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Sexually transmitted infections

including HIV, in the Netherlands in 2013

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Publiekssamenvatting

Seksueel overdraagbare aandoeningen, waaronder hiv, in Nederland in 2013

Het aantal mensen dat zich bij een Centrum Seksuele Gezondheid heeft laten testen op een seksueel overdraagbare aandoening (soa) is verder gestegen in 2013. Het percentage mensen met een soa is voor het eerst licht gedaald (met 0,4 procent) sinds 2007. Desondanks blijft dit percentage hoog (14,7 procent). Een goed functionerende soa-monitoring blijft daarom essentieel om zicht te houden op relevante trends, opkomende soa binnen groepen die een grotere kans hebben er een op te lopen, en de effectiviteit van preventieprogramma's.

De Centra Seksuele Gezondheid (CSG), voorheen soa-poli's, bieden hoogrisicogroepen de mogelijkheid om zich gratis te laten testen op soa en verstrekken medicatie als er een wordt vastgesteld. Het totaal aantal consulten in 2013 bedroeg 133.585 en is met 10 procent toegenomen ten opzichte van 2012. Van alle bezoekers werden de meeste soa gediagnosticeerd bij mensen die ervoor gewaarschuwd waren dat ze mogelijk een soa hadden opgelopen, mensen jonger dan 25 jaar, migranten uit gebieden waar soa en hiv veel voorkomen (bijvoorbeeld Afrika, Zuid-Amerika of Oost-Europa), of mannen die seks hebben met mannen (MSM).

Chlamydia

Net als in voorgaande jaren was chlamydia de meest gediagnosticeerde soa bij de CSG in 2013 (15.767 diagnoses). Het percentage mensen dat chlamydia had, daalde licht ten opzichte van 2012 (van 12,2 naar 11,8 procent). Chlamydia werd het meest vastgesteld bij heteroseksuelen, zowel mannen als vrouwen, onder de 25 jaar. Na de uitschieter in 2012 van het aantal en percentage mensen met een agressieve variant van chlamydia, lymphogranuloma venereum, zijn deze cijfers weer afgenomen naar het niveau van de jaren daarvoor (7 procent in 2013).

Gonorroe

Het percentage personen met een gonorroe-infectie bij de CSG bleef in 2013 stabiel ten opzichte van 2012 (3,6 procent in 2012 en 3,4 procent in 2013), nadat het in de voorgaande jaren licht was gestegen. Deze soa werd het meest gediagnosticeerd bij MSM. Het blijft belangrijk om te volgen of de gonorroe-bacterie resistent raakt tegen de antibiotica die in Nederland voorgeschreven worden, de zogenoemde derde generatie cefalosporines. In diverse Europese landen is deze resistentie waargenomen.

Hiv

Het aantal personen met een hiv-infectie, gediagnosticeerd bij een van de CSG, is in 2013 gelijk gebleven ten opzichte van 2012 (358 versus 356 in 2012). Het percentage positieve testen daalt sinds 2008: van 3,0 procent naar 1,4 procent bij MSM in 2013. Het percentage mensen dat in een laat stadium van een hiv-infectie bij een hiv-behandelcentrum komt, is de afgelopen jaren gedaald. Het is van belang om tijdig de hiv-diagnose te stellen en zo snel mogelijk de behandeling te starten, omdat hierdoor de gezondheidsschade bij de patiënt verkleind kan worden. Ook neemt door behandeling de besmettelijkheid af, waardoor de kans kleiner is dat hiv wordt overgedragen.

Trefwoorden: soa, MSM, chlamydia, gonorroe, hiv, resistentie, jongeren, monitoring, centrum seksuele gezondheid

Abstract

Sexually transmitted infections, including HIV, in the Netherlands in 2013

In 2013, more people were tested for sexually transmitted infections (STI) at Dutch STI clinics than in previous years. Although the percentage of people with an STI showed a slight decrease (0.4 per cent) for the first time since 2007, it remained high at 14.7 per cent. Effective STI monitoring remains essential for the identification of relevant trends, emerging STIs in high-risk groups, and the effectiveness of prevention programmes.

STI clinics offer high-risk groups access to free testing for STI and provide care and treatment if an STI is diagnosed. The total number of consultations in 2013 was 133,585, an increase of 10% compared with 2012. In 2013, STI clinic attendees with an STI were mainly people who reported having been notified of their possible exposure to STI, people aged 20-24, people originating from areas in which STI/HIV is common (e.g. Africa, South America or Eastern Europe), and men who have sex with men (MSM).

Chlamydia

With 15,767 cases, chlamydia remains the most commonly diagnosed STI in 2013. The percentage of people diagnosed with chlamydia was slightly lower in 2013 than in 2012 (11.8 versus 12.2 respectively). Chlamydia was primarily diagnosed in heterosexuals younger than 25 years old and in both men and women. Following the increase in the number and percentage of lymphogranuloma venereum (LGV; an aggressive variant of chlamydia) infections in 2012, these numbers declined to a level comparable to previous years in 2013.

Gonorrhoea

Whereas the percentage of people with a gonorrhoea infection slightly had increased in previous years, the percentage remained stable in 2013 (3.4 per cent) compared with 2012 (3.6 per cent). Gonorrhoea was mostly diagnosed in MSM. It remains important to monitor the resistance of the gonorrhoea bacteria against the antibiotic currently recommended in the Netherlands, a third-generation cephalosporin. A rising rate of resistance to this antibiotic has been observed in several European countries.

HIV

The number of people diagnosed with HIV at STI clinics in 2013 was similar to that of 2012 (358 versus 356 respectively). Among MSM, the percentage of positive HIV tests decreased from 3.0 per cent in 2008 to 1.4 per cent in 2013. The percentage of HIV-positive people who were diagnosed at a late stage of the infection has decreased in previous years. Early diagnosis and treatment of an HIV infection is important because of individual health benefits and the potential reduction of HIV transmission.

Keywords: STI, MSM, chlamydia, gonorrhoea, HIV, resistance, youth, monitoring, STI clinic

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 2013. 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 relating to STI analysed in relation to 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 factors influencing the spread of STI, including HIV, in the Netherlands, resulting in development and targeting of (preventive) interventions and enable assessment of the effectiveness of control activities on STI transmission. The information aims 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 a large number of 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 clinics (STI clinics and public health services), Stichting HIV Monitoring (SHM) and GGD Nederland. We also thank SOA AIDS Nederland, Rutgers WPF, HIV Vereniging, Netherlands Institute for Health Services Research (NIVEL), general practitioners participating in the NIVEL Primary Care Database, Dutch Working Group on Clinical Virology, as well as the other units at the Centre for Infectious Disease Control: Laboratory for Infectious Disease and Screening (CIb/IDS), 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, Mark Nielen and Gé Donker for NIVEL data and analysis and Paul van Beek and Anouk Urbanus for the data on participants in the HBV vaccination programme. Also, Leo Schouls, Marga van Santen, Daan Notermans, Tineke Herremans, Audry King (all CIb/IDS) and Silke David (CIb/LCI) are thanked for their contributions.

Comments
Any comments or suggestions can be sent to soahiv@rivm.nl.

Contents

Samenvatting

In 2013 werden in totaal 133.585 soa-consulten uitgevoerd bij de Centra Seksuele Gezondheid (CSG), een stijging van 10 procent ten opzichte van 2012. Hoewel licht gedaald van 15,1 procent in 2012 naar 14,7 procent in 2013, blijft het percentage bezoekers dat gediagnosticeerd is met één of meer soa (chlamydia, gonorroe, infectieuze syfilis, hepatitis B of hiv) hoog. De CSG zijn bedoeld voor hoogrisicogroepen die in de reguliere zorg niet voldoende bereikt worden. Om deze groepen te bereiken passen de CSG een landelijk afgestemd triagesysteem toe. De hoogrisicogroepen - waaronder mannen die seks hebben met mannen (MSM) (21 procent van de bezoekers in 2013), personen afkomstig uit soa/hiv endemische gebieden (25 procent van de bezoekers in 2013) en jongeren tot 25 jaar (49 procent van de bezoekers in 2013) - worden gratis getest. In 2013 voldeed 99 procent van de soa-consulten aan minimaal een van de gestelde criteria voor hoogrisicogroepen.
Huisartsendata laat zien dat het totaal aantal soa-diagnoses en soa-gerelateerde episodes die bij de huisarts worden vastgesteld veel groter is dan het aantal bij de CSG. De huisarts bereikt hoogrisicogroepen ook goed, zoals jongeren onder de 25 jaar en personen afkomstig uit soa/hiv endemische gebieden, maar specifieke groepen zoals MSM en prostituees naar verhouding minder. Trends in huisartsendata per soa zijn beschikbaar tot 2012, maar door aanpassing (actualisering) van definities van episodes en aanpassing van de berekeningen van de prevalentie zijn vrijwel alle soa's cijfermatig toegenomen.
Naast data van de CSG en huisartsen worden, waar beschikbaar, trenddata uit de reguliere zorg, zoals hiv-behandelaren en andere surveillance bronnen, gerapporteerd.

Bacteriële soa
In 2013 was chlamydia opnieuw de meest gediagnosticeerde bacteriële soa bij de CSG met 15.767 gerapporteerde gevallen. Het percentage positieve testen daalde licht van 12,2 procent in 2012 naar 11,8 procent in 2013. De hoogste percentages positieve testen werden gezien onder heteroseksuele mannen en vrouwen (respectievelijk 12,8 en 12,2 procent). De meerderheid van de chlamydia-infecties werd bij jongeren onder de 25 jaar gediagnosticeerd (61 procent). Lymphogranuloma venereum (LGV), een agressieve variant van chlamydia, was in 2012 sterk toegenomen, maar is in 2013 weer gedaald; 6,7 procent was positief in 2013 versus 13,1 procent in 2012. Het geschatte aantal chlamydia episodes bij de huisarts die berekend zijn met de nieuwe methode waren hoger dan de aantallen gerapporteerd in 2010 en 2011 op basis van de oude methode; waarschijnlijk door de verandering van definities en de berekening van de prevalentie. Het geschatte aantal chlamydia episodes bij de huisarts in 2012 was 273 per 100.000 inwoners.
Sinds 2008 werd bij zowel heteroseksuelen als MSM een toename gezien in het percentage positieve gonorroetesten bij de CSG. In 2013 bleef dit percentage stabiel (3,4 procent) ten opzichte van 2012 (3,6 procent). Gonorroe werd vooral gediagnosticeerd bij MSM: 9,3 procent testte positief (9,3 procent in 2012), vergeleken met 1,7 procent van de heteroseksuele mannen (2,1 procent in 2012) en 1,8 procent van de vrouwen (1,9 procent in 2012). Het geschatte aantal gonorroe-episodes bij de huisarts die berekend zijn met de nieuwe methode waren hoger dan wat in op basis van de oude methode werd geschat in 2010 en 2011. Het geschatte aantal gonorroe episodes bij de huisarts was 50 per 100.000 inwoners in 2012. Monitoring van antibioticaresistentie bij gonorroe blijft van belang, zeker gezien de gerapporteerde resistentie tegen derde generatie cefalosporines in Europa. In Nederland is dat tot nu toe nog niet het geval.

Het percentage positieve testen van infectieuze syfilis bij MSM (2,1 procent) in 2013 lijkt na jaren van daling (van 4,3 procent in 2007 naar 2,0 procent in 2011) te stabiliseren bij de CSG. In totaal werden er in 2013 626 infectieuze syfilis diagnoses vastgesteld, waarvan 93 procent bij MSM.

Virale soa, inclusief hiv

Bij de CSG werden 356 nieuwe hiv-diagnoses vastgesteld in 2013. Het percentage positieve hiv-testen voor MSM neemt sinds 2008 af: van 3,0 procent in 2008 naar 1,4 procent in 2013. Bij heteroseksuele mannen en vrouwen bleef dit percentage lager dan 0,1 procent. Bij 25,4 procent van de nieuw gediagnosticeerde hiv-positieve MSM die de CSG bezochten werd ook een chlamydia-infectie gevonden en bij 19,7 procent een gonorroe-infectie.
In 2013 werden 1.175 nieuwe aanmeldingen van hiv-positieve personen in zorg gerapporteerd in de nationale hiv-registratie bij de Stichting HIV Monitoring, waarvan er 829 ook gediagnosticeerd waren in 2013. Eind 2013 waren in totaal 21.858 personen met hiv in Nederland geregistreerd. Van alle nieuw geregistreerde hiv-patiënten was 70 procent MSM en 23 procent heteroseksueel.
Van alle hiv-positieve MSM geregistreerd in zorg, zijn de meesten gediagnosticeerd bij een van de CSG (38 procent). Hiv-positieve heteroseksuele mannen en vrouwen geregistreerd in zorg, werden echter vaker in een ziekenhuis gediagnosticeerd (respectievelijk 50 en 49 procent). De huisarts diagnosticeerde ongeveer een derde van hen (31% van de MSM, 40% van de heteroseksuele mannen en 23% van de vrouwen).
Het aandeel personen met hiv dat laat in zorg kwam (<350 CD4 cellen/mm3) is de laatste jaren gedaald, maar bleef in 2013 stabiel ten opzichte van 2012 (43 procent). Dit percentage was het laagst voor MSM (34 procent); bij heteroseksuelen was dit 62 procent. Het percentage personen dat laat in zorg komt is hoger bij diegenen die gediagnosticeerd zijn in het ziekenhuis (66 procent) of bij de huisarts (41 procent) dan diegenen die gediagnosticeerd zijn bij een van de CSG (26 procent).

Het aantal diagnoses van genitale wratten bij de CSG nam in 2013 af met 11 procent naar 2.057. Het percentage positieve testen nam af van 2,9 procent in 2009 naar 1,5 procent in 2013. Het aantal diagnoses en het percentage positieve testen van genitale herpes (HSV) in 2013 (612; 0,5 procent) was ongeveer gelijk aan 2012. Hierbij moet worden opgemerkt dat onderzoek naar 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. Bij de huisarts is in de laatste jaren steeds een lichte stijging te zien in gerapporteerde diagnoses HSV en genitale wratten. Met de nieuwe methode om de prevalentie te berekenen zien we een veel grotere toename tussen 2011 en 2012, waarschijnlijk door het opsplitsen van episodes die voorheen als een langdurige episode werden geteld. Uit de aangiftecijfers van acute hepatitis B bleek dat in 2013 de incidentie 0,8 per 100.000 inwoners was. Het aantal acute hepatitis B-infecties daalde met 23 procent in vergelijking met 2012 naar 130 gevallen. Het aantal gerapporteerde acute hepatitis C-gevallen in de aangiftecijfers nam met 72 procent toe van 36 in 2012 tot 62 in 2013.
In het kort, het aantal soa-consulten blijft nog steeds jaarlijks toenemen. Terwijl in voorgaande jaren het percentage CSG-bezoekers waarbij een soa werd gevonden bleef toenemen, lijkt dit percentage zich in 2013 te stabiliseren. Een intensieve 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 verder implementeren van richtlijnen, het continueren van de monitoring van opkomende soa en trends binnen hoogrisicogroepen, het bevorderen van partnerwaarschuwing, het zichtbaar maken van regionale verschillen, het integreren van soa-screening met HIV-zorg en het systematisch kweken van de gonorroe die wordt gevonden bij hoogrisicogroepen om overdracht van resistente stammen te voorkomen.

Summary

In 2013, 133,585 STI consultations were carried out at Dutch STI clinics, an increase of 10 percent compared with 2012. Although the overall percentage of positive STI tests (chlamydia, gonorrhoea, infectious syphilis, hepatitis B or HIV) slightly decreased from 15.1 percent in 2012 to 14.7 percent in 2013, this percentage remains high. STI clinics target high-risk groups by patient selection based on standardised criteria. High-risk groups, such as men having sex with men (MSM) (21 percent of all attendees in 2013), people originating from STI/HIV endemic areas (25 percent of all attendees in 2013) and people under 25 years of age (49 percent of all attendees in 2013), are tested free of charge. In 2013, 99 percent of attendees fulfilled one or more of the criteria for high-risk groups.
Data from general practices showed that the total number of STI diagnoses and STI related episodes registered is still much larger than the numbers reported from STI clinics. General practices reach high-risk groups like young people under 25 years and people originating from STI/HIV endemic areas quite well, but have a lesser reach to specific groups like MSM and prostitutes. Trends in general practice data per STI are available until 2012. However, adjustments (updates) of definitions of episodes and calculations of prevalence rates caused an increase in nearly all STI numbers.
In addition to data from STI clinics and general practitioners, data from regular care like HIV treatment centres and other surveillance sources are also reported.

Bacterial STI
With 15,767 reported cases, chlamydia remained the most commonly diagnosed bacterial STI at STI clinics in 2013. The overall positivity rate was slightly lower in 2013 (11.8 per cent) than in 2012 (12.2 percent). The highest positivity rates were found in heterosexual men and women (12.8 percent and 12.2 percent respectively). The majority of chlamydia cases were diagnosed in people aged 24 years and younger (61 percent). After a remarkable increase in the percentage of lymphogranuloma venereum (LGV) infections, an aggressive variant of chlamydia, in 2012, the percentage of positive LGV tests decreased from 13.1 to 6.7 per cent in 2013. The estimated numbers of chlamydia episodes at general practitioners (GPs) using the new method were higher than the previous reported numbers in 2010 and 2011 using the old method, probably due to changes in definitions and calculations. In 2012, the estimated number of chlamydia episodes was 273 per 100,000 population. Between 2008 and 2012, the gonorrhoea positivity rate slightly increased at STI clinics each year. In 2013 however, the overall positivity rate for gonorrhoea remained stable compared to 2012 (3.6 per cent in 2012 and 3.4 per cent in 2013. Gonorrhoea was most prevalent among MSM: 9.3 percent tested positive (9.3 per cent in 2012), compared to 1.7 percent (2.1 per cent in 2012) and 1.8 per cent (1.9 per cent in 2012) in heterosexual men and women respectively. Monitoring antimicrobial resistance in gonorrhoea remains important, especially given the reports of resistance against third-generation cephalosporins in Europe. So far, no resistance to ceftriaxone, a third-generation cephalosporin that has been the first-choice medication since 2004, has been found in the Netherlands. In general practice, the estimated number of gonorrhoea episodes using the new method was clearly higher than the reported estimates reported in 2010 and in 2011, both in men and in women. It is uncertain whether this increase is due to different definitions or due to true increased transmission. In 2012, the estimated number of gonorrhoea episodes was 50 per 100,000 population.
After years of decreasing positivity rates of infectious syphilis in MSM (from 4.3 percent in 2007

to 2.0 percent in 2011), the positivity rate (2.1 per cent) seems to have stabilised in 2013. In total, 626 positive infectious syphilis tests were reported, of which 93 percent was diagnosed in MSM.

Viral STI, including HIV

At STI clinics, 356 HIV infections were diagnosed in 2013. The HIV positivity rate among MSM continued to decrease; from 3.0 per cent in 2008 to 1.4 per cent in 2013. The positivity rate in heterosexual men and women remained lower than 0.1 percent. Of the newly diagnosed MSM at STI clinics, 25.4 per cent were co-infected with a chlamydia infection and 19.7 per cent were co-infected with a gonorrhoea infection.
In 2013, 1,175 HIV-infected people in care were newly registered in the national database of the HIV treatment centres (SHM); 829 of them were diagnosed in 2013. As of December 2013, 21,858 HIV patients in medical care had been recorded in the Netherlands. The proportion of MSM among the newly registered was 70 per cent; 23 per cent were heterosexuals.
Whereas HIV-positive MSM in care were mostly diagnosed at STI clinics (38 per cent), HIV-positive heterosexual men and women in care were mostly diagnosed at hospitals (50 and 49 per cent respectively). GPs diagnosed about one third of both groups (31% of MSM, 40% of heterosexual men and 23% of women).
The percentage of HIV-positive people who were diagnosed at a late stage of the infection has decreased in previous years. Of patients diagnosed in 2013, 43 per cent were diagnosed late (<350 CD4 cell counts/mm3), which was stable compared with the percentage in 2012. This proportion was lower for MSM (34 per cent) than for heterosexuals (62 per cent). People who were diagnosed in hospitals or by GPs were more often diagnosed late (66 and 41 per cent) compared to people diagnosed at STI clinics (26 per cent).

At the STI clinics, the reported number of genital warts decreased by 11 per cent to 2,057. The percentage of positive tests decreased from 1.9 per cent in 2012 to 1.5 per cent in 2013. The number and the positivity rate of genital herpes (HSV) in 2013 (612; 0.5 per cent) was similar to 2012. Since genital warts and HSV were tested by indication only, the number of diagnoses and the percentage testing positive are not comparable with the bacterial STI and HIV described above (routinely screened at all consultations). At GPs, the number of diagnoses of HSV and genital warts has increased gradually in recent years. As a result of the changes in definitions and calculations, we saw a much larger increase from 2011 to 2012, probably due to separating episodes which were previously counted as one episode.
The notification data on acute hepatitis B showed an incidence of 0.8 per 100,000 inhabitants in 2013. The number of acute hepatitis B notifications decreased by 23 per cent to 130 cases in 2013. The total number of reported acute hepatitis C cases increased from 36 cases in 2012 to 62 in 2013.
In short, the number of STI consultations has increased since 2004. Whereas the overall STI positivity rate showed an increasing trend in previous years, the overall STI positivity rate in 2013 was comparable with that of 2012. Strong STI surveillance remains essential to monitor relevant trends. STI control could be supported by strengthening intersectional cooperation between the different care providers, implementation of guidelines, continued monitoring of emerging STI and trends for high-risk groups, strengthening partner notification, visualisation of regional differences, integration of STI screening into HIV care, and systematically culturing gonorrhoea diagnosed in high-risk groups to prevent transmission of drug-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 clinics, the Stichting HIV Monitoring (SHM), public health laboratories, general practitioners participating in the NIVEL Primary Care Database and other health care providers.
The data systematically collected among high-risk groups by the nationwide network of STI clinics 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 2014).

Outline of the report

Chapter 1 describes the methodology of each data source used for STI surveillance in the Netherlands. In Chapter 2, the characteristics of the STI clinic attendees and data from consultations among young people (Sense) in 2013 are presented. Data from general practitioners for 2012 are also presented, as well as trends in specific risk groups for 2004-2013. The Chapters 3-5 present data on bacterial STI (chlamydia, gonorrhoea and syphilis) and the Chapters 6-10 focus on viral STI, including HIV, genital warts, genital herpes and hepatitis B and C. Conclusions and recommendations are captured in Chapter 11.

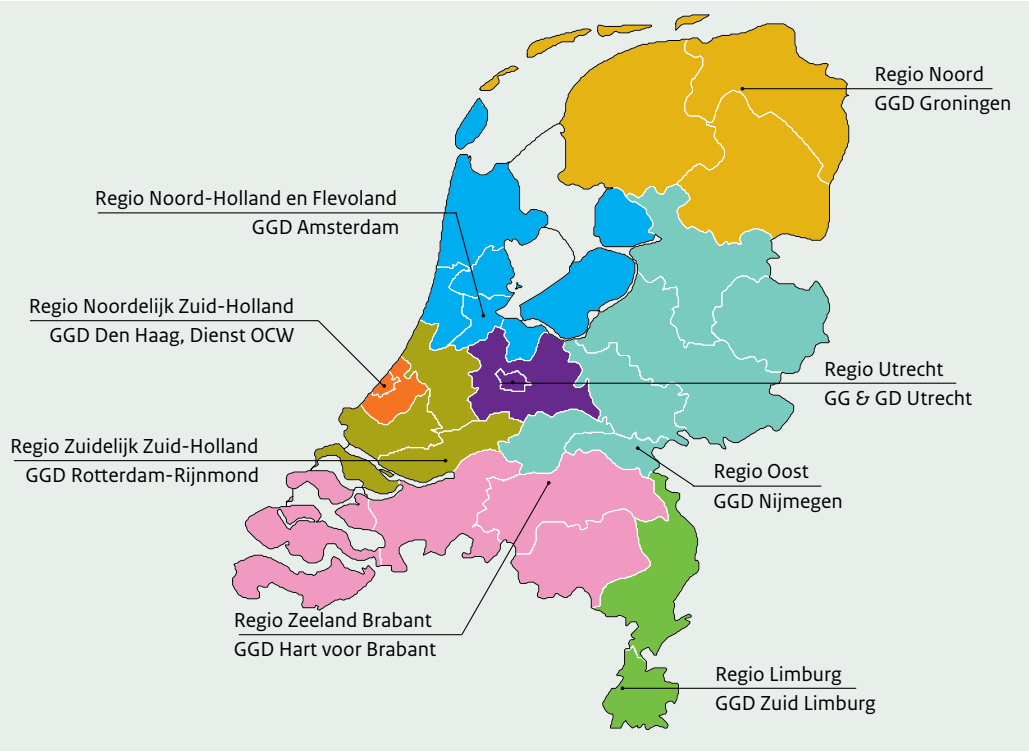
1 Methodology of STI and HIV surveillance

Tables and figures for this report are based on a variety of data sources in order to present 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 embodied in the nationwide system of STI clinics. Data from general practitioners (GPs), who perform the bulk of STI consultations, are extrapolated from the NIVEL Primary Care Database. We used data from the anonymous HIV surveillance at STI clinics and the HIV treatment clinics (Stichting HIV Monitoring) to gain insight into trends among HIV patients in care. Other additional data sources were weekly virological laboratory reports, the Gonococcal Resistance to Antimicrobials Surveillance programme (GRAS), the antenatal screening and the data on hepatitis B and C notifications, the hepatitis B vaccination programme for risk groups and the blood donor registry.

1.1 National surveillance at STI clinics

Since 1995, STI diagnoses have been registered in an STI database at the RIVM in the Netherlands. In 2003, an STI sentinel surveillance system was put in place and this achieved national coverage with the inclusion of all STI clinics in 2004. Since 2006, reporting to the national STI surveillance system has been organized into eight regions. One of the STI clinics in each region is responsible for the coordination of STI surveillance (Figure 1.1). In total, 26 STI clinics, mostly within the Public Health Services (PHSs), provide low threshold STI/HIV testing and care, which is free of charge and targeted at high-risk groups. Persons matching one 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) men who have sex with men (MSM), (5) involved in commercial sex, (6) originating from an HIV/STI endemic area, (7) reporting three or more sexual partners in the previous six months or (8) reporting a partner from one of these risk groups. Attendees are mandatorily tested for chlamydia, gonorrhoea and syphilis and there is an opt-out policy for HIV testing. Since 2012, attendees below the age of 25 years with no other inclusion criteria are in principle tested for chlamydia only. If the chlamydia test result was positive, further testing for gonorrhoea, syphilis and HIV was offered. Hepatitis B and C, genital herpes, trichomonas and LGV are only tested on indication or diagnosed based on symptoms.

Figure 1.1: Eight regions with coordinating STI clinic indicated.



All consultations and corresponding diagnoses are reported online to the RIVM for surveillance purposes; a process that is 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 clinics 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 clinics under national surveillance from 2004 to 2013. Where data were not complete for a specific period or STI clinic, this is indicated. We focus on the major bacterial and viral STI, including HIV infection.

1.2 Sense

To strengthen primary prevention and to promote sexual health among young adults (< 25 years), the STI clinics could also provide sexual health consultations (Sense consultations). Young adults can anonymously approach these Sense locations for information and personal consultations on a broad range of subjects relating to sexual health, including (problems with) sexual intercourse, unwanted pregnancy, birth control, STI, homosexuality, sexual violence or lover-boys. Data on the number and the demographics of visitors of the Sense consultations are presented.

1.3 STI surveillance in general practice

Prevalence rates of STI's in general practice were calculated with data from routine electronic health record systems of general practices participating in NIVEL Primary Care Database (NIVEL-PCD), which incorporates the former LINH (Landelijk Informatie Netwerk Huisartsenzorg), maintained at the Netherlands Institute for Health Services Research (NIVEL). NIVEL-PCD uses routinely recorded data from health care providers to monitor health and utilisation of health services in a representative sample of the Dutch population. In 2012, there was a fourfold increase of the number of participating general practices in NIVEL-PCD compared to the previous group of LINH practices, resulting in a representative sample of 386 participating general practices with approximately 1.2 million registered patients (http://www.nivel.nl/NZR/zorgregistraties-eerstelijn). Prevalence rates from NIVEL-PCD were calculated with an adjusted procedure: there were changes in definitions of episodes and in calculations of prevalence (i.e. more specific selection of patient years[1]), which caused an increase in nearly all STI numbers. Because of these changes, we decided to report previously published numbers of STI-episodes and STI prevalence rates based on the old method from 2002 to 2011 from our previous annual reports.[2] Additionally, we report numbers of STI-episodes and STI prevalence rates using the new method for 2010, 2011 and 2012.

In NIVEL-PCD, all complaints and illnesses are recorded using International Classification of Primary Care (ICPC-1). Annual prevalence 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), reported by gender. For chlamydia, which does not have a main ICPC code, we counted ICPC main codes with appropriate prescription registered in a separate database. Among women the main codes included were for cervicitis, vaginitis and Pelvic Inflammatory Disease (PID), among men for orchitis/epididymitis and other genital diseases (the latter general code only when the start of episode was in the year or last 2 months of the previous year).[3] For syphilis, the number of cases reported was too small for reliable estimates.

We estimated the prevalence of patients with at least one episode per 100,000 patient-years. Episode-duration is defined by the time between the first and the last consultation registered with the same code, and an additional period where patients are considered not susceptible (8 weeks for acute morbidities/complaints). We chose to include data from a selection of 74 practices that consistently reported good quality data between 2010 to 2012. For HIV, we report prevalence estimations using NIVEL-PCD. HIV is defined as a 'chronic, non-reversible morbidity' in the new database, which remain prevalent as long as the patient is registered in the network. In previous annual reports, estimates for HIV were not reported because of the uncertainty due to the small number of practices and the inability to calculate prevalence for chronic illnesses.

1 Nielen MMJ, Spronk I, Davids R, Zwaanswijk M, Verheij RA, Korevaar JC. Verantwoording incidentie en prevalentie cijfers van gezondheidsproblemen in de Nederlandse huisartsenpraktijk in 2012. Uit: NIVEL Zorgregistraties eerste lijn [https://www.nivel.nl/NZR/symptomen-en-aandoeningen]. 2013 [Laatst gewijzigd op 16-12-2013; geraadpleegd op 24-04-2014]. URL: www.nivel.nl/node/3619

2 Stirbu-Wagner I, Dorsman SA, Visscher S, et al. Landelijk Informatienetwerk Huisartsenzorg. Feiten en cijfers over huisartsenzorg in Nederland. Utrecht/Nijmegen: NIVEL/IQ, 2010. <http://www.LINH.nl>, accessed 20-03-2013.

3 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 centers. BMC Family Practice, 2010, 11:39.

Furthermore, more detailed data on STI consultations in general practice are reported from a subset of practices in NIVEL-PCD: the Dutch Sentinel General Practice Network (CMR peilstations). Since 2008, 40-45 general practices participating in additional reporting within this network complete a questionnaire for new consultations concerning STI/HIV issues. The questionnaire addresses STI testing, diagnoses and background information on the patient characteristics with reference to ethnicity, sexual preference and sexual behaviour.[4] We report the main results on patients' profile, testing rates and positivity as well as trends from 2008 to 2012.

1.4 Laboratory surveillance

National laboratory surveillance data are not available for STI, except for data from the 'Virologische Weekstaten', which include the total number of Chlamydia trachomatis positive tests. Data from 21 laboratories, covering an estimated 40 per cent of the main laboratories in the Netherlands) were analysed.[5] There is overlap between the laboratories reporting in this system and the laboratories connected to the STI clinics.

1.5 Antimicrobial resistance of gonococci

Concern for increasing resistance to quinolones at (inter)national level led to an RIVM laboratory survey of the resistance of gonococci in 2002. Because the results demonstrated the need for systematic nationwide surveillance of gonococcal antimicrobial resistance, the Gonococcal Resistance to Antimicrobials Surveillance programme (GRAS) was implemented in the Netherlands in 2006. This programme consists of the systematic collection of data on gonorrhoea and resistance patterns linked with epidemiological data. The participating STI clinics were responsible for 84 per cent of all gonorrhoea diagnoses in 2013.

1.6 Congenital syphilis

For many years, the 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 1997–2013 are presented.

1.7 Antenatal screening

Each year, around 185,000 pregnant women are screened for syphilis (since the 1950s), hepatitis B virus (HBV) (1989) and HIV (2004) in the Netherlands. The blood sample is collected during the first midwife appointment (< 13th week of the pregnancy) according to the opting-

4 Trienekens SC, van den Broek IV, Donker GA, van Bergen JE, van der Sande MA. Consultations for sexually transmitted infections in the general practice in the Netherlands: an opportunity to improve STI/HIV testing. BMJ Open. 2013 Dec 30;3(12):e003687. doi: 10.1136/bmjopen-2013-003687.

5 Virologische weekstaten, http://www.rivm.nl/Onderwerpen/Onderwerpen/S/Surveillance_van_infectieziekten/Virologische_weekstaten , accessed 29-3-2014

out principle. Pregnant women undergo the test, after being provided with information, unless they explicitly state that they do not wish to participate. Almost all pregnant women in the Netherlands participate in this infectious diseases screening programme.[6 7] The screening programme is coordinated by the Centre for Population Screening (CvB).

1.8 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 who give their consent are collected by the SHM (www.hiv-monitoring.nl). The goal of SHM is to monitor HIV-infected individuals registered at the 27 recognised HIV treatment centres (including four children's centres) in the Netherlands in order 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 they entered HIV. 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 only include people 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, 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)).

1.9 HIV incidence data

HIV incidence data are obtained from the Amsterdam Cohort Studies (ACS) on HIV/AIDS, which started in 1984 among MSM and in 1985 among injecting drug users (IDUs). From 1995 and 1998, recruitment started among young (< 30 years) MSM and IDUs, respectively. Since April 2006, participation has again been open to MSM of all ages with at least one sexual partner in the preceding six months. The ACS is a collaboration between the Public Health Service 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).

6 Procesmonitoring prenatale screening infectieziekten en erythrocytenimmunisatie 2005–2007, TNO, Leiden, 2012.

7 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 2010 4 december; 154 (48): 2219-2225.

1.10 Notification of hepatitis B and C

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

1.11 Hepatitis B vaccination programme for risk groups

As a low-endemic country, the Netherlands adopted a vaccination programme against HBV, targeted at groups with high-risk behaviour. The programme offers free vaccination to MSM and commercial sex workers. Heterosexuals with an indication for an STI were also considered a risk group until October 2007 and drug users until January 2012. PHSs and STI clinics offer free of charge vaccination 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. Although universal childhood vaccination was adopted in 2011, the current targeted risk group vaccination programme will be continued in the coming years.

1.12 Blood donors

Since 1985 blood donated by (new and regular) blood donors has been screened for HIV, HBV, HCV, and syphilis, and positive blood is not used for blood transfusion. Volunteers are screened 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 registry, which provides good information on the prevalence and incidence of these infections in a low-risk population. Data from 1998 onwards are reported. Incidences were calculated with the data provided by the blood bank register (www.sanquin.nl).

2
STI and Sense consultations

2.1 Key points

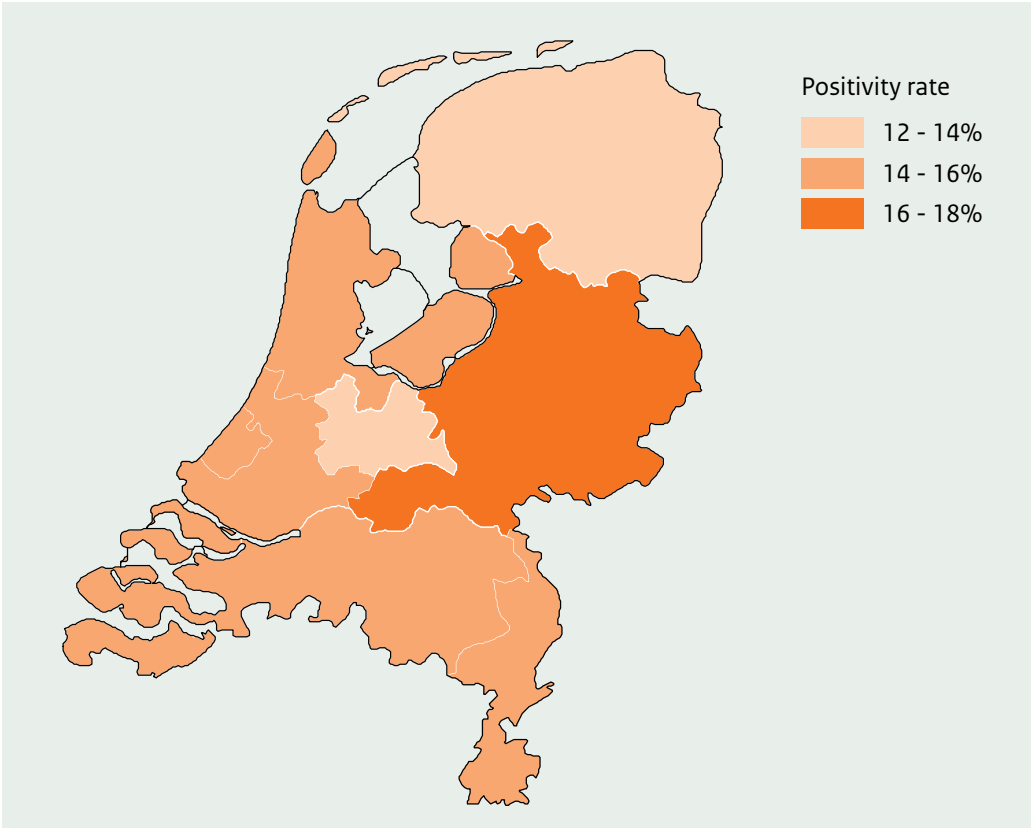
STI clinics

- In 2013, 133,585 new consultations were registered by STI clinics under national surveillance, an increase of 10.1 per cent compared with 2012. The increase was highest among women (12.2 per cent).
- Key characteristics of attendees were as follows: young age (48.7 per cent under 25 years); Dutch origin (66.6 per cent); female and heterosexual male (48.8 per cent and 30.6 per cent, respectively); 3 or more sexual partners in the previous 6 months (51.6 per cent), a history of STI in the previous 2 years (10.3 per cent) and not previously tested for HIV (39.5 per cent).
- Of the attendees who described the last sexual contact as casual, 64.7 per cent reported no condom use.
- For the first time since 2007, the percentage of clients with at least one STI slightly declined: from 15.1 per cent in 2012 to 14.7 per cent in 2013.
- The STI positivity rate in young people was, as always, higher among those aged 15-19 years than among those aged 20-24: 19.9 per cent versus 15.3 per cent respectively in 2013.
- Among MSM, the STI positivity rate was highest in those with a new HIV infection (51.4 per cent and in those with a known HIV positive status (31.5 per cent). While among known HIV-positive MSM the STI positivity rate has decreased over time, the STI positivity among MSM newly diagnosed with HIV has increased.
- Non-Dutch MSM tested more often positive for an STI (21.7 per cent) than Dutch MSM (18.2 per cent).
- The percentage of STI clinic attendees who reported being notified of their possible exposure to STI has increased from 10.8 per cent in 2010 to 15.0 per cent in 2013. In 2013, this percentage was highest among MSM (MSM: 18.5 per cent; heterosexual men: 17.9 per cent; women: 11.8 per cent).
- Among all individuals diagnosed with an STI, 31.4 per cent were detected through partner notification.
- In 2013, 11,029 Sense consultations were registered, of which 80.9 per cent were for women. Among both men and women, the most common topic was STI. Birth control was the second most common topic among women.

General practice

- Using the new method, the annual number of STI-related episodes at GPs (based on ICPC codes for episodes of fear of STI and diagnoses of STI) was estimated at 340,000 in the Netherlands in 2012 and was stable compared to 2010 and 2011. Due to changes in definitions, the estimated numbers for 2010-2012 were higher using the new method data than the numbers reported previously (see Chapter 2: Methodology).
- Of all STI-related episodes at GPs in 2012, 47 per cent were in men and 53 per cent in women. In about 50 per cent of the STI-related consultations, a diagnosis of STI was registered (chlamydia, gonorrhoea, syphilis, HIV, trichomonas, genital herpes, genital warts or non-specific urethritis).
- The more detailed data from questionnaires (Dutch Sentinel General Practice Network, NIVEL) also show that the patients with STI-related consultations at GPs were more often women (58 per cent) than men. The majority (80 per cent) is of Dutch descent and about 40 per cent is under 25 years. Eight to 10 per cent of male STI-patients indicated having a homosexual preference, which is much lower than at STI clinics, where 40 per cent of male clients reported being MSM. The most common reason to visit the GP for STI issues is STI symptoms or complaints (43 per cent). Since the start of reporting, these characteristics of patients with STI-related consultations at the GP have not changed over time.
- In 2012, GPs requested an STI-test (chlamydia, gonorrhoea, syphilis or HBV) in 80 per cent of STI-consultations, and an HIV-test in 24 per cent. The HIV-test request rate declined slightly between 2008 and 2012 for heterosexual men and women, while this was stable for MSM. The STI test positivity rate (chlamydia, gonorrhoea, syphilis, HBV, HIV) was 30 per cent, but it was higher among patients under 25 years (38 per cent) and patients who were notified (54 per cent).

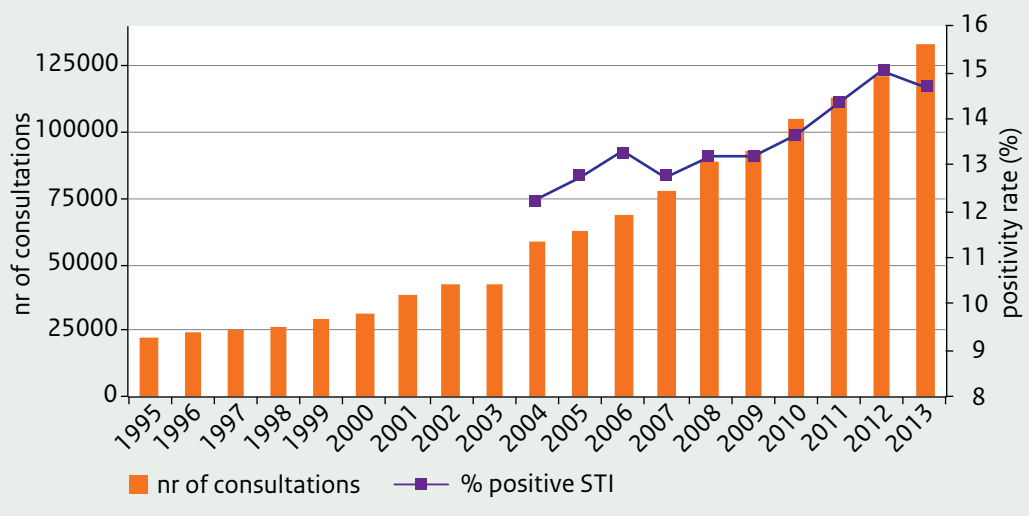
Figure 2.1 Positivity rates of STI by region, the Netherlands, 2013.



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

2.2 Consultations and characteristics of STI clinic attendees

Figure 2.2 Number of consultations and percentage of positive STI in the national STI surveillance in the Netherlands, 1995–2013.



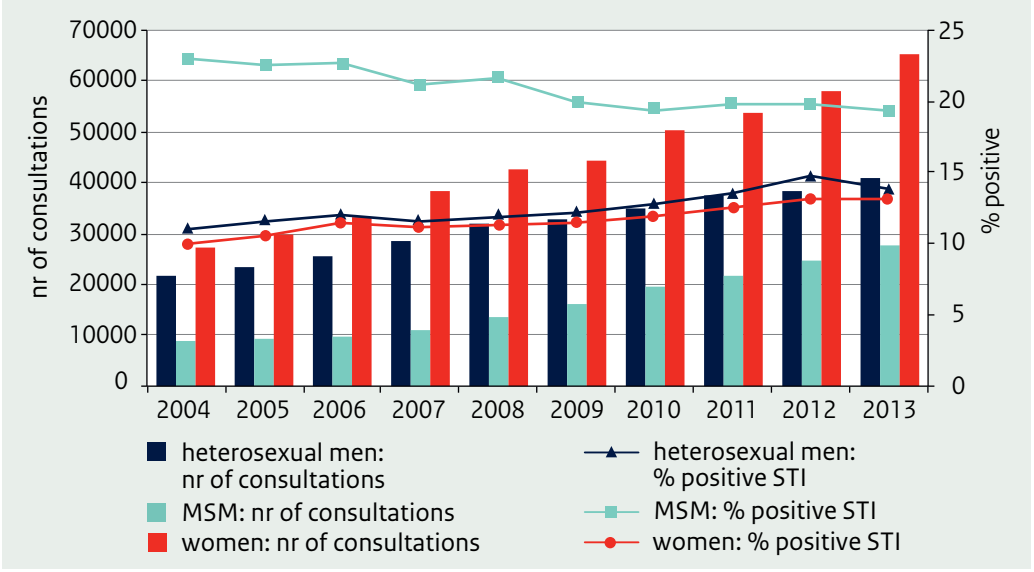
Footnote: 1995–2002: STI registration; 2000: STI clinic Erasmus Medical Centre Rotterdam was included; 2003: Implementation of STI sentinel surveillance network; 2004–2013: National STI surveillance network. STI include: chlamydia, gonorrhoea, infectious syphilis, HIV and infectious hepatitis B.

Table 2.1 Number of consultations by sexual risk group, 2007–2013.

Gender and sexual preference	2008 n (%)	2009 n (%)	2010 n (%)	2011 n (%)	2012 n (%)	2013 n (%)
Heterosexual men	31,770 (35.9)	32,584 (34.9)	35,112 (33.4)	37,434 (33.1)	38,516 (31.8)	40,872 (30.6)
MSM	13,764 (15.6)	16,332 (17.5)	19,579 (18.6)	21,783 (19.2)	24,640 (20.3)	27,497 (20.6)
Women	42,796 (48.4)	44,291 (47.5)	50,177 (47.8)	53,849 (47.6)	58,040 (47.9)	65,104 (48.7)
Transgender*	34 (0.04)	47 (0.1)	76 (0.1)	46 (0.04)	42 (0.03)	54 (0.0)
Sexual preference unknown*	71 (0.1)	77 (0.1)	72 (0.1)	68 (0.1)	40 (0.03)	58 (0.0)
Total	**88,435**	**93,331**	**105,016**	**113,180**	**121,278**	**133,585**

*The categories 'transgender' and 'sexual preference unknown' are excluded from here onwards.

Figure 2.3 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands by gender and sexual preference, 2004–2013.

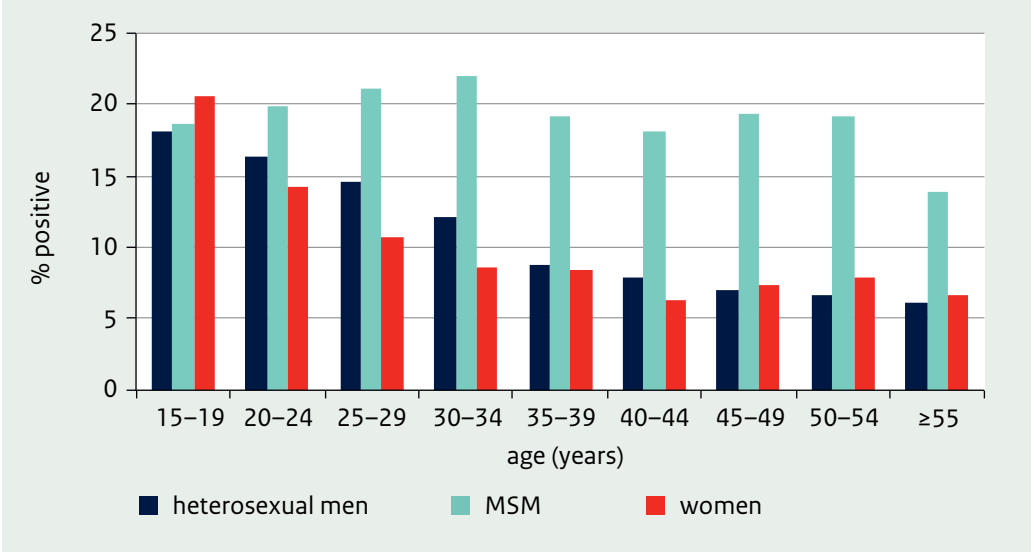


Footnote: STI include: chlamydia, gonorrhoea, infectious syphilis, HIV and infectious hepatitis B.

Table 2.2 Number of consultations by age, gender and sexual preference, 2013.

Age (years)	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
≤14	8 (0.0)	2 (0.0)	83 (0.1)	93 (0.1)
15–19	2,567 (6.3)	738 (2.7)	8,559 (13.1)	11,864 (8.9)
20–24	16,615 (40.7)	3,831 (13.9)	32,643 (50.1)	53,089 (39.8)
25–29	9,388 (23.0)	4,023 (14.6)	11,699 (18.0)	25,110 (18.8)
30–34	4,185 (10.2)	3,518 (12.8)	4,174 (6.4)	11,877 (8.9)
35–39	2,291 (5.6)	3,336 (12.1)	2,309 (3.5)	7,936 (5.9)
40–44	1,974 (4.8)	3,414 (12.4)	2,149 (3.3)	7,537 (5.6)
45–49	1,565 (3.8)	3,284 (11.9)	1,823 (2.8)	6,672 (5.0)
50–54	1,117 (2.7)	2,412 (8.8)	1,030 (1.6)	4,559 (3.4)
≥ 55	1,157 (2.8)	2,937 (10.7)	626 (1.0)	4,720 (3.5)
Unknown	5 (0.0)	2 (0.0)	9 (0.0)	16 (0.01)
Total	**40,872**	**27,497**	**65,104**	**133,473**

Figure 2.4 Percentage of positive STI tests in the national STI surveillance in the Netherlands by age and sexual preference, 2013.



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

Table 2.3 Number of consultations by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men	MSM	Women	Total
	n (%)	n (%)	n (%)	n (%)
The Netherlands	**25,100 (61.4)**	**19,443 (70.7)**	**44,286 (68.0)**	**88,829 (66.6)**
Turkey	**1,078 (2.6)**	**347 (1.3)**	**620 (1.0)**	**2,045 (1.5)**
First generation migrants	310 (28.8)	146 (42.1)	117 (18.9)	573 (28.0)
Second generation migrants	760 (70.5)	200 (57.6)	501 (80.8)	1,461 (71.4)
Unknown	8 (0.7)	1 (0.3)	2 (0.3)	11 (0.5)
North Africa/Morocco	**1,748 (4.3)**	**348 (1.3)**	**1,124 (1.7)**	**3,220 (2.4)**
First generation migrants	511 (29.2)	162 (46.6)	205 (18.2)	878 (27.3)
Second generation migrants	1,229 (70.3)	181 (52.0)	916 (81.5)	2,326 (72.2)
Unknown	8 (0.5)	5 (1.4)	3 (0.3)	16 (0.5)
Surinam	**3,273 (8.0)**	**803 (2.9)**	**3,671 (5.6)**	**7,747 (5.8)**
First generation migrants	1,048 (32.0)	349 (43.5)	945 (25.7)	2,342 (30.2)
Second generation migrants	2,200 (67.2)	437 (54.4)	2,709 (73.8)	5,346 (69.0)
Unknown	25 (0.8)	17 (2.1)	17 (0.5)	59 (0.8)
Netherlands Antilles/Aruba	**1,706 (4.2)**	**553 (2.0)**	**1,660 (2.5)**	**3,919 (2.9)**
First generation migrants	1,016 (59.6)	429 (77.6)	812 (48.9)	2,257 (57.6)
Second generation migrants	682 (40.0)	122 (22.1)	840 (50.6)	1,644 (41.9)
Unknown	8 (0.5)	2 (0.4)	8 (0.5)	18 (0.5)
Sub-Saharan Africa	**1,418 (3.5)**	**228 (0.8)**	**1,491 (2.3)**	**3,137 (2.4)**
First generation migrants	797 (56.2)	150 (65.8)	759 (50.9)	1,706 (54.4)
Second generation migrants	614 (43.3)	74 (32.5)	727 (48.8)	1,415 (45.1)
Unknown	7 (0.5)	4 (1.8)	5 (0.3)	16 (0.5)
Eastern Europe	**600 (1.5)**	**567 (2.1)**	**2,734 (4.2)**	**3,901 (2.9)**
First generation migrants	489 (81.5)	495 (87.3)	2,518 (92.1)	3,502 (89.8)
Second generation migrants	109 (18.2)	65 (11.5)	203 (7.4)	377 (9.7)
Unknown	2 (0.3)	7 (1.2)	13 (0.5)	22 (0.6)
Latin America	**646 (1.6)**	**810 (2.9)**	**1,578 (2.4)**	**3,034 (2.3)**
First generation migrants	443 (68.6)	699 (86.3)	1,186 (75.2)	2,328 (76.7)
Second generation migrants	196 (30.3)	90 (11.1)	383 (24.3)	669 (22.1)
Unknown	7 (1.1)	21 (2.6)	9 (0.6)	37 (1.2)
Asia	**2,020 (4.9)**	**1,415 (5.1)**	**2,858 (4.4)**	**6,293 (4.7)**
First generation migrants	983 (48.7)	736 (52.0)	1,116 (39.0)	2,835 (45.1)
Second generation migrants	1,032 (51.1)	674 (47.6)	1,729 (60.5)	3,435 (54.6)
Unknown	5 (0.2)	5 (0.4)	13 (0.5)	23 (0.4)
Europe other	**2,144 (5.2)**	**2,083 (7.6)**	**3,244 (5.0)**	**7,471 (5.6)**
First generation migrants	1,240 (57.8)	1,619 (77.7)	1,701 (52.4)	4,560 (61.0)
Second generation migrants	898 (41.9)	454 (21.8)	1,538 (47.4)	2,890 (38.7)
Unknown	6 (0.3)	10 (0.5)	5 (0.2)	21 (0.3)

Table 2.3 (continued) Number of consultations by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
Else	**303 (0.7)**	**328 (1.2)**	**516 (0.8)**	**1,147 (0.9)**
First generation migrants	169 (55.8)	272 (82.9)	221 (42.8)	662 (57.7)
Second generation migrants	134 (44.2)	54 (16.5)	293 (56.8)	481 (41.9)
Unknown	0 (0.0)	2 (0.6)	2 (0.4)	4 (0.3)
Unknown	**836 (2.0)**	**572 (2.1)**	**1,322 (2.0)**	**2,730 (2.0)**
Total	**40,872**	**27,497**	**65,104**	**133,473**

Figure 2.5 Percentage of positive STI tests in the national STI surveillance in the Netherlands by ethnicity and sexual preference, 2013.

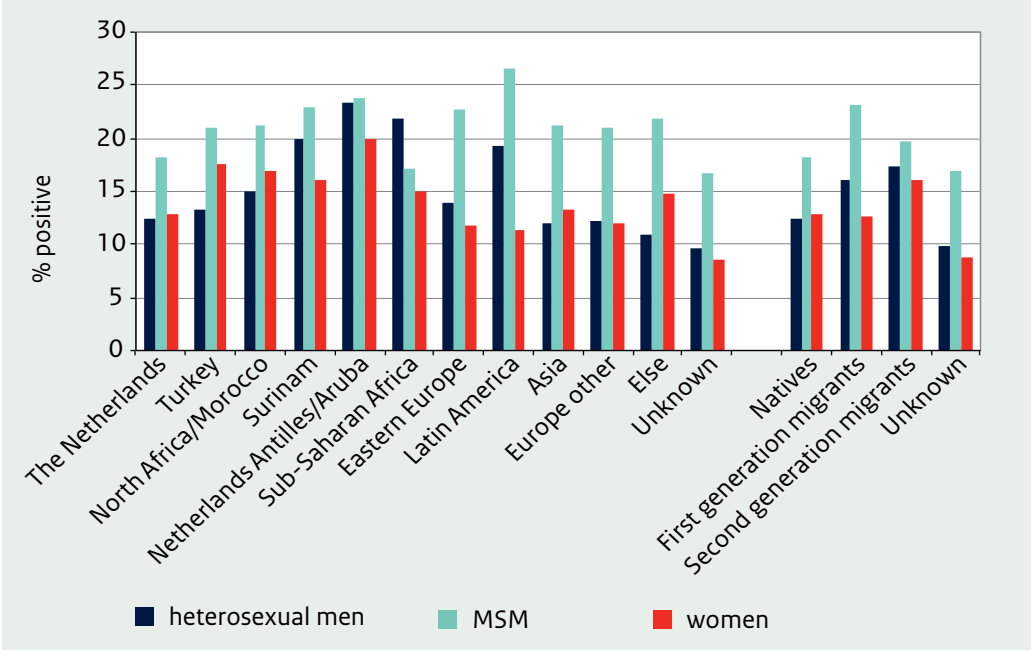


Table 2.4 Number of consultations by (sexual) behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
Number of partners in past 6 months				
0 partners	301 (0.7)	182 (0.7)	550 (0.8)	1,033 (0.8)
1 partner	8,075 (19.8)	2,833 (10.3)	19,487 (29.9)	30,395 (22.8)
2 partners	8,838 (21.6)	3,130 (11.4)	16,547 (25.4)	28,515 (21.4)
3 or more partners	23,178 (56.7)	20,397 (74.2)	25,262 (38.8)	68,837 (51.6)
Unknown	480 (1.2)	955 (3.5)	3,258 (5.0)	4,693 (3.5)
Condom use if last sexual contact was steady*				
No	15,214 (78.4)	7,991 (76.7)	27,510 (83.7)	50,715 (80.9)
Yes	4,136 (21.3)	2,295 (22.0)	5,248 (16.0)	11,679 (18.6)
Unknown	66 (0.3)	131 (1.3)	105 (0.3)	302 (0.5)
Condom use if last sexual contact was casual*				
No	14,008 (67.7)	8,920 (57.5)	19,977 (66.4)	42,905 (64.7)
Yes	6,582 (31.8)	6,439 (41.5)	9,961 (33.1)	22,982 (34.7)
Unknown	110 (0.5)	145 (0.9)	153 (0.5)	408 (0.6)
Previous GO/CT/syphilis in anamnesis				
No	33,975 (83.1)	22,424 (81.6)	53,397 (82.0)	109,796 (82.3)
Yes	3,114 (7.6)	4,178 (15.2)	6,419 (9.9)	13,711 (10.3)
Don't know	2,370 (5.8)	476 (1.7)	3,221 (4.9)	6,067 (4.5)
Unknown	1,413 (3.5)	419 (1.5)	2,067 (3.2)	3,899 (2.9)
Previous HIV test				
No	20,268 (49.6)	3,402 (12.4)	29,014 (44.6)	52,684 (39.5)
Yes, positive	58 (0.1)	4,110 (14.9)	95 (0.15)	4,263 (3.2)
Yes, negative	19,764 (48.4)	19,779 (71.9)	34,577 (53.1)	74,120 (55.5)
Yes, result unknown	75 (0.2)	66 (0.2)	140 (0.2)	281 (0.2)
Unknown	707 (1.7)	140 (0.5)	1,278 (2.0)	2,125 (1.6)
CSW				
No	40,677 (99.5)	26,975 (98.1)	59,258 (91.0)	126,910 (95.1)
Yes, in past 6 months	149 (0.4)	450 (1.6)	5,781 (8.9)	6,380 (4.8)
Unknown	46 (0.1)	72 (0.3)	65 (0.1)	183 (0.1)
Client of CSW, men				
No	36,128 (88.4)	26,363 (95.9)		62,491 (91.4)
Yes, in past 6 months	4,638 (11.3)	678 (2.5)		5,316 (7.8)
Unknown	106 (0.3)	456 (1.7)		562 (0.8)
Swinger**				
No	23,017 (92.9)	11,382 (90.0)	34,399 (91.9)	68,798 (91.9)
Yes	1,742 (7.0)	1,210 (9.6)	2,857 (7.6)	5,809 (7.8)
Unknown	14 (0.1)	56 (0.4)	185 (0.5)	255 (0.3)

Table 2.4 (continued) Number of consultations by (sexual) behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
Injecting drug use				
No	40,212 (98.4)	27,175 (98.8)	63,284 (97.2)	130,671 (97.9)
Yes, ever	94 (0.2)	112 (0.4)	102 (0.2)	308 (0.2)
Yes, in past 6 months	28 (0.1)	77 (0.3)	35 (0.1)	140 (0.1)
Unknown	538 (1.3)	133 (0.5)	1,683 (2.6)	2,354 (1.8)
Social economic status (SES)				
Very high	5,008 (12.3)	4,077 (14.8)	8,390 (12.9)	17,475 (13.1)
High	10,522 (25.7)	7,470 (27.2)	17,150 (26.34)	35,142 (26.3)
Medium	11,484 (28.1)	7,358 (26.8)	18,664 (28.7)	37,506 (28.1)
Low	6,771 (16.6)	4,587 (16.7)	9,952 (15.3)	21,310 (16.0)
Very low	4,204 (10.3)	2,131 (7.7)	5,472 (8.4)	11,807 (8.8)
Unknown	2,883 (7.1)	1,874 (6.8)	5,476 (8.4)	10,233 (7.7)

* Type of sexual contact was missing for 3 per cent (n=3,510)
** Voluntary question, answered by 53 per cent (n=70,977)

Table 2.5 Reported indication by gender and sexual preference, 2013.

Indication	Heterosexual men n (%)	MSM n (%)	Women n (%)	Total n (%)
STI/HIV endemic area	12,489 (30.6)	5,071 (18.4)	15,736 (24.2)	33,296 (24.9)
Symptoms	13,379 (32.7)	6,404 (23.3)	21,547 (33.1)	41,330 (31.0)
Partner in risk group	11,998 (29.4)	25,910 (94.2)	19,767 (30.4)	57,675 (43.2)
Notified	7,302 (17.9)	5,075 (18.5)	7,708 (11.8)	20,085 (15.0)
No indication	707 (1.7)	0 (0.0)	1,125 (1.7)	1,832 (1.4)

Footnote: Percentages do not add up to 100% 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 2.6 Percentage of positive STI tests in the national STI surveillance in the Netherlands by risk factor and sexual preference, 2013

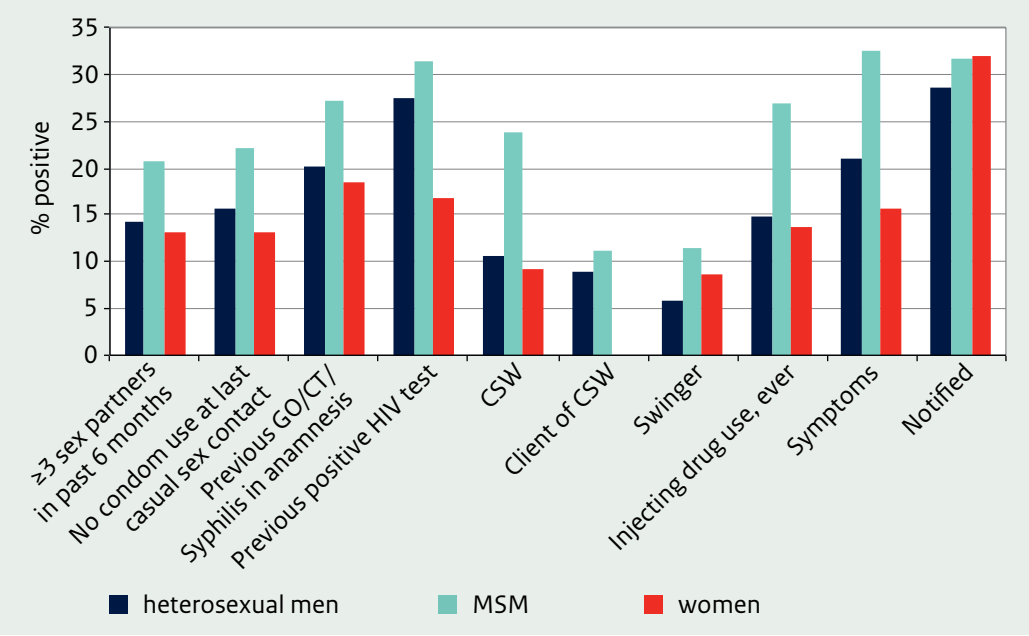


Table 2.6a Number of STI diagnoses and percentage of positive tests by gender and sexual preference, 2013.

Diagnosis	Heterosexual men n (% pos.)	MSM n (% pos.)	Women n (% pos.)	Total n (% pos.)
Chlamydia	5,201 (12.8)	2,645 (9.6)	7,921 (12.2)	15,767 (11.8)
Gonorrhoea	621 (1.6)	2,541 (9.3)	991 (1.8)	4,153 (3.4)
Syphilis, infectious*	31 (0.1)	581 (2.1)	14 (0.03)	626 (0.5)
HIV	15 (0.0)	315 (1.4)	26 (0.0)	356 (0.3)
Hepatitis B, infectious	77 (0.4)	48 (0.5)	47 (0.2)	172 (0.3)
Genital warts	883 (2.2)	463 (1.7)	711 (1.1)	2,057 (1.5)

*Infectious syphilis includes primary, secondary infection and latens recens

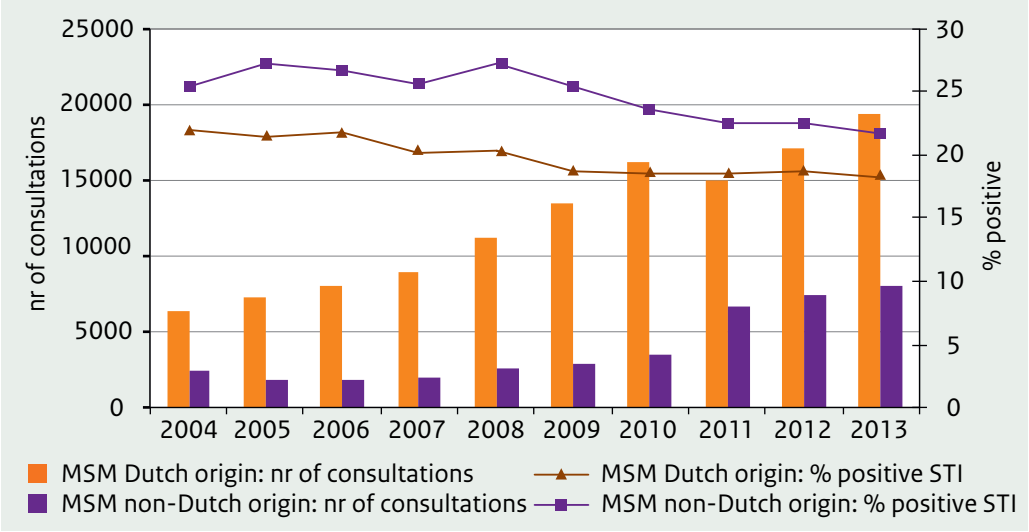
Table 2.6b Number of STI diagnoses by gender and sexual preference, 2013.

Diagnosis	Heterosexual men n	MSM n	Women n	Total n
Syphilis				
primary	14	189	5	208
secondary	6	146	1	153
latens recens	11	246	8	265
latens tarda	26	86	22	134
not specified	9	55	13	77
Genital herpes				
primary: HSV1	81	35	143	259
primary: HSV2	105	62	129	296
primary: HSV unknown	11	7	33	51
recurrent	13	7	16	36
Hepatitis B, recovered	474	615	528	1,617
Hepatitis C	1	34	1	36
Non specified urethritis	799	465	4	1,268
Candidiasis	161	50	634	845
Bacterial vaginosis	3	1	1,290	1,294
Trichomoniasis	9	0	165	174
Scabies	17	15	7	39
Pubic Lice	0	7	0	7
Ulcus e.c.i.	4	3	5	12
Lymphogranuloma venereum	0	106	0	106
Proctitis	0	184	3	187

2.3 Trends

2.3.1 Trends in specific risk groups

Figure 2.7 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands among MSM by ethnicity, 2004-2013.



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 2011-2013 data can therefore not be directly compared with previous years

Figure 2.8 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands among MSM by HIV status, 2004–2013.

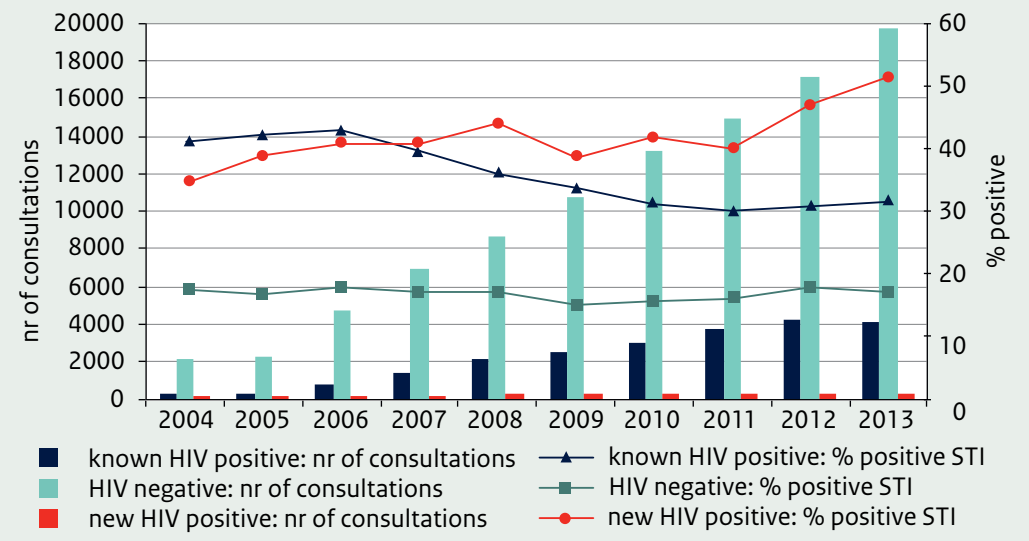


Figure 2.9 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands among commercial sex workers, 2004–2013.

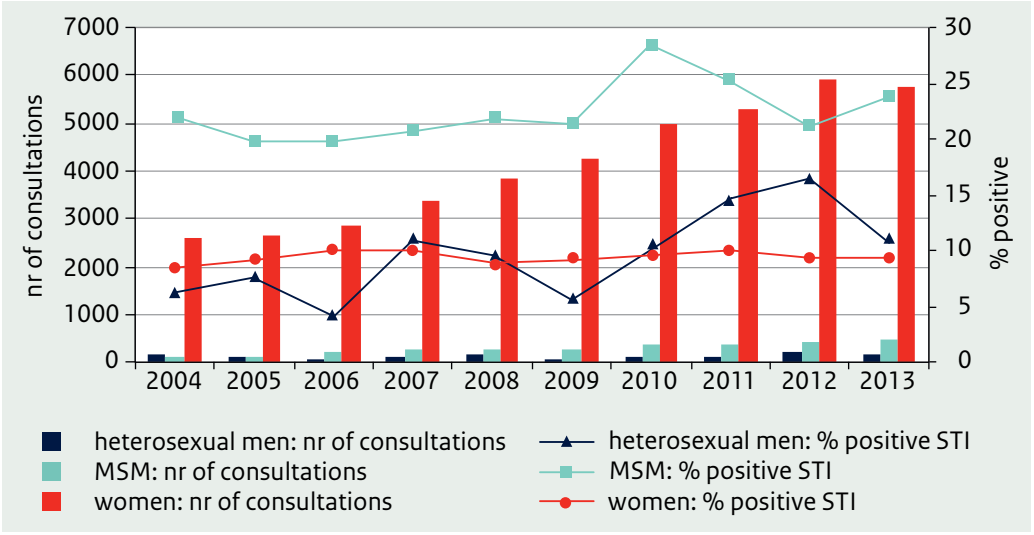


Figure 2.10 Number of consultations and percentage of positive STI tests in the national STI surveillance in the Netherlands among young age groups, 2004–2013.

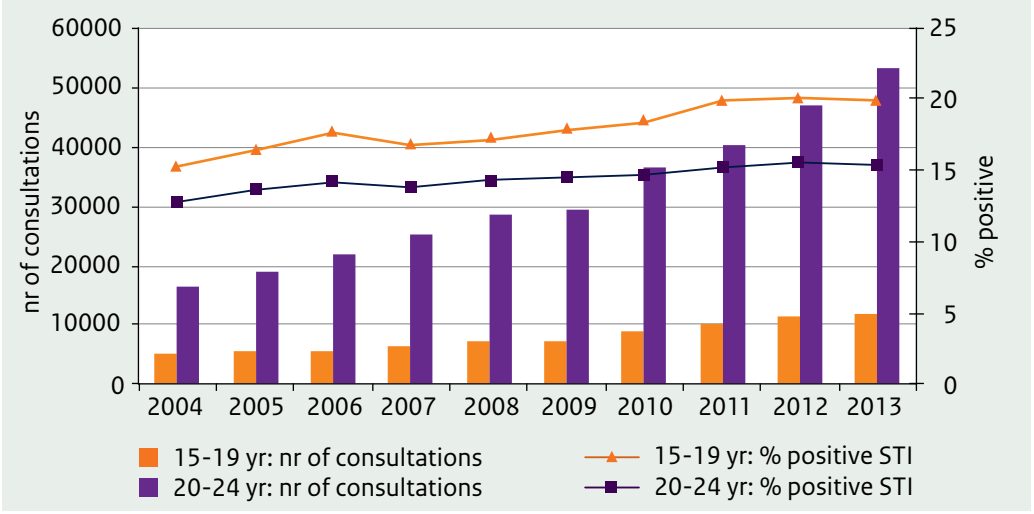
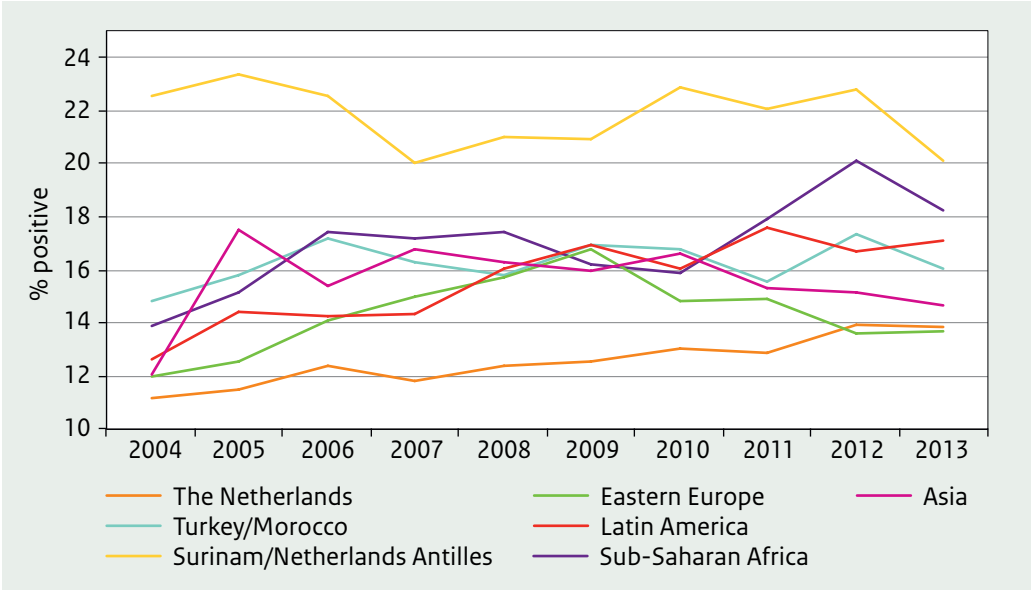
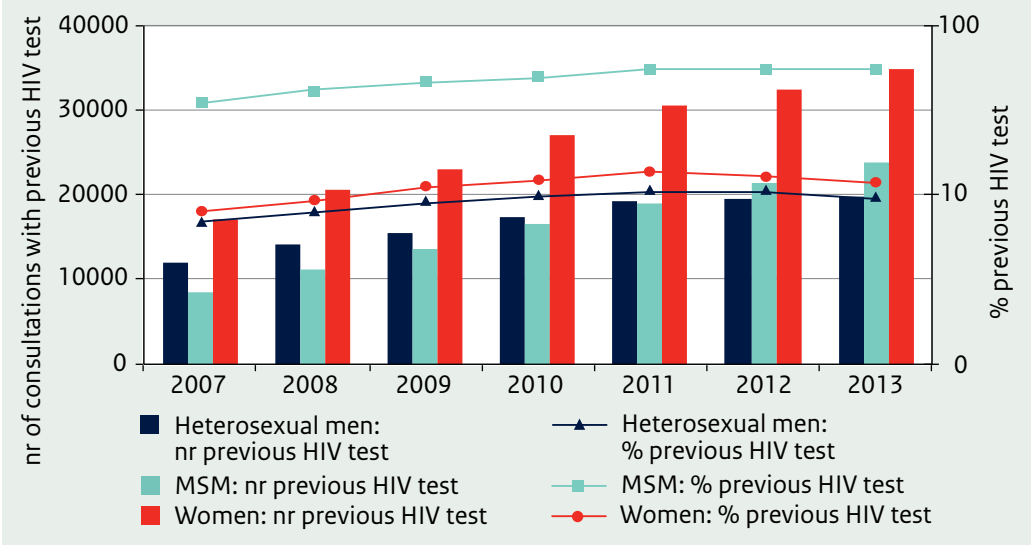


Figure 2.11 Percentage of positive STI tests in the national STI surveillance in the Netherlands by ethnicity, 2004–2013.



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 2011-2013 data can therefore not be directly compared with previous years.

Figure 2.12 Number and percentage of heterosexual men, MSM and women who reported having had an HIV test previously (including known HIV-positive individuals), 2007-2013.



2.3.2 Partner notification trends

Figure 2.13 The number and the percentage of heterosexual men, MSM and women who reported being notified of their potential risk of exposure to STI, 2010-2013.

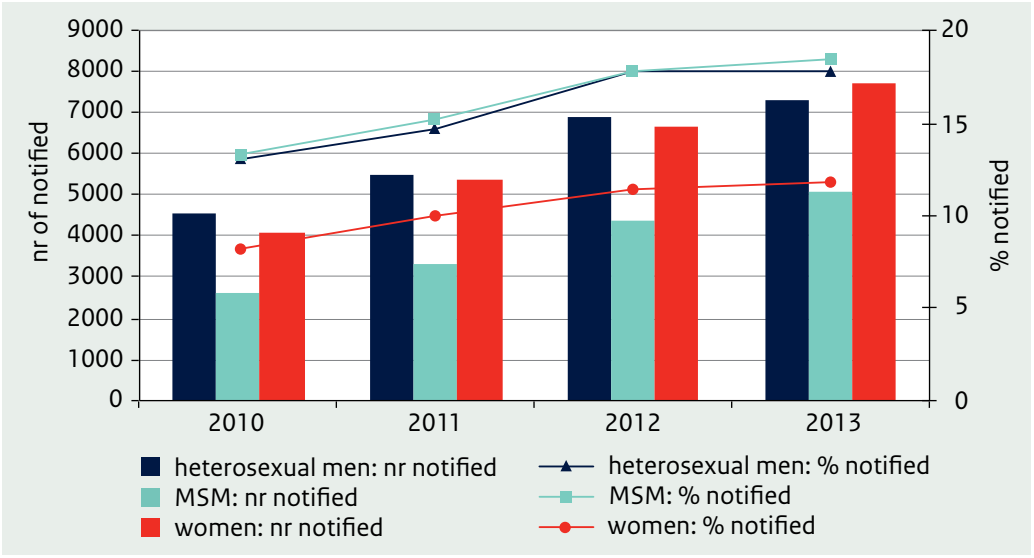
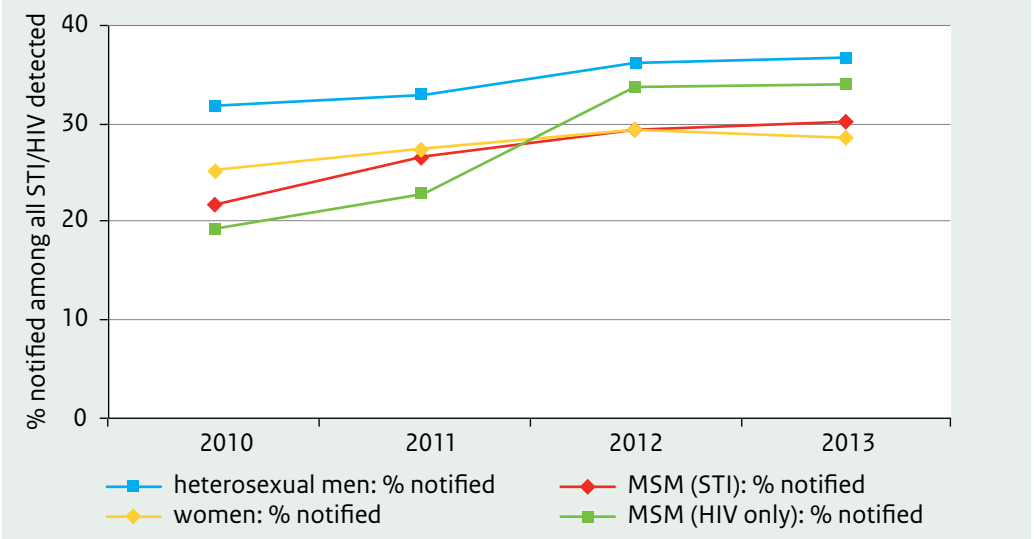
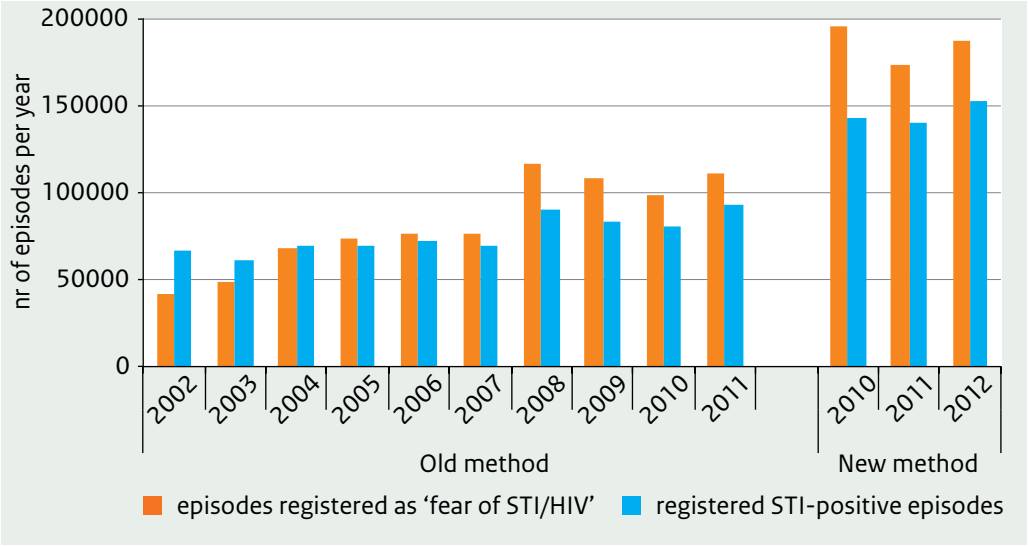


Figure 2.14 The percentage of STI detected through partner notification among heterosexual men, MSM and women, and the percentage of HIV detected through partner notification among MSM, 2010-2013.



2.4 General practitioner

Figure 2.15 PEstimated prevalence of episodes of fear of STI/HIV and the prevalence of STI positive episodes at GPs, based on extrapolation from general practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).



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

Table 2.7 Estimated prevalence of STI-related episodes of diagnoses and fear of STI/HIV per 100,000 population at GPs in the Netherlands by gender, based on extrapolation from the practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

		Men n/100,000	Women n/100,000	Total n/100,000
Old method	2002	605	727	615
	2003	587	760	674
	2004	748	937	843
	2005	845	900	873
	2006	828	992	910
	2007	826	948	887
	2008	1,216	1,309	1,262
	2009	1,107	1,205	1,156
	2010	1,043	1,115	1,079
	2011	1,157	1,292	1,224
New method	2010	1,949	2,136	1,916
	2011	1,812	1,943	1,744
	2012	1,938	2,121	1,887

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

Table 2.8 Characteristics of STI-patients seen in primary care surveillance (based on STI-consultation questionnaires in 40-45 practices of the Dutch Sentinel General Practice Network, NIVEL), from 2008-2012.

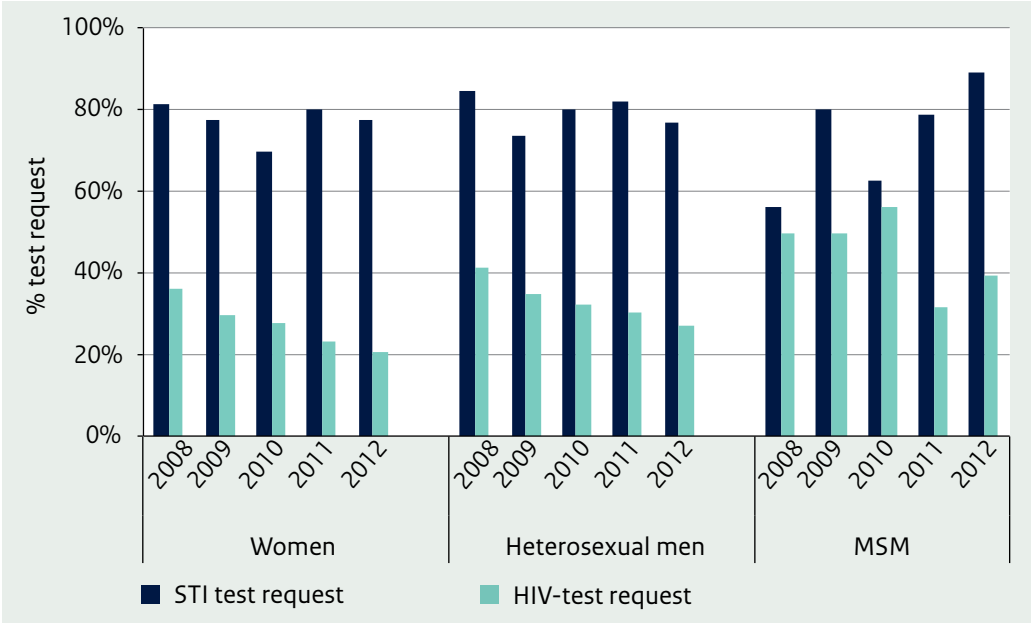
	2008 N (%)	2009 N (%)	2010 N (%)	2011 N (%)	2012 N (%)
Total	**437**	**546**	**530**	**595**	**559**
Gender and sexual preference					
Women	259 (59.3)	310 (56.8)	315 (59.4)	356 (59.8)	318 (56.9)
Heterosexual men	152 (34.8)	202 (37.0)	185 (34.9)	195 (32.8)	179 (32.0)
MSM	18 (4.1)	22 (4.0)	16 (3.0)	23 (3.9)	28 (5.0)
Men unknown preference	10 (2.3)	11 (2.0)	14 (2.6)	18 (3.0)	20 (3.6)
Ethnic background					
Dutch	360 (82.4)	446 (81.7)	460 (86.8)	497 (83.5)	437 (78.2)
non-Dutch non-Western	63 (14.4)	91 (16.7)	58 (10.9)	92 (15.5)	93 (16.6)
non-Dutch Western	7 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
unknown	9 (2.1)	9 (1.6)	13 (2.5)	6 (1.0)	15 (2.7)
Age group					
< 25 years	175 (40.0)	212 (38.8)	220 (41.5)	245 (41.2)	186 (33.3)
> 25 years	262 (60.0)	334 (61.2)	310 (58.5)	350 (58.8)	373 (66.7)
Recent sexual contacts*					
Steady partner	234 (53.5)	278 (50.9)	260 (49.1)	283 (47.6)	279 (49.9)
Casual partner(s)	171 (39.1)	209 (38.3)	199 (37.5)	233 (39.2)	214 (38.3)
Paid sex contacts	5 (1.1)	8 (1.5)	8 (1.5)	5 (0.8)	5 (0.9)
unknown	37 (8.5)	71 (13.0)	78 (14.7)	74 (12.4)	78 (14.0)
Reason for STI-consultation					
STI-related complaints	179 (41.0)	255 (46.7)	230 (43.4)	244 (41.0)	246 (44.0)
Notified	46 (10.5)	48 (8.8)	60 (11.3)	73 (12.3)	75 (13.4)
Check-up	75 (17.2)	118 (21.6)	98 (18.5)	104 (17.5)	86 (15.4)
Recent risk	62 (14.2)	73 (13.4)	69 (13.0)	98 (16.5)	76 (13.6)
Fear for STI	27 (6.2)	39 (7.1)	24 (4.5)	17 (2.9)	16 (2.9)
other/unknown	48 (11.0)	13 (2.4)	49 (9.2)	59 (9.9)	60 (10.7)

Table 2.9 Testing rate and positivity rate for STI (chlamydia, gonorrhoea, syphilis, HepB) and HIV and positivity rate among persons tested (Dutch Sentinel General Practice Network, NIVEL), 2012.

	STI test				HIV test#	
	N tests	% tested	N pos	% pos	N tests	% tested
Gender and sexual preference						
Women	246	77.4	66	26.8	66	20.8
Heterosexual men	138	77.1	39	28.3	48	26.8
MSM	25	89.3	8	32.0	11	39.3
Ethnic background						
Dutch	343	78.5	91	26.5	105	24.0
non-Dutch non-Western	76	81.7	25	32.9	22	23.7
Age group						
< 25 years	153	82.3	58	37.9	43	23.1
> 25 years	279	74.8	64	22.9	89	23.9
Recent sexual contacts*						
Steady partner	206	73.8	63	30.6	62	22.2
Casual partner(s)	185	86.4	45	24.3	59	27.6
Paid sex contacts	5	100.0	2	40.0	1	20.0
unknown	54	69.2	20	37.0	18	23.1
Reason for STI-consultation						
STI-related complaints	167	67.9	58	34.7	27	11.0
Notified	61	81.3	33	54.1	14	18.7
Check-up	80	93.0	16	20.0	43	50.0
Recent risk	73	96.1	12	16.4	29	38.2
Fear for STI	10	62.5	0	0.0	4	25.0
other/unknown	50	83.3	12	24.0	20	33.3

* Some patients are included in more than one category
\# All HIV tests were negative

Figure 2.16 Testing rate for STI (chlamydia, gonorrhoea, syphilis, HepB) and HIV in the Dutch Sentinel General Practice Network, NIVEL, 2008-2012.



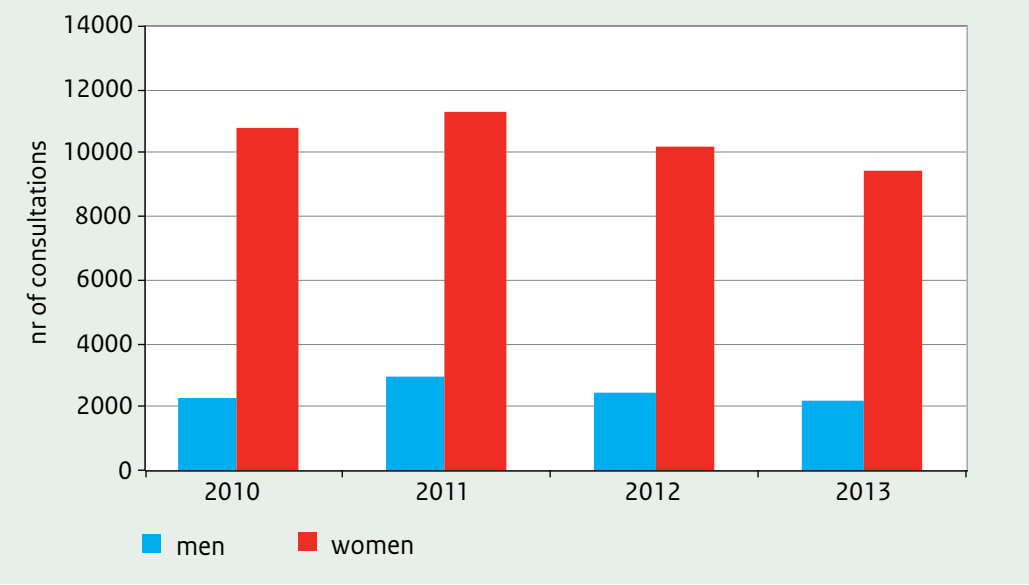
2.5 Sense

Table 2.10 Number of Sense consultations by age and gender, 2013.

Age (years)	Men n (%)	Women n (%)	Total n (%)
≤ 14	18 (0.8)	160 (1.7)	178 (1.5)
15–19	598 (26.7)	3,221 (34.0)	3,819 (32.6)
20–24	1,377 (61.5)	5,596 (59.1)	6,973 (59.5)
≥ 25	247 (11.0)	496 (5.2)	743 (6.3)
Total	**2,240**	**9,473**	**11,713**

Footnote: Six transgenders were excluded from the analyses. Age was missing for six consultations.

Figure 2.17 Number of Sense consultations by gender, 2010–2013.



Footnote: Six transgenders were excluded from the analyses.

Table 2.11 Number of Sense consultations by country of birth and gender, 2013.

Country of birth	Men n (%)	Women n (%)	Total n (%)
The Netherlands	1,518 (67.7)	6,724 (70.9)	8,242 (70.3)
Netherlands Antilles	112 (5.0)	252 (2.7)	364 (3.1)
Surinam	100 (4.5)	340 (3.6)	440 (3.8)
Morocco	68 (3.0)	183 (1.9)	251 (2.1)
Turkey	48 (2.1)	135 (1.4)	183 (1.6)
Else	395 (17.6)	1,844 (19.5)	2,239 (19.1)
Total	**2,241**	**9,478**	**11,719**

Footnote: Six transgenders were excluded from the analyses.

Table 2.12 Subjects of Sense consultations by gender, 2013.

Subjects	Men n (%)	Women n (%)
STI	1,044 (46.5)	1,915 (20.1)
Sexuality	751 (33.5)	1,598 (16.8)
Birth control	46 (2.0)	3,080 (32.3)
Unwanted sexual behaviour/sexual violence	32 (1.4)	374 (3.9)
Unintended pregnancy	9 (0.4)	827 (8.7)
Fertility	2 (0.1)	15 (0.2)
Else	206 (9.2)	678 (7.1)
Unknown	154 (6.9)	1,039 (10.9)
Total	**2,244**	**9,526**

Footnote: Six transgenders were excluded from the analyses.
Footnote: Numbers do not add up to the total number of consultations, due to a different format of registration. For 690 consultations, 741 subjects of sense consultations were registered and STI was no longer reported as a subject.

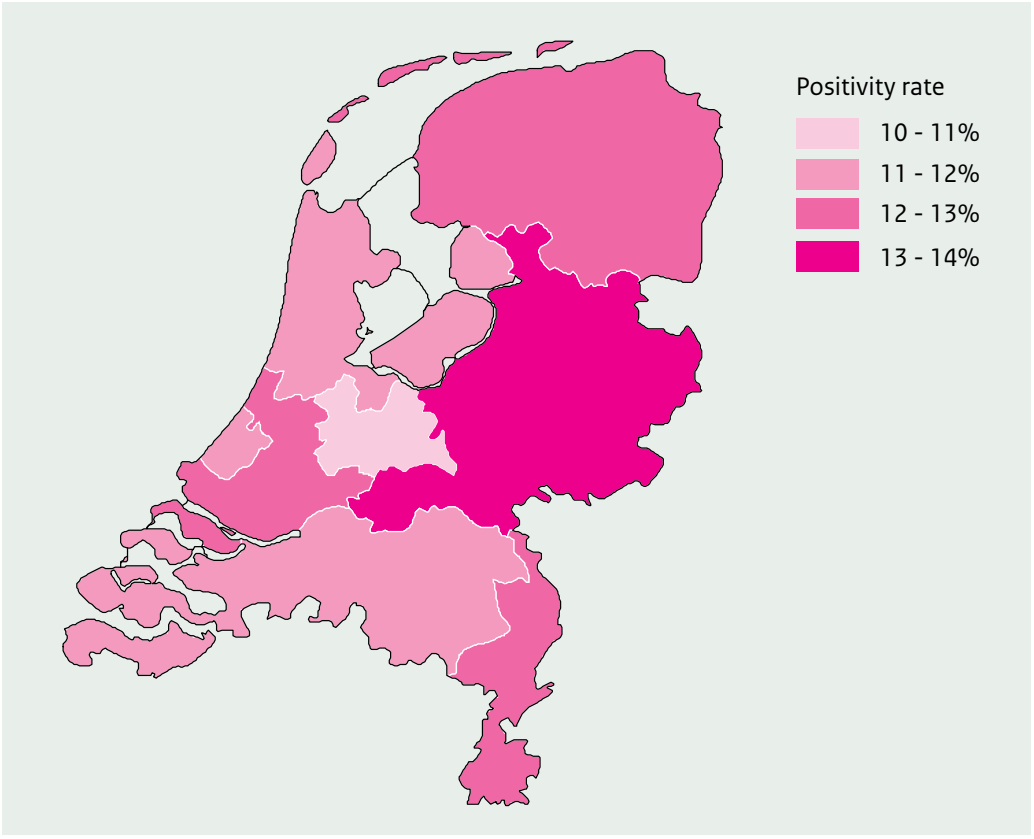
BACTERIAL STI

3 Chlamydia, including lymphogranuloma venereum

3.1 Key points

- Chlamydia is the most commonly diagnosed bacterial STI: 15,767 cases were diagnosed at STI clinics in 2013 (50.2 per cent women, 33.0 per cent heterosexual men and 16.8 per cent MSM).
- The overall positivity rate slightly decreased, from 12.2 per cent in 2012 to 11.8 per cent in 2013, due to decreased rates in MSM (10.4 to 9.6 per cent) and in heterosexual men (13.3 to 12.8 per cent) but not in women (12.2 per cent in both years).
- Of all chlamydia positive cases in 2013, 60.8 per cent were under 25 years of age. The highest positivity rates were observed in heterosexual women and men aged 15–19 years (19.7 and 17.1 per cent, respectively).
- The majority of the cases were found among native Dutch STI-clinic attendees, which also comprised the largest group tested. The highest overall positivity rate was found in people of Surinamese or Dutch Antillean descent (15.3 and 17.8 per cent respectively).
- Other groups at high risk of chlamydia were people who reported a previous STI (gonorrhoea, chlamydia and/or syphilis; 16.2 per cent) and known HIV-positive MSM (15.9 per cent).
- In 2013, 16,301 young people aged under 25 with no other risk factors were tested for chlamydia only; 1,273 of them tested positive (7.8 per cent) and were therefore retested for other STIs as well. Among these, 14 cases of gonorrhoea (1.1 per cent) and no cases of syphilis or HIV were reported.
- Between 2010 and 2012, an estimated 46,000 cases of chlamydia were diagnosed at GPs annually using NIVEL-PCD data. In 2012, the estimated number of chlamydia episodes was 273 per 100,000 population. The number of cases was higher using the new method than the previously reported numbers using the old method, probably due to changes in definitions (see Chapter 2: Methodology).
- The number of LGV cases in 2013 was 106, a strong decrease after the steep rise seen in 2012 (184 cases in 2012). The positivity rate decreased as well, from 12.7 per cent in 2012 to 6.7 per cent in 2013. The profile of LGV cases was similar to that of previous years: 78 per cent were known HIV-positive; in two patients, a new HIV infection was diagnosed (1.9 per cent).

Figure 3.1 Positivity rates of chlamydia by region, the Netherlands, 2013.



3.2 STI clinics: characteristics, risk groups and trends

Table 3.1 Number of positive tests and persons tested for chlamydia by age, gender and sexual preference, 2013.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤14	0	8	0	2	10	83
15–19	439	2,561	68	735	1,683	8,554
20–24	2,608	16,584	382	3,817	4,391	32,607
25–29	1,266	9,359	414	4,009	1,124	11,681
30–34	442	4,166	365	3,512	293	4,166
35–39	152	2,275	309	3,327	147	2,305
40–44	116	1,964	308	3,405	96	2,145
45–49	74	1,555	343	3,281	91	1,816
50–54	55	1,112	223	2,406	52	1,029
≥ 55	48	1,152	233	2,933	34	624
Unknown	1	5	0	2	0	9
Total	**5,201**	**40,741**	**2,645**	**27,429**	**7,921**	**65,019**

Figure 3.2 Percentage of positive tests of chlamydia by age, gender and sexual preference, 2013.

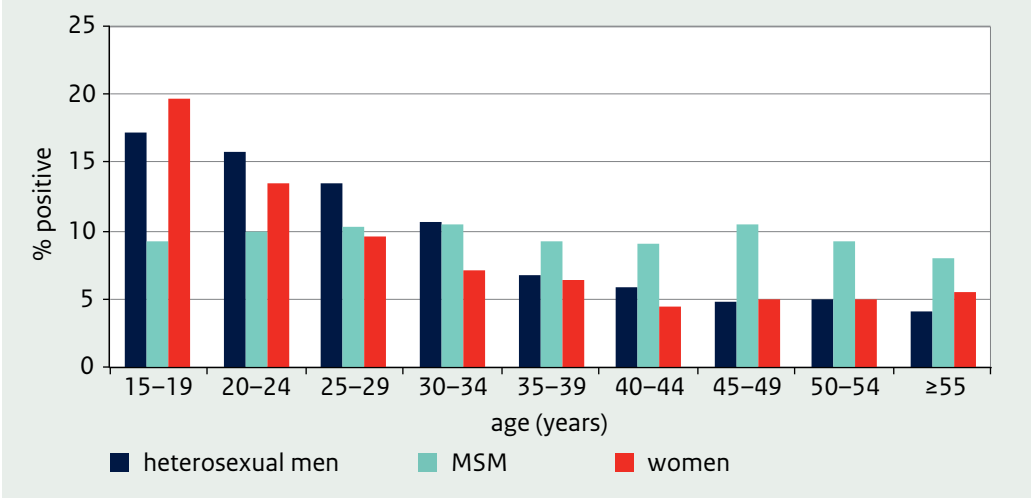


Table 3.2 Number of positive tests and persons tested for chlamydia by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	2,957	25,019	1,813	19,395	5,395	44,230
Turkey	112	1,073	45	346	99	619
North Africa/ Morocco	215	1,740	38	348	166	1,123
Surinam	572	3,266	93	801	520	3,665
Netherlands Antilles/Aruba	340	1,704	67	551	288	1,660
Sub-Saharan Africa	268	1,415	16	227	181	1,489
Eastern Europe	66	596	57	567	240	2,731
Latin America	107	643	92	809	153	1,573
Europe other	243	2,137	183	2,081	361	3,239
Asia	216	2,012	153	1,408	344	2,856
Else	29	303	34	326	71	515
Unknown	76	833	54	570	103	1,319
Natives	2,957	25,019	1,813	19,395	5,395	44,230
First generation migrants	929	6,981	534	5,046	973	9,564
Second generation migrants	1,232	7,835	239	2,344	1,443	9,829
Unknown	83	906	59	644	110	1,396
Total	**5,201**	**40,741**	**2,645**	**27,429**	**7,921**	**65,019**

Figure 3.3 Percentage of positive tests for chlamydia by ethnicity, gender and sexual preference, STI clinics, the Netherlands, 2013.

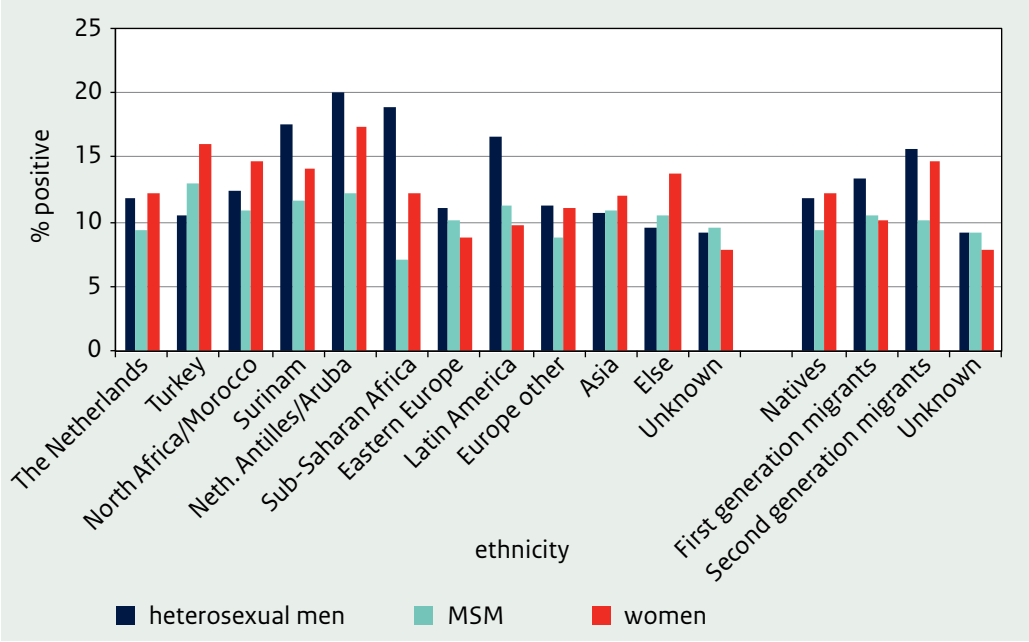


Table 3.3 Number of positive tests and persons tested for chlamydia by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/ N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	15/296	5.1	6/178	3.4	31/545	5.7
1 partner	1,001/8,023	12.5	173/2,817	6.1	2,474/19,449	12.7
2 partners	1,123/8,808	12.7	251/3,125	8.0	2,174/16,535	13.1
3 or more partners	3,021/23,138	13.1	2,101/20,366	10.3	3,023/25,237	12.0
Unknown	41/476	8.6	114/943	12.1	219/3,253	6.7
Condom use if last sexual contact was casual*						
No	1,994/13,972	14.3	1,027/8,907	11.5	2,496/19,960	12.5
Yes	646/6,566	9.8	573/6,431	8.9	829/9,944	8.3
Unknown	12/109	11.0	10/144	6.9	10/153	6.5
Condom use if last sexual contact was steady*						
No	2,111/15,157	13.9	759/7,979	9.5	3,856/27,470	14.0
Yes	378/4,121	9.2	184/2,291	8.0	578/5,241	11.0
Unknown	9/66	13.6	8/131	6.1	14/105	13.3
Previous GO/CT/syphilis in anamnesis						
No	4,176/33,856	12.3	2,010/22,375	9.0	6,197/53,321	11.6
Yes	556/3,109	17.9	573/4,164	13.8	1,088/6,415	17.0
Don't know	311/2,364	13.2	31/475	6.5	413/3,219	12.8
Unknown	158/1,412	11.2	31/415	7.5	223/2,064	10.8
Previous HIV test						
No	2,823/20,213	14.0	304/3,394	9.0	4,056/28,977	14.0
Yes, positive	9/58	15.5	651/4,100	15.9	13/95	13.7
Yes, negative	2,274/19,693	11.5	1,662/19,736	8.4	3,675/34,533	10.6
Yes, result unknown	11/75	14.7	10/66	15.2	20/140	14.3
Unknown	84/702	12.0	18/133	13.5	157/1,274	12.3
CSW						
No	5,182/40,550	12.8	2,582/26,909	9.6	7,540/59,179	12.7
Yes, in past 6 months	15/146	10.3	55/449	12.2	374/5,776	6.5
Unknown	4/45	8.9	8/71	11.3	7/64	10.9
Client of CSW, men						
No	4,867/36,026	13.5	2,585/26,297	9.8		
Yes, in past 6 months	324/4,610	7.0	38/677	5.6		
Unknown	10/105	9.5	22/455	4.8		
Swinger**						
No	3,136/22,940	13.7	1,167/11,349	10.3	4,607/34,355	13.4
Yes	75/1,742	4.3	70/1,210	5.8	166/2,855	5.8
Unknown	3/14	21.4	4/56	7.1	9/185	4.9

Table 3.3 (continued) Number of positive tests and persons tested for chlamydia by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/ N	%	n positive/N	%
SES						
Very high	559/4,999	11.2	362/4,071	8.9	1,006/8,378	12.0
High	1,287/10,493	12.3	722/7,460	9.7	2,027/17,128	11.8
Medium	1,490/11,457	13.0	718/7,342	9.8	2,310/18,648	12.4
Low	943/6,749	14.0	452/4,576	9.9	1,244/9,935	12.5
Very low	631/4,197	15.0	209/2,126	9.8	763/5,465	14.0
Unknown	291/2,846	10.2	182/1,854	9.8	571/5,465	10.4

* Type of sexual contact was missing for 3% (n=3,491) of persons tested for chlamydia.
** Voluntary question, answered by 56% (n=74,706) of persons tested for chlamydia.

Table 3.4 Concurrent STI by gender and sexual preference among persons diagnosed with chlamydia, 2013.

Concurrent infection	Heterosexual men (N=5,201) n (%)	MSM (N=2,645) n (%)	Women (N=7,921) n (%)
Gonorrhoea	240 (4.6)	535 (20.2)	386 (4.9)
Infectious syphilis	2 (0.0)	90 (3.4)	2 (0.0)
HIV newly diagnosed	1 (0.0)	80 (3.0)	2 (0.0)
Genital herpes	20 (0.4)	10 (0.4)	32 (0.4)
Genital warts	85 (1.6)	44 (1.7)	97 (1.2)
Hepatitis B, infectious	15 (0.3)	13 (0.5)	7 (0.1)
Hepatitis C	0 (0.0)	6 (0.2)	0 (0.0)

Table 3.5 Location of chlamydia infection by gender and sexual preference, 2013.

Location	Heterosexual men (N=5,201) n (%)	MSM (N=2,645) n (%)	Women (N=7,921) n (%)
Urogenital only	5,124 (98.5)	653 (24.7)	6,217 (78.5)
Anorectal only	16 (0.3)	1,466 (55.4)	203 (2.6)
Oral only	4 (0.1)	118 (4.5)	96 (1.2)
Urogenital and anorectal	9 (0.2)	253 (9.6)	668 (8.4)
Urogenital and oral	14 (0.3)	14 (0.5)	428 (5.4)
Anorectal and oral	0 (0.0)	98 (3.7)	15 (0.2)
Urogenital and anorectal and oral	0 (0.0)	32 (1.2)	123 (1.6)
Pooled samples*	34 (0.7)	11 (0.4)	171 (2.2)

* 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, 2007–2013.

	2008 n positive (%)	2009 n positive (%)	2010 n positive (%)	2011 n positive (%)	2012 n positive (%)	2013 n positive (%)
Heterosexual men						
Urogenital	3,343 (10.6)	3,480 (10.8)	3,922 (11.3)	4,434 (11.9)	5,052 (13.2)	5,154 (12.7)
Anorectal	2 (0.8)	7 (1.6)	13 (2.8)	17 (2.8)	22 (3.3)	25 (2.9)
Oral	6 (1.1)	4 (0.5)	10 (1.0)	11 (0.8)	18 (1.3)	20 (1.2)
MSM						
Urogenital	651 (4.8)	661 (4.1)	790 (4.1)	852 (3.9)	875 (3.6)	954 (3.5)
Anorectal	1,046 (11.7)	1,081 (9.5)	1,381 (9.5)	1,537 (9.1)	1,800 (9.1)	1,856 (8.2)
Oral	72 (2.1)	81 (1.5)	134 (1.8)	218 (1.2)	272 (1.3)	264 (1.1)
Women						
Urogenital	4,385 (10.3)	4,521 (10.3)	5,386 (10.7)	6,109 (11.4)	6,736 (11.6)	7,498 (11.5)
Anorectal	328 (9.4)	380 (9.2)	439 (9.2)	551 (9.3)	740 (9.5)	1,028 (10.2)
Oral	134 (2.3)	214 (2.9)	239 (2.6)	416 (2.8)	586 (3.4)	719 (3.3)

Footnote: Heterosexual men and women are not often tested anorectally or orally, therefore the fluctuation of positivity rates through the years has to be interpreted with caution. Please note that people can have positive tests at multiple locations.

Figure 3.4 Total number of tests and positivity rate of chlamydia by gender and sexual preference, 2004–2013.

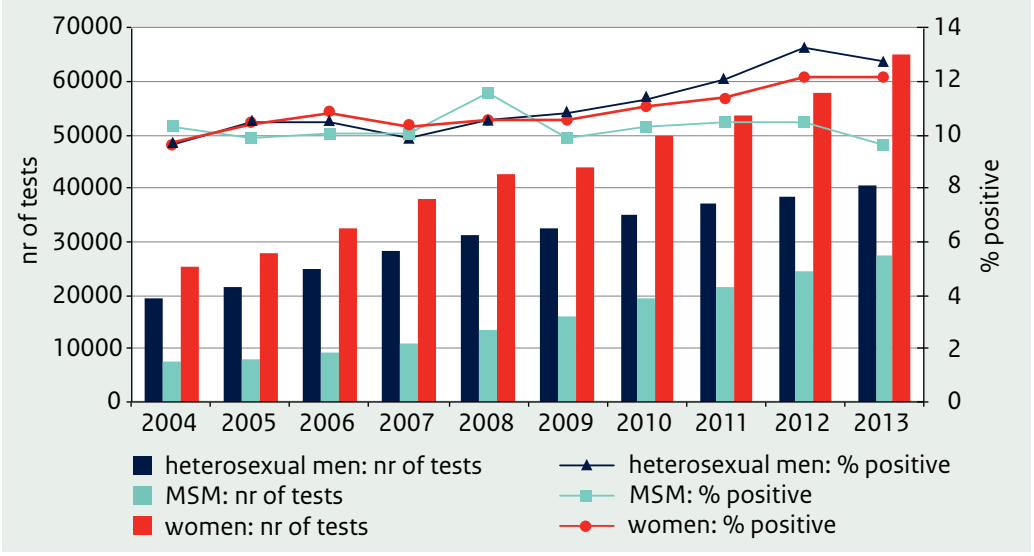
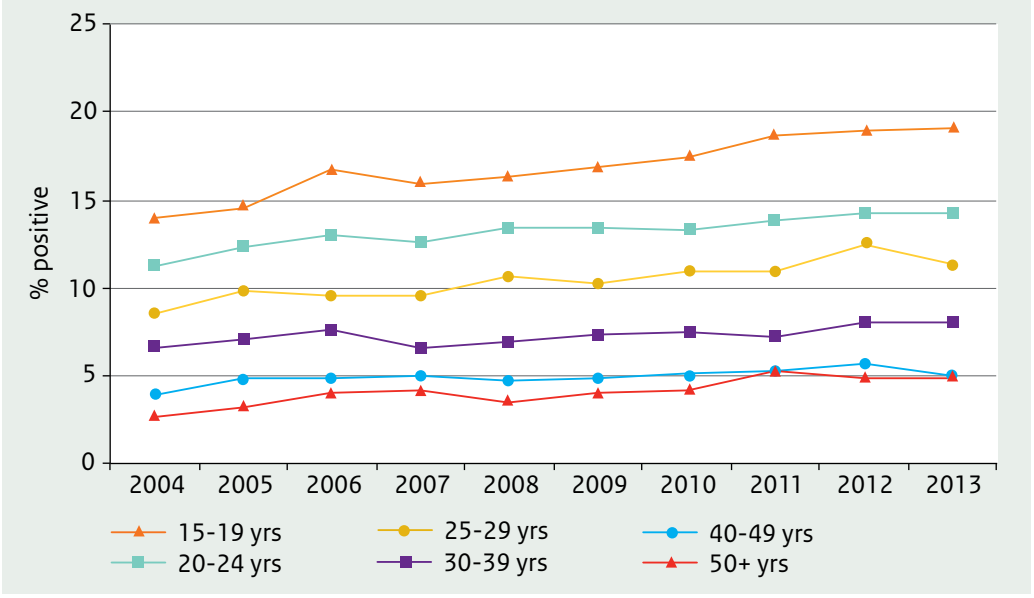


Figure 3.5 Trends in positivity rate in heterosexuals by age group, 2004–2013.



3.3 General practitioner

Figure 3.6 Estimated prevalence of episodes of chlamydia at GPs by gender, based on extrapolation from practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

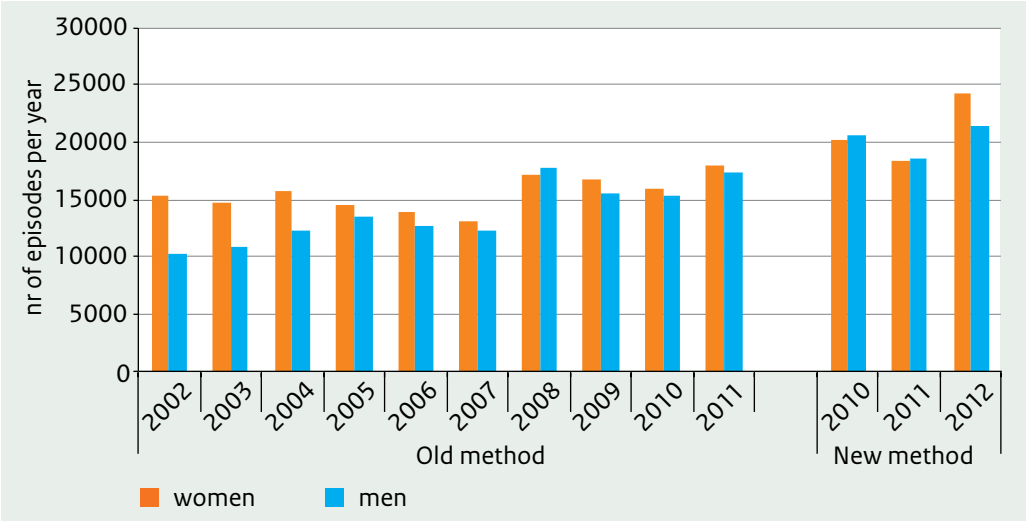
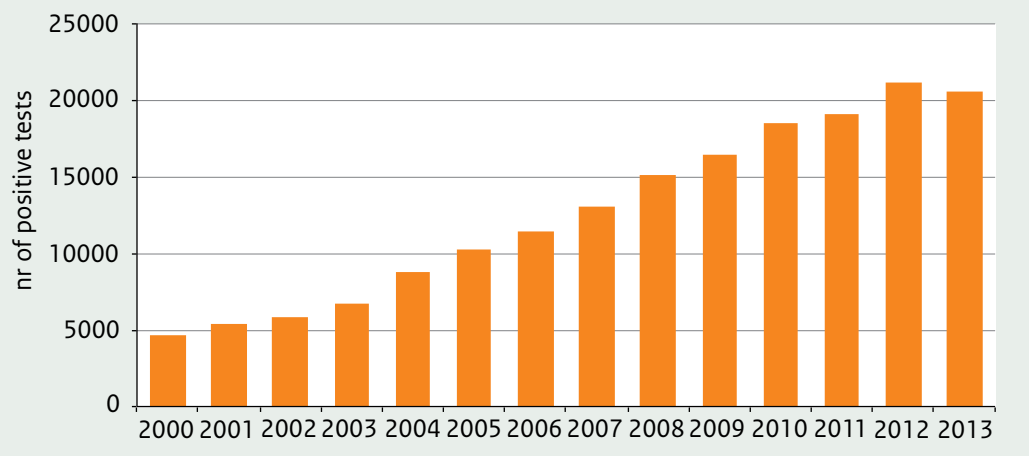


Table 3.7 Estimated prevalence of episodes of chlamydia per 100,000 population at GPs in the Netherlands by gender, based on extrapolation from the practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

	Men n/100,000	Women n/100,000	Total n/100,000
Old method			
2002	128	189	158
2003	135	180	157
2004	154	193	173
2005	166	176	171
2006	158	168	163
2007	153	158	155
2008	219	207	213
2009	190	202	196
2010	186	191	189
2011	211	214	212
New method			
2010	252	242	247
2011	225	218	222
2012	259	288	273

3.4 Laboratory surveillance

Figure 3.7 Number of positive tests for Chlamydia trachomatis from approximately 21 medical microbiology laboratories, 2000-2013.



(Source: 'Virologische weekstaten')

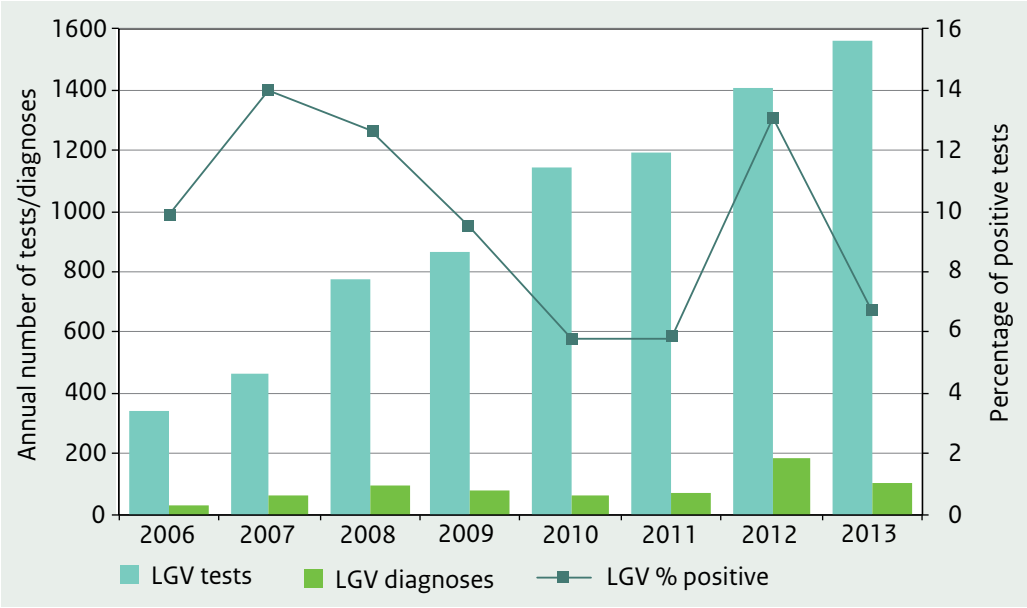
3.5 Lymphogranuloma venereum

Table 3.8 Characteristics of MSM diagnosed with LGV at the STI clinics, 2008–2013.

	2008 (N=100) n (%)	2009 (N=84*) n (%)	2010 (N=66) n (%)	2011 (N=70) n (%)	2012 (N=184) n (%)	2013 (N=106) n (%)
Median age (range)	41.6 (26–63)	41.0 (20–61)	41 (21-65)	40 (21-67)	41 (19-67)	43 (19-69)
Dutch ethnicity	74 (74.0)	64 (97.0)	56 (84.8)	40 (57.1)	117 (63.6)	71 (67.0)
Known HIV positive	71 (71.0)	59 (89.4)	49 (74.2)	55 (78.6)	140 (76.1)	83 (78.3)
LGV with anorectal chlamydia infection only	96 (96.0)	75 (113.6)	58 (87.9)	53 (75.7)	153 (83.2)	97 (91.5)
LGV with urethral chlamydia infection only	3 (3.0)	0 (0.0)	0 (0.0)	2 (2.9)	0 (0.0)	1 (0.9)
LGV with anorectal and urethral chlamydia	1 (1.0)	9 (13.6)	8 (12.1)	5 (7.1)	22 (12.0)	8 (7.5)
Concurrent gonorrhoea	26 (26.0)	24 (36.4)	14 (21.2)	17 (24.3)	47 (25.5)	30 (28.3)
Concurrent syphilis	11 (11.0)	3 (4.5)	5 (7.6)	9 (12.9)	17 (9.2)	9 (8.5)
Concurrent new HIV diagnosis	2 (2.0)	2 (3.0)	1 (1.5)	2 (2.9)	9 (4.9)	2 (1.9)

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

Figure 3.8 Number of tests for Lymphogranuloma venereum and positivity rate at the STI clinics, the Netherlands, 2006–2013.

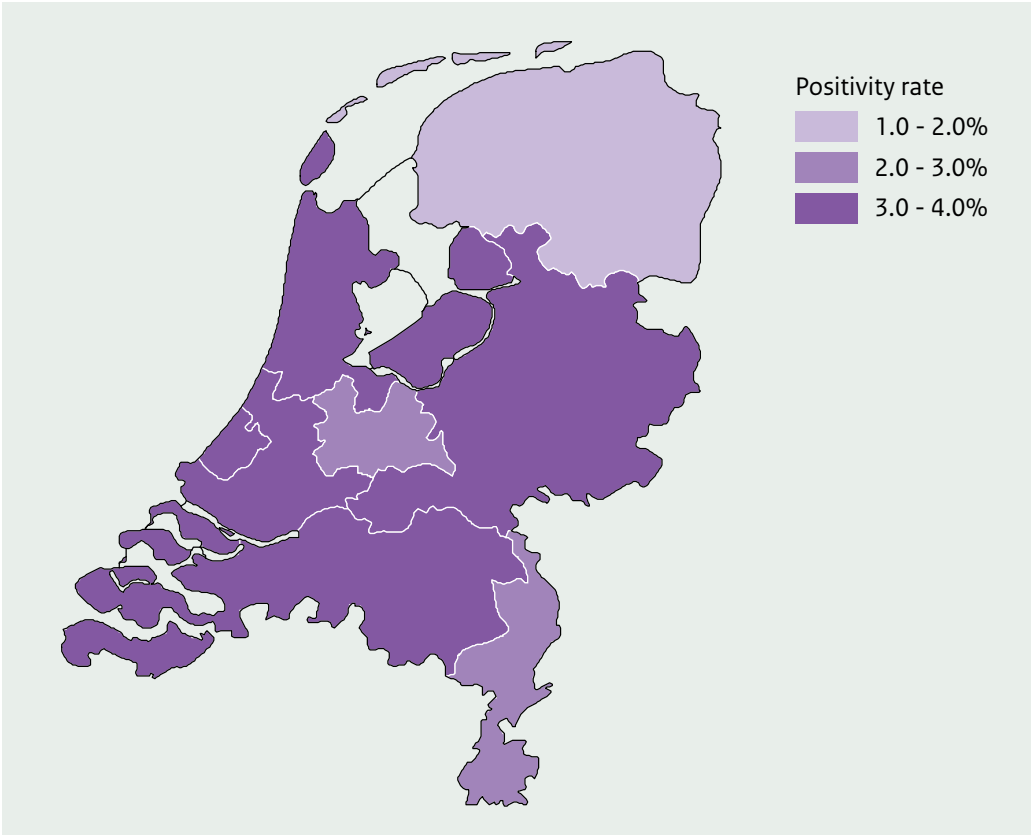


4 Gonorrhoea

4.1 Key points

- In 2013, 4,153 people (14.9 per cent heterosexual men, 61.2 per cent MSM and 23.9 per cent women) were diagnosed with gonorrhoea at STI clinics in the Netherlands.
- The overall positivity rate was stable in 2013 (3.4 per cent) compared with 2012 (3.6 per cent). The positivity rate was 9.3 per cent among MSM, 1.7 per cent among heterosexual men and 1.8 per cent among women.
- While in heterosexual men the positivity rate was highest among those aged 15-19 (3.2 per cent), in women the positivity rate was highest among those aged 50-54 (3.0 per cent). Among women aged 15-19 the positivity rate was 2.8 per cent.
- For the first time since 2008, the positivity rate decreased in both heterosexual men and women aged 15-24 years.
- The positivity rate was particularly high in the following risk groups: both heterosexual men and MSM who were known HIV-positive (14.3 and 15.7 per cent respectively), MSM, who previously had an STI (14.3 per cent), MSM, who had had sexual contact with commercial sex workers (CSW) in the past 6 months (11.8 per cent), and heterosexual men and women of Surinamese (4.0 and 3.6 per cent respectively) or Dutch Antillean/Aruban (5.8 and 4.9 per cent respectively) descent.
- Of the individuals diagnosed with gonorrhoea, 27.9 per cent had a chlamydia co-infection; 1.6 per cent were newly diagnosed with HIV.
- At GPs, the number of reported gonorrhoea infections was estimated at 8,266 in 2012 (61 per cent men) and a clear increase was seen over the last 3 years using the new method, which therefore cannot directly be compared the numbers reported previously (see Chapter 2: Methodology).
- To date, no resistance to ceftriaxone has been found in the Netherlands. As the MIC was higher than 0.125 mg/L, 2.3 per cent of the isolates for cefotaxime (also a third generation cephalosporin) were considered resistant. Clinical resistance (i.e. treatment failure) to third generation cephalosporins was not reported in 2013 or before.

Figure 4.1 Positivity rates of gonorrhoea by region, the Netherlands, 2013.



4.2 STI clinics: characteristics, risk groups and trends

Table 4.1 Number of positive tests and persons tested for gonorrhoea by age, gender and sexual preference, 2013.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤14	0	3	1	2	2	69
15–19	67	2,109	74	734	188	6,811
20–24	193	14,302	405	3,814	409	25,834
25–29	132	9,099	450	4,011	178	11,091
30–34	82	4,168	398	3,515	61	4,161
35–39	42	2,276	328	3,332	43	2,303
40–44	33	1,964	286	3,408	35	2,146
45–49	34	1,557	262	3,281	36	1,816
50–54	22	1,112	203	2,407	31	1,029
≥ 55	16	1,153	134	2,935	8	623
Unknown	0	5	0	2	0	7
Total	**621**	**37,748**	**2,541**	**27,441**	**991**	**55,890**

Figure 4.2 Percentage of positive tests for gonorrhoea by age, gender and sexual preference, 2013.

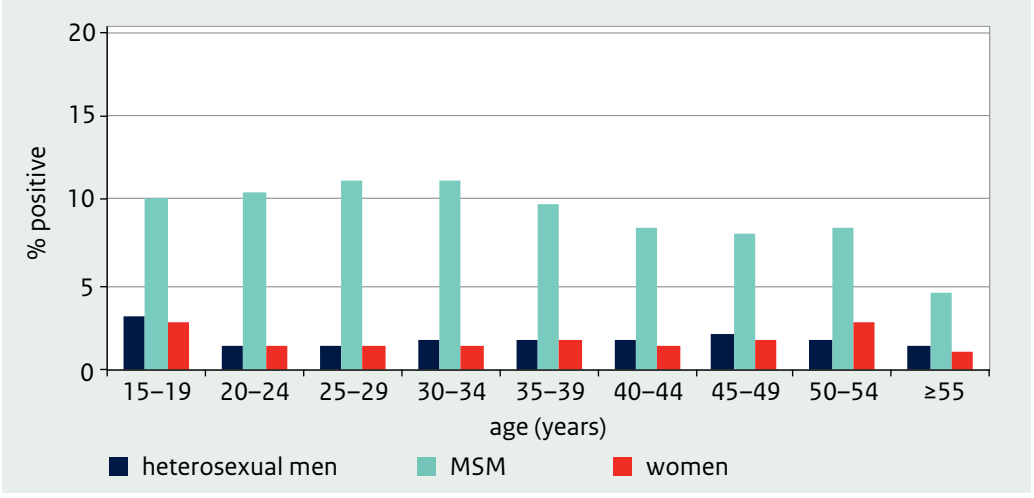


Table 4.2 Number of positive tests and persons tested for gonorrhoea by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	184	22,380	1,717	19,407	460	35,993
Turkey	29	1,063	29	346	15	602
North Africa/ Morocco	53	1,731	30	348	34	1,106
Surinam	129	3,265	76	801	130	3,636
Netherlands Antilles/Aruba	98	1,695	68	551	81	1,647
Sub-Saharan Africa	41	1,407	19	228	43	1,477
Eastern Europe	12	585	62	567	89	2,711
Latin America	19	641	105	808	30	1,566
Asia	25	1,986	121	1,409	49	2,794
Europe other	20	2,025	237	2,081	41	2,943
Else	5	286	37	328	8	445
Unknown	6	684	40	567	11	970
Natives	184	22,380	1,717	19,407	460	35,993
First generation migrants	215	6,920	567	5,048	251	9,411
Second generation migrants	215	7,690	210	2,345	266	9,441
Unknown	7	758	47	641	14	1,045
Total	**621**	**37,748**	**2,541**	**27,441**	**991**	**55,890**

Figure 4.3 Percentage of positive tests for gonorrhoea by ethnicity, gender and sexual preference, 2013.

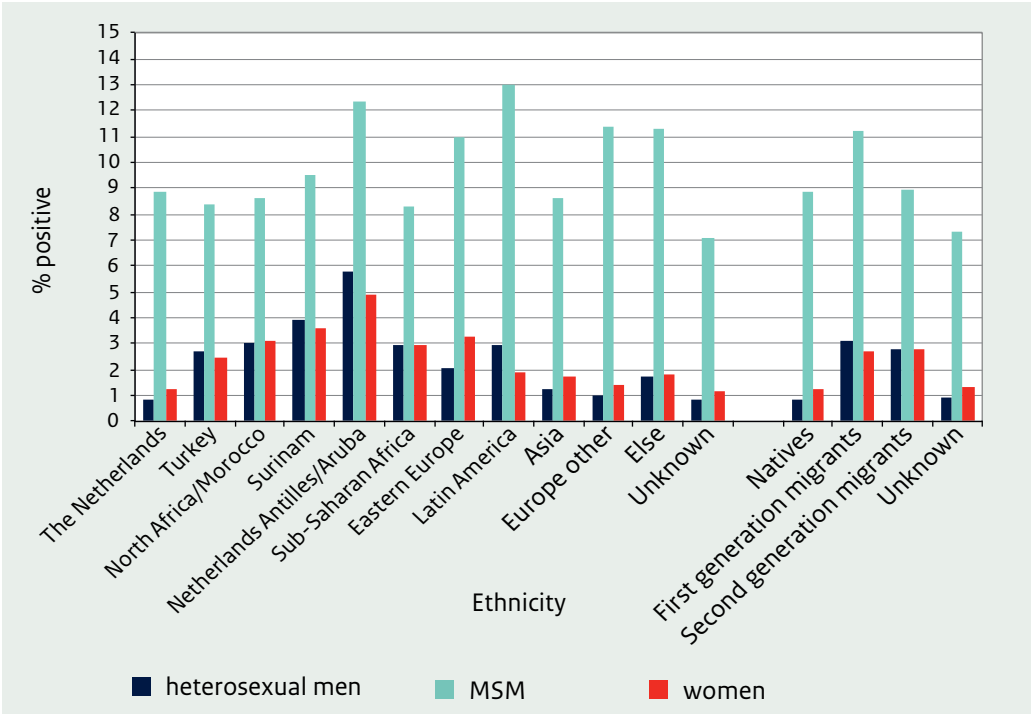


Table 4.3 Number and percentage of positive tests and total persons tested for gonorrhoea by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/ N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	1/246	0.4	4/178	2.2	1/395	0.3
1 partner	113/6,577	1.7	157/2,814	5.6	292/15,004	1.9
2 partners	159/7,434	2.1	220/3,125	7.0	211/12,212	1.7
3 or more partners	340/23,062	1.5	2,058/20,383	10.1	396/25,120	1.6
Unknown	8/429	1.9	102/941	10.8	91/3,159	2.9
Condom use if last sexual contact was steady*						
No	226/13,815	1.6	682/7,975	8.6	498/23,734	2.1
Yes	35/3,642	1.0	160/2,290	7.0	74/4,511	1.6
Unknown	1/57	1.8	9/131	6.9	1/90	1.1
Condom use if last sexual contact was casual*						
No	259/13,217	2.0	963/8,905	10.8	219/16,938	1.3
Yes	95/6,331	1.5	570/6,430	8.9	173/9,233	1.9
Unknown	2/101	2.0	11/144	7.6	2/121	1.7
Previous GO/CT/syphilis in anamnesis						
No	470/31,553	1.5	1,885/22,385	8.4	710/45,936	1.5
Yes	105/2,916	3.6	595/4,169	14.3	205/5,693	3.6
Don't know	24/1,974	1.2	26/473	5.5	33/2,454	1.3
Unknown	22/1,305	1.7	35/414	8.5	43/1,807	2.4
Previous HIV test						
No	275/17,849	1.5	231/3,389	6.8	341/22,691	1.5
Yes, positive	8/56	14.3	645/4105	15.7	1/91	1.1
Yes, negative	327/19,117	1.7	1,653/19,747	8.4	626/31,799	2.0
Yes, result unknown	3/74	4.1	7/66	10.6	3/135	2.2
Unknown	8/652	1.2	5/134	3.7	20/1,174	1.7
CSW						
No	619/37,565	1.6	2,478/26,921	9.2	809/50,066	1.6
Yes, in past 6 months	1/146	0.7	53/449	11.8	178/5,777	3.1
Unknown	1/37	2.7	10/71	14.1	4/47	8.5
Client of CSW, men						
No	525/33,071	1.6	2,474/26,309	9.4		
Yes, in past 6 months	94/4,583	2.1	35/677	5.2		
Unknown	2/94	2.1	32/455	7.0		
Swinger**						
No	402/20,991	1.9	1,098/11,346	9.7	573/29,475	1.9
Yes	30/1,740	1.7	69/1,210	5.7	83/2,852	2.9
Unknown	0/14	0.0	5/56	8.9	8/182	4.4

Table 4.3 (continued) Number and percentage of positive tests and total persons tested for gonorrhoea by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/ N	%	n positive/N	%
SES						
Very high	54/4,607	1.2	323/4,070	7.9	79/6,995	1.1
High	94/9,543	1.0	723/7,460	9.7	219/14,198	1.5
Medium	141/10,484	1.3	657/7,343	8.9	261/15,704	1.7
Low	157/6,363	2.5	431/4,577	9.4	168/8,794	1.9
Very low	116/4,071	2.8	210/2,126	9.9	126/5,105	2.5
Unkown	59/2,680	2.2	197/1,865	10.6	138/5,094	2.7

* Type of sexual contact was missing for 2% (n=2,442) of persons tested for gonorrhoea.
** Voluntary question, answered by 56% (n=67,866) of persons tested for gonorrhoea.

Table 4.4 Concurrent STI by gender and sexual preference among persons diagnosed with gonorrhoea, 2013.

Concurrent infection	Heterosexual men (N=621) n (%)	MSM (N=2,541) n (%)	Women (N=991) n (%)
Chlamydia	240 (38.6)	535 (21.1)	386 (39.0)
Infectious syphilis	1 (0.2)	87 (3.4)	2 (0.2)
HIV newly diagnosed	3 (0.5)	62 (2.4)	3 (0.3)
Genital herpes	0 (0.0)	18 (0.7)	5 (0.5)
Genital warts	12 (1.9)	55 (2.2)	11 (1.1)
Hepatitis B, infectious	1 (0.2)	7 (0.3)	0 (0.0)
Hepatitis C	0 (0.0)	11 (0.4)	0 (0.0)

Table 4.5 Location of gonorrhoea infection by gender and sexual preference, 2013.

Location	Heterosexual men (N=621) n (%)	MSM (N=2,541) n (%)	Women (N=991) n (%)
Urogenital only	576 (92.8)	267 (10.5)	531 (53.6)
Anorectal only	7 (1.1)	753 (29.6)	38 (3.8)
Oral only	30 (4.8)	704 (27.7)	156 (15.7)
Urogenital and anorectal	3 (0.5)	168 (6.6)	78 (7.9)
Urogenital and oral	4 (0.6)	112 (4.4)	115 (11.6)
Anorectal and oral	0 (0.0)	376 (14.8)	10 (1.0)
Urogenital and anorectal and oral	0 (0.0)	155 (6.1)	36 (3.6)
Pooled samples*	1 (0.2)	6 (0.2)	27 (2.7)

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

Table 4.6 Number and percentage of positive tests for gonorrhoea by location, gender and sexual preference, 2006–2013.

	2006 n positive (%)*	2007 n positive (%)*	2008 n positive (%)*	2009 n positive (%)*	2010 n positive (%)*	2011 n positive (%)*	2012 n positive (%)*	2013 n positive (%)*
Heterosexual men								
Urogenital	424 (1.7)	429 (1.5)	401 (1.3)	471 (1.5)	518 (1.5)	684 (1.8)	708 (2.0)	582 (1.5)
Anorectal	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.5)	10 (2.1)	14 (2.3)	9 (1.5)	10 (1.3)
Oral	8 (0.8)	7 (0.8)	17 (2.7)	11 (1.2)	26 (2.2)	27 (1.8)	26 (1.7)	34 (2.0)
MSM								
Urogenital	494 (5.3)	430 (4.0)	453 (3.4)	475 (3.0)	521 (2.7)	610 (2.8)	673 (2.8)	703 (2.6)
Anorectal	485 (7.0)	554 (6.7)	573 (5.4)	698 (5.3)	779 (4.7)	1,024 (5.4)	1,230 (5.6)	1,453 (5.8)
Oral	184 (2.7)	209 (2.6)	353 (3.3)	651 (4.8)	820 (4.7)	999 (4.9)	1,232 (5.4)	1,348 (5.1)
Women								
Urogenital	326 (1.0)	358 (1.0)	362 (0.9)	426 (1.0)	546 (1.1)	752 (1.4)	789 (1.6)	771 (1.4)
Anorectal	65 (1.0)	88 (1.2)	81 (1.1)	106 (1.4)	105 (1.2)	133 (1.4)	128 (1.1)	165 (1.2)
Oral	63 (0.8)	89 (0.9)	121 (1.2)	154 (1.3)	185 (1.4)	267 (1.7)	269 (1.5)	329 (1.5)

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.
* Numbers do not add up to 100% since one client can have a positive test result at more than one location.

Figure 4.4 Total number of tests and positivity rate of gonorrhoea by gender and sexual preference, 2004–2013.

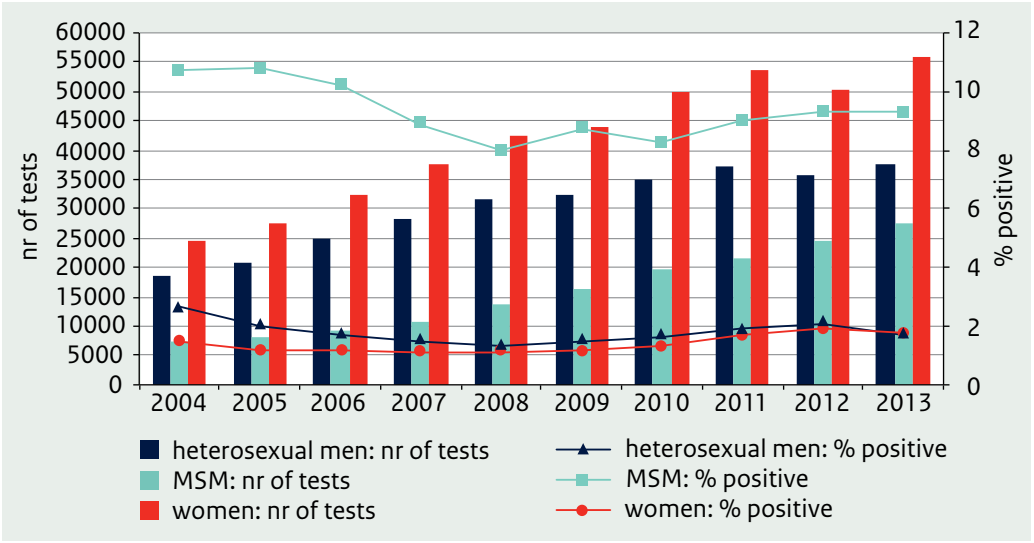
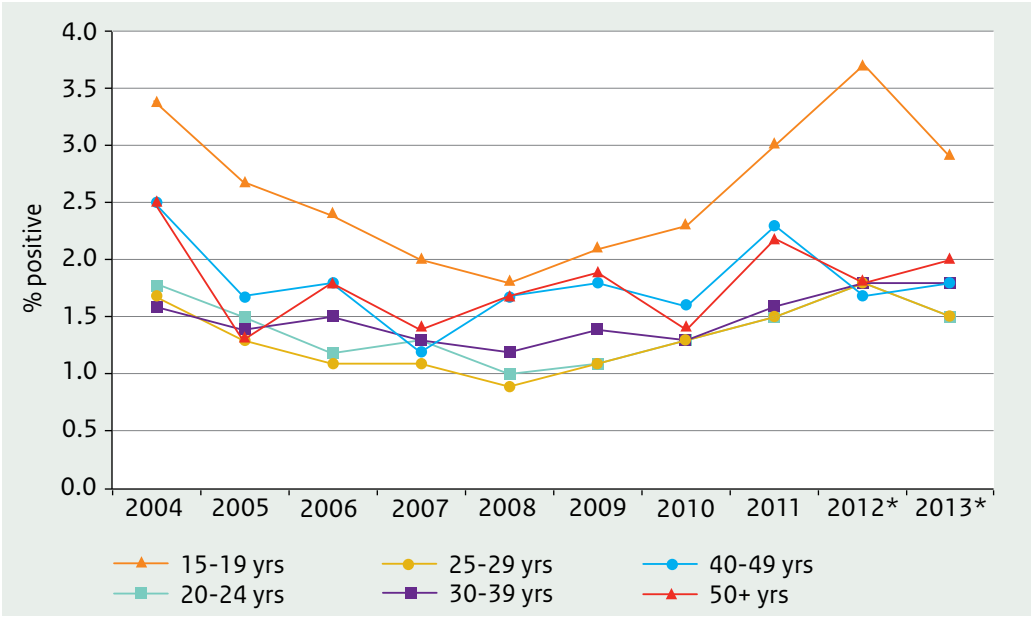
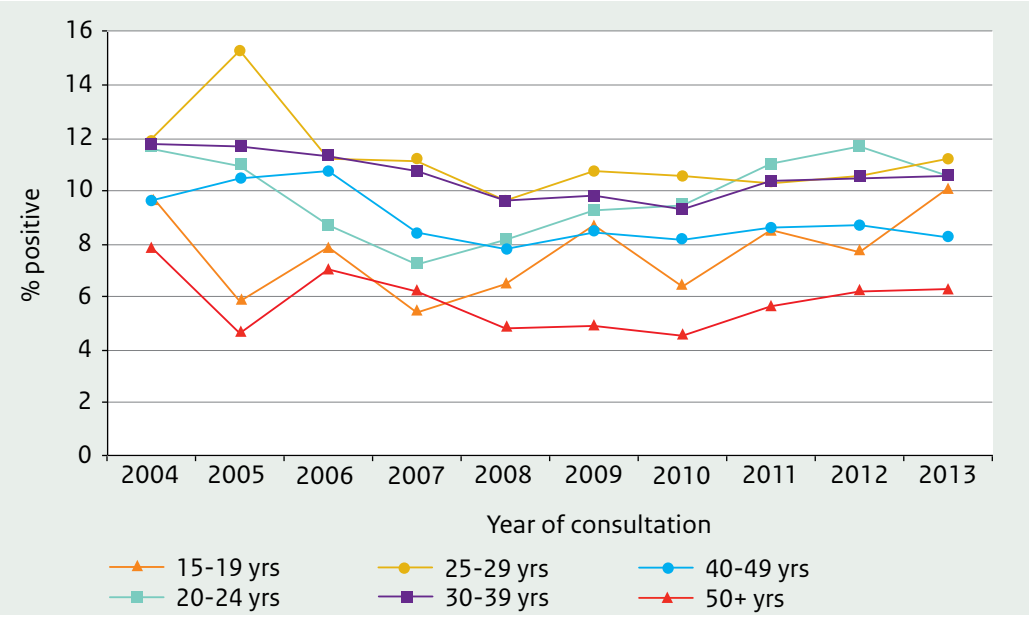


Figure 4.5a Trends in positivity rate for gonorrhoea in heterosexuals by age-group, 2004– 2013.



Footnote: Since 2012, patients below the age of 25 years with no further indication criteria are not mandatorily tested for gonorrhoea anymore. This results in a break in trend data and these data therefore have to be interpreted with caution.

Figure 4.5b Trends in positivity rate for gonorrhoea in MSM by age-group, 2004–2013.



4.3 General practitioner

Figure 4.6 Estimated prevalence of episodes of gonorrhoea at GPs by gender, based on extrapolation from practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

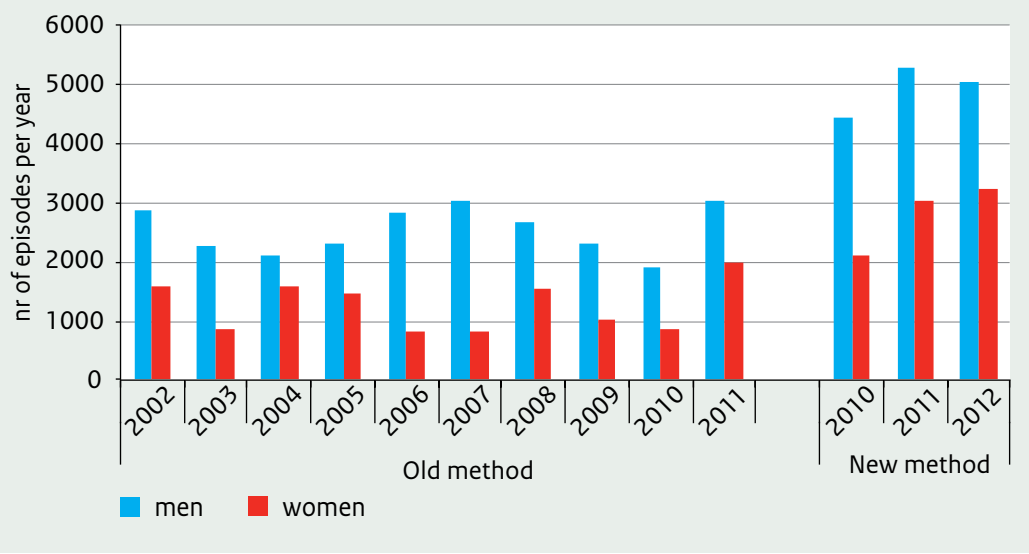
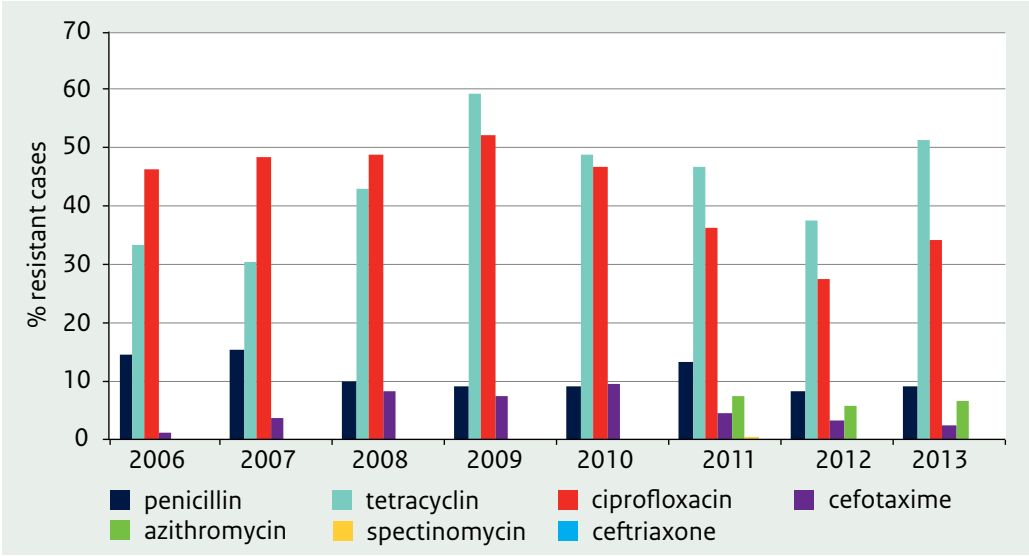


Table 4.7 Estimated prevalence of episodes of gonorrhoea per 100,000 population at GPs in the Netherlands by gender, based on extrapolation from the practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

	Men n/100,000	Women n/100,000	Total n/100,000
Old method			
2002	36	19	28
2003	28	11	19
2004	26	20	23
2005	29	18	23
2006	35	10	22
2007	37	10	24
2008	33	18	26
2009	38	12	20
2010	23	10	17
2011	37	23	30
New method			
2010	54	25	40
2011	64	36	50
2012	61	38	50

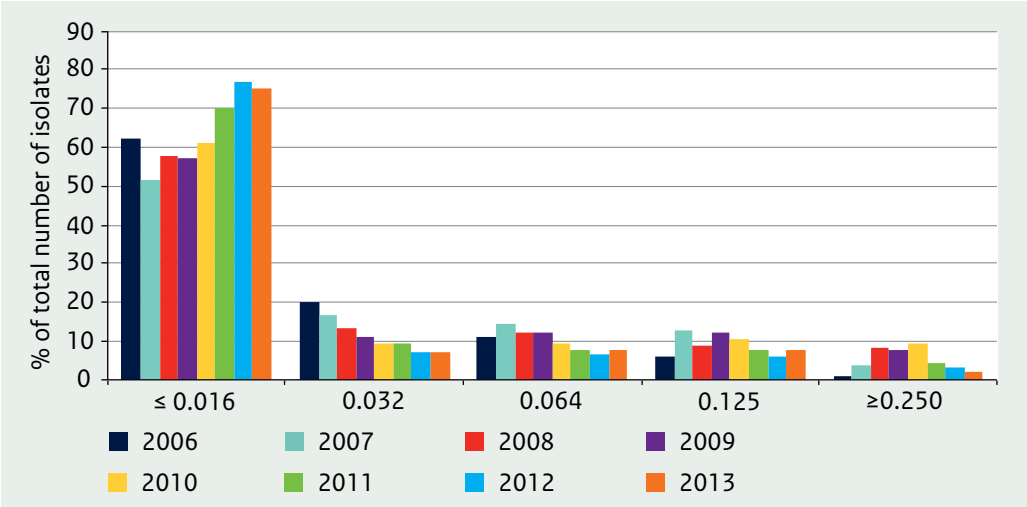
4.4 Antimicrobial resistance of gonococci in the Netherlands

Figure 4.7 Gonococcal resistance (following Eucast breakpoints) in the Netherlands, proportion of resistant cases, 2006–2013.



Note: Resistant following Eucast criteria. No clinical resistance has been reported yet for third generation cephalosporines.
Note: In 2011, ceftriaxone, azithromycin and spectinomycin were added to the panel and testing for penicillin and tetracyclin became optional.
(Source: GRAS, STI clinics)

Figure 4.8 MIC (minimum inhibitory concentration) distribution for third generation cephalosporin (cefotaxime), 2006–2013.



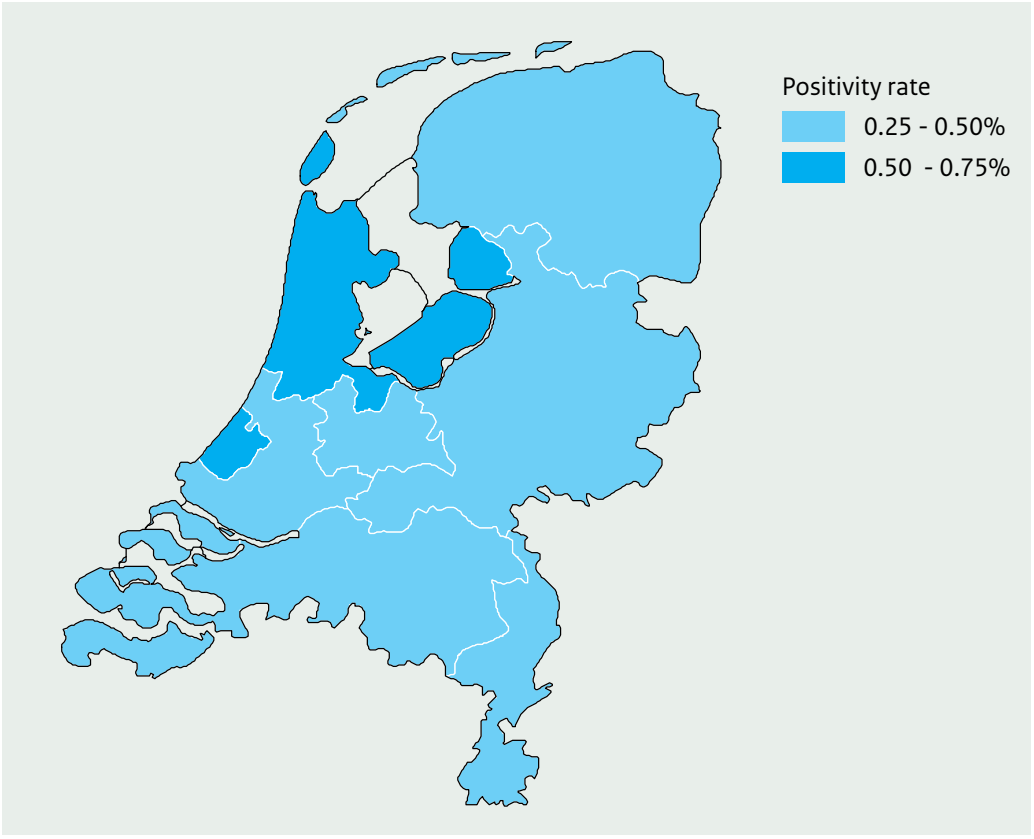
Note: Following EUCAST criteria, an MIC of >0.12 mg/L is considered resistant. However, in clinical practice this value is set to >0.125 mg/L, since an MIC of 0.12 mg/L cannot be measured with Etest.
(Source: GRAS, STI clinics)

5 Syphilis

5.1 Key points

- In 2013, the number of syphilis diagnoses was 626 (92.8 per cent MSM, 5.0 per cent heterosexual men, 2.2 per cent women) at STI clinics in the Netherlands.
- Among MSM, the syphilis positivity rate dropped from 4.3 per cent in 2007 to 2.0 per cent in 2011. Since then, the positivity rate has stabilised at 2.1 per cent.
- Of all infectious syphilis cases, 40.6 per cent were diagnosed in known HIV-positive MSM and 3.1 per cent in newly diagnosed HIV cases.
- As in previous years, the positivity rate of infectious syphilis was higher in known HIV positive MSM (5.8 per cent) compared with MSM who previously tested HIV-negative (1.4 per cent).
- Of all MSM diagnosed with syphilis, 15.5% had a co-infection with chlamydia, and 15.0% had a co-infection with gonorrhoea.
- Data from screening of pregnant women showed an estimated prevalence of syphilis of 0.06% in 2012.

Figure 5.1 Positivity rates of infectious syphilis by region, the Netherlands, 2013.



5.2 STI clinics: characteristics, risk groups and trends

Table 5.1 Number of positive tests and persons tested for infectious syphilis by age, gender and sexual preference, 2013.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤14	0	3	0	2	0	61
15–19	0	1,896	8	734	1	6,110
20–24	2	13,287	57	3,815	3	23,351
25–29	5	8,908	62	4,011	1	10,798
30–34	3	4,129	86	3,508	3	4,138
35–39	4	2,267	72	3,332	2	2,285
40–44	5	1,959	80	3,401	0	2,139
45–49	5	1,551	68	3,271	3	1,805
50–54	3	1,108	74	2,404	0	1,029
≥ 55	4	1,147	74	2,929	1	622
Unknown	0	5	0	2	0	7
Total	**31**	**36,260**	**581**	**27,409**	**14**	**52,345**

Figure 5.2 Percentage of positive tests for infectious syphilis by age, gender and sexual preference, 2013.

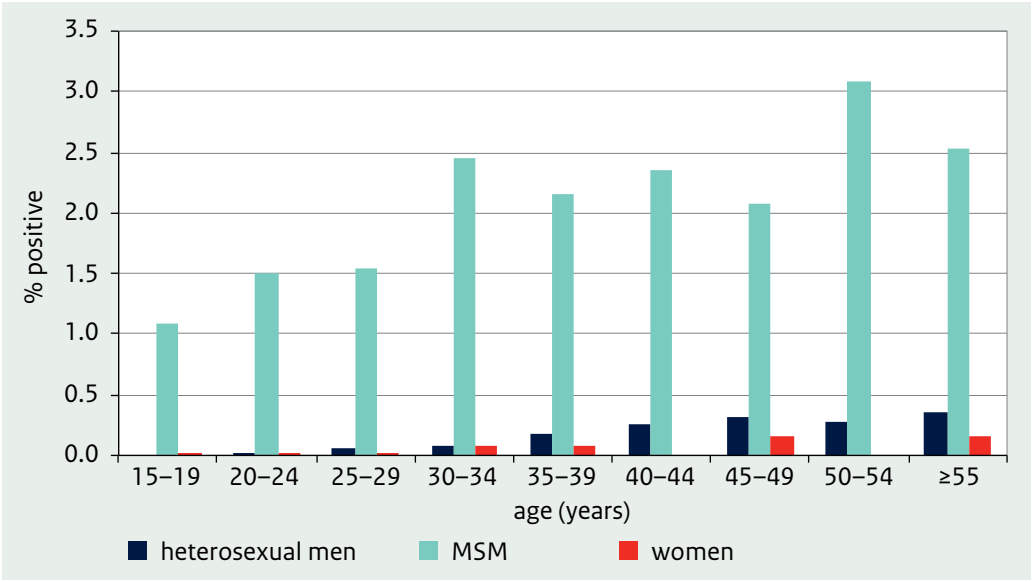
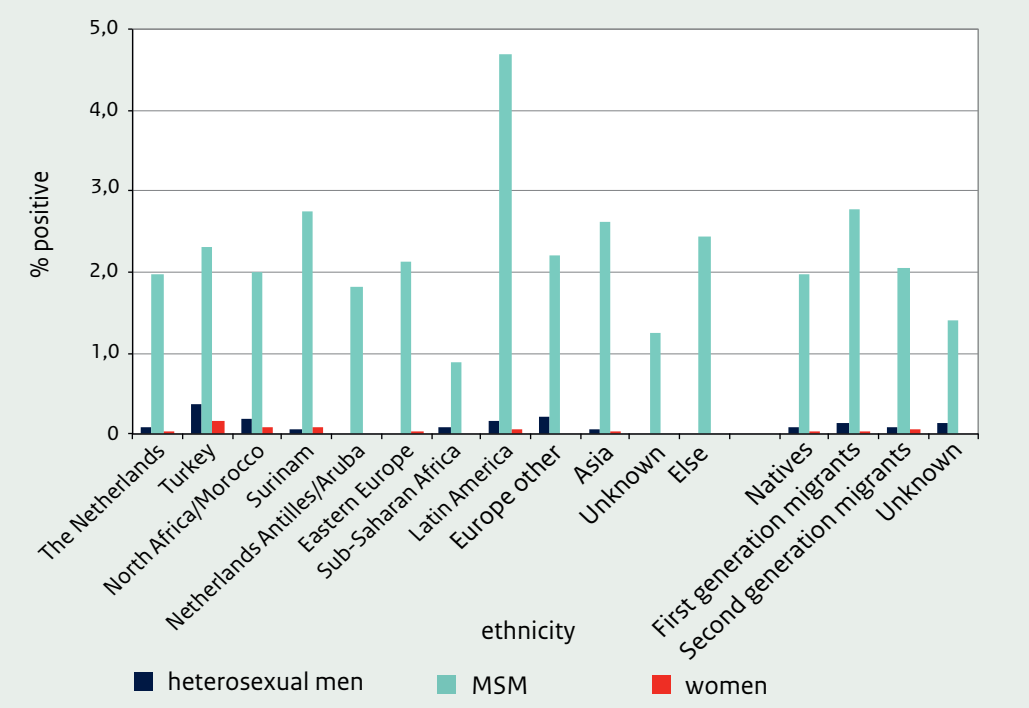


Table 5.2 Number of positive tests and persons tested for syphilis by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	15	21,127	384	19,374	6	32,901
Turkey	4	1,061	8	347	1	594
North Africa/ Morocco	3	1,721	7	348	1	1,098
Surinam	2	3,222	22	802	3	3,582
Netherlands Antilles/Aruba	0	1,682	10	553	0	1,624
Eastern Europe	0	579	12	567	1	2,689
Sub-Saharan Africa	1	1,393	2	228	0	1,445
Latin America	1	631	38	808	1	1,555
Europe other	4	1,935	46	2,080	0	2,792
Asia	1	1,969	37	1,409	1	2,746
Unknown	0	662	7	565	0	897
Else	0	278	8	328	0	422
Natives	15	21,127	384	19,374	6	32,901
First generation migrants	9	6,826	140	5,048	3	9,270
Second generation migrants	6	7,571	48	2,348	5	9,203
Unknown	1	736	9	639	0	971
Total	**31**	**36,260**	**581**	**27,409**	**14**	**52,345**

Figure 5.3 Percentage of positive tests for syphilis by ethnicity, gender and sexual preference, 2013.



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 2011-2013 data can therefore not be directly compared with previous years.

Table 5.3 Number and percentage of positive tests and total persons tested for gonorrhoea by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/ N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	1/225	0.4	3/178	1.7	1/349	0.3
1 partner	7/5,709	0.1	47/2,809	1.7	4/12,960	0.0
2 partners	4/6,863	0.1	63/3,119	2.0	5/10,859	0.0
3 or more partners	19/23,040	0.1	445/20,365	2.2	4/25,074	0.0
Unknown	0/423	0.0	23/938	2.5	0/3,103	0.0
Condom use if last sexual contact was steady*						
No	12/13,184	0.1	175/7,958	2.2	9/22,133	0.0
Yes	4/3,404	0.1	39/2,288	1.7	1/4,204	0.0
Unknown	0/55	0.0	6/131	4.6	0/84	0.0
Condom use if last sexual contact was casual						
No	12/12,924	0.1	246/8,894	2.8	2/15,965	0.0
Yes	3/6,238	0.0	88/6,427	1.4	2/8,985	0.0
Unknown	0/101	0.0	3/143	2.1	0/112	0.0
Previous GO/CT/syphilis in anamnesis						
No	20/30,443	0.1	456/22,357	2.0	10/43,279	0.0
Yes	7/2,844	0.3	115/4,166	2.8	1/5,457	0.0
Don't know	2/1,807	0.1	6/472	1.3	1/2,045	0.0
Unknown	2/1,166	0.2	4/414	1.0	2/1,564	0.1
Previous HIV test						
No	13/16,861	0.1	62/3,387	1.8	3/20,543	0.0
Yes, positive	2/56	3.6	236/4,098	5.8	1/84	1.2
Yes, negative	16/18,864	0.1	280/19,724	1.4	9/30,823	0.0
Yes, result unknown	0/72	0.0	0/66	0.0	0/129	0.0
Unknown	0/407	0.0	3/134	2.2	1/766	0.1
CSW						
No	31/36,080	0.1	562/26,891	2.1	11/46,555	0.0
Yes, in past 6 months	0/146	0.0	17/447	3.8	3/5,747	0.1
Unknown	0/34	0.0	2/71	2.8	0/43	0.0
Client of CSW, men						
No	26/31,592	0.1	570/26,277	2.2		
Yes, in past 6 months	5/4,577	0.1	6/677	0.9		
Unknown	0/91	0.0	5/455	1.1		
Swinger**						
No	19/20,017	0.1	198/11,326	1.7	4/27,214	0.0
Yes	2/1,737	0.1	8/1,208	0.7	1/2,846	0.0
Unknown	0/14	0.0	1/56	1.8	1/179	0.6

Table 5.3 (continued) Number and percentage of positive tests and total persons tested for gonorrhoea by sexual behavioural characteristics, gender and sexual preference, 2013.

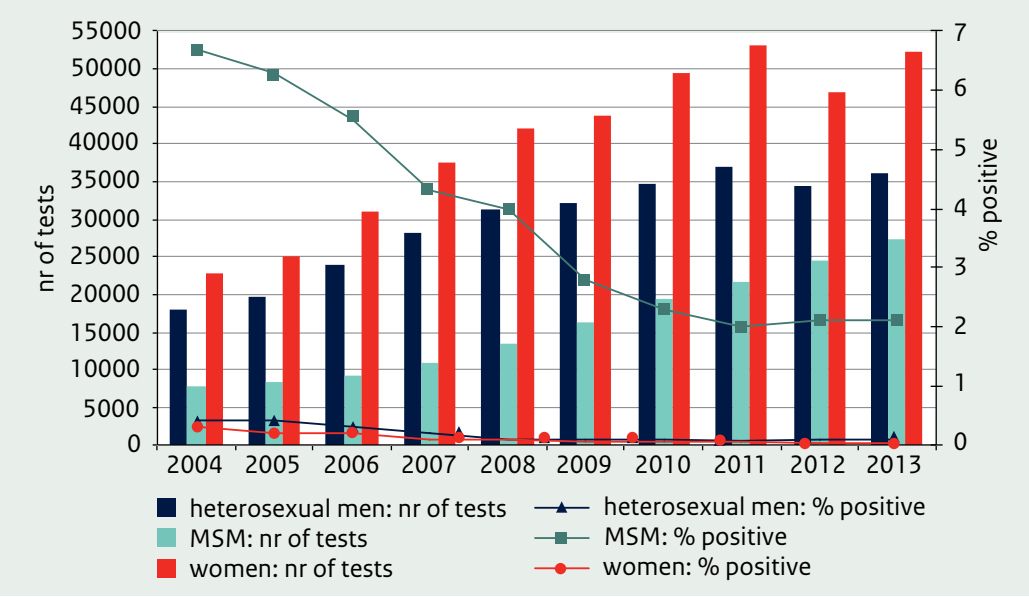
	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/ N	%	n positive/N	%
SES						
Very high	2/4,472	0.0	82/4,066	2.0	1/6,633	0.0
High	6/9,161	0.1	154/7,450	2.1	2/13,405	0.0
Medium	11/9,985	0.1	148/7,334	2.0	2/14,327	0.0
Low	4/6,126	0.1	90/4,575	2.0	4/8,284	0.1
Very low	6/3,911	0.2	52/2,124	2.4	4/4,778	0.1
Unkown	2/2,605	0.1	55/1,860	3.0	1/4,918	0.0

* Type of sexual contact was missing for 1.6% (n=1,811) of persons tested for syphilis.
** Voluntary question, answered by 56% (N=51,417) of persons tested for syphilis.

Table 5.4 Concurrent STI by gender and sexual preference among persons diagnosed with infectious syphilis, 2013.

Concurrent infection	Heterosexual men (N=31) n (%)	MSM (N=581) n (%)	Women (N=14) n (%)
Chlamydia	2 (6.5)	90 (15.5)	2 (14.3)
Gonorrhoea	1 (3.2)	87 (15.0)	2 (14.3)
HIV newly diagnosed	0 (0.0)	18 (3.1)	0 (0.0)
Genital herpes	0 (0.0)	5 (0.9)	0 (0.0)
Genital warts	0 (0.0)	14 (2.4)	0 (0.0)
Hepatitis B, infectious	0 (0.0)	3 (0.5)	0 (0.0)
Hepatitis C	0 (0.0)	5 (0.9)	0 (0.0)

Figure 5.4 Total number of tests and positivity rate of infectious syphilis by gender and sexual preference, 2004–2013.



5.3 Antenatal Screening

Table 5.5 Syphilis prevalence estimates in pregnant women, based on test results of antenatal screening, 2006–2012.

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]
2009/10	187,478	391	272 (74%)	0.15 [0.15-0.16]
2010/11	182,199	349	211 (65%)	0.12 [0.12-0.13]
2011#	88,478		74	0.08*
2012/13	173,878		100	0.06*

Footnote 1: Terminated pregnancies (induced or spontaneous) are excluded.
Footnote 2: Since 2009, time periods of data collection range from June to June the subsequent year
Footnote 3: For the prevalence calculation, we assumed that pregnant women with a first positive test result without a confirmation test would be as often positive as those with a confirmation test. Up to 2010/11 we showed a range of minimum to maximum prevalence. Minimum prevalence: number of confirmed positive test results divided by the total number of registered pregnant women; maximum prevalence: under the assumption that all pregnant women with a first positive test result without a confirmation test would also have a positive confirmation test.

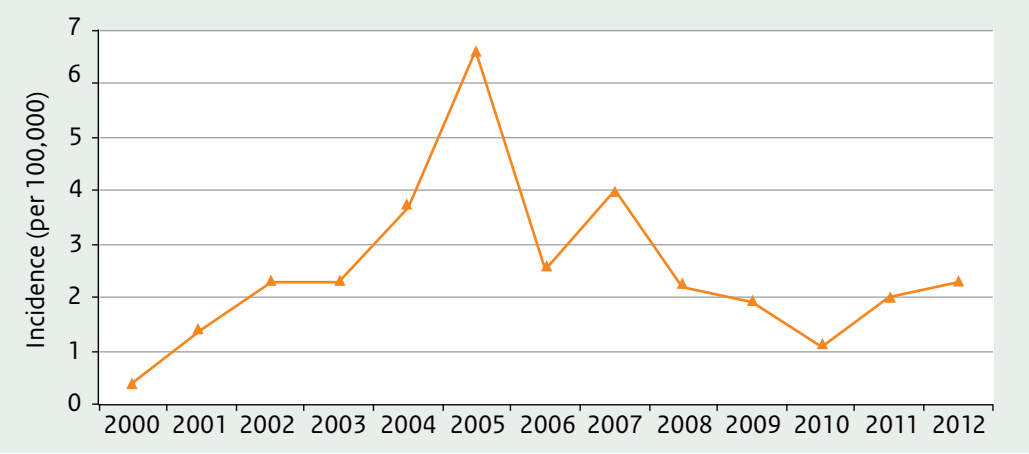
* The prevalence was estimated using a conclusion made by the RIVM laboratory or, if this conclusion was unavailable, using the confirmation test.

\# Data from July-December 2011

(Source: Praeventis, RIVM)

5.4 Blood donors

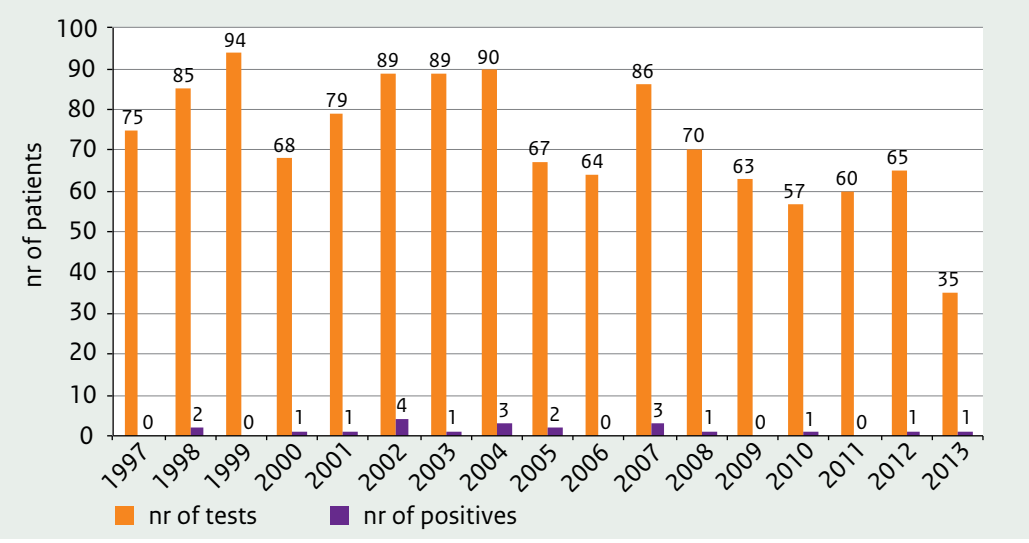
Figure 5.5 Syphilis incidence (per 100,000) among regular blood donors in the Netherlands, 2000–2012.



(Source: Sanquin)

5.5 Congenital syphilis

Figure 5.6 Number of tests among neonates and young infants (<1 year) suspected of being infected with congenital syphilis and the number of IgM positives, 1997–2013.



(Source: CIb/IDS)

VIRAL STI

6
HIV and AIDS

6.1 Key points

STI clinics

- In 2013, 356 individuals were newly diagnosed with HIV at STI clinics in the Netherlands (88 per cent MSM, 4 per cent heterosexual men, and 7 per cent women).
- The positivity rate among MSM decreased from 3.0 per cent in 2008 to 1.4 per cent in 2013.
- Among newly diagnosed HIV-positive MSM, 25 per cent had a concurrent chlamydia infection and 20 per cent a gonorrhoea infection. Among all known HIV-positive visitors, 16 per cent were diagnosed with chlamydia and 14 per cent with gonorrhoea.

HIV treatment centres

- A cumulative total of 21,858 HIV-patients in care were reported up to December 2013, of whom 90 per cent are still alive. In 2013, 1,175 new HIV-patients were reported in care; a small decline compared to the 1,343 in 2011. Of the newly registered patients in 2013, 829 were newly diagnosed in 2013 (incomplete due to reporting delay). The proportion of MSM accounting for new HIV-patients was 70 per cent in 2013. The proportion of heterosexuals was 23 per cent.
- Of HIV-positive MSM in care, 38 per cent were diagnosed at STI clinics in 2013, 31 per cent at GPs, and 24 per cent in hospitals. Of heterosexual males, 50 per cent were diagnosed in hospitals, 40 per cent by GPs, and only 9 per cent at STI clinics. Of women, 49 per cent were diagnosed at a hospital, 23 per cent by GPs, and 16 per cent at an STI clinic.
- Of patients diagnosed in 2013, 43 per cent were diagnosed late (<350 CD4 cell counts/mm3). This proportion was lower for MSM (34 per cent) than for heterosexuals (62 per cent). People who were diagnosed in hospitals or at GPs were more often diagnosed late (66 and 41 per cent) compared to people diagnosed at STI clinics (26 per cent).

General practice

- Using NIVEL-PCD data, the number of registered, prevalent HIV diagnoses in general practice was 23,670, of which 18,004 were in men (76%) and 5,666 in women. These estimates are based on a relatively small number of practices for monitoring HIV, but it nevertheless shows that a large proportion of HIV-positives may be registered as such at general practices.

6.2 STI clinics: characteristics, risk groups and trends

Table 6.1 Number of positive tests and persons tested for HIV by age, gender and sexual preference, 2013.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤14	0	3	0	2	0	49
15–19	0	1,878	4	720	1	6,044
20–24	1	13,269	34	3,675	3	23,292
25–29	3	8,889	59	3,704	5	10,769
30–34	3	4,108	44	2,987	6	4,110
35–39	3	2,249	43	2,749	3	2,275
40–44	2	1,949	41	2,563	2	2,127
45–49	2	1,528	38	2,431	4	1,792
50–54	1	1,100	28	1,786	0	1,020
≥ 55	0	1,138	24	2,386	2	620
Unknown	0	5	0	2	0	7
Total	**15**	**36,116**	**315**	**23,005**	**26**	**52,105**

Figure 6.1 Percentage of positive tests for HIV by age, gender and sexual preference, 2013.

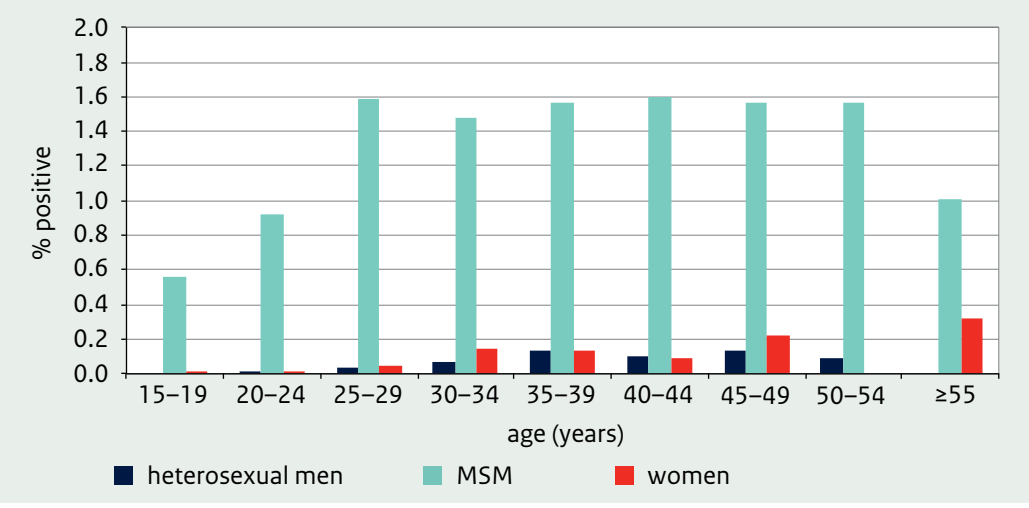


Table 6.2 Number of positive tests and persons tested for HIV by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	7	21,082	180	16,506	4	32,783
Turkey	0	1,058	6	310	0	589
North Africa/ Morocco	1	1,712	13	311	0	1,089
Surinam	1	3,185	21	631	5	3,554
Netherlands Antilles/Aruba	0	1,678	13	435	1	1,615
Sub-Saharan Africa	2	1,370	1	173	11	1,424
Eastern Europe	1	578	12	461	1	2,681
Latin America	1	627	16	539	3	1,548
Asia	0	1,962	17	1,189	0	2,734
Europe other	2	1,928	27	1,677	1	2,773
Else	0	275	3	247	0	420
Unknown	0	661	6	526	0	895
Natives	7	21,082	180	16,506	4	32,783
First generation migrants	7	6,772	99	3,923	18	9,217
Second generation migrants	1	7,526	30	2,018	4	9,136
Unknown	0	736	6	558	0	969
Total	**15**	**36,116**	**315**	**23,005**	**26**	**52,105**

Figure 6.2 Percentage of positive tests for HIV by ethnicity, gender and sexual preference, 2013.

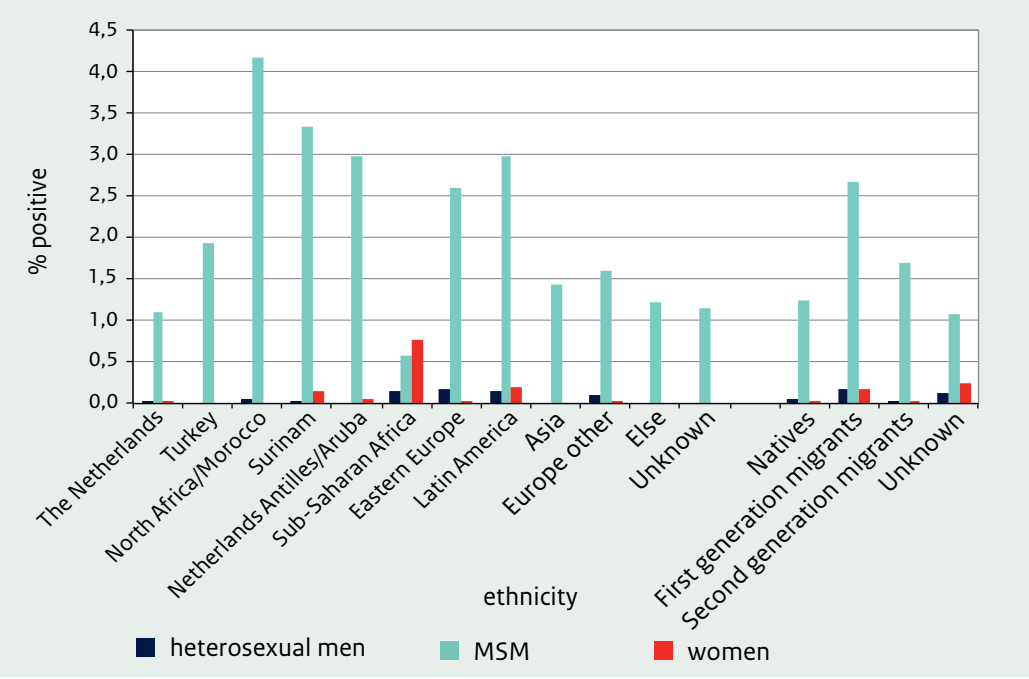


Table 6.3 Number and percentage of positive tests and total persons tested for HIV at the STI clinics by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/ N	%	n positive/N	%
Number of partners in past 6 months						
0 partners	0/224	0.0	1/138	0.7	2/350	0.6
1 partner	4/5,698	0.1	39/2,519	1.5	11/12,881	0.1
2 partners	3/6,822	0.0	23/2,738	0.8	4/10,799	0.0
3 or more partners	8/22,952	0.0	243/16,827	1.4	6/24,982	0.0
Unknown	0/420	0.0	9/783	1.1	3/3,093	0.1
Condom use if last sexual contact was steady*						
No	6/13,156	0.1	114/6,700	1.7	12/22,023	0.1
Yes	2/3,397	0.1	21/2,005	1.0	5/4,177	0.1
Unknown	0/52	0.0	0/89	0.0	0/83	0.0
Condom use if last sexual contact was casual*						
No	5/12,862	0.0	75/7,041	1.1	3/15,894	0.0
Yes	1/6,197	0.0	88/5,713	1.5	4/8,958	0.0
Unknown	0/100	0.0	5/123	4.1	0/111	0.0

Table 6.3 (continued) Number and percentage of positive tests and total persons tested for HIV at the STI clinics by sexual behavioural characteristics, gender and sexual preference, 2013.

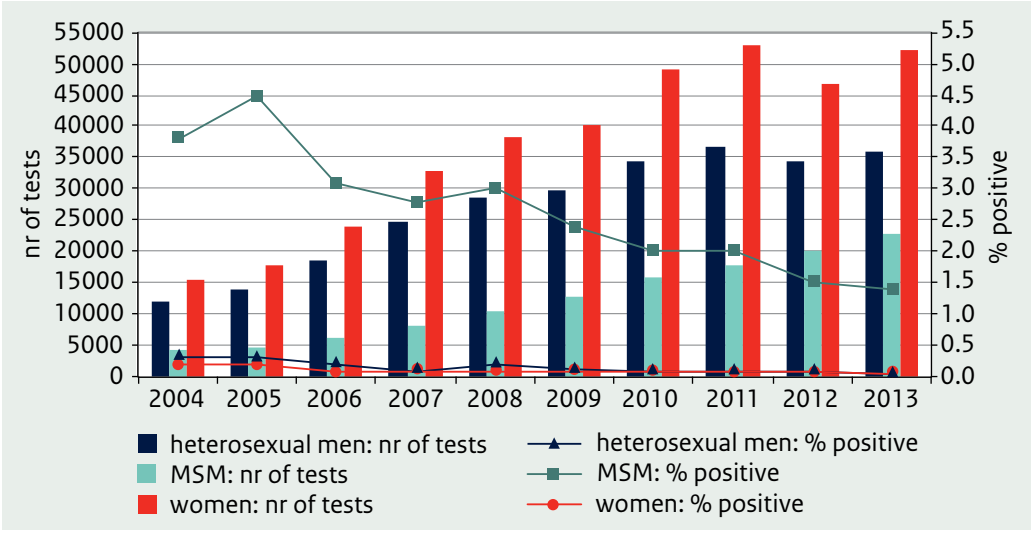
	Heterosexual men		MSM		Women	
	n positive/N	%	n positive/ N	%	n positive/N	%
Previous GO/CT/syphilis in anamnesis						
No	14/30,325	0.0	244/19,084	1.3	23/43,085	0.1
Yes	0/2,823	0.0	60/3,065	2.0	2/5,422	0.0
Don't know	0/1,806	0.0	8/464	1.7	1/2,043	0.0
Unknown	1/1,162	0.1	3/392	0.8	0/1,555	0.0
Previous HIV test						
No	9/16,823	0.1	65/3,300	2.0	11/20,475	0.1
Yes, positive	0/20	0.0	0/47	0.0	0/41	0.0
Yes, negative	6/18,794	0.0	244/19,467	1.3	14/30,696	0.1
Yes, result unknown	0/72	0.0	3/63	4.8	0/128	0.0
Unknown	0/407	0.0	3/128	2.3	1/765	0.1
CSW						
No	14/35,936	0.0	305/22,570	1.4	20/46,340	0.0
Yes, in past 6 months	1/146	0.7	9/371	2.4	6/5,722	0.1
Unknown	0/34	0.0	1/64	1.6	0/43	0.0
Client of CSW, men						
No	14/31,475	0.0	306/21,977	1.4		
Yes, in past 6 months	1/4,550	0.0	6/633	0.9		
Unknown	0/91	0.0	3/395	0.8		
Swinger**						
No	7/19,968	0.0	145/10,200	1.4	14/27,114	0.1
Yes	2/1,734	0.1	6/1,176	0.5	3/2,839	0.1
Unknown	0/14	0.0	0/51	0.0	0/179	0.0
SES						
Very high	2/4,449	0.0	48/3,285	1.5	1/6,607	0.0
High	5/9,131	0.1	71/6,280	1.1	4/13,370	0.0
Medium	4/9,951	0.0	66/6,247	1.1	5/14,259	0.0
Low	0/6,085	0.0	69/3,811	1.8	3/8,238	0.0
Very low	1/3,893	0.0	27/1,790	1.5	6/4,739	0.1
Unkown	3/2,607	0.1	34/1,592	2.1	7/4,892	0.1

* Type of sexual contact was missing for 1.5% (n=1,695) of persons tested for HIV.
** Voluntary question, answered by 57% (N=63,275) of persons tested for HIV.

Table 6.4 Concurrent STI by gender and sexual preference among persons newly diagnosed with HIV at the STI clinics, 2013.

Concurrent infection	Heterosexual men (N=15) n (%)	MSM (N=315) n (%)	Women (N=26) n (%)
Chlamydia	1 (6.7)	80 (25.4)	2 (7.7)
Gonorrhoea	3 (20.0)	62 (19.7)	3 (11.5)
Infectious syphilis	0 (0.0)	18 (5.7)	0 (0.0)
Genital herpes	0 (0.0)	1 (0.3)	0 (0.0)
Genital warts	0 (0.0)	7 (2.2)	1 (3.8)
Hepatitis B, infectious	0 (0.0)	2 (0.6)	0 (0.0)
Hepatitis C	0 (0.0)	1 (0.3)	0 (0.0)

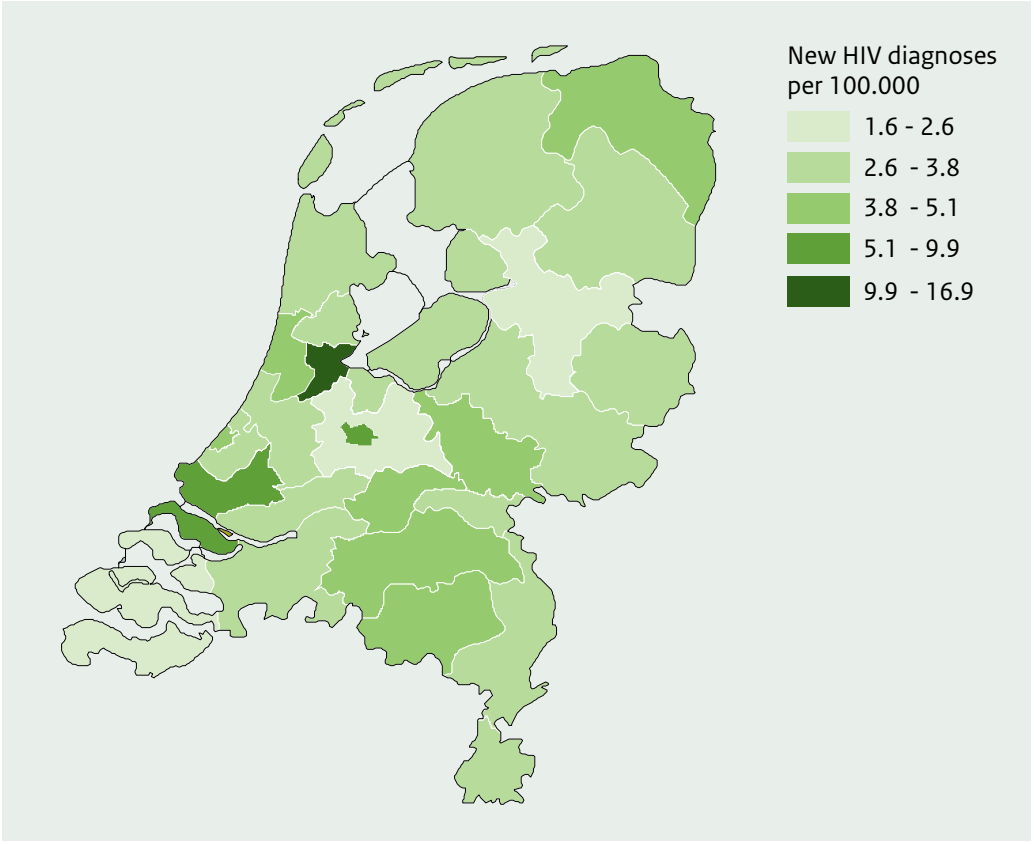
Figure 6.3 Total number of tests and positivity rate of new HIV cases by gender and sexual preference, STI clinics, the Netherlands, 2004–2013.



6.3 HIV treatment centres

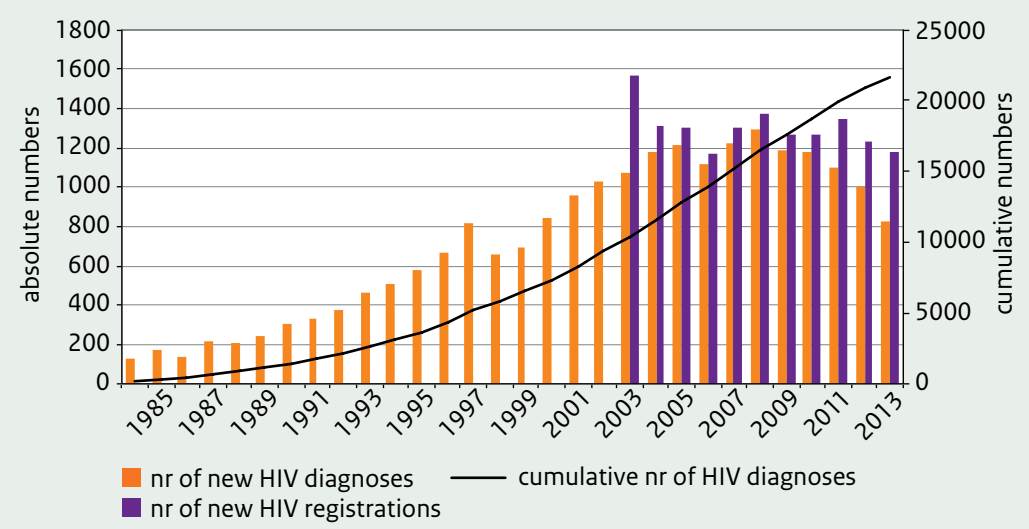
6.3.1 HIV cases newly diagnosed in care in 2013 versus all registered HIV cases (cumulative)

Figure 6.4 Number of new HIV diagnoses per 100,000 inhabitants per PHS region, the Netherlands, 2013.



Footnote: calculations based on HIV diagnoses per PHS region. (Sources: Stichting HIV Monitoring, CBS)

Figure 6.5 Number of newly diagnosed HIV cases (blue; cumulative: black line) and newly registered HIV patients (red) by year, < 1985–2013.



(Source: ATHENA: 1996–2001, national registration from 2002 to date (Source: Stichting HIV Monitoring, 2013 incomplete))

Table 6.5a Number of HIV cases diagnosed in 2013 by age and gender.

Age (years)	Men (%)	Women (%)	Total (%)
0–14	1 (0.1)	0 (0.0)	1 (0.1)
15–19	12 (1.7)	3 (2.8)	15 (1.8)
20–24	65 (9.0)	9 (8.4)	74 (8.9)
25–29	88 (12.2)	17 (15.9)	105 (12.7)
30–39	184 (25.5)	31 (29.0)	215 (25.9)
40–49	195 (27.0)	24 (22.4)	219 (26.4)
50–59	122 (16.9)	14 (13.1)	136 (16.4)
60–69	45 (6.2)	6 (5.6)	51 (6.2)
70–79	9 (1.2)	3 (2.8)	12 (1.4)
≥ 80	1 (0.1)	0 (0.0)	1 (0.1)
Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Total	**722**	**107**	**829**

Table 6.5b Cumulative number of HIV cases by age (at year of diagnosis) and gender up to 2013.

Age (years)	Men (%)	Women (%)	Total (%)
0–14	168 (1.0)	150 (3.4)	318 (1.5)
15–19	255 (1.5)	267 (6.1)	522 (2.4)
20–24	1,344 (7.7)	650 (14.8)	1,994 (9.2)
25–29	2,483 (14.3)	963 (22.0)	3,446 (15.9)
30–39	6,283 (36.2)	1,452 (33.2)	7,735 (35.6)
40–49	4,403 (25.4)	559 (12.8)	4,962 (22.8)
50–59	1,843 (10.6)	246 (5.6)	2,089 (9.6)
60–69	479 (2.8)	74 (1.7)	553 (2.5)
70–79	81 (0.5)	14 (0.3)	95 (0.4)
≥ 80	2 (0.01)	2 (0.0)	4 (0.02)
Unknown	3 (0.02)	2 (0.0)	5 (0.02)
Total	**17,344**	**4,379**	**21,723**

Table 6.6a Number of HIV cases diagnosed in 2013 by main reported transmission risk group and gender.

Transmission risk group	Men (%)	Women (%)	Total (%)
MSM	580 (80.3)	-	580 (70.0)
Heterosexual contact	91 (12.6)	97 (90.7)	188 (22.7)
Injecting drug use	1 (0.1)	2 (1.9)	3 (0.4)
Blood or blood products	10 (1.4)	1 (0.9)	11 (1.3)
Mother to child	1 (0.1)	1 (0.9)	2 (0.2)
Other/unknown	39 (5.4)	6 (5.6)	45 (5.4)
Total	**722**	**107**	**829**

Table 6.6b Cumulative number of HIV cases by main reported transmission risk group and gender up to 2013.

Transmission risk group	Men (%)	Women (%)	Total (%)
MSM	12,481 (72.0)	-	12,481 (57.5)
Heterosexual contact	2,985 (17.2)	3,748 (85.6)	6,733 (31.0)
Injecting drug use	545 (3.1)	204 (4.7)	749 (3.4)
Blood or blood products	199 (1.1)	105 (2.4)	304 (1.4)
Mother to child	133 (0.8)	136 (3.1)	269 (1.2)
Other/unknown	1,001 (5.8)	186 (4.2)	1,187 (5.5)
Total	**17,344**	**4,379**	**21,723**

Table 6.7a Number of HIV cases diagnosed in 2013 by age and transmission risk group.

Age (years)	MSM	Heterosexual contact	Other/ unknown*
	n (%)	n (%)	n (%)
0–14	0 (0.0)	0 (0.0)	1 (1.6)
15–19	10 (1.7)	2 (1.1)	3 (4.9)
20–24	58 (10.0)	14 (7.4)	2 (3.3)
25–29	77 (13.3)	23 (12.2)	5 (8.2)
30–39	146 (25.2)	52 (27.7)	17 (27.9)
40–49	153 (26.4)	47 (25.0)	19 (31.1)
50–59	94 (16.2)	33 (17.6)	9 (14.8)
60–69	35 (6.0)	12 (6.4)	4 (6.6)
70–79	7 (1.2)	5 (2.7)	0 (0.0)
≥ 80	0 (0.0)	0 (0.0)	1 (1.6)
Unknown	0 (0.0)	0 (0.0)	0 (0.0)
Total	**580**	**188**	**61**

Table 6.7b Cumulative number of HIV cases by age and transmission risk group up to 2013.

Age (years)	MSM	Hetero-sexual contact	Injecting drug use	Blood or blood products*	Mother to child	Other/ unknown
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
0–14	3 (0.02)	11 (0.2)	1 (0.1)	30 (9.9)	258 (95.9)	15 (1.3)
15–19	158 (1.3)	291 (4.3)	23 (3.1)	19 (6.3)	4 (1.5)	27 (2.3)
20–24	1,002 (8.0)	766 (11.4)	100 (13.4)	34 (11.2)	1 (0.4)	91 (7.7)
25–29	1,870 (15.0)	1,195 (17.7)	157 (21.0)	42 (13.8)	2 (0.7)	180 (15.2)
30–39	4,562 (36.6)	2,373 (35.2)	304 (40.6)	89 (29.3)	1 (0.4)	406 (34.2)
40–49	3,259 (26.1)	1,252 (18.6)	147 (19.6)	43 (14.1)	0 (0.0)	261 (22.0)
50–59	1,285 (10.3)	611 (9.1)	15 (2.0)	25 (8.2)	0 (0.0)	153 (12.9)
60–69	297 (2.4)	196 (2.9)	2 (0.3)	17 (5.6)	0 (0.0)	41 (3.5)
70–79	45 (0.4)	34 (0.5)	0 (0.0)	4 (1.3)	0 (0.0)	12 (1.0)
≥ 80	0 (0.0)	3 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.1)
Unknown	0 (0.0)	1 (0.0)	0 (0.0)	1 (0.3)	3 (1.1)	0 (0.0)
Total	**12,481**	**6,733**	**695**	**304**	**269**	**1,187**

*Including needle stick injury.

Table 6.8a Number of HIV cases diagnosed in 2013 by region of origin and transmission risk group.

Ethnicity	MSM	Heterosexual contact	Other/ unknown
	n (%)	n (%)	n (%)
The Netherlands	442 (76.2)	88 (46.8)	36 (59.0)
Western Europe	29 (5.0)	7 (3.7)	1 (1.6)
Central Europe	19 (3.3)	3 (1.6)	4 (6.6)
Eastern Europe	2 (0.3)	3 (1.6)	2 (3.3)
Sub-Saharan Africa	3 (0.5)	54 (28.7)	9 (14.8)
Caribbean	21 (3.6)	7 (3.7)	1 (1.6)
Latin America	27 (4.7)	14 (7.4)	4 (6.6)
North America	1 (0.2)	0 (0.0)	0 (0.0)
North Africa and Middle East	15 (2.6)	4 (2.1)	3 (4.9)
Australia and Pacific	4 (0.7)	1 (0.5)	0 (0.0)
South (East) Asia	16 (2.8)	7 (3.7)	1 (1.6)
Unknown	1 (0.2)	0 (0.0)	0 (0.0)
Total	**580**	**188**	**61**

Table 6.8b Cumulative number of HIV cases by transmission risk group and five most common regions of origin up to 2013.

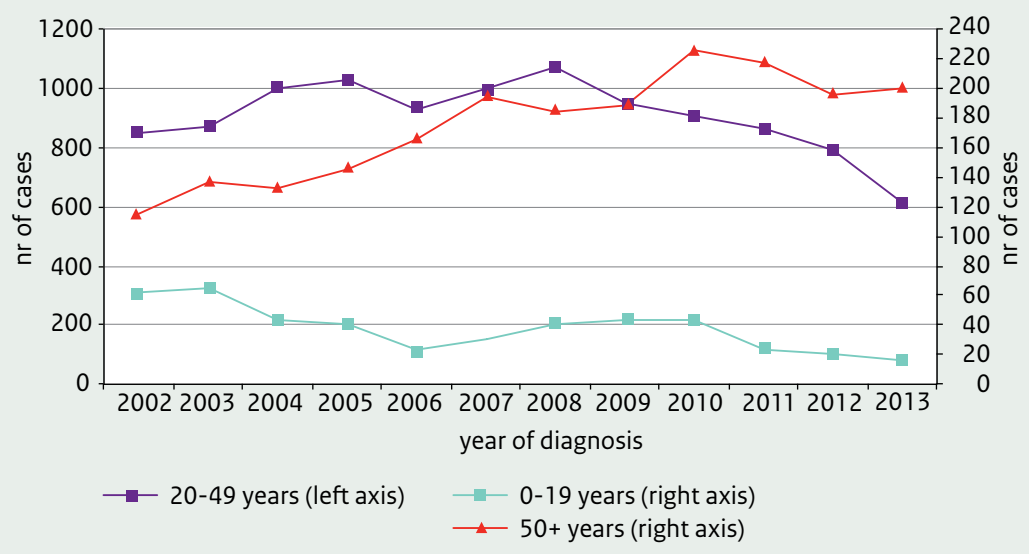
Age (years)	MSM	Hetero-sexual contact	Injecting drug use	Blood or blood products*	Mother to child	Other/ unknown
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
The Netherlands	8,938 (71.6)	2,112 (31.4)	449 (59.9)	139 (45.7)	106 (39.4)	501 (42.2)
Sub-Saharan Africa	171 (1.4)	2,786 (41.4)	8 (1.1)	89 (29.3)	129 (48.0)	301 (25.4)
Surinam	324 (2.6)	539 (8.0)	20 (2.7)	9 (3.0)	2 (0.7)	44 (3.7)
Neth. Antilles/ Aruba	127 (1.0)	70 (1.0)	6 (0.8)	0 (0.0)	2 (0.7)	6 (0.5)
Western Europe	962 (7.7)	211 (3.1)	142 (19.0)	12 (3.9)	6 (2.2)	105 (8.8)
Other/unknown	1,959 (15.7)	1,015 (15.1)	124 (16.6)	55 (18.1)	24 (8.9)	230 (19.4)
Total	**12,481**	**6,733**	**695**	**304**	**269**	**1,187**

* Including needle stick injury.

Table 6.8c Number of HIV cases diagnosed in 2013 by test location and transmission risk group.

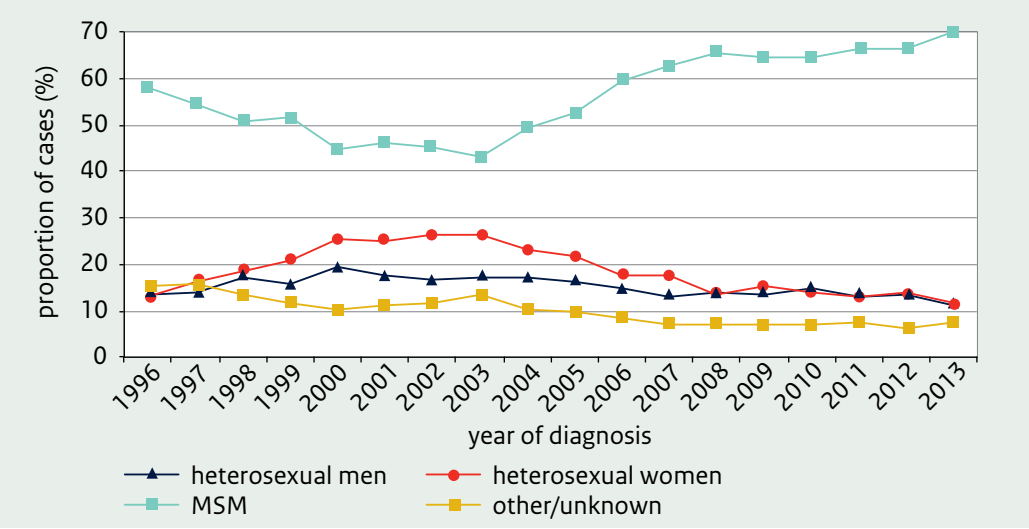
Test location	MSM n (%)	Heterosexual men n (%)	Women n (%)
PHS/STI center	219 (37.8)	8 (8.8)	15 (15.5)
Hospital	141 (24.3)	45 (49.5)	47 (48.5)
General practitioner	181 (31.2)	36 (39.6)	22 (22.7)
Pregnancy screening	0 (0.0)	0 (0.0)	8 (8.2)
Other	39 (6.7)	2 (2.2)	5 (5.2)
Total	**580**	**91**	**97**

Figure 6.6 Number of HIV cases by age group (left axis: 20–49, right axis: 0–19 and 50+) and year of diagnosis, 1996–2013.



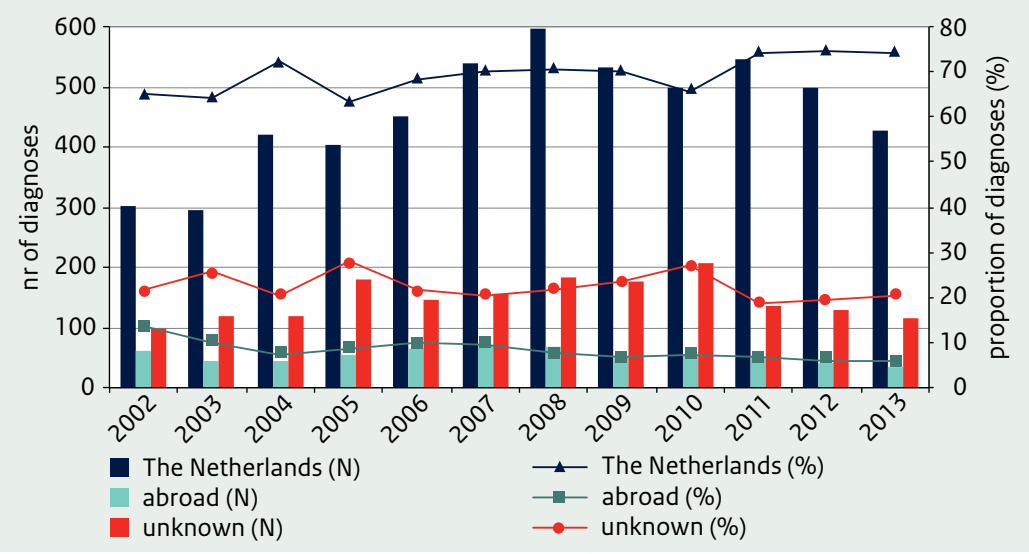
(Source: Stichting HIV Monitoring, 2013 incomplete)

Figure 6.7 Proportion of annual HIV cases in care by transmission risk group and year of diagnosis, 1996–2013.



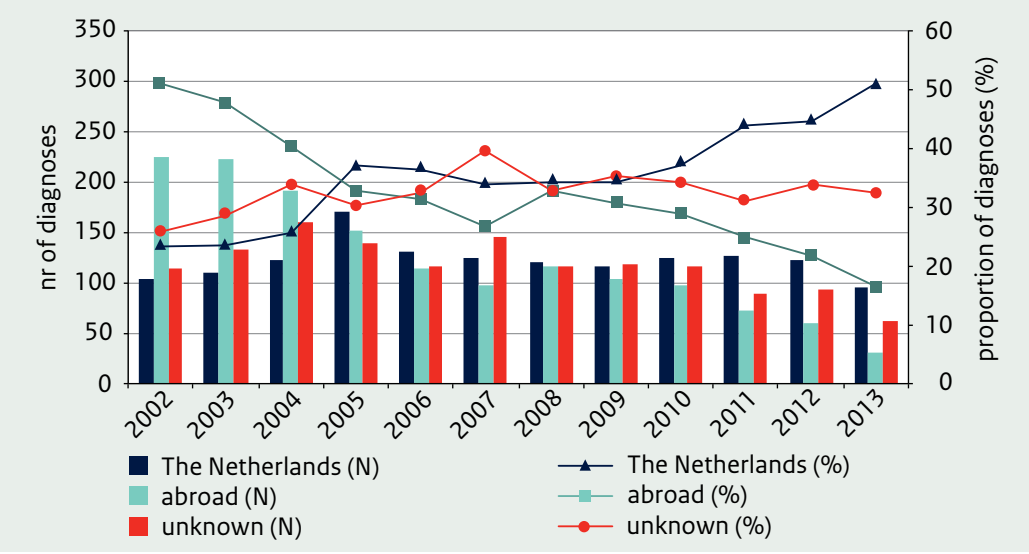
(Source: Stichting HIV Monitoring, 2013 incomplete)

Figure 6.8a Reported country of infection of MSM by year of diagnosis, 2002–2013.



(Source: Stichting HIV Monitoring, 2013 incomplete)

Figure 6.8b Reported country of infection of heterosexuals by year of diagnosis, 2002–2013.



(Source: Stichting HIV Monitoring, 2013 incomplete)

Figure 6.9a Proportion of low CD4 count (<350/mm3) at diagnosis by transmission risk group, 1996–2013.

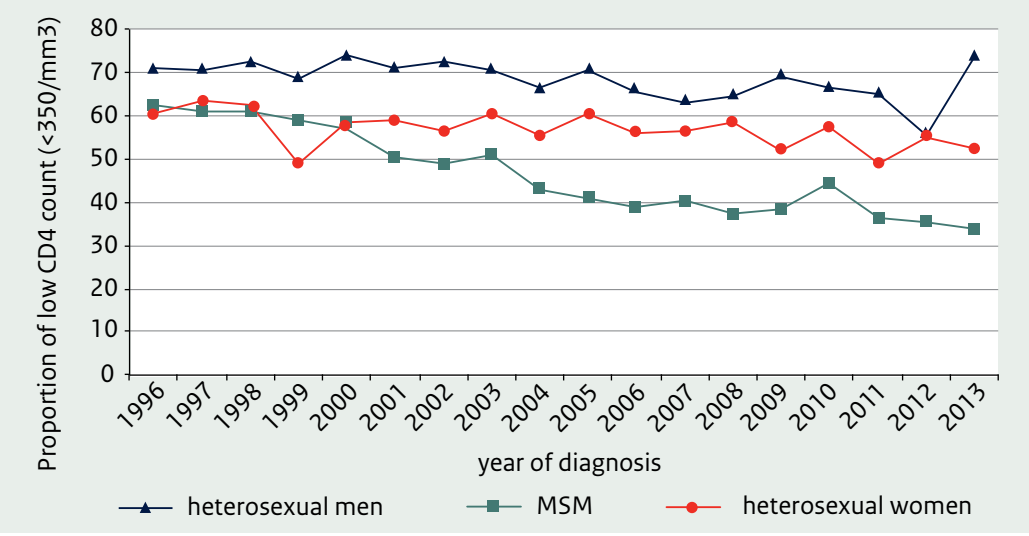
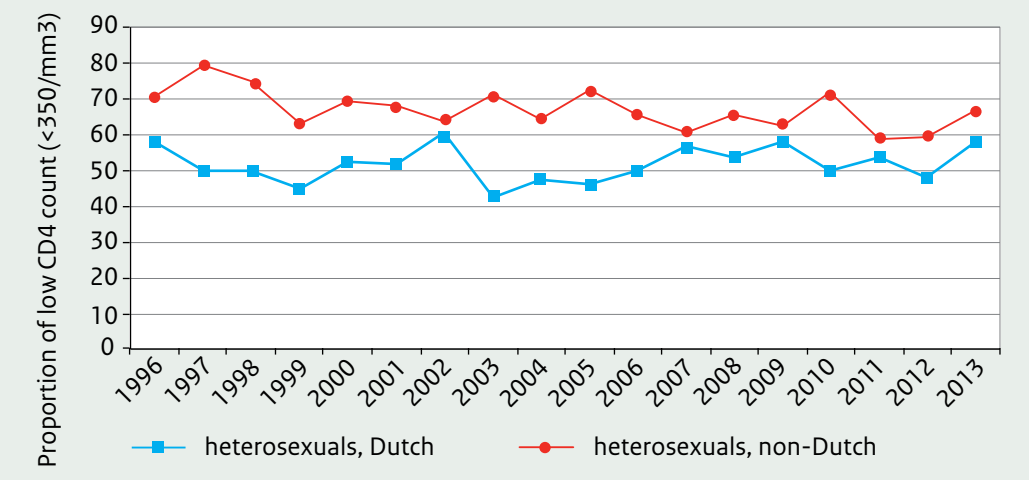


Figure 6.9b Proportion of low CD4 count (<350/mm3) at diagnosis by region of origin (heterosexuals only), 1996–2013.



6.3.2 AIDS cases and deaths among HIV patients

Table 6.9 Number (per year and cumulative) of AIDS diagnoses and deaths among HIV patients, 1983–2013.

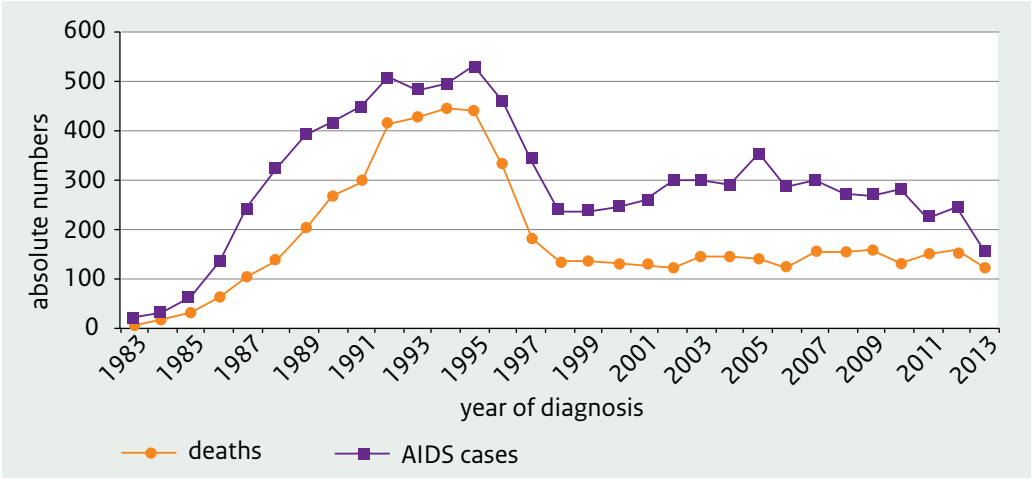
Year	AIDS diagnoses (per year)	AIDS diagnoses (cumulative)	Deaths (per year)	Deaths (cumulative)
1983	22	22	6	6
1984	31	53	16	22
1985	65	118	30	52
1986	137	255	63	115
1987	245	500	106	221
1988	325	825	135	356
1989	391	1,216	202	558
1990	419	1,635	269	827
1991	450	2,085	294	1,121
1992	510	2,595	412	1,533
1993	481	3,076	427	1,960
1994	494	3,570	444	2,404
1995	533	4,103	439	2,843
1996	459	4,562	327	3,170
1997	337	4,899	184	3,354
1998	238	5,137	136	3,490
1999	235	5,372	137	3,627
2000	247	5,619	132	3,759

Table 6.9 (continued) Number (per year and cumulative) of AIDS diagnoses and deaths among HIV patients, 1983–2013.

Year	AIDS diagnoses (per year)	AIDS diagnoses (cumulative)	Deaths (per year)	Deaths (cumulative)
2001	261	5,880	128	3,887
2002	299	6,179	125	4,012
2003	298	6,477	144	4,156
2004	289	6,766	144	4,300
2005	356	7,122	142	4,442
2006	287	7,409	122	4,564
2007	299	7,708	153	4,717
2008	272	7,980	153	4,870
2009	266	8,246	160	5,030
2010	284	8,530	131	5,161
2011	221	8,751	150	5,311
2012	244	8,995	158	5,469
2013	155	9,150	124	5,593

(Sources: deaths among HIV patients: < 2002: Statistics Netherlands, CBS, ≥ 2002: data from the Stichting HIV Monitoring. Sources AIDS cases: < 1999: Health Inspectorate, ≥ 1999: Stichting HIV Monitoring, 2013 incomplete)

Figure 6.10 Number of AIDS cases and deaths among HIV patients, 1983–2013.



(Sources: AIDS cases: < 1999: AIDS registration Health Inspectorate, ≥ 1999: Stichting HIV Monitoring. Sources for deaths: < 2002: CBS, ≥ 2002: Stichting HIV Monitoring, 2013 incomplete)

Table 6.10 Number of AIDS patients by year of AIDS diagnosis and transmission risk group, ≤1987–2013.

Year of diagnosis	MSM	Hetero-sexual contact	Injecting drug use	Blood and 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	117 (49.8)	80 (34.0)	14 (6.0)	6 (2.6)	4 (1.7)	14 (6.0)
2000	105 (42.5)	102 (41.3)	16 (6.5)	5 (2.0)	2 (0.8)	17 (6.9)
2001	105 (40.2)	110 (42.1)	12 (4.6)	6 (2.3)	7 (2.7)	21 (8.0)
2002	114 (38.1)	139 (46.5)	10 (3.3)	4 (1.3)	3 (1.0)	29 (9.7)
2003	116 (38.9)	123 (41.3)	14 (4.7)	8 (2.7)	4 (1.3)	33 (11.1)
2004	118 (40.8)	115 (39.8)	12 (4.2)	3 (1.0)	2 (0.7)	39 (13.5)
2005	152 (42.7)	140 (39.3)	25 (7.0)	5 (1.4)	1 (0.3)	33 (9.3)
2006	124 (43.2)	108 (37.6)	10 (3.5)	5 (1.7)	3 (1.0)	37 (12.9)
2007	136 (45.5)	110 (36.8)	13 (4.3)	4 (1.3)	4 (1.3)	32 (10.7)
2008	131 (48.2)	100 (36.8)	7 (2.6)	6 (2.2)	1 (0.4)	27 (9.9)
2009	134 (50.4)	104 (39.1)	8 (3.0)	1 (0.4)	2 (0.8)	17 (6.4)
2010	127 (44.7)	120 (42.3)	6 (2.1)	3 (1.1)	5 (1.8)	23 (8.1)
2011	108 (48.9)	79 (35.7)	7 (3.2)	1 (0.5)	2 (0.9)	24 (10.9)
2012	119 (48.8)	93 (38.1)	4 (1.6)	1 (0.4)	1 (0.4)	26 (10.7)
2013	78 (50.3)	48 (31.0)	2 (1.3)	3 (1.9)	0 (0.0)	24 (15.5)
Total	**5,326 (62.4)**	**2,346 (27.5)**	**728 (8.5)**	**189 (2.2)**	**75 (0.9)**	**486 (5.7)**

(Sources: < 1999: Health Inspectorate, 1999–2010: Stichting HIV Monitoring, 2013 incomplete)

Table 6.11 Number of deaths among HIV/AIDS patients by year of death and transmission risk group, 2002–2013.

Year of death	MSM	Hetero-sexual contact	Injecting drug use	Blood or blood products*	Other/ unknown
	n (%)	n (%)	n (%)	n (%)	n (%)
2002	54 (43.2)	30 (24.0)	18 (14.4)	4 (3.2)	19 (15.2)
2003	55 (38.2)	35 (24.3)	34 (23.6)	4 (2.8)	16 (11.1)
2004	82 (56.9)	37 (25.7)	17 (11.8)	1 (0.7)	7 (4.9)
2005	62 (43.7)	41 (28.9)	18 (12.7)	1 (0.7)	20 (14.1)
2006	58 (47.5)	28 (23.0)	17 (13.9)	2 (1.6)	17 (13.9)
2007	82 (53.6)	34 (22.2)	19 (12.4)	3 (2.0)	15 (9.8)
2008	78 (51.0)	41 (26.8)	22 (14.4)	1 (0.7)	11 (7.2)
2009	82 (51.3)	40 (25.0)	19 (11.9)	4 (2.5)	15 (9.4)
2010	64 (48.9)	32 (24.4)	15 (11.5)	4 (3.1)	16 (12.2)
2011	75 (50.0)	45 (30.0)	13 (8.7)	0 (0.0)	17 (11.3)
2012	87 (55.1)	37 (23.4)	18 (11.4)	1 (0.6)	15 (9.5)
2013	69 (55.6)	32 (25.8)	12 (9.7)	1 (0.8)	10 (8.1)

Footnote: mother to child transmission did not lead to death.
* Including needle stick injury (Source: Stichting HIV Monitoring)

6.4 Other sources

6.4.1 Antenatal screening

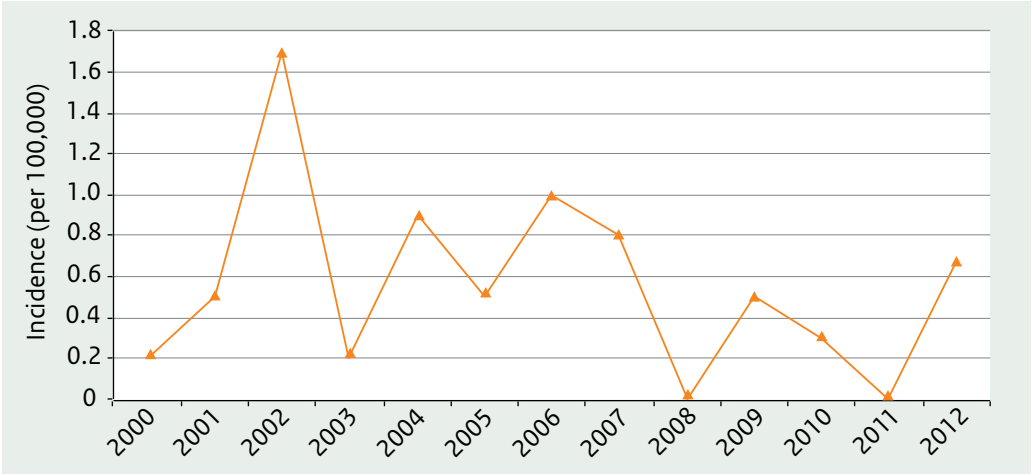
Table 6.12 HIV prevalence estimates in pregnant women, based on test results of antenatal screening, 2006–2012.

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]
2009/10	187,309	336	109 (34%)	0.06 [0.06-0.07]
2010/11	182,071	301	89 (31%)	0.05 [0.05-0.06]
2011#	88,425		52	0.06*
2012/13	173,802		114	0.07*

Footnote 1: Terminated pregnancies (induced or spontaneous) are excluded.
Footnote 2: Since 2009, time periods of data collection range from June to June the subsequent year.
Footnote 3: For the prevalence calculation, we assumed that pregnant women with a first positive test result without a confirmation test would be as often positive as those with a confirmation test. Up to 2010/11, we showed a range of minimum to maximum prevalence. Minimum prevalence: number of confirmed positive test results divided by the total number of registered pregnant women; maximum prevalence: under the assumption that all pregnant women with a first positive test result without a confirmation test would also have a positive confirmation test.
* The prevalence was estimated using a conclusion made by the RIVM laboratory or, if this conclusion was unavailable, using the confirmation test.
# Data from July-December 2011
(Source: Praeventis, RIVM)

6.4.2 Blood donors

Figure 6.11 HIV incidence (per 100,000) among regular blood donors in the Netherlands, 2000–2012.



(Source: Sanquin, 2013 not available yet)

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, 1985–2013.

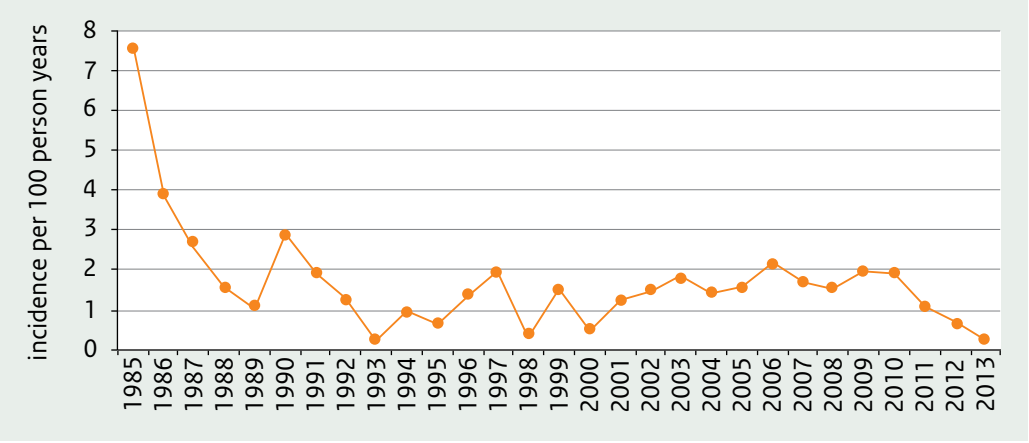
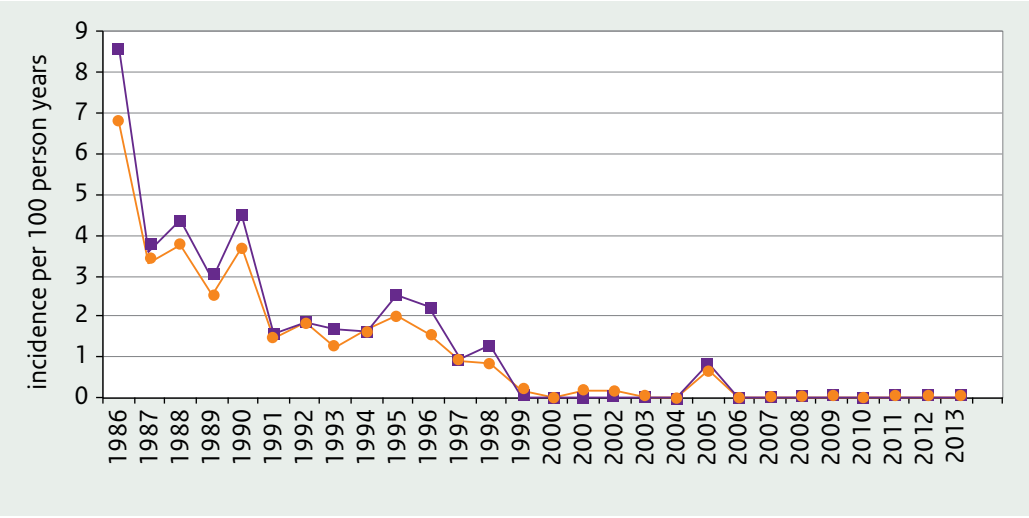
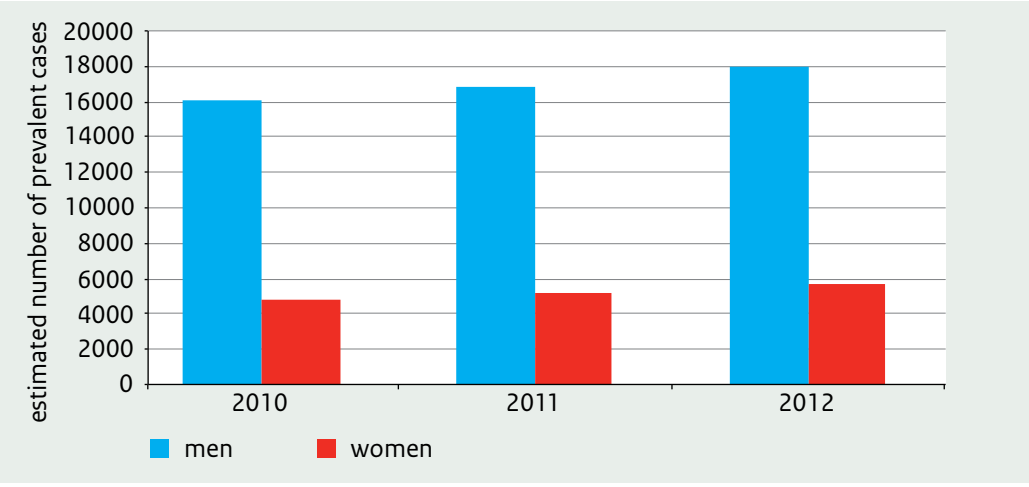


Figure 6.13 Yearly HIV incidence among IDUs (≤ 30 years at entry) in Amsterdam Cohort Studies, 1986–2013.



6.5 General Practice

Figure 6.14 National estimate of the number of prevalent HIV-positive men and women registered at GPs, based on data from the practices reporting to NIVEL-PCD between 2010-2012.

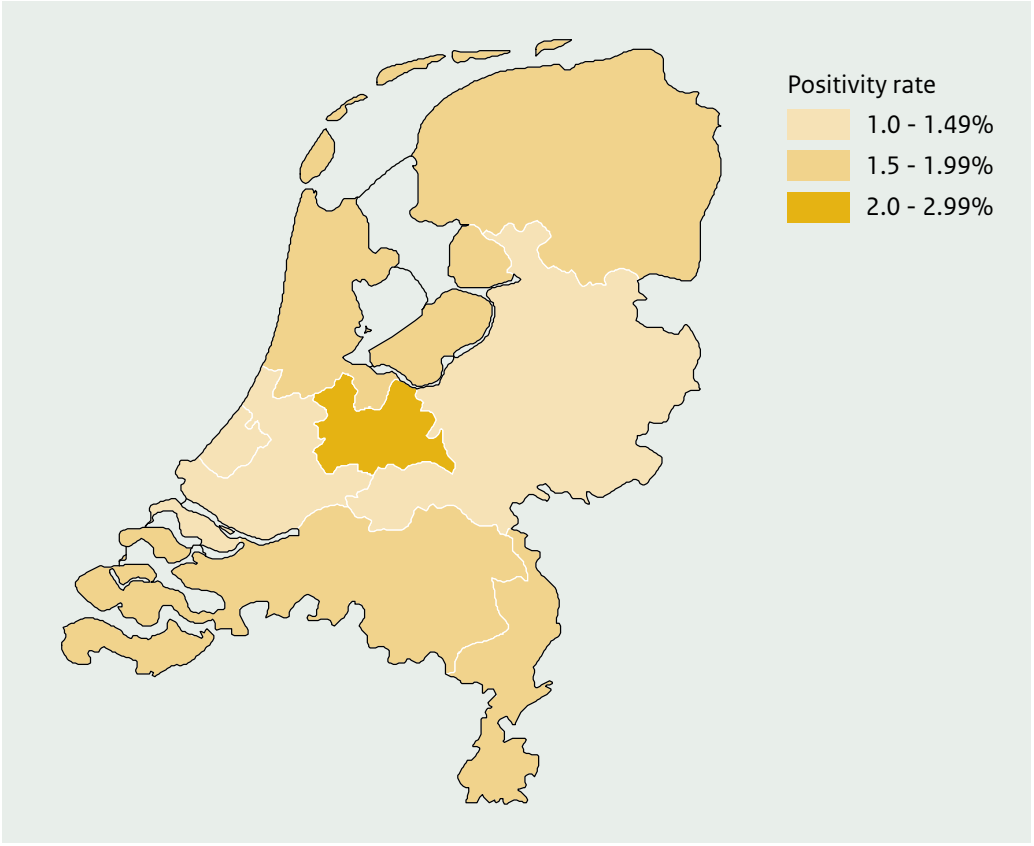


7 Genital warts

7.1 Key points

- In 2013, the number of genital warts diagnoses was 2,057 (42.9 per cent heterosexual men, 22.5 per cent MSM, 34.6 per cent women) at STI clinics in the Netherlands.
- The overall positivity rate continued to decrease from 2.9 per cent in 2009 to 1.5 per cent in 2013. The positivity rate was higher among heterosexual men (2.2 per cent) than among women (1.1 per cent) and MSM (1.7 per cent).
- Among heterosexual men, MSM and women, the positivity rate of genital warts by ethnicity was highest among those of North African descent.
- Among heterosexual men and women diagnosed with genital warts, chlamydia was the most common co-infection (9.6 and 13.6 per cent respectively), whereas gonorrhoea was the most frequently diagnosed co-infection among MSM (11.9 per cent).
- In general practice, the number of cases increased gradually over the last years until 2011 (old method). Using the new method, the number of people with one or more episodes of genital warts was estimated at 38,483 (52 per cent in men) in 2012 and was stable compared to 2010 and 2011. The numbers of episodes of genital warts were higher using the new method than the numbers previously reported using the old method (probably due to stricter definitions of the end of an episode and start of a new episode; see Chapter 2: Methodology).

Figure 7.1 Positivity rates of genital warts by region, the Netherlands, 2013.



7.2 STI clinics: characteristics, risk groups and trends

Table 7.1 Number of people diagnosed with genital warts and number of STI consultations by age, gender and sexual preference, 2013.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N consultations	n positive	N consultations	n positive	N consultations
≤ 14	0	8	0	2	2	83
15–19	40	2,567	13	738	92	8,559
20–24	336	16,615	92	3,831	377	32,643
25–29	259	9,388	63	4,023	130	11,699
30–34	103	4,185	68	3,518	46	4,174
35–39	47	2,291	65	3,336	21	2,309
40–44	36	1,974	47	3,414	16	2,149
45–49	20	1,565	45	3,284	14	1,823
50–54	22	1,117	30	2,412	9	1,030
≥ 55	20	1,157	40	2,937	4	626
Unknown	0	5	0	2	0	9
Total	**883**	**40,872**	**463**	**27,497**	**711**	**65,104**

Figure 7.2 Positivity rate of genital warts by age, gender and sexual preference, 2013.

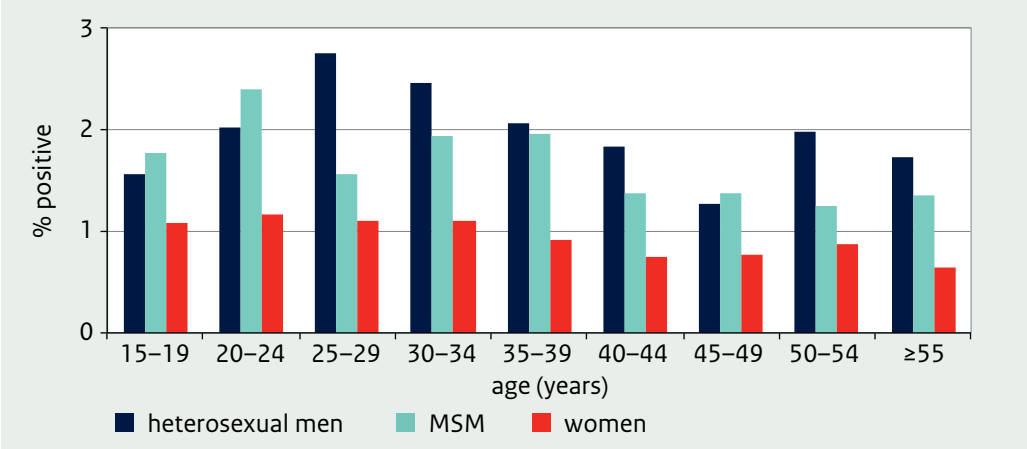


Table 7.2 Number of people diagnosed with genital warts and number of STI consultations by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N consultations	n positive	N consultations	n positive	N consultations
The Netherlands	507	25,100	308	19,443	519	44,286
Turkey	22	1,078	8	347	6	620
North Africa/Morocco	67	1,748	13	348	14	1,124
Surinam	58	3,273	22	803	28	3,671
Netherlands Antilles/ Aruba	30	1,706	8	553	19	1,660
Sub-Saharan Africa	26	1,418	4	228	9	1,491
Eastern Europe	20	600	11	567	24	2,734
Latin America	17	646	20	810	9	1,578
Asia	42	2,020	20	1,415	31	2,858
Europe other	54	2,144	38	2,083	37	3,244
Else	12	303	5	328	6	516
Unknown	28	836	6	572	9	1,322
Natives	507	25,100	308	19,443	519	44,286
First generation migrants	145	7,006	96	5,057	81	9,580
Second generation migrants	202	7,854	52	2,351	101	9,839
Unknown	29	912	7	646	10	1,399
Total	**883**	**40,872**	**463**	**27,497**	**711**	**65,104**

Figure 7.3 Positivity rate of genital warts by ethnicity, gender and sexual preference, 2013.

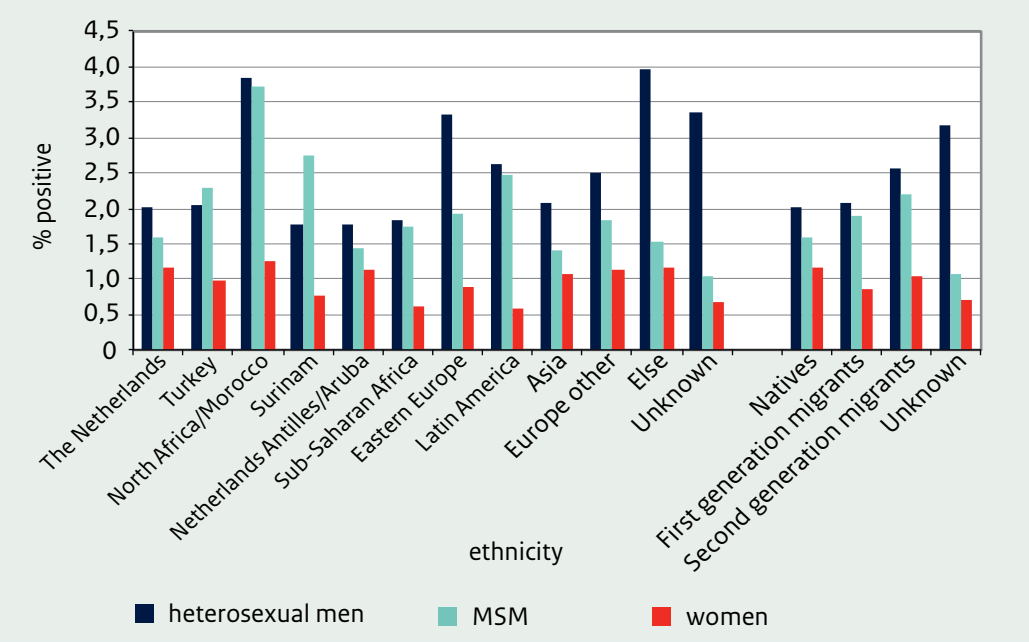


Table 7.3 Number of people diagnosed with genital warts and number of STI consultations by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N consultations	%	n positive/ N consultations	%	n positive/N consultations	%
Number of partners in past 6 months						
0 partners	14/301	4.7	3/182	1.6	10/550	1.8
1 partner	234/8,075	2.9	47/2,833	1.7	246/19,487	1.3
2 partners	175/8,838	2.0	58/3,130	1.9	167/16,547	1.0
3 or more partners	443/23,178	1.9	345/20,397	1.7	268/25,262	1.1
Unknown	17/480	3.5	10/955	1.0	20/3,258	0.6
Condom use if last sexual contact was steady*						
No	397/15,214	2.6	143/7,991	1.8	330/27,510	1.2
Yes	69/4,136	1.7	44/2,295	1.9	56/5,248	1.1
Unknown	2/66	3.0	3/131	2.3	0/105	0.0
Condom use if last sexual contact was casual*						
No	271/14,008	1.9	149/8,920	1.7	224/19,977	1.1
Yes	129/6,582	2.0	114/6,439	1.8	97/9,961	1.0
Unknown	1/110	0.9	1/145	0.7	0/153	0.0

Table 7.3 (continued) Number of people diagnosed with genital warts and number of STI consultations by sexual behavioural characteristics, gender and sexual preference, 2013.

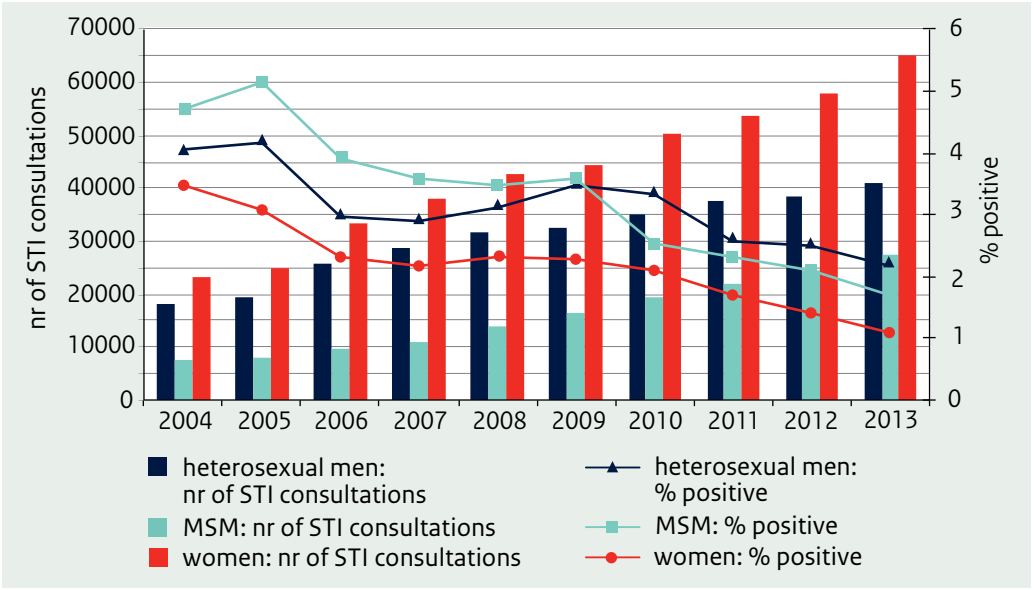
	Heterosexual men		MSM		Women	
	n positive/N consultations	%	n positive/ N consultations	%	n positive/N consultations	%
Previous GO/CT/syphilis in anamnesis						
No	755/33,975	2.2	380/22,424	1.7	609/53,397	1.1
Yes	69/3,114	2.2	78/4,178	1.9	69/6,419	1.1
Don't know	35/2,370	1.5	2/476	0.4	25/3,221	0.8
Unknown	24/1,413	1.7	3/419	0.7	8/2,067	0.4
Previous HIV test						
No	375/20,268	1.9	59/3,402	1.7	321/29,014	1.1
Yes, positive	0/58	0.0	93/4,110	2.3	1/95	1.1
Yes, negative	499/19,764	2.5	307/19,779	1.6	381/34,577	1.1
Yes, result unknown	1/75	1.3	1/66	1.5	1/140	0.7
Unknown	8/707	1.1	3/140	2.1	7/1,278	0.5
CSW						
No	876/40,677	2.2	445/26,975	1.6	684/59,258	1.2
Yes, in past 6 months	7/149	4.7	15/450	3.3	27/5,781	0.5
Unknown	0/46	0.0	3/72	4.2	0/65	0.0
Client of CSW, men						
No	788/36,128	2.2	447/26,363	1.7		
Yes, in past 6 months	94/4,638	2.0	10/678	1.5		
Unknown	1/106	0.9	6/456	1.3		
Swinger**						
No	468/23,017	2.0	166/11,382	1.5	365/34,399	1.1
Yes	24/1,742	1.4	17/1,210	1.4	22/2,857	0.8
Unknown	0/14	0.0	0/56	0.0	3/185	1.6
SES						
Very high	100/5,008	2.0	68/4,077	1.7	99/8,390	1.2
High	227/10,522	2.2	131/7,470	1.8	197/17,150	1.1
Medium	254/11,484	2.2	115/7,358	1.6	217/18,664	1.2
Low	145/6,771	2.1	92/4,587	2.0	109/9,952	1.1
Very low	87/4,204	2.1	26/2,131	1.2	49/5,472	0.9
Unkown	70/2,883	2.4	31/1,874	1.7	40/5,476	0.7

* Type of sexual contact was missing for 3 per cent (n=3,510) of persons with an STI consultation.
** Voluntary question, answered by 53 per cent (n=70,977) of persons with an STI consultation.

Table 7.4 Concurrent STI by gender and sexual preference among people diagnosed with genital warts, 2013.

Concurrent infection	Heterosexual men (N=883) n (%)	MSM (N=463) n (%)	Women (N=711) n (%)
Chlamydia	85 (9.6)	44 (9.5)	97 (13.6)
Gonorrhoea	12 (1.4)	55 (11.9)	11 (1.5)
Infectious syphilis	0 (0.0)	14 (3.0)	0 (0.0)
HIV newly diagnosed	0 (0.0)	7 (1.5)	1 (0.1)
Genital herpes	5 (0.6)	3 (0.6)	7 (1.0)
Hepatitis B, infectious	1 (0.1)	0 (0.0)	0 (0.0)
Hepatitis C	0 (0.0)	1 (0.2)	0 (0.0)

Figure 7.4 Total number of STI consultations and positivity rate of genital warts by gender and sexual preference, 2004–2013.



Footnote: Positivity rate was estimated by dividing the number of genital warts diagnoses by the total number of STI consultations

7.3 General practitioner

Figure 7.5 Estimated prevalence of patients with one or more episodes of genital warts seen by GPs annually by gender, based on extrapolation from practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

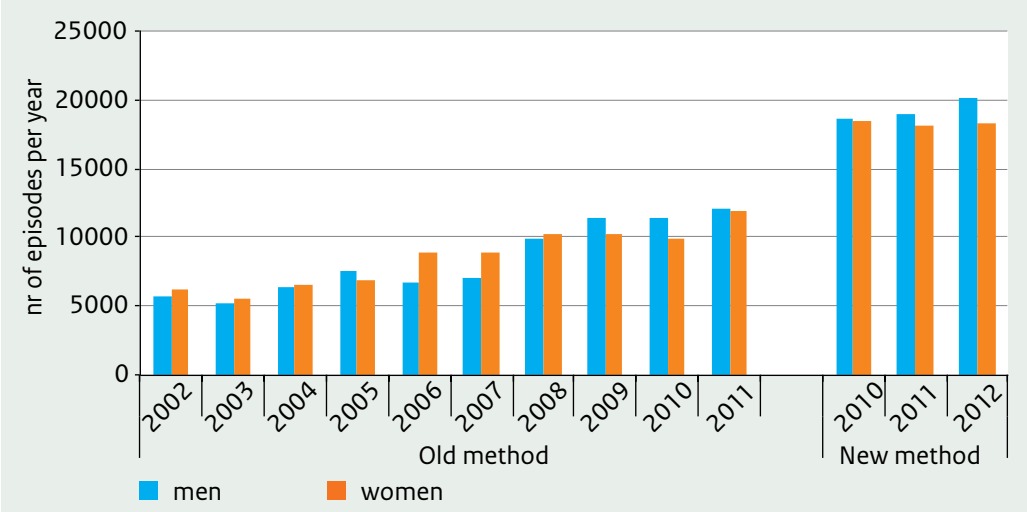


Table 7.5 Estimated prevalence of persons with one or more episodes of genital warts per 100,000 population at GPs in the Netherlands by gender, based on extrapolation from practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

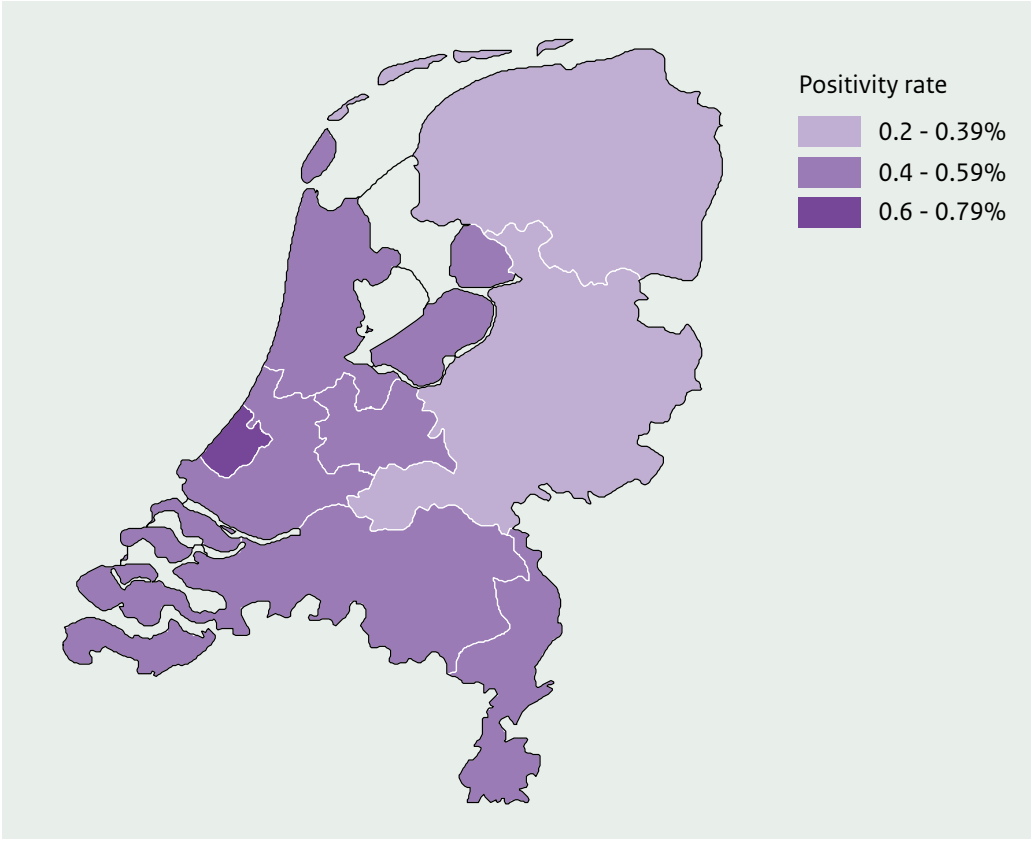
	Men n/100,000	Women n/100,000	Total n/100,000
Old method			
2002	71	77	74
2003	65	68	66
2004	80	79	80
2005	94	83	89
2006	83	107	95
2007	87	108	98
2008	122	123	122
2009	140	122	131
2010	139	118	129
2011	146	142	144
New method			
2010	226	220	223
2011	229	215	222
2012	244	217	230

8
Genital herpes

8.1 Key points

- In 2013, the number of genital herpes diagnoses was 612 (33.2 per cent heterosexual men, 17.1 per cent MSM, and 49.7 per cent women) at STI clinics in the Netherlands.
- In 2013, the positivity rate among women was similar to the positivity rate in 2012 (0.5 per cent). Among heterosexual men and MSM, the positivity rate dropped by 0.1 per cent to 0.5 per cent and 0.4 per cent respectively in 2013. The positivity rate was the highest among known HIV-positive heterosexual men (3.4 per cent).
- Among heterosexual men and women diagnosed with genital herpes, chlamydia was the most common co-infection (9.9 and 10.5 per cent respectively), whereas gonorrhoea was the most frequently diagnosed co-infection among MSM (17.1 per cent).
- In general practice, a gradual increase was observed in the number of genital herpes infections in both women and in men over the years until 2011 (old method). Using the new method, the number of people with one or more episodes of genital herpes was estimated at 22,834 (26 per cent in men) in 2012 and was stable compared to 2010 and 2011. Because of changes in general practice surveillance, the numbers reported using the new method were higher than the numbers previously reported using the old method (probably due to stricter definitions of the end of an episode and start of a new episode; see Chapter 2: Methodology).

Figure 8.1 Positivity rates of genital herpes by region, the Netherlands, 2013.



8.2 STI clinics: characteristics, risk groups and trends

Table 8.1 Number of people diagnosed with genital herpes and number of STI consultations by age, gender and sexual preference, 2013.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N consultations	n positive	N consultations	n positive	N consultations
≤ 14	0	8	0	2	0	83
15–19	9	2,567	1	738	45	8,559
20–24	51	16,615	7	3,831	117	32,643
25–29	47	9,388	27	4,023	69	11,699
30–34	35	4,185	14	3,518	27	4,174
35–39	21	2,291	10	3,336	21	2,309
40–44	15	1,974	19	3,414	8	2,149
45–49	11	1,565	8	3,284	10	1,823
50–54	6	1,117	11	2,412	6	1,030
≥ 55	8	1,157	8	2,937	1	626
Unknown	0	5	0	2	0	9
Total	**203**	**40,872**	**105**	**27,497**	**304**	**65,104**

Figure 8.2 Positivity rate of genital herpes by age, gender and sexual preference, 2013.

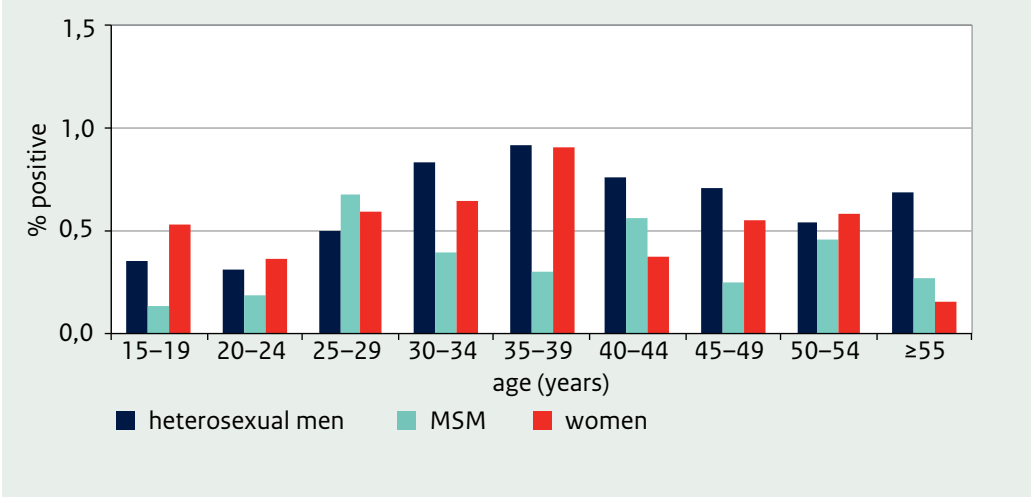


Table 8.2 Number of people diagnosed with genital herpes and number of STI consultations by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N consultations	n positive	N consultations	n positive	N consultations
The Netherlands	107	25,100	66	19,443	189	44,286
Turkey	4	1,078	1	347	2	620
North Africa/Morocco	10	1,748	1	348	5	1,124
Surinam	31	3,273	5	803	21	3,671
Netherlands Antilles/ Aruba	12	1,706	3	553	17	1,660
Sub-Saharan Africa	7	1,418	0	228	4	1,491
Eastern Europe	3	600	2	567	11	2,734
Latin America	5	646	7	810	6	1,578
Asia	8	2,020	7	1,415	18	2,858
Europe other	13	2,144	10	2,083	22	3,244
Else	1	303	2	328	5	516
Unknown	2	836	1	572	4	1,322
Natives	107	25,100	66	19,443	189	44,286
First generation migrants	39	7,006	25	5,057	60	9,580
Second generation migrants	55	7,854	11	2,351	51	9,839
Unknown	2	912	3	646	4	1,399
Total	**203**	**40,872**	**105**	**27,497**	**304**	**65,104**

Figure 8.3 Positivity rate of genital herpes by ethnicity, gender and sexual preference, 2013.

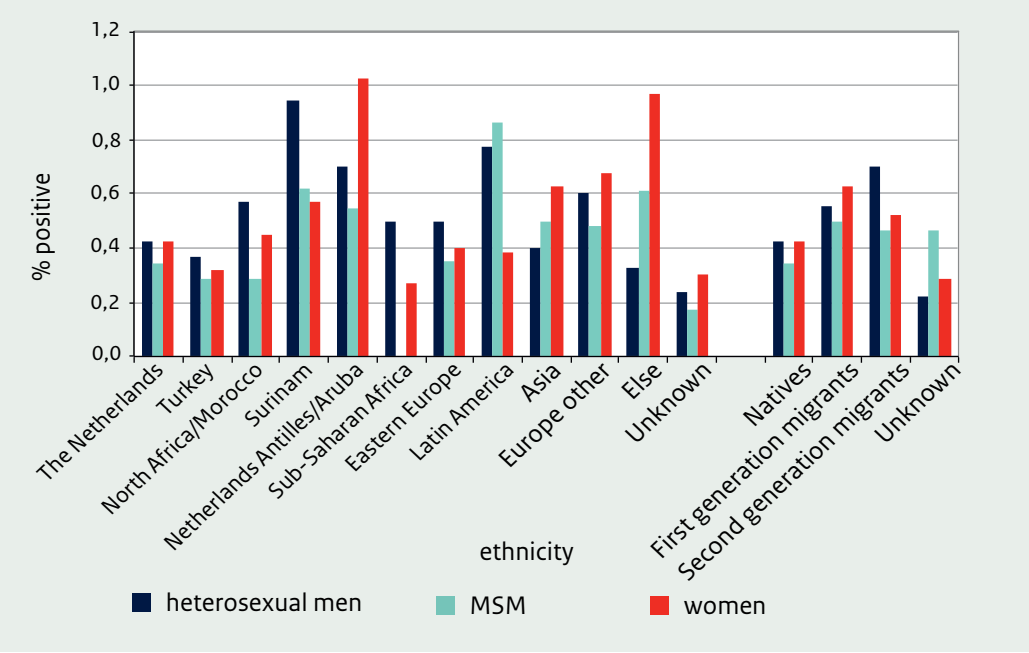


Table 8.3 Number of people diagnosed with genital herpes and number of STI consultations by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N consultations	%	n positive/ N consultations	%	n positive/N consultations	%
Number of partners in past 6 months						
0 partners	1/301	0.3	0/182	0.0	1/550	0.2
1 partner	52/8,075	0.6	8/2,833	0.3	111/19,487	0.6
2 partners	48/8,838	0.5	14/3,130	0.4	81/16,547	0.5
3 or more partners	100/23,178	0.4	83/20,397	0.4	98/25,262	0.4
Unknown	2/480	0.4	0/955	0.0	13/3,258	0.4
Condom use if last sexual contact was steady*						
No	101/15,214	0.7	27/7,991	0.3	159/27,510	0.6
Yes	9/4,136	0.2	10/2,295	0.4	21/5,248	0.4
Unknown	1/66	1.5	0/131	0.0	0/105	0.0
Condom use if last sexual contact was casual*						
No	68/14,008	0.5	39/8,920	0.4	81/19,977	0.4
Yes	22/6,582	0.3	25/6,439	0.4	36/9,961	0.4
Unknown	1/110	0.9	2/145	1.4	1/153	0.7

Table 8.3 (continued) Number of people diagnosed with genital herpes and number of STI consultations by sexual behavioural characteristics, gender and sexual preference, 2013.

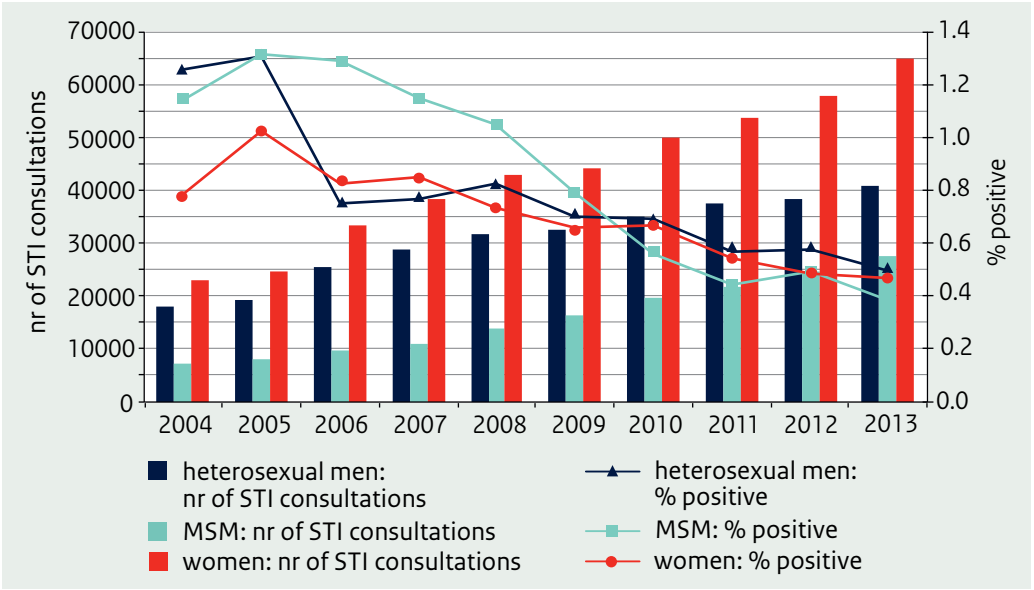
	Heterosexual men		MSM		Women	
	n positive/N consultations	%	n positive/ N consultations	%	n positive/N consultations	%
Previous GO/CT/syphilis in anamnesis						
No	175/33,975	0.5	86/22,424	0.4	259/53,397	0.5
Yes	20/3,114	0.6	18/4,178	0.4	29/6,419	0.5
Don't know	5/2,370	0.2	0/476	0.0	10/3,221	0.3
Unknown	3/1,413	0.2	1/419	0.2	6/2,067	0.3
Previous HIV test						
No	67/20,268	0.3	5/3,402	0.1	120/29,014	0.4
Yes, positive	2/58	3.4	35/4,110	0.9	0/95	0.0
Yes, negative	131/19,764	0.7	65/19,779	0.3	178/34,577	0.5
Yes, result unknown	0/75	0.0	0/66	0.0	1/140	0.7
Unknown	3/707	0.4	0/140	0.0	5/1,278	0.4
CSW						
No	202/40,677	0.5	102/26,975	0.4	286/59,258	0.5
Yes, in past 6 months	0/149	0.0	2/450	0.4	17/5,781	0.3
Unknown	1/46	2.2	1/72	1.4	1/65	1.5
Client of CSW, men						
No	178/36,128	0.5	101/26,363	0.4		
Yes, in past 6 months	24/4,638	0.5	1/678	0.1		
Unknown	1/106	0.9	3/456	0.7		
Swinger**						
No	94/22,275	0.4	33/11,382	0.3	171/34,399	0.5
Yes	4/1,721	0.2	1/1,210	0.1	9/2,857	0.3
Unknown	0/45	0.0	0/56	0.0	1/185	0.5
SES						
Very high	26/5,008	0.5	17/4,077	0.4	40/8,390	0.5
High	51/10,522	0.5	38/7,470	0.5	70/17,150	0.4
Medium	49/11,484	0.4	27/7,358	0.4	79/18,664	0.4
Low	36/6,771	0.5	11/4,587	0.2	64/9,952	0.6
Very low	27/4,204	0.6	1/2,131	0.0	33/5,472	0.6
Unkown	14/2,883	0.5	11/1,874	0.6	18/5,476	0.3

* Type of sexual contact was missing for 3 per cent (n= 3,510) of persons with an STI consultation.
** Voluntary question, answered by 53 per cent (n=70,977) of persons with an STI consultation.

Table 8.4 Concurrent STI by gender and sexual preference among people diagnosed with genital herpes, 2013.

Concurrent infection	Heterosexual men (N=203) n (%)	MSM (N=105) n (%)	Women (N=304) n (%)
Chlamydia	20 (9.9)	10 (9.5)	32 (10.5)
Gonorrhoea	0 (0.0)	18 (17.1)	5 (1.6)
Infectious syphilis	0 (0.0)	5 (4.8)	0 (0.0)
HIV newly diagnosed	0 (0.0)	1 (1.0)	0 (0.0)
Genital warts	5 (2.5)	3 (2.9)	7 (2.3)
Hepatitis B, infectious	0 (0.0)	0 (0.0)	0 (0.0)
Hepatitis C	0 (0.0)	0 (0.0)	0 (0.0)

Figure 8.4 Total number of STI consultations and positivity rate of genital herpes by gender and sexual preference, 2004–2013.



Footnote: Positivity rate was estimated by dividing the number of genital herpes diagnoses by the total number of STI consultations

8.3 General practitioner

Figure 8.5 Estimated prevalence of patients with one or more episodes of genital herpes at GPs by gender, based on extrapolation from practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

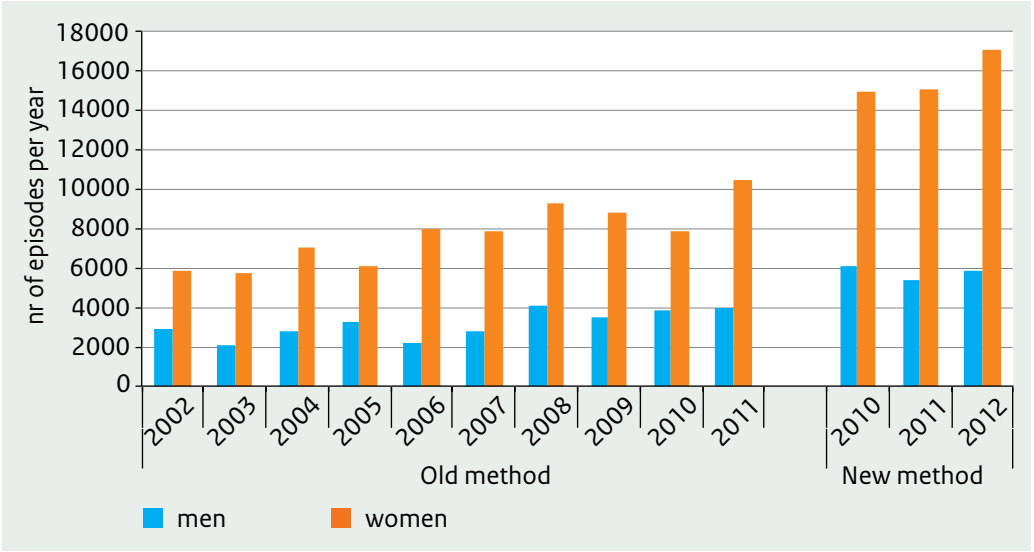


Table 8.5 Estimated prevalence of patients with one or more episodes of genital herpes per 100,000 population at GPs in the Netherlands by gender, based on extrapolation from practices in the surveillance network of NIVEL-PCD, using the old method (2002-2011) and the new method (2010-2012).

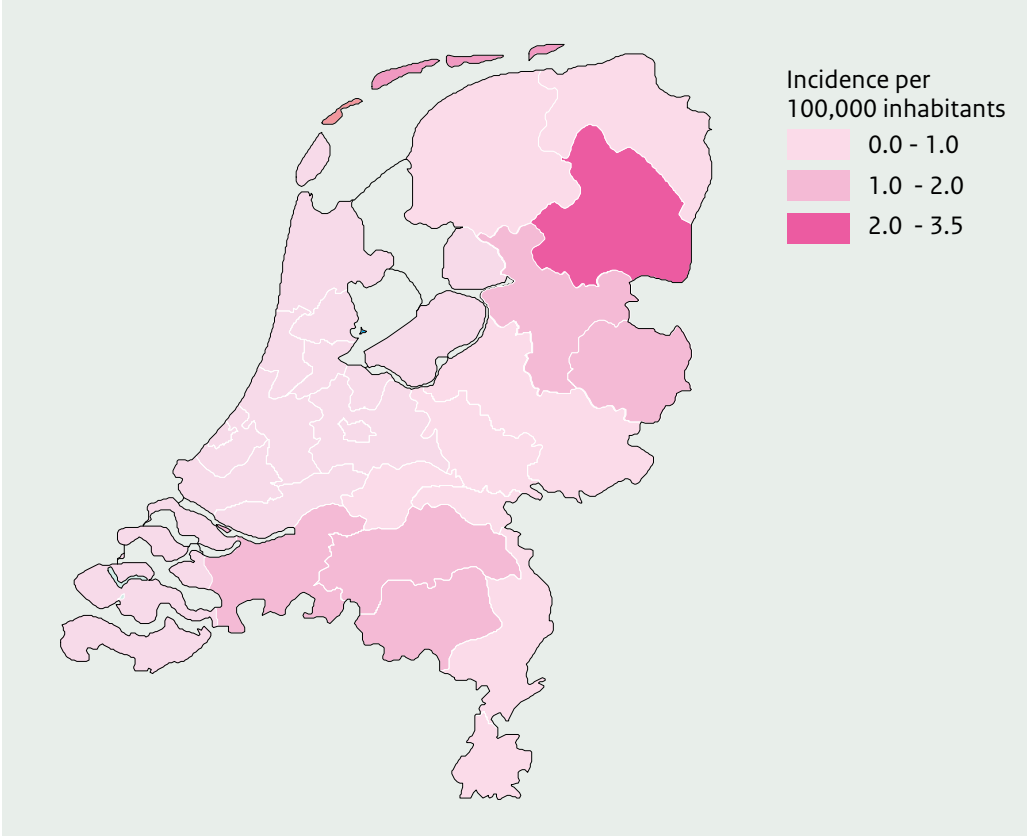
	Men n/100,000	Women n/100,000	Total n/100,000
Old method			
2002	36	72	54
2003	25	70	48
2004	35	85	60
2005	40	74	57
2006	27	96	62
2007	35	94	65
2008	51	111	81
2009	42	106	74
2010	47	93	70
2011	48	124	86
New method			
2010	75	178	126
2011	65	178	122
2012	70	201	136

9 Hepatitis B

9.1 Key points

- In 2013, the incidence of notified cases of acute hepatitis B was 0.8 per 100,000 inhabitants and was higher in men (1.2) than in women (0.4). In 2012, 1.0 per 100,000 inhabitants was notified with acute hepatitis B.
- The number of acute hepatitis B notifications decreased by 23 per cent compared with 2012 due to a decrease in heterosexual transmission route (30 per cent), MSM transmission route (15 per cent) and a decrease in transmission by unknown route (27 per cent).
- Unprotected sexual contact remained the most important risk factor for acute hepatitis B (62%).
- At STI clinics, the number of hepatitis B diagnoses (acute and chronic) was 172 (44.8 per cent heterosexual men, 27.9 per cent MSM, 27.8 per cent women) in 2013.
- At STI clinics, the positivity rate was higher among first generation migrants (1.0%) than among second generation migrants (0.1%) or among natives (0.1%). The highest positivity rates were observed among patients from Sub-Sahara African, Eastern European or Asian origin.
- Data from the screening of pregnant women showed an estimated prevalence of hepatitis B of 0.31% in 2012.
- Since the beginning of the programme in 2002, 18,374 commercial sex workers and 42,260 MSM entered the vaccination programme for behavioural risk groups.
- Within the vaccination programme, 336 carriers of hepatitis B have been encountered among the commercial sex workers and MSM, and 8% of the participants have been in contact with hepatitis B previously.

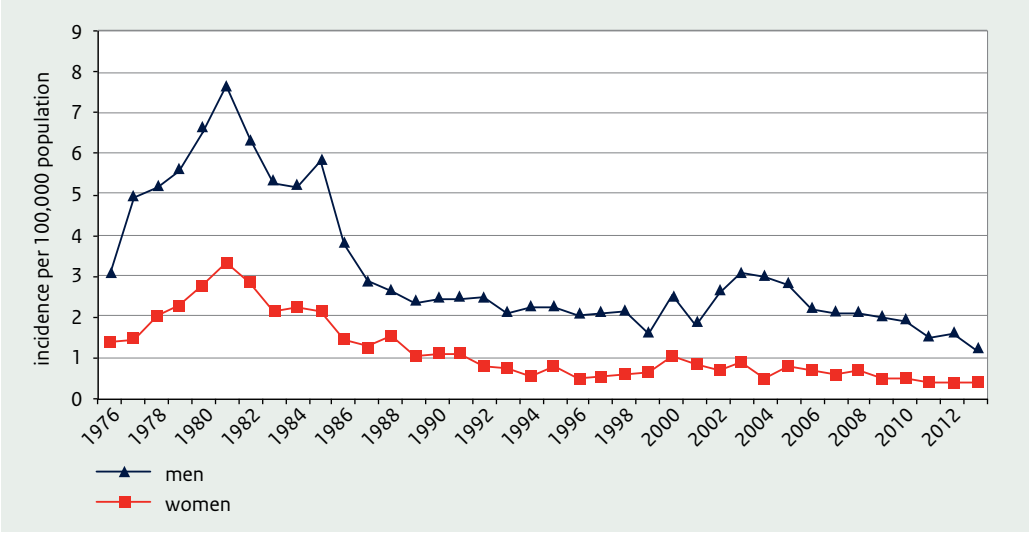
Figure 9.1 Incidence of acute hepatitis B per 100,000 inhabitants by region, the Netherlands, 2013.



(Source: RIVM-OSIRIS, notification data)

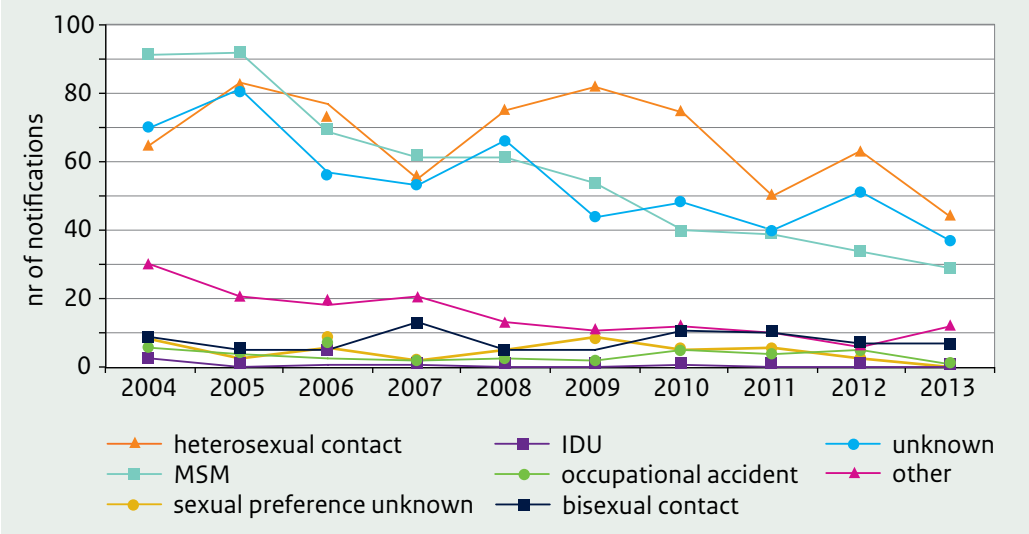
9.2 Notification data: characteristics, risk groups and trends

Figure 9.2 Incidence of acute hepatitis B by gender, 1976–2013.



Note: Data of 2013 might be incomplete, because of delays in reporting (2013 data were collected on March 1-2014).
(Source: RIVM-OSIRIS, notification data)

Figure 9.3 Number of infections of acute hepatitis B by route of transmission, 2004–2013.



Note: Data of 2013 might be incomplete, because of delays in reporting (2013 data were collected on March 1-2014).
(Source: RIVM-OSIRIS, notification data)

Table 9.1 Proportion of acute hepatitis B cases by most common route of transmission, the Netherlands, 2013.

	Heterosexual contact (N=44) n (%)*	MSM (N=29) n (%)*	Other (N=57) n (%)*
Infected abroad	8 (18.2)	2 (6.9)	11 (19.3)
Born abroad	9 (20.5)	5 (17.2)	16 (28.1)
Infected by casual partner	26 (59.1)	23 (79.3)	–
Median age (+ range)	31.5 (14–68)	47 (24-84)	50 (11–80)

* Proportions per category can overlap, so percentages do not add up to 100%.
Note: Data of 2013 might be incomplete, because of delays in reporting (2013 data were collected on March 1-2014).
(Source: RIVM-OSIRIS, notification data)

9.3 Infectious hepatitis B diagnoses at the STI clinics

Table 9.2 Number of positive tests and persons tested for hepatitis B by age, gender and sexual preference, 2013.

Age (years)	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
≤ 14	0	3	0	1	0	45
15–19	1	1,225	1	425	6	3,419
20–24	13	7,414	2	1,723	9	12,218
25–29	24	5,516	9	1,677	11	6,293
30–34	13	2,698	7	1,418	4	2,258
35–39	7	1,365	6	1,238	9	1,070
40–44	11	1,040	6	1,236	4	821
45–49	1	722	10	1,071	3	596
50–54	2	503	3	713	1	329
≥ 55	5	509	4	800	0	220
Unknown	0	3	0	1	0	2
Total	**77**	**20,998**	**48**	**10,303**	**47**	**27,271**

Figure 9.4 Percentage of positive tests for hepatitis B by age, gender and sexual preference, 2013.

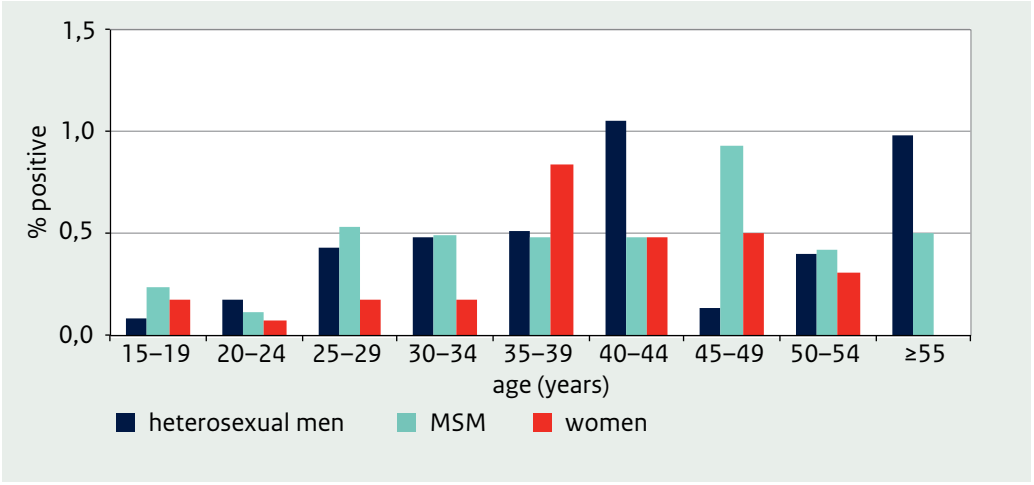


Table 9.3 Number of positive tests and persons tested for hepatitis B by ethnicity, gender and sexual preference, 2013.

Ethnicity	Heterosexual men		MSM		Women	
	n positive	N tested	n positive	N tested	n positive	N tested
The Netherlands	3	9,823	17	6,656	2	14,888
Turkey	5	766	1	164	1	419
North Africa/Morocco	3	1,355	2	181	3	777
Surinam	16	2,708	0	320	4	2,802
Netherlands Antilles/ Aruba	2	1,254	1	233	1	1,130
Sub-Saharan Africa	25	1,075	2	101	11	1,065
Eastern Europe	9	442	6	271	10	1,331
Latin America	3	483	5	395	1	955
Asia	9	1,399	11	620	9	1,788
Europe other	1	1,250	2	1,024	4	1,635
Else	1	198	1	166	0	291
Unknown	0	245	0	172	1	190
Natives	3	9,823	17	6,656	2	14,888
First generation migrants	66	5,181	29	2,419	38	5,655
Second generation migrants	8	5,704	1	1,032	6	6,490
Unknown	0	290	1	196	1	238
Total	**77**	**20,998**	**48**	**10,303**	**47**	**27,271**

Figure 9.5 Percentage of positive tests for hepatitis B by ethnicity, gender and sexual preference, 2013.

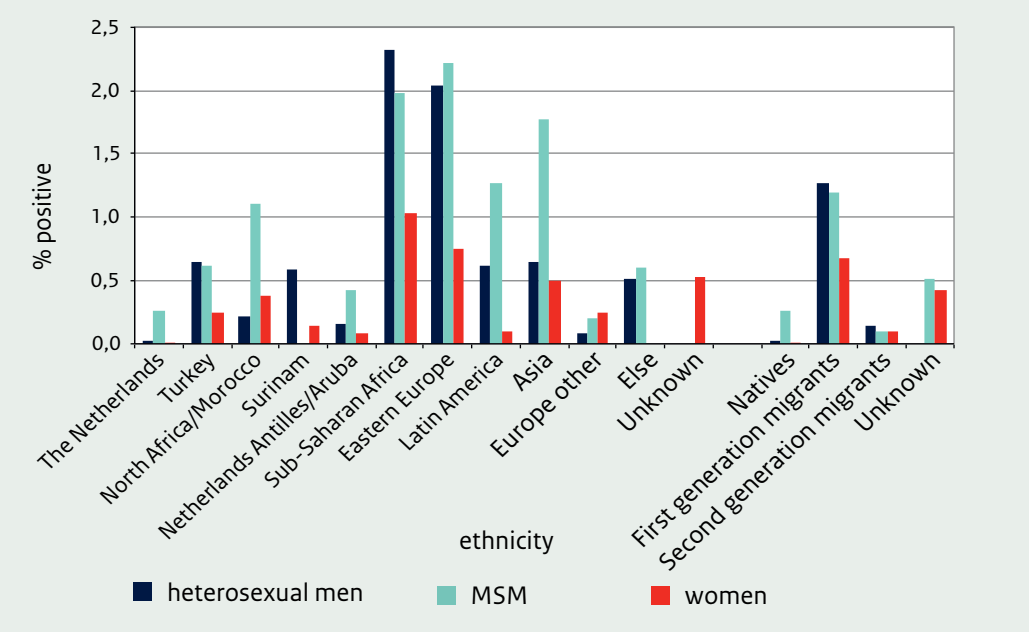


Table 9.4 Number and percentage of positive tests and total persons tested for hepatitis B by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N consultations	%	n positive/ N consultations	%	n positive/N consultations	%
Number of partners in past 6 months						
0 partners	3/139	2.2	0/90	0.0	0/210	0.0
1 partner	23/3,445	0.7	4/1,168	0.3	21/7,279	0.3
2 partners	16/4,090	0.4	7/1,242	0.6	5/5,961	0.1
3 or more partners	35/13,169	0.3	34/7,640	0.4	15/13,091	0.1
Unknown	0/155	0.0	3/136	2.2	6/730	0.8
Condom use if last sexual contact was steady*						
No	38/7,532	0.5	12/3,116	0.4	26/11,901	0.2
Yes	10/1,922	0.5	2/949	0.2	4/2,232	0.2
Unknown	0/38	0.0	1/58	1.7	0/51	0.0
Condom use if last sexual contact was casual*						
No	17/7,784	0.2	17/3,663	0.5	6/8,851	0.1
Yes	11/3,426	0.3	12/2,203	0.5	10/3,770	0.3
Unknown	0/66	0.0	0/48	0.0	0/49	0.0
Previous GO/CT/syphilis in anamnesis						
No	72/18,287	0.4	38/8,664	0.4	40/23,610	0.2
Yes	3/1,545	0.2	7/1,229	0.6	2/2,566	0.1
Don't know	1/606	0.2	1/266	0.4	1/539	0.2
Unknown	1/560	0.2	2/144	1.4	4/556	0.7
Previous HIV test						
No	37/9,613	0.4	7/2,419	0.3	21/10,868	0.2
Yes, positive	1/24	4.2	21/1,387	1.5	1/30	3.3
Yes, negative	39/11,119	0.4	20/6,409	0.3	24/15,983	0.2
Yes, result unknown	0/54	0.0	0/26	0.0	0/71	0.0
Unknown	0/188	0.0	0/62	0.0	1/319	0.3
CSW						
No	77/20,908	0.4	45/10,036	0.4	35/25,094	0.1
Yes, in past 6 months	0/70	0.0	3/220	1.4	12/2,146	0.6
Unknown	0/20	0.0	0/47	0.0	0/31	0.0
Client of CSW, men						
No	65/17,996	0.4	47/9,608	0.5		
Yes, in past 6 months	12/2,931	0.4	1/334	0.3		
Unknown	0/71	0.0	0/361	0.0		

Table 9.4 (continued) Number and percentage of positive tests and total persons tested for hepatitis B by sexual behavioural characteristics, gender and sexual preference, 2013.

	Heterosexual men		MSM		Women	
	n positive/N consultations	%	n positive/ N consultations	%	n positive/N consultations	%
Swinger**						
No	31/9,757	0.3	12/2,994	0.4	20/10,659	0.2
Yes	1/378	0.3	0/270	0.0	1/586	0.2
Unknown	0/8	0.0	0/7	0.0	0/25	0.0
SES						
Very high	9/2,671	0.3	2/1,587	0.1	4/3,652	0.1
High	9/4,678	0.2	8/2,595	0.3	6/6,298	0.1
Medium	9/4,951	0.2	12/2,509	0.5	8/6,425	0.1
Low	20/4,040	0.5	13/1,825	0.7	11/4,954	0.2
Very low	17/2,778	0.6	4/801	0.5	4/2,988	0.1
Unkown	13/1,880	0.7	9/986	0.9	14/2,954	0.5

* Type of sexual contact was missing for 2% (n=911) of persons tested for hepatitis B.
** Voluntary question, answered by 42% (n=24,684) of persons tested for hepatitis B.

Table 9.5 Concurrent STI by gender and sexual preference among persons diagnosed with hepatitis B, 2013.

Concurrent infection	Heterosexual men (N=77) n (%)	MSM (N=48) n (%)	Women (N=47) n (%)
Chlamydia	15 (19.5)	13 (27.1)	7 (14.9)
Gonorrhoea	1 (1.3)	7 (14.6)	0 (0.0)
Infectious syphilis	0 (0.0)	3 (6.3)	0 (0.0)
HIV newly diagnosed	0 (0.0)	2 (4.2)	0 (0.0)
Genital herpes	0 (0.0)	0 (0.0)	0 (0.0)
Genital warts	1 (1.3)	0 (0.0)	0 (0.0)
Hepatitis C	0 (0.0)	2 (4.2)	0 (0.0)

9.4 Antenatal screening

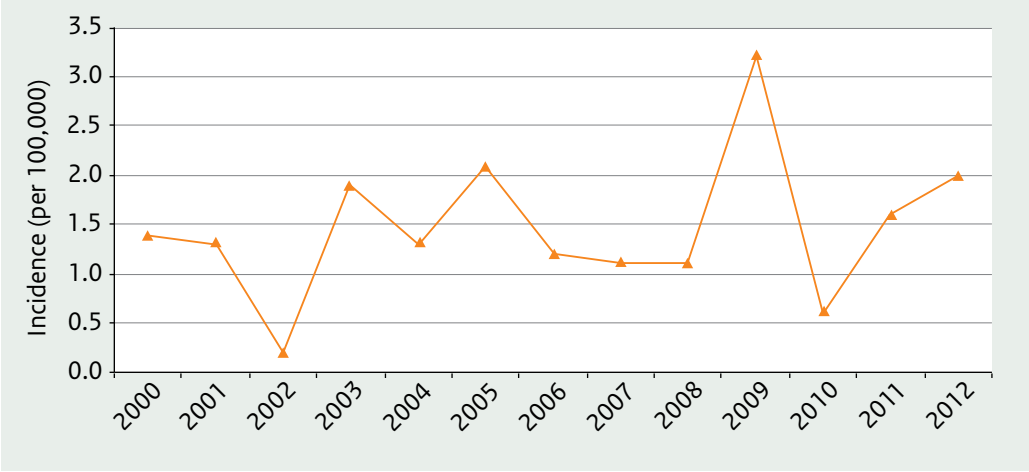
Table 9.6 Hepatitis B prevalence estimates for pregnant women, based on test results of antenatal screening, 2006-2012.

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]
2009/10	187,586	648	576 (90%)	0.31 [0.31–0.31]
2010/11	182,297	656	593 (91%)	0.33 [0.33–0.33]
2011#	88,489		284	0.32*
2012/13	173,880		536	0.31*

Footnote 1: Terminated pregnancies (induced or spontaneous) are excluded.
Footnote 2: Since 2009, time periods of data collection range from June to June the subsequent year
Footnote 3: For the prevalence calculation, we assumed that pregnant women with a first positive test result without a confirmation test would be as often positive as those with a confirmation test. In previous reports we showed a range of minimum to maximum prevalence. Minimum prevalence: number of confirmed positive test results divided by the total number of registered pregnant women; maximum prevalence: under the assumption that all pregnant women with a first positive test result without a confirmation test would also have a positive confirmation test.
* The prevalence was estimated using a conclusion made by the RIVM laboratory or, if this conclusion was unavailable, using the confirmation test.
# Data from July-December 2011
(Source: Praeventis, RIVM)

9.5 Blood donors

Figure 9.6 HBV incidence (per 100,000) among regular blood donors in the Netherlands, 2000–2012.



(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, 2002–2013.

	CSW	MSM
First vaccination	18,374	42,260
Second vaccination	11,613	32,134
Third vaccination	7,897	26,416
HBV status at first consultation*		
Hepatitis B carrier (%)	139 (0.8)	197 (0.5)
Hepatitis B immune (%)	1,556 (8.5)	3,031 (7.2)

* During the consult of first vaccination all participants are tested serologically for markers of previous or current HBV infection.

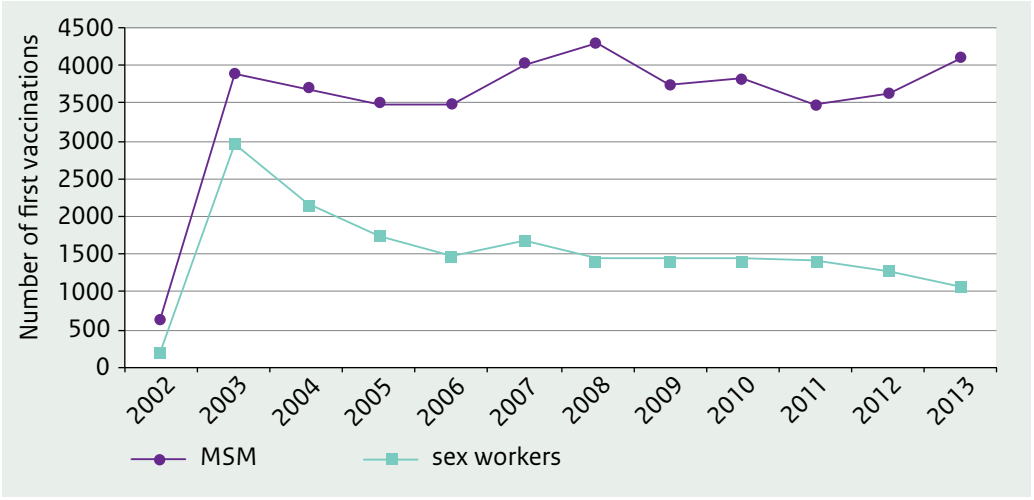
Footnote: Not included in the table are heterosexuals (n=41,007) with multiple partners whom were included until October 2007, drug users (n=17,894), who were included until January 2012, and participants with unknown risk group (n=2,995).

Table 9.8 Number and percentage of first HBV vaccinations per risk group and location of first vaccination, 2002-2013.

Location of first vaccination	CSW (N=18,374) n (%)	MSM (N=42,260) n (%)
STI clinic	2,794 (15.2)	12,188 (28.8)
Public health service*	11,471 (62.4)	26,151 (61.9)
Penitentairy institution	695 (3.8)	151 (0.4)
MSM location	56 (0.0)	2,051 (0.0)
Drug location	33 (0.2)	111 (0.3)
CSW location	3,228 (17.6)	10 (0.0)
Other	97 (0.5)	1,598 (3.8)

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

Figure 9.7 Number of persons entering the HBV vaccination programme, 2002–2013.



10 Hepatitis C

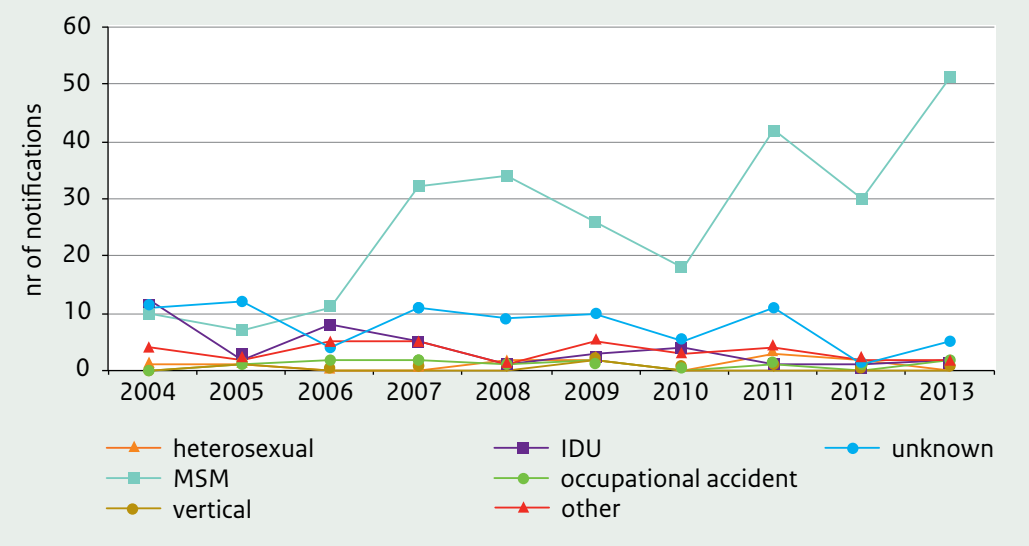
10.1 Key points

- In 2013, the total number of acute HCV notifications was 62 in the Netherlands, and increased with 72% compared with 2012 (n =36).
- Unprotected sexual contact between men remained the most important route of transmission for acute hepatitis C (82%).
- Of all HCV positive MSM (n=51) notified in 2013, 71% (n=36) were HIV positive.
- At STI clinics, 36 cases of hepatitis C were diagnosed, of which 94% (n=34) in MSM.
- HCV has not been detected in blood donors since 2008.
- A national population-based cross-sectional serosurvey (PIENTER-2) performed in 2006-2007, resulted in a weighted national HCV seroprevalence of 0.30% (95% confidence interval 0.05–0.55%). About 70% of the HCV positive individuals found were born in an HCV-endemic country [8].

8 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 Mar 29. [Epub ahead of print]

10.2 Notification data: characteristics, risk groups and trends

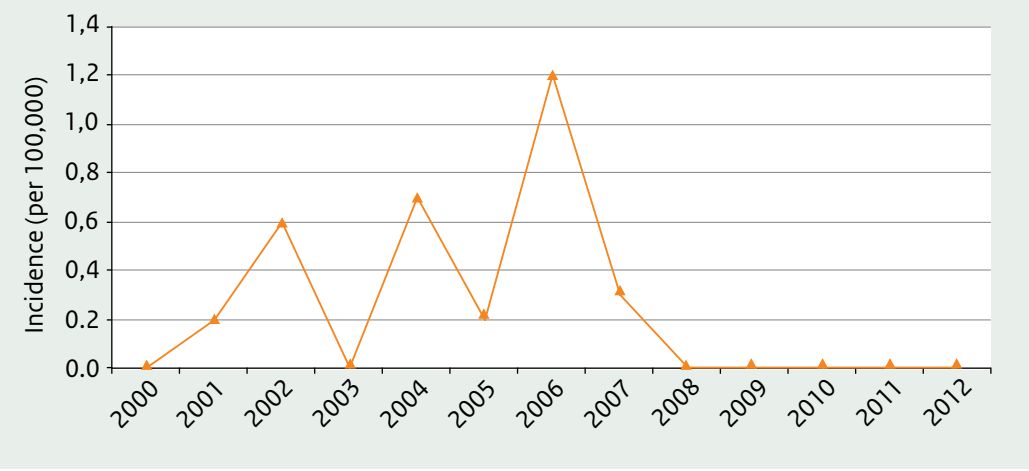
Figure 10.1 Number of infections of acute HCV infections by route of transmission, 2004–2013.



(Source: RIVM-OSIRIS, notification data)

10.3 Blood donors

Figure 10.2 HCV incidence (per 100,000) among regular blood donors in the Netherlands, 2000–2012.



(Source: Sanquin)

11
General conclusions and recommendations

To promote sexual health and to control transmission of STI, a policy of proximity and easy access to STI care has been implemented in the Netherlands. The surveillance system is focused on trends among high-risk groups, as changes in the occurrence of STI and HIV are expected to be most visible in these groups. The results of the surveillance data from 2013 show that access to STI testing further improved (viz. the continued rise in consultations at STI clinics), while the overall positivity stabilised, which indicates an efficient control approach. The continuing high STI positivity rate indicates that special attention should be paid to the challenges of STI control.

An important feature of effective control efforts is early detection of STI and HIV, which will result in individual health gains by preventing or reducing morbidity following adequate treatment. In addition, early detection may result in public health gains by preventing onward transmission among the population; thereby leading to less exposure to STI. Early detection and treatment of STI and HIV should remain an important public health priority. However, repeated population based studies are necessary to confirm the effect on transmission.

Groups that are at high-risk for STI, as reflected in their higher positivity rates, include MSM (in particular HIV infected MSM), specific migrant populations, and young people (under 25 years of age). High-risk behaviour, such as no condom use and more than 3 sex partners in the preceding six months, has not diminished among STI clinic attendees. This suggests that innovative approaches are needed to ensure that people in high-risk groups are able to effectively reduce their sexual risk 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. For the latter, since 2012, STI clinics initially offered young heterosexuals with no additional risk factors a chlamydia test only, rather than the STI testing package of chlamydia, gonorrhoea, syphilis and HIV that is the minimum for other high-risk attendees. Data from 2013 show that this policy change is efficient, as among 1,273 young people without additional risk factors but who had a chlamydia infection, only 14 gonorrhoea infections were diagnosed but no syphilis or HIV. In addition, this national policy change of offering only an initial chlamydia test has led to a substantial reduction in test costs [9]. The policy measure would be even more efficient if a combination test for chlamydia and gonorrhoea would be applied in the future. [9] Moreover,

providing a chlamydia test only enables the development of innovative testing opportunities, such as home test kits available via the Internet. Such low threshold testing opportunities may reach potentially hidden at-risk populations and individuals who otherwise would not have sought STI testing.

As in previous years, and as in many other countries, Chlamydia trachomatis remains the most commonly reported bacterial STI, both among high-risk groups at STI clinics and among the general population, covered by data from general practice surveillance. While a decrease in chlamydia positivity rate was observed in heterosexual men and MSM tested at STI clinics in 2013, and the number of infections reported in the laboratory surveillance stabilised after more than 10 years of steady increase, the estimated chlamydia prevalence at general practices (GPs) increased. These differences can be partly explained through changes in policies (higher testing volumes at STI clinics due to chlamydia-only policy in low risk <25 years) and in surveillance (NIVEL Primary Care Database), but this nevertheless implies that transmission is still ongoing in a wide segment of the sexually active population. To decrease chlamydia prevalence, additional efforts or interventions could be implemented. First, individuals at risk of STI and HIV should be encouraged to reduce sexual risk behaviour, and to undergo regular tests enabling prompt treatment. Second, GP awareness of the high chlamydia prevalence could be increased, as they detect and prescribe treatment for the majority of chlamydia infections. Third, GPs could be encouraged to offer opportunistic screening more commonly to young people at risk. Among individuals at risk for STI/HIV, a barrier for testing at GPs could be the price of a test which often is covered by their own insurance risk fee. Fourth, case management could be improved by emphasising the need for partner notification and treatment as a standard topic in any STI treatment consultation. At the same time, additional research is essential 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 suggests that some infections may not be cleared or reinfections may be easily acquired.[10] Fortunately, results from the chlamydia reference laboratory show that, so far, incidental reports of treatment failure and diagnostic escape mutants (such as the Swedish variant) are not threatening overall control efforts. Other ongoing research aims to improve understanding of the behavioural, immunological and genetic factors that increase risks of developing long-term sequelae of chlamydia (PID, subfertility, ectopic pregnancies).

Infections with gonorrhoea occurred mainly in MSM and the positivity rate was stable in 2013 compared to 2012. Reporting rates of gonorrhoea increased substantially in the general practice surveillance network; a change in the joining practices and in case definition notwithstanding, the increase has taken quite alarming dimensions, especially in women. Alertness is needed to ensure that gonorrhoea transmission does not become more widespread among other groups such as young heterosexuals. Close surveillance of gonorrhoea trends is of particular importance, as the threat of drug-resistant gonorrhoea is becoming ever more real, since the first treatment failures with the only available treatment option (third-generation

9 A.W.M. Suijkerbuijk. E.A.B Over, F.D.H. Koedijk et al. Doelmatiger testbeleid van soa-poliklinieken GGD. Ned Tijdschr Geneeskd 2014;158:A6980

10 Dukers-Muijrers NH, Speksnijder AG, Morré SA, et al. Detection of anorectal and cervicovaginal Chlamydia trachomatis infections following azithromycin treatment: prospective cohort study with multiple time-sequential measures of rRNA, DNA, quantitative load and symptoms. PLoS One. 2013 Nov 20;8(11):e81236.

cephalosporin) has already been reported in European patients. In 2013, the Centre for Disease Control indicated drug-resistant gonorrhoea as one of the three most urgent threats. So far, no resistance to ceftriaxone, a third-generation cephalosporin that has been the first-choice medication since 2004, was found in the Netherlands. There is room for improvement in prescribing this first choice medication among GPs; hopefully the renewed version of STI guidelines for GPs will facilitate this.[11] Furthermore, the declining number of diagnostic cultures and a lack of standardised diagnostic methods in laboratories outside the specialised STI settings are also a concern, as these may obscure adverse trends.

The majority of new HIV diagnoses occurred among MSM, in particular among those with high-risk behaviour. This is reflected in high STI coinfection rates in this group compared to other high-risk groups. The HIV positivity rate at STI clinics has been declining over the past years, which is encouraging. The decreasing proportion of low CD4 counts (<350) in newly diagnosed HIV-positive people indicates that HIV infections are being diagnosed at an earlier stage, which is also reflected by the increasing number of STI clinic attendees who reported a previous HIV test. Nevertheless, heterosexuals are diagnosed in a later phase than MSM, especially those diagnosed at GPs or in the hospital. To test for recent HIV infections, the anti-HIV avidity assay was implemented at all STI clinics from January 2014. The implementation of this so-called RITA (Recent Infections Testing Algorithm) surveillance will provide additional insights into recent HIV and established HIV infections, trends in recent infections, and differences between risk groups.[12]

Apart from the prevalent STIs in most high-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 indicates that routine STI screening can be cost-effectively combined with treatment of HIV-infected MSM [13]. 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. Results of a partner notification project at STI clinics showed that contacting partners of MSM is hampered by the anonymous nature of many contacts[14]. At GPs, risk groups should be identified better (by asking questions on sexual behaviour and risks) and GPs (or their assistants) should be encouraged to be more proactive in offering an HIV test to those at risk and those having HIV indicator diseases. Thus, a differential approach towards different groups at risk of HIV and other STI is warranted.

In contrast to the number of acute hepatitis C notifications, the number of acute hepatitis B notifications has decreased. A modelling study showed that hepatitis B vaccination of MSM in the Netherlands has had a substantial impact in reducing hepatitis B incidence. However, there are large regional differences in hepatitis B incidence that might suggest regional variation in the vaccination coverage. Gaining more insights into regional differences in STI/HIV could be

11 van Bergen JEAM, Dekker JH, Boeke AJP, et al. NHG-Standaard 'Het soa-consult' (eerste herziening). Huisarts Wet 2013; 56: 450-463.

12 Sane J, Heijman T, Hogema B, et al. Sex Transm Infect.Published Online First: 28-01-2014. doi:10.1136/sextrans-2013-051420. Identifying recently acquired HIV infections among newly diagnosed men who have sex with men attending STI clinics in The Netherlands.

13 Vriend HJ, Lugnér AK, Xiridou M, et al. Sexually transmitted infections screening at HIV treatment centers for MSM can be cost-effective. AIDS. 2013 Sep 10;27(14):2281-90.

14 van Aar F, Schreuder I, van Weert Y, et al. Current practices of partner notification among MSM with HIV, gonorrhoea and syphilis in the Netherlands: an urgent need for improvement. BMC Infect Dis 2012, 12:114

beneficial for STI/HIV prevention and control, as successful regional prevention and control activities can be implemented.

STI 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, human papillomavirus (resulting e.g. in genital warts) and HSV (resulting in e.g. genital ulcers), 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 among the general population. These STI are more commonly diagnosed at STI clinics. The role of GPs can be strengthened by improved awareness of the need for testing specific patient groups for STI following the updated primary care STI guidelines, as well as identification of opportunities to promote sexual health and prevent STI transmission. Collaboration between regional STI clinics and medical microbiological laboratories can ensure that early warning signs, not (yet) visible in surveillance trends, are identified at an early stage. Improved professional collaboration is 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 STI clinics has been strengthened by the development of a single quality control guideline which forms the basis for interdisciplinary visitations.
Sexual risks and (new) STIs can emerge among many groups, not just the currently well-known high-risk groups already targeted for control efforts. NGOs are particularly well suited to the task of liaison with target groups and ensuring that they have access to information and care, and that their needs are met. Coordinated online efforts to reach these groups and provide them with tailored information on sexual health and STI prevention and control need to be strengthened and will become even more important in the future. The persistent high-risk behaviour of many sexually active adolescents and adults necessitates high vigilance towards possible transmission of STI like gonorrhoea, outside the recognised target groups. In addition, treatment failure due to poor adherence, inadequate testing, inappropriate therapy or antimicrobial resistance, can result in deterioration of control efforts. With shrinking budgets and less possibilities to expand the control of STI transmission within both high and (traditionally) low-risk groups, rigorous surveillance using standardised protocols remains a cornerstone in the effort to enable actions to be taken as soon as the (re)emergence of STI is feared.

Recommendations:

- Maintain integrated surveillance of STIs and STI risks among high-risk groups.
- Strengthen intersectoral collaboration between those who provide sexual health care in STI clinics and in regular care (HTCs, GPs and related medical specialists), between NGOs and care providers, and between laboratories and clinicians.
- 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 including e-health.
- Support efforts to gain more insights into regional differences in STI.
- Strengthen the implementation of STI guidelines by health care professionals.
- Support efforts to gain more insights into the long-term sequelae of chlamydia infection.
- Stimulate systematic culturing of gonorrhoea diagnosed among high-risk groups to prevent the transmission of pan-drug-resistant strains.
- Stimulate efforts to integrate STI screening in HIV care.

APPENDICES

Appendix A List of abbreviations

ACS	Amsterdam Cohort Studies
AIDS	Acquired Immune Deficiency Syndrome
ATHENA	AIDS Therapy Evaluation in the Netherlands
CIb	Centrum Infectieziektebestrijding, Centre for Infectious Disease and Control
CSI	Chlamydia Screening Implementation
CSW	Commercial Sex Worker
DU	Drug Users
ECDC	European Centre for Disease Prevention and Control
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
NPCD	NIVEL Primary Care Database
PHS	Public Health Service
PID	Pelvic Inflammatory Disease
RIVM	Rijksinstituut voor Volksgezondheid en Milieu, National Institute for Public Health and the Environment
SHM	Stichting HIV Monitoring
SOAP	Online STI registration system
STI	Sexually Transmitted Infection

Appendix B National Surveillance of STI clinics

Coordinating STI clinics

GGD Amsterdam:	A. Hogewoning
GGD Haaglanden:	M. Somsen
GGD Groningen:	F. de Groot
GGD Hart voor Brabant:	J.C.A.M. van de Sande
	H. van Kruchten
GGD Gelderland-Zuid:	A. van Daal
	R. Koene
GGD Rotterdam-Rijnmond	V. Wieërs
	H. Götz
	B. Nuradini
GGD Regio Utrecht:	M. Langevoort
	V. Sigurdsson
GGD Zuid Limburg:	C.J.P.A. Hoebe
	E.J.W.M. Niekamp

Regional STI clinics

GGD Brabant Zuid-Oost
GGD Drenthe
GGD Flevoland
GGD Fryslân
GGD Gelderland-Zuid
GGD Hollands-Midden
GGD Hollands Noorden
GGD IJsselland
GGD Kennemerland
GGD Limburg-Noord
GGD Midden-Nederland
GGD Noord- en Oost Gelderland
GGD Rivierenland
GGD Twente
GGD West-Brabant
GGD Zaanstreek-Waterland
GGD Zeeland
GGD Zuid-Holland Zuid
Veiligheids- en Gezondheidsregio Gelderland-Midden

Laboratories

Academisch Ziekenhuis Maastricht
Albert Schweitzer Ziekenhuis Dordrecht
Amphia Ziekenhuis Breda
Canisius Wilhelmina Ziekenhuis Nijmegen
Centraal Bacteriologisch en Serologisch laboratorium Hilversum
Diagnostiek voor U Eindhoven
Erasmus MC Rotterdam
Gelre Ziekenhuizen Apeldoorn
Groene Hart Ziekenhuis Gouda
Isala klinieken Zwolle
Izore, Centrum Infectieziekten Friesland
Jeroen Bosch Ziekenhuis 's-Hertogenbosch
Laboratoria Pathologische Anatomie en Medische Microbiologie Veldhoven
Laboratorium Microbiologie Twente Achterhoek
Laboratorium voor Infectieziekten Groningen
Leiden Universitair Medisch Centrum
Meander Medisch Centrum Amersfoort
Medisch Centrum Haaglanden Den Haag
Medisch Centrum Alkmaar
Medisch Centrum Spijkenisse
Slingeland Ziekenhuis Doetinchem
St. Elisabeth Ziekenhuis Tilburg
Streeklaboratorium voor de Volksgezondheid Amsterdam
Streeklaboratorium voor de Volksgezondheid Deventer
Streeklaboratorium voor de Volksgezondheid Haarlem
Laboratorium voor medische microbiologie & immunologie Admiraal de Ruyter ziekenhuis Goes
Universitair Medisch Centrum St. Radboud
Universitair Medisch Centrum Utrecht
Zaans Medisch Centrum Zaandam
Laboratorium pathologie (ADRZ) Terneuzen

Appendix C Stichting HIV Monitoring

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

Treating physicians (*Site coordinating physicians)

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HagaZiekenhuis, Den Haag: Dr. E.F. Schippers*, Dr. C. van Nieuwkoop, Drs. E.P. van Elzakker
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Appendix E STI publications co-authored by RIVM employees 2013

Van Aar F, Mooij SH, van der Sande MA, Speksnijder AG, Stolte IG, et al. (2013) Anal and penile high-risk human papillomavirus prevalence in HIV-negative and HIV-infected MSM. AIDS 27: 2921–2931. doi: 10.1097/01.aids.0000432541.67409.3c

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