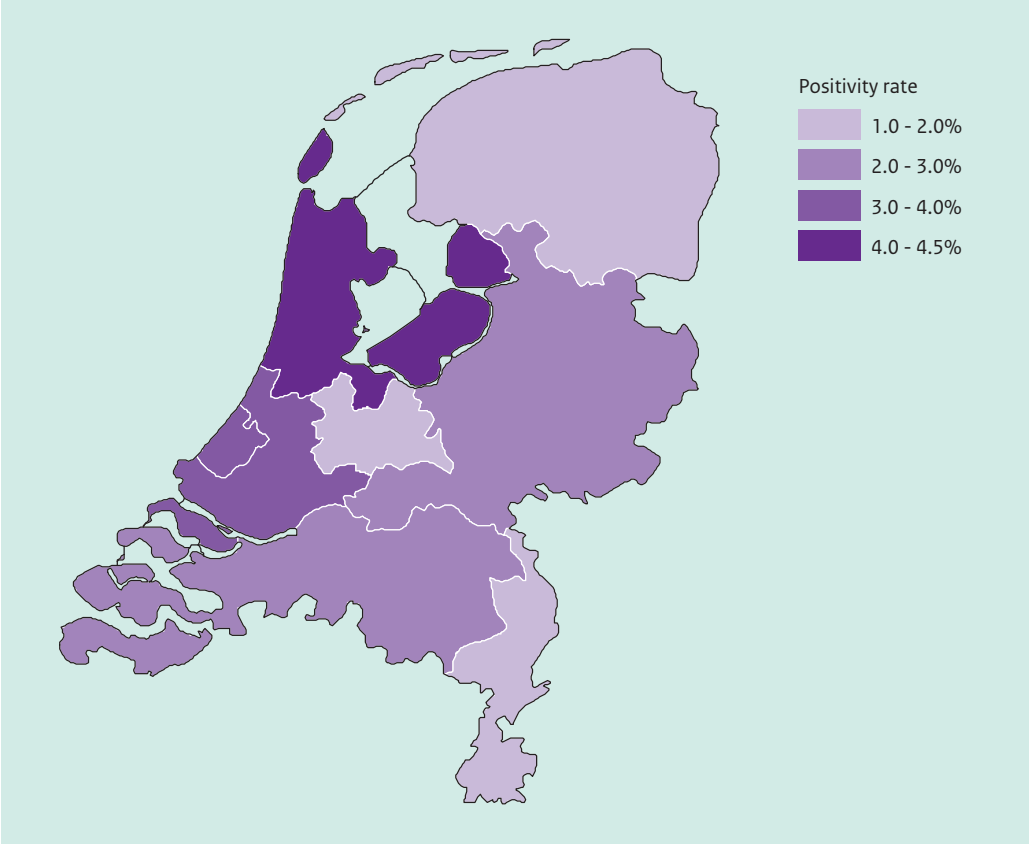


4 Gonorrhoea

4.1 Key points

- In 2011, 3,575 patients were diagnosed with gonorrhoea in the STI centres in the Netherlands (19 percent in heterosexual men, 57 percent in MSM, 23 percent in women), an increase of 27 percent compared with 2010.
- Overall, the positivity rate was 3.2 percent in 2011 (MSM: 9.0 percent; heterosexual men: 1.9 percent; women: 1.7 percent) compared with 2.7 percent in 2010.
- In heterosexual men and women, the positivity rate was highest in those aged 15–19 years (3.6 percent and 2.8 percent, respectively). Since 2008, the positivity rate is this group has also increased. Also in heterosexuals aged 40 and older, positivity rates increased in comparison with previous years.
- Positivity rates were highest in particular risk groups – MSM aware of their HIV-positive status (15 percent), MSM with a previous STI (14 percent), female swingers (4 percent) – and in specific ethnic groups.
- 29 percent of the gonorrhoea cases had a chlamydia co-infection, 2 percent had a new HIV infection.
- At GPs, the number of reported gonorrhoea infections was estimated at 2,588 (95 percent CI 2,297–4,544) in 2010 (70 percent men and 30 percent women), a decrease of 20 percent compared with 2009.
- Resistance to ceftriaxon was not found in the Netherlands. However, 4 percent of the isolates were less susceptible (MIC>0.12 mg/L) for cefotaxim (also a third-generation cephalosporin). Clinical failure has not been reported in the Netherlands yet.

Figure 4.1 Positivity rates of gonorrhoea by STI centre, the Netherlands, 2011.



4.2 STI centres: characteristics, risk groups and trends

Table 4.1 Number of positive tests and persons tested for gonorrhoea by age, gender and sexual preference, 2011.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤ 14	1	14	0	1	6	92
15–19	79	2195	50	590	208	7326
20–24	232	13,063	292	2650	339	24,301
25–29	157	8726	288	2806	126	10,115
30–34	73	4198	328	3025	56	4079
35–39	38	2645	267	2713	39	2376
40–44	41	2247	282	3053	58	2199
45–49	37	1797	222	2817	42	1646
50–54	26	1118	119	1841	23	955
≥ 55	29	1260	109	2237	8	586
Unknown	0	6	0	3	0	10
Total	**713**	**37,269**	**1957**	**21,736**	**905**	**53,685**

Figure 4.2 Percentage of positive tests for gonorrhoea by age, gender and sexual preference, 2011.

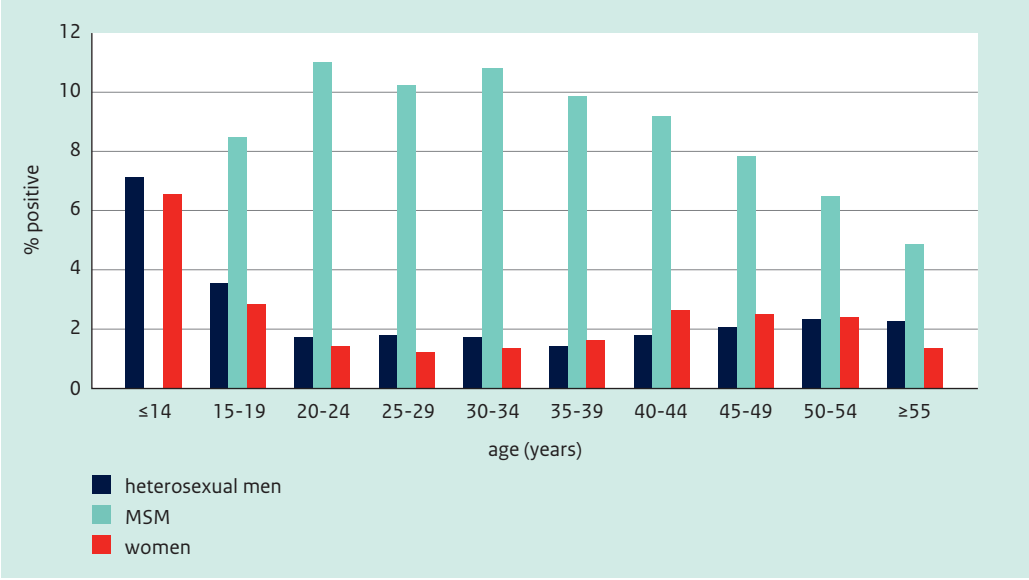


Table 4.2 Number of positive tests and persons tested for gonorrhoea by ethnicity, gender and sexual preference, 2011.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	190	22,860	1264	15,012	411	35,131
Turkey	28	870	22	189	7	436
North Africa/Morocco	40	1356	22	213	17	855
Surinam	205	3098	51	524	143	3094
Netherlands Antilles/Aruba	92	1412	49	402	56	1304
Sub-Saharan Africa	53	1204	22	183	25	1119
Eastern Europe	15	532	64	510	91	2589
Latin America	12	545	78	637	24	1305
Asia	27	1572	105	1051	38	2176
Europe other	24	1916	166	1665	42	2595
Other	4	283	23	293	1	362
Unknown	23	1621	91	1057	50	2719
Total	**713**	**37,269**	**1957**	**21,736**	**905**	**53,685**

Figure 4.3 Percentage of positive tests for gonorrhoea by ethnicity, gender and sexual preference, 2011.

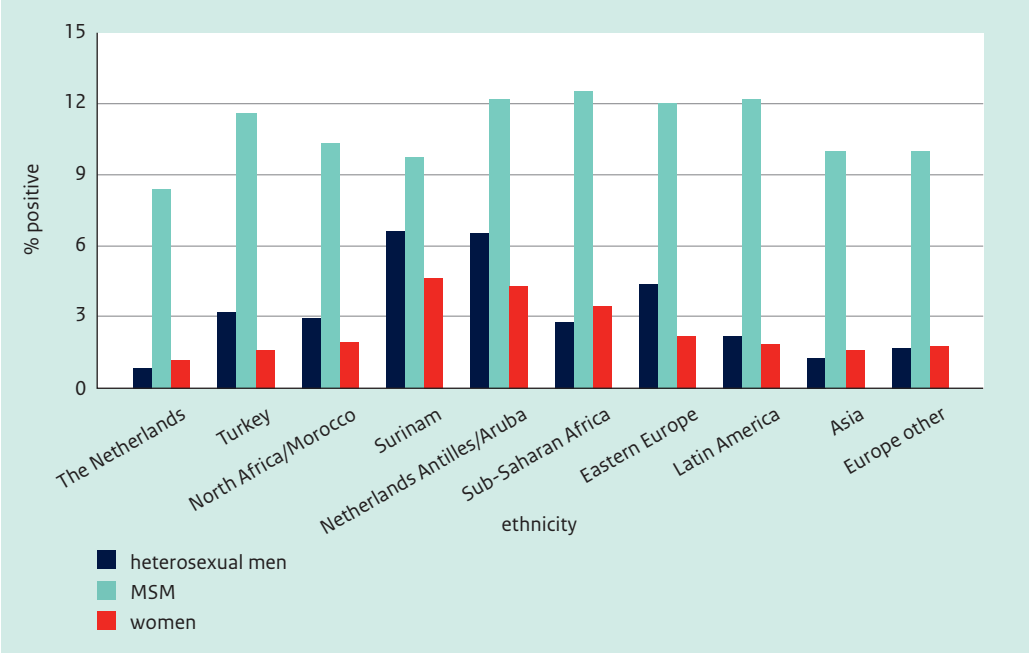


Table 4.3 Number and percentage of positive tests and total persons tested for gonorrhoea by sexual behavioural characteristics, gender and sexual preference, 2011.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	0/433	0.0	2/197	1.0	1/669	0.1
1 partner	119/8270	1.4	128/2491	5.1	256/17,099	1.5
2 partners	181/8633	2.1	189/2487	7.6	195/13,886	1.4
3 or more partners	403/19,174	2.1	1565/15,649	10.0	366/18,499	2.0
Unknown	10/759	1.3	73/912	8.0	87/3532	2.5
Condom use if last sexual contact was steady*						
No	296/14,292	2.1	652/7123	9.2	489/23,641	2.1
Yes	36/4005	0.9	91/1466	6.2	44/4742	0.9
Unknown	2/180	1.1	2/31	6.5	3/274	1.1
Condom use if last sexual contact was casual*						
No	267/11,015	2.4	671/6533	10.3	168/14,122	1.2
Yes	74/5672	1.3	322/3807	8.5	150/7932	1.9
Unknown	1/262	0.4	4/89	4.5	2/116	1.7
Previous GO/CT/syphilis in anamnesis						
No	576/31,376	1.8	1570/18,316	8.6	698/44,454	1.6
Yes	88/2487	3.5	341/2383	14.3	148/4895	3.0
Do not know	22/2261	1.0	22/383	5.7	25/2825	0.9
Unknown	27/1145	2.4	24/654	3.7	34/1511	2.3
Previous HIV test						
No	292/17,699	1.6	170/2553	6.7	292/22,216	1.3
Yes, positive	5/63	7.9	546/3714	14.7	3/85	3.5
Yes, negative	407/18,895	2.2	1224/15,208	8.0	582/30,211	1.9
Yes, result unknown	0/94	0.0	9/82	11.0	0/190	0.0
Unknown	9/518	1.7	8/179	4.5	28/983	2.8
CSW						
No	709/36,969	1.9	1914/21,049	9.1	752/48,029	1.6
Yes, in past 6 months	3/122	2.5	40/382	10.5	147/5307	2.8
Unknown	1/178	0.6	3/305	1.0	6/349	1.7
Client of CSW, men						
No	614/33,053	1.9	1939/21,177	9.2		
Yes, in past 6 months	98/4009	2.4	15/429	3.5		
Unknown	1/207	0.5	3/130	2.3		
Swinger**						
No	385/22,338	1.7	817/8829	9.3	440/31,262	1.4
Yes	34/1751	1.9	51/995	5.1	104/2727	3.8
Unknown	2/61	3.3	1/42	2.4	8/230	3.5
Socioeconomic status (SES)						
Very high	58/4282	1.4	277/3067	9.0	81/6005	1.3
High	128/9171	1.4	511/5874	8.7	191/13,274	1.4
Medium	155/9728	1.6	476/5508	8.6	212/14,438	1.5
Low	146/5959	2.5	325/3524	9.2	178/8209	2.2
Very low	125/3507	3.6	164/1619	10.1	104/4416	2.4
Unknown	101/4622	2.2	204/2144	9.5	139/7343	1.9

* Type of sexual contact was missing for 7 percent (n=7,388) of persons tested for gonorrhoea.
** Voluntary question, answered by 61 percent (n=68,235) of persons tested for gonorrhoea.

Table 4.4 Concurrent STI by gender and sexual preference among persons diagnosed with gonorrhoea, 2011.

Concurrent infection	Heterosexual men (N=713) n (%)	MSM (N=1957) n (%)	Women (N=905) n (%)
Chlamydia	255 (35.8)	452 (23.1)	343 (37.9)
Infectious syphilis	3 (0.4)	61 (3.1)	0 (0.0)
HIV newly diagnosed	4 (0.6)	65 (3.3)	0 (0.0)
Genital herpes	1 (0.1)	10 (0.5)	6 (0.7)
Genital warts	17 (2.4)	114 (5.8)	15 (1.7)
Hepatitis B, infectious	3 (0.4)	4 (0.2)	1 (0.1)

Table 4.5 Location of gonorrhoea infection by gender and sexual preference, 2011.

Location	Heterosexual men (N=713) n (%)	MSM (N=1957) n (%)	Women (N=905) n (%)
Urogenital only	671 (94.1)	285 (14.6)	540 (59.7)
Anorectal only	10 (1.4)	550 (28.1)	22 (2.4)
Oral only	19 (2.7)	545 (27.8)	128 (14.1)
Urogenital and anorectal	4 (0.6)	119 (6.1)	61 (6.7)
Urogenital and oral	8 (1.1)	100 (5.1)	83 (9.2)
Anorectal and oral	0 (0.0)	246 (12.6)	6 (0.7)
Urogenital and anorectal and oral	0 (0.0)	103 (5.3)	42 (4.6)
Pooled samples*	1 (0.1)	9 (0.5)	23 (2.5)

*Pooled samples are samples from more than one anatomical site tested in one molecular test; therefore, location of infection is unknown.

Table 4.6 Number and percentage of positive tests for gonorrhoea by location, gender and sexual preference, 2006–2011.

	2006 n positive (%)*	2007 n positive (%)*	2008 n positive (%)*	2009 n positive (%)*	2010 n positive (%)*	2011 n positive (%)*
Heterosexual men						
Urogenital	424 (1.7)	429 (1.5)	401 (1.3)	471 (1.5)	518 (1.5)	684 (1.8)
Anorectal	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.5)	10 (2.1)	14 (2.3)
Oral	8 (0.8)	7 (0.8)	17 (2.7)	11 (1.2)	26 (2.2)	27 (1.8)
MSM						
Urogenital	494 (5.3)	430 (4.0)	453 (3.4)	475 (3.0)	521 (2.7)	610 (2.8)
Anorectal	485 (7.0)	554 (6.7)	573 (5.4)	698 (5.3)	779 (4.7)	1024 (5.4)
Oral	184 (2.7)	209 (2.6)	353 (3.3)	651 (4.8)	820 (4.7)	999 (4.9)
Women						
Urogenital	326 (1.0)	358 (1.0)	362 (0.9)	426 (1.0)	546 (1.1)	752 (1.4)
Anorectal	65 (1.0)	88 (1.2)	81 (1.1)	106 (1.4)	105 (1.2)	133 (1.4)
Oral	63 (0.8)	89 (0.9)	121 (1.2)	154 (1.3)	185 (1.4)	267 (1.7)

* Numbers do not add up to 100 percent since one client can have a positive test result at more than one location.
Footnote: Heterosexual men and women are not frequently tested anorectal or oral; therefore, the fluctuation of positivity rates through the years has to be interpreted with caution.

Figure 4.4 Total number of tests and positivity rate of gonorrhoea by gender and sexual preference, 2004–2011.

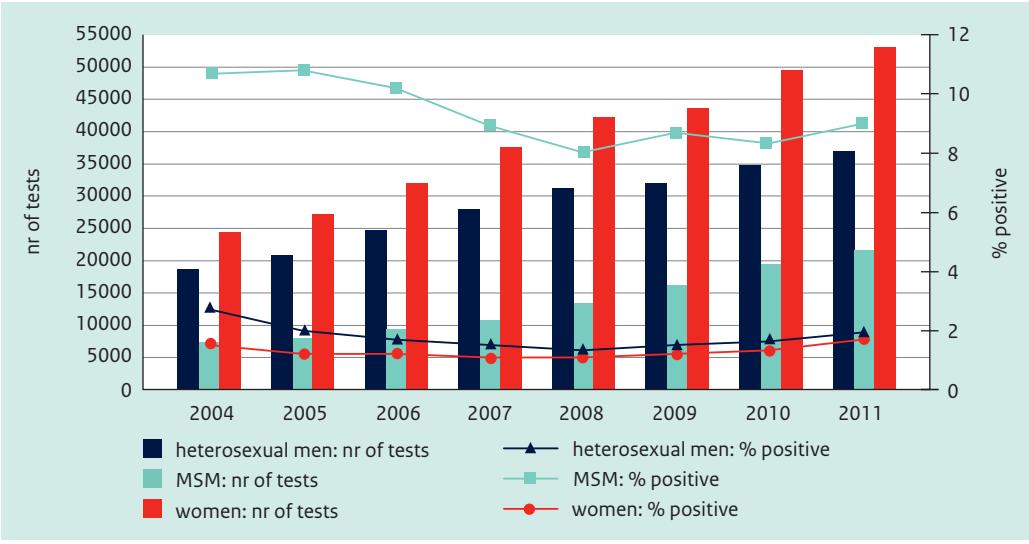


Figure 4.5a Trends in positivity rate for gonorrhoea in heterosexuals by age group, 2004–2011.

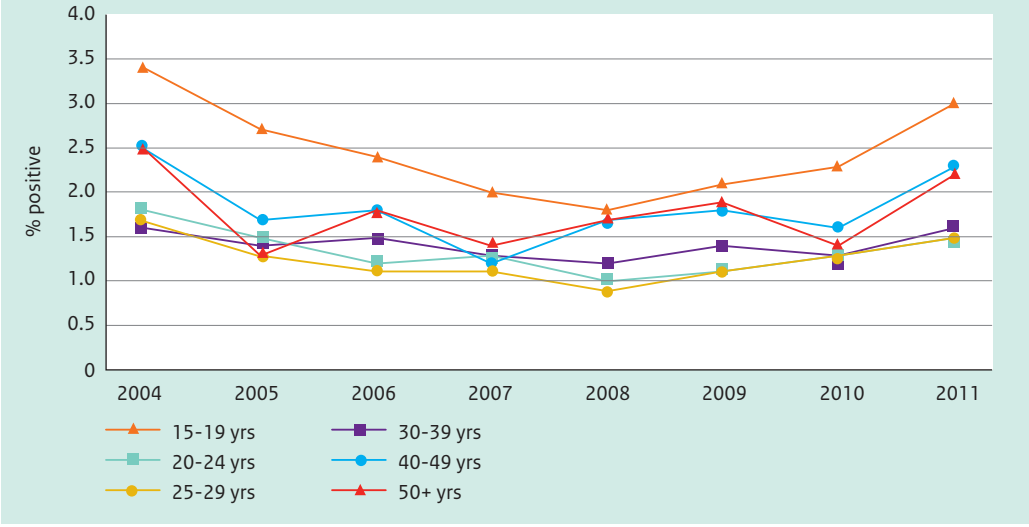
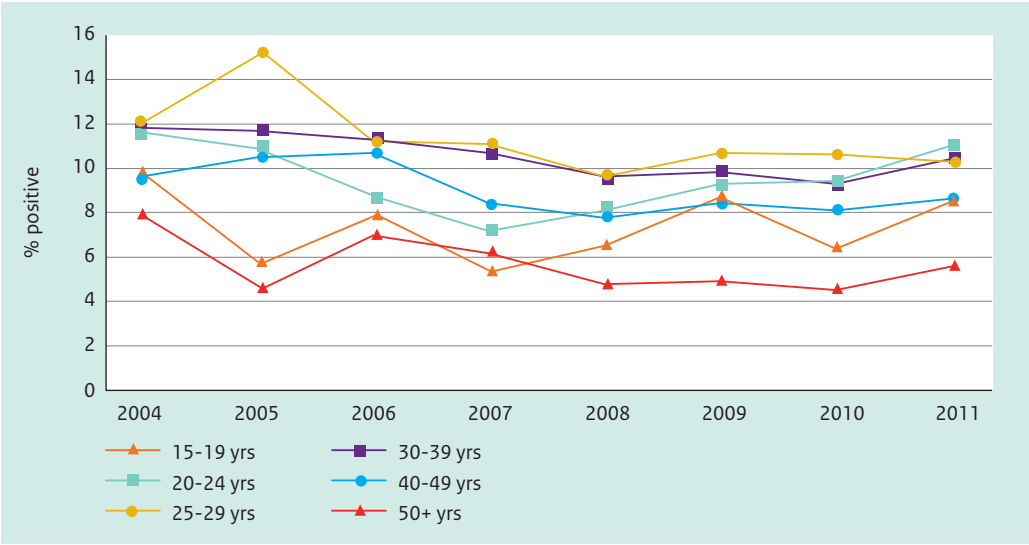
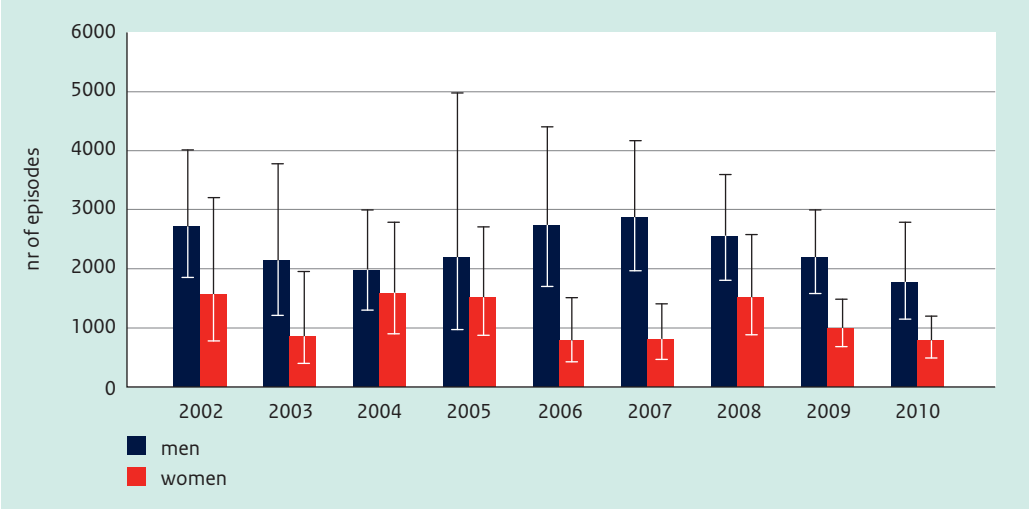


Figure 4.5b Trends in positivity rate for gonorrhoea in MSM by age group, 2004–2011.



4.3 General practitioner

Figure 4.6 Estimated number (and 95 percent CI) of episodes of gonorrhoea at GPs by gender, based on extrapolation from 61–123 practices in the surveillance network of GPs in the Netherlands, 2002–2010.



(Source: LINH).

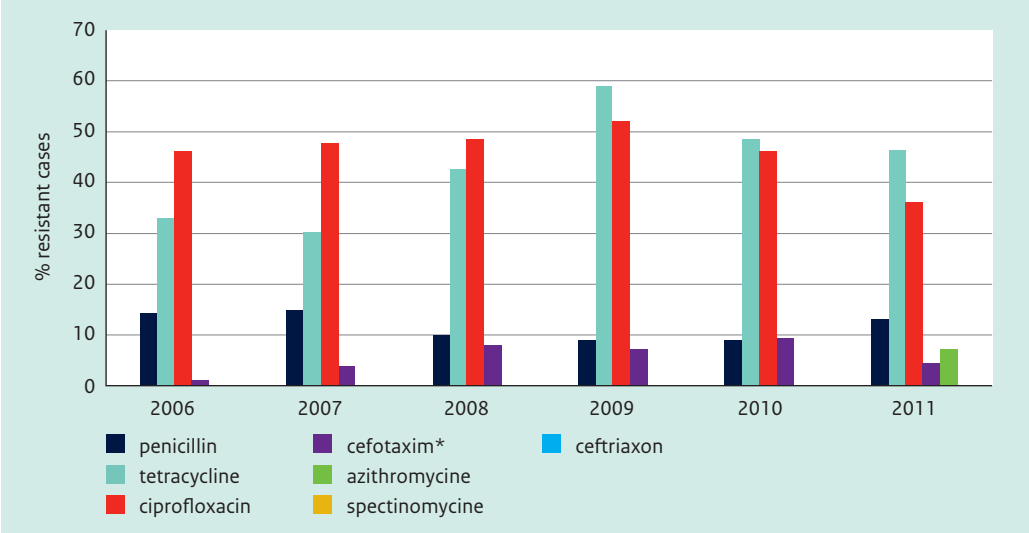
Table 4.7 Reporting rate (number of episodes per 100,000 population) of gonorrhoea at GPs in the Netherlands by gender, 2002–2010.

Year	Men		Women		Total	
	n/100,000	95% CI	n/100,000	95% CI	n/100,000	95% CI
2002	34.5	(23.4–50.9)	19.5	(9.6–39.7)	27.0	(16.5–45.3)
2003	26.9	(15.2–47.7)	10.7	(4.7–24.2)	18.8	(9.9–35.9)
2004	24.8	(16.4–37.5)	19.6	(11.2–34.2)	22.2	(13.8–35.9)
2005	27.3	(12.0–62.3)	18.7	(10.4–33.3)	23.0	(11.2–47.8)
2006	34.2	(21.3–55.1)	9.7	(5.1–18.3)	22.0	(13.2–36.7)
2007	35.9	(24.9–52.0)	10.0	(5.7–17.3)	23.0	(15.3–34.7)
2008	31.7	(22.5–44.9)	18.6	(10.9–31.6)	25.2	(16.7–38.2)
2009	27.1	(19.8–37.1)	12.1	(8.1–18.0)	19.6	(13.9–27.6)
2010	21.9	(14.0–34.3)	9.3	(6.0–14.4)	15.6	(10.0–24.3)

CI = confidence interval.
(Source: LINH).

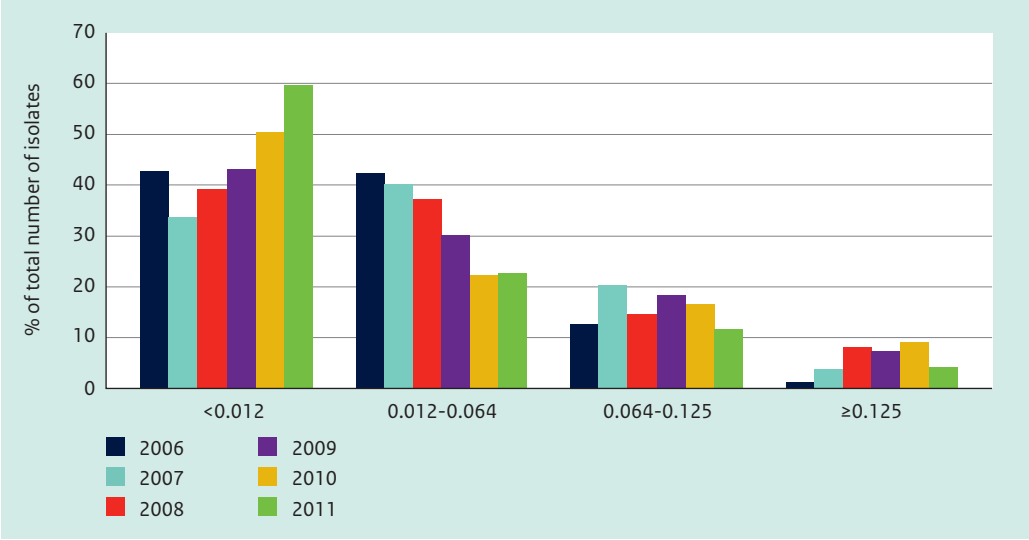
4.4 Antimicrobial resistance of gonococci in the Netherlands

Figure 4.7 Gonococcal resistance (following Eucast breakpoints) in the Netherlands: proportion of resistant cases, 2006–2011.



* Resistant following Eucast criteria; however, no clinical resistance has been reported yet.
(Source: GRAS, STI centres).

Figure 4.8 MIC (= minimum inhibitory concentration) distribution for third-generation cephalosporin (cefotaxim), 2006–2011.



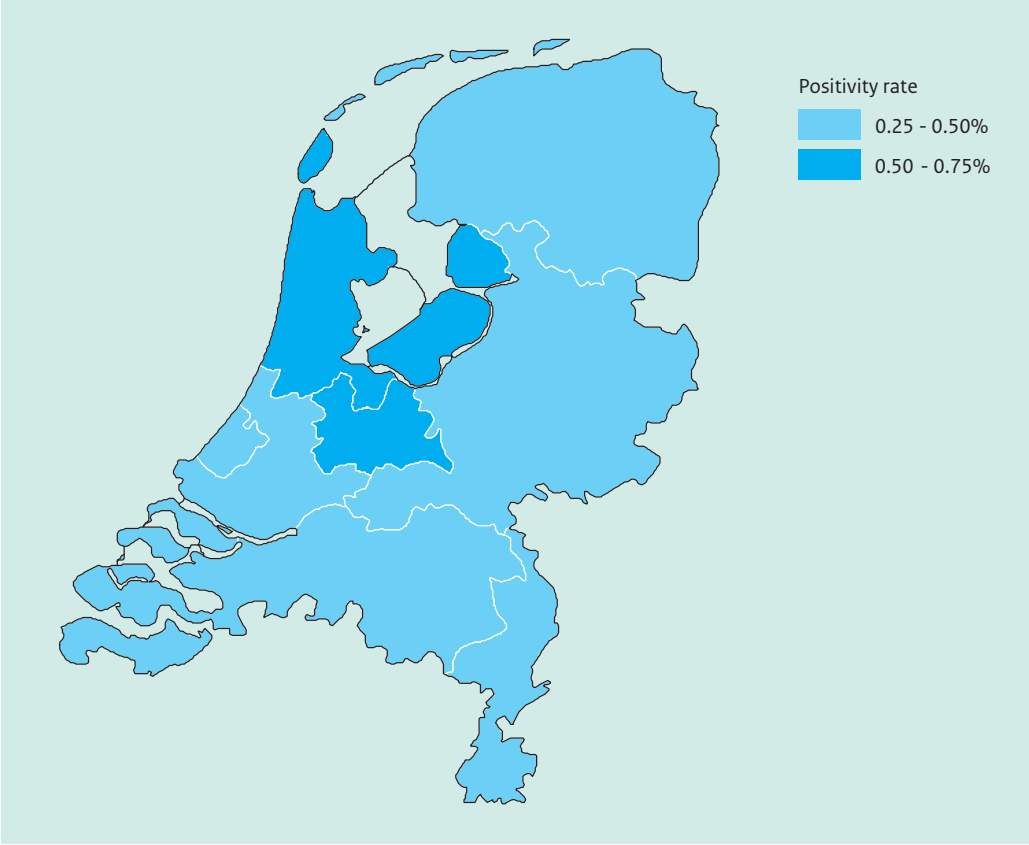
(Source: GRAS, STI centres).

5 Syphilis

5.1 Key points

- In 2011, 476 diagnoses of infectious syphilis were made in the STI centres in the Netherlands (90 percent in MSM, 5 percent in heterosexual men, 4 percent in women) compared with 500 diagnoses in 2010.
- As in previous years, the positivity rates among MSM continued to decrease, from 4.3 percent in 2007 to 2.0 percent in 2011. The positivity rates among heterosexual men and women remained low (< 0.1 percent).
- 35 percent of infectious syphilis cases were diagnosed in HIV-positive MSM who were aware of their HIV-positive status, 4 percent in newly diagnosed HIV cases.
- As in previous years, the positivity rate of infectious syphilis was higher in known HIV-positive MSM (4.5 percent) compared with MSM who previously tested HIV-negative (1.4 percent).
- Of all MSM with syphilis, 22 percent had a co-infection with chlamydia and 14 percent had a co-infection with gonorrhoea.

Figure 5.1 Positivity rates of infectious syphilis by STI centre, the Netherlands, 2011.



5.2 STI centres: characteristics, risk groups and trends

Table 5.1 Number of positive tests and persons tested for infectious syphilis by age, gender and sexual preference, 2011.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤ 14	0	13	0	1	0	89
15–19	0	2108	6	588	1	7095
20–24	4	13,002	47	2642	5	24,111
25–29	5	8717	44	2802	4	10,072
30–34	4	4191	52	3007	1	4063
35–39	3	2643	55	2711	1	2365
40–44	3	2245	68	3044	1	2194
45–49	1	1796	79	2807	3	1642
50–54	2	1118	33	1841	2	951
≥ 55	4	1257	45	2234	3	586
Unknown	0	6	0	3	0	10
Total	**26**	**37,096**	**429**	**21,680**	**21**	**53,178**

Figure 5.2 Percentage of positive tests for infectious syphilis by age, gender and sexual preference, 2011.

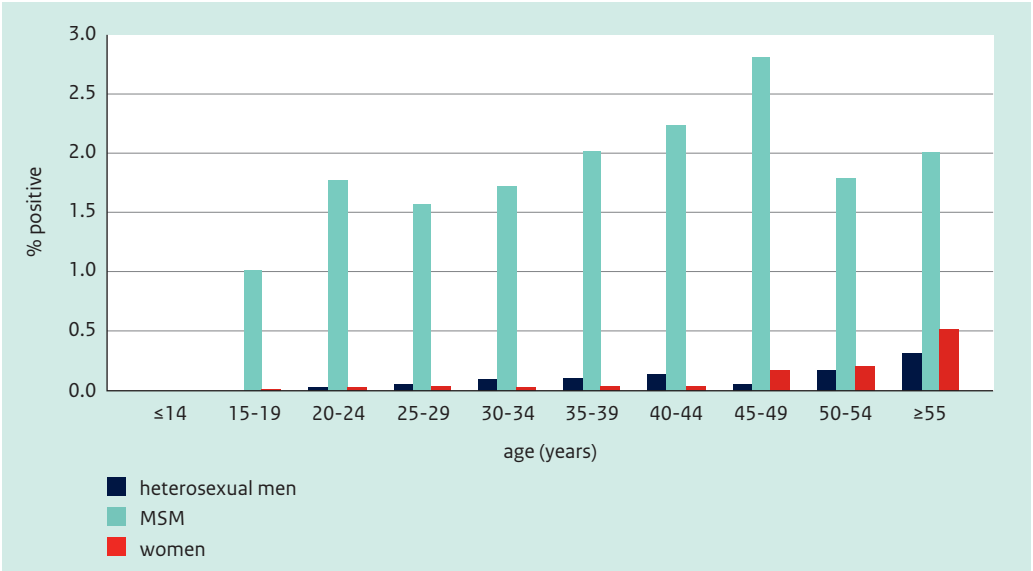
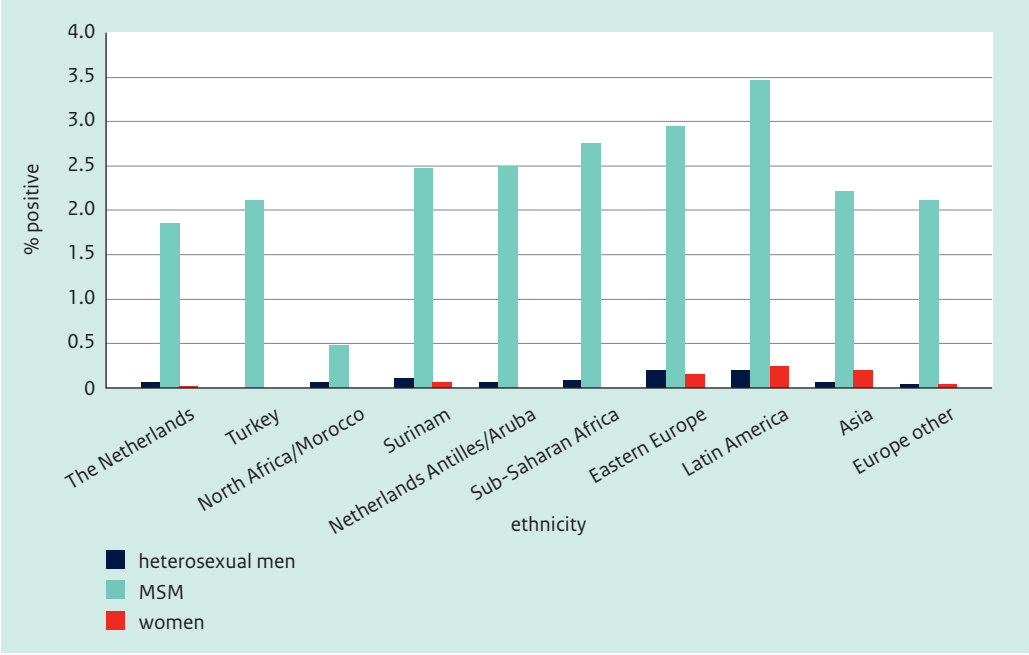


Table 5.2 Number of positive tests and persons tested for syphilis by ethnicity, gender and sexual preference, 2011.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	16	22,791	277	14,984	7	34,865
Turkey	0	854	4	189	0	418
North Africa/Morocco	1	1342	1	210	0	840
Surinam	3	3084	13	524	2	3065
Netherlands Antilles/Aruba	1	1385	10	402	0	1256
Sub-Saharan Africa	1	1195	5	181	0	1094
Eastern Europe	1	531	15	508	4	2576
Latin America	1	543	22	636	3	1294
Asia	1	1565	23	1042	4	2154
Europe other	1	1916	35	1657	1	2578
Other	0	280	6	293	0	359
Unknown	0	1613	18	1054	0	2679
Total	**26**	**37,099**	**429**	**21,680**	**21**	**53,178**

Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Figure 5.3 Percentage of positive tests for syphilis by ethnicity, gender and sexual preference, 2011.



Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Table 5.3 Number and percentage of positive tests and total persons tested for infectious syphilis by sexual behavioural characteristics, gender and sexual preference, 2011.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	2/432	0.5	5/197	2.5	0/663	0.0
1 partner	5/8203	0.1	44/2482	1.8	9/16,879	0.1
2 partners	8/8623	0.1	39/2480	1.6	2/13,823	0.01
3 or more partners	10/19,146	0.1	326/15,617	2.1	4/3366	0.1
Unknown	1/695	0.1	15/904	1.7	6/53,178	0.01
Condom use if last sexual contact was steady*						
No	10/14,264	0.1	146/7113	2.1	4/14,044	0.03
Yes	0/3993	0.0	24/1464	1.6	6/7875	0.1
Unknown	0/170	0.0	1/31	3.2	0/110	0.0
Condom use if last sexual contact was casual*						
No	8/10,978	0.1	148/6523	2.3	8/23,454	0.03
Yes	6/5651	0.1	64/3804	1.7	0/4707	0.0
Unknown	0/75	0.0	3/89	3.4	0/244	0.0
Previous GO/CT/syphilis in anamnesis						
No	22/31,306	0.1	366/18,285	2.0	14/44,201	0.03
Yes	1/2481	0.04	54/2360	2.3	3/4851	0.1
Do not know	2/2241	0.1	6/383	1.6	2/2775	0.1
Unknown	1/1071	0.1	3/652	0.5	2/1351	0.1
Previous HIV test						
No	14/17,636	0.1	54/2554	2.1	9/22,066	0.04
Yes, positive	2/63	3.2	166/3696	4.5	0/85	0.0
Yes, negative	9/18,888	0.05	209/15,172	1.4	10/30,121	0.03
Yes, result unknown	0/95	0.0	0/82	0.0	0/187	0.0
Unknown	1/417	0.2	0/176	0.0	2/719	0.3
CSW						
No	26/36,913	0.1	417/20,995	2.0	14/47,829	0.03
Yes, in past 6 months	0/122	0.0	11/381	2.9	6/5263	0.1
Unknown	0/64	0.0	1/304	0.3	1/86	1.2
Client of CSW, men						
No	21/33,001	0.1	426/21,121	2.0		
Yes, in past 6 months	5/4005	0.1	2/430	0.5		
Unknown	0/93	0.0	1/129	0.8		
Swinger**						
No	15/22,290	0.1	162/8808	1.8	9/31,048	0.03
Yes	0/1753	0.0	9/995	0.9	1/2730	0.04
Unknown	0/60	0.0	2/42	4.8	0/202	0.0
Socioeconomic status (SES)						
Very high	2/4277	0.05	66/3054	2.2	2/5974	0.03
High	7/9138	0.1	101/5866	1.7	5/13,135	0.04
Medium	6/9691	0.1	119/5502	2.2	7/14,297	0.05
Low	5/5934	0.1	78/3512	2.2	3/8145	0.04
Very low	3/3474	0.1	30/1616	1.9	0/4345	0.0
Unknown	3/4585	0.1	35/2130	1.6	4/7282	0.1

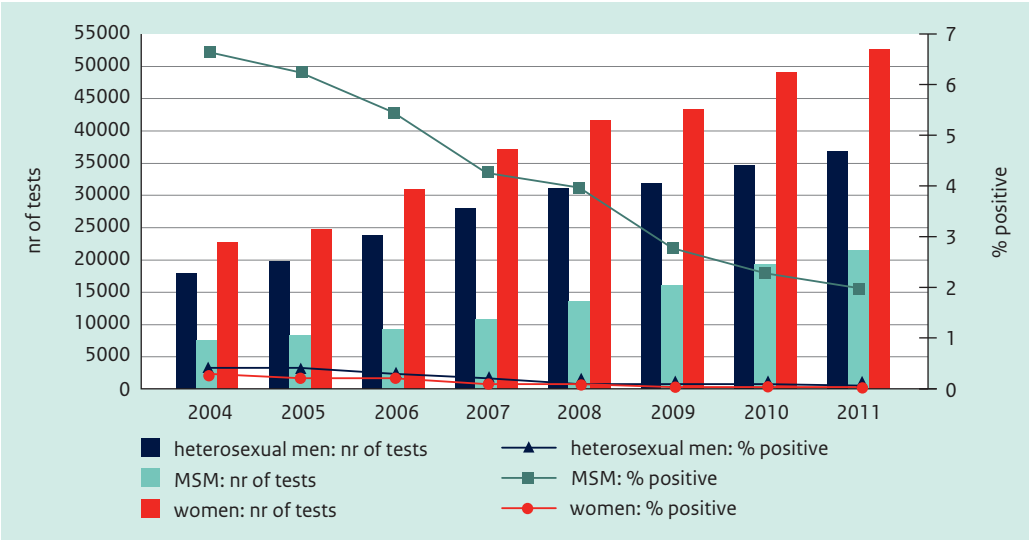
* Type of sexual contact was missing for 5 percent (n=5,048) of persons tested for HIV.

** Voluntary question, answered by 61 percent (N=68,521) of persons tested for syphilis.

Table 5.4 Concurrent STI by gender and sexual preference among persons diagnosed with infectious syphilis, 2011.

Concurrent infection	Heterosexual men (N = 36) n (%)	MSM (N = 446) n (%)	Women (N = 18) n (%)
Chlamydia	1 (2.8)	97 (21.7)	3 (16.7)
Gonorrhoea	3 (8.3)	61 (13.7)	0 (0.0)
HIV newly diagnosed	3 (8.3)	19 (4.3)	0 (0.0)
Genital herpes	1 (2.8)	6 (1.3)	1 (5.6)
Genital warts	1 (2.8)	12 (2.7)	0 (0.0)
Hepatitis B, infectious	1 (2.8)	3 (0.7)	0 (0.0)

Figure 5.4 Total number of tests and positivity rate of infectious syphilis by gender and sexual preference, 2004–2011.



5.3 Screening pregnant women

Table 5.5 Syphilis prevalence estimates in pregnant women, based on test results of antenatal screening, 2006–2009.

Year	No. of women screened	Positive result 12 weeks test	Confirmed positive test results (%)	Prevalence estimate [min–max]*
2006	185,941	320	142 (44)	0.12 [0.08–0.13]
2007	186,137	331	181 (55)	0.14 [0.10–0.15]
2008	190,139	359	197 (55)	0.16 [0.10–0.17]
2009	185,219	398	257 (65)	0.20 [0.14–0.21]

* Prevalence estimated on the assumption that pregnant women with a first positive test result without a confirmation test would be as often positive as those with a confirmation test; minimum prevalence: number of confirmed positive test results divided by the total number of registered pregnant women; maximum prevalence: on the assumption that all pregnant women with a first positive test result without a confirmation test would also have a positive confirmation test.
Footnote 1: The 2010 and 2011 data will become available in November 2012.
Footnote 2: Terminated pregnancies (induced or spontaneous) are excluded.
(Source: Praeventis, RIVM).

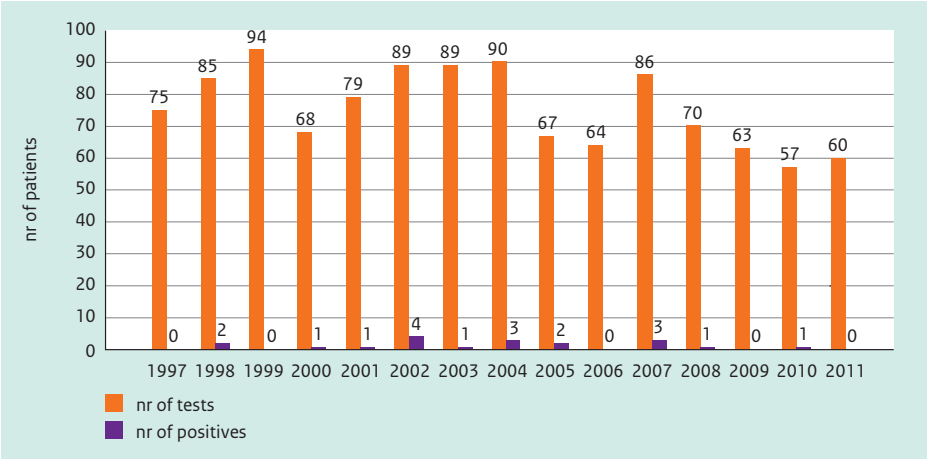
5.4 Blood donors

Figure 5.5 Syphilis incidence (per 100,000) among regular blood donors in the Netherlands, 2000–2010.

(Source: Sanquin).

5.5 Congenital syphilis

Figure 5.6 Number of tests of neonates and young infants (<1 year) suspected of being infected with congenital syphilis and the number of IgM positives, 1997–2011.



(Source: CIb/LIS).

VIRAL STI

6
HIV and AIDS

6.1 Key points

- In 2011, 415 individuals were newly diagnosed with HIV at the STI clinics in the Netherlands (85 percent in MSM, 8 percent in heterosexual men and 7 percent women) compared with 375 individuals in 2010.
- After a decreasing trend, the positivity rate among MSM remained the same at 2.0 percent (in 2010 2.0 percent, in 2009 2.4 percent and in 2008 3.0 percent). Among heterosexual men and women it seems to be stabilised at 0.1 percent.
- HIV test uptake increased from 56 percent in 2004 to 98 percent in 2011 among STI clinic attendees who were not previously diagnosed with HIV.
- 2.5 percent of the MSM and 1.6 percent of the heterosexuals opted out of the HIV test. For MSM, 26 percent of the opt-outers tested positive for an STI versus 17 percent of the MSM who took an HIV test; there was no difference in positivity found in heterosexuals. The percentage opt-outers in MSM increased with age, whereas in heterosexuals, the highest percentage was reported among people younger than 25 years old.
- Among newly diagnosed HIV-positive MSM, 25 percent had a concurrent chlamydia infection and 19 percent a gonorrhoea infection. Among known HIV-positive visitors, 17 percent were diagnosed with chlamydia and 14 percent with gonorrhoea.
- A cumulative total of 19,232 HIV patients in care were reported up to December 2011, of whom 90 percent were alive. In 2011, 1,227 new HIV patients were reported in care, of whom 812 were newly diagnosed in 2011 (incomplete due to reporting delay). The proportion of MSM accounting for new HIV patients in care increased further up to 67 percent in 2011. The proportion of heterosexuals was 25 percent.
- Of the MSM, 39 percent were tested for HIV at PHS/STI clinics in 2011, 32 percent by GPs and 24 percent in hospitals. Of heterosexual males, the majority were tested in hospitals (45 percent) or by GPs (34 percent); and of women, the largest group was tested by a GP (32 percent) or at a hospital (31 percent).
- In the national HIV database an increase in the number of HIV diagnoses among people of 50 years or older was observed (from 173 in 2009 to 205 in 2010, +18 percent). The largest increase was observed among heterosexual men in this age group (from 33 in 2009 to 58 in 2010, +76 percent). In MSM and women, the number of new diagnoses in 50+ people only increased slightly between 2008 and 2010.

6.2 STI centres: characteristics, risk groups and trends

Table 6.1 Number of positive tests and persons tested for HIV by age, gender and sexual preference, 2011.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤ 14	0	11	0	0	0	63
15–19	0	2091	4	583	0	7000
20–24	5	12,967	48	2559	4	24,045
25–29	2	8686	61	2558	4	10,022
30–34	7	4167	55	2526	10	4029
35–39	6	2614	45	2142	4	2356
40–44	7	2226	53	2247	3	2178
45–49	2	1785	40	1949	1	1625
50–54	3	1110	23	1342	0	952
≥ 55	2	1220	22	1744	4	581
Unknown	0	6	0	2	0	10
Total	**34**	**36,883**	**351**	**17,652**	**30**	**52,861**

Figure 6.1 Percentage of positive tests for HIV by age, gender and sexual preference, 2011.

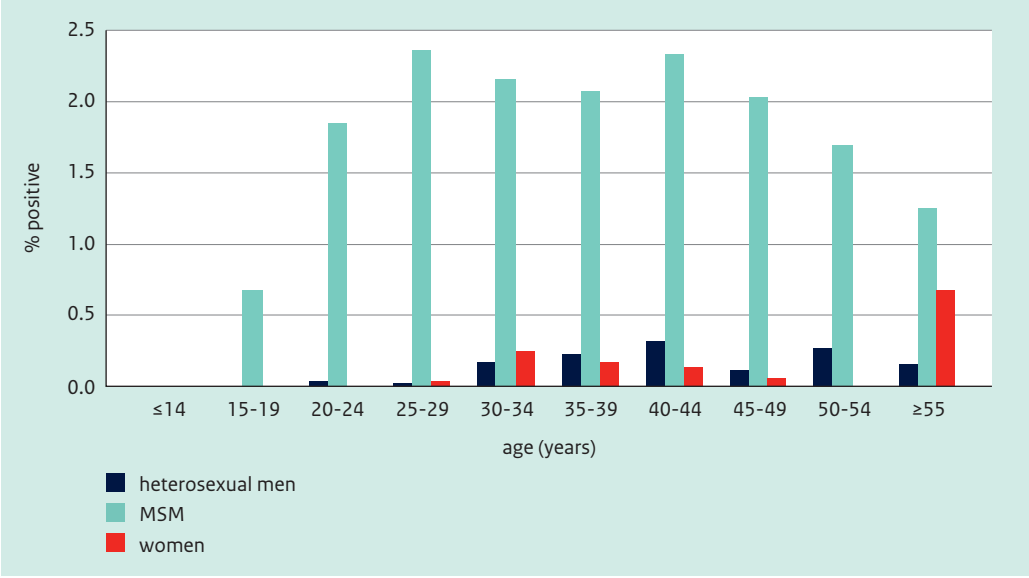
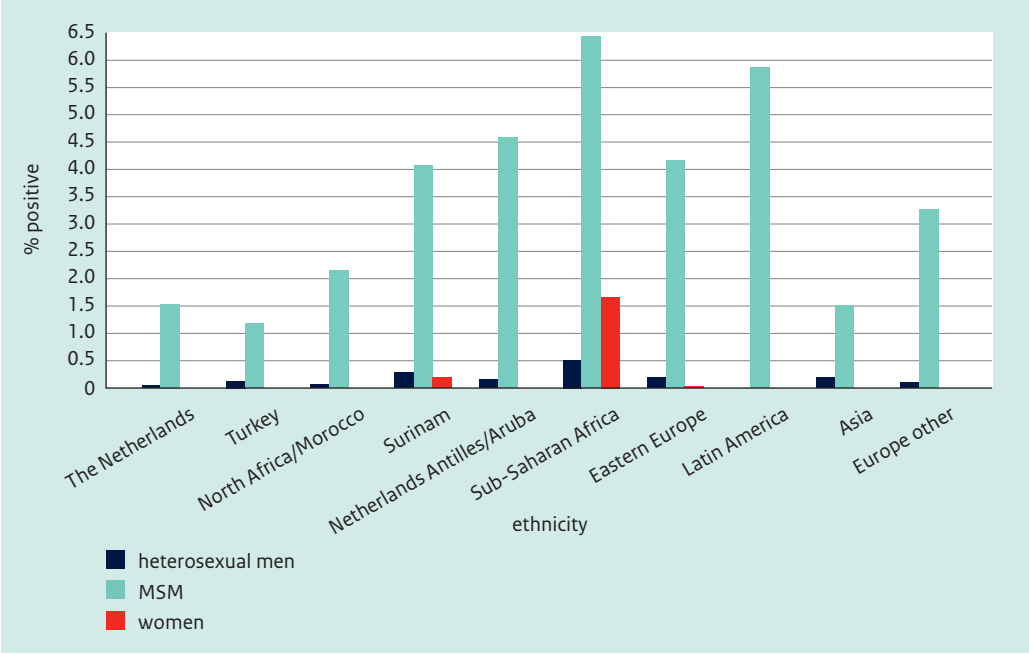


Table 6.2 Number of positive tests and persons tested for HIV by ethnicity, gender and sexual preference, 2011.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	8	22,684	189	12,326	2	34,674
Turkey	1	851	2	171	0	414
North Africa/Morocco	1	1333	4	186	0	837
Surinam	9	3048	16	392	6	3037
Netherlands Antilles/Aruba	2	1373	14	305	0	1249
Sub-Saharan Africa	6	1172	9	140	18	1087
Eastern Europe	1	530	18	432	1	2560
Latin America	0	539	25	426	0	1275
Asia	3	1557	13	864	0	2142
Europe other	2	1905	41	1255	0	2561
Other	0	279	2	205	1	356
Unknown	1	1612	18	950	2	2669
Total	**34**	**36,883**	**351**	**17,652**	**30**	**52,861**

Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Figure 6.2 Percentage of positive tests for HIV by ethnicity, gender and sexual preference, 2011.



Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Table 6.3 Number and percentage of positive tests and total persons tested for HIV at STI centres by sexual behavioural characteristics, gender and sexual preference, 2011.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	4/425	0.9	2/129	1.6	5/662	0.8
1 partner	13/8167	0.2	29/2121	1.4	10/16,739	0.1
2 partners	5/8556	0.1	35/2129	1.6	3/13,767	0.02
3 or more partners	12/19,046	0.1	272/12,526	2.2	8/18,346	0.04
Unknown	0/689	0.0	13/747	1.7	4/3347	0.1
Condom use if last sexual contact was steady*						
No	15/14,189	0.1	107/5669	1.9	10/23,330	0.04
Yes	1/3999	0.03	29/1285	2.3	3/4664	0.1
Unknown	0/171	0.0	0/29	0.0	0/240	0.0
Condom use if last sexual contact was casual*						
No	9/10,902	0.1	112/5066	2.2	2/13,953	0.01
Yes	5/5603	0.1	67/3460	1.9	7/7838	0.1
Unknown	1/74	1.4	2/73	2.7	1/110	0.9
Previous GO/CT/syphilis in anamnesis						
No	33/31,120	0.1	285/14,769	1.9	25/43,961	0.1
Yes	0/2462	0.0	57/1901	3.0	2/4804	0.04
Do not know	0/2232	0.0	5/372	1.3	1/2756	0.04
Unknown	1/1069	0.1	4/610	0.7	2/1340	0.1
Previous HIV test						
No	13/17,566	0.1	48/2452	2.0	14/21,932	0.1
Yes, positive	0/28	0.0	0/42	0.0	0/53	0.0
Yes, negative	19/18,778	0.1	297/14,931	2.0	14/29,971	0.05
Yes, result unknown	1/94	1.1	3/65	4.6	0/186	0.0
Unknown	1/417	0.2	3/162	1.9	2/719	0.3
CSW						
No	33/36,700	0.1	338/17,040	2.0	24/47,539	0.05
Yes, in past 6 months	0/121	0.0	13/340	3.8	6/5236	0.1
Unknown	1/62	1.6	0/272	0.0	0/86	0.0
Client of CSW, men						
No	29/32,819	0.1	345/17,122	2.0		
Yes, in past 6 months	4/3971	0.1	5/409	1.2		
Unknown	1/93	1.1	1/121	0.8		
Swinger**						
No	16/22,216	0.1	172/7961	2.2	14/30,883	0.05
Yes	1/1747	0.1	6/971	0.6	1/2722	0.04
Unknown	1/59	1.7	1/39	2.6	0/202	0.0
Socioeconomic status (SES)						
Very high	4/4245	0.1	50/2377	2.1	4/5930	0.1
High	4/9084	0.04	83/4705	1.8	4/13,052	0.03
Medium	4/9630	0.04	87/4516	1.9	7/14,230	0.05
Low	5/5897	0.1	57/2791	2.0	4/8104	0.05
Very low	5/3457	0.1	34/1365	2.5	4/4316	0.1
Unknown	12/4570	0.3	40/1898	2.1	7/7229	0.1

* Type of sexual contact was missing for 6 percent (n=6,741) of persons tested for HIV.
** Voluntary question, answered by 62 percent (N=66,800) of persons tested for HIV.

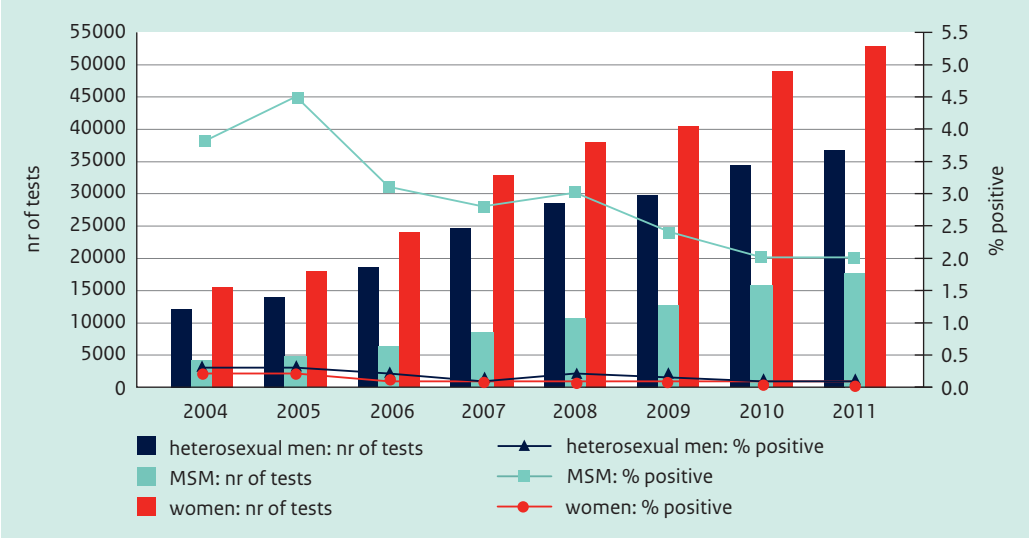
Table 6.4 Consultations with request for opting-out for HIV test at STI centres by age and sexual preference, 2011.

Age (years)	Heterosexual men and women n opting-out (%)	MSM n opting-out (%)
< 25	963 (2.0)	32 (1.0)
25–34	274 (1.0)	99 (1.9)
35–44	126 (1.3)	127 (2.8)
≥ 45	108 (1.5)	200 (3.8)
Total	**1471 (1.6)**	**458 (2.5)**

Table 6.5 Concurrent STI by gender and sexual preference among persons newly diagnosed with HIV at STI centres, 2011.

Concurrent infection	Heterosexual men (N=34) n (%)	MSM (N=351) n (%)	Women (N=30) n (%)
Chlamydia	6 (17.6)	87 (24.8)	0 (0.0)
Gonorrhoea	4 (11.8)	65 (18.5)	0 (0.0)
Infectious syphilis	3 (8.8)	19 (5.4)	0 (0.0)
Genital herpes	0 (0.0)	5 (1.4)	0 (0.0)
Genital warts	1 (2.9)	13 (3.7)	0 (0.0)
Hepatitis B, infectious	1 (2.9)	5 (1.4)	1 (3.3)

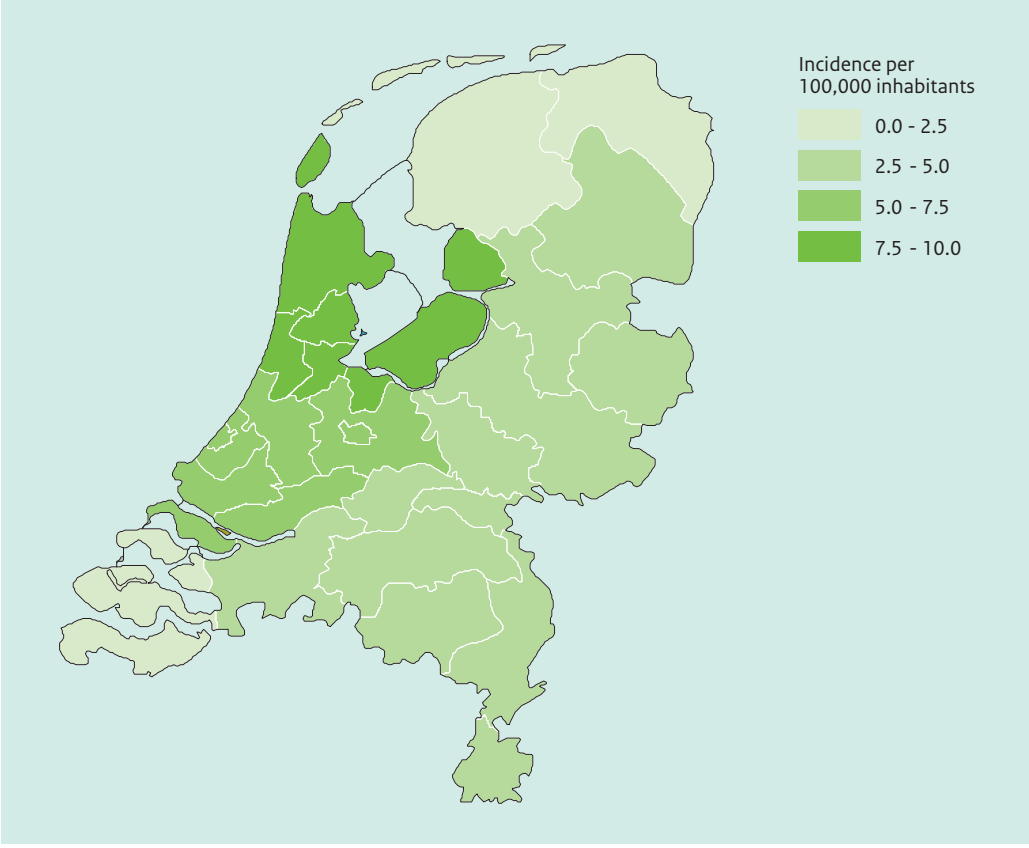
Figure 6.3 Total number of tests and positivity rate of new HIV cases by gender and sexual preference, STI centres, the Netherlands, 2004–2011.



6.3 HIV treatment centres

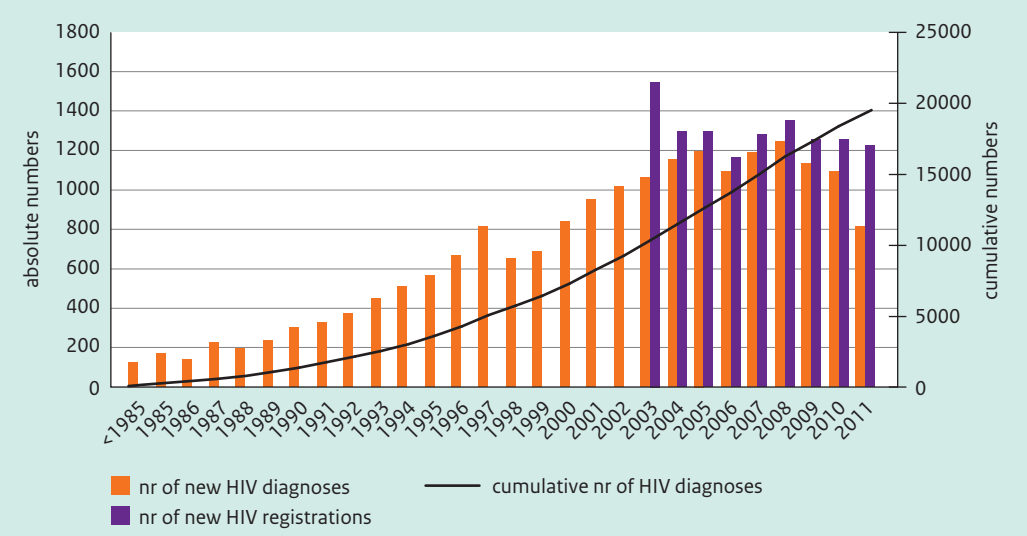
6.3.1 HIV cases newly diagnosed in care in 2011 versus all registered HIV cases (cumulative)

Figure 6.4 Number of new HIV diagnoses per 100,000 inhabitants, the Netherlands, 2011.



Footnote: Calculations are based on HIV infections recorded in the various HIV treatment centres in each province.

Figure 6.5 Number of newly diagnosed HIV cases (orange; cumulative: black) and newly registered HIV patients (violet) by year.



Footnote: only HIV patients with a known date of diagnosis are included (268 cases excluded from the analysis).
(Source: ATHENA: 1996–2001, national registration from 2002 to date. Source: SHM, 2011 incomplete).

Table 6.6a Number of HIV cases diagnosed in 2011 by age and gender.

Age (years)	Men (%)	Women (%)	Total (%)
≤ 14	1 (0.1)	2 (1.8)	3 (0.4)
15–19	8 (1.1)	4 (3.5)	12 (1.5)
20–24	59 (8.5)	14 (12.3)	73 (9.0)
25–29	91 (13.0)	17 (14.9)	108 (13.3)
30–39	201 (28.8)	35 (30.7)	236 (29.1)
40–49	186 (26.6)	25 (21.9)	211 (26.0)
50–59	111 (15.9)	15 (13.2)	126 (15.5)
60–69	37 (5.3)	2 (1.8)	39 (4.8)
70–79	4 (0.6)	0 (0.0)	4 (0.5)
≥ 80	0 (0.0)	0 (0.0)	0 (0.0)
Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Total	**698**	**114**	**812**

Table 6.6b Cumulative number of HIV cases by age (at year of diagnosis) and gender up to 2011.

Age (years)	Men (%)	Women (%)	Total (%)
≤ 14	148 (1.0)	129 (3.2)	277 (1.4)
15–19	214 (1.4)	250 (6.3)	464 (2.4)
20–24	1111 (7.3)	606 (15.2)	1717 (8.9)
25–29	2192 (14.4)	892 (22.4)	3084 (16.0)
30–39	5732 (37.6)	1323 (33.2)	7055 (36.7)
40–49	3854 (25.3)	503 (12.6)	4357 (22.7)
50–59	1547 (10.1)	207 (5.2)	1754 (9.1)
60–69	381 (2.5)	61 (1.5)	442 (2.3)
70–79	64 (0.4)	9 (0.2)	73 (0.4)
≥ 80	1 (0.01)	2 (0.1)	3 (0.02)
Unknown	3 (0.02)	2 (0.1)	5 (0.03)
Total	**15,247**	**3984**	**19,231**

Table 6.7a Number of HIV cases diagnosed in 2011 by main reported transmission risk group and gender.

Transmission risk group	Men (%)	Women (%)	Total (%)
MSM	548 (78.5)	-	548 (67.6)
Heterosexual contact	102 (14.6)	103 (91.2)	205 (25.3)
Injecting drug use	1 (0.1)	0 (0.0)	1 (0.1)
Blood (products)	3 (0.4)	0 (0.0)	3 (0.4)
Mother to child	1 (0.1)	1 (0.9)	2 (0.2)
Needlestick injury	1 (0.1)	2 (1.8)	3 (0.4)
Other/unknown	42 (6.0)	7 (6.2)	49 (6.0)
Total	**698**	**113***	**811**

* 1 female coded as MSM excluded.

Table 6.7b Cumulative number of HIV cases by main reported transmission risk group and gender up to 2011.

Transmission risk group	Men (%)	Women (%)*	Total (%)
MSM	10,836 (71.0)	-	10,836 (56.3)
Heterosexual contact	2683 (17.6)	3375 (84.8)	6058 (31.5)
Injecting drug use	521 (3.4)	191 (4.8)	712 (3.7)
Blood (products)	134 (0.9)	79 (2.0)	213 (1.1)
Mother to child	113 (0.7)	118 (3.0)	231 (1.2)
Needlestick injury	28 (0.2)	10 (0.3)	38 (0.2)
Other/unknown	932 (6.2)	207 (5.2)	1139 (6.0)
Total	**15,247**	**3980**	**19,227***

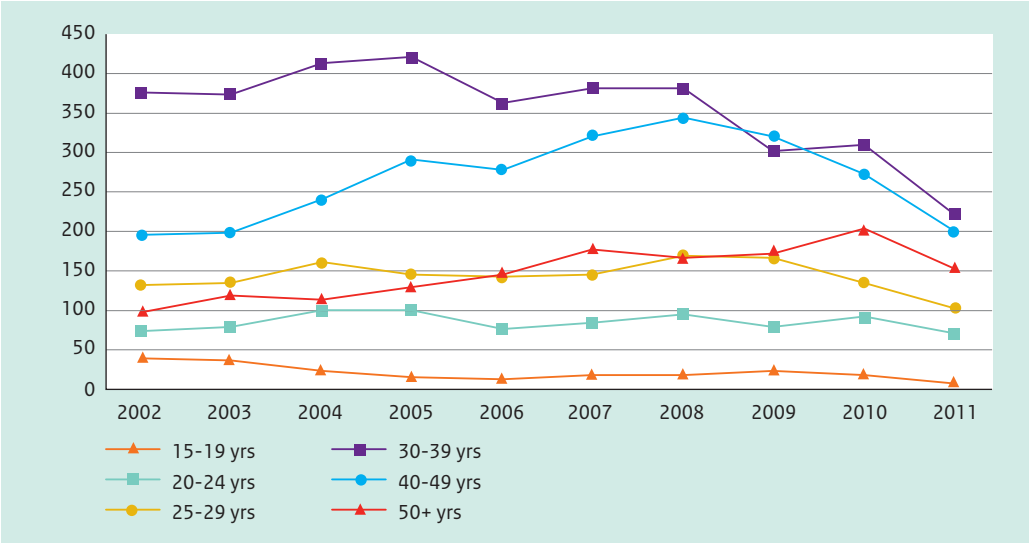
* 4 females coded as MSM excluded.

Table 6.8a Number of HIV cases diagnosed in 2011 by age and transmission risk group.

Age (years)	MSM	Heterosexual contact	Other/unknown*
	n (%)	n (%)	n (%)
≤ 14	0 (0.0)	1 (0.5)	1 (2.1)
15–19	8 (1.5)	4 (2.0)	0 (0.0)
20–24	49 (8.9)	21 (10.2)	2 (4.2)
25–29	76 (13.9)	24 (11.7)	4 (8.3)
30–39	158 (28.8)	60 (29.3)	14 (29.2)
40–49	152 (27.7)	47 (22.9)	11 (22.9)
50–59	77 (14.1)	36 (17.6)	13 (27.1)
60–69	26 (4.7)	11 (5.4)	2 (4.2)
70–79	2 (0.4)	1 (0.5)	1 (2.1)
≥ 80	0 (0.0)	0 (0.0)	0 (0.0)
Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Total	**548**	**205**	**48**

* Including IDU (n=1), blood (products) (n=6), mother to child (n=2). 1 female coded as MSM excluded.

Figure 6.6 Number of HIV cases by age group, 2002-2011.



(Source: SHM, 2011 incomplete).

Table 6.8b Cumulative number of HIV cases by age and transmission risk group up to 2011.

Age (years)	MSM	Heterosexual contact	Injecting drug use	Blood (products)*	Mother to child	Other/ unknown
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
≤ 14	3 (0.03)	6 (0.1)	0 (0.0)	26 (12.2)	223 (97.8)	19 (1.6)
15–19	124 (1.1)	263 (4.3)	22 (3.1)	15 (7.0)	2 (0.9)	37 (3.1)
20–24	793 (7.3)	708 (11.7)	95 (13.3)	25 (11.7)	1 (0.4)	95 (8.1)
25–29	1623 (15.0)	1103 (18.2)	147 (20.6)	34 (16.0)	2 (0.9)	175 (14.9)
30–39	4136 (38.2)	2160 (35.7)	293 (41.2)	60 (28.2)	0 (0.0)	403 (34.2)
40–49	2829 (26.1)	1109 (18.3)	138 (19.4)	22 (10.3)	0 (0.0)	259 (22.0)
50–59	1071 (9.9)	516 (8.5)	16 (2.2)	19 (8.9)	0 (0.0)	132 (11.2)
60–69	225 (2.1)	164 (2.7)	1 (0.1)	8 (3.8)	0 (0.0)	44 (3.7)
70–79	32 (0.3)	25 (0.4)	0 (0.0)	3 (1.4)	0 (0.0)	13 (1.1)
≥ 80	0 (0.0)	3 (0.0)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)
Total**	**10,836**	**6,057**	**695**	**213**	**228**	**1177**

* Including needlestick injury.
** Unknown age not included.

Table 6.9a Number of HIV cases diagnosed in 2011 by region of origin and transmission risk group.

Ethnicity	MSM	Heterosexual contact	Other/unknown*
	n (%)	n (%)	n (%)
The Netherlands	424 (77.2)	81 (39.5)	30 (51.7)
Western Europe	29 (5.3)	6 (2.9)	1 (1.7)
Central Europe	17 (3.1)	3 (1.5)	4 (6.9)
Eastern Europe	4 (0.7)	2 (1.0)	1 (1.7)
Sub-Saharan Africa	9 (1.7)	68 (33.2)	15 (25.9)
Caribbean	22 (4.0)	11 (5.4)	1 (1.7)
Latin America	21 (3.8)	16 (7.8)	3 (5.2)
North America	2 (0.4)	0 (0.0)	0 (0.0)
North Africa and Middle East	2 (0.4)	5 (2.4)	0 (0.0)
Australia and Pacific	1 (0.2)	1 (0.5)	1 (1.7)
South (East) Asia	16 (2.9)	12 (5.9)	2 (3.4)
Unknown	1 (0.2)	0 (0.0)	0 (0.0)
Total	**548**	**205**	**58**

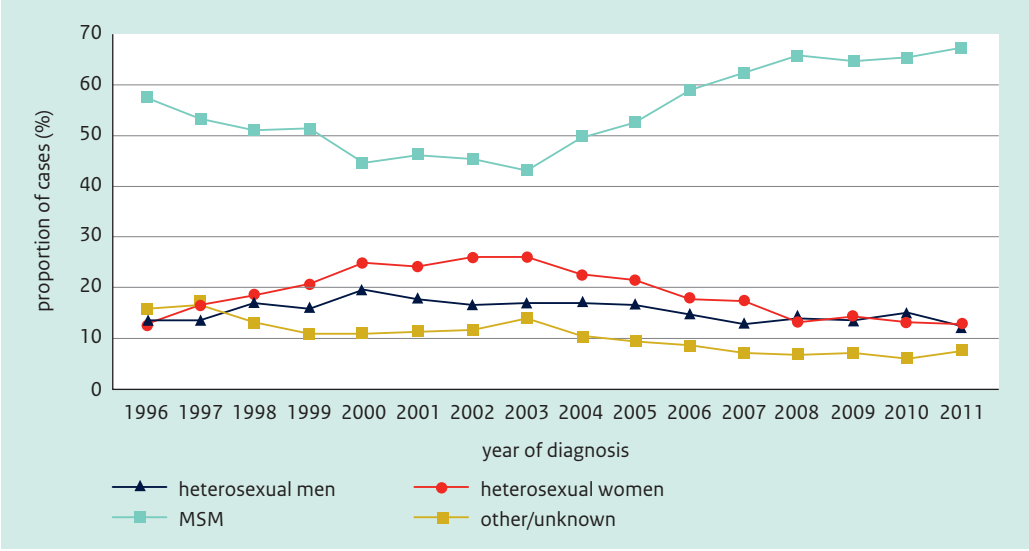
* Including IDU (n=1), blood (products) (n=6), mother to child (n=2). 1 female coded as MSM excluded.

Table 6.9b Cumulative number of HIV cases by transmission risk group and five most common regions of origin up to 2011.

Region of origin	MSM	Heterosexual contact	Injecting drug use	Blood (products)*	Mother to child	Other/ unknown
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
The Netherlands	7813 (84.8)	1895 (36.3)	433 (71.8)	99 (54.1)	105 (49.8)	503 (52.2)
Sub-Saharan Africa	149 (1.6)	2557 (48.9)	7 (1.2)	70 (38.3)	97 (46.0)	308 (32.0)
Surinam	289 (3.1)	470 (9.0)	20 (3.3)	6 (3.3)	2 (0.9)	44 (4.6)
Neth. Antilles/Aruba	121 (1.3)	119 (2.3)	6 (1.0)	0 (0.0)	2 (0.9)	11 (1.1)
Western Europe	844 (9.2)	186 (3.6)	137 (22.7)	8 (4.4)	5 (2.4)	98 (10.2)

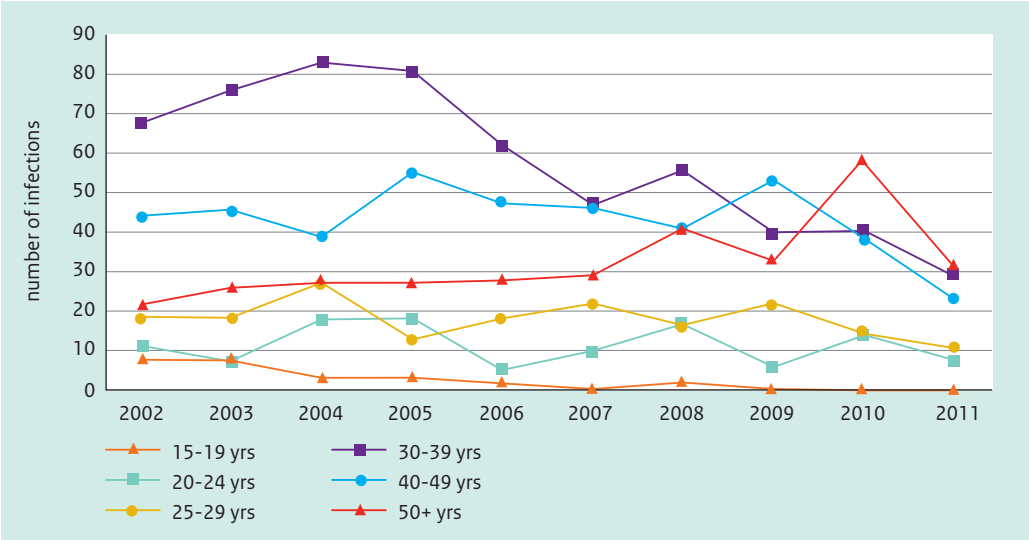
* Including needlestick injury.

Figure 6.7 Proportion of annual HIV cases in care by transmission risk group and year of diagnosis, 1996–2011.



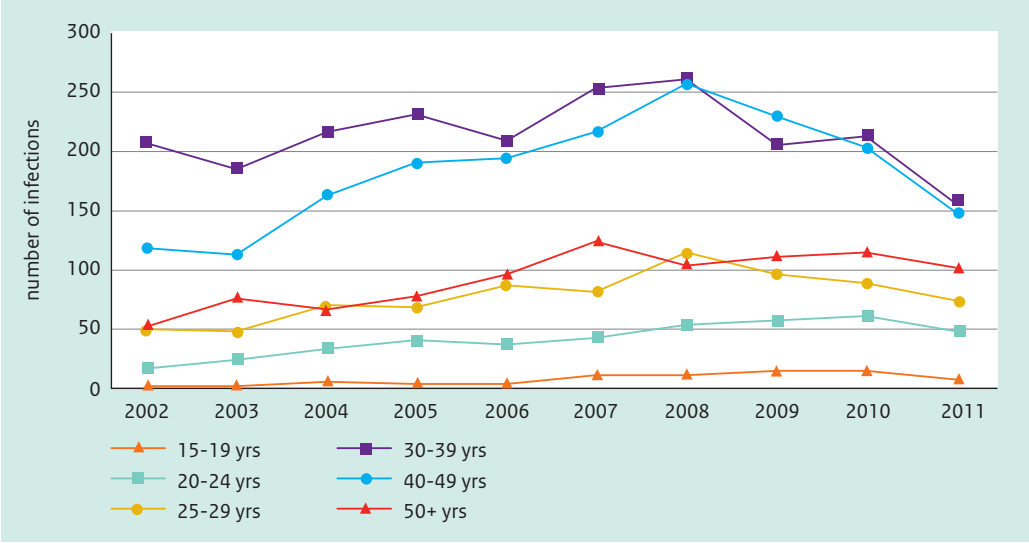
(Source: SHM, 2011 incomplete).

Figure 6.8a Absolute number of reported HIV infections of heterosexual men by age and year of diagnosis, 2002–2011.



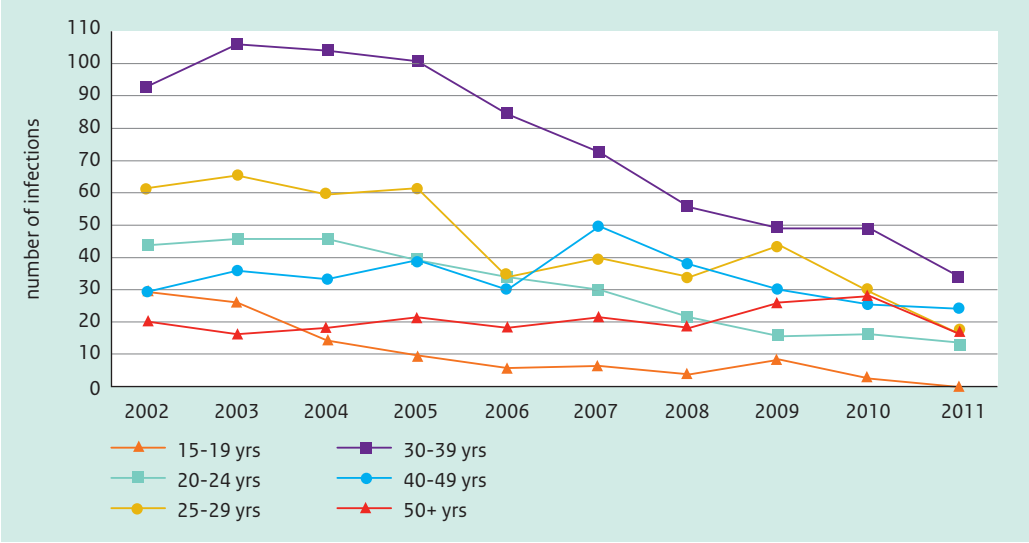
(Source: SHM, 2011 incomplete).

Figure 6.8b Absolute number of reported HIV infections of MSM by age and year of diagnosis, 2002–2011.



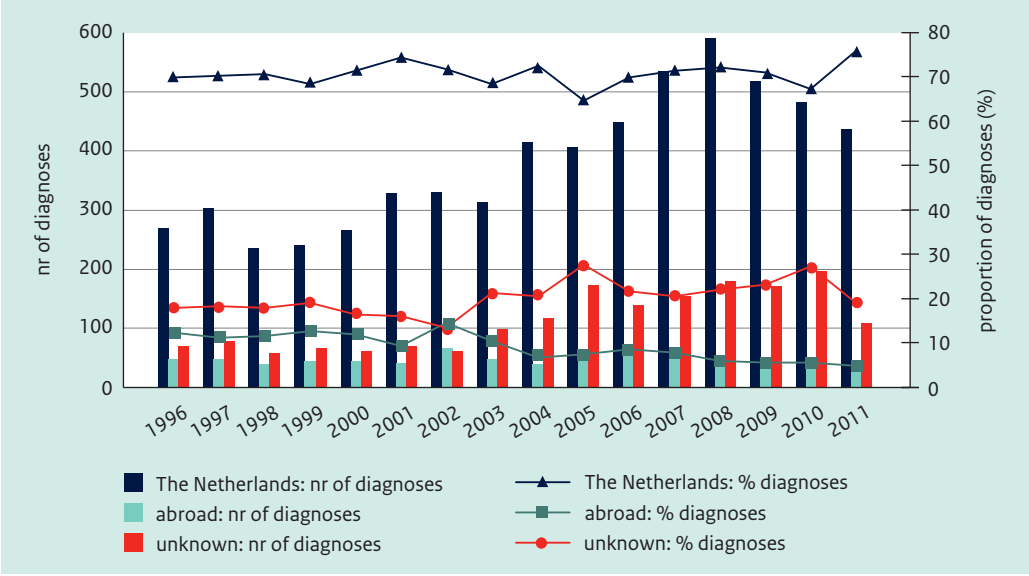
(Source SHM, 2011 incomplete).

Figure 6.8c Absolute number of reported HIV infections of women by age and year of diagnosis, 2002–2011.



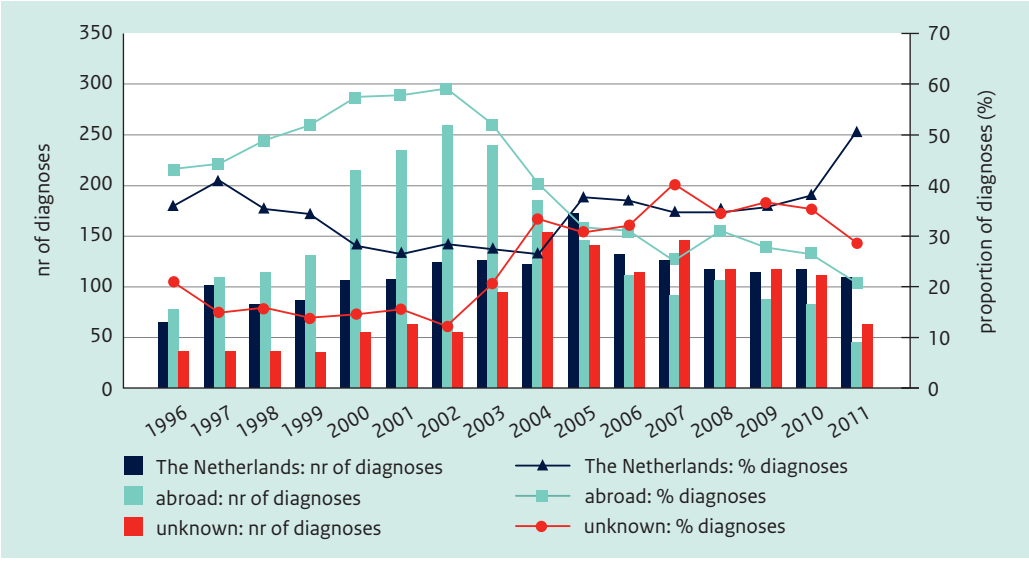
(Source: SHM, 2011 incomplete).

Figure 6.9a Reported country of infection of MSM by year of diagnosis, 1996–2011.



(Source: SHM, 2011 incomplete).

Figure 6.9b Reported country of infection of heterosexuals by year of diagnosis, 1996–2011.



(Source: SHM, 2011 incomplete).

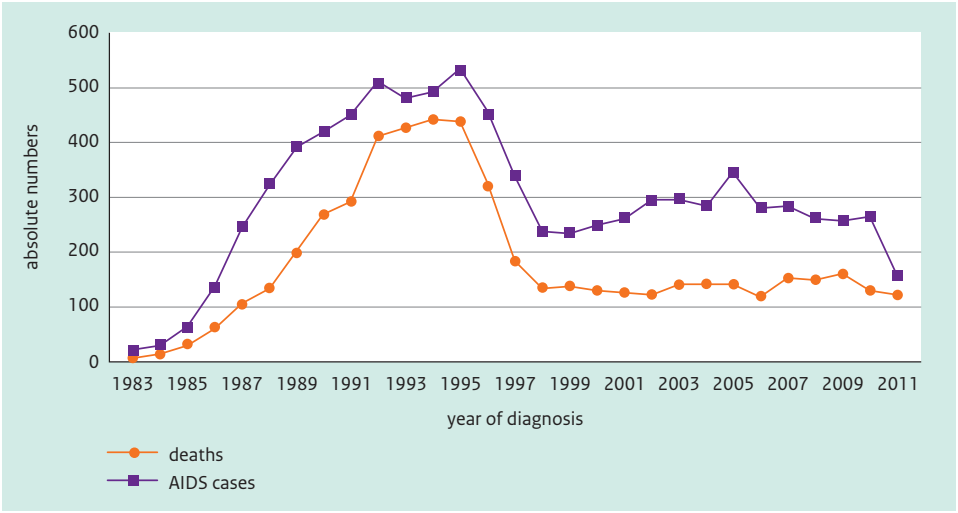
6.3.2 AIDS cases and deaths among HIV patients

Table 6.10 Number (per year and cumulative) of AIDS diagnoses and deaths among HIV patients, 1983–2011.

Year	AIDS diagnoses (per year)	AIDS diagnoses (cumulative)	Deaths (per year)	Deaths (cumulative)
1983	22	22	6	6
1984	31	53	16	22
1985	65	118	30	52
1986	137	255	63	115
1987	245	500	106	221
1988	325	825	135	356
1989	391	1216	202	558
1990	419	1635	269	827
1991	450	2085	294	1121
1992	510	2595	412	1533
1993	481	3076	427	1960
1994	494	3570	444	2404
1995	533	4103	439	2843
1996	459	4562	327	3170
1997	337	4899	184	3354
1998	238	5137	136	3490
1999	234	5371	137	3627
2000	249	5620	132	3759
2001	262	5882	128	3887
2002	295	6177	125	4012
2003	296	6473	143	4155
2004	285	6758	144	4299
2005	348	7106	141	4440
2006	282	7388	121	4561
2007	284	7672	152	4713
2008	263	7935	150	4863
2009	256	8191	160	5023
2010	266	8457	129	5152
2011	158	8615	122	5274

(Sources: deaths among HIV patients: < 2002: Statistics Netherlands, CBS; ≥ 2002: Stichting HIV Monitoring. Sources AIDS cases: < 1999: Health Inspectorate; ≥ 1999: SHM, 2011 incomplete).

Figure 6.10 Number of AIDS cases and deaths among HIV patients, 1983–2011.



(Sources: AIDS cases: < 1999: AIDS registration Health Inspectorate; ≥ 1999: Stichting HIV Monitoring.
Sources for deaths: < 2002: CBS; ≥ 2002: SHM, 2011 incomplete)

Table 6.11 Number of deaths among HIV/AIDS patients by year of death and transmission risk group, 2002–2011.

Year of death	MSM	Heterosexual contact	Injecting drug use	Blood (products)*	Other/ unknown
	n (%)	n (%)	n (%)	n (%)	n (%)
2002	56 (44.8)	31 (24.8)	18 (14.4)	4 (3.2)	16 (12.8)
2003	54 (37.8)	35 (24.5)	33 (23.1)	4 (2.8)	17 (11.9)
2004	81 (56.3)	37 (25.7)	15 (10.4)	1 (0.7)	10 (6.9)
2005	63 (44.7)	41 (29.1)	16 (11.3)	1 (0.7)	20 (14.2)
2006	58 (47.9)	27 (22.3)	15 (12.4)	2 (1.7)	19 (15.7)
2007	83 (54.6)	34 (22.4)	18 (11.8)	3 (2.0)	14 (9.2)
2008	77 (51.3)	40 (26.7)	22 (14.7)	1 (0.7)	10 (6.7)
2009	81 (50.6)	38 (23.8)	18 (11.3)	3 (1.9)	20 (12.5)
2010	63 (48.8)	31 (24.0)	15 (11.6)	4 (3.1)	16 (12.4)
2011	60 (49.2)	41 (33.6)	10 (8.2)	0 (0.0)	11 (9.0)

* Including needlestick injury.
Footnote: Mother to child transmission did not lead to death.
(Source: SHM, 2011 incomplete).

Table 6.12 Number of AIDS patients by year of AIDS diagnosis and transmission risk group, ≤1987–2011.

Year of diagnosis	MSM	Heterosexual contact	Injecting drug use	Blood (contacts)	Mother to child	Other/ unknown
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
≤ 1987	424 (84.8)	26 (5.2)	28 (5.6)	18 (3.6)	3 (0.6)	1 (0.2)
1988	250 (76.9)	18 (5.5)	39 (12.0)	13 (4.0)	2 (0.6)	3 (0.9)
1989	305 (78.0)	33 (8.4)	36 (9.2)	11 (2.8)	1 (0.3)	5 (1.3)
1990	318 (75.9)	34 (8.1)	42 (10.0)	17 (4.1)	3 (0.7)	5 (1.2)
1991	335 (74.4)	46 (10.2)	43 (9.6)	19 (4.2)	2 (0.4)	5 (1.1)
1992	376 (73.7)	51 (10.0)	60 (11.8)	12 (2.4)	2 (0.4)	9 (1.8)
1993	317 (65.9)	80 (16.6)	61 (12.7)	8 (1.7)	3 (0.6)	12 (2.5)
1994	314 (63.6)	94 (19.0)	65 (13.2)	14 (2.8)	2 (0.4)	5 (1.0)
1995	314 (58.9)	116 (21.8)	74 (13.9)	7 (1.3)	9 (1.7)	13 (2.4)
1996	299 (65.1)	95 (20.7)	50 (10.9)	5 (1.1)	2 (0.4)	8 (1.7)
1997	174 (51.6)	104 (30.9)	43 (12.8)	3 (0.9)	2 (0.6)	11 (3.3)
1998	116 (48.7)	78 (32.8)	27 (11.3)	1 (0.4)	3 (1.3)	13 (5.5)
1999	120 (51.3)	77 (32.9)	12 (5.1)	4 (1.7)	6 (2.6)	15 (6.4)
2000	104 (41.8)	102 (41.0)	15 (6.0)	4 (1.6)	4 (1.6)	20 (8.0)
2001	108 (41.2)	107 (40.8)	11 (4.2)	6 (2.3)	6 (2.3)	24 (9.2)
2002	112 (38.0)	138 (46.8)	9 (3.1)	5 (1.7)	2 (0.7)	29 (9.8)
2003	116 (39.2)	118 (39.9)	14 (4.7)	7 (2.4)	6 (2.0)	35 (11.8)
2004	117 (41.1)	113 (39.6)	11 (3.9)	3 (1.1)	3 (1.1)	38 (13.3)
2005	150 (43.1)	136 (39.1)	20 (5.7)	4 (1.1)	2 (0.6)	36 (10.3)
2006	122 (43.4)	109 (38.8)	11 (3.9)	3 (1.1)	0 (0.0)	36 (12.8)
2007	134 (47.2)	106 (37.3)	12 (4.2)	3 (1.1)	1 (0.4)	28 (9.9)
2008	128 (48.7)	94 (35.7)	6 (2.3)	6 (2.3)	0 (0.0)	29 (11.0)
2009	125 (48.8)	96 (37.5)	8 (3.1)	1 (0.4)	1 (0.4)	25 (9.8)
2010	119 (44.7)	115 (43.2)	5 (1.9)	1 (0.4)	3 (1.1)	23 (8.6)
2011	81 (51.9)	52 (33.3)	4 (2.6)	1 (0.6)	0 (0.0)	18 (11.5)
Total	**5078 (60.1)**	**2138 (25.3)**	**706 (8.3)**	**176 (2.1)**	**68 (0.8)**	**446 (5.3)**

(Sources: < 1999: Health Inspectorate; 1999–2010: SHM, 2011 incomplete).

6.4 Other sources

6.4.1 Screening pregnant women

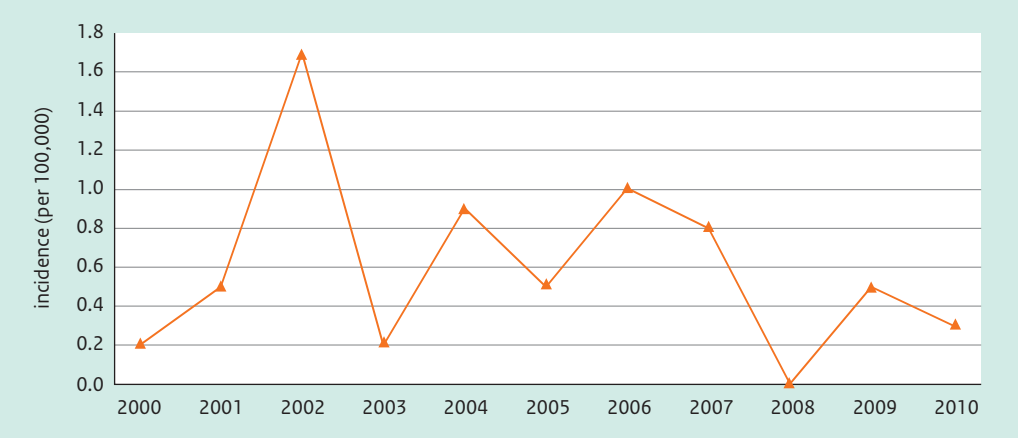
Table 6.13 HIV prevalence estimates in pregnant women, based on test results of antenatal screening, 2006–2009.

Year	No. of women screened	Positive result 12 weeks test	Confirmed positive test results (%)	Prevalence estimate [min–max]*
2006	185,602	342	81 (24%)	0.05 [0.04–0.08]
2007	185,791	327	90 (27%)	0.05 [0.05–0.05]
2008	189,765	289	68 (24%)	0.05 [0.04–0.07]
2009	185,219	324	100 (31%)	0.05 [0.05–0.07]

*Prevalence estimated on the assumption that pregnant women with a first positive test result without a confirmation test would be as often positive as those with a confirmation test; minimum prevalence: number of confirmed positive test results divided by the total number of registered pregnant women; maximum prevalence: on the assumption that all pregnant women with a first positive test result without a confirmation test would also have a positive confirmation test.
Footnote 1: The 2010 and 2011 data will become available in November 2012.
Footnote 2: Terminated pregnancies (induced or spontaneous) are excluded.
(Source: Praeventis, RIVM).

6.4.2 Blood donors

Figure 6.11 HIV incidence (per 100,000) among regular blood donors in the Netherlands, 2000–2010.



(Source: Sanquin).

6.4.3 HIV incidence in MSM and IDU in the Amsterdam Cohort Studies

Figure 6.12 Yearly HIV incidence among MSM in Amsterdam Cohort Studies, 1985–2011.

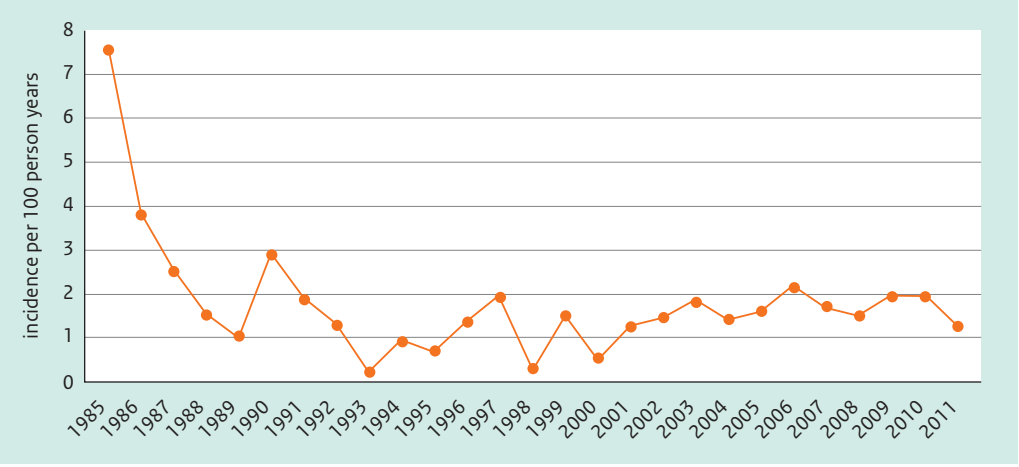
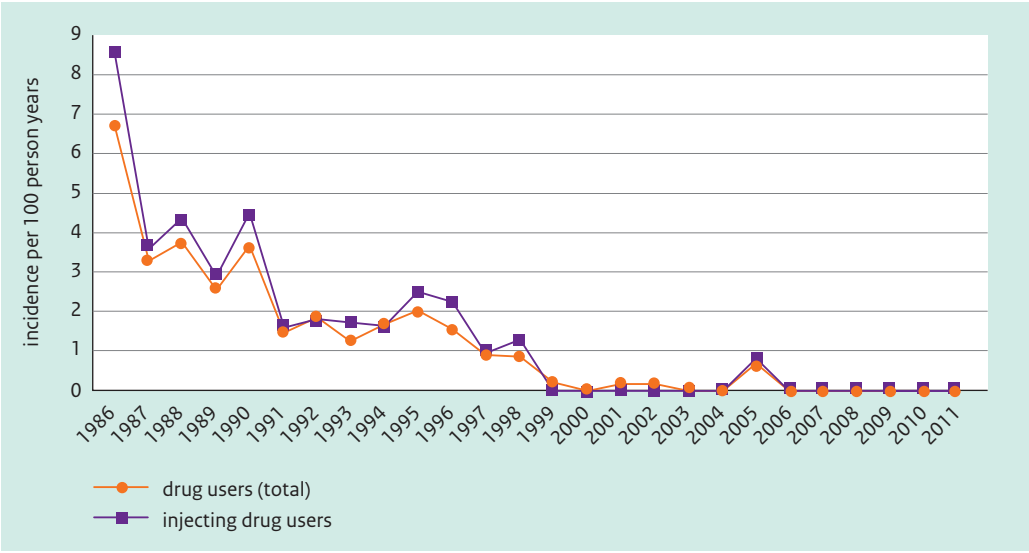


Figure 6.13 Yearly HIV incidence among IDUs (≤ 30 years at entry) in Amsterdam Cohort Studies, 1986–2011.



7 Genital warts

7.1 Key points

- In 2011, registration of the presence or absence of genital warts as part of a physical examination became standard. The percentage of persons examined differed between the regions, from 2 percent to 45 percent. Overall positivity was 9 percent, ranging from 5 percent to 84 percent. Higher positivity was found when more people were examined.
- The overall number of diagnoses of genital warts reported in the STI centres decreased from 2,729 in 2010 to 2,380 in 2011. The decline occurred in heterosexual men and women (-18 percent and -14 percent, respectively), but among MSM there was a small increase (+1.6 percent).
- Women and heterosexual men were diagnosed at a younger age than MSM. They had a median age of 23 and 26 years, respectively. In MSM, the median age was 33 years.
- The most frequently diagnosed co-infection was chlamydia, which was found in 11.4 percent of the persons with genital warts, equal to the overall positivity rate of chlamydia.
- At GPs, the number of reported diagnoses of genital warts was estimated at 20,168 (95 percent CI 16,306–25,175) in 2010 (55 percent men and 45 percent women), a small decrease of 1.4 percent compared with 2009. In particular, the number of diagnoses of genital warts among women decreased (by 4 percent compared with 2009).

7.2 STI centres: characteristics, risk groups and trends

Figure 7.1 Number of new cases of genital warts by gender and sexual preference, 2004–2011.

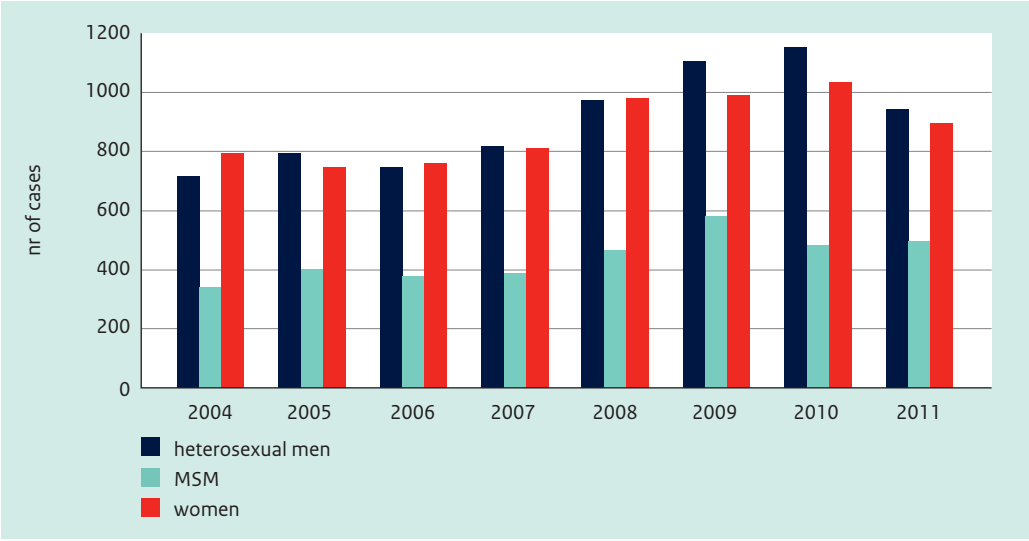


Table 7.1 Number of diagnoses and persons observed for genital warts by age, gender and sexual preference, 2011.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N observed	n positive	N observed	n positive	N observed
≤ 14	0	2	0	0	0	5
15–19	30	313	18	165	131	962
20–24	352	1820	83	967	427	3505
25–29	281	1648	77	1258	172	2112
30–34	119	893	94	1573	69	913
35–39	65	563	61	1474	33	547
40–44	43	463	67	1696	38	430
45–49	32	322	48	1416	20	299
50–54	21	210	34	906	8	169
≥ 55	22	275	22	1012	13	108
Total	**965**	**6509**	**504**	**10,467**	**911**	**9050**

Figure 7.2 Percentage of positive tests of genital warts by gender and sexual preference, 2004–2011.

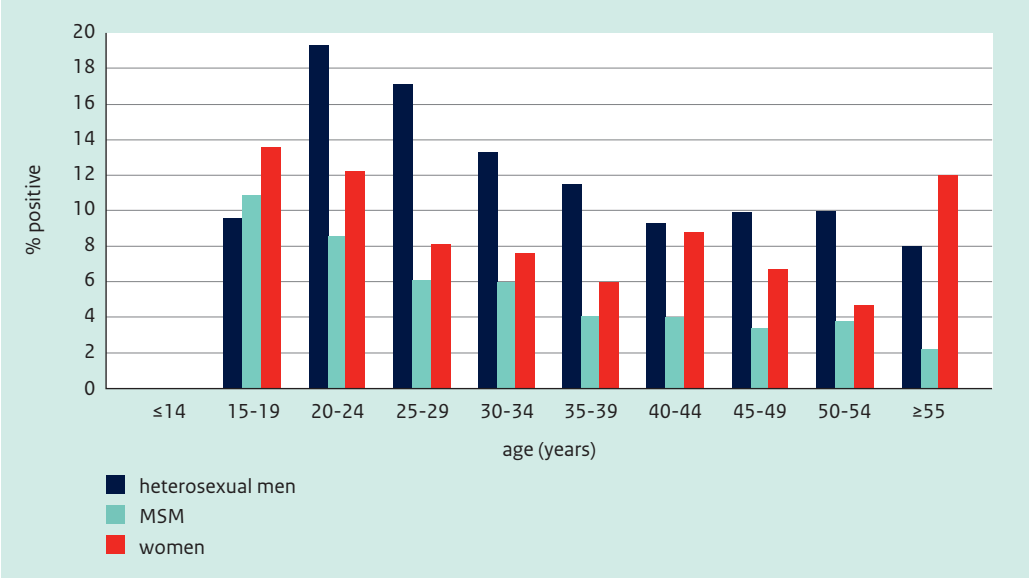
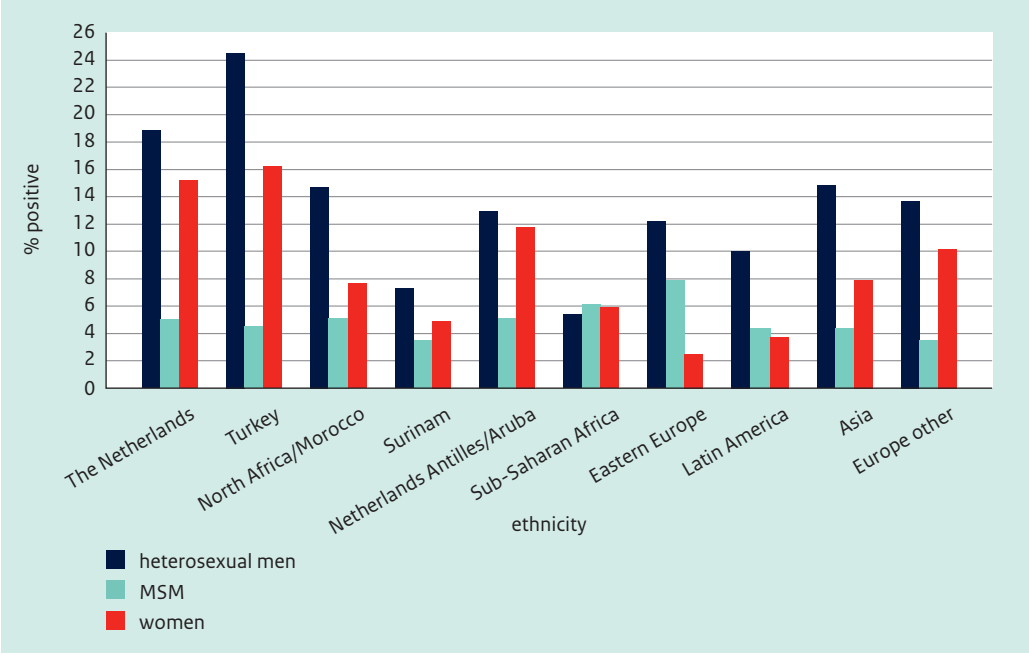


Table 7.2 Number of diagnoses and persons observed for genital warts by age, gender and sexual preference, 2011.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N observed	n positive	N observed	n positive	N observed
The Netherlands	610	3244	328	6605	642	4231
Turkey	33	135	5	110	12	74
North Africa/Morocco	46	312	7	136	14	182
Surinam	64	882	12	336	35	706
Netherlands Antilles/Aruba	30	232	10	194	21	178
Sub-Saharan Africa	14	262	6	97	12	204
Eastern Europe	16	131	23	292	31	1220
Latin America	11	110	20	459	16	428
Asia	32	216	26	596	29	364
Europe other	49	359	36	1033	44	430
Other	10	65	5	216	6	65
Unknown	50	561	26	393	49	968
Total	**965**	**6509**	**504**	**10,467**	**911**	**9050**

Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Figure 7.3 Percentage of positive tests for genital warts by ethnicity, gender and sexual preference, 2011.



Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Table 7.3 Number of diagnoses and persons observed for genital warts by sexual behavioural characteristics, gender and sexual preference, 2011.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	18/72	25.0	2/113	1.8	21/81	25.9
1 partner	297/1437	20.7	64/1116	5.7	335/2421	13.8
2 partners	173/1449	11.9	51/1032	4.9	239/1956	12.2
3 or more partners	460/3452	13.3	378/8130	4.6	278/4066	6.8
Unknown	17/99	17.2	9/76	11.8	38/526	7.2
Condom use if last sexual contact was steady*						
No	453/3036	14.9	192/4406	4.4	481/4989	9.6
Yes	71/311	22.8	22/287	7.7	53/389	13.6
Unknown	1/3	33.3	0/7	0.0	0/4	0.0
Condom use if last sexual contact was casual*						
No	269/2045	13.2	140/3899	3.6	234/1982	11.8
Yes	126/568	22.2	84/636	13.2	114/1145	10.0
Unknown	2/6	33.3	2/7	28.6	2/10	20.0
Previous GO/CT/syphilis in anamnesis						
No	826/5758	14.3	440/9781	4.5	766/7729	9.9
Yes	72/346	20.8	54/560	9.6	86/737	11.7
Do not know	49/340	14.4	8/107	7.5	46/434	10.6
Unknown	18/65	27.7	2/19	10.5	13/150	8.7
Previous HIV test						
No	402/2445	16.4	40/774	5.2	360/2735	13.2
Yes, positive	3/21	14.3	92/2848	3.2	1/18	5.6
Yes, negative	544/3964	13.7	366/6776	5.4	540/6109	8.8
Yes, result unknown	6/29	20.7	3/58	5.2	3/65	4.6
Unknown	10/50	20.0	3/11	27.3	7/123	5.7
CSW						
No	957/6459	14.8	496/10,225	4.9	861/6795	12.7
Yes, in past 6 months	3/30	10.0	8/235	3.4	50/2234	2.2
Unknown	5/20	25.0	0/7	0.0	0/21	0.0
Client of CSW, men						
No	870/5953	14.6	495/10,336	4.8		
Yes, in past 6 months	90/533	16.9	9/125	7.2		
Unknown	5/23	21.7	0/6	0.0		
Swinger**						
No	518/2000	25.9	178/1251	14.2	500/2883	17.3
Yes	34/173	19.7	20/149	13.4	46/313	14.7
Unknown	3/12	25.0	1/16	6.3	4/142	2.8
Socioeconomic status (SES)						
Very high	122/848	14.4	76/1842	4.1	103/1099	9.4
High	227/1379	16.5	116/2668	4.3	236/1784	13.2
Medium	232/1374	16.9	146/2306	6.3	235/1748	13.4
Low	151/1166	13.0	74/1845	4.0	137/1373	10.0
Very low	97/652	14.9	36/671	5.4	71/686	10.3
Unknown	136/1090	12.5	56/1135	4.9	129/2360	5.5

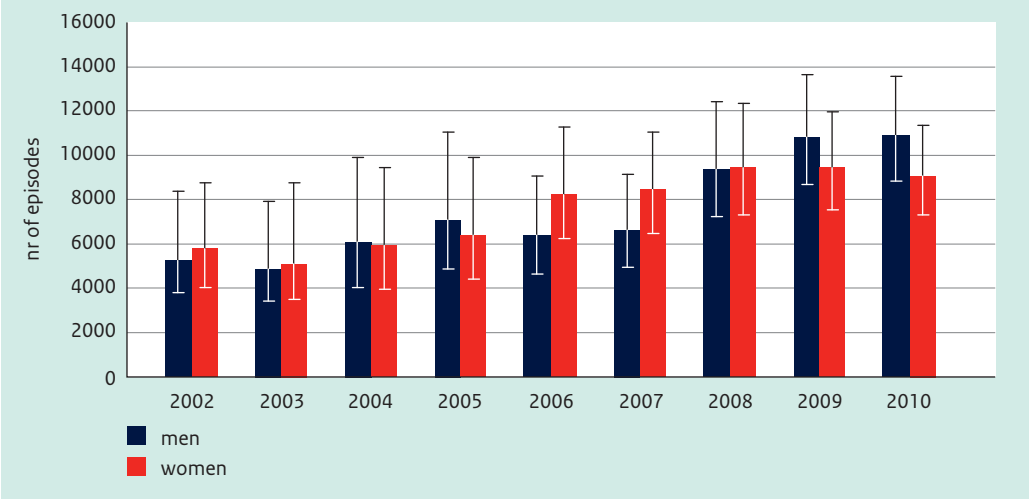
* Type of sexual contact was missing for 9 percent (n=2296) of persons observed for genital warts.
** Voluntary question, answered by 27 percent (n=6939) of persons observed for genital warts.

Table 7.4 Concurrent STI by gender and sexual preference among persons diagnosed with genital warts, 2011.

Concurrent infection	Heterosexual men (N=965) n (%)	MSM (N=504) n (%)	Women (N=911) n (%)
Chlamydia	101 (10.5)	66 (13.1)	105 (11.5)
Gonorrhoea	17 (1.8)	50 (9.9)	8 (0.9)
Infectious syphilis	1 (0.1)	12 (2.4)	0 (0.0)
HIV newly diagnosed	1 (0.1)	13 (2.6)	0 (0.0)
Genital herpes	6 (0.6)	4 (0.8)	9 (1.0)
Hepatitis B, infectious	0 (0.0)	3 (0.6)	0 (0.0)

7.3 General practitioner

Figure 7.4 Estimated number (and 95 percent CI) of episodes of genital warts at GPs by gender, based on extrapolation from 61–123 practices in the surveillance network of GPs in the Netherlands, 2002–2010.



(Source: LINH).

Table 7.5 Reporting rate (number of episodes per 100,000 population) of genital warts at GPs in the Netherlands by gender, 2002–2010.

Year	Men		Women		Total	
	n/100,000	95% CI	n/100,000	95% CI	n/100,000	95% CI
2002	67.0	(47.9–106.0)	71.5	(49.7–109.0)	69.3	(48.8–107.5)
2003	61.6	(42.8–99.7)	63.3	(43.2–108.0)	62.4	(43.0–103.9)
2004	76.1	(50.8–124.0)	72.8	(48.5–116.0)	74.4	(49.7–120.0)
2005	88.9	(60.7–138.6)	78.4	(54.0–121.5)	83.7	(57.3–130.1)
2006	79.7	(58.2–113.4)	101.1	(76.4–137.8)	90.4	(67.3–125.6)
2007	83.2	(62.2–113.9)	102.9	(79.4–134.9)	93.0	(70.8–124.4)
2008	116.3	(89.7–154.5)	114.6	(89.2–150.1)	115.5	(89.5–152.3)
2009	133.8	(107.3–169.2)	114.4	(91.4–144.7)	124.1	(99.4–157.0)
2010	134.1	(108.9–166.5)	109.2	(87.9–137.3)	121.7	(98.4–151.9)

CI = confidence interval.
(Source: LINH).

8
Genital herpes

8.1 Key points

- In 2011, 602 diagnoses of genital herpes were made in the national surveillance of STI centres, a decrease of 13 percent in comparison with 2010. Distribution of diagnoses in gender stayed the same in 2011: 36 percent in heterosexual men, 49 percent in women and 16 percent in MSM.
- In women, half of all diagnoses were made in those younger than 25 years (53 percent); for heterosexual men the median age was 29 years. MSM were found positive at a higher age, median 39 years.
- At GPs, the number of reported diagnoses of genital herpes was estimated at 10,747 (95 percent CI 8,421–13,828) in 2010 (34 percent men and 66 percent women). The number of diagnoses of genital herpes among men increased (by 12 percent compared with 2009), whereas the number of diagnoses among women decreased (by 13 percent compared with 2009).

8.2 STI centres: characteristics, risk groups and trends

Figure 8.1 Number of new diagnoses of genital herpes infections by gender and sexual preference, 2004–2011.

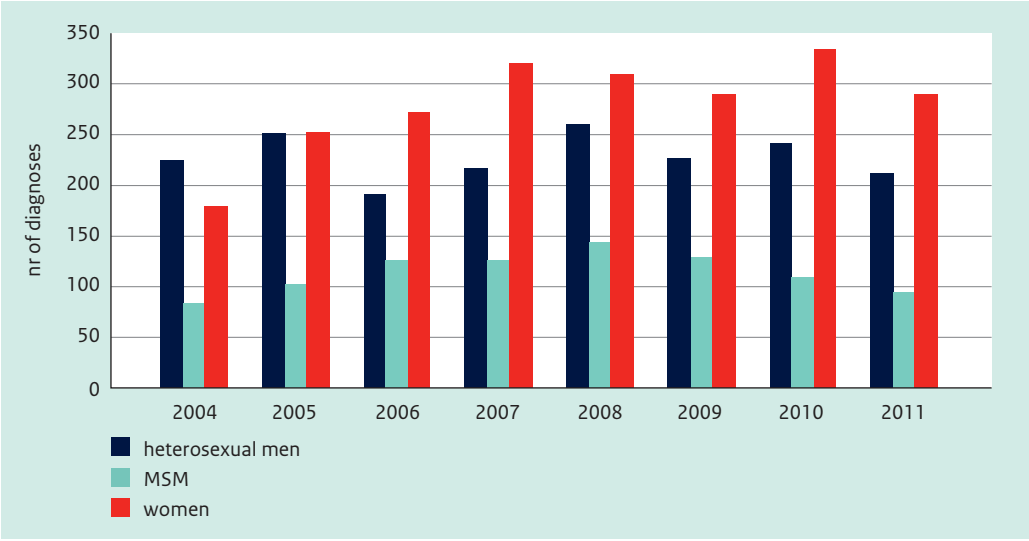


Table 8.1 Number of diagnoses of genital herpes by age, gender and sexual preference, 2011.

Age (years)	Heterosexual men	MSM	Women
	n (%)	n (%)	n (%)
≤ 14	0 (0.0)	0 (0.0)	0 (0.0)
15–19	8 (3.7)	1 (1.0)	39 (13.4)
20–24	40 (18.7)	9 (9.4)	116 (39.7)
25–29	60 (28.0)	9 (9.4)	56 (19.2)
30–34	33 (15.4)	16 (16.7)	31 (10.6)
35–39	16 (7.5)	13 (13.5)	17 (5.8)
40–44	18 (8.4)	18 (18.8)	11 (3.8)
45–49	12 (5.6)	18 (18.8)	8 (2.7)
50–54	12 (5.6)	4 (4.2)	12 (4.1)
≥ 55	15 (7.0)	8 (8.3)	2 (0.7)
Total	**214**	**96**	**292**

Table 8.2 Number of diagnoses of genital herpes by ethnicity, gender and sexual preference, 2011.

Ethnicity	Heterosexual men	MSM	Women
	n (%)	n (%)	n (%)
The Netherlands	123 (57.5)	69 (71.9)	181 (62.0)
Turkey	1 (0.5)	0 (0.0)	1 (0.3)
North Africa/Morocco	11 (5.1)	1 (1.0)	6 (2.1)
Surinam	29 (13.6)	4 (4.2)	22 (7.5)
Netherlands Antilles/Aruba	12 (5.6)	3 (3.1)	10 (3.4)
Sub-Saharan Africa	7 (3.3)	0 (0.0)	5 (1.7)
Eastern Europe	3 (1.4)	2 (2.1)	12 (4.1)
Latin America	3 (1.4)	6 (6.3)	10 (3.4)
Asia	7 (3.3)	5 (5.2)	9 (3.1)
Europe other	14 (6.5)	3 (3.1)	16 (5.5)
Other	1 (0.5)	2 (2.1)	4 (1.4)
Unknown	3 (1.4)	1 (1.0)	16 (5.5)
Total	**214**	**96**	**292**

Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Table 8.3 Number of diagnoses of genital herpes by sexual behavioural characteristics, gender and sexual preference, 2011.

	Heterosexual men n (%)	MSM n (%)	Women n (%)
Number of partners in past 6 months			
0 partners	4 (1.9)	2 (2.1)	1 (0.3)
1 partner	72 (33.6)	9 (9.4)	104 (35.6)
2 partners	41 (19.2)	13 (13.5)	88 (30.1)
3 or more partners	90 (42.1)	72 (75.0)	82 (28.1)
Unknown	7 (3.3)	0 (0.0)	17 (5.8)
Condom use if last sexual contact was steady*			
No	119 (92.2)	41 (95.3)	164 (92.7)
Yes	10 (7.8)	2 (4.7)	13 (7.3)
Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Condom use if last sexual contact was casual*			
No	57 (78.1)	32 (72.7)	62 (62.6)
Yes	16 (21.9)	12 (27.3)	37 (37.4)
Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Previous GO/CT/syphilis in anamnesis			
No	193 (90.2)	83 (86.5)	251 (86.0)
Yes	9 (4.2)	12 (12.5)	26 (8.9)
Do not know	7 (3.3)	0 (0.0)	6 (2.1)
Unknown	5 (2.3)	1 (1.0)	9 (3.1)
Previous HIV test			
No	82 (38.3)	12 (12.5)	109 (37.3)
Yes, positive	1 (0.5)	33 (34.4)	1 (0.3)
Yes, negative	128 (59.8)	51 (53.1)	171 (58.6)
Yes, result unknown	1 (0.5)	0 (0.0)	1 (0.3)
Unknown	2 (0.9)	0 (0.0)	10 (3.4)
CSW			
No	214 (100.0)	94 (97.9)	263 (90.1)
Yes, in past 6 months	0 (0.0)	2 (2.1)	29 (9.9)
Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Client of CSW, men			
No	191 (89.3)	95 (99.0)	
Yes, in past 6 months	23 (10.7)	1 (1.0)	
Unknown	0 (0.0)	0 (0.0)	
Swinger**			
No	110 (95.7)	30 (96.8)	161 (93.6)
Yes	5 (4.3)	1 (3.2)	9 (5.2)
Unknown	0 (0.0)	0 (0.0)	2 (1.2)
Socioeconomic status (SES)			
Very high	34 (15.9)	12 (12.5)	36 (12.3)
High	51 (23.8)	19 (19.8)	79 (27.1)
Medium	43 (20.1)	23 (24.0)	68 (23.3)
Low	29 (13.6)	25 (26.0)	45 (15.4)
Very low	22 (10.3)	8 (8.3)	22 (7.5)
Unknown	35 (16.4)	9 (9.4)	42 (14.4)

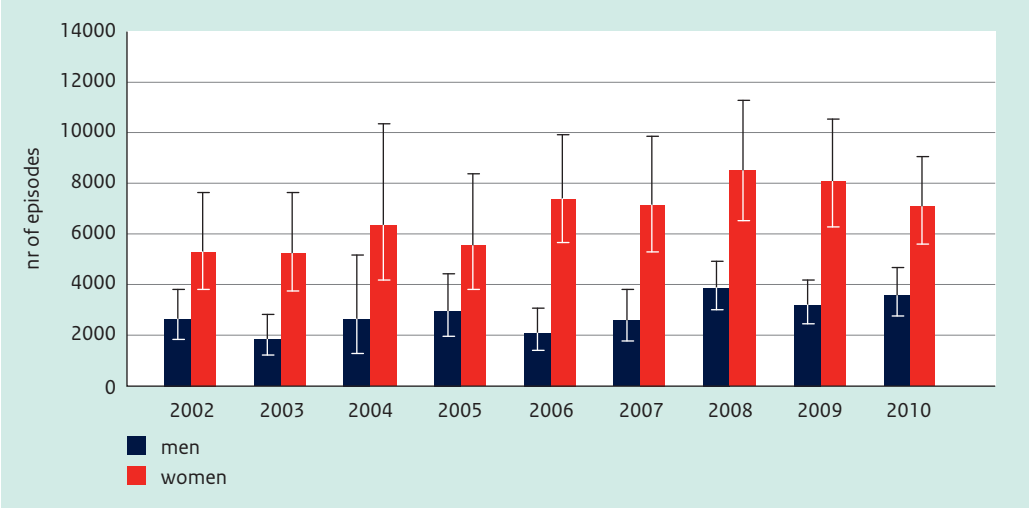
* Type of sexual contact was missing for 6 percent (n=37) of persons with genital herpes.
** Voluntary question, answered by 53 percent (n=318) of persons with genital herpes.

Table 8.4 Concurrent STI by gender and sexual preference among persons diagnosed with genital herpes, 2011.

Concurrent infection	Heterosexual men (N=214) n (%)	MSM (N=96) n (%)	Women (N=292) n (%)
Chlamydia	16 (7.5)	13 (13.5)	29 (9.9)
Gonorrhoea	1 (0.5)	10 (10.4)	6 (2.1)
Infectious syphilis	1 (0.5)	6 (6.3)	1 (0.3)
HIV newly diagnosed	0 (0.0)	5 (5.2)	0 (0.0)
Genital warts	6 (2.8)	4 (4.2)	9 (3.1)
Hepatitis B, infectious	1 (0.5)	0 (0.0)	0 (0.0)

8.3 General practitioner

Figure 8.2 Estimated number (and 95 percent CI) of episodes of genital herpes at GPs by gender, based on extrapolation from 61–123 practices in the surveillance network of GPs in the Netherlands, 2002–2010.



(Source: LINH).

Table 8.5 Reporting rate (number of episodes per 100,000 population) of genital herpes at GPs in the Netherlands by gender, 2002–2010.

Year	Men		Women		Total	
	n/100,000	95% CI	n/100,000	95% CI	n/100,000	95% CI
2002	33.6	(23.4–48.2)	65.8	(47.2–94.8)	49.7	(35.3–71.5)
2003	23.6	(15.6–35.8)	64.4	(46.3–94.2)	44.0	(30.9–65.0)
2004	32.9	(16.6–65.2)	78.1	(51.2–127.0)	55.5	(33.9–96.1)
2005	37.3	(24.9–55.9)	68.1	(47.2–102.8)	52.7	(36.1–79.4)
2006	26.3	(18.1–38.3)	90.7	(69.3–121.4)	58.5	(43.7–79.9)
2007	32.5	(22.4–47.4)	87.3	(64.8–120.0)	59.9	(43.6–83.7)
2008	48.0	(37.2–61.7)	103.5	(79.4–137.5)	75.7	(58.3–99.6)
2009	39.9	(30.6–52.2)	98.1	(76.2–127.5)	69.0	(53.4–89.8)
2010	44.4	(34.3–57.4)	85.3	(67.3–109.5)	64.8	(50.8–83.4)

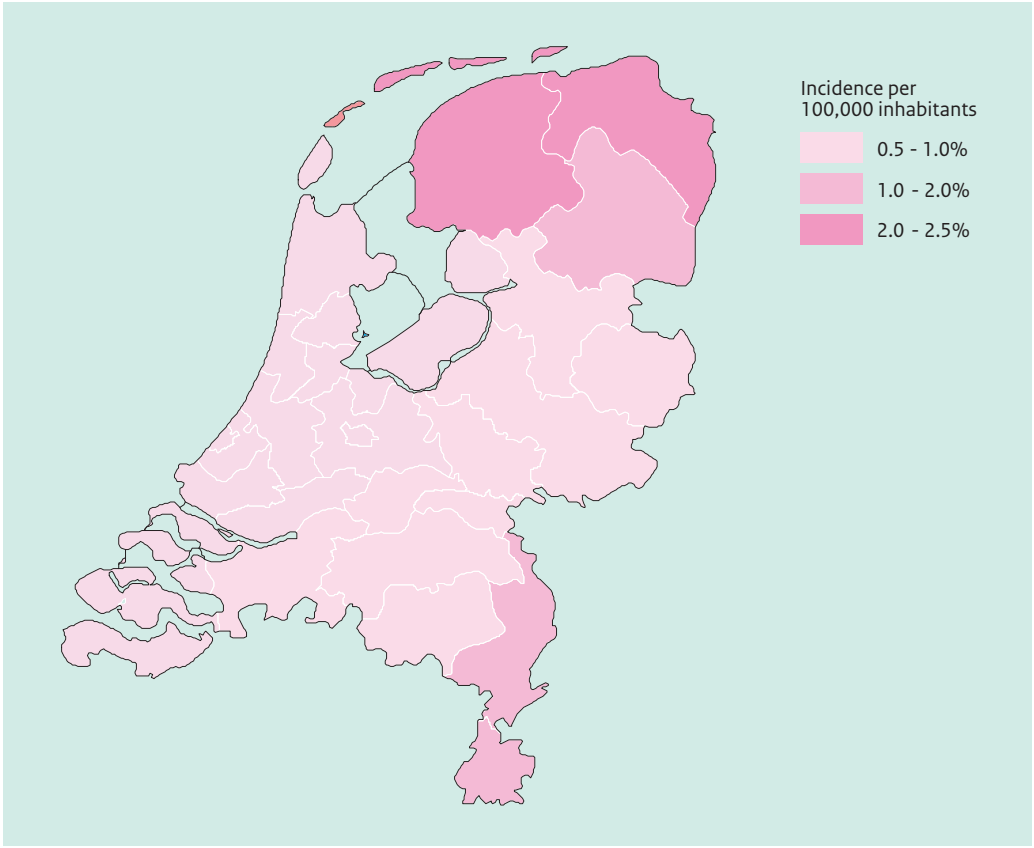
CI = confidence interval.
(Source: LINH).

9 Hepatitis B

9.1 Key points

- In 2011, the incidence of notified cases of acute hepatitis B was 0.9 per 100,000 inhabitants and was higher in men (1.4) than in women (0.4). In 2010, 1.2 per 100,000 inhabitants were notified with acute hepatitis B.
- The number of acute hepatitis B notifications decreased by 22 percent compared with 2010, mainly on account of a decrease in heterosexual transmission (-31 percent).
- Unprotected sexual contact remained the most important risk factor for acute hepatitis B (69 percent).
- In the STI centres, 200 diagnoses of infectious hepatitis B were made in 2011, comparable to 2010.
- The positivity rate in the STI centres was highest among heterosexual men (3.4 percent) and women (1.9 percent) from Eastern Europe.
- By the end of 2011, almost 110,000 people had entered the vaccination programme for behavioural risk groups since the beginning of the programme in 2002.
- Within the programme, nearly 500 carriers of hepatitis B have been encountered among the specific risk groups and 8 percent of the participants in this programme have been in contact with hepatitis B previously.

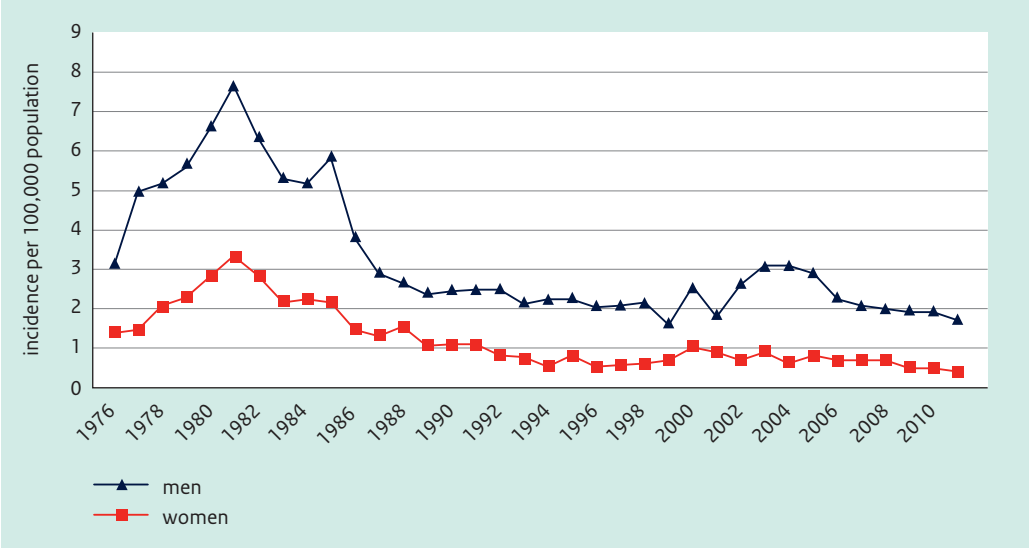
Figure 9.1 Incidence of acute hepatitis B per 100,000 inhabitants by region, the Netherlands, 2011.



(Source: RIVM-OSIRIS, notification data).

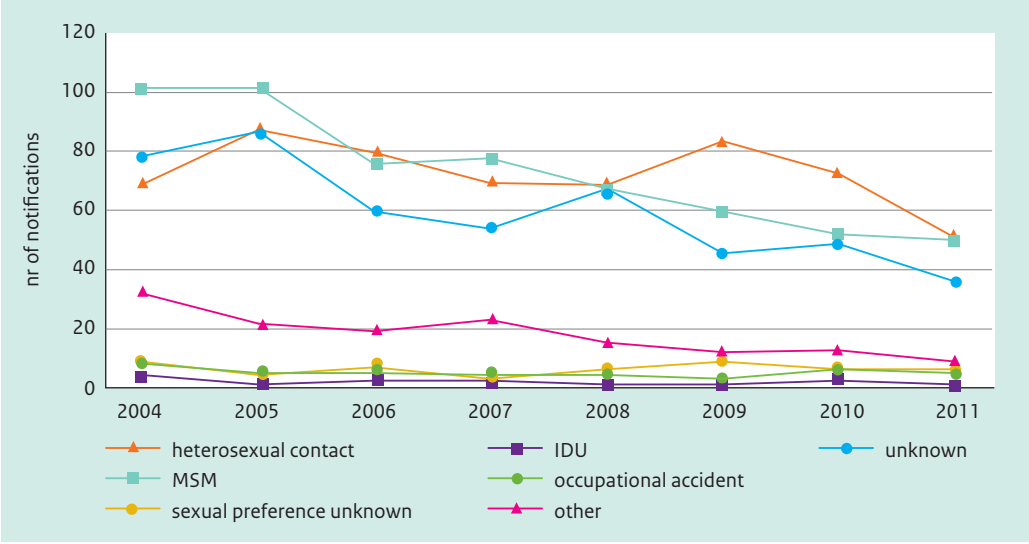
9.2 Notification data: characteristics, risk groups and trends

Figure 9.2 Incidence of acute hepatitis B by gender, 1976–2011.



(Source: RIVM-OSIRIS, notification data).

Figure 9.3 Number of infections of acute hepatitis B by route of transmission, 2004–2011.



(Source: RIVM-OSIRIS, notification data).

Table 9.1 Characteristics of acute hepatitis B cases by most common route of transmission, the Netherlands, 2011.

	Heterosexual contact (N=49) n (%)*	MSM (N=49) n (%)*	Other (N=53) n (%)*
Infected abroad	9 (18.4)	7 (14.3)	13 (24.5)
Born abroad	9 (18.4)	7 (14.3)	9 (17.0)
Infected by casual partner	45 (91.8)	30 (61.2)	–
Median age (range)	35 (16–76)	46 (25–70)	46 (9–76)

*Proportions per category can overlap, so percentages do not add up to 100 percent.
(Source: RIVM-OSIRIS, notification data).

9.3 Infectious hepatitis B in the STI centres

Table 9.2 Number of positive tests and persons tested for hepatitis B by age, gender and sexual preference, 2011.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤ 14	0	8	0	1	0	61
15–19	4	1229	3	303	7	3716
20–24	12	6821	3	1097	15	11,340
25–29	21	5004	6	1049	14	5192
30–34	15	2555	7	1177	14	2102
35–39	12	1541	6	1056	5	1105
40–44	11	1200	4	1085	6	862
45–49	4	889	9	891	5	586
50–54	3	477	4	519	0	343
≥ 55	4	591	7	619	2	221
Unknown	0	0	0	2	0	5
Total	**86**	**20,315**	**49**	**7799**	**68**	**25,533**

Figure 9.4 Percentage of positive tests for hepatitis B by age, gender and sexual preference, 2011.

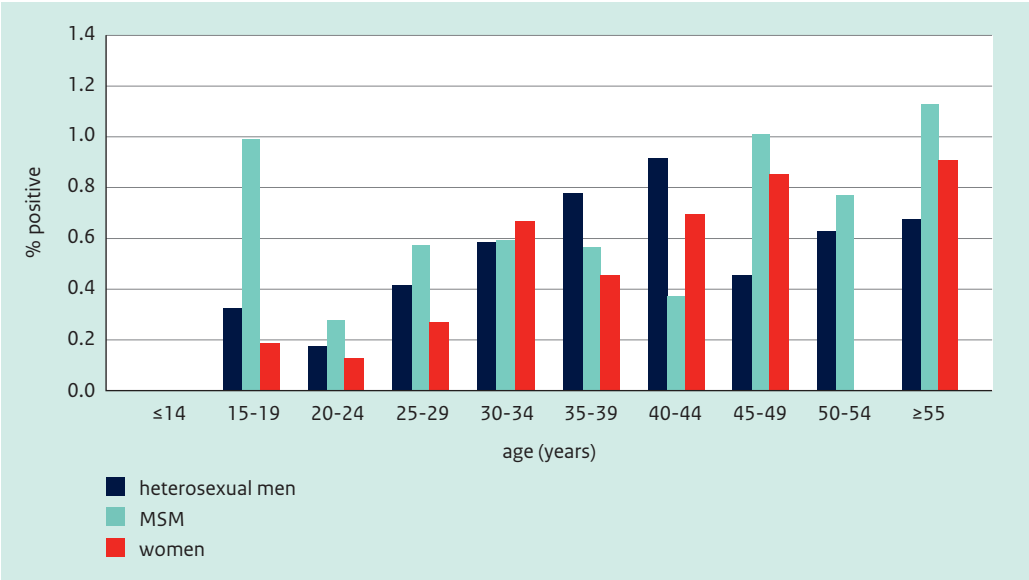
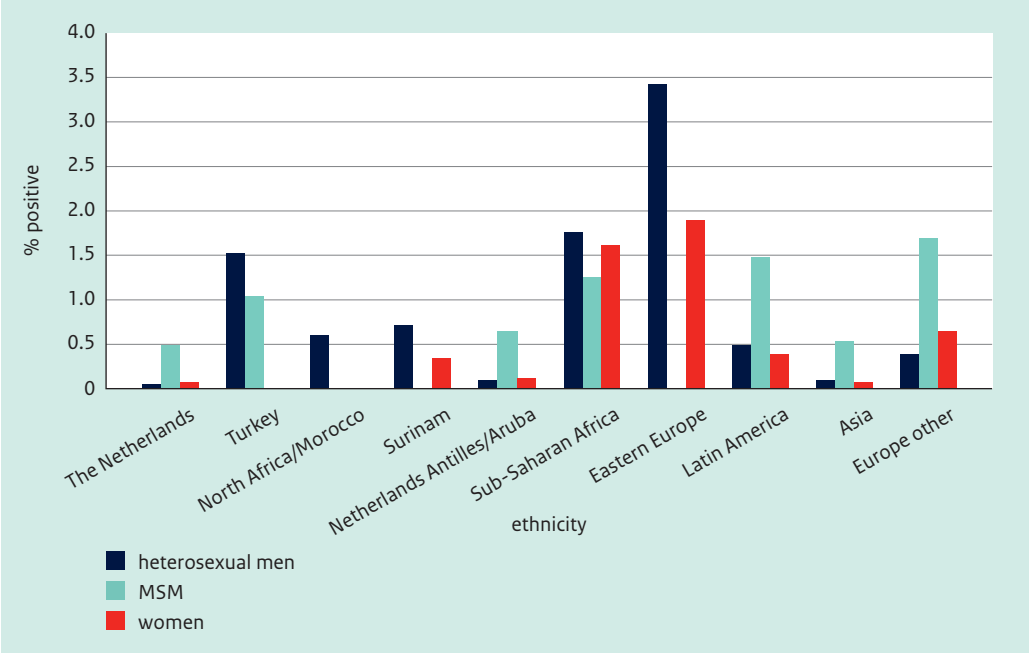


Table 9.3 Number of positive tests and persons tested for hepatitis B by ethnicity, gender and sexual preference, 2011.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	5	10,783	24	5043	10	15,215
Turkey	9	587	1	97	0	260
North Africa/Morocco	6	987	0	98	0	575
Surinam	18	2477	0	212	8	2383
Netherlands Antilles/Aruba	1	1004	1	156	1	884
Sub-Saharan Africa	30	878	0	81	15	787
Eastern Europe	7	398	3	240	20	1228
Latin America	2	404	4	271	3	783
Asia	4	1004	8	476	8	1256
Europe other	1	1214	4	764	1	1457
Other	0	197	1	144	0	225
Unknown	3	382	0	217	2	480
Total	**86**	**20,315**	**46**	**7799**	**68**	**25,533**

Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Figure 9.5 Percentage of positive tests for hepatitis B by ethnicity, gender and sexual preference, 2011.



Footnote: Until 2010, ethnicity was self-reported. Since 1 January 2011, ethnicity has been based on the country of birth of the client and client's parents; the 2011 data can therefore not be directly compared with previous years'.

Table 9.4 Number and percentage of positive tests and total persons tested for hepatitis B by sexual behavioural characteristics, gender and sexual preference, 2011.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	3/258	1.2	1/94	1.1	1/330	0.3
1 partner	29/4366	0.7	7/1027	0.7	19/8397	0.2
2 partners	21/4546	0.5	4/955	0.4	7/6645	0.1
3 or more partners	32/10,913	0.3	33/5585	0.6	26/9278	0.3
Unknown	1/232	0.4	1/138	0.7	15/883	1.7
Condom use if last sexual contact was steady*						
No	41/7836	0.5	14/3127	0.4	28/11,659	0.2
Yes	7/1796	0.4	0/385	0.0	8/1919	0.4
Unknown	0/149	0.0	0/10	0.0	0/195	0.0
Condom use if last sexual contact was casual*						
No	18/6003	0.3	11/2669	0.4	12/6742	0.2
Yes	14/2773	0.5	11/845	1.3	14/2862	0.5
Unknown	0/46	0.0	0/16	0.0	0/50	0.0
Previous GO/CT/syphilis in anamnesis						
No	77/17,731	0.4	41/7092	0.6	58/21,977	0.3
Yes	2/1261	0.2	3/409	0.7	6/2195	0.3
Do not know	1/597	0.2	0/199	0.0	1/602	0.2
Unknown	6/726	0.8	2/99	2.0	3/759	0.4
Previous HIV test						
No	49/9466	0.5	10/1727	0.6	25/10,734	0.2
Yes, positive	0/17	0.0	11/1120	1.0	1/27	3.7
Yes, negative	35/10,593	0.3	23/4888	0.5	40/14,327	0.3
Yes, result unknown	0/61	0.0	0/27	0.0	0/123	0.0
Unknown	2/178	1.1	2/37	5.4	2/322	0.6
CSW						
No	85/20,238	0.4	44/7600	0.6	40/23,561	0.2
Yes, in past 6 months	1/55	1.8	1/180	0.6	27/1936	1.4
Unknown	0/22	0.0	1/19	5.3	1/36	2.8
Client of CSW, men						
No	78/18,012	0.4	43/7615	0.6		
Yes, in past 6 months	8/2269	0.4	2/167	1.2		
Unknown	0/34	0.0	1/17	5.9		
Swinger**						
No	48/10,867	0.4	17/2254	0.8	29/12,334	0.2
Yes	1/411	0.2	0/254	0.0	3/596	0.5
Unknown	0/7	0.0	1/7	14.3	0/55	0.0
Socioeconomic status (SES)						
Very high	3/2519	0.1	8/1192	0.7	3/3126	0.1
High	16/4543	0.4	7/1912	0.4	8/5695	0.1
Medium	11/4532	0.2	11/1804	0.6	20/5861	0.3
Low	22/3677	0.6	9/1303	0.7	15/4476	0.3
Very low	17/2470	0.7	0/587	0.0	6/2720	0.2
Unknown	17/2574	0.7	11/1001	1.1	16/3655	0.4

* Type of sexual contact was missing for 8 percent (n=2106) of persons tested for hepatitis B.
** Voluntary question, answered by 61 percent (n=68,616) of persons tested for hepatitis B.

Table 9.5 Concurrent STI by gender and sexual preference among persons diagnosed with hepatitis B, 2011.

Concurrent infection	Heterosexual men (N=86) n (%)	MSM (N=48) n (%)	Women (N=68) n (%)
Chlamydia	11 (12.8)	7 (14.6)	6 (8.8)
Gonorrhoea	3 (3.5)	4 (8.3)	1 (1.5)
Infectious syphilis	1 (1.2)	3 (6.3)	0 (0.0)
HIV newly diagnosed	1 (1.2)	5 (10.4)	1 (1.5)
Genital herpes	1 (1.2)	0 (0.0)	0 (0.0)
Genital warts	0 (0.0)	4 (8.3)	0 (0.0)

9.4 Screening pregnant women

Table 9.6 Hepatitis B prevalence estimates for pregnant women, based on test results of antenatal screening, 2006–2009.

Year	No. of women screened	Positive result 12 weeks test	Confirmed positive test results (%)	Prevalence estimate [min–max]*
2006	185,941	966	714 (74%)	0.4 [0.38–0.4]
2007	186,137	868	620 (71%)	0.34 [0.33–0.34]
2008	190,140	932	605 (65%)	0.33 [0.32–0.33]
2009	185,528	680	636 (94%)	0.36 [0.34–0.36]

* Prevalence estimated on the assumption that pregnant women with a first positive test result without a confirmation test would be as often positive as those with a confirmation test; minimum prevalence: number of confirmed positive test results divided by the total number of registered pregnant women; maximum prevalence: on the assumption that all pregnant women with a first positive test result without a confirmation test would also have a positive confirmation test.
Footnote 1: The 2010 and 2011 data will become available in November 2012.
Footnote 2: Terminated pregnancies (induced or spontaneous) are excluded.
(Source: Praeventis, RIVM).

9.5 Blood donors

Figure 9.6 HBV incidence (per 100,000) among regular blood donors in the Netherlands, 2000–2010.

(Source: Sanquin).

9.6 Hepatitis B Vaccination programme for risk groups

Table 9.7 Number of vaccinated, chronically infected and immune participants of the HBV vaccination programme, 2002–2011.

	DU	CSW	MSM
First vaccination	17,859	15,894	36,211
Second vaccination	12,640	9992	27,442
Third vaccination	8901	6696	22,653
HBV status at first consultation*			
Hepatitis B carrier (%)	129 (0.8)	179 (0.5)	171 (0.5)
Hepatitis B immune (%)	1430 (9.0)	2839 (7.4)	2687 (8.2)

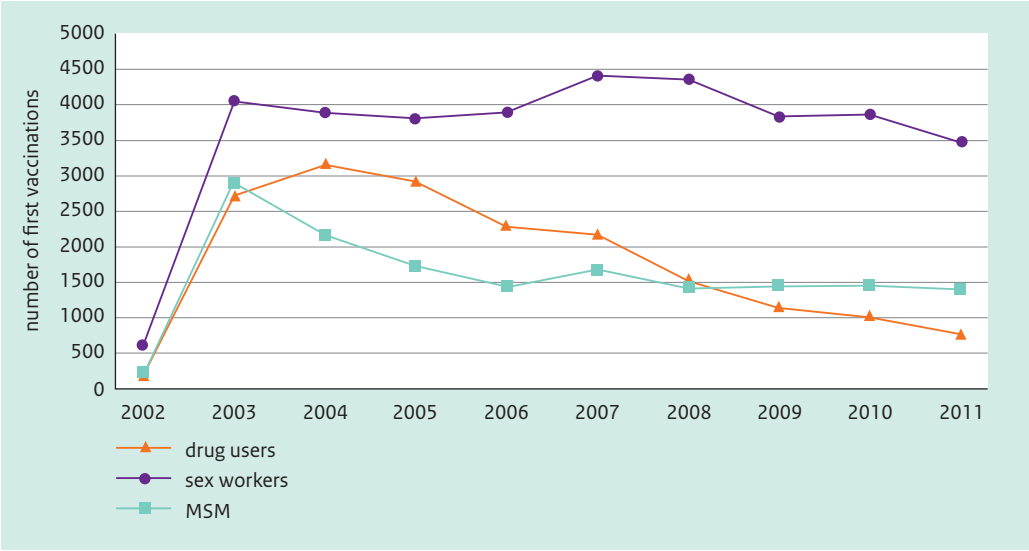
* During the consultation for first vaccination all participants are tested serologically for markers of previous or current HBV infection.
Footnote: Not included in the table are heterosexuals with multiple partners (n = 40,723), who were included until October 2007.

Table 9.8 Number and percentage of first HBV vaccinations per risk group and location of first vaccination, 2002–2011.

Location of first vaccination	DU (N=17,859) n (%)	CSW (N=15,893) n (%)	MSM (N=36,213) n (%)
STI centre	726 (4.1)	2257 (14.2)	9717 (26.8)
Public health service*	7512 (42.1)	10,092 (63.5)	23,103 (63.8)
Penitentiary institution	2976 (16.7)	688 (4.3)	165 (0.5)
MSM location	4 (0.02)	49 (0.3)	1772 (4.9)
Drug location	6215 (34.8)	31 (0.2)	92 (0.3)
CSW location	207 (1.2)	2690 (16.9)	9 (0.02)
Other	219 (1.2)	86 (0.5)	1355 (3.7)

* The number of HBV vaccinations given by public health services can include vaccinations given at an STI centre. In a number of regions the STI centre and the PHS work closely together.

Figure 9.7 Number of persons entering the HBV vaccination programme, 2002–2011.



10 Hepatitis C

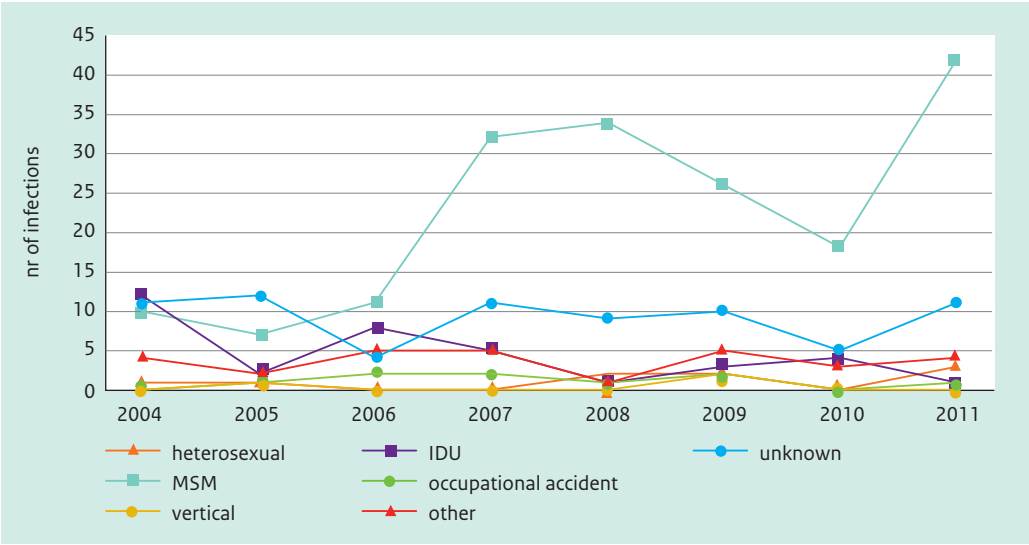
10.1 Key points

- In 2011, the total number of acute HCV notifications (n=62) doubled compared with 2010 (n=30). The number of infections in MSM increased by 133 percent, from 18 notifications in 2010 to 42 notifications in 2011.
- Unprotected sexual contact between men remained the most important route of transmission for acute hepatitis C (68 percent). Three infections by heterosexual contact were reported in 2011.
- In the STI centres, 55 cases of hepatitis C were diagnosed in MSM, of whom 89 percent (n=49) were known HIV-positive.
- A national population-based cross-sectional serosurvey performed in 2006–2007 (PIENTER-2) resulted in a weighted national HCV seroprevalence of 0.30 percent (95 percent confidence interval 0.05–0.55 percent). About 70 percent of the HCV-positive persons found were born in an HCV-endemic country.[9]

9 Vriend HJ, Op de Coul EL, van de Laar TJ, Urbanus AT, van der Klis FR, Boot HJ. Hepatitis C virus seroprevalence in the Netherlands. Eur J Public Health. 2012, 29 March. [Epub ahead of print].

10.2 Notification data: characteristics, risk groups and trends

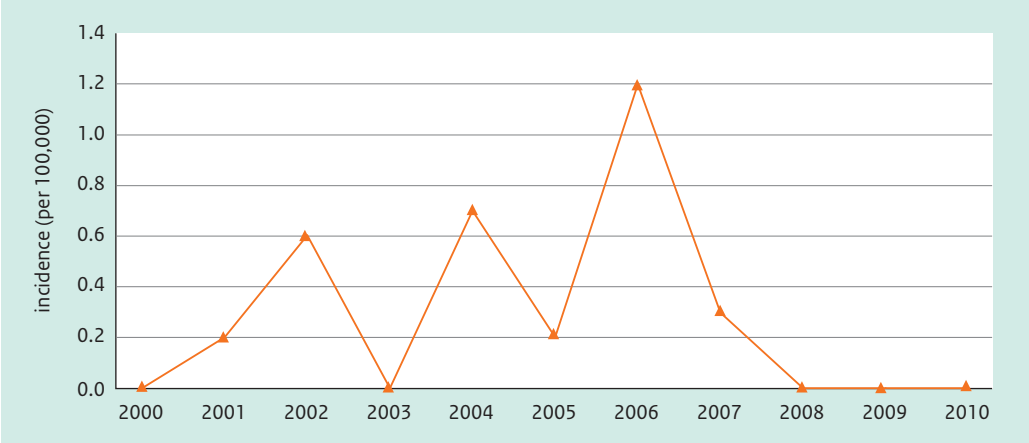
Figure 10.1 Number of acute HCV infections by route of transmission, 2004–2011.



(Source: RIVM-OSIRIS, notification data).

10.3 Blood donors

Figure 10.2 HCV incidence (per 100,000) among regular blood donors in the Netherlands, 2000–2010.



(Source: Sanquin).

11
General conclusions and recommendations

In 2011, a national STI-HIV plan 2012–2016 was drafted by the CIb in close collaboration with all relevant field parties and accepted in its final form by the Dutch Parliament. This plan, which is part of the Dutch sexual health policy, as outlined by the Ministry of Health, Welfare and Sports in 2010, formulates specific targets to support control over the coming years. The impact of this policy on STI transmission can be monitored by the surveillance systems summarised in this annual report.
The proactive Dutch policy to promote sexual health and to control the transmission of STI has, in 2011 again, resulted in an increase in the number of STIs detected. Surveillance is focused on trends among high-risk groups, where changes in risks are expected to occur first and be most easily visible. These data show that access to testing further improved (continued rise of visitors to STI clinics), while overall positivity rates increased, indicating an efficient control approach. These control efforts will result in individual health gains by preventing or reducing morbidity following adequate treatment, as well as in public health gains by preventing onward transmission among the population; thereby leading towards a lower risk of exposure to STI.
Nevertheless, high-risk behaviour remains high among many groups; some groups, such as MSM (in particular if also HIV infected), people belonging to specific ethnic minorities and young people are at even higher risk, as reflected in higher positivity rates. This year for the first time, standardised indicators on condom use were collected by the publicly funded STI clinics, confirming the high risk-taking among the target population of these clinics. This suggests that further innovative approaches are still needed to ensure that people at risk are empowered to effectively reduce their sexual risks and improve their sexual health. At the same time, testing and treatment strategies need to be optimised to provide optimal benefit from control efforts for the largest number of people, and to prevent the overburdening of curative services.

As in previous years, and as in many other countries, infections with *Chlamydia trachomatis* remain the most commonly reported bacterial STI, both among high-risk groups and among the general population. Small but steady increases in chlamydia positivity rates are observed over the years among all high-risk groups. This implies on the one hand that targeting of testing is ever more efficient but on the other hand that transmission is still ongoing in a wide segment of the sexually active population. To interrupt these

transmission chains, intersectoral cooperation is needed to reach a wider population, beyond already identified high-risk populations reached by GPs and STI clinics. Those at risk should be encouraged more effectively to reduce their high-risk behaviour and to be tested regularly and treated promptly. Awareness among GPs, who treat the majority of chlamydia infections, regarding the high chlamydia prevalence could be strengthened, and GPs could be encouraged to offer opportunistic screening more commonly. To optimise interaction between curative care and prevention among young people, integrated public health clinics for sexual health for under 25s were formally started nationwide on 1 January 2012. Improving access to testing, potentially supported by web-based facilities, such as successfully implemented in the Chlamydia Screening Implementation (CSI) programme and in the Testlab site of 'Man tot Man', should be explored further. The roll-out of a national screening programme is, however, not foreseen, based on the experience of relatively low and waning participation rates in the three-year trial of CSI in three regions of the Netherlands.
On the other hand, an increase in private companies offering uncertified and often poor quality home-based testing via the web could undermine control efforts. If the results of testing are unreliable, this can result in over- and undertreatment. Also, those at risk will then not receive professional support to prevent and treat infections and receive other sexual health care when indicated.
Research is ongoing to optimise chlamydia control efforts by improved targeting of those most at risk. A high rate of chlamydia positivity, six months after an initial positive chlamydia test as observed in CSI, suggests that a core group of high transmitters might be present. Other ongoing research aims to improve understanding of behavioural, immunological and genetic factors that increase risks of developing long-term sequelae of chlamydia (PID, subfertility, ectopic pregnancies). Fortunately, results from the chlamydia reference tasks show that, so far, incidental reports of treatment failure and diagnostic escape mutants (such as the Swedish variant) are not threatening overall control efforts.

Infections with gonorrhoea remain mostly found among MSM, although in 2011 significantly more gonorrhoea diagnoses were also made among heterosexuals. Numbers among heterosexuals are still small and therefore changes need to be interpreted with care. In addition, these surveillance data cannot determine to what extent increases in diagnoses are related to increased or modified testing strategies. Case reports suggests frequent gonorrhoea infections occur in the high-risk group of swingers, albeit still difficult to define, may be related to the fact that networks of swingers can be linked to MSM networks. Nevertheless, it is clear that transmission of gonorrhoea is still ongoing if not increasing, outside the MSM populations as well. Alertness is needed to ensure that gonorrhoea transmission does not become more widespread, including among young heterosexuals. Since 2012, STI centres will offer this group with no additional risk factors initially only a chlamydia test when attending for a sexual health consultation, rather than the minimum STI testing package of chlamydia, gonorrhoea, syphilis and HIV as for other high-risk attendees. In 2011, only 0.4 percent of the young people with no other risk factors and chlamydia-negative were gonorrhoea-positive, which is reassuring from a public health perspective. Close surveillance of gonorrhoea trends is of particular importance, as the threat of pandrug-resistant gonorrhoea is becoming ever more real; since the first treatment failures with the only available treatment option (third-generation cephalosporin) have already been reported in European patients. The declining number of diagnostic cultures and a lack of standardised diagnostic methods in laboratories outside the specialised STI settings give rise to concern as well, as these may obscure adverse trends.

Since the introduction of cART, AIDS mortality has steeply declined, and, as the transmission of HIV has not yet been halted, the prevalence of HIV-infected people has steadily increased. Trends in prevalence are therefore not an optimal marker to assess progress in HIV control. In the absence of reliable and widely available incidence assays, trends in incidence can be estimated only indirectly. The majority of new HIV diagnoses occur among MSM, in particular among those with high-risk behaviour. This is also reflected in the much higher STI positivity ratios in this group compared with other high-risk groups. Fortunately, the positivity rate among HIV positive MSM at the STI clinics has been declining over the past years, which is encouraging. In recent years, increases in the number of new HIV registrations in care are apparent in heterosexuals aged 50 years and above, suggesting that also here risks continue outside the classical high-risk groups, although numbers are still small, and improved access to testing might have contributed to these increases. Age-related biological and social risk factors might further have contributed to this observed increased reporting among the 50+ age group.
Recent data have suggested that HIV incidence could decline further by interventions such as pre-exposure prophylaxis among partners, although the overall effectiveness in real life will still need to be balanced against potential risk inhibition and drug resistance pressure by incomplete adherence. Apart from the prevalent STI in most risk groups in general and in MSM in particular, a much higher prevalence of LGV and hepatitis C is observed among HIV-infected patients. Mathematical and economic modelling is still ongoing to assess to what extent routine STI screening and the treatment of HIV-infected MSM could result in reduced HIV incidence.
At the same time, efforts to reduce the estimated large percentage of HIV-infected people not yet aware of their infection or not yet reported into care, need to continue. First results of the partner notification project show that the contacting of partners of MSM is hampered by the anonymous nature of many contacts, while partner notification of heterosexuals can be challenging on account of a reluctance to inform sexual partners. Thus, a differential approach towards different groups at risk of HIV is warranted.

The PHS's sexual health clinics aim to provide care for those at high risk, in addition to the regular integrated care provided by GPs. Indeed, highly prevalent STI, i.e. chlamydia, HPV (resulting e.g. in genital warts) and HSV (resulting in e.g. genital ulcera), remain much more commonly diagnosed by GPs than at STI clinics. Other STI, such as gonorrhoea, syphilis and HIV, are currently concentrated in high-risk groups, with limited transmission in the general population. The role of the GP can be strengthened here as well, by improved interaction with the STI clinics. Knowledge of STI curative control as well as identification of (opportunistic) possibilities to promote sexual health and prevent STI transmission can be supported. Collaboration between regional STI centres and medical microbiological laboratories can ensure that early warning signs, not (yet) visible in surveillance trends, are identified at an early stage. While dedicated HIV treatment centres (HTC) provide specialised care for people infected with HIV, collaboration of HTCs with GPs in the field of sexual health care, and of HTCs with STI clinics to ensure that correct STI prevention and care is provided, could result in health gains for HIV-infected people and their partners. Improved professional collaboration is currently already apparent in the coordinated revision of STI guidelines by medical specialists, GPs and public health professionals. The integration of curative and preventive control activities in the STI clinics has been strengthened by the development of a single quality control guideline, which will be the basis for interdisciplinary visitations.

Sexual risks and (new) STI can emerge among many groups, not just the currently well known high-risk groups already targeted for control efforts. CSWs, swingers and older people need to be reached and trends need to be monitored in these groups, as well as among young people, MSM and people from ethnic minorities. NGOs are particularly suited to liaise with target groups and ensure that they have access to information and care, and that their needs are met. Even more efficient collaborations are needed to ensure that the selective targeting of efforts does not preclude open-mindedness towards unexpected developments in risks and risk groups. The persistent high-risk behaviour of many sexually active adolescents and adults necessitates high vigilance towards possible transmission of STI like gonorrhoea and HIV outside the recognised target groups. Treatment failure, due to poor adherence, inadequate testing, inappropriate therapy or antimicrobial resistance, can result in deterioration of control efforts as well. With shrinking budgets and reducing possibilities to expand the control of STI transmission within both high- and so far low-risk groups, rigourous surveillance remains a cornerstone to enable actions to be taken as soon as (re)emergence of STIs becomes a public health threat.

Recommendations

- Maintain integrated surveillance of STI and STI risks among high-risk groups.
- Support intersectoral collaboration between those who provide sexual health care in STI clinis and in regular care (HTCs, GPs and related medical specialists), between NGOs and care providers, and between laboratories and clinicians.
- Maintain awareness of the (re)emergence of (new) STI and rising trends in risk groups such as CSW, swingers and older people.
- Maintain a strong multisectoral basis for STI control to facilitate easy access to care and testing, rapid and reliable results, and effective treatment and prevention.
- Support efforts to increase uptake of chlamydia testing among the sexually active population, both in regular and additional care and via population based initiatieves including involvement of new media.
- Stimulate systematic culturing of gonorrhoea diagnosed among high-risk groups to prevent unexpected transmission of pandrug-resistant strains.
- Strenghten partner notification efforts among newly HIV infected people and known HIV infected people diagnosed with another STI.

APPENDICES

Appendix A List of abbreviations

ACS	Amsterdam Cohort Studies
AIDS	acquired immune deficiency syndrome
ATHENA	AIDS Therapy Evaluation in the Netherlands
CBS	Centraal Bureau voor de Statistiek, Statisitics Netherlands
CIb	Centrum Infectieziektebestrijding, Centre for Infectious Disease and Control
CSI	Chlamydia Screening Implementation
CSW	commercial sex worker
CT	chlamydia infection
DU	drug users
ECDC	European Centre for Disease Prevention and Control
GO	gonorrhoea infection
GP	general practitioner
GRAS	Gonococcal Resistance to Antimicrobials Surveillance programme
HAART	highly active anti-retroviral therapy
HBV	hepatitis B virus
HCV	hepatitis C virus
HIV	human immunodeficiency virus
HPV	human papillomavirus
HSV	herpes simplex virus
IDU	intravenous drug users
IGZ	Inspectorate of Health
LGV	Lymphogranuloma venereum
LIS	Laboratory for Infectious Disease and Screening
LINH	Landelijk Informatienetwerk Huisartsen, Information Network of General Practice
MIC	minimum inhibitory concentration
MSM	men who have sex with men
NIVEL	Nederlands Instituut voor onderzoek van de Gezondheidszorg, Netherlands Institute for Health Services Research
PHS	public health service
PID	pelvic inflammatory disease
RIVM	Rijksinstituut voor Volksgezondheid en Milieu, National Institute for Public Health and the Environment
SES	socioeconomic status
SHM	Stichting HIV Monitoring
SOAP	online STI registration system
STI	sexually transmitted infection

Appendix B National surveillance of STI centres

Coordinating STI centres

GGD Amsterdam:	P. van Leeuwen
GGD Den Haag:	A. van Camerijk
GGD Groningen:	F. de Groot
GGD Hart voor Brabant:	J.C.A.M. van de Sande
	H. van Kruchten
GGD Nijmegen:	A. van Daal
	H. Bos
GGD Rotterdam-Rijnmond:	V. Wieërs
	B. Nuradini
	H. Götz
GGD Utrecht:	M. Langevoort
	V. Sigurdsson
GGD Zuid Limburg:	C.J.P.A. Hoebe
	E.J.W.M. Niekamp

Regional STI centres

GGD Brabant Zuid-Oost:	P. Tolsma
GGD Drenthe:	G. Reitsema
GGD Flevoland:	H. Fortuin
GGD Fryslan:	A. Strikwerda
GGD Gelderland Midden:	M. Pelgrim
GGD Gelre-IJssel:	H. Bos
GGD Hollands-Midden:	K. Visser
GGD Hollands Noorden:	I. Bargmann
GGD Kennemerland:	E. den Heijer
GGD Midden-Nederland:	J. Ludding
GGD Limburg-Noord:	C. Niesen
GGD Regio Twente:	M. Besselse
GGD Rivierenland:	P. Cornelissen
GGD West-Brabant:	H. Driessen
GGD IJsselland:	H. Bruins
GGD Zaanstreek-Waterland:	P. Degenaar
GGD Zeeland:	E. van Dijk
GGD Zuid-Holland Zuid:	H. van den Kerkhof

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Academisch Ziekenhuis Maastricht:	E. Stobberingh
Albert Schweitzer Ziekenhuis Dordrecht:	I. Frenay
Amphia Ziekenhuis Breda:	P. van Keulen
Atrium Medisch Centrum Heerlen:	J.H.T. Wagenvoort
Canisius Wilhelmina Ziekenhuis Nijmegen:	T. Simons
Centraal Bacteriologisch and Serologisch laboratorium Hilversum:	C.P. Timmerman
Diagnostisch Centrum Eindhoven:	L. Harms
Erasmus MC Rotterdam:	M. Schutte
Gelre Ziekenhuizen Apeldoorn:	E. Bowles
Groene Hart Ziekenhuis Gouda:	J. Stindt
Isala klinieken Zwolle:	P. van de Goor
Izore, Centrum Infectieziekten Friesland:	J. van Zeijl
Jeroen Bosch Ziekenhuis 's-Hertogenbosch:	P. Schneeberger
Laboratoria Pathologische Anatomie and Medische Microbiologie Veldhoven:	A. Jansz
Laboratorium Microbiologie Twente Achterhoek:	B. Mulder
Laboratorium voor Infectieziekten Groningen:	B.P. Overbeek
Laurentius Ziekenhuis Roermond:	F. Stals
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Medisch Centrum Haaglanden Den Haag:	C.J. Jansen
Medisch Centrum Alkmaar:	J. Sloos
Ruwaard van Putten Ziekenhuis Spijkenisse:	H. van Ingen
Slingeland Ziekenhuis Doetinchem:	E. Mascini
St. Elisabeth Ziekenhuis Tilburg:	J. Marcelis
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Streeklaboratorium voor de Volksgezondheid Deventer:	F.W. Sebens
Streeklaboratorium voor de Volksgezondheid Haarlem:	D. Veenendaal
Laboratorium voor medische microbiologie & immunologie Admiraal de Ruyter ziekenhuis Goes:	L. Sabbe
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Universitair Medisch Centrum Utrecht:	J.V. van Marken
VieCuri Venlo:	T. Trienekens
Vlietland Ziekenhuis Schiedam:	B. Moffie
Zaans Medisch Centrum Zaandam:	C. Fijen
Laboratorium voor medische microbiologie Zorgsaam Ziekenhuis Terneuzen:	B. Hendrickx

Appendix C Stichting HIV Monitoring

Within the framework of the Stichting HIV Monitoring, a substantial number of professionals are participating:

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Catharina-ziekenhuis, Eindhoven: Dr. B. Bravenboer*, Drs. M.J.H. Pronk
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HagaZiekenhuis, Den Haag: Dr. E.F. Schippers*, Dr. C. van Nieuwkoop.
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Kennemer Gasthuis: Prof. dr. R.W. ten Kate*, Dr. R. Soetekouw.
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