RIVM report 441100022/2005

HIV and Sexually Transmitted Infections in the Netherlands in 2004
An update: November 2005

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This investigation has been performed by order and for the account of Ministry of Health, Welfare and Sports, within the framework of the project Epidemiology and surveillance of HIV and STI.

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In collaboration with:

HIV Monitoring Foundation & HIV treatment centres
STI sentinel surveillance network
ISIS laboratory surveillance at the National Institute for Public Health and the Environment
ISIS/Osiris - Inspectorate of Health
Healthcare Insurance Board (College voor Zorgverzekeringen)

Rapport in het kort

HIV and seksueel overdraagbare aandoeningen in Nederland in 2004. Update: november 2005

De toename van seksueel overdraagbare aandoeningen (SOA) is in 2004 weer verder doorgezet, ondanks een stabilisatie in 2003. Dit betreft zowel het aantal consulten als het aantal SOA bij heteroseksuelen en mannen die seks hebben met mannen (MSM). In 2004, is in de landelijke registratie van nieuwe HIV diagnoses alleen het aantal bij MSM toegenomen. In deze groep zijn de afgelopen jaren verschillende SOA tegelijkertijd toegenomen. Dit duidt op toenemend onveilig seksueel gedrag bij MSM. Alertheid is nodig om verdere toename van SOA en HIV te voorkomen maar ook zijn innovatieve methoden in preventie en interventie nodig.

Per juni 2005 zijn 10619 personen met HIV geregistreerd; 938 in 2004. MSM vormen hierin nog steeds de grootste groep. Het aandeel van heteroseksuelen steeg de laatste jaren, maar is gedaald in 2004. In het SOA peilstation nam het aantal gevallen van Chlamydia toe met 19%, gonorroe met 12%. Ook nam het aantal syfilis en HIV verder toe, vooral bij MSM. In 2000-2004 is het aantal syfilis gevallen bij MSM meer dan verdrievoudigd. 14% van alle gonorroe, Chlamydia en syfilis in MSM wordt gezien bij HIV positieven. Ook is in 2004 de resistentie tegen ciprofloxacine bij gonorroe verder toegenomen tot 15%. De epidemie van LGV bij MSM heeft tot intensivering van surveillance geleid en sinds januari 2004 zijn 160 gevallen gerapporteerd. LGV gevallen zijn nu ook in andere Europese landen, de VS en Canada gevonden. In Nederland lijkt LGV nog maar langzaam toe te nemen.

Trefwoorden: HIV/AIDS, SOA, surveillance, trends, Nederland

Abstract

HIV and Sexually Transmitted Infections in the Netherlands in 2004. An update: November 2005

The increasing trend of Sexually Transmitted Infections (STI) has continued further in 2004, despite a slight levelling off in 2003. The rise was observed both in the number of consultations and STI among heterosexuals and men having sex with men (MSM). In 2004, the number of new HIV diagnoses in the national HIV registry only increased among MSM. Serious epidemics of STI have occurred simultaneously in this group recently. The increase of HIV and STI suggest an increase of sexual risk behaviour among MSM. Alertness and innovative prevention and intervention methods are required to prevent a further spread of STI and HIV.

As of June 2005, a total of 10619 HIV cases were reported in the Netherlands; 938 diagnoses in 2004. MSM still account for the majority of the cases. The number of heterosexually acquired infections declined for the first time in 2004. In the STI sentinel surveillance network, the number of chlamydial cases increased by 19%, that of gonorrhoea by 12%. Also, diagnoses of syphilis and HIV continued to rise in 2004. In 2000-2004, the number of syphilis cases among MSM has more than tripled. 14% of all chlamydial cases, gonorrhoea and syphilis cases among MSM were seen in HIV positives. Furthermore, in 2004 the percentage of ciprofloxacin resistance in gonococci has further increased to 15%. Enhanced surveillance of LGV was started in a response to an outbreak of LGV among MSM. Since January 2004, 160 cases had been reported. LGV has now been reported by other European countries, the USA and Canada as well. In the Netherlands, the number of LGV cases seem to rise slowly.

Keywords: HIV/AIDS, STI, surveillance, trends, the Netherlands

Preface

This report presents the annual surveillance data and a review of the epidemiology of sexually transmitted infections (STI) and HIV/AIDS in the Netherlands.
In this report we have aimed to produce an overview of recent trends and current developments in the field of STI and HIV/AIDS. We do not pretend to cover STI and HIV/AIDS in great depth but focus on the issues relevant for the current status of HIV and STI in the Netherlands with commentaries and interpretation of the data. Detailed data supplements are provided in the appendices.

We hope that this report will contribute to a better understanding of the distribution and determinants of STI and HIV/AIDS in the Netherlands and also to improved effectiveness of prevention measures. The information is made accessible for policy makers, researchers in the HIV/AIDS field and anyone with an interest in HIV/AIDS and STI in the Netherlands. More information on HIV/AIDS and STI 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 collaboration with physicians, public health doctors and nurses, microbiologists, epidemiologists, dermatologists, behavioural scientists, prevention workers and other professionals working in the field of STI and HIV/AIDS. We would like to thank organisations for their continuing collaboration: HIV Monitoring Foundation (HMF), STI sentinel surveillance network, STI clinics and public health services, SOA AIDS Nederland, GGD Nederland, Rutgers Nisso group, NIGZ, HIV Vereniging and Schorerstichting.

Further information
Any comment or suggestions that would improve the usefulness of this report are appreciated and should be sent to soahiv@rivm.nl.

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Samenvatting

HIV/AIDS

In juni 2005 waren in totaal 10619 personen met HIV in Nederland geregistreerd. Eind 2003 waren er naar schatting in Nederland tussen de 16000 en 23000 HIV geïnfecteerden. Mannen die seks hebben met mannen (MSM) vormden de grootste groep (52%), al daalde hun aandeel tussen 1993 en 2001. In 2004 nam het aandeel MSM opnieuw toe. Het aandeel van heteroseksueel geïnfecteerden steeg in de laatste jaren, maar daalt voor het eerst in 2004. Van de 938 personen die in 2004 met HIV zijn gediagnosticeerd, is 49% homo/biseksueel en 40% heteroseksueel. De groep injecterende druggebruikers blijft klein (1%). Het merendeel van de niet-Nederlandse heteroseksuelen is in het buitenland geïnfecteerd: in Afrika ten zuiden van de Sahara en in mindere mate in Latijns-Amerika en het Caribische gebied.

De hoogste HIV prevalentie in Nederland wordt gezien bij MSM (0-32%) en injecterende druggebruikers (0-26%). De HIV prevalentie onder heteroseksueel geïnfecteerden varieert van 0 tot 1,8%. In 2004 is de screening van HIV bij zwangere vrouwen geïmplementeerd. De HIV prevalentie was 0,06% in de eerste helft van 2004.

Seksueel overdraagbare aandoeningen

In 2003 is de SOA surveillance in Nederland veranderd door de implementatie van het SOA peilstation. De vergelijking met de SOA cijfers van voorgaande jaren wordt hierdoor bemoeilijkt zodat de resultaten met de nodige voorzichtigheid dienen te worden geïnterpreteerd.

De toename van SOA is in 2004 weer verder doorgezet, ondanks een stabilisatie in 2003. Dit betreft zowel het aantal consulten als het aantal SOA bij heteroseksuelen en MSM. In 2004 nam het aantal gevallen van Chlamydia toe met 19% en gonorroe met 12%. Ook nam het aantal gevallen van syfilis, HIV, virale SOA verder toe. De meeste gevallen van syfilis (86% van infecties bij mannen) werden gevonden bij MSM. Het aantal gevallen in MSM is in 2000-2004 meer dan verdrievoudigd; de toename wordt vooral gezien in steden, zoals Amsterdam, Rotterdam, Den Haag, Utrecht, Groningen en Twente.

Vrouwen jonger dan 25 jaar lopen het grootste risico op Chlamydia of gonorroe; twee derde van hen is jonger dan 25 jaar. Gonorroe wordt, in vergelijking met Chlamydia, vaker gerapporteerd in stedelijke gebieden, bij MSM en bij patiënten met een eerdere SOA. Etnische minderheden (o.a. afkomstig uit Suriname, de Nederlandse Antillen en Aruba) lopen relatief meer risico op Chlamydia of gonorroe. In 2004 bleek dat de resistentie tegen ciprofloxacine bij gonorroe verder was toegenomen. In Amsterdam werd deze resistentie in 2002-2003, voor het eerst, vaker gezien bij MSM dan bij heteroseksuelen.

Ook de virale SOA zijn in 2004 verder toegenomen. De incidentie van acute hepatitis B in de aangifte is ongeveer gelijk gebleven; alleen het relatieve aandeel van MSM is enigszins

toegenomen. Genitale wratten waren de meest voorkomende virale SOA gediagnosticeerd in het SOA peilstation.
De epidemie van LGV bij – overwegend HIV positieve - MSM heeft tot intensivering van surveillance geleid en sinds januari 2004 zijn 160 gevallen gerapporteerd. LGV gevallen worden nu ook gevonden in andere Europese landen, de VS en Canada. In Nederland lijkt LGV nog maar langzaam toe te nemen; de meeste gevallen worden gevonden in Amsterdam. Het klinisch beeld is soms moeilijk herkenbaar waardoor de diagnose kan worden gemist. Het werkelijke aantal gevallen van LGV zal vermoedelijk hoger liggen dan het hier gerapporteerde aantal.

Simultane SOA en HIV
Bekend HIV positieve personen nemen een belangrijk deel van de SOA voor hun rekening: 14% van alle gonorroe, Chlamydia en syfilis in MSM werd gevonden bij bekend HIV positieven. In 71%, respectievelijk 40% van de Chlamydia en gonorroe gevallen betrof dit een anorectale infectie. Het seksuele risicogedrag bij MSM is onverminderd hoog met een reëel risico op verdere verspreiding van SOA en HIV. Deze groep is van belang voor de volksgezondheid omdat op dit moment meerdere epidemieën van SOA (syfilis, LGV, resistente gonorroe en HIV), tegelijkertijd voorkomen in deze groep.
Continue alertheid en innovatieve methoden in preventie en interventie zijn nodig om verdere verspreiding van SOA en HIV te voorkomen.

Summary

HIV/AIDS

As of June 2005, a cumulative total of 10619 HIV cases had been reported in the Netherlands. By the end of 2003, an estimated 16000 to 23000 people were living with HIV/AIDS in the Netherlands. Men who have sex with men (MSM) still account for the majority of the registered cases (52%), although the proportion has decreased between 1993 and 2001. In 2004, the proportion of MSM increased again. The number of heterosexually acquired infections has increased in recent years but declined for the first time in 2004. Of the 938 new HIV diagnoses in 2004, MSM accounted for 49% and heterosexuals for 40%. The proportion of IDUs remains fairly small, 1%. The majority of the non-Dutch heterosexuals acquired the HIV infection abroad; in sub-Saharan Africa and to a lesser extent in Latin America and the Caribbean.

HIV prevalence in the Netherlands is highest among MSM (0-32%) and IDUs (0-26%). HIV prevalence among heterosexuals varies from 0 to 1.8%. In 2004, national screening of HIV in pregnant women was implemented in the Netherlands. The HIV prevalence was 0.06% in the first half of 2004.

Sexually Transmitted Infections

In 2003, STI surveillance in the Netherlands was converted into an STI sentinel surveillance network. The resultant lack of comparable data hampered comparison of data, so results should be interpreted with caution.

The increasing trend of STI has continued further in 2004, despite a slight levelling off in 2003. The rise was observed both in the number of consultations and STI among heterosexuals and MSM. The number of genital chlamydial infection increased by 19% and gonorrhoea increased by 12%. Furthermore, diagnoses of syphilis, HIV and viral STI continued to increase in 2004. MSM accounted for 86% of diagnoses of syphilis in men. The number of syphilis cases in MSM has more than tripled in 2000-2004; the rise was mainly seen in cities, like Amsterdam, Rotterdam, The Hague, Utrecht, Groningen and Twente region.

Women younger than 25 years of age are at highest risk of acquiring genital chlamydial infection or gonorrhoea; two-thirds of those were younger than 25 years. Compared with genital chlamydial infection, gonorrhoea tends to be a more concentrated disease with higher rates in urban areas, among MSM and individuals with a prior STI. Specific ethnic minorities (for example, those from Surinam, Netherlands Antilles and Aruba) are at high risk for both genital chlamydial infection and gonorrhoea. In 2004, the percentage of ciprofloxacin resistance in gonococci seemed to have further increased. In 2002-2003, observed resistance in Amsterdam was for the first time higher in MSM than in heterosexuals.

Between 2003 and 2004, the number of diagnosed viral STI further increased. The incidence of notified cases of acute hepatitis B infections remained the same; only the proportion of MSM

slightly increased. Genital warts were the most common viral STI, seen in the STI sentinel surveillance network in 2004.
Enhanced surveillance of LGV was started in a response to an outbreak of LGV among predominantly HIV positive MSM. Since January 2004, 160 cases had been reported. LGV has now been reported by other European countries, the USA and Canada as well. In the Netherlands, the number of LGV cases seem to rise slowly and the majority is reported from Amsterdam. As clinical signs are easily missed, the number of LGV cases reported here represents probably a minimum estimate of disease occurrence.

Concurrent STI and HIV

Known HIV infected individuals account for an important part of STI: 14% of all cases of gonorrhoea, genital chlamydial infection and syphilis in MSM are seen in known HIV infected MSM. Among these, anorectal infections were seen in 71% of the diagnoses of chlamydia and in 40% of gonorrhoea. Unsafe sex practices are on-going in MSM with a potential risk of a further spread of STI and HIV. MSM form a major public health concern because various epidemics (e.g., syphilis, LGV, resistant gonorrhoea and HIV) occur simultaneously in this group.
Permanent alertness and innovative prevention and intervention methods will be needed to prevent a further spread of STI and HIV.

1. Introduction

This report summarizes national surveillance data for HIV/AIDS and STI in the Netherlands. It is prepared by the STI/HIV Surveillance Unit (SU) of the National Institute for Public Health and the Environment (RIVM). The core task of the SU is to monitor trends in STI and HIV in the Netherlands and to identify determinants of infection to provide insight in the occurrence of these diseases. The SU collaborates with numerous partners in the field of STI and HIV to collect data for surveillance, e.g. STI clinics, public health services, the HIV Monitoring Foundation (HMF), public health laboratories and other health care providers.

Available data on HIV and STI from surveys, national registries and cohort studies are compiled in this report and provide an overview of the current status of HIV and STI in the Netherlands. Preliminary data have been presented at the annual expert meeting on the surveillance of STI and HIV. The objective of the expert meeting is to review the current trends in STI and HIV in the Netherlands and to identify gaps in our knowledge. Based on this evaluation, modifications in current surveillance activities or new surveillance initiatives are suggested to the steering committee of STI and HIV/AIDS surveillance. The steering committee reviews the suggestions and advises the Ministry of VWS to improve the response to the actual HIV and STI situation in the Netherlands. Recommendations for 2005 included the implementation of a national surveillance of resistance in gonococci as well as the design for behavioural surveillance among sub-groups, e.g. STI clinic attendees, men having sex with men (MSM), HIV positives, ethnic minorities etc. Finally, a feasibility study was suggested to investigate the contribution of recently acquired HIV infections among newly diagnosed HIV infections.

The information is made accessible for policy makers, researchers in the HIV/AIDS field and anyone with an interest in HIV/AIDS and STI in the Netherlands. More information on HIV/AIDS and STI in the Netherlands is available at www.soahiv.nl and www.hiv-monitoring.nl.

In part A the results of HIV surveillance are described and in part B the results of STI surveillance. In appendix C and D detailed tables and figures are presented. Sources and methods of STI and HIV surveillance are described in appendix A and B.

Limitations of data

The data on the STI sentinel surveillance network for 2004 are not completed yet, due to technical problems to extract data from the newly implemented (in April 2004) patient registry at the STI clinic in Amsterdam. Preliminary data on Amsterdam are included in the SOAP database but data on various parameters are still missing (prior STI, prior HIV test, ethnicity, intravenous drug use). NA Amsterdam: indicates that data for Amsterdam STI clinic were not available.

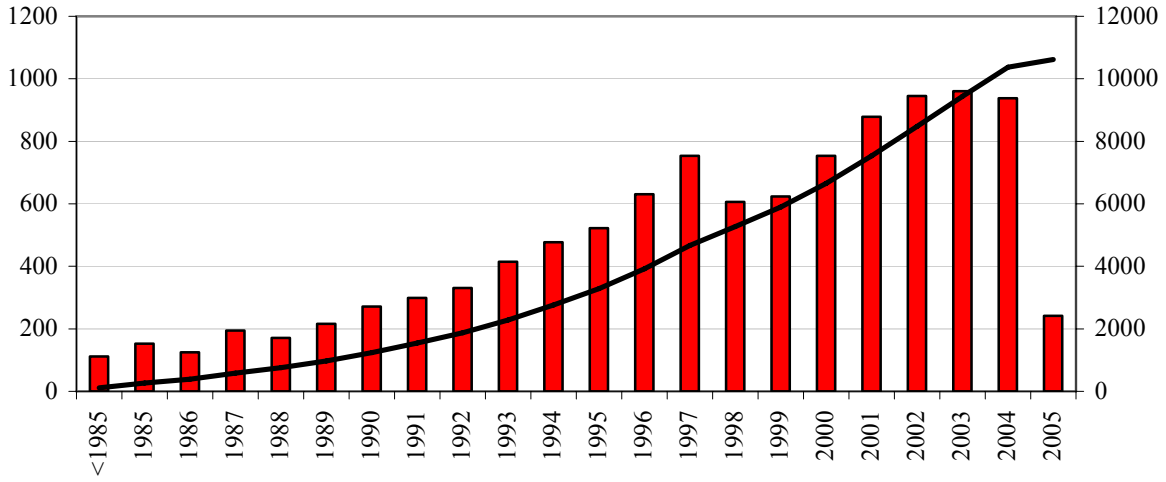
Part A. HIV/AIDS: state of the epidemic

2. Diagnosed cases of HIV and AIDS

Key points

- A cumulative total of 10619 HIV cases had been reported in the Netherlands up to June 2005. The number of people living with HIV in 2003 is estimated at 16000-23000.
- In 2004, 938 new HIV cases were diagnosed (2.6 new diagnoses/day).
- In 2004, HIV diagnoses only increased among MSM. Similar increases had been reported in various European countries from 2002 onwards.
- In 2004, MSM accounted for 49% of the new HIV diagnoses; heterosexuals 40%, IDUs 1%.
- The increase of HIV diagnoses in heterosexuals, as observed over the past years, levelled off in 2003/2004.
- HIV prevalence in the Netherlands was highest among MSM (0-32%) and IDUs (1-26%). HIV prevalence among heterosexuals was low (0–1.4%).
- HIV prevalence among pregnant women in the Netherlands was 0.06% in the first half of 2004.
- As of end 2004, a cumulative total of 6591 AIDS cases and 4150 AIDS deaths were reported.

2.1 HIV cases



Footnote: only HIV patients with a known date of diagnosis are included; 2005: cases registered by June 1st (not complete)

Figure 1: Number of HIV cases (right axis: cumulative), by year of HIV diagnosis

In June 2005, a cumulative total of 10619 HIV cases had been registered by HIV treatment centres in the national database of the HIV Monitoring Foundation (HMF)[1] [www.hiv-monitoring.nl]. In 2004, 938 new cases of HIV were diagnosed (Figure 1). Of all registered cases, 8215 (77%) were

men and 2404 (23%) were women. Ninety eight percent of the individuals were infected with HIV-1, 0.5% with HIV-2 and 1% with HIV-1 and HIV-2.

Geographical differences

Forty three percent of all HIV infected individuals were seen in treatment centres in Amsterdam (Table C.1). Rates of HIV infections per 100000 inhabitants in 2004 are shown for each province in Figure 2.

The province of North Holland has the highest HIV rate (10.9/100000), followed by the province of Utrecht (8.6/100000). In 2004, the number of HIV diagnoses outside Amsterdam (in particular in Utrecht and Rotterdam) increased whereas in Amsterdam, the number of HIV diagnoses remained stable more or less and slightly decreased (Figure 3).

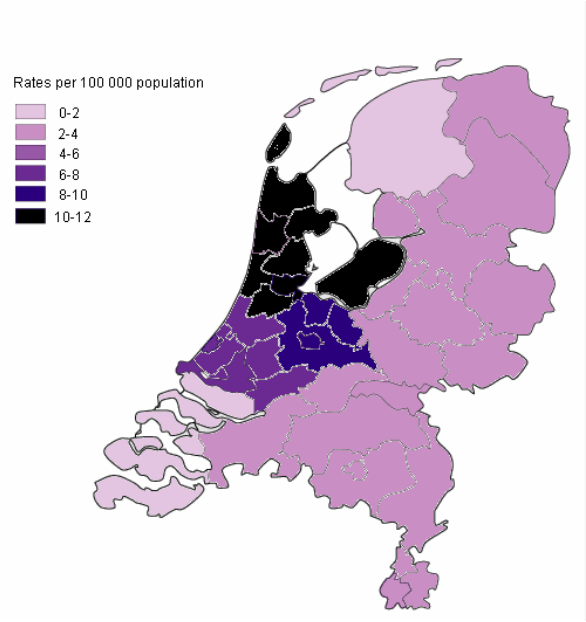


Figure 2: Number of HIV diagnoses in 2004 per 100000 inhabitants; calculations based on HIV infections diagnosed in the various HIV treatment centres in each province

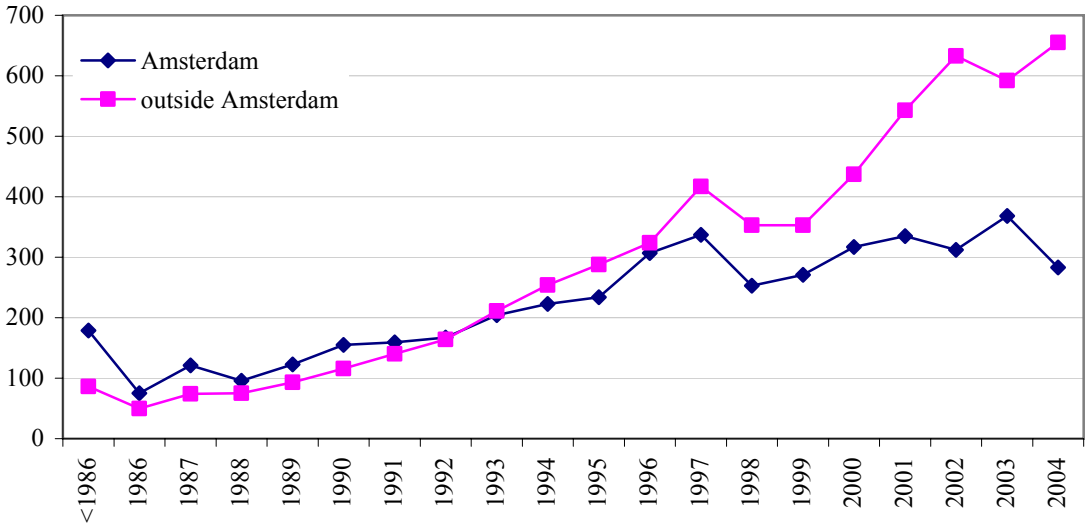
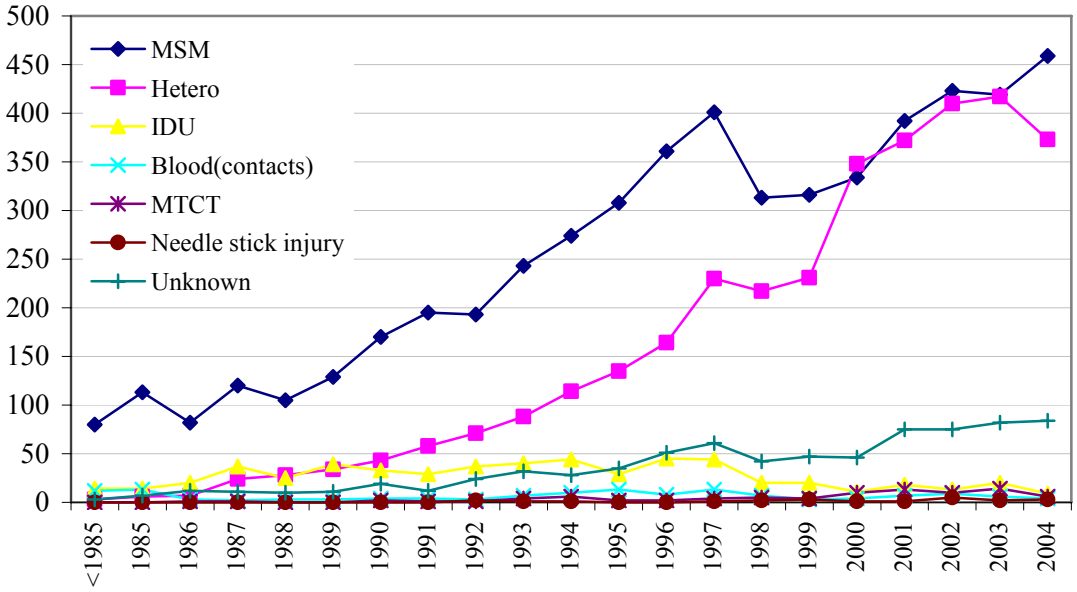


Figure 3: Number of new HIV diagnoses in Amsterdam and outside Amsterdam, by year of HIV diagnosis



Footnote: MTCT= mother to child

Figure 4: Number of HIV cases, by year of HIV diagnosis and transmission risk group

Transmission risk groups

Until 2000, the most frequently reported transmission route for HIV infection was male-to-male sexual contact. Thereafter, the number of HIV infections among heterosexuals increased up to the

same level as MSM. In 2004, however, the absolute number of HIV infections among MSM increased again and exceeded the number of infections among heterosexuals; (table C.8) (Figure 4). In 2004, HIV diagnoses only increased among MSM (Figure 4). Diagnoses among heterosexual men remained stable (Figure 5).

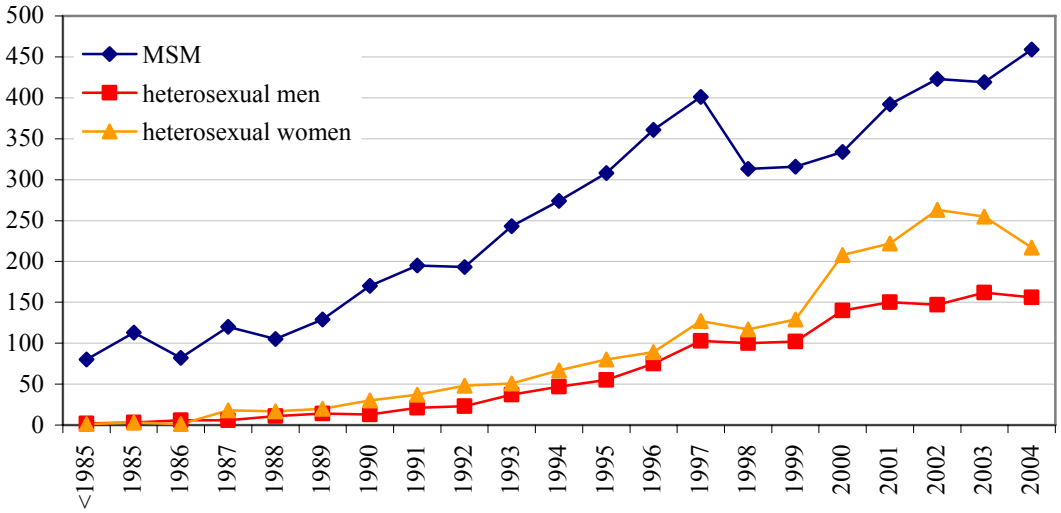


Figure 5: Number of HIV cases by year of HIV diagnosis and gender and MSM

Only five percent of the HIV infections were diagnosed in IDUs. Individuals with risk through blood (products) accounted for 1% of the infections (Table C.2). No likely route of transmission could be identified in 7% of the HIV cases.
Overall, more than half (57%) of the HIV infected individuals originated from the Netherlands. The proportion of Dutch HIV infected individuals gradually decreased from 70% until 1992 to approximately 50% in 2000-2003. In 2004, the proportion of Dutch individuals slightly increased again. The largest non-Dutch group consisted of sub-Saharan Africans (SSA), e.g. 17% of the HIV cases. The second largest non-Dutch group (11%) comprised individuals from the Caribbean and Latin America, predominantly Surinamese and Antilleans (67%). Most HIV infected men originated from the Netherlands (65%), whereas the largest non-Dutch group among women were those from sub-Saharan Africa (44%) (Figure 6).

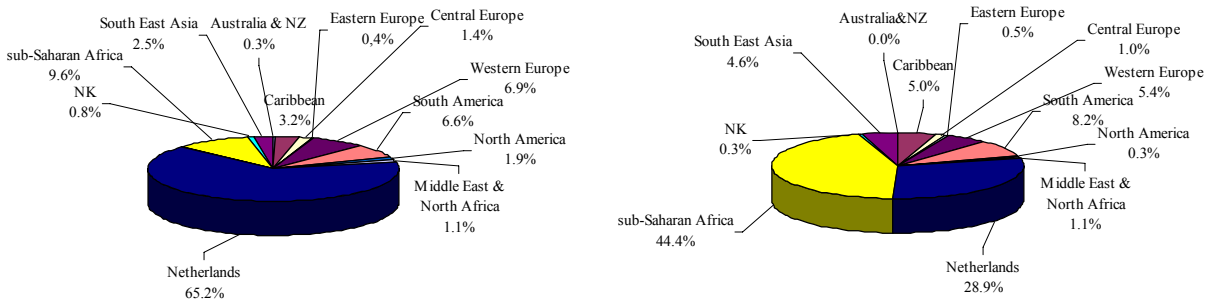


Figure 6: Geographic distribution of HIV cases, by gender (male: left, female: right)

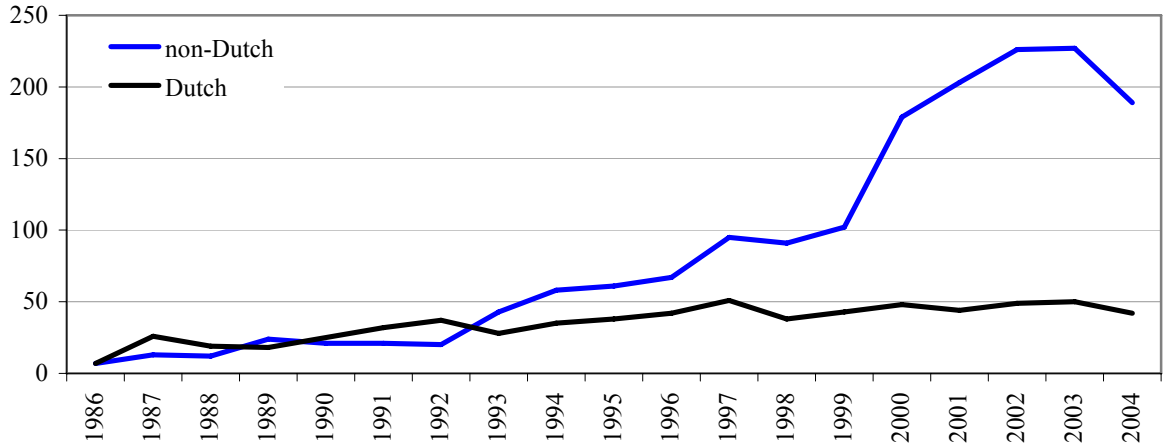


Figure 7: Number of HIV cases among Dutch and non-Dutch women, by year of HIV diagnosis

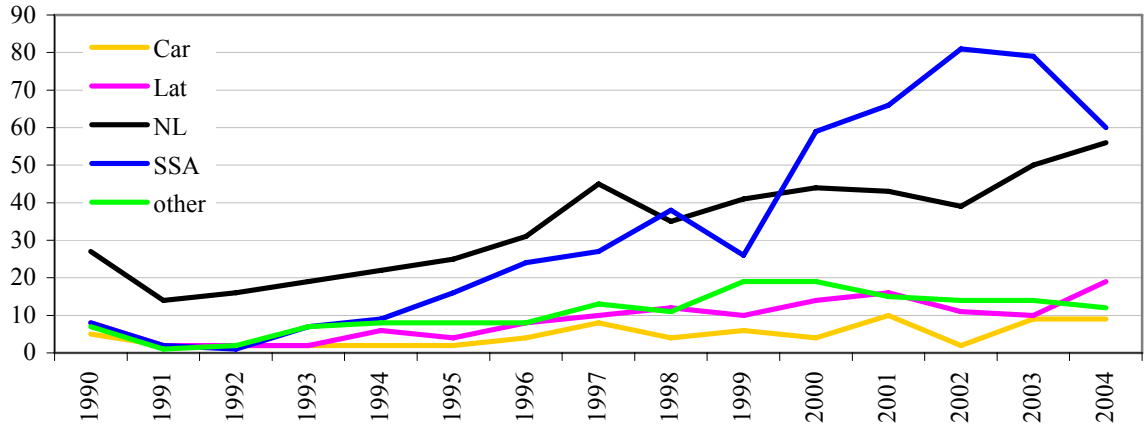


Figure 8: Number of HIV cases among heterosexual men, by region of origin and year of HIV diagnosis

Over time, the number of new diagnoses among Dutch women remained stable: less than 50 cases per year (Figure 7). The number of non-Dutch women significantly increased over time (61% in 1996; 82% in 2004, $p<0.0001$, chi-square test), due to an increase of women from sub-Saharan Africa (33% in 1996; 60% in 2002; 55% in 2004). The proportions of women from other regions did not change significantly over time. A similar trend was observed for heterosexual men from SSA between 1999 and 2002. In contrast to women, the number of Dutch men slightly increased after 2002 (Figure 8).
The majority of MSM originated from the Netherlands (74%) (Table 1). Other frequently reported regions were Western Europe (8%), Latin America (6%), the Caribbean (3%) and South (East) Asia (3%). Most IDUs were from the Netherlands (67%), other Western European countries (18%), and Latin America (4%). Most HIV infected individuals were between 24 and 49 years of age at diagnosis (78%). Men had a median age of 36 years, whereas women were significantly younger: 30 years. This did not change over time. In general, non-Dutch individuals were younger than Dutch (Table C.6).

Table 1: Number of HIV cases, by transmission risk group and region of origin

Region of origin	MSM (%)	Heterosexual (%)	IDU (%)
The Netherlands	4113 (74%)	1025 (30%)	376 (67%)
Western Europe	424 (8%)	106 (3%)	99 (18%)
Central Europe	59 (1%)	55 (2%)	8 (1%)
Eastern Europe	21 (0.4%)	11 (0.3%)	10 (2%)
Sub-Saharan Africa	71 (1%)	1539 (44%)	6 (1%)
Caribbean	147 (3%)	193 (6%)	5 (1%)
Latin America	331 (6%)	327 (9%)	22 (4%)
North America	134 (2%)	7 (0.2%)	6 (1%)
North Africa & Middle East	29 (0.5%)	54 (2%)	13 (2%)
Australia & Pacific	17 (0.3%)	1 (0%)	1 (0.2%)
South (East) Asia	153 (3%)	132 (4%)	10 (2%)
Not reported/not known	43 (0.8%)	7 (0.2%)	7 (1%)
Total	5556	3465	563

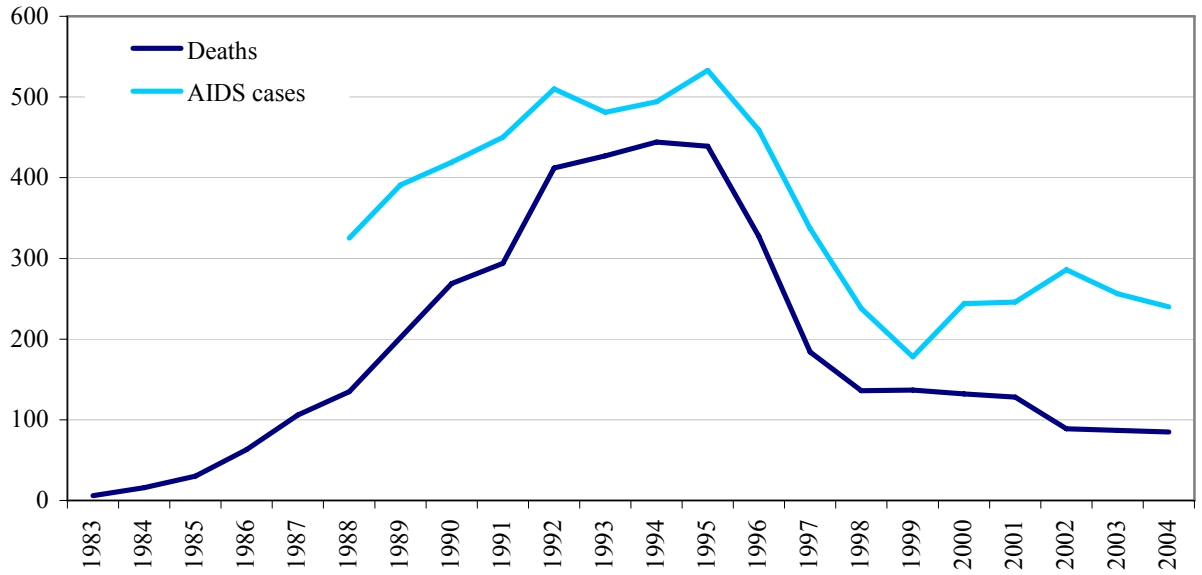
Footnote: MSM: men having sex with men; IDU: injecting drug user

2.2 New HIV diagnoses in 2004

Of the 938 new HIV diagnose, 707 (75%) were male and 231 (25%) were female. Of those, 89% were infected sexually: 40% through heterosexual contact and 49% through MSM. Of all men, 65% acquired the infection through sex with men. Of all women, 94% acquired the infection through heterosexual contact. Of all heterosexual cases, 58% were female. Injecting drug use accounted for 1% (n=9) of the new diagnoses and risk through blood (products) for 0.4% (n=4). For 9%, the transmission risk group was undetermined (Table C.10).

In 2004, 30% of the cases were diagnosed in Amsterdam (2003: 38%) and 43% (2003: 33%) in Rotterdam, The Hague and Utrecht (Table C.11). Of the newly diagnosed cases, 54% came from the Netherlands, 23% from sub-Saharan Africa, 12% from Latin America and the Caribbean (Table C.12). Seventy six percent of the cases diagnosed in 2004 were between 24 and 49 years of age. Twenty two cases (2%) were identified among teenagers (15-19 years). The median age at diagnosis in 2004 was 36 years and differed per risk group: the median age in MSM was 39 years, in heterosexuals 33 years and in IDUs 36 years (Table C.13-16).

2.3 AIDS cases and AIDS related deaths



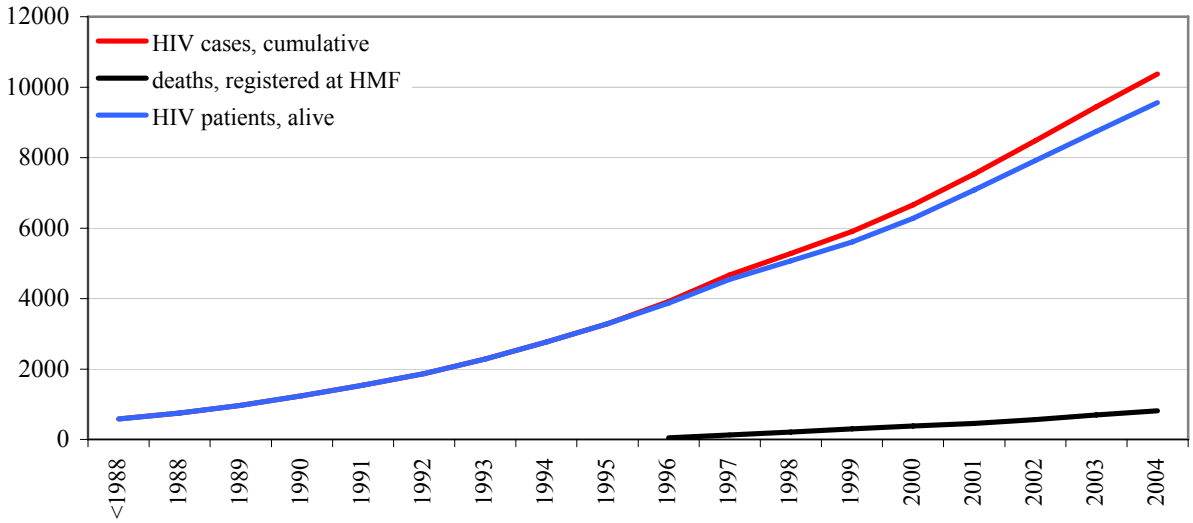
Footnote: the low value in 1999 is caused by the change in data sources of AIDS cases (sources: AIDS registration Health Inspectorate <2000, HIV Monitoring Foundation >2000)

Figure 9: Number of AIDS cases and AIDS related deaths

By June 2005, a cumulative total of 6648 AIDS cases was registered in the Netherlands (Table C.17-18). The annual incidence of AIDS cases peaked in 1995, and declined sharply over the subsequent four years (Figure 9). Since 1999, the rate of decline had slowed and the curve stabilised at 250-290 cases per year. The decline of AIDS cases is mainly due to the availability of highly active antiretroviral therapy (HAART), which slowed progression from HIV to AIDS.[2]
The proportion of reported AIDS cases in MSM declined from 77% in 1988 to 43% in 2004. Conversely, the proportion of heterosexual AIDS cases increased from 6% in 1988 to 44% in 2002 and declined to 39% in 2004. The proportion of IDUs with AIDS fluctuated over the years between 2-14%. Overall, in 4% of the AIDS cases the route of transmission remained unknown (Table C.18). The median age at AIDS diagnosis in 2004 was 40 years; men were older than women, respectively

41 and 37 years. On average, Dutch individuals were older at AIDS diagnosis than individuals of African origin: 43 and 37 years (Table C.19-20).

The number of AIDS related deaths showed a similar trend (Figure 9). Between 1983 and 2004, a cumulative total of 4150 individuals died because of HIV/AIDS; 85 died in 2004. HAART had a major effect on AIDS related deaths[3] and, as a consequence, the number of people living with HIV and AIDS increased. The estimated numbers of HIV- and AIDS patients alive are over 9550 and 2400, respectively (Figure 10, Figure 11).



* based on individuals with a known year of HIV diagnosis (see also: national report HMF, 2005).

Figure 10: Cumulative number of HIV cases, deaths, and HIV patients alive, by calendar year

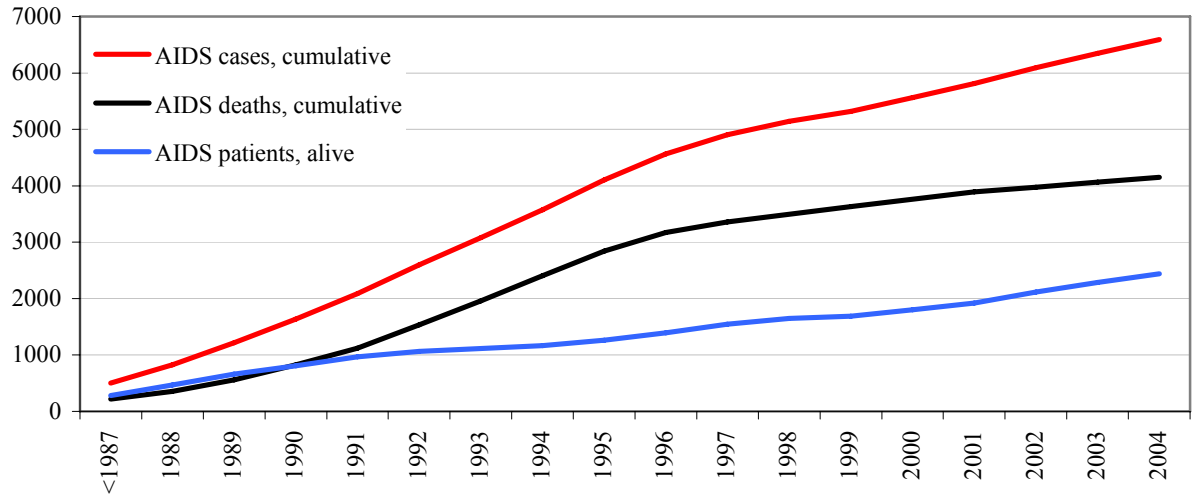
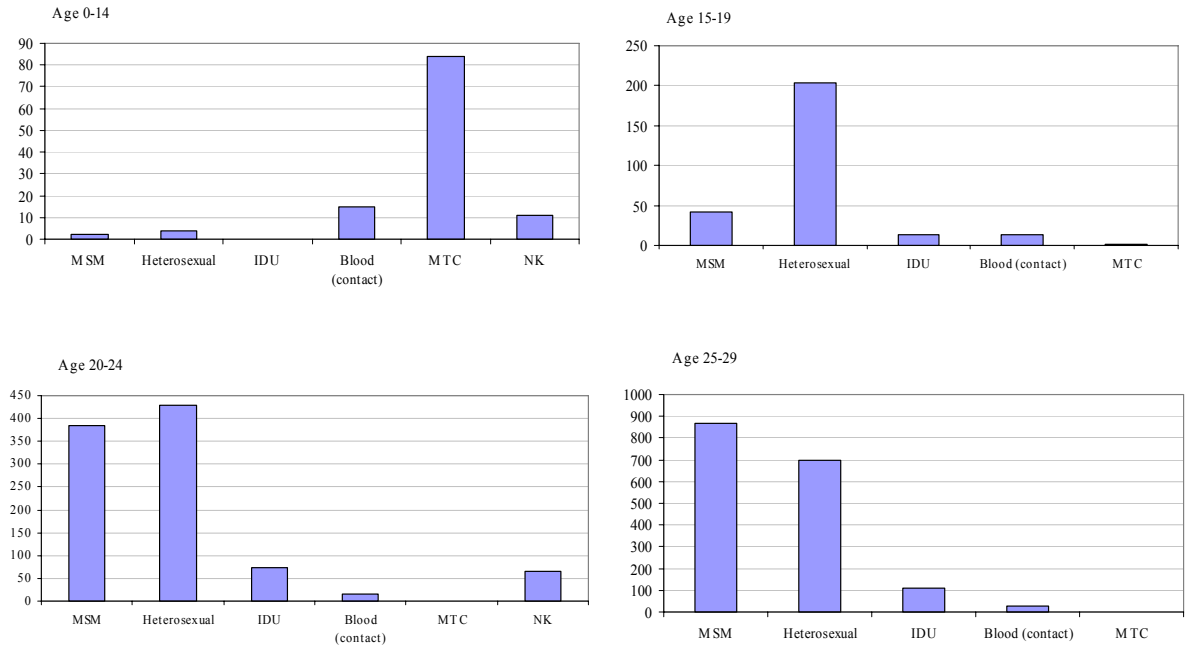


Figure 11: Cumulative number of AIDS cases, AIDS deaths, and AIDS patients alive, by calendar year

3. Focus on risk groups

3.1 Young people

Of all registered HIV cases, 320 (3%) were teenagers (10-19 years), 966 (10%) were young adults (20-24 years) and 1832 (18%) were individuals aged 25-29 years. The distribution of the transmission risk groups differed per age group. Children aged 0-15 most often acquired the infection from their mother. Among teenagers aged 15-19, the majority is infected through heterosexual contact; while among individuals above 20 years sex between men became increasingly important (Figure 12).



Footnote:MTC=mother to child; NK: not known

Figure 12: Number of HIV infected individuals, by age group and transmission risk group

Sixty three percent of the children < 15 years were Dutch and 26% were from sub-Saharan Africa. Of children aged 15-19, 59% were from sub-Saharan Africa. Young adults (20-29 years) were from the Netherlands (40%), sub-Saharan Africa (28%) and Latin America/Caribbean (14%).

3.2 Men who have sex with men

The majority of HIV infected MSM is Dutch (74%) (Table 1). The absolute number of Dutch MSM increased from 125 in 1990 to 356 in 2004 (Figure 13). The number of MSM from Latin America/Caribbean also showed an increasing trend until 2002 and then seemed to drop. For 69% of the MSM, the country of infection was known (Table C.23). The majority of the MSM (89%) were infected in the Netherlands; 97% among Dutch MSM and 59% among non-Dutch.

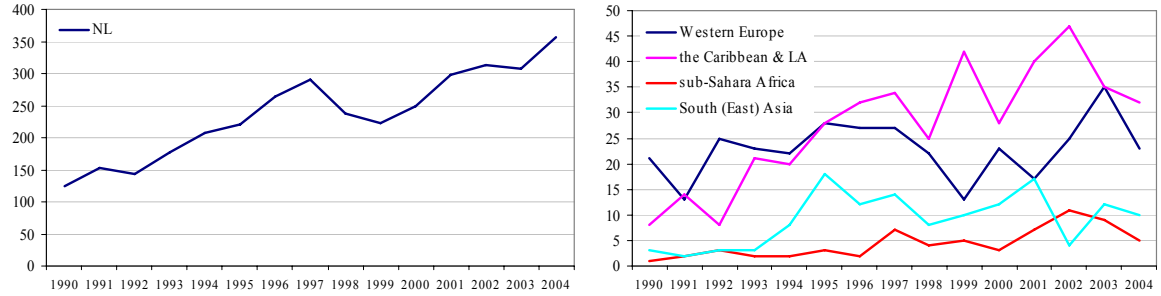


Figure 13: Numbers of HIV infected MSM from the Netherlands (left) and other geographic regions (right), by year of diagnosis

Of all MSM, 8% is younger than 25 years at HIV diagnosis (Table C.5). Ten percent is 50 years or older. MSM are, in general, younger at HIV diagnosis than heterosexual men (Table 2, Table 3). MSM from the Caribbean and Latin-America are the youngest: 32 years. The oldest are MSM from the Netherlands: 37 years. Over time, age at HIV diagnosis has increased considerably (Figure C.6). For Dutch MSM, the age increased from 32 in 1985 to 40 years in 2004. In 2000, 30% of the MSM were diagnosed at age ≥ 40. In 2004, this percentage increased up to 44% (Table C.24).

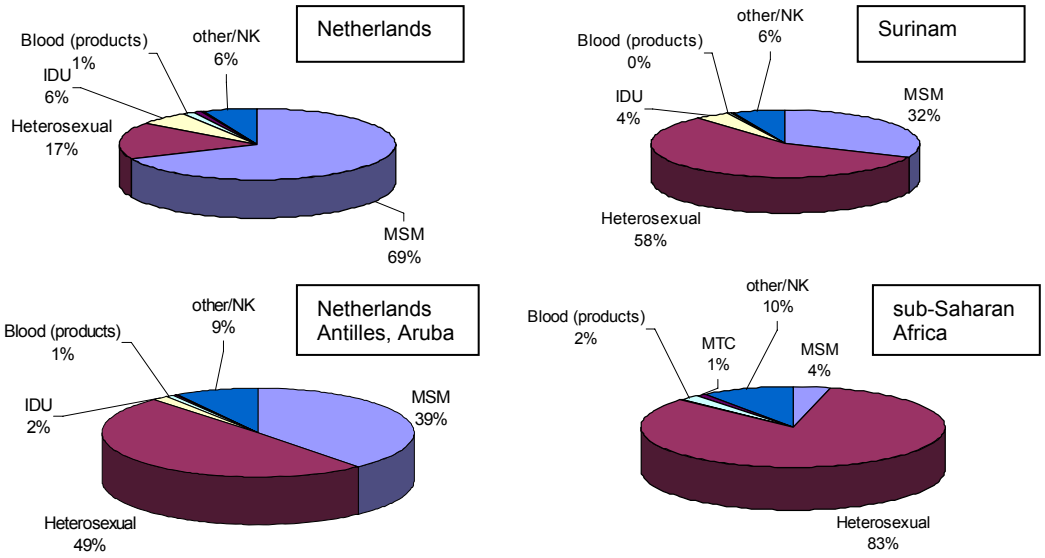
Table 2: Median age (years) of MSM population, by region of origin

Region of origin	Total (age/IQR)
The Netherlands	37.2 (31.4-44.1)
Western Europe	33.0 (28.1-39.3)
Sub-Saharan Africa	33.2 (27.6-38.5)
Caribbean	31.9 (27.0-37.6)
Latin America	31.8 (27.1-37.0)
South (East) Asia	33.2 (28.4-39.4)

Footnote: IQR= interquartile range

3.3 Migrant populations

Of all registered HIV patients, 42% were born abroad and half of them were infected through heterosexual contact. The majority (41%) of the migrants originated from sub-Saharan Africa, 25% from Latin America/Caribbean, 15% from Western Europe, and 7% from South (East) Asia.
Figure 14 shows the distribution of transmission risk groups among HIV patients for different regions of origin. The largest risk group among the Dutch population was MSM (68%), while MSM only accounted for 4% of the infections among Africans. The proportions of MSM among individuals from Surinam and the Netherlands Antilles were 31% and 39%, respectively.



Footnote MTC: mother to child; IDU: injecting drug use; MSM: men having sex with men; NK: not known

Figure 14: HIV infected individuals, by transmission risk group and region of origin

Country of infection
Eighty-seven percent of the individuals from sub-Saharan Africa, for whom the country of infection is known (73%), were infected in SSA. Among Surinamese individuals, only 26% were infected in Surinam and 72% in the Netherlands (Figure 15). Forty-one percent of the individuals from the Netherlands Antilles/Aruba were infected in their region of origin. Most people from Turkey and Morocco reported to be infected in the Netherlands (see also: report HMF, 2005).[1]

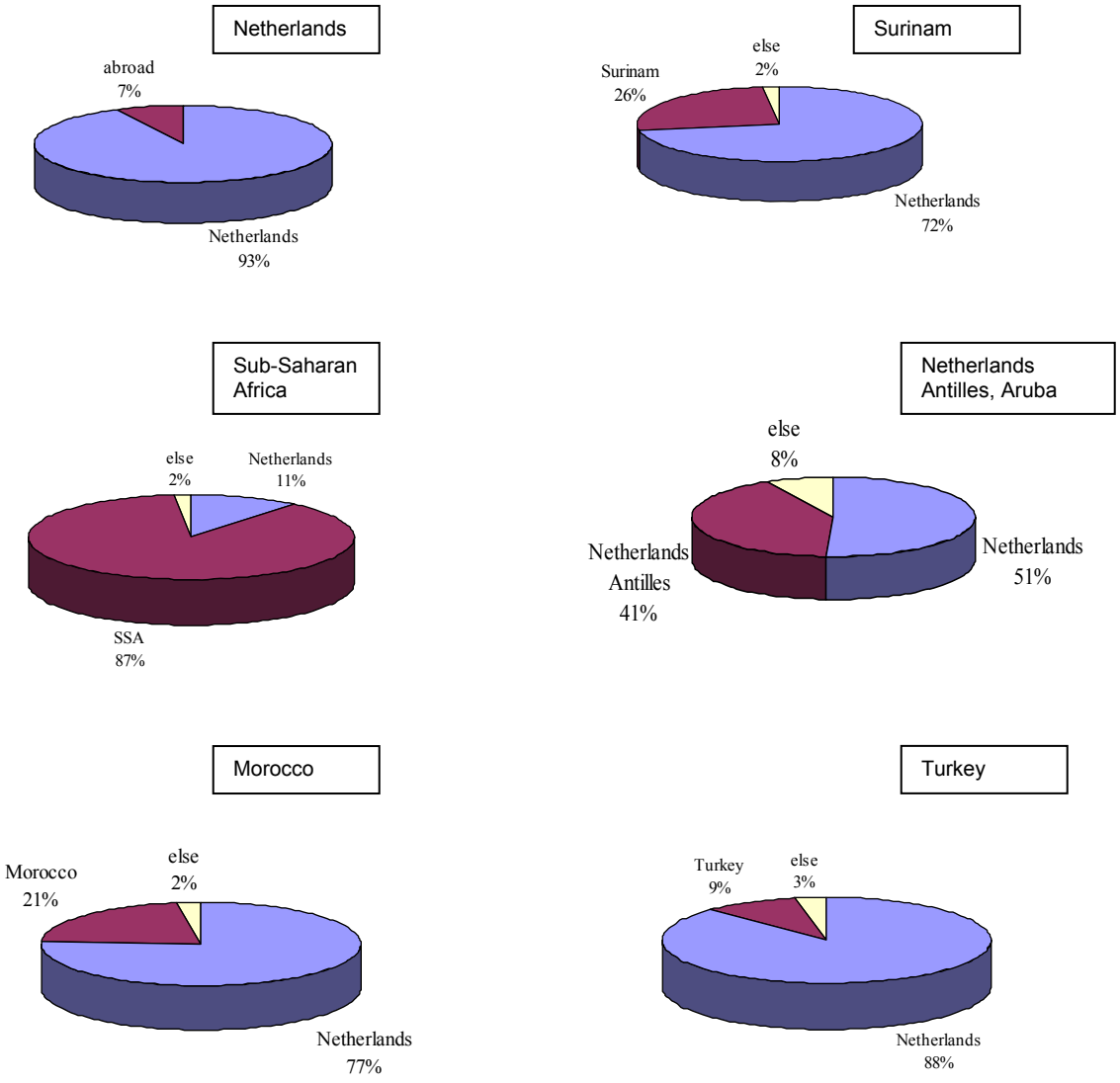


Figure 15: HIV patients, by country of birth (textbox) and country of infection

For HIV patients from Surinam or the Netherlands Antilles, the country of infection differed between risk groups: MSM from Surinam or the Antilles and heterosexuals from Surinam more often acquired the infection in the Netherlands; whereas heterosexuals from Antilles/ Aruba more often became infected in the country of origin (Figure 16).

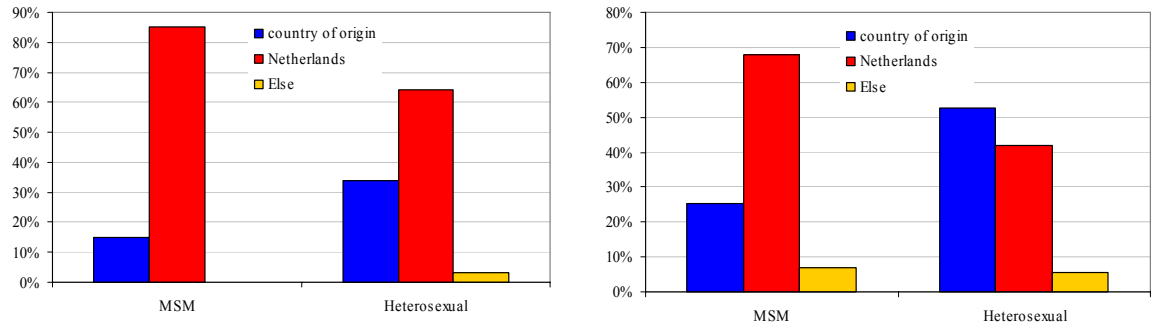


Figure 16: HIV infected from Surinam (left) and the Netherlands Antilles/Aruba (right), by transmission risk group and country of infection

Age at diagnosis

Among heterosexual women, African women were the youngest at diagnosis (median age: 28.5 years). Dutch and West European women were the oldest: 32 years. Among heterosexual men, Asian men were the oldest: 45 years and African the youngest: 34 years (Table 3).
The median age at diagnosis was stable over time for heterosexuals from sub-Saharan Africa, and Latin America/Caribbean (Figure C.5). The median age of Dutch heterosexuals increased from 28 years in 1992 to 41 years in 2004 (Figure C.6).

Table 3: Median age (years) of heterosexual population, by region of origin and gender

Region of origin	Male (age/IQR)	Female (age/IQR)	Total (age/IQR)
The Netherlands	40.6 (33.1-49.5)	31.7 (26.0-41.7)	35.9 (28.9-46.0)
Western Europe	36.2 (32.8-45.6)	31.7 (28.9-40.5)	34.8 (30.2-43.1)
Sub-Saharan Africa	33.6 (28.4-38.5)	28.5 (23.8-34.0)	30.4 (24.9-35.8)
Caribbean	36.2 (30.4-43.8)	30.8 (24.9-38.1)	33.0 (27.1-40.0)
Latin America	37.5 (32.7-46.6)	31.3 (26.9-38.0)	34.1 (28.5-41.6)
South (East) Asia	45.3 (37.1-50.1)	30.7 (27.4-35.3)	32.5 (28.1-39.8)

Footnote: IQR= interquartile range

Additional anonymous unlinked HIV surveys

Sub-Saharan Africans, Surinamese and Antilleans form relatively large migrant populations in the Netherlands. However, little is known about these groups and the determinants of risk behaviour in the country of origin. To obtain more insight in risk behaviour, ‘intermixing’ (sexual contact between various ethnic groups), and the potential to further spread of HIV, anonymous unlinked surveys were conducted in these populations.
In 2002, the RIVM started HIV surveys among Surinamese, Antilleans and sub-Saharan Africans. At least 200 participants of each ethnic subgroup were included in a survey. Locations for recruitment (e.g. festivals, churches, sports events, and community centres) were determined in the course of social mapping together with migrant organizations and the local municipal health service.

Between 2002 and 2004, two surveys were conducted in Rotterdam and Amsterdam, in collaboration with the local public health services.[4,5] Results are summarized in Table 4.

Table 4: HIV prevalence and risk behaviour amongst migrants

	Region	Year of survey	HIV prevalence	Condom use [V] steady partner	Condom use [V] casual partner	Condom use [V] casual partner in country of origin
Surinamese	Rotterdam	2002/2003	0.5% [0-1.5%]	9%	43%	77%
Surinamese	Amsterdam	2003/2004	0.6% [0-1.8%]	15%	53%	65%
Antilleans/ Arubans	Rotterdam	2002/2003	0.5% [0-1.7%]	9%	36%	26%
Antilleans/ Arubans	Amsterdam	2003/2004	0.6% [0-1.6%]	9%	44%	67%
Cape Verdians	Rotterdam	2002/2004	1.0% [0-2.7%]	12%	51%	81%
Ghanese	Amsterdam	2003/2004	0.6% [0-1.7%]	26%	57%	42%

[V] Condom use: last 6 months always used condoms

HIV prevalence rates were adjusted by using statistical simulations by means of Monte Carlo techniques, for more information.[4,5]

3.4 Injecting drug users

Between 1994 and 2003, 16 surveys among IDUs were conducted in the Netherlands. The primary objectives were to monitor HIV prevalence and risk behaviour to assess the potential for further spread of HIV. IDUs were enlisted through health care institutions, supplemented by recruitment at street and detainment sites. The study population is made up of IDUs who use hard drugs regularly. Respondents were asked to give a saliva sample for HIV antibody testing and a questionnaire on demographics and risk behaviours.[6]

Approximately, 3500 IDUs participated in the surveys in various cities in the Netherlands. HIV prevalence ranged from 0.5 to 26% (Table 4). The highest prevalence rates were found in Amsterdam (26%) and Heerlen (South Limburg, 22%). HIV prevalence remained stable in all cities except for Heerlen (1994:11%, 1996; 16%, 1998/99: 22%).

In the six months preceding the survey, a considerable proportion of the IDUs had borrowed syringes or needles from someone else (11-30% of current injectors) and not always used condoms with steady partners (76-96%), casual partners (39-73%) or clients (13-50%).

The percentage of IDUs reporting recent borrowing of drug equipment decreased in all cities where repeated surveys were conducted.[6,7]

No additional data became available since the 2003 report on STI and HIV in the Netherlands.

Table 5: HIV prevalence and risk behaviour amongst IDUs

Region	Year of survey	HIV prevalence	Borrowing [I]	Condom use [V] steady partner	Condom use [V] casual partner	Condom use [V] clients
Amsterdam	1996	26%	18%	24%	60%	70%
	1998	26%	12%	15%	53%	71%
Rotterdam	1994	12%	18%	9%	53%	80%
	1997	9%	10%	16%	46%	69%
	2002/2003	10%	8%	15%	57%	68%
South	1994	10%	19%	14%	39%	87%
Limburg[II]	1996	12%	17%	13%	61%	83%
	1999	14%	10%	11%	51%	75%
Utrecht	1996	5%	17%	16%	55%	83%
Arnhem	1991/1992	2%	42%	na	na	60%
	1995/1996	2%	39%	10%	49%	79%
	1997	1%	16%	4%	47%	78%
Groningen	1997/1998	1%	11%	11%	43%	76%
Brabant[III]	1999	5%	17%	12%	39%	83%
The Hague	2000	2%	21%	16%	27%	60%
Twente[IV]	2000	3%	30%	8%	32%	50%

Footnote: IDU: ever injected drugs and using hard drugs at least once a week (i.e. heroine, cocaine products, amphetamine or methadone) in the six months prior to recruitment I. Percentage of IDUs that borrowed used syringes or needles in the last six months. II. Percentage of IDUs infected with HIV in Maastricht: 8% (1994), 3% (1996), 5% (1999); in Heerlen: 11% (1994), 17% (1996) en 22% (1999). III. Eindhoven, Helmond, Den Bosch. IV. Almelo, Hengelo, Enschede. V. Condom use: last 6 months always used condoms. NA= not available

3.5 Commercial sex workers and clients

Commercial sex workers (CSW) have many sexual contacts, and their clients can form a bridge to the general population. The anonymous unlinked HIV surveys were also targeted at these risk groups. The main purpose was to investigate HIV prevalence, sexual risk behaviour with clients and non-commercial partners, and the mobility of CSW. The first CSW surveys were conducted in Rotterdam (2002) and Amsterdam (2003/2004). In Rotterdam, 110 CSW were recruited in the streetwalkers' district or in clubs and brothels.[4] In Amsterdam, 255 CSW in the street-based- and window prostitution were included, and in a relief centre for drug-using CSW.[5] Results from the surveys are summarized in Table 6.

In 2004, a pilot among 52 clients of CSW was carried out in Amsterdam to assess the feasibility of an HIV survey in this group. None of the clients were HIV infected. Clients regularly used condoms with CSW (82%). However, condom use with steady and casual partners was relatively low. The fieldwork of this pilot appeared to be very time-consuming and labour-intensive.[5] These results, combined with the HIV prevalence among CSW (7%) suggest a potential risk for transmission of HIV to the general population.

Table 6: HIV prevalence and risk behaviour amongst CSW in Rotterdam and Amsterdam

Region	HIV prevalence *	Condom use [V] clients	Condom use [V] steady partner	Condom use [V] casual partner
Rotterdam (2002/2003)				
Total population CSW	7.2% [2.8-12.0%]	88%	15%	25%
Street-based CSW	12.3% [5.2-21.0%]	84%	15%	33%
Establishment-based CSW	1.9% [0.0-5.9%]	92%	15%	17%
Amsterdam (2003/2004)				
Total population CSW	6.5% [3.7-9.9%]	79%	10%	40%
Female CSW	3.1% [0.6-6.3%]	94%	10%	36%
Drug using CSW	11.3% [3.8-20.8%]	40%	0%	25%
Transgender CSW	17.1% [3.4-31.0%]	70%	17%	64%

[V] Condom use: last 6 months always used condoms
HIV prevalence rates were adjusted by using statistical simulations by means of Monte Carlo techniques.[4,5]

3.6 STI clinic attendees and other test sites

Visitors of STI clinics are, in general, at higher risk of HIV infection. HIV testing is recommended whenever a person is examined for or diagnosed with an STI.
Table 7 provides an overview of trends in HIV positive test results obtained from surveys at STI clinics in Amsterdam and Rotterdam, the former STI registration (until 2003), and the STI sentinel surveillance network (from 2003).[8-10]
Among MSM, HIV prevalence rates varied between 0 and 32% (Table 7). HIV prevalence in the anonymous surveys is higher than that in regular HIV tests by name. In the anonymous survey among MSM in Amsterdam, an increase of HIV prevalence was observed over time (up to 20% in 2003). The increase, however, was mainly caused by known HIV positive MSM attending the STI clinic.
At the alternative test site of the MHS in Amsterdam, HIV prevalence among MSM varied between 4 and 9%. There was no significant trend overtime.[11] At 'Checkpoint', a one-hour HIV testing facility in Amsterdam that started in June 2002, the HIV prevalence among MSM was 4.6% in 2004, which is similar to the prevalence at the regular screening at the STI clinic (4.2%). Approximately, 1000 HIV tests were done at Checkpoint in 2004.[12] Checkpoint is staffed by the HIV association Netherlands (HIV Vereniging Nederland) and focuses on MSM. The rapid procedure may persuade those at high risk who refrain from or postpone HIV testing because of the one-week waiting period after the conventional HIV test. In 2004, 69% of the visitors give 'rapidity of the test result' as the main reason to visit Checkpoint. For more information: www.hivnet.org.
HIV prevalence among heterosexual visitors of STI clinics was low (0-1.4%) and stable over time.

Table 7: HIV prevalence among STI clinic attendees and other test sites

Region and source	1997	1998	1999	2000	2001	2002	2003	2004
MSM								
STI clinic Amsterdam								
- Regular	4.8 %	4.1 %	4.3 %	5.7 %	4.7 %	3.8 %	4.2%	5.7%**
- Anonymous*	11.8 %	9.5 %	12.7 %	16.9 %	14.6 %	20.3 %	20.1%	18.8%#
Alternative test site Amsterdam	9.4 %	3.8 %	3.5 %	3.7 %	8.0 %	7.2 %	3.5%	1.8%
STI clinic Rotterdam								
- Regular	4.3 %	4.4 %	4.3 %	1.6 %	2.9 %	6.2 %	1.7%	4.5%
- Anonymous*	5.7 %	0 %	7.2 %	10.8 %	12.0 %	13.4 %	22.4%	32.1%
STI registration	1.9 %	3.6 %	3.8 %	3.8 %	3.4 %	5.4 %	Ended	Ended
STI sentinel surveillance network	-	-	-	-	-	-	3.3%	4.2%**
Checkpoint	-	-	-	-	-	6.8%	4.8%	4.6%
Heterosexual risk groups								
STI clinic Amsterdam	0.5 %	0.4 %	0.2 %	0.3 %	0.6 %	0.5 %	0.3%	0.3%**
- Regular, male	0.9 %	0.3 %	0.3 %	0.9 %	0.4 %	0.4 %	1.0%	0.5%#
- Anonymous, male	0.5 %	0.3 %	0.5 %	0.2 %	0.3 %	0.4 %	0.3%	0.3%**
- Regular, female	1.1 %	1.1 %	0.7 %	0.6 %	0.3 %	0.8 %	0.5%	0.2%#
- Anonymous, female								
Alternative test site Amsterdam	0.6 %	1.0 %	0.8 %	0.4 %	0 %	0.5 %	0%	1.8%
- Male	0.7 %	0 %	0.6 %	0.5 %	0.6 %	0.8 %	0%	0%
- Female								
STI clinic Rotterdam								
- Regular, male	0.8 %	0.4 %	0.6 %	0.7 %	0.4 %	0.3 %	0.5%	1.0%
- Anonymous, male	0.3 %	1.4 %	0.2 %	0.2 %	0.8 %	0.5 %	1.0%	0.9%
- Regular, female	0.6 %	0.8 %	0 %	0.2 %	0.4 %	0.3 %	0.3%	0.3%
- Anonymous, female	0 %	0.8 %	0.5 %	0.3 %	0.8 %	0.9 %	1.0%	0.7%
STI registration								
- Male	0.1 %	0.4 %	0.6 %	0.4 %	0.3 %	0.5 %	Ended	Ended
- Female	0.6%	0.2 %	0.4 %	0.4 %	0.3 %	0.6 %	Ended	Ended
STI sentinel surveillance network								
- Male	-	-	-	-	-	-	0.3%	0.3%**
- Female	-	-	-	-	-	-	0.3%	0.2%**
Checkpoint								
- Male	-	-	-	-	-	0.8%	0.3%	0.4%
- Female	-	-	-	-	-	1.1%	1.0%	0.5%

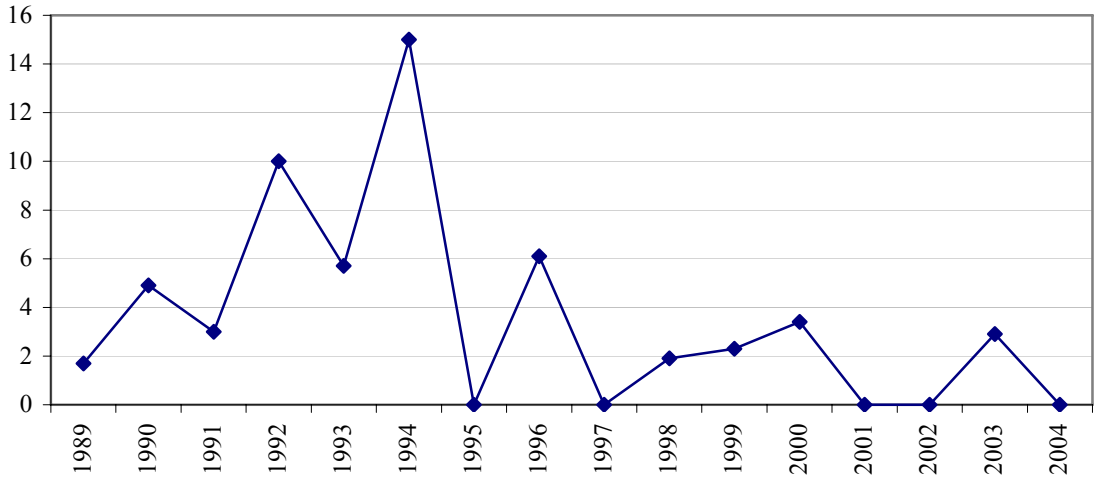
* Known HIV infected included, ** preliminary data, # based on 1 research period

4. General population

In the Netherlands, the only nationwide ongoing serosurveillance is that of blood donors and pregnant women. These populations are often studied to identify HIV trends in populations at low and moderate risk of HIV infection.

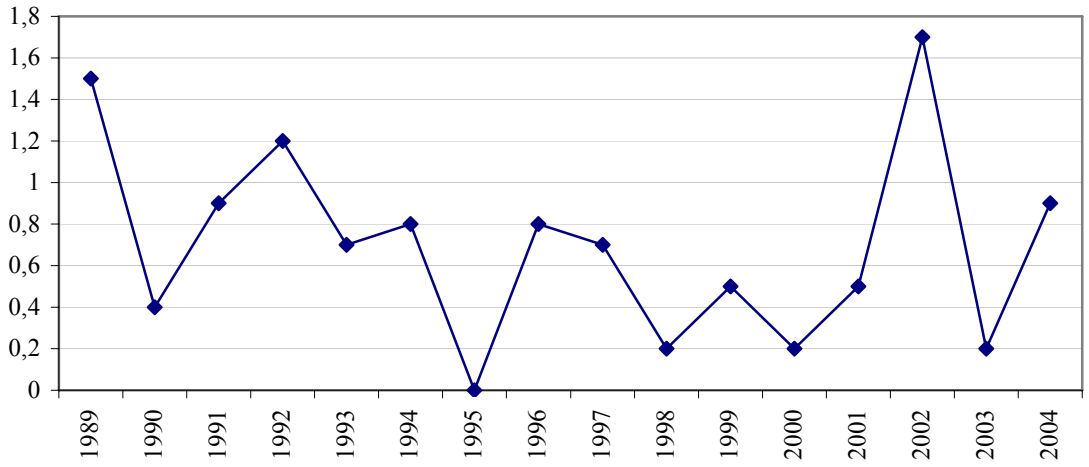
4.1 Blood donors

In 2004, 503008 blood donors were registered in the Netherlands. The overall prevalence and incidence of HIV antibodies have been low in that year: new donors: 0.0 per 10^5 donors (prevalence), regular donors: 0.9 per 10^5 donor years (incidence). No marked trend over time was observed (Figure 17, Figure 18).



Source: C. van der Poel, personal communication, Stichting Sanquin Bloedvoorziening, Amsterdam

Figure 17: HIV prevalence (per 10^5 donors) among new blood donors in the Netherlands



Source: C. van der Poel, personal communication, Stichting Sanquin Bloedvoorziening, Amsterdam

Figure 18: HIV incidence (per 10^5 donor years) among regular blood donors in the Netherlands

4.2 Pregnant women

Since 1988, pregnant women in Amsterdam are tested for HIV in a sentinel surveillance study.[8] Until 2002, HIV prevalence was slightly increasing; the last few years mainly due to an increase of known HIV positive women becoming pregnant (Figure 19). In 2004, HIV prevalence was 1.1% (19/1752) which is comparable with 2003 (1.2%; 24/1952) and slightly lower than 2002 (1.4%, 26/1912).
Since 2003, all pregnant women in Amsterdam are offered an HIV test. In 2004, 13111 women were tested (0.2% refused). Twenty six women were HIV positive (0.2%). Of these, 13 knew their HIV positive serostatus; 17 had a non-Dutch origin (65%) (14 sub-Saharan Africa, 1 Surinam/Antilles, 2 Turkey and 2 unknown).[11]

Since January 2004, standard screening for HIV is offered to all pregnant women in the Netherlands (opting out method). The HIV test is offered as part of the prenatal screening. The Healthcare Insurance Board (College voor Zorgverzekeringen, CVZ) is collecting the information on HIV test results from the regional vaccination bureaus.
In the first six months of 2004, approximately 95000 women were tested for HIV. Of those women, 60 were HIV positive (HIV prevalence: 0.06%). The highest prevalence was observed in Amsterdam: 0.17% (9/5385) (Figure 20). The results of the second half of 2004 are not available yet.

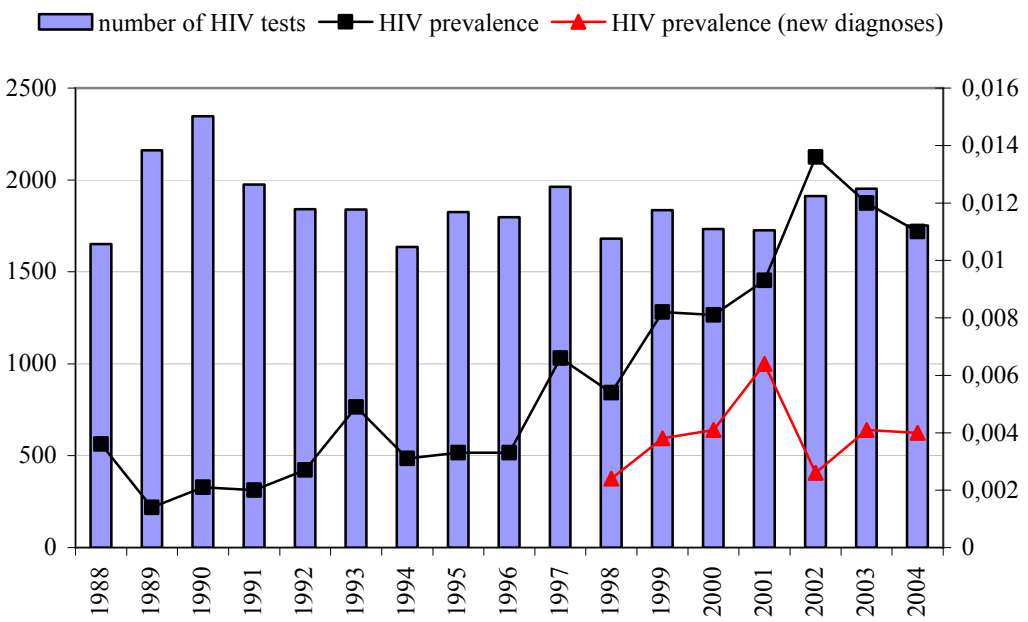
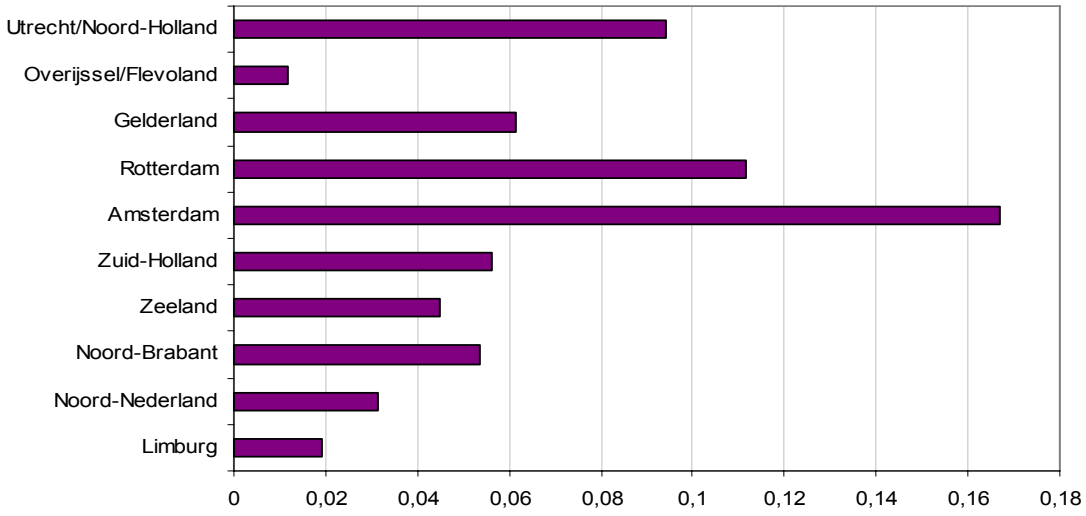


Figure 19: HIV prevalence (%) and number of tests among pregnant women in Amsterdam (sentinel study)

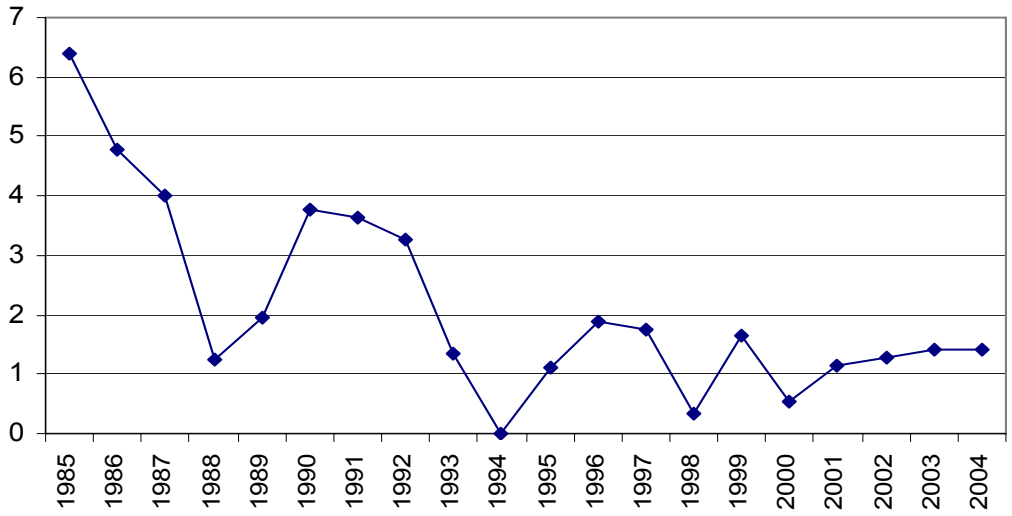


Source: preliminary data regional vaccination bureaus; M. Witteveen personal communication, CVZ

Figure 20: HIV prevalence (%) among pregnant women in the Netherlands (first 6 months 2004), by geographic region

5. HIV incidence

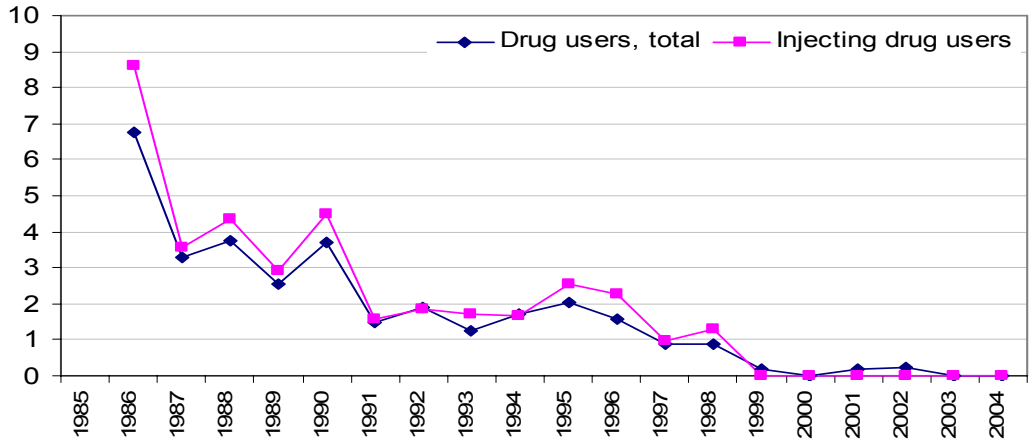
The yearly HIV incidences among MSM and drug users are obtained from the Amsterdam Cohort Studies (ACS) of HIV/AIDS. The study population consists of MSM and drug users living in Amsterdam and surroundings. The first enrolment of MSM took place in 1984 including men aged 18-65 years. From June 1995, recruitment was focused on young (≤30 years) MSM. For more details[13]: www.amsterdamcohortstudies.org.
The HIV incidence among MSM in the ACS in 2004 was estimated at 1.4 per 100 person-years (PY). The last decade, the HIV incidence is relatively stable in the range of 0-2 per 100 PY (Figure 21).[14]



Source: A. van der Bij, personal communication, Municipal Health Service, Amsterdam

Figure 21: Yearly HIV incidence among MSM (30 years or younger at entry) in ACS

The first enrolment of IDUs in the ACS took place between 1985-1990. From 1998, recruitment was focused on young drug users (≤30 years). From 1999, no HIV infections were found among IDUs. Among all drug users (including non-injecting), one HIV infection was found in 2001 and one in 2002. In 2003 and 2004, no drug users were tested HIV positive (Figure 22).[14]



Source: A. van der Bij, personal communication, Municipal Health Service, Amsterdam

Figure 22: Yearly HIV incidence among IDUs (30 years or younger at entry) in Amsterdam

6. International trends of HIV/AIDS

Europe

In Europe, rates of new HIV diagnoses vary greatly between countries. The numbers of HIV cases reported in Western and Central Europe are low compared to Eastern Europe. In the Netherlands, HIV prevalence among adults is estimated at 0.2%, which is comparable to the HIV prevalence in other Western and Central European countries. The widespread use of HAART resulted in a substantial decline in numbers of AIDS cases and AIDS related deaths in Europe. As a consequence, after 1998 the number of people living with HIV/AIDS continued to rise.

Heterosexual contact is now the most frequent route of HIV transmission in most Western countries, but sex between men (MSM) remains predominant in Denmark, Germany, Greece and the Netherlands.[15] The rise in heterosexually acquired HIV cases, as observed for many years in Belgium, UK, Denmark, Germany, Greece, Norway, Sweden, and in the Netherlands is largely due to an increasing share of migrants from sub-Saharan Africa.

After a long period of continuing decline, HIV infections among MSM increased again from 2002 onwards in various countries (e.g. Belgium, Denmark, Germany, Portugal, and Switzerland). Increases in risky sexual behaviour in a highly prevalent HIV population, together with rising trends in STI, may have lead to an expansion of HIV transmission among MSM.

In most Western European countries, steady declines in HIV prevalence among injecting drug users (IDUs) occurred throughout the 1990s, reflecting the success in past prevention interventions. Also in Eastern Europe, after several years of rapid spread of HIV among IDUs, the number of new diagnoses is now declining. However, the situation in the East remains alarming due to the fast increasing number of people living with HIV, including large numbers of young people.[15] These people can potentially transmit HIV to their sex partners and indeed, the number of heterosexual infections is rising in Eastern Europe. Reporting rates were the highest in Estonia, the Russian Federation and Ukraine.[16] In Eastern Europe, the HIV prevalence among adults is estimated at 0.8%.[17]

Other regions

HIV prevalence is highest in sub-Saharan Africa with an estimated prevalence in adults of 7.4%. In some (mainly Southern) countries the HIV prevalence is over 35% (e.g. Swaziland). An estimated 25 million people are living with HIV/AIDS in sub-Saharan Africa, which is almost two-thirds of all people living with HIV. There appears to be stabilization in HIV prevalence rates, but this is mainly due to a rise in AIDS deaths and a continued increase in new infections. Adult prevalence

in countries in central and eastern Africa is ranging from 4% to 13%.[16,17] The major transmission route in sub-Saharan Africa is heterosexual contact.
In Asia, the epidemic is expanding rapidly with sharp increases in China, Indonesia and Vietnam. The epidemic remains largely concentrated in IDUs, sex workers (and clients) and MSM. Some countries, such as Thailand and Cambodia, have been successful in fighting the HIV epidemic. India has the largest number of people living with HIV in Asia: over 5 million.
In the Caribbean, high HIV prevalence rates (>3%) were observed in the Bahamas, Haiti, Trinidad and Tobago. The Caribbean epidemic is mainly heterosexually, and in many places concentrated among sex workers. However, it is also spreading to the general population. Highest prevalence was found in Haiti: 5.6%.
The epidemic in Latin America is concentrated among populations at high risk of HIV infection: IDUs and MSM. Large differences within countries have been observed, as in Brazil, where national prevalence is below 1%. However, in certain cities 60% of the IDUs are HIV infected.
In Central America, HIV is spreading predominantly through sex (both heterosexual and MSM).[17]

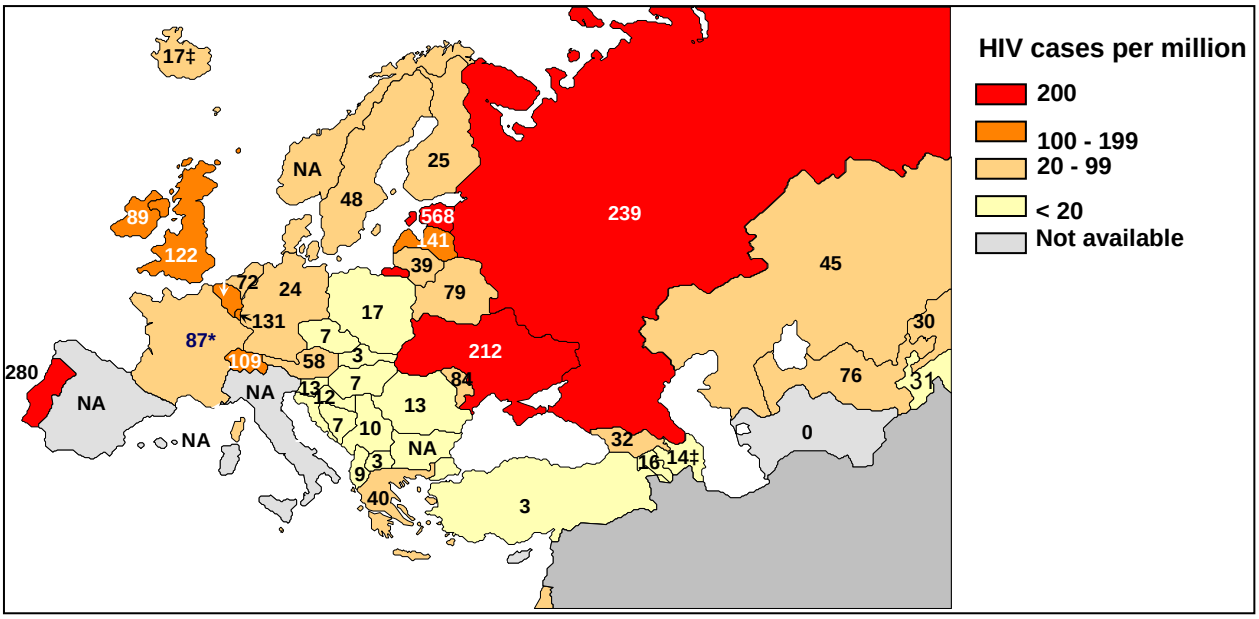


Figure 23: HIV infections newly diagnosed in Europe in 2004, per million population (source: EuroHIV, 2005)

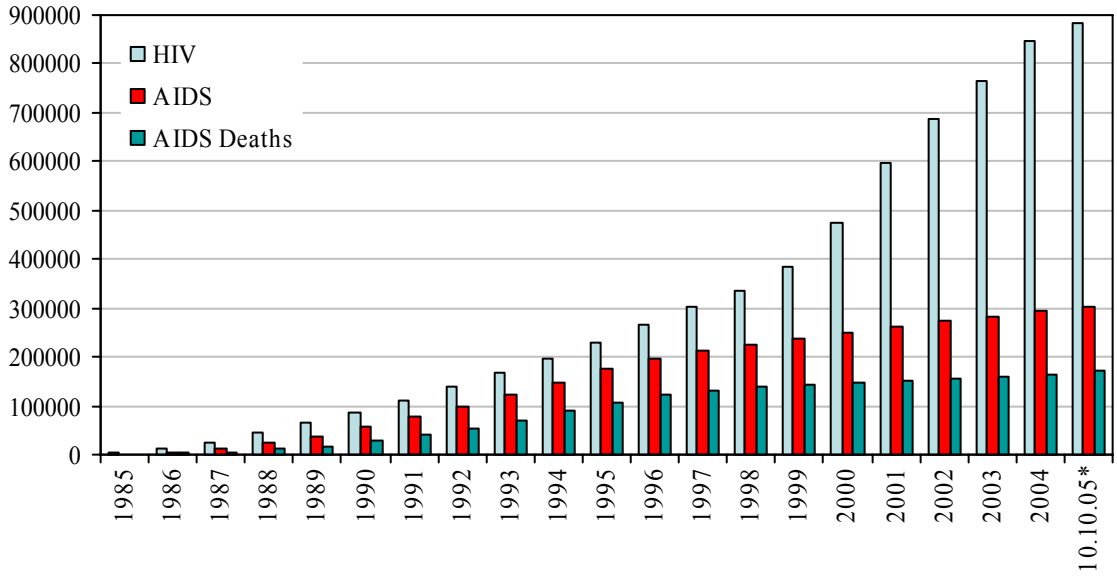


*Figure 24: Cumulative number of reported HIV, AIDS and AIDS deaths in all of WHO/Europe countries per year (source: WHO Europe, 2005)**

* preliminary and incomplete data

Part B. Sexually Transmitted Infections

7. STI clinic attendees

Key points

- In 2004, 49701 new consultations were registered in the STI sentinel surveillance network.
- In 2004, the number of consultations increased by 17% compared with 2003.
- Characteristics of clinic attendees were as follows: young (38% below 25), Dutch origin (80%), proportion of MSM (28%) and commercial sex workers (10%), 18% had a history of STI and 63% was not previously tested for HIV.

NB. Limitations of data: data from the Amsterdam STI clinic are preliminary and incomplete. Data on ethnicity, history of STI, prior HIV testing, intravenous drug use and reason for consultation (among other presence of symptoms) are missing. For this reason, national comparison for these variables with 2003 is hampered.
NA Amsterdam = data not available for STI clinic Amsterdam.

7.1 Recent trends

In 2004, 49701 new consultations (increase of 17%) were registered within the STI sentinel surveillance network; 26534 (53%) among men, 23138 (47%) among women and 29 (0.1%) among transgenders (Table D.1). Forty-two percent of these were reported by the STI clinic in Amsterdam. 45% of the attendees had an STI examination, 53% had both an STI examination and an HIV test and 2% only had an HIV test (Figure 25).

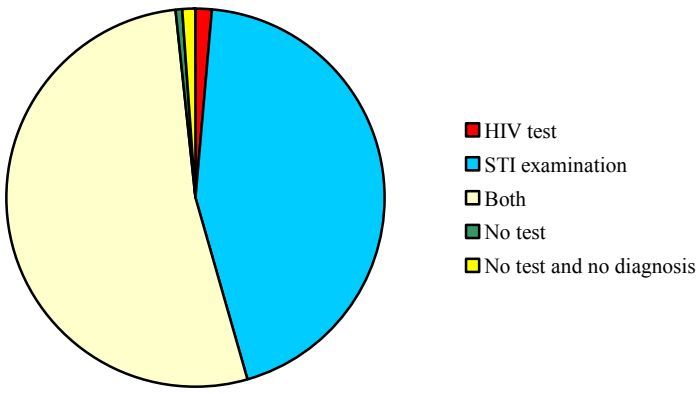


Figure 25: Consultations by STI examination, HIV test or both, 2004

The most common reported reason for consultation (Table D.10, NA Amsterdam) was risk behaviour (29% of all reported reasons), followed by symptoms (26%) and a new sexual

relationship (12%). Other reasons for consultations were uncertainty, anxiety or concern (9%), risk behaviour and symptoms of partner (5%), notification by (ex)partner or social worker (4%), (periodic) screening (4%), hepatitis B vaccination (4%), HIV test (2%), else (2%) or condom failure (1%) (Figure 26). STI clinic attendees were on average young: 38% is younger than 25 years of age. The age distribution differed by gender with the highest peak among 20-24 years (21%) for men (followed by 25-29: 21% and 30-34: 17%) and among 20-24 years (39%) for women (followed by 25-29: 23% and 15-19: 13%) (Table D.3). About 80% of the clinic attendees were from Dutch origin (2003: 74%); this was the same for women and men. Other groups originated from Surinam (3%), sub-Saharan Africa (2%), Asia (2%), Eastern Europe (2%), other European countries (3%), the Netherlands Antilles (2%), Latin America (1%), Morocco and other North African countries (1%), Turkey (1%) and other (1%) (table D.4). Furthermore, a total of 152 different foreign countries were reported (NA Amsterdam).

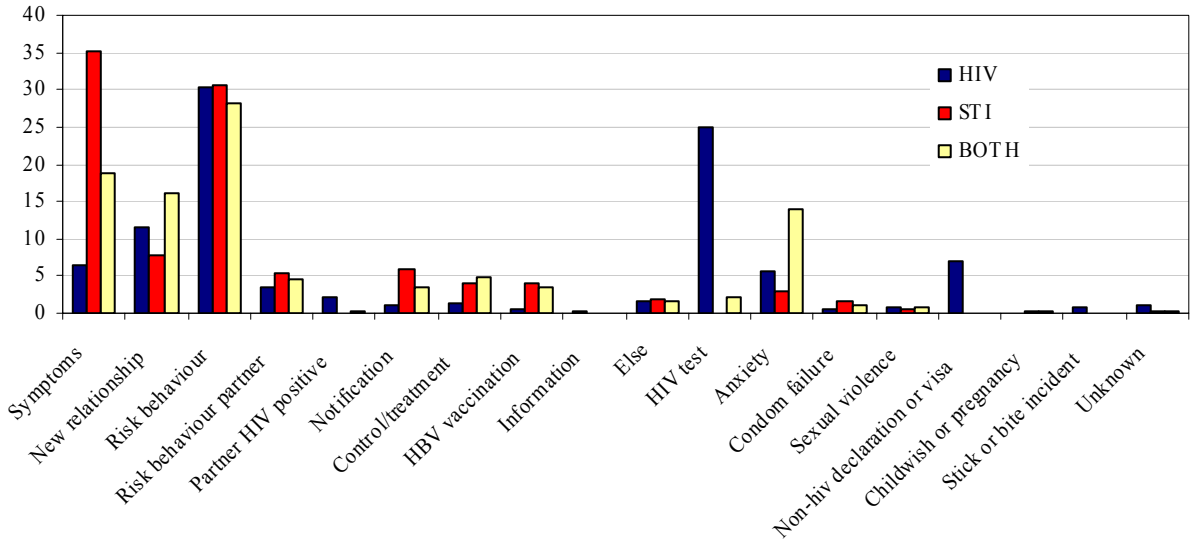
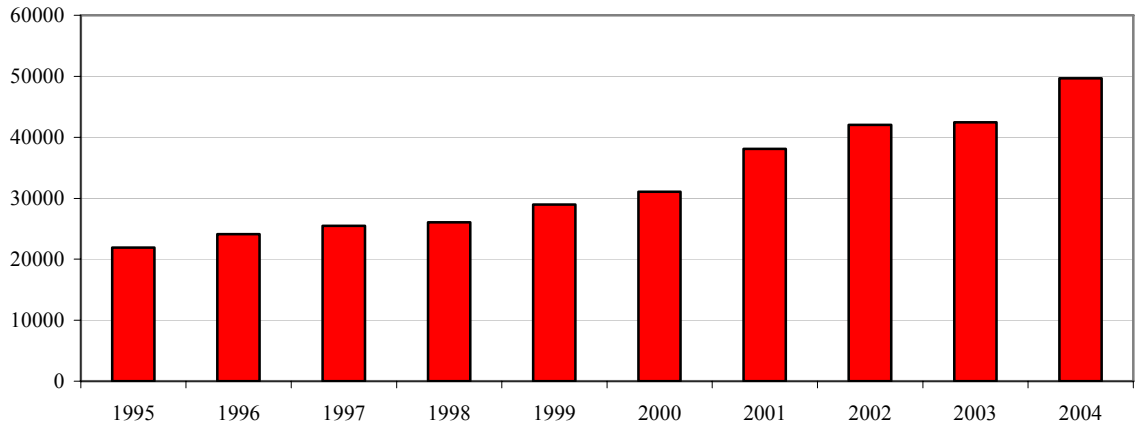


Figure 26: Reasons of consultation by STI examination, HIV test or both, 2004 (GGD Amsterdam does not report reason for visit and is not included)

Over the past years the number of consultations has risen continuously (Figure 27). This increase overwhelmed the capacity of most STI clinics and public health services; and this may have affected the trend in consultations. In January 2003, the surveillance system has been changed into the STI sentinel surveillance network. The resultant lack of comparable data hampered proper comparison of data with years before 2003, so results should be interpreted with caution. See limitations of surveillance data (Appendix B).



Footnote: 1995-2002: STI registration; 2000*: STI clinic of Erasmus Medical Centre Rotterdam was included; 2003**: Implementation of STI sentinel surveillance network

Figure 27: Number of consultations in the STI registration (STI clinics and public health services) and the STI sentinel surveillance network, 1995-2004

7.2 Determinants of attendees

Of all male attendees, 28% (n=7382) reported sex with men (Table D.5). Of all female attendees, 10% (n=2234) worked as a CSW the past 6 months and 4% (n= 1165) of all men reported visiting CSW the past 6 months (table D.6). Recent injecting drug use (past 6 months, NA Amsterdam) was reported by 0.2% of the attendees (n=66) and these data were missing for 2% (Table D.7). On average, 18% (n=5057) of the attendees (NA Amsterdam) reported a history of STI (gonorrhoea, infectious syphilis or genital chlamydial infection); 20% of all males and 16% of all females.

Of the attendees, 63% (n=18064, NA Amsterdam) was never tested for HIV antibodies. 30% (n=8685) was previously tested HIV negative (32% men, 29% women) and 1.2% (n=342) was previously tested HIV positive (2.2% men, 0.2% women) (Table D.8). In 2003, 1.9% tested HIV positive. Because of the probable underreporting, the real number of HIV infected individuals attending STI clinics is likely to be larger than the number reported here. More than half of the attendees who were never tested for HIV (56%) were tested in the present consultation.

8. Genital chlamydial infection

Key points

- Genital chlamydial infection was the most common diagnosis (n=4470) made in the STI sentinel surveillance network in the Netherlands in 2004.
- Diagnoses of genital chlamydial infection increased by 19% between 2003 and 2004.
- Individuals younger than 25 years of age were at highest risk for genital chlamydial infection, in particular women.

8.1 Recent trends

In 2004, 4470 diagnoses of genital chlamydial infection were made (2389 in men and 2081 in women) in the STI sentinel surveillance network (Table D.11a). The number of diagnoses increased with 19% compared with 2003 (n=3741); in men 16%, in women 25%. From 2002 to 2003, there was no increase in diagnoses of chlamydia. In MSM, 52% of the infections were anorectal and 46% urethral. In women, 5% of the diagnoses were anorectal (Table D.11b). Genital chlamydial infection was the most common diagnosis. Rates of diagnoses were fairly unevenly distributed across the Netherlands (range: 11 – 272 per 100000) with the lowest rates being seen in the region Brabant, the Northern provinces, and the middle of Gelderland (Figure 28).

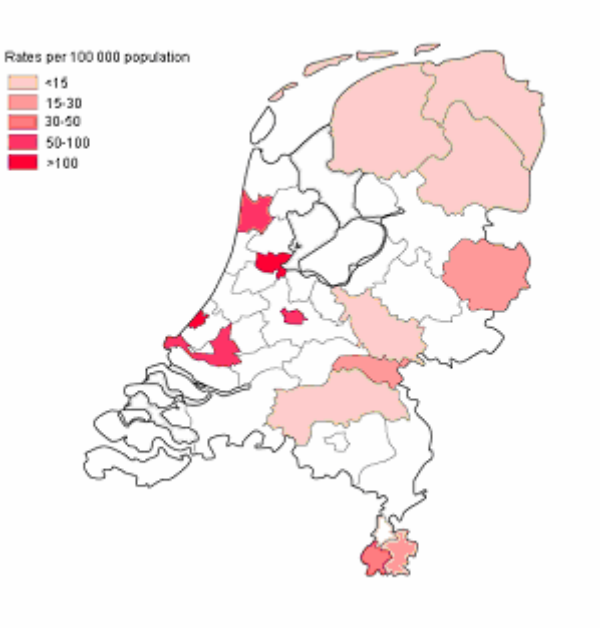
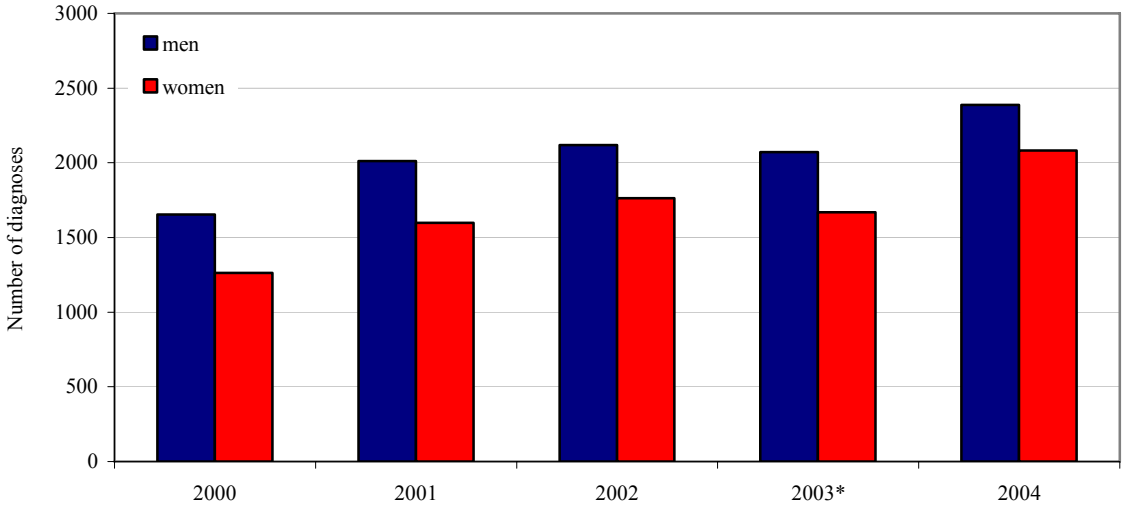


Figure 28: Rates of diagnoses of genital chlamydial infection by region, STI sentinel surveillance network, the Netherlands, 2004

The highest percentage of diagnosis was among men and women aged 20-24 (M: 27%, F: 46%); for women followed by those aged 15-19 (22%) and for men aged 25-29 (23%). The number of infections declined rapidly in women above 25 years (table D.12).
Over the past five years, the number of diagnoses of genital chlamydial infection has increased consistently, by 53% (2000-2004); the increase was greater for women (64%) than for men (44%) (Figure 29).



Footnote: 2000-2002 STI registration (including STI clinic Amsterdam); 2003* Implementation of the STI sentinel surveillance network

Figure 29: Number of genital chlamydial infections by sex, 2000-2004

8.2 Determinants of infection

Among men, 29% (n=686) of the genital chlamydial infections were diagnosed in MSM. This percentage of MSM was fairly small compared with that in gonorrhoea (60%) and early syphilis (86%) (Table D.14). Among men, 3% of the infections were diagnosed in men who had recent (past 6 months) contact with CSW, whereas in women 7% of the chlamydial infections were diagnosed in CSW (Table D.15). About 72% of the diagnoses in men (NA Amsterdam) were made in Dutch males, 78% in Dutch females. The highest percentage of diagnosis was made in men from Surinam, the Netherlands Antilles and Aruba (12%); this percentage was 10% for women (Table D.13).
In 1% (n=33) of the cases of chlamydial infection (NA Amsterdam) the diagnosis was made in individuals who reported a prior positive HIV test. (i.e. known HIV infected); in 2003 4% (n=150). 69% of the individuals diagnosed with chlamydial infection were never tested for HIV before (Table D.17). A history of gonorrhoea, infectious syphilis or chlamydial infection was reported by 20% of the individuals (NA Amsterdam) diagnosed with genital chlamydial infection: 24% for

men and 17% for women. This percentage was relatively small compared with gonorrhoea (30%), and syphilis (42%) (Table D.18).
Rates of positive test results (i.e. the percentage of positive tests to the total of CT tests) are almost equal for MSM, heterosexual men (10%) and women (9.5%). The highest rate is found among MSM aged 25-49 years (10-12%). In women, the highest rate was found in those aged 15-19 (16%), followed by those aged 20-24 (11%). In heterosexual men, the rate was highest in those <15 years (17%; only 6 cases) followed by 15-24 years (13%). (Table D.19).

8.3 Laboratory surveillance

Within the laboratory surveillance of the ISIS project, the surveillance diagnosis of genital chlamydial infection is defined as follows: culture positive or PCR positive or hybridisation test (including Genprobe) positive. All test results are counted only once per individual and an individual can only be counted as positive once in 60 days.

Between 2000 and 2004, 97065 tests to diagnose infection with *Chlamydia trachomatis* were carried out of which 6136 were positive (6.3%) (Table 8). In women, the percentage of positive tests was 5.1% and in men 9.5%. The number of tests doubled in 2001 because of the inclusion of a large laboratory. In 2004, a new laboratory was connected and two other laboratories were (temporarily) excluded. The percentage of positive results increased in 2001 and slightly further increased from 2002 to 2004.

Table 8: Number of tests and positive results for genital chlamydia diagnosed by laboratories (Source: RIVM-ISIS)

	2000	2001	2002	2003	2004
Number of tests	10890	20348	21762	21364	22701
Positive test result	493	1256	1369	1402	1616
Percentage positive	4.7	6.6	6.7	7.0	7.7

*In February 2001 and May 2001 two laboratories were included; in January 2004 another laboratory was included; in May and October 2004 two laboratories were excluded.
NB Calculations are based on the full retrospective inclusion of the database of current participating laboratories. Therefore, due to changes in participation, the here presented numbers may differ from those presented before.

The incidence of infection with *Chlamydia trachomatis*, as monitored by the laboratories in the ISIS project, was calculated as described in Appendix B. The overall incidence increased substantially in 2001 (Figure 30) due to the inclusion of a large laboratory (as described above). From 2001 onwards, the average weekly incidence has remained fairly constant between 1.1 and 1.6 disease episodes per 100000 population, but seems to increase in the second half of 2003. The incidence was two or three times as high as the incidence of gonorrhoea, monitored by the same laboratories. Laboratory data by age group for young people (<24 years) demonstrated an increasing trend in the number of tests in all age groups. The percentage of positive test results by

age group shows an increasing trend for 20-21 years (13% in 2004) and is decreasing for <16 years (5%) and 16-17 years (12% in 2004). Nonetheless, the overall percentage of positive test results for young people was consistently almost three times as high as the average percentage (Figure 31).

Figure 30: Incidence of infection with Chlamydia trachomatis, by 13 weeks running average, 2000-2004 (Source: RIVM- ISIS laboratory surveillance)

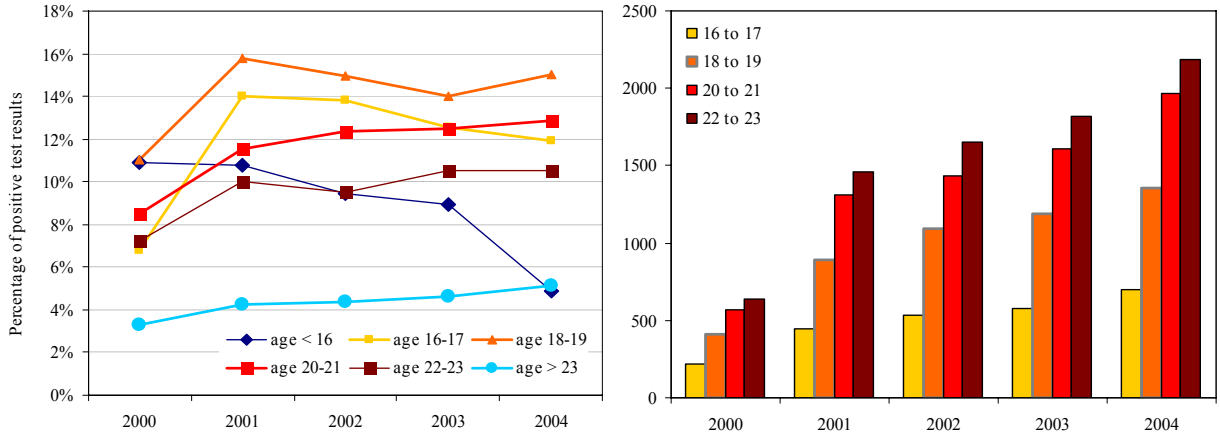


Figure 31: Percentage of positive test results (left) and total number of tests (right) for Chlamydia trachomatis by age, 2000-2004. In the total number of tests for age >23 is not shown (n=8231-15317) (Source: RIVM- ISIS laboratory surveillance)

8.4 International trends of genital chlamydial infection

In most European countries genital chlamydial infection is not a notifiable disease. From different surveillance sources genital chlamydial infection is the most commonly reported bacterial STI and increasing trends have been observed since the mid-1990s. Because different methods and patient groups are used for surveillance, comparison between countries is hampered. In Figure 32 incidences per 100000 population of the CISID database (WHO/European region) are presented. No detailed information is available about how countries collected their data. Most countries show an increase since 2000.[18] In Denmark, between 13000-14000 cases were reported in the 90's, in 2001 15550 cases. In Ireland, the number of cases increased since 1995 by 15.6% in men and 28.4% in women between 2000 and 2001. In Sweden, the number of cases has increased considerably since 1997; the number increased by 11% between 2001 and 2002. In England, Wales and Northern Ireland, an increase was seen since mid-90's and rose by 14% between 2001 and 2002. In Scotland, a rise of 17% was seen between 2001 and 2002. In Northern Ireland, an increase of 64% between 1999 and 2003 was seen.[19]

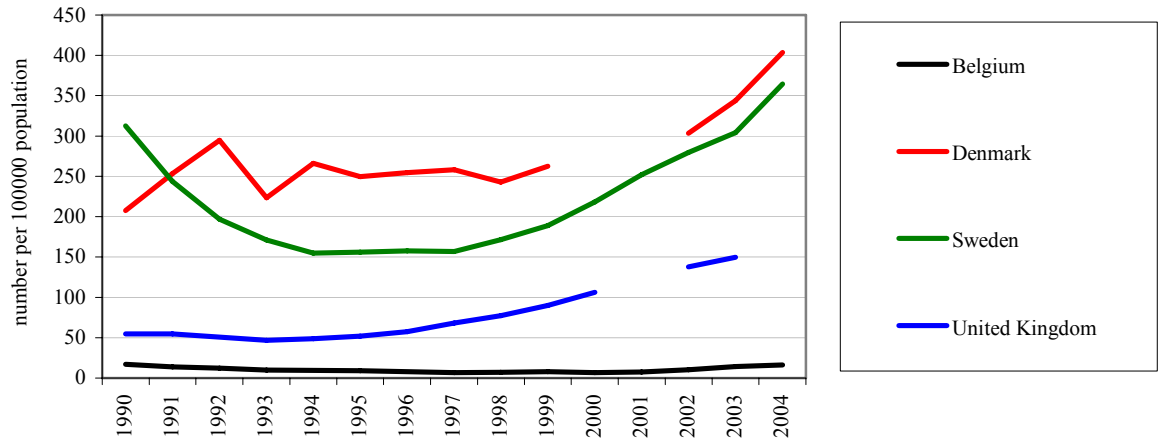


*Figure 32: Number of reported cases of genital chlamydial infection per 100000 population in EU-Countries[18]**

NB Some countries do not report on the number of diagnoses of *Chlamydia trachomatis*; others contributed only for a selected number of years.

9. Gonorrhoea

Key points

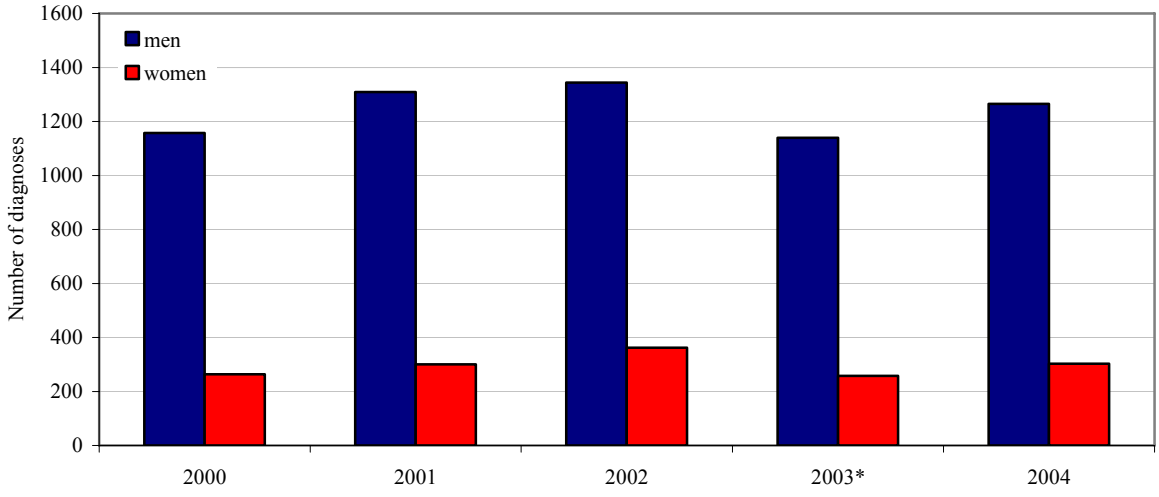
- In 2004, 1568 diagnoses of gonorrhoea were made in the STI sentinel surveillance network in the Netherlands.
- Diagnoses of gonorrhoea increased by 12% between 2003 and 2004.
- Women younger than 25 years were at highest risk for gonorrhoea, as were men and women from the Netherlands followed by Surinam, the Netherlands Antilles and Aruba.
- 757 diagnoses of gonorrhoea were made in MSM, accounting for 60% of the cases in men.
- In a survey among public health laboratories, an increase of resistance to ciprofloxacin was suggested from 6.6% in 2002 to 14.9% in 2004.

9.1 Recent trends

In 2004, 1568 diagnoses of gonorrhoea were made (1265 in men and 303 in women) and increased with 12% compared to 2003 (n=1398); in men 11%, in women 19% (Table D.11). In MSM, 38% of the infections were anorectal and 50% urethral. In women, 14% of the diagnoses were anorectal (Table D.11c). Rates of diagnoses were unevenly distributed across the Netherlands (range: 1-120 per 100000) with the highest rates in Amsterdam, followed by The Hague and Rotterdam. In the other regions, the rates were relatively low (Figure 33).

Figure 33: Rates of diagnoses of gonorrhoea by region, STI sentinel surveillance network, the Netherlands, 2004

The highest percentage of diagnosis was among females aged 20-24 (39%) and 15-19 (30%) and males aged 25-34 (18%). The number of infections in women declined rapidly from age 25 (Table D.12).
Over the past five years, the number of diagnoses of gonorrhoea increased between 2002 and 2002, levelled off in 2003 and increased again in 2004 (Figure 34).



Footnote: 2000-2002 STI registration (including STI clinic Amsterdam); 2003* Implementation of STI sentinel surveillance network

Figure 34: Number of diagnoses of gonorrhoea by sex, 2000-2004

9.2 Determinants of infection

Compared with genital chlamydial infection, gonorrhoea tends to be a more concentrated disease with higher rates among urban areas and some subgroups, for example MSM, individuals with a history of STI, and specific ethnic minorities.
Among men, 60% (n=757) of the gonorrhoea cases were seen in MSM (Table D.14); 5% of the infections were diagnosed in men who had recent (past 6 months) contact with CSW, whereas for women 11% was diagnosed in CSW (Table D.15). About 66% of the diagnoses (NA Amsterdam) in men were made in Dutch males, 60% in Dutch females. The highest percentage of diagnosis was made in men from Surinam, Netherlands Antilles and Aruba (16%); this percentage was 19% for women (Table D.13). In 6% (n=36) of the cases of gonorrhoea (NA Amsterdam) the diagnosis was made in individuals who reported a prior positive HIV test. (i.e. known HIV infected); in 2003 9% (n=128). 58% of the individuals diagnosed with gonorrhoea was never tested for HIV before, 31% had a prior negative HIV test result (Table D.17). A history of gonorrhoea, infectious syphilis or genital chlamydial infection was reported by 30% of the individuals (NA Amsterdam) diagnosed

with gonorrhoea (M: 37%; F: 20%). This percentage is lower than that in syphilis (42%) but higher than that in genital chlamydial infection (20%) (Table D.18).

Rates of positive test results (i.e. the percentage of positive tests to the total number of gonorrhoea tests) were much higher among MSM (12%) than among heterosexual men (3%) and women (1%). The highest rate was found in MSM aged 30-34 (15%) but overall rates were high: 11-13% in MSM aged 15-49. In women and heterosexual men, the highest percentages were found in the age group 15-19 years: 3% and 5%, respectively (table D.19).

9.3 Laboratory surveillance

Within the laboratory surveillance of ISIS project, the surveillance diagnosis of gonorrhoea is defined as follows: culture positive or hybridisation test (including Genprobe) positive or amplification test positive. All test results are counted only once per individual and an individual can only be counted as positive once in 30 days.

In 2000-2004, 57950 tests for gonorrhoea were carried out of which 1598 were positive (2.7%) (Table 9). In women, the percentage of positive tests was 1.1% and in men 6.8%. The number of tests doubled in 2001 because of the inclusion of a large laboratory. The percentage of positive test results increased until 2002 and then decreased again.

Table 9: Number of tests and positive results for gonorrhoea diagnosed by laboratories (Source: RIVM-ISIS)

	2000	2001	2002	2003	2004
Number of tests	5592	11935	13244	12895	14284
Positive result	102	347	425	367	357
Percentage positive	1.82	2.91	3.21	2.85	2.50

*In February 2001 and May 2001 two laboratories were included; in January 2004 another laboratory was included; in May one laboratory was excluded.
NB Calculations are based on the full retrospective inclusion of the database of current participating laboratories. Therefore, due to changes in participation, the here presented numbers may differ from those presented before.

The incidence of gonorrhoea, as monitored by the laboratories in the ISIS project, was calculated as described in Appendix B. The overall incidence increased substantially in 2001 due to the inclusion of a large laboratory. In the second half of 2002, the average weekly incidence has decreased considerably (from 0.6 to 0.3 per 100000). The average weekly incidence seemed to decrease continuously since mid 2003. The incidence of gonorrhoea was less than half of the incidence of chlamydial infection, as monitored by the same laboratories. Laboratory data by age group demonstrated an increasing trend in the number of tests in all age groups. The percentage positive test results by age group showed a stable percentage for 22-23 years (3% in 2004) and decreasing for all other age groups since 2002. The overall percentage of positive test results for

young people (3.4%) is higher than the percentage of age group above 23 (2.0%), although the difference is not as explicitly as in chlamydial testing.

Figure 35: Incidence of gonorrhoea, by 13 weeks running average, 2000-2004 (Source: RIVM-ISIS laboratory surveillance)

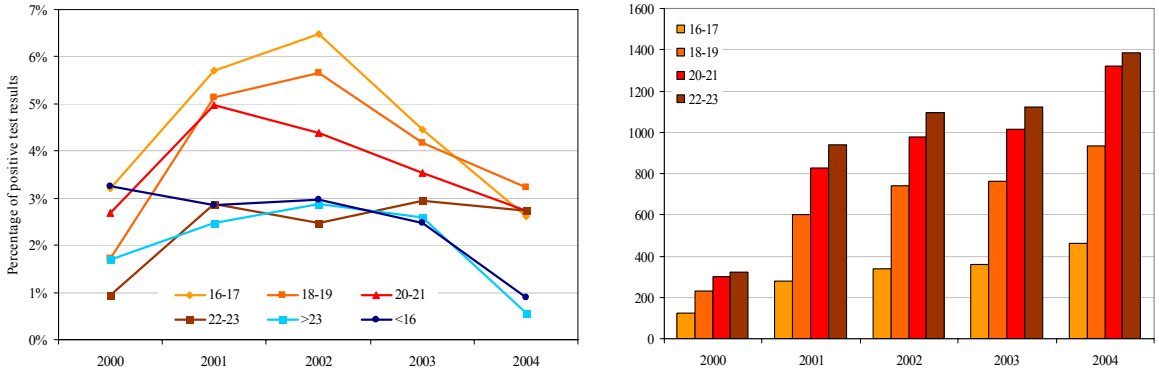


Figure 36: Percentage of positive test results (left) and total number of tests (right) for gonorrhoea by age, 2000-2004. In the total number of tests for age >23 is not shown (n=4236-9728) (Source: RIVM- ISIS laboratory surveillance)

9.4 Antibiotic resistance in the Netherlands

In 1999, the surveillance of antibiotic resistance of gonococci was stopped on a national level and since then insight in gonococcal susceptibility patterns is lacking. The concerns for increasing

resistance to quinolones at an (inter)national level led to a survey of resistance of gonococci (carried out by RIVM).[20-22] A questionnaire was sent to the public health laboratories to collect information on diagnostic and susceptibility methods and number of positive results and susceptibility pattern of the strains. 32/39 laboratories (82%) participated in the survey. 13 of these (41%) used culture only and 19 used either culture or a molecular test. Complete data on number of diagnosis and results of antimicrobial susceptibility testing for 2002, 2003 and 2004 were provided by 25 labs.
In 2002, 2661 cases of gonorrhoea were diagnosed, in 2003 (until November) 2190 and in 2004 2213 cases resulting in an incidence of 34, 27 and 31 per 100000, respectively.[23,24] The percentage of resistance to beta-lactam antibiotics was: 12.2% in 2002, 10.7% in 2003, 17.9% in 2004; resistance to tetracycline 18.5%, 20.6% and 21.4%, respectively. An increase in resistance to quinolones (recommended first line therapy until September 2003[23]) was observed: 6.6% in 2002, 9.5% in 2003, 14.9% in 2004. Resistance to cephalosporins was still rarely found (0.5% in 2002, 1.2% in 2003 and 1.7% in 2004) and could not be confirmed (Figure 37). Remarkable regional differences were observed: in Amsterdam, Rotterdam and The Hague, resistance for quinolones was lower than in the rest of the country (13.8% in Amsterdam, Rotterdam and The Hague and 19.3% in the rest of the country in 2004).

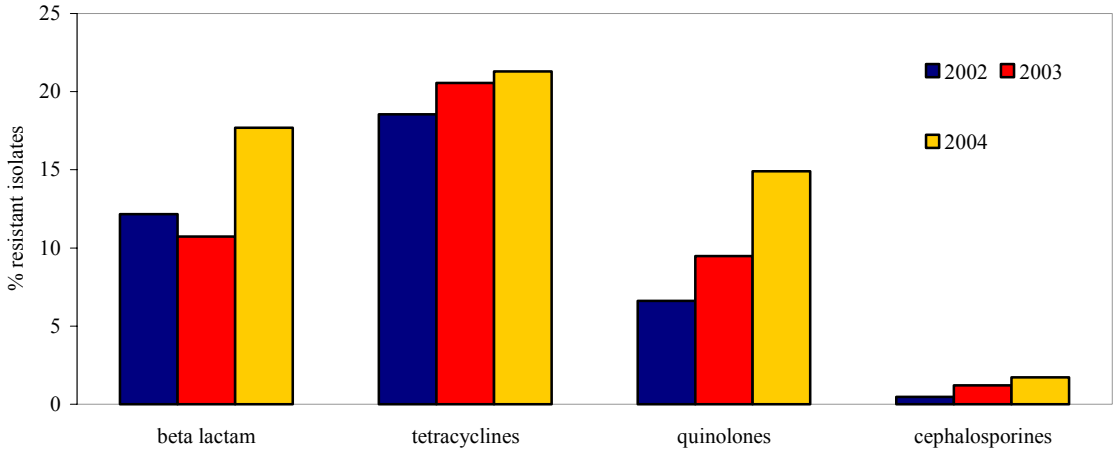


Figure 37: Gonococcal resistance in the Netherlands as reported by public health laboratories, 2002-2004

The interpretation of these results is not easy as the sampling frame for resistance testing is unknown. If laboratories test for resistance in case of therapy failure the percentages presented here will be an overestimation of the actual resistance. However, 96% of the laboratories, providing 98% of the data, claim that they test the sensitivity of every gonococcal isolate.
Routine surveillance data from the STI clinic in Amsterdam indicate that the percentage of gonococcal isolates with resistance to quinolones increased as well, 4% in 2001, 6.8% in 2002 and 7.3% in 2003. In 2001-2003, the prevalence rates in MSM (10.5% in 2003) were higher than those in the heterosexual men (3.2%) and women (0%).[25]

The results from the survey demonstrated the need for a nation-wide surveillance of gonococcal antimicrobial resistance. Robust data on resistance are needed. A new Gonococcal Resistance to Antimicrobials Surveillance programme (GRAS) will be implemented in The Netherlands in 2006. This surveillance will consist of systematically collected data on gonorrhoea and resistance patterns through a GRAS protocol linked with the epidemiological data. Participants are STI clinics that identify the majority of the STIs in the high risk population and the linked laboratories.

9.5 International trends of gonorrhoea

A decline in gonorrhoea rates was noted in most Western EU countries starting in the 1970s with acceleration in the rates of decline during the second half of the 1980s. By 1995, gonorrhoea rates reached their lowest point in many EU states. However, EU-wide increases in diagnoses of gonorrhoea have been observed since the late 1990s (Figure 38).[18,22] In United Kingdom the number of gonorrhoea cases strongly increased; from 16.8 in 1994 to 40.0/100000 in 2004.[18,22,26] In Belgium, the incidence has increased from 1.2 in 1997 to 3.1/100000 in 2004. In Ireland, an increase was seen between 1996 and 2004, from 2.3 to 4.8/100000. In Sweden, the rate increased from 2.4/100000 in 1996 to 6.5/100000 in 2004.[18,22] Not all countries have observed these marked increases: in Estonia, Latvia and Lithuania the incidence of gonorrhoea decreased considerably. In the Czech Republic, the incidence of gonorrhoea decreased from 28.5 in 1994 to 9.3/100000 in 2004. In Spain there was a decrease from 15.6 in 1994 to 2.1/100000 population in 2004.[18,22] However, international comparisons are inhibited by differences in methods of data collection between countries.

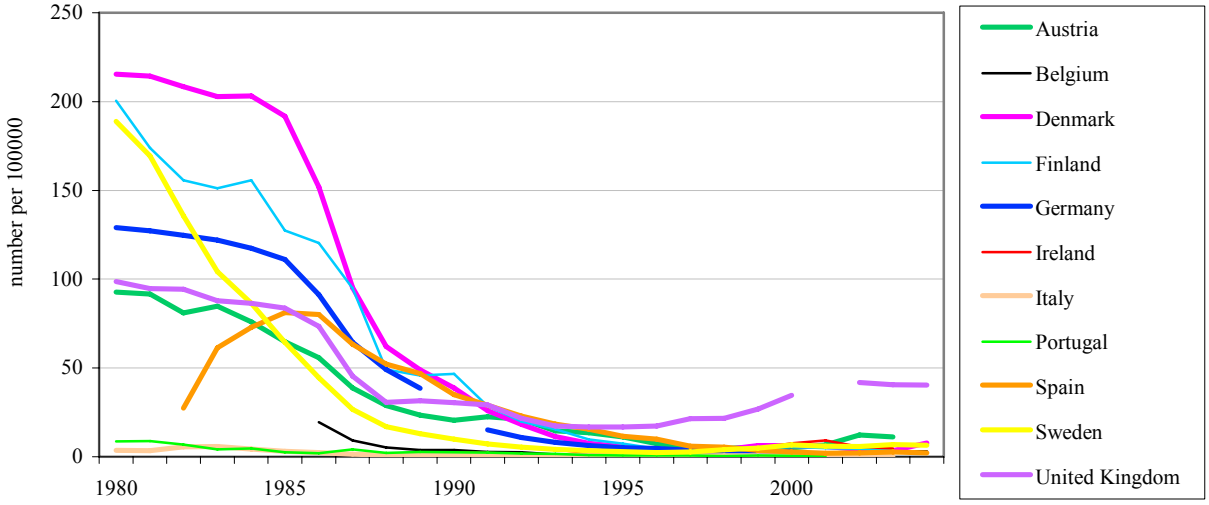


Figure 38: Number of reported cases of gonorrhoea per 100000 population in EU-countries

Antimicrobial resistance in *Neisseria gonorrhoeae*

Data on gonococcal antimicrobial resistance across the EU is not comprehensive, and this remains an area for future investment. By the mid-1990s, high levels of penicillinase producing *Neisseria gonorrhoeae* (PPNG) were reported across Europe: 13% in Sweden, 6% in Finland, 3% in England, 14% in France, and 15–30% in the Netherlands.[27] At that time, sporadic resistance to fluoroquinolones was documented. More recently, however, increases in fluoroquinolone resistance have been reported in many EU states. In Denmark, prevalence increased from 13% in 1998 to 39% in 2004.[28,29] In Austria, an increase of the resistance to ciprofloxacin has been documented from 3.9% in 1999 to 59.4% in 2004.[30] Data from the Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP) in England and Wales also confirm recent increases in ciprofloxacin resistance. In 2004, the overall prevalence of ciprofloxacin resistance was 14.1%, compared to 9.8% in 2002 and 2.1% in 2000.[22,31] Similar increases were reported in Scotland (from 2.8% in 2000 to 11% in 2002),[32,33] Ireland (from 3.8% in 1997 to 15% in 2003,[34] Switzerland (from 7% in 2002 to 26% in 2004)[35], and in Sweden the ciprofloxacin resistance increased from 10% in 1998 up to 48% in 2004[36] (Figure 39).

In 2003, the World Health Organization reported high levels of quinolone resistance in gonococcal isolates from South East Asia; from 56% in Singapore to 99% in Hong Kong.[24,37]

Also in the United States resistance against ciprofloxacin increased. In 1999 0.4% ciprofloxacin-resistant GISP (Gonococcal Isolate Surveillance Project) isolates was identified in 7 GISP clinics. In 2003 resistance had risen to 4.1%.[38,39]

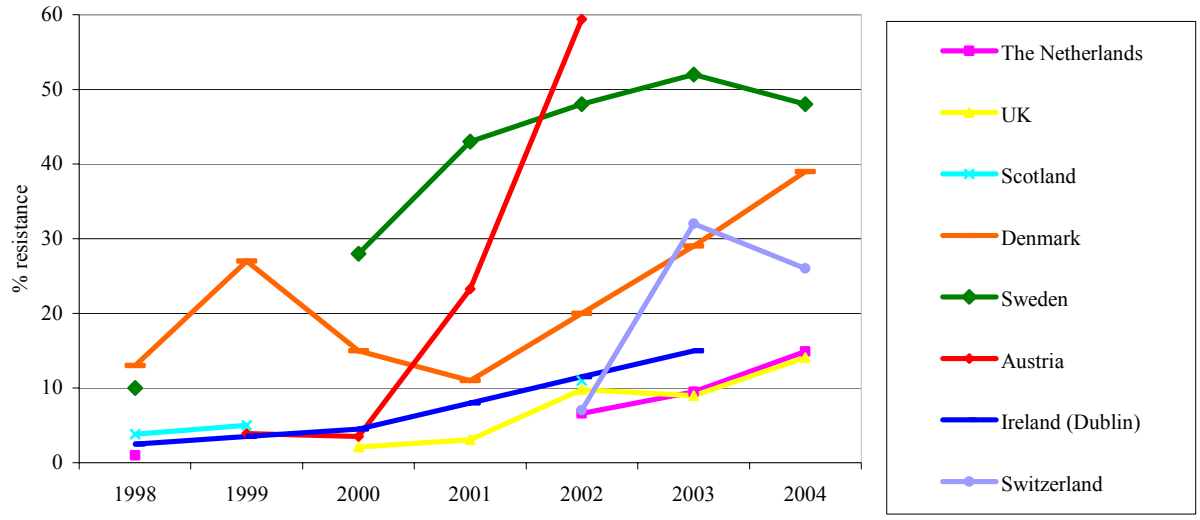


Figure 39: Quinolone resistant N. gonorrhoeae in 8 European countries, 1998-2004.

10. Syphilis

Key points

- In 2004, 626 diagnoses of early syphilis were made in the STI sentinel surveillance network in the Netherlands.
- Diagnoses of syphilis increased by 24% between 2003 and 2004. Between 2000 and 2004 syphilis diagnoses increased by 270% in men.
- 489 diagnoses of syphilis were made in MSM, accounting for 86% of the cases in men.
- The rise in syphilis is associated with a number of outbreaks in MSM in large cities.

10.1 Recent trends

In 2004, 626 diagnoses of infectious syphilis were made (572 in men and 54 in women), an increase of 24% compared with 2003 (n=504). Of all syphilis diagnoses (n=843) lues I represented 32% (n=267), lues II 21% (n=176), lues latens recens 22% (n=183) and lues latens tarda (n=139) 16%.

Figure 40: Rates of diagnosis of infectious syphilis by region, STI sentinel surveillance network, the Netherlands, 2004

Rates of diagnoses were unevenly distributed across the Netherlands (range: 0-31 per 100000) with the highest rates in Amsterdam, followed by The Hague, Utrecht, Rotterdam and Twente region. In the other regions, the rates were relatively low (Figure 40). The age distribution for syphilis in men is rather skewed with the highest rates, unlike other bacterial STI, are seen in the older age groups. The highest percentages of diagnosis were in men aged 40-44 (18%) followed by age 30-39 (17%).

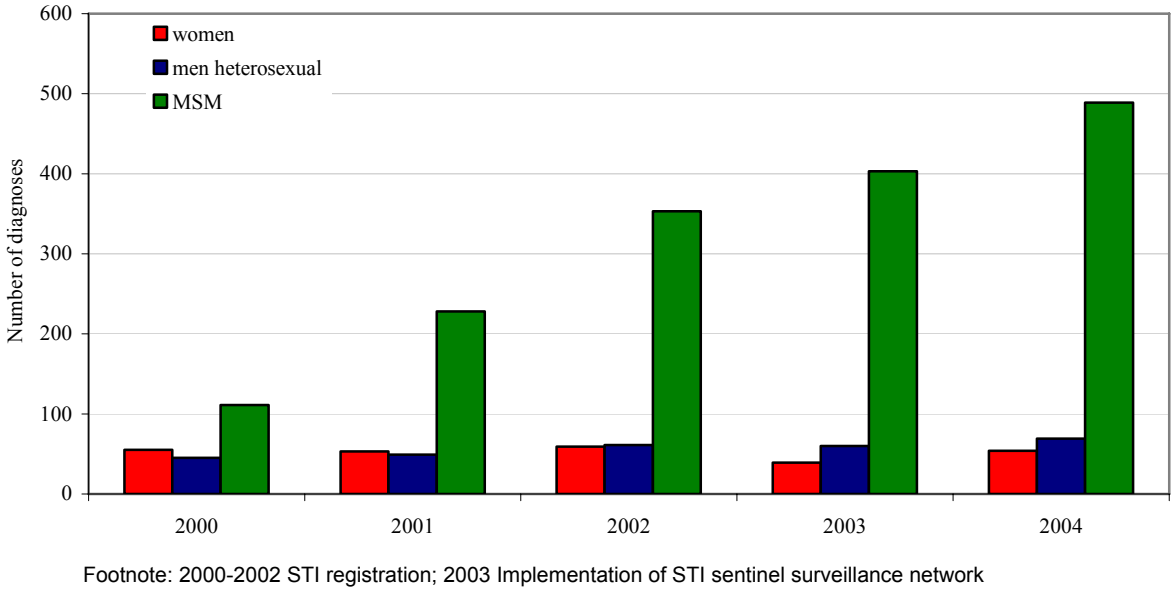


Figure 41: Number of diagnoses of infectious syphilis by sex and sexual preference, 2000-2004

Since 2000, the total number of diagnoses of infectious syphilis increased by 153% (from 247 to 626 diagnoses); in MSM this increase was 340%, in heterosexual men 53% in women the number remained stable around 50 cases per year (Figure 41).[40] Between 2000 and 2004, approximately 2200 diagnoses of infectious syphilis were made in the Netherlands of which 7% in MSM and 34% in Amsterdam. After the dramatic decline in cases due to the AIDS epidemic, the incidence of infectious syphilis remained at a very low rate between 1986 and 1998. An increase in the number of diagnoses was first observed in Amsterdam in 1999 and 2000.[41] In other cities, e.g. Rotterdam,[42] Groningen, Utrecht, The Hague, the number of diagnoses started to increase in the second half of 2001, followed by the Twente region in 2002-2003. Another increase was observed was seen in 2004 especially in Rotterdam and Groningen.

10.2 Determinants of infection

Among men, 86% (n=489) of the syphilis cases were diagnosed in MSM. This percentage of MSM was the highest of all STI, and was high in contrast with gonorrhoea (60%) and genital chlamydial infection (29%) (Table D.14). Among men, only 2% of the infections were diagnosed in men who had recent (past 6 months) contact with CSW, whereas for women 28% of the syphilis was diagnosed in CSW. About 79% of the diagnoses (NA Amsterdam) in men were made in Dutch males, 67% in Dutch females (Table D.13a-b). If restricted to MSM, the proportion of Dutch was even higher (81%, NA Amsterdam).
In 16% (n=61) of the cases (NA Amsterdam) of syphilis the diagnosis was made in individuals who reported a prior positive HIV test. (i.e. known HIV positives); in 2003 22% (n=112). 39% of

the individuals diagnosed with syphilis was never tested for HIV before, 40% had a prior negative HIV test result (Table D.17). The percentage of HIV positives in syphilis was the highest of all STI, as others were all below 6% but could be biased by the missing Amsterdam data or general underreporting of HIV status. A history of gonorrhoea, infectious syphilis or genital chlamydial infection was reported by 42% of the individuals (NA Amsterdam) diagnosed with syphilis: 43% for men and 28% for women. This percentage was higher than that in gonorrhoea (30%) and chlamydial infection (20%) (Table D.18a-b).
Rates of positive test results (i.e. the percentage of positive tests to the total of syphilis tests) were higher among MSM (7%) than among heterosexual men and women (both <0.5%) (Table D.19a-c). The highest rate was found in MSM aged 50-54 (10%), followed by age groups 40-49 (8-9%).

10.3 International trends of syphilis

Since the 1980s, the rates of syphilis have decreased to a very low level, following the HIV epidemic. Early '90s, the number of notifications fell to less then 300 cases per country.[43] However, since 1996, syphilis began to rise again, in Germany in 1994.[43,44] Several European countries have reported outbreaks of syphilis in the last 10 years, especially in MSM in large cities. Overall, 70-80% of syphilis cases are seen in MSM with a high rate of HIV infection (range between 10-50%). [45] Similar trends of syphilis cases were seen simultaneously in Western Europe[18,44,46-52] (Figure 42)[53,54]. The characteristics of the outbreaks are also very similar with disease being associated with white ethnicity, MSM, older age group (above 35), concurrent HIV infection, and high rate of partner change.[54,55]

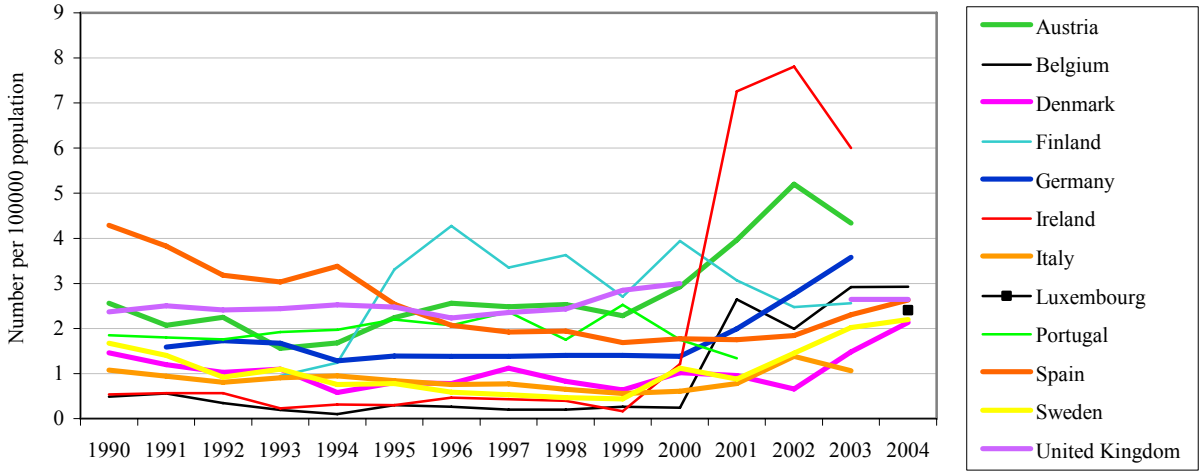


Figure 42: Number of reported syphilis cases per 100000 population in EU-countries

11. Hepatitis B

Key points

- In 2004, the incidence of notified cases of acute HBV is 1.8 per 100000 inhabitants and higher in men (3.1) than in women (0.6).
- Unprotected sexual contact is the most important risk factor for acute hepatitis B.
- The proportion of MSM diagnosed with an acute HBV infection increased, in contrast with the heterosexual population.
- Vertical transmission is the most import risk factor for chronic hepatitis B.
- Import of infection plays a key role in the epidemiology of hepatitis B in The Netherlands
- Genotype A is most common in The Netherlands

11.1 Recent trends

In 2004, 293 cases of acute hepatitis B were notified (in Osiris) in the Netherlands (2003: 319 cases, 2002: 265 cases), of which 247 in men and 46 in women. The incidence rate for acute HBV in 2004 was 1.8 per 100000 and was higher in men (3.1) than in women (0.6) (Figure 43). The incidence in men has increased by 40% since 1998.[56] The incidence rates of acute HBV are fairly evenly distributed across the Netherlands, (range: 0.3 – 5.0 per 100000) with the highest rates being seen in Rotterdam (5.0), Amsterdam (4.6) and The Hague (4.1) (Figure 44). For men, the highest incidence of acute HBV was reported among those aged 35-44; in women aged 20-24 (Figure D.2a-b).

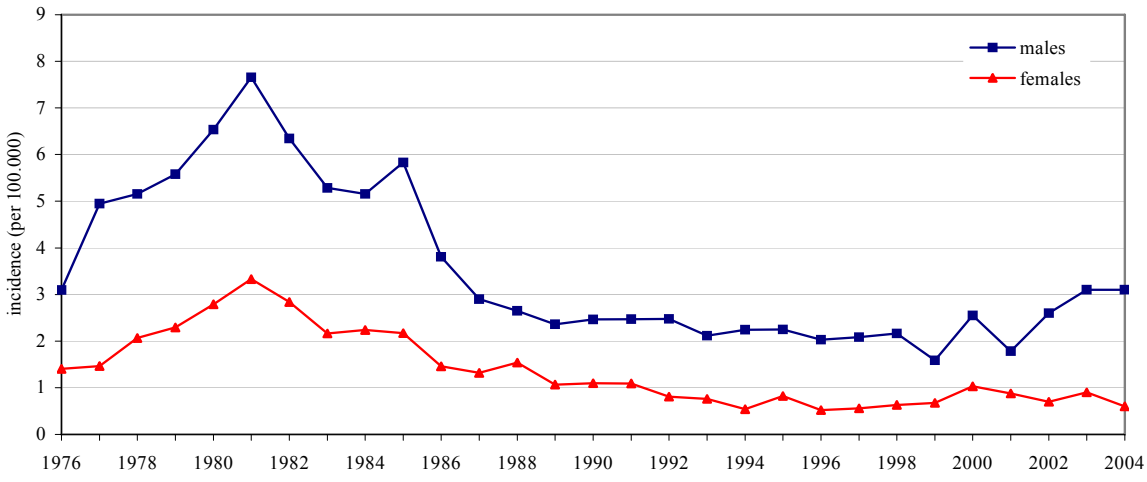


Figure 43: Incidence rate per 100000 of notified cases of acute hepatitis B virus infection, the Netherlands, 1976-2004 (Source: RIVM-Osiris, notification data)

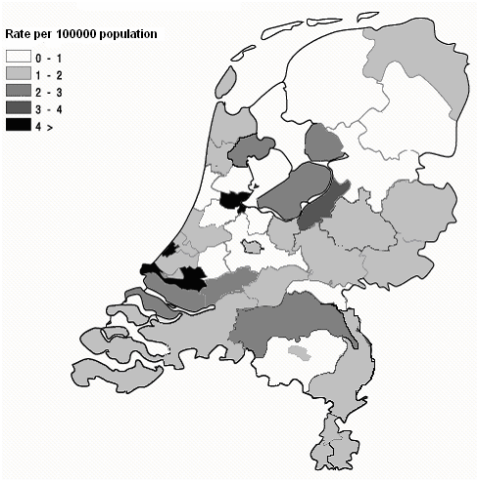


Figure 44: Incidence of acute hepatitis B per 100000 population by region, 2004 (Source: RIVM-Osiris, notification data)

11.2 Determinants of infection

Of the acute HBV cases 71% (n=208) was born in the Netherlands, 26% (n=77) was born abroad and in 3% the country of birth was unknown. Of the cases born abroad, 26% came from HBV high endemic regions (HBsAg prevalence ≥8%), 65% from intermediate endemic regions (HBsAg 2-7%) and 9% from low endemic regions (HBsAg ≤1%). 78% of all acute HBV cases reported to be infected in the Netherlands, 16% reported to have been infected abroad and in 6% of the cases the country of infection was unknown. Sexual contact is the most important transmission route (60%) of HBV in the Netherlands (Table 10). In 2004, 57% of the cases were seen in MSM (2003: 52%). Among those, 82% acquired the infection through a casual partner. 39% of the infections were heterosexually acquired (2003: 42%). Among those, 54% acquired the infection through a casual partner (Table 11). Figure D.3 also shows the decrease of the transmission route ‘else/unknown’. This is possibly caused by the improved surveillance since the usage of Osiris.

11.3 Chronic hepatitis B

In 2004, 1455 cases diagnosed with chronic hepatitis B were notified. The proportion of men increased from 41% in 2001 to 54% in 2004. The rate of chronic infections per 100000 population was 8.9 in 2004 and has increased by 17% since 2001. This increase was mainly due to an increase in men, from 6.4 in 2001 to 9.8 in 2004. In women, the rates slightly decreased from 8.8 in 2003 to 8.1 in 2004. In 2004, the mean age at diagnosis for men was 37 (range: 2-86) and for women it was 32 years (range: 0- 83).

Table 10: Most probable route of transmission for acute HBV, 2004 (Source: RIVM-Osiris, notification data)

Route of transmission	2004 (%)	2003 (%)
Sexual contact	176 (60.1%)	194 (60.8%)
IDU	3 (1.0%)	7 (2.2%)
Occupational incidents	7 (2.4%)	7 (2.2%)
Perinatal	2 (0.7%)	2 (0.6%)
Else	30 (10.2%)	19 (6.0%)
Unknown	75 (25.6%)	90 (28.2%)
Total	293	319

Table 11: Source and kind of sexual contact, acute HBV, 2004 (Source: RIVM-Osiris, notification data)

Source/ kind sexual contact	Steady partner	Casual Partner	Unknown	Total 2004 (%)	Total 2003 (%)
MSM	6	82	12	100 (56.8%)	101 (52.1%)
Heterosexual	30	37	1	68 (38.6%)	81 (41.8%)
Unknown	0	3	5	8 (4.6%)	12 (6.2%)
Total (%)	36 (20.5%)	122 (69.3%)	18 (10.2%)	176	194

Unlike acute hepatitis B, the most probable route of transmission remains unknown in 34% of the cases in 2004. Among cases whose transmission route was known, mother-to-child transmission was the most common risk factor (71%), followed by sexual transmission (14%). In 2004, the number of chronic HBV carriers born abroad was 81%. Ninety-nine percent of these patients came from HBV high or intermediate endemic regions. 75% of the chronic HBV carriers reported to be infected abroad and 15% was infected in the Netherlands. From the cases infected abroad, 99% reported to be infected in a country with a high or intermediate endemicity. Import of HBV infections therefore plays an important role in the epidemiology of HBV in the Netherlands.[57]

HBV in the STI sentinel surveillance network

In 2004, 8757 tests for hepatitis B virus infections were registered in the STI sentinel surveillance network (NA Amsterdam); 76 of those (0.9%) were tested positive for HBV (26 acute, 50 chronic infections). Also, 448 individuals appeared to have markers of recovered HBV infection. The HBV prevalence was highest in MSM with 1.5%. In heterosexual men the prevalence was 1.0% and in women 0.6%.

11.4 Molecular epidemiology of HBV

The Netherlands is a low endemic country whit a higher prevalence of HBV in specific risk groups and import of infection. To increase HBV protection a vaccination programme was started in 2002 targeted at MSM, drug users, sex workers, and heterosexuals with multiple sex partners, in addition to individuals working in medical professions, pregnant women, newborns with immigrant parents (HBV highly endemic regions), and children with Down syndrome. The vaccination programme for risk groups is co-ordinated by The Netherlands Association for Community Health Services (GGD Nederland). In 2004, a study was initiated to evaluate the success of the HB vaccination among risk groups, in collaboration with the Municipal Health Services of Amsterdam and Rotterdam. Trends in HBV infections are studied and additionally blood samples are collected from all newly diagnosed acute HBV patients for genotypic analysis. This information will provide more insight in the transmission networks within and between HBV risk groups in the Netherlands.

In 2004, 159 blood samples of acute HBV cases were genotyped (Table 12). The majority of the acute HBV cases were infected with genotype A (n=100, 63%). Of those, 49% were infected through MSM and 14% through heterosexual contact. Of the 35 cases with genotype D (22%), 54% were infected through sexual contact. Other genotypes are less common in the Netherlands: E (5%), F (4%), B (3%) and C (3%).

Table 12: Genotype distribution of acute case of HBV infection, 2004

Genotype	Route of transmission			Total
	MSM	Heterosexual	Else/unknown	
A	49	14	37	100 (63%)
B	-	1	3	4 (3%)
C	2	1	2	5 (3%)
D	5	13	13	35 (22%)
E	-	4	4	8 (5%)
F	1	3	3	7 (4%)

11.5 International trends of Hepatitis B

Worldwide, 2 billion people are infected with Hepatitis B virus. More than 350 million of them are chronic carriers of HBV.[58] The disease is relatively rare in Western countries (1% chronic carriers), whereas it is common in Asia and most of Africa (8 to 10 % chronic carriers).[59,60] Intermediate endemicity is found in Eastern and Southern Europe, Middle East, Japan and part of South America (2-7% chronic carriers).[60,61]
Within the EU, Estonia, Lithuania and Latvia show high numbers of hepatitis B virus infection. Since 2001 these countries show a downward trend whereas Belgium and Austria show an upward trend (Figure 45).[18] In the Netherlands the incidence of acute HBV was low but increased since

2001 to 1.8 per 100000 population in 2004.[56] In Denmark, the incidence has declined from 190 cases per year in 1982-1986 to fewer than 50 cases in 2001.[62] In England and Wales the incidence was estimated at 7.4 per 100000 per year in 1995-2000.[63] However country specific data are difficult to compare because surveillance systems differ with regard to case-definition, completeness and methods.[64]

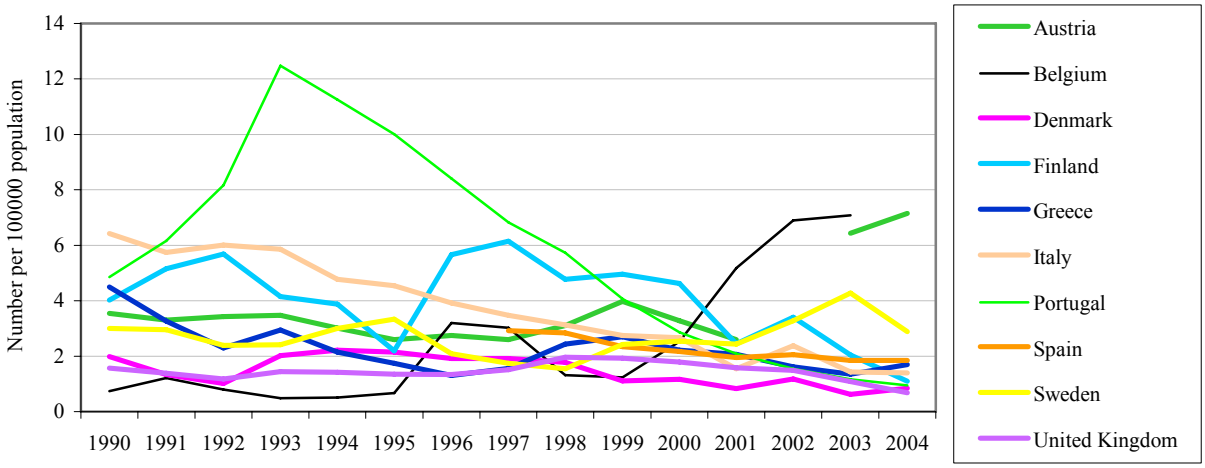


Figure 45: Number of new hepatitis B notifications per 100000 population in EU-countries

Effect of vaccination

Since 1991, WHO recommends all countries to add hepatitis B vaccine into their national immunization programmes. The implementation of such a program decreased the prevalence of HBV infection in many countries.[61] The UK, Ireland, the Netherlands and the Scandinavian countries did not introduce such a program, because of low numbers of HBV.[65] In Catalonia, vaccination of pre-adolescents led to a reduction in the prevalence of HBV in 15–24 year olds (0.9% in 2001; 9.3% in 1986).[66] In Italy, mandatory vaccination of all newborns and adolescent (since 1991) led to a decrease in the incidence from 5.4 in 1990 to 2/100000 in 2000. The reduction was even greater among 15-24 year olds.[67] In Poland an intensive vaccination program for newborns and children launched in 1993, reduced the incidence from about 35 by 1993 to fewer than 15/100000.[68]

Outside Europe, the United States and Taiwan also reported reduced rates of HBV after the introduction of vaccination programs for children.[69,70]

12. Genital warts

Key points

- In 2004, 1803 diagnoses of genital warts were made in the STI sentinel surveillance network in the Netherlands.
- Diagnoses of genital warts increased by 24% between 2003 and 2004.
- Genital warts were the most prevalent viral STI diagnosed in the Netherlands.
- 337 diagnoses were made in MSM accounting for 32% of the cases in men.

12.1 Recent trends

In 2004, 1803 diagnoses of genital warts were made (1048 in men and 755 in women) Figure 46). Over the past five years, the number of diagnoses of genital warts increased with 51%; this increase was seen in men (45%) and in women (61%).

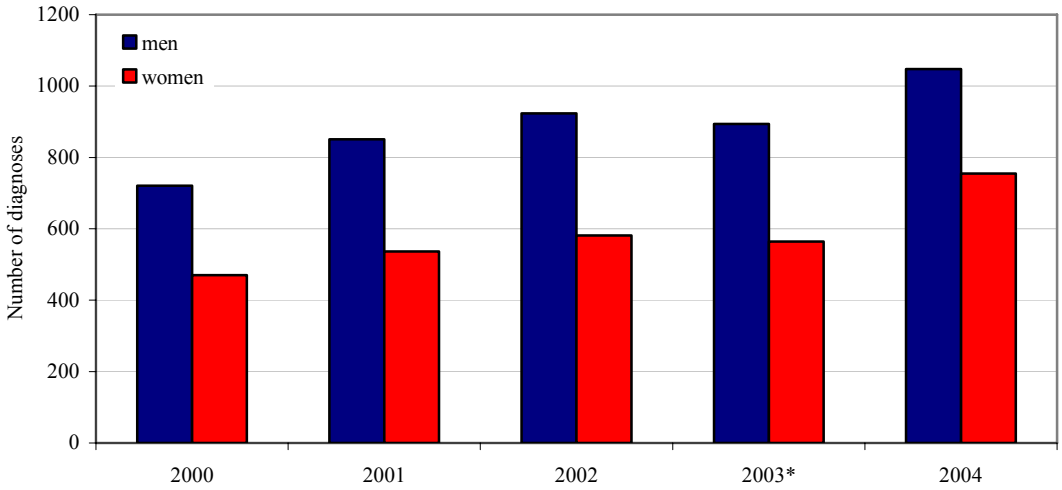


Figure 46: Number of diagnoses of genital warts by sex, 2000-2004

Rates of diagnoses were unevenly distributed across the Netherlands (range: 2-82 per 100000) with the highest rates in Amsterdam, Utrecht and The Hague (Figure 47). Highest percentage of diagnosis was among men aged 25-29 (24%) and among women aged 20-24 (40%). The number of infections declined rapidly in women above 29 years.

Figure 47: Rates of diagnoses of genital warts by region, STI sentinel surveillance network, the Netherlands, 2004

12.2 Determinants of infection

Among men, 32% (n=337) of the genital warts were acquired homosexually (Table D.14). Four percent of the infections were diagnosed in men who had recent (past 6 months) contact with CSW, whereas for women 7% of the genital warts were diagnosed in CSW (Table D.15a-b). About 74% of the diagnoses (NA Amsterdam) in men were made in Dutch males, 83% in Dutch females. The highest percentage of diagnosis in migrants was made in men and women from Surinam, the Netherlands Antilles and Aruba (8%). In 2% (n=26) of the cases of genital warts (NA Amsterdam) the diagnosis was made in individuals who reported a prior positive HIV test. (i.e. known HIV positives); 57% of the individuals diagnosed with genital warts was never tested for HIV before, 36% had a prior negative HIV test result (Table D.17). A history of gonorrhoea, infectious syphilis or chlamydial infection was reported for only 19% of the individuals (NA Amsterdam) diagnosed with genital warts. This percentage is the almost the same as for chlamydia infections (20%) diagnoses.

12.3 International trend of genital warts

Only a few EU-countries routinely collect surveillance data on genital warts.[44] In the United Kingdom genital warts are the most common viral sexually transmitted infection (STI) diagnosed at genitourinary medicine (GUM) clinics. They account for 11% (79618 of 751282) of all diagnoses in 2004. Between 1995 and 2004, the amount of diagnoses in the UK increased by 32%. Rates of new cases were highest in 20-24 year old males (806/100000) and 16-19 year old females (719/100000).[71-73] In Ireland the notifications of genital warts increased from 505 in 1989 (14.3/100000) to 3993 in 2001 (101.9/100000). In 2002 notifications decreased slightly to

3932.[74] In the United States the number of initial visits to physicians' offices because of genital warts fluctuated largely around 240000 since the end of the 1970s (with a peak of 351000 in 1987) and showed a downward trend during the 1990s. However, the number of visits has been rising again in recent years increasing from 145000 in 1997 to 264000 in 2003.[38]

13. Genital herpes

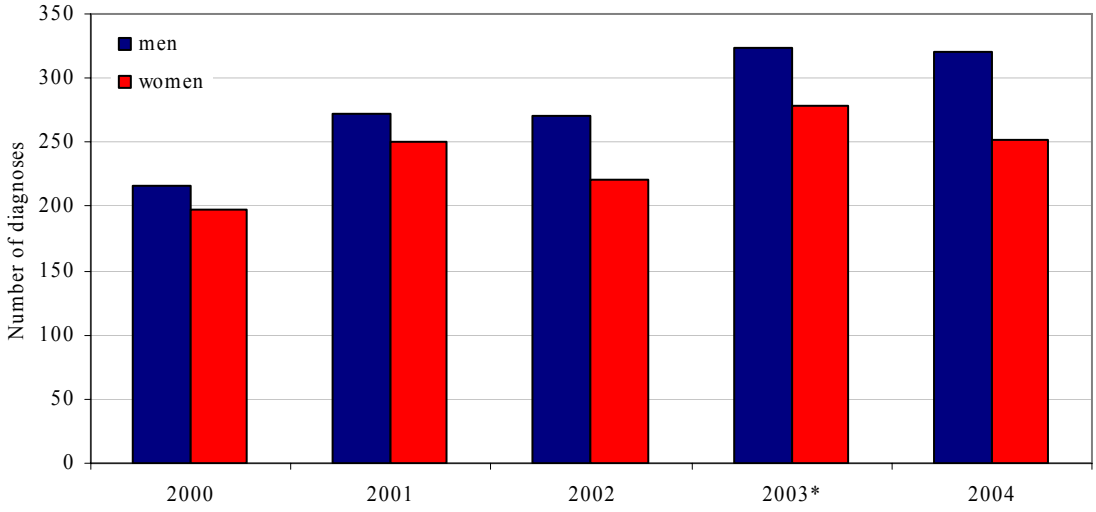
Key points

- In 2004, 573 diagnoses of genital herpes were made in the STI sentinel surveillance network.
- Diagnoses of genital herpes decreased with 5% since 2003.
- 95 diagnoses were made in MSM accounting for 30% of the cases in men.

13.1 Recent trends

In 2004, 573 diagnoses of genital herpes were made (321 in men and 252 in women) (Figure 48). Of all diagnoses, HSV type 1 accounts for 21% (n=118) HSV type 2 for 28% (n=158) and HSV type 1 or 2 for 56% (n=297).

Over the past five years, the number of diagnoses of genital herpes has increased by 38%; in men by 48% and in women by 27% (Figure 48).



Footnote: 2000-2002 STI registration; 2003* Implementation of STI sentinel surveillance network

Figure 48: Number of new diagnoses of genital herpes (primary infections only), 2000-2004

Rates of diagnoses were unevenly distributed across the Netherlands (range: 0 -34 per 100000) with the highest rates in Amsterdam and The Hague. In the other regions the rates of diagnoses were quite low (range: 0 -12 per 100000) (Figure 49)**.** Among men, the diagnoses of genital herpes were evenly distributed among the age groups 20-54 (90%); in women most diagnoses were made among women aged 20-24 (34%), followed by a quick decline.

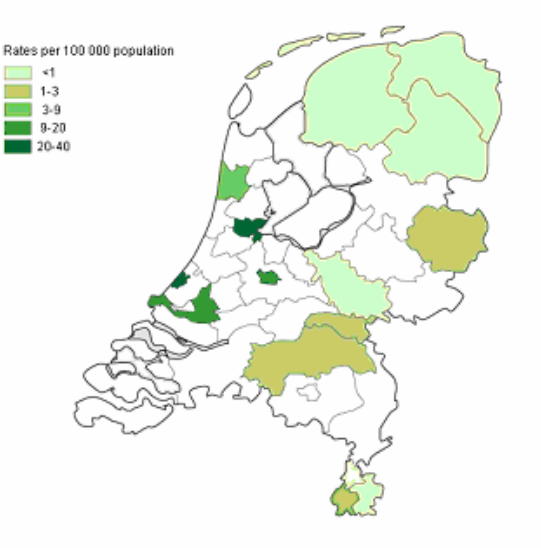


Figure 49: Rates of diagnoses of genital herpes by region, STI sentinel surveillance network, the Netherlands, 2004

13.2 Determinants of infection

Among men, 30% (n=95) of the genital herpes were seen in MSM. About 74% of the diagnoses in men (NA Amsterdam) were made in Dutch males, 77% in Dutch females. The next highest percentage of diagnosis in migrants was made in men and women from Surinam, the Netherlands Antilles and Aruba (14% and 9%, respectively). In 2% (n=5) of the cases of genital herpes (NA Amsterdam) the diagnosis was made in individuals who reported a prior positive HIV test. (i.e. known HIV positives); 62% of the individuals diagnosed with genital herpes was never tested for HIV before, 31% had a prior negative HIV test result. A history of gonorrhoea, infectious syphilis or chlamydial infection was reported by only 17% of the individuals (NA Amsterdam) diagnosed with genital warts. This percentage was the lowest of all STI diagnoses, next to gonorrhoea with 20% genital warts with 19%.

13.3 International trend of genital herpes

Relatively little is known about viral STIs in Europe, because these are not notifiable. From 1972 to 2002, HSV diagnoses in the United Kingdom increased twofold in men and nine fold in women. In 2001, the number of reported genital herpes increased in Ireland by 23%.[44] In a European serological survey prevalence of antibodies against HSV-1 and HSV-2 varied a lot. In the Netherlands, age-standardized seroprevalence was 57% but differed from 52% in Finland to 84% in Bulgaria. For HSV-2 this prevalence was 9% in the Netherlands but ranges from 4% in England and Whales to 24% in Bulgaria.[75] The prevalence in Africa and the Americas seem to be higher than in Europe, the same in North America and lowest in Asia.[76]

In the CISID database limited data is available.[18] There is no clear trend in numbers of HSV. From the CDC there are no data about reported HSV cases. From data of general practitioners of the National Disease and Therapeutic Index an increasing trend can be seen since the 1970s (from around 17000 to 203000). Periods of increase are followed by periods of decrease.[77]

14. Lymphogranuloma venereum

Key points

- In 2004, an outbreak of LGV was detected in MSM in the Netherlands.
- As of June 2005, 160 confirmed cases of LGV were reported; 65 in 2003, 77 in 2004 and 18 in 2005. The majority was reported by the STI clinic Amsterdam (73%).
- The LGV outbreak is slowly increasing, with yet unknown dynamics, and with clinical signs that easily could be missed.

14.1 Outbreak of LGV

In 2004, a cluster of LGV cases was reported among MSM who were predominantly HIV positive. Laboratory results confirmed infection with *Chlamydia trachomatis* serovar L2. The majority of the men reported unprotected sexual contact with numerous partners from several European countries. Alerts were sent to STI and HIV clinics, gastroenterologists and public health services. Enhanced surveillance of LGV was started was started in January 2004.

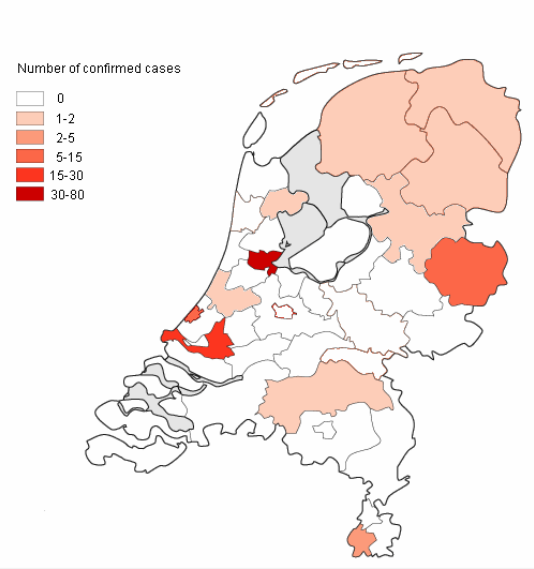


Figure 50: Number of confirmed LGV cases in the Netherlands, June 2005 (Source: RIVM-enhanced surveillance of LGV)

14.2 Current status of the LGV outbreak

Enhanced surveillance of LGV was launched and, as of June 2005, 95 confirmed cases were reported with additional epidemiological information, although not yet complete. Routine STI

surveillance data are available for 87% (83/95) of the confirmed LGV cases; additional data from the enhanced surveillance is available for 35% (29/83). Preliminary evaluation suggests the following characteristics: 80/83 (96%) is MSM, 54/83 (65%) were HIV positive (HIV status was as yet unknown in 15 cases); high levels of concurrent STI (52 STI diagnosed). The majority reported unprotected anal intercourse or other unprotected anal penetration in the past year. The patients reported numerous sexual contacts in several European countries and the United States during the 6–12 months prior to appearance of clinical signs or symptoms.
The epidemic curve of cases, by date of consultation, shows a slowly increasing outbreak, suggesting that LGV was already prevalent in 2003 and the highest number reported in the summer 2004 (Figure 51). A retrospective study of MSM diagnosed with Chlamydia trachomatis proctitis between January 2002 and December 2003 yielded 45/74 LGV cases.[78]Genotyping demonstrated that all positive L2 samples contained a new variant, L2b. This genotype was identified in both symptomatic and asymptomatic patients.[78]

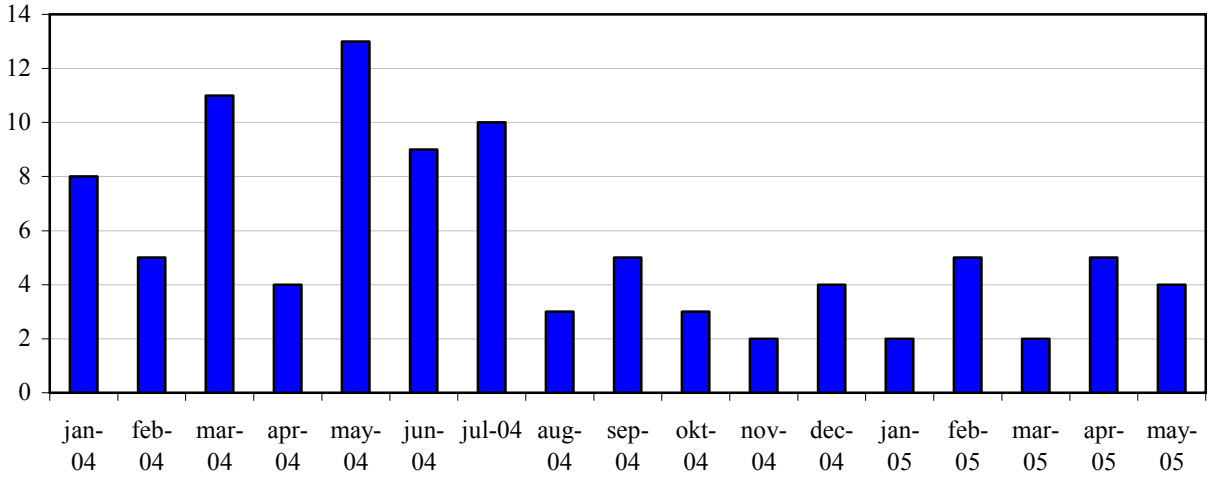


Figure 51: Number of LGV cases by date of consultation, January 2004 - May 2005 (Source: RIVM –enhanced surveillance of LGV)

Enhanced surveillance was started in other European countries (e.g. France, United Kingdom), U.S.A and Canada. The extent of spread to other countries remains unknown and relies on convenience reporting. Until so far, LGV cases were reported in Antwerp (8 cases),[79] France (169 confirmed cases),[80] United Kingdom (113 cases),[81] Stockholm,[82] Germany (33 cases), Barcelona (2 cases), Turijn (1 case), Geneve (1 case).[83-87]
The ulcerative character of LGV facilitates transmission and acquisition of HIV, other STI and blood borne diseases, as was demonstrated for HIV and HCV already. In at least two cases seroconversion for HIV was confirmed and five cases of recent hepatitis C infection were found.[88]

15. Concurrent STI and HIV

Key points

- In 2004, 342 HIV positive individuals were registered in the STI sentinel surveillance network (1% of total number of consultations), of which 83% are MSM (NA Amsterdam).
- In 2004, 14% of diagnoses of gonorrhoea, genital chlamydial infection and syphilis in MSM were diagnosed in known HIV infected MSM (NA Amsterdam).
- In 2004, the number of newly diagnosed HIV infections increased with 64%.
- 146 HIV infections were diagnosed in MSM, accounting for 79% of the cases in men.

15.1 Known HIV infected individuals

Among the STI clinic attendees (NA Amsterdam), 1% had a prior positive HIV test (n=342); 92% men (n=316) and 8% women (n=26). The real number of known HIV infected individuals is likely to be larger than the number reported here, due to underreporting. Of the HIV infected men, 90% is MSM (n=283). The majority of the HIV infected was between 30-44 years of age (56%); 71% of them is Dutch, 8% from Surinam and Netherlands Antilles and 4% from Sub-Saharan Africa. The most important reasons for consultation among the HIV infected were symptoms (49%), risk behaviour (20%) and periodic screening (7%).

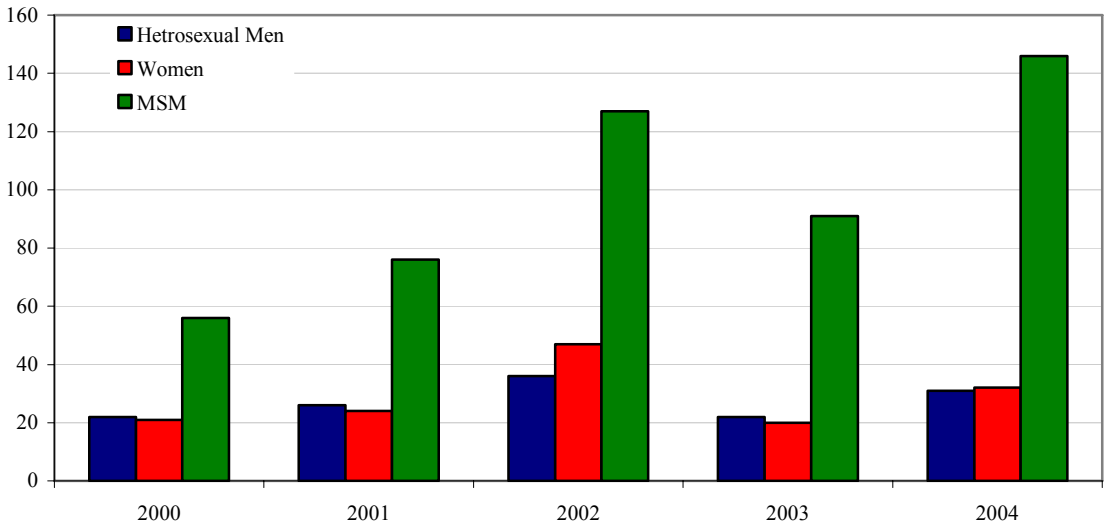
Table 13: Concurrent STI diagnosed in known HIV infected individuals (NA Amsterdam),(% of total known HIV infected individuals N=342)

Diagnosis	Male (%)	Female (%)	Total (%)
Gonorrhoea	36(11)	0(0)	36(11)
Chlamydia	32(10)	1(4)	33(10)
Early syphilis	60(19)	1(4)	61(18)
Genital warts	23(7)	3(12)	26(8)
Genital herpes	3(1)	2(8)	5(1)

Of the known HIV infected clinic attendees, 53% had no infection. Genital chlamydial infection, gonorrhoea and infectious syphilis were the most common diagnoses. Anorectal chlamydial infection was more often diagnosed than anorectal gonorrhoea, 71% and 40% of the diagnoses in known HIV infected MSM, respectively.

15.2 Newly diagnosed HIV infections

In 2004, 218 individuals were newly diagnosed with HIV (186 men and 32 women), an increase of 64% compared with 2003 (n=133) (Figure 52). The increase in diagnoses of HIV can not be explained and may be due to underreporting of cases 2003. Among men, 55% was aged 25-39. The highest percentage of HIV diagnosis was found among females aged 20-24 (41%) (Table D.12).



Footnote: 2000-2002 STI registration (including STI clinic Amsterdam); 2003* Implementation of STI sentinel surveillance network

Figure 52: Number of newly diagnosed HIV infections by sex, 2000-2004

Among men, 79% (n=146) of the HIV infections were seen in MSM (Table D.14). 75% of the HIV infections in men (NA Amsterdam) were found in Dutch, 6% in men from Surinam, the Netherlands Antilles and Aruba, and 7% from Sub-Saharan Africa. In women, 27% were Dutch and 53% from sub-Saharan Africa. (Table D.13).
54% (n=53) of all HIV infections were found among individuals (NA Amsterdam) who were never tested for HIV, 43% had a prior negative HIV test. (Table D.17). A history of STI was reported by 42% of the men (NA Amsterdam) with HIV and 13% of the women with HIV (Table D.18).
Rates of positive HIV test results (i.e. the percentage of positive tests to the total number of HIV tests) were higher in MSM (4.2%) than in heterosexual men and women (M: 0.3%; F: 0.2%). The highest rate was found in MSM aged 44-49 (5.7%; Table D.19).

16. Focus on young people, migrant populations, MSM

16.1 Young people (16-24 years)

Key points

- More than half of the female clinic attendees (52%) were younger than 25 years.
- Young women accounted for 68% of all female chlamydial diagnoses, 68% of gonorrhoea, 52% of genital warts and 46% of genital herpes diagnosed in 2004.
- Young men accounted for 32% of all male chlamydial diagnoses, 19% gonorrhoea, 20% of genital warts and 17% of genital herpes diagnosed in 2004.
- STI are a major public health problem in young people as they carry a disproportionate proportion of the burden of disease.

Young people are more at risk for acquiring STI due to a complex interaction of behavioural, biological, and social factors. They are more at risk because they tend to have a higher number of partners and more concurrent partnerships than older age groups. They also tend to use less condoms than older groups.[40,89]

Recent trends

In 2004, 38% of the STI clinic attendees (n= 184671) were aged between 16-24 years (M: 25%, F: 51%). The reason mostly reported was risk behaviour (32%), followed by symptoms (23%) and new relationship (14%) of reported reasons. A total of 5212 diagnoses (35% of all diagnoses) were made in young people. Most diagnoses (75%) were made in adolescents aged 20-24, for gonorrhoea and genital chlamydial infection a considerable proportion was diagnosed in those aged 16-19 (Table D.20a-c).

The most common diagnosis in young people was genital chlamydial infection (n=2148), followed by genital warts (589), gonorrhoea (442) and genital herpes (n=199). Infectious syphilis (n=55) and HIV infection (n=32) were less often diagnosed in young people. Young women accounted for 68% of all female chlamydial diagnoses, 68% of gonorrhoea, 52% of genital warts and 46% of genital herpes diagnosed in 2004, which is similar to 2003 (Figure 53). Young men accounted for 32% of all male chlamydial diagnoses, 19% gonorrhoea, 20% of genital warts and 17% of genital herpes diagnosed in 2004, which is also similar as in 2003. Young people accounted for 15% (n=32) of all new HIV diagnoses in 2004 (17% in 2003). One third of them were in MSM which is lower than in older age groups in which 67% of HIV infections were seen in MSM.

Determinants of infection

The ethnicity of young people (NA Amsterdam) diagnosed with an STI varied across the STI (Figure 53), with a fairly high percentage of Dutch (> 65%) among genital chlamydial infection, genital warts and genital herpes (Table D.21a-b). For gonorrhoea, 14% of the young people were Surinamese or Antillean (M: 15%, F: 13%).

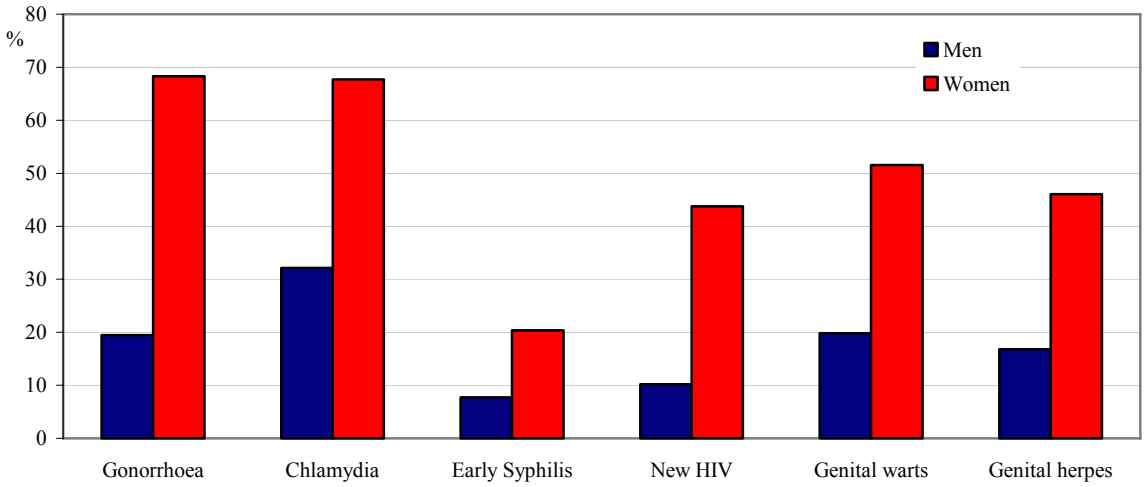


Figure 53: Proportion of total number of STI diagnosed in young people (16-24 years) by sex, STI sentinel surveillance network, 2004

For both gonorrhoea and genital chlamydial infection, the most common location in young people was urethral (79% for gonorrhoea, 95% for chlamydia). A history of gonorrhoea, infectious syphilis or genital chlamydial infection was reported in 12% of all cases younger than 25 years (NA Amsterdam). Of the young people with a history of STI, 73% were Dutch and 13% were Surinamese or Antillean.

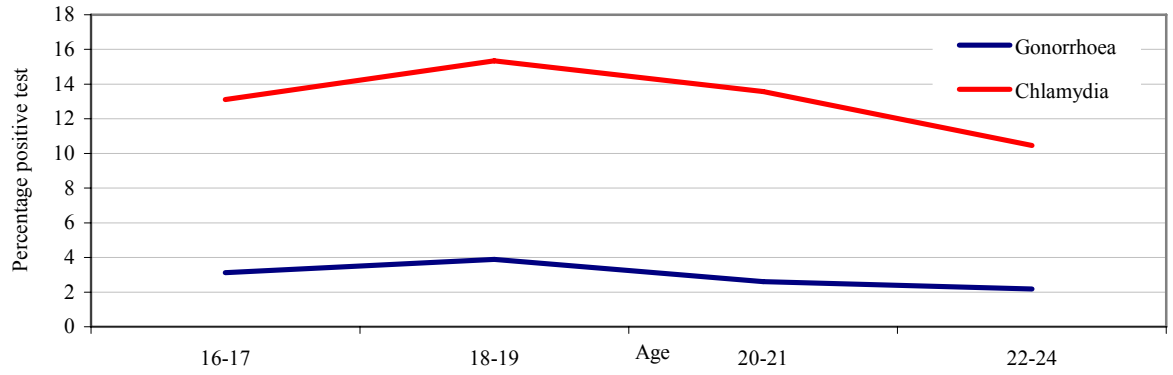


Figure 54: Percentage of positive tests results by age, STI sentinel surveillance network, 2004

Positive diagnostic rates for genital chlamydial infection in young people are in general higher than in older age groups but, lower for gonorrhoea (chlamydia: 10%, gonorrhoea: 4%). Rates of positive

test results were the highest in the age group 18-19 years; for chlamydia 15% of all tests in these age groups were positive, for gonorrhoea this percentage was 3.9%.

16.2 Migrant populations

Key points

- The 'traditional' ethnic minority populations, from Surinam and the Netherlands Antilles, Turkey and Morocco, accounted for 8% of the consultations; another 5% by relatively 'new' populations, e.g. from sub-Saharan Africa, Eastern Europe and Latin America.
- Migrant populations accounted for a disproportionate high percentage of STI, especially of bacterial STI and HIV (higher for women than men).
- Male migrants reported more often a history of STI (25%) than Dutch males (18%).

Consultations

In 2004, 5684 consultations were registered in the STI sentinel surveillance network among migrant populations; 20% of all consultations. Migrants from Surinam and the Netherlands Antilles were the largest group for men and women (6%) followed by migrants from sub-Saharan Africa and other European (not East) countries. In men, Turkey and Morocco, and in women, Europe, also accounted for a significant part of the population. For both male and female migrants, the most important reason for consultation was having symptoms (M: 39%, F: 30%), followed by own risk behaviour (M: 27%, F: 19%). A history of STI (gonorrhoea, infectious syphilis or chlamydial infection) was reported by 22% of the migrants (M: 25%, F: 19%), with the highest percentages in Surinamese (M: 32%, F: 27%) and Antilleans (M: 37, F: 28%). In the Dutch population this percentage is lower: 17% (M: 18%, F: 15%).

Diagnoses

Genital chlamydial infection and gonorrhoea were the most common diagnoses in migrant populations. Females from Surinam and the Netherlands Antilles accounted for 19% (n=28) of all female gonorrhoea cases and 10% (n=121) of all chlamydial diagnoses. Furthermore, 78% of these cases were diagnosed in women younger than 25 years. Males from Surinam or the Netherlands Antilles accounted for 12% (n=139) of all male chlamydial diagnoses and 16% (n=79) of the gonorrhoea cases.

Dutch males accounted for almost 79% of all male syphilis cases; (Figure 55) 11% were diagnosed in men from Asia, Surinam and the Netherlands Antilles. Among those, a relatively high percentage was homosexually acquired: 67% and 54% and 80%, respectively.

About 60% of all diagnoses were made in migrants who never had been tested for HIV before; this information was missing in 9%. In 3% of the cases (n= 42) the diagnosis was made in individuals who reported to have had a positive HIV test.

Rates of positive test results in migrants were slightly higher than in the Dutch population; the highest rates were found for genital chlamydial infection (M: 13%; F: 11%). For gonorrhoea, these rates are 7% and 2%, respectively.

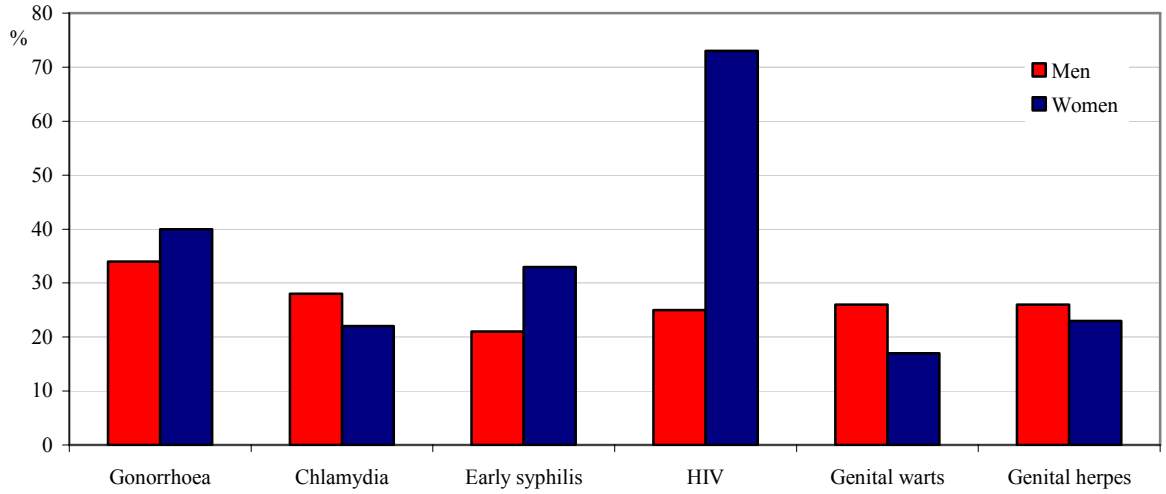


Figure 55: Proportion of total number of STI diagnosed in migrant populations by sex, STI sentinel surveillance network, 2004

16.3 Men who have sex with men

Key points

- In 2004, MSM accounted for 28% of all male consultations and for 43% of all male diagnoses.
- In 2004, 283 MSM were known HIV infected, accounting for 83% of the known HIV infected individuals registered in the STI sentinel surveillance network.
- 52% of the genital chlamydial infections in MSM were anorectal; in known HIV infected MSM 77%.

Consultations

In 2004, 7381 consultations by MSM were registered (28% of all male consultations) and increased by 8% compared with 2003. The majority of MSM was older than 30 years (>40: 40%, 30-39: 34%). In MSM the most important reason for consultation was having symptoms (29%), followed by sexual risk behaviour (29%) and hepatitis B vaccination (9%). Fourteen percent of the MSM were non-Dutch: 3% from Surinam and the Netherlands Antilles, 4% European (not East) countries and 7% from other countries. 283 of all MSM (4%) were known HIV positives, of whom half was older than 40 (50%). A history of STI was reported by 36% of MSM.

Diagnoses and determinants of infection

In total, 3733 diagnoses were made in MSM in 2004, accounting for 43% of all male diagnoses. 14% of the diagnoses of gonorrhoea, genital chlamydial infection and syphilis were made in HIV positive MSM. MSM accounted for 86% of all male syphilis diagnoses, 79% of HIV diagnoses, and 60% of gonorrhoea. For chlamydia, genital warts and genital herpes these percentages were lower, around 30%.

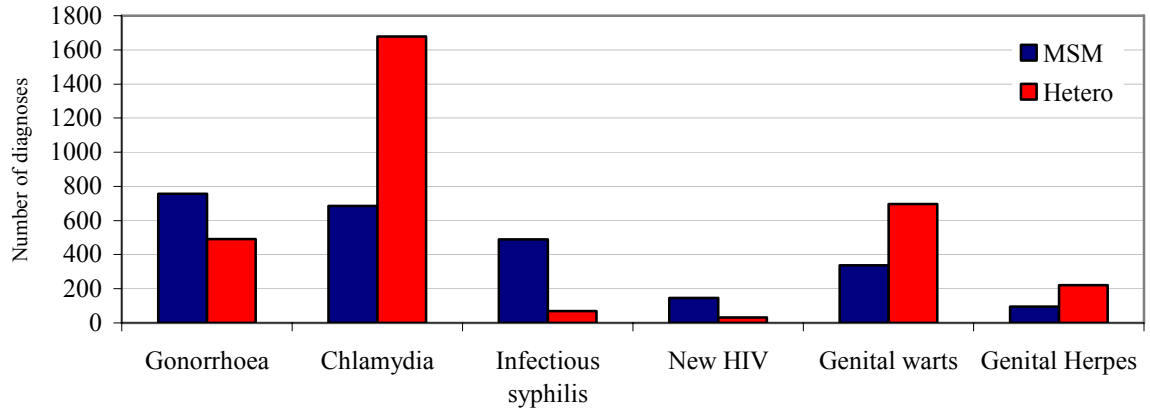


Figure 56: STI by sexual preference for men, STI sentinel surveillance network, 2004

Rates for positive test results were highest in the age groups 25-39 years. The highest rates were found in MSM with a positive test for gonorrhoea or chlamydia (Figure D.7). Anorectal chlamydial infection was more often diagnosed in MSM than anorectal gonorrhoea, 52% and 38%, respectively.

17. General conclusion and recommendations

HIV/AIDS

As of June 2005, a total of 10619 HIV cases was reported in the Netherlands by 27 HIV treatment centres (including 4 children's centres) in the Netherlands. In 2004, 938 new HIV diagnoses were made. Since 2000, the number of HIV diagnoses increased outside Amsterdam whereas the number in Amsterdam stabilised and slightly declined in 2004. Surveillance data suggest that the overall prevalence of HIV increases consistently over time. The increase of heterosexually acquired infections, as observed since 1996, was mainly due to individuals from countries with a generalized epidemic (e.g. sub-Saharan Africa). In 2004, the number of diagnoses among heterosexuals declined, while the number of MSM started to rise. In 2004, HIV diagnoses only increased among MSM. Similar increases were reported from various European countries from 2002 onwards. MSM are the largest HIV infected group in the Netherlands. This group is mainly Dutch and acquired the HIV infection in the Netherlands. In contrast to the MSM population, the majority of the heterosexuals acquired the HIV infection abroad; in sub-Saharan Africa and to a lesser extent in Latin America and the Caribbean. Immigration thus plays an important (but decreasing) role in the Dutch HIV epidemic. The decline in HIV diagnoses among heterosexuals is consistent with the declining number of people immigrating from sub-Saharan African countries since 2002, due to the more strict immigration policy in the Netherlands.[90]

Surveillance data from different sources also suggest that HIV transmission might be increasing in MSM. HIV prevalence rates among MSM attending the STI clinics in Amsterdam and Rotterdam were higher compared with previous years. In the STI sentinel surveillance network, the prevalence of HIV infections in MSM is 4.2% in 2004. The increase in HIV seems to follow the trend of rising STI in MSM. However, this may also be due to increased testing and the availability of the rapid test for HIV in several MHS. Yet, no distinction can be made between incident and prevalent cases among new HIV diagnoses and, therefore, recent transmission patterns of HIV in MSM cannot be clarified.

Women account for 23% of all registered HIV cases in the Netherlands. On average, women are six years younger than men at HIV diagnosis. Age at diagnosis is fairly stable over time for migrant populations, but increased for MSM, Dutch heterosexuals, and IDUs. In 2004 the percentage of MSM of 40 years or older at HIV diagnoses was 44%, while in 2000 this was 30%; suggesting that MSM might be infected at higher age.

IDUs are a relative small group within the HIV/AIDS registry (5%). The number of newly diagnosed drug related infections in 2004 is also low (1%). The majority of the IDUs originates

from the Netherlands or other West-European countries. Despite the high HIV incidence among IDUs in Eastern Europe,[91] the number of East-European IDUs in the HIV registry is still low (2%). In 2004, the national screening of pregnant women was implemented. The first preliminary results suggest a prevalence rate of 0.06%, with the highest prevalence rate in Amsterdam.

Sexually Transmitted Infections

In 2003, a new STI sentinel surveillance network was implemented in the Netherlands. In 2004, the number of new consultations increased by 17%. This is the fifth year in a row with an increasing number. However, it must be noted that comparison with previous years (before 2003) is hampered by the lack of comparable data. Whenever possible, comparisons are made based upon a selection of clinics of which previous data were available. Nevertheless, trends need to be interpreted with caution.

In 2004, rates of STI seemed to increase again after a stabilisation in 2003: the number of genital chlamydial infection increased by 19% and diagnoses of gonorrhoea increased by 12%. Also, diagnoses of syphilis and viral STI continued to increase in 2004. The number of diagnoses of syphilis increased by 24% and is now almost as high as in the mid 1980's.

MSM account for 86% of diagnoses of syphilis in men. Between 2000 and 2004, the number of syphilis cases in the Netherlands increased by 340% in MSM and 53% in heterosexual men. The rise in syphilis is associated with a number of outbreaks in Amsterdam (accounting for 39% of the diagnoses in 2000-2004), Rotterdam, The Hague, Utrecht, Groningen and Twente region. Similar outbreaks have also been reported among MSM in other European countries.[45,47,48,50,92-95]

Genital chlamydial infection was the most commonly diagnosed STI seen in the STI sentinel surveillance network in the Netherlands in 2004. Women younger than 25 years of age are at highest risk for genital chlamydial infection and gonorrhoea, which is, to a lesser extent, also true for young men. Two-thirds of all female diagnoses of chlamydial infection and gonorrhoea are seen in women younger than 25 years. STI are a major public health problem in young people as they carry a disproportionate proportion of the burden of disease.

Compared with genital chlamydial infection, gonorrhoea tends to be a more concentrated disease with higher rates among urban areas, MSM (60% of male cases) and individuals with a history of STI (30%, NA Amsterdam). Specific ethnic minorities (e.g. Surinam, the Netherlands Antilles and Aruba) are at high risk for both genital chlamydial infection and gonorrhoea. Migrant populations account for a disproportionate high percentage of STI, especially of bacterial STI and HIV.

In 2003-2004, the percentage of ciprofloxacin resistance, as studied in a survey among public health laboratories, seemed to have increased rather rapidly. In Amsterdam, the prevalence of resistance is higher in MSM than among heterosexuals.[96] Similar findings have also been reported in the United Kingdom and the United States.[97,98] The high prevalence of resistant gonorrhoea in MSM indicates a changing epidemiology. High rates of resistance in prior data of ciprofloxacin resistance, but also in rates of penicillin or tetracycline resistance, were exclusively found in the

heterosexual population.[97] These results demonstrated the need for a surveillance of gonococcal antimicrobial resistance at national level.

Between 2003 and 2004, the number of most diagnosed viral STIs further increased. Genital warts were the most common viral STI, seen in the STI sentinel surveillance network in 2004 with an increase of 24% compared with 2003. The increase in notifications of acute hepatitis B infection was observed only in men and the relative proportion of MSM has increased slightly. The interpretation of current trends is complicated, as in coming years, effects of the risk group vaccination are to be expected on the epidemiology of hepatitis B. The campaign is monitored with an epidemiological genotyping study of all isolates of acute HBV disease in the Netherlands. Unprotected sexual contact remains the most important risk factor for acute hepatitis B.

Surveillance data demonstrate that the percentage of positive test results varies widely among STI and risk groups, with the highest rates found in MSM diagnosed with gonorrhoea or genital chlamydial infection. This requires further investigation. Results could contribute to design a method of pre-screening of patients that will eventually shorten waiting times at STI clinics, and subsequently the episode of disease, and will also increase the efficiency of STI clinics to see more patients in a cost effective manner. The percentages of positive test results for different STI were approximately equal to those in 2003, suggesting that the prevalence rates of STI remained fairly constant over time.

The outbreak of Lymphogranuloma venereum in the Netherlands is a highly unusual event with (inter)national implications for public health given the known sexual networks of MSM. Increases in several other STI among MSM, (i.e., syphilis, rectal gonorrhoea, and quinolone-resistant N. gonorrhoeae) have been reported before.[99,100] The LGV outbreak seems to be slowly increasing, with yet unknown dynamics, and with clinical signs that easily could be missed. Clinicians in industrialized countries make the diagnosis rarely, and would not be expected to consider LGV as likely cause of gastrointestinal illness.[85] The number of LGV cases reported here is probably a minimum estimate of disease occurrence. The LGV outbreak among, predominantly HIV infected MSM, is worrying because of the ulcerative character of LGV. It can facilitate transmission and acquisition of HIV and other sexually transmitted or blood-borne diseases.

In 2003, 342 individuals (NA Amsterdam), registered in the STI sentinel surveillance network, were infected with HIV and were aware of their infection. This represents only 1% of the total number of consultations and is undoubtedly an underestimate of the real number due to underreporting. However, 14% of all diagnoses of gonorrhoea, chlamydial infection and syphilis in MSM are seen in known HIV infected MSM (NB. this is less than last year because of the missing data from Amsterdam.) Among these, anorectal infections were seen in 77% of the diagnoses of chlamydia and in 40% of gonorrhoea. In general, MSM account for a considerable percentage of diagnoses in men (43%). More specifically, surveillance data indicate that unprotected anal

intercourse is highly prevalent, as was also observed in the HIV prevention monitor among MSM.[101] In 2003, unsafe sexual practices, e.g. anal sex, were more often reported than in the first Monitor in 2000.[101] We may conclude that unsafe sex practices are on-going in this group at risk for STI, with consequences for further spread of STI and HIV.

Although STI seem to be on the rise again, as in other European countries, it must be kept in mind that the number of consultations has increased also. The prevalence rates for STI seem to be fairly stable over time.

Surveillance of STI and HIV/AIDS

The quality of the surveillance systems for both STIs and HIV/AIDS in the Netherlands has improved considerably the past few years. Nevertheless, expansion of surveillance activities in some areas is needed. One of the major limitations of the current system is that most data do not represent recent HIV infections, apart from the ACS and one study among MSM in Amsterdam.[102] Additional studies on recent HIV infections are needed to facilitate rapid detection of HIV transmission and to differentiate incident cases from prevalent ones in newly diagnosed HIV cases. Also, monitoring of resistance in gonococcal infection on a national level, to monitor the epidemiology and to ensure treatment strategies respond to changing epidemiology.

Recommendations

- STI show great variations in rates across populations at risk (e.g. high rates in young people, MSM and migrant populations). Tailor-made prevention and intervention activities are needed for these specific groups.
- In 2000-2004, the situation among MSM has deteriorated with serious epidemics simultaneously occurring within this group. Efforts have been put into primary prevention in the past decade leading to a better understanding in the general population of STI and related risks.[89] However, these methods seem not to be effective any longer for MSM at risk. The current situation requires innovative responses from public health.
- As disease transmission greatly depends on the duration of infectiousness, secondary prevention should be re-enforced to ensure adequate treatment, i.e., to shorten the disease episode and to provide proper diagnostics and treatment. In 2006, the STI clinics' capacity will be improved, as launched by the Ministry of VWS, in a national network of STI clinics. Also, innovative approaches should be realised, for example the method of pre-screening of patients .
- Surveillance data can be further improved, with respect to completeness and timeliness; other topics for improvement are: national surveillance of resistance in *N. gonorrhoea*, recent infections with HIV, monitoring of STI in practices of general practitioners, and behavioural surveillance.

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Appendices

Appendix A. Sources of STI and HIV/AIDS surveillance in the Netherlands

Surveillance	Institute	Monitoring of:	Period	In collaboration with	Number of cases (year)
HIV/AIDS registry	HIV Monitoring Foundation	HIV cases, AIDS cases (follow-up data)	2002 - present	HIV treatment centres, laboratory, RIVM	± 800 HIV diagnoses ± 200 AIDS cases
STI sentinel surveillance network (SOAP)	RIVM	Consultations HIV and STI diagnoses determinants	2003 - present	STI clinics, MHS	40000-50000 consultations
Anonymous unlinked HIV surveys risk groups (migrants, CSW, clients of CSW, IDUs)	RIVM	HIV infections, Determinants	2002 - present	Various MHS and other organisations	1600 -1800
Anonymous unlinked HIV surveillance STI clinics Amsterdam and Rotterdam	STI clinic, MHS Amsterdam STI clinic, EMC Rotterdam	HIV prevalence Determinants	1991 - present		2500-3500
Screening pregnant women	CvZ	2004 : HIV infections 1976 : HBV 1960 : Syphilis	NA	Regional vaccination bureaus	100000 women
ISIS laboratory surveillance	RIVM	Tests and diagnoses gonorrhoea, chlamydial infection, syphilis	2000 - present	ISIS laboratory	12-14000 tests
Continuous Morbidity Registry (CMR)	NIVEL	HIV/AIDS consultation	1988 - present	General practitioners	200-300 HIV
Screening blood donors	Sanquin	HIV, HBV, Syphilis	1986 - present	Blood banks	± 500000
Causes of deaths statistics	CBS	AIDS related deaths	1983 - present	_	± 90 deaths
HBV notifications	Health Inspectorate RIVM	HBV, determinants	1976 - present	MHSs	200-300 acute cases
Behavioural surveillance Surveillance of STI in general practitioners (to be implemented)	RIVM			SOA AIDS Nederland NHG NIVEL	

Appendix B. Methods of surveillance

HIV/AIDS registry

From January 2002, a new HIV/AIDS reporting system became the backbone of the HIV surveillance in the Netherlands. From this date, data of all newly diagnosed HIV infected individuals were collected by the HIV Monitoring Foundation (HMF). The goal of the HMF is to monitor HIV infected individuals seen in 27 HIV treatment centres (including 4 children's centres) in the Netherlands to study changes in the epidemic, the natural history of HIV and the effects of treatment.

The HIV/AIDS registry in the Netherlands is different from in other European countries, as registered individuals form a cohort that is followed prospectively from the time of diagnosis. HIV infected individuals who were diagnosed prior to the start of the HMF, were included in the cohort retrospectively. The HMF largely follows the organisational structure that had been established for monitoring HIV in the ATHENA project, a clinical study following HIV infected individuals who are treated with HAART. The epidemiological data on newly diagnosed HIV infections, as well as trends in new AIDS diagnoses after 2000, are reported in collaboration with the SU at the RIVM.

Between 1987 and 2002, AIDS cases were reported to the Inspectorate of Health (national AIDS registry, IGZ). Physicians voluntarily reported AIDS cases by using standardized report forms. With the start of the HIV/AIDS monitoring system in 2002 by the HMF, the national AIDS registry was ended. In this report AIDS cases from 1999 or earlier are obtained from the AIDS registry. After 2000, AIDS cases from the HMF monitoring system were used since the AIDS registry was incomplete between 2000 and 2002.

Anonymous unlinked HIV Surveys

Between 1994 and 2003, 16 HIV surveys among IDUs were carried out in 9 areas. In 2003, new anonymous unlinked HIV surveys were initiated among migrant populations from HIV endemic areas (sub-Saharan Africa, Surinam, and the Netherlands Antilles), CSW, and their clients. The objectives of the HIV surveys are: (1) to assess the prevalence of HIV infection and the status of risk behaviour and (2) to monitor trends in the prevalence over time in repeated surveys and (3) to assess the potential for further spread to the general population. The surveys are conducted in collaboration with public health services and local organisations for CSW, IDUs and migrant groups. Social mapping of the risk groups is conducted. Participation in the survey is entirely voluntary and anonymous. Data on sexual behaviour, travel, sex between men, and injecting behaviour are collected within each survey. A saliva sample is taken for an HIV antibody test. The HIV surveys are approved by the Medical Ethics Committee of the University Medical Centre in Utrecht.

Additional information

HIV surveillance among STI clinic attendees is conducted since 1991 in Amsterdam and since 1994 in Rotterdam. In Amsterdam, two cross sectional studies including 1000 visitors each are conducted every year. In Rotterdam, visitors are included during the whole year (opting-out principle). Since 1997, HIV testing is promoted at all STI clinics in the Netherlands, as part of an active HIV testing policy that was implemented following the accessibility of HAART.

The only nationwide HIV serosurveillance in the Netherlands is that of blood donors and pregnant women. Standard HIV screening is offered to all pregnant women since January 2004. The test is offered in the first trimester of pregnancy as part of the prenatal screening that includes also hepatitis B (since 1976) and syphilis (since 1960). In Amsterdam, pregnant women are tested for HIV from 1988 onwards in a sentinel surveillance study in two hospitals and an abortion clinic. Since 2003, all pregnant women in Amsterdam are screened for HIV in a pilot for the national program.

HIV incidence data are obtained from the Amsterdam Cohort Studies (ACS) on HIV/AIDS, which started in 1984 among MSM and in 1985 among IDUs. These cohorts give insight in HIV rises in an early state and are needed for prevention activities to respond effectively to the HIV epidemic. From 1995 and 1998, special recruitment started among young (<30 years) MSM and IDUs, respectively.
The ACS is a collaboration of the MHS, the Academic Medical Centre (AMC) and the CLB division of the Sanquin blood supply foundation in Amsterdam [www.amsterdamcohortstudies.org].

STI surveillance

Background

Until 2003 STI surveillance in the Netherlands consisted of the notification data for gonorrhoea, infectious syphilis (1976-1998), acute hepatitis B virus infections (1976-present), the STI registration of consultations at public health services (1984-2002), and the registration of diagnoses at the free STI clinics and a number of low-threshold STI clinics (1991-2002). The notification data of gonorrhoea and infectious syphilis were considered to be the most reliable source in surveillance, i.e. to monitor trends in disease. The annual reports of the national STI registration and the STI clinic in Amsterdam provided additional information on the determinants of transmission and risk groups.
On request of the Inspectorate of Health, a national working group reviewed the Dutch STI surveillance system and recommended the Ministry of VWS upon the future structure of the system[103]: a STI sentinel surveillance network was to be implemented, consisting of six free STI clinics and a number of public health services outside the large cities. Furthermore, the STI surveillance also should include the notification data of hepatitis B and the data of the laboratory

surveillance of gonorrhoea, genital chlamydial infection and infectious syphilis. Additionally, it was suggested that the contribution of general practitioners in diagnosis and treatment of STI in the Netherlands needed to be reviewed with the objective to design a future STI monitor. Finally, a prevalence study of STI was recommended to assess the sensitivity of the STI surveillance in the Netherlands. In 2002, the RIVM was assigned to implement the new STI surveillance, with the STI sentinel surveillance network to be realised first.

STI sentinel surveillance network

The STI sentinel surveillance network was implemented in January 2003 after intensive preparation by various partners in the STI field in the Netherlands, i.e. the National Institute for STI and AIDS Control in the Netherlands (SOA AIDS Nederland), Netherlands Association for Community Health Services (GGD Nederland; for the public health services), STI clinic of Amsterdam (GGD Amsterdam; for the STI clinics), and the RIVM. Specific STI surveillance objectives were formulated by using the CDC evaluation guidelines (e.g. quantity, comprehensiveness, simplicity, flexibility, representativeness of risk groups). A minimum set of epidemiological data was chosen and STI services were selected to meet the surveillance objectives. The unity of reporting is a 'new consultation', e.g. an individual attends because of a new disease episode, which is not related to previous health conditions, and medical examination or laboratory testing is carried out.

The STI sentinel surveillance network consists of 14 participants. The sentinel network covers on average 80% of all consultations and 88% of all STI diagnoses as registered in the former STI registration. The reporting of consultations is facilitated by a web based application (SOAP). Individual reports contain epidemiological, clinical data and test results on a wide range of STI. SOAP was implemented at April 1, 2003. In 2004 a survey was carried out to study the satisfactoriness of SOAP and the timeliness in reporting. It was demonstrated that the timeliness of reporting (= days between date of consultation and date of reporting to RIVM) has decreased from on average 105 days in April 2003 to 22 days in March 2004.

In this report, the results of the second year of the STI sentinel surveillance network are presented with respect to the number and nature of new consultations and diagnoses. We focus on the major STI, e.g. genital chlamydial infection, gonorrhoea, infectious syphilis, viral STI and HIV infection.

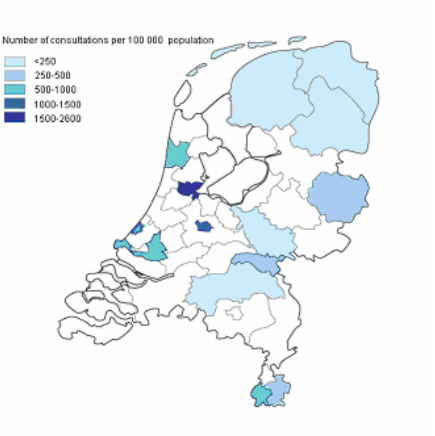

Figure 1: Number of consultations per 100000 population, the STI sentinel surveillance network, the Netherlands, 2004

Limitations of data

Many consultations are reported, also consultations in which only information is acquired by a client. A selection was made of 'new consultations' in which laboratory research was done or a diagnosis was made. In 2003, this selection was not done so data over 2003 can be different from data reported in the last years' report. Comparison of trends with previous years is hampered because the data of 2003 are incomplete for two large STI clinics due to initial technical difficulties and problems with the new surveillance system. For the years before 2003 data are not available for all participants of the STI sentinel network. For comparing trends in this report, a selection was made of clinics of which previous data were available. Nevertheless, trends should be interpreted with caution.

For the international comparison data were used from the CISID-database, in which notifications per 100000 per country are presented. It is unknown how the several countries calculated their data. Comparison of numbers is hampered because of this. However, trends can be seen in these data. Furthermore, not all countries reported every year. For the different STI a selection was made based on the geography and consistence of reporting. Other sources for international data are from the literature. This limited because in most countries STI are not a notifiable disease.

Data from Municipal Health Service Amsterdam (GGD Amsterdam)

Since April 2004 the Municipal Health Service (MHS) of Amsterdam implemented a new reporting system. Due to technical problems, the 2004 data for the MHS are still incomplete. Minimal under- or over reporting exists in numbers of consultations and diagnoses. Furthermore, it was not possible yet to extract ethnicity, HIV status, ever STI and injecting drug use.

Notification of hepatitis B

The compulsory notification of newly diagnosed acute hepatitis B virus infections (since 1976) and chronic HBV infections (since April 1999) includes epidemiological data on the occurrence of

disease within specific risk groups. Since 2002, all public health services notify HBV cases by using the web based application Osiris. Data are presented per region and calculated as the incidence per 100000 population in 2002-2003.

Laboratory surveillance of STI

The laboratory surveillance, as part of the Infectious Diseases Information System (ISIS), collects data on gonorrhoea, genital chlamydial infection and infectious syphilis with the objective to monitor trends and to detect changes in an early state (early warning). Data from all participating laboratories, including positive and negative test results, are obtained electronically overnight. Also a unique identifier, gender, date of birth, date of sampling, place of residence, material of sample and origin of sample are sent to ISIS. Reports are generated automatically; tables and reports are updated daily on the website.

Case definition

A surveillance diagnosis for each disease was formulated based on the specific diagnostic tests. Also, a period is established in which an individual can be counted positive only once and to allow re-infection after that specific period. The surveillance diagnoses of STI are described in the specific chapters on STI in part C of this report.

Limitations of the data

The current laboratory surveillance is a (convenience) sample based system and has not been implemented nationally yet. Laboratory surveillance covers now approximately 2.2 million people in the Netherlands (total population: 16 million) and is expected to expand to cover 6-7 million people in 2006. In 2000 – 2003, the number of participating laboratories changed. For this report, laboratories are only included if they participated incessantly in the surveillance. In 2001, a large laboratory was included. To be able to compare the number of tests and the rates of positive test results, the data are presented as incidence rates. Incidence rates are calculated with estimated population (adherences) of the laboratories. These adherences are based on the number and size of hospitals, the number of hospitalisations and inhabitants of each region.

Enhanced surveillance of LGV

In December 2003, a cluster of LGV cases was reported in Rotterdam among, predominantly HIV infected MSM.[104,105] This is a highly unusual event with (inter) national implications for public health given the known sexual networks of MSM. Following the initial report, a team was formed to coordinate control and prevention activities. Alerts were sent to STI and HIV clinics, gastroenterologists and public health services. An LGV awareness campaign was targeted at the specific MSM subgroup via gay websites, e-mail newsletters and leaflets in gay venues.[106] The RIVM started an enhanced surveillance of LGV to assess the size and nature of this outbreak.

Appendix C. Tables and figures HIV/AIDS surveillance

HIV cases (total population)

Table C.1: Number of HIV cases, by region and gender

Region	Male (%)	Female (%)	Total (%)
Amsterdam	3795 (46%)	815 (34%)	4610 (43%)
North	457 (6%)	184 (8%)	641 (6%)
East	638 (8%)	198 (8%)	836 (8%)
South	798 (10%)	312 (13%)	1110 (10%)
West	2527 (31%)	895 (37%)	3422 (32%)
Total	8215	2404	10619

Table C.2: Number of HIV cases, by gender and transmission risk group

Transmission risk group	Male (%)	Female (%)	Total (%)
MSM	5556 (68%)	0 (0%)	5556 (52%)
Heterosexual contact	1415 (17%)	2050 (85%)	3465 (33%)
IDU	410 (5%)	153 (6%)	563 (5%)
Blood (products)	97 (1%)	42 (2%)	139 (1%)
Mother to child	44 (0.5%)	42 (2%)	86 (0.8%)
Needle stick injury	16 (0.2%)	6 (0.2%)	22 (0.2%)
Other/NK	677 (8%)	111 (5%)	788 (7%)
Total	8215	2404	10619

NK: not known

Table C.3: Number of HIV cases, by gender and region of origin

Region of origin	Male (%)	Female (%)	Total (%)
The Netherlands	5353 (65%)	695 (29%)	6048 (57%)
Western Europe	565 (7%)	131 (6%)	696 (7%)
Central Europe	116 (1%)	25 (1%)	141 (1%)
Eastern Europe	36 (0.4%)	12 (0.5%)	48 (0.5%)
sub-Saharan Africa	789 (10%)	1068 (44%)	1857 (17%)
Caribbean	260 (3%)	121 (5%)	381 (4%)
Latin America	541 (7%)	198 (8%)	739 (7%)
North America	153 (2%)	7 (0.3%)	160 (2%)
North Africa & Middle East	92 (1%)	26 (1%)	118 (1%)
Australia & New Zealand	24 (0.3%)	0 (0%)	24 (0.2%)
Oceania & Pacific	19 (0.2%)	3 (0.1%)	22 (0.2%)
South (East) Asia	205 (2%)	110 (5%)	315 (3%)
NK	62 (0.8%)	8 (0.3%)	70 (0.7%)
Total	8215	2404	10619

NK: not known

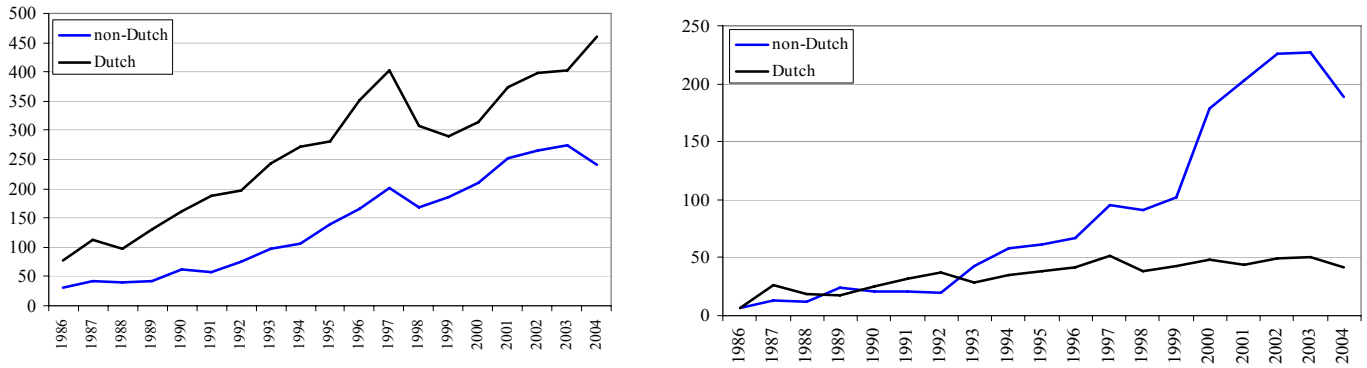

Figure C.1: Number of HIV cases, by origin (Dutch / non-Dutch), year of HIV -diagnosis and gender (left: male, right: female)

Table C.4: Number of HIV cases, by age group and gender

Age group	Male (%)	Female (%)	Total (%)
<15	62 (0.8%)	54 (2%)	116 (1%)
15-19	108 (1%)	188 (8%)	296 (3%)
20-24	564 (7%)	402 (17%)	966 (9%)
25-29	1257 (15%)	575 (24%)	1832 (17%)
30-39	3446 (42%)	820 (34%)	4266 (40%)
40-49	1897 (23%)	244 (10%)	2141 (20%)
≥ 50	880 (11%)	121 (5%)	1001 (9%)
NK	1 (0%)	0 (0%)	1 (0%)
Total	8215	2404	10619

NK: not known

Table C.5: Number of HIV cases, by transmission risk group and age group

Age group	MSM	Heterosexual contact	IDU	Blood (prod.)	Mother to child	Needle stick injury	Other/ NK	Total
<15	2 (0%)	4 (0.1%)	0 (0%)	15 (11%)	84 (98%)	0 (0%)	11 (1%)	116 (1%)
15-19	42 (0.8%)	203 (6%)	13 (2%)	13 (9%)	1 (1%)	0 (0%)	24 (3%)	296 (3%)
20-24	384 (7%)	428 (12%)	72 (13%)	15 (11%)	0 (0%)	2 (9%)	65 (8%)	966 (9%)
25-29	870 (16%)	699 (20%)	112 (20%)	26 (19%)	0 (0%)	2 (9%)	123 (16%)	1832 (17%)
30-39	2400 (43%)	1286 (37%)	248 (44%)	41 (30%)	0 (0%)	4 (18%)	287 (36%)	4266 (40%)
40-49	1304 (23%)	532 (15%)	110 (20%)	15 (11%)	0 (0%)	6 (27%)	174 (22%)	2141 (20%)
≥ 50	554 (10%)	313 (9%)	8 (1%)	14 (10%)	0 (0%)	8 (36%)	104 (13%)	1001 (9%)
NK	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)
Total	5556	3465	563	139	86	22	788	10619

NK: not known

Table C.6: Median age (years) of HIV cases, by region of origin and gender

Region of origin	Male (age/IQR)	Female (age/IQR)	Total (age/IQR)
The Netherlands	37.2 (31.3-44.6)	31.1 (25.3-40.3)	36.7 (30.5-44.2)
Western Europe	33.6 (28.6-39.9)	30.0 (26.3-35.2)	32.8 (28.1-39.2)
Sub-Saharan Africa	33.4 (27.8-38.4)	28.3 (23.6-33.9)	30.6 (24.9-36.1)
Caribbean	33.2 (28.7-39.9)	30.6 (24.5-38.1)	32.3 (27.2-39.2)
Latin America	33.7 (28.5-39.7)	31.0 (26.3-37.7)	33.0 (27.9-39.1)
South (East) Asia	34.5 (28.8-43.2)	31.0 (27.6-35.3)	33.0 (28.4-40.3)

IQR: interquartile range

Table C.7: Number of HIV cases, by region and transmission risk group

Transmission risk group	Amsterdam	North	East	South	West	Total
MSM	2840	268	425	484	1539	5556
	(51%)	(5%)	(8%)	(9%)	(28%)	(52%)
Heterosexual contact	1085	278	316	448	1338	3465
	(31%)	(8%)	(9%)	(13%)	(39%)	(33%)
IDU	275	35	29	90	134	563
	(49%)	(6%)	(5%)	(16%)	(24%)	(5%)
Blood (products)	42	9	10	10	68	139
	(30%)	(6%)	(7%)	(7%)	(49%)	(1%)
Mother to child	45	7	0	1	33	86
	(52%)	(8%)	(0%)	(1%)	(38%)	(0.8%)
Needle stick injury	9	0	4	1	8	22
	(41%)	(0%)	(18%)	(5%)	(36%)	(0.2%)
Other/NK	314	44	52	76	302	788
	(40%)	(6%)	(7%)	(10%)	(38%)	(7%)
Total	4610	641	836	1110	3422	10619

NK: not known

Table C.8: Number of HIV cases, by year of diagnosis and transmission risk group

	≤1997	1998	1999	2000	2001	2002	2003	2004
MSM	2774	313	316	334	392	423	419	459
	(59%)	(52%)	(51%)	(44%)	(45%)	(45%)	(44%)	(49%)
Heterosexual	1005	217	231	348	372	410	417	373
contact	(22%)	(36%)	(37%)	(46%)	(42%)	(43%)	(43%)	(40%)
IDU	450	20	20	11	18	13	20	9
	(10%)	(3%)	(3%)	(1%)	(2%)	(1%)	(2%)	(1%)
Blood	98	7	3	4	7	9	6	4
(products)	(2%)	(1%)	(0.5%)	(0.5%)	(1%)	(1%)	(0.6%)	(0.4%)
Mother to child	24	5	4	10	13	10	14	6
	(0.5%)	(1%)	(0.6%)	(1%)	(1%)	(1%)	(1%)	(0.6%)
Needle stick	5	2	3	1	1	5	2	3
injury	(0.1%)	(0.3%)	(0.5%)	(0.1%)	(0.1%)	(0.5%)	(0.2%)	(0.3%)
Other/NK	316	42	47	46	75	75	82	84
	(7%)	(7%)	(8%)	(6%)	(9%)	(8%)	(9%)	(9%)
Total	4672	606	624	754	878	945	960	938

NK: not known

Table C.9: Number of HIV cases, by region of origin and transmission group

Transmission risk group	The Netherlands	Sub-Saharan Africa	Surinam	Neth. Antilles/ Aruba	Western Europe
MSM	4113 (68%)	71 (4%)	141 (31%)	118 (39%)	424 (61%)
Heterosexual contact	1025 (17%)	1539 (83%)	257 (57%)	150 (50%)	106 (15%)
IDU	376 (6%)	6 (0.3%)	19 (4%)	5 (2%)	99 (14%)
Blood (products)	75 (1%)	40 (2%)	2 (0.5%)	2 (1%)	5 (0.7%)
Mother to child	60 (1%)	19 (1%)	1 (0.2%)	1 (0.3%)	1 (0.1%)
Needle stick injury	13 (0.2%)	3 (0.2%)	0 (0%)	1 (0.3%)	3 (0.4%)
Other/NK	386 (6%)	179 (10%)	29 (6%)	26 (9%)	58 (8%)
Total	6048	1857	449	303	696

NK: not known

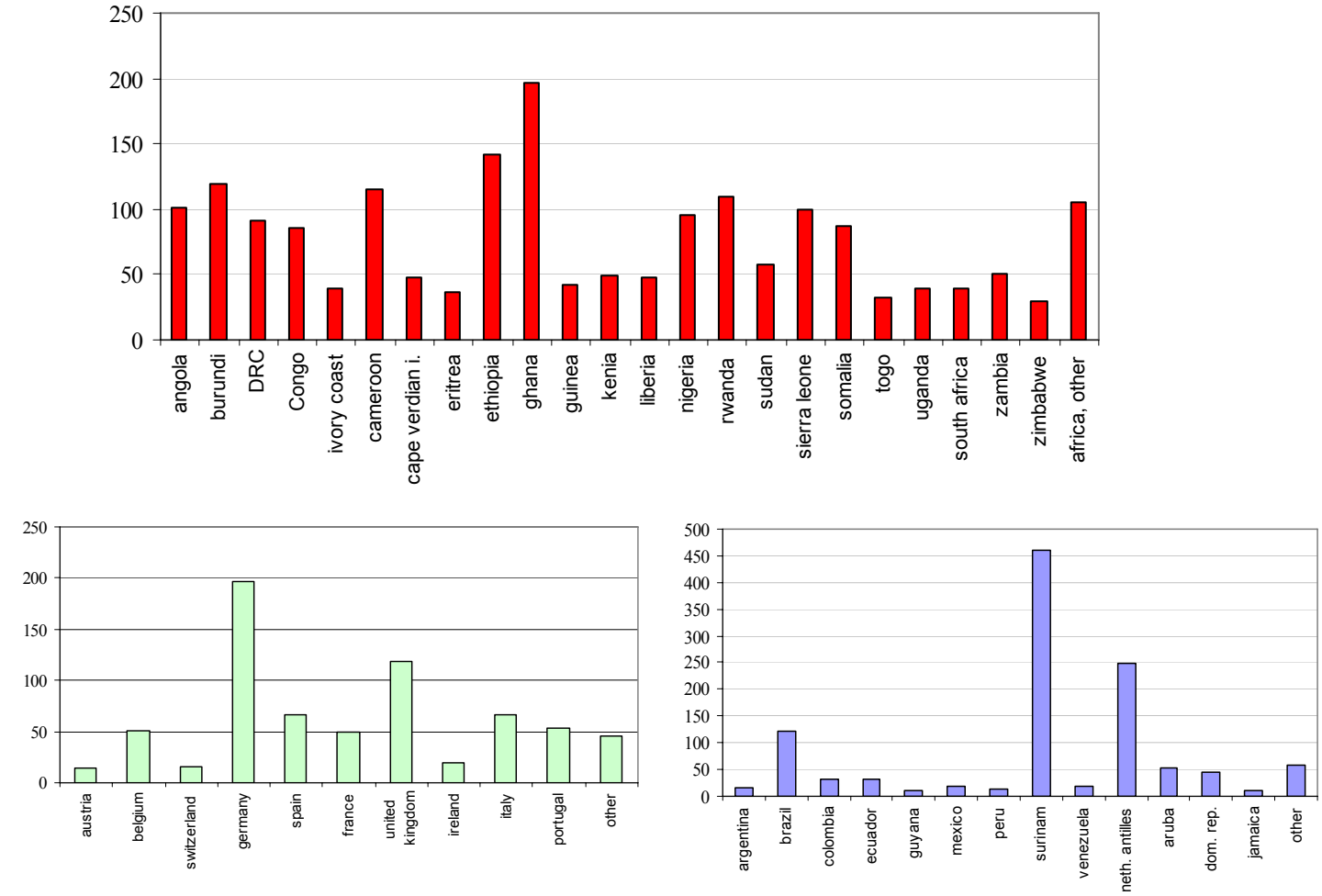

Figure C.2: Number of HIV cases, by sub-Saharan African Country, by West-European country, and by Latin American/Caribbean country

HIV cases diagnosed in 2004

Table C.10: Number of HIV cases diagnosed in 2004, by gender and transmission risk group

Transmission risk group	Male (%)	Female (%)	Total (%)
MSM	459 (65%)	0 (0%)	459 (49%)
Heterosexual contact	156 (22%)	217 (94%)	373 (40%)
IDU	8 (1%)	1 (0.4%)	9 (1%)
Blood (products)	4 (0%)	3 (1%)	4 (0.4%)
Mother to child	5 (0.7%)	1 (0.4%)	6 (0.6%)
Needle stick injury	6 (0.4%)	0 (0%)	3 (0.3%)
Other/NK	75 (12%)	9 (4%)	84 (9%)
Total	707	231	938

NK: not known

Table C.11: Number of HIV cases diagnosed in 2004, by region and gender

Region	Male (%)	Female (%)	Total (%)
Amsterdam	218 (31%)	65 (28%)	283 (30%)
North	36 (5%)	19 (8%)	55 (6%)
East	66 (9%)	16 (7%)	82 (9%)
South	75 (11%)	38 (16%)	113 (12%)
West	312 (44%)	93 (40%)	405 (43%)
Total	707	231	938

Table C.12: Number of HIV cases diagnosed in 2004, by gender and region of origin

Region of origin	Male (%)	Female (%)	Total (%)
The Netherlands	460 (65%)	42 (18%)	502 (54%)
Western Europe	29 (4%)	3 (1.3%)	32 (3%)
Central Europe	6 (0.8%)	2 (0.9%)	8 (0.8%)
Eastern Europe	6 (0.8%)	2 (0.9%)	8 (0.8%)
Sub-Saharan Africa	87 (12%)	127 (55%)	314 (23%)
Caribbean	25 (4%)	8 (3%)	33 (4%)
Latin America	54 (8%)	28 (12%)	82 (9%)
North America	5 (0.7%)	1 (0.4%)	6 (0.6%)
North Africa & Middle East	11 (2%)	4 (2%)	15 (2%)
Australia & New Zealand	2 (0.3%)	0 (0%)	2 (0.2%)
Oceania & Pacific	2 (0.3%)	0 (0%)	2 (0.2%)
South (East) Asia	14 (2%)	11 (5%)	25 (3%)
NK	6 (0.8%)	3 (1%)	9 (1%)
Total	707	231	938

NK: not known

Table C.13: Number of HIV cases diagnosed in 2004, by transmission risk group and age group

Age group	MSM	Hetero sexual contact	IDU	Blood (products)	Mother to child	Needle stick injury	NK	Total
<15	1 (0.2%)	0 (0%)	0 (0%)	0 (0%)	6 (100%)	0 (0%)	0 (0%)	7 (0.8%)
15-19	5 (1.1%)	14 (4%)	0 (0%)	1 (25%)	0 (0%)	0 (0%)	2 (2%)	22 (2%)
20-24	25 (5%)	50 (13%)	3 (33%)	1 (25%)	0 (0%)	0 (0%)	3 (4%)	82 (9%)
25-29	52 (11%)	69 (18%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	8 (10%)	129 (14%)
30-39	175 (38%)	150 (40%)	4 (44%)	0 (0%)	0 (0%)	1 (33%)	38 (45%)	365 (39%)
40-49	142 (31%)	53 (14%)	1 (11%)	21 (50%)	0 (0%)	0 (0%)	18 (21%)	216 (23%)
≥ 50	59 (13%)	37 (10%)	1 (11%)	0 (0%)	0 (0%)	2 (67%)	15 (17%)	114 (12%)
Total	459	373	9	4	6	3	84	938

Table C.14: Number of HIV cases diagnosed in 2004, by age group and gender

Age group	Male (%)	Female (%)	Total (%)
<15	6 (0.8%)	1 (0.4%)	7 (0.8%)
15-19	9 (1%)	13 (6%)	22 (2%)
20-24	44 (6%)	38 (16%)	82 (9%)
25-29	83 (12%)	46 (20%)	129 (14%)
30-39	281 (40%)	87 (38%)	368 (39%)
40-49	188 (27%)	28 (12%)	216 (23%)
≥ 50	96 (14%)	18 (8%)	114 (12%)
Total	707	231	938

Table C.15: Median age (years) of HIV cases diagnosed in 2004, by region of origin and gender

Region of origin	Male (age/IQR)	Female (age/IQR)	Total (age/IQR)
The Netherlands	39.8 (33.4-46.6)	38.7 (30.6-52.4)	39.8 (33.2-46.9)
Western Europe	37.2 (32.7-41.7)	40.7 (32.5-45.4)	37.5 (32.7-42.5)
Sub-Saharan Africa	33.7 (28.9-39.0)	29.4 (23.7-35.1)	31.2 (25.0-37.6)
Caribbean	33.2 (28.8-39.0)	37.7 (30.2-47.0)	33.2 (28.8-39.6)
Latin America	35.1 (29.5-37.8)	32.5 (29.7-37.4)	33.5 (29.5-37.8)
South (East) Asia	38.3 (30.2-49.5)	30.5 (27.9-33.0)	32.0 (30.0-39.7)

IQR: interquartile range

Table C.16: Median age (years) of heterosexual population diagnosed with HIV in 2004, by region of origin and gender

Region of origin	Male (age/IQR)	Female (age/IQR)	Total (age/IQR)
The Netherlands	41.6 (34.4-53.4)	37.7 (30.6-52.4)	41.2 (32.5-49.9)
Sub-Saharan Africa	32.1 (27.4-37.0)	29.5 (24.4-35.1)	30.6 (24.7-36.0)
Caribbean	29.2 (26.7-39.6)	37.7 (30.2-47.0)	32.9 (28.2-45.4)
Latin America	36.2 (32.2-41.5)	32.5 (29.7-37.4)	33.5 (30.7-39.3)

IQR: interquartile range

AIDS cases and AIDS related deaths

Table C.17: Number of AIDS diagnoses and AIDS related deaths (cumulative, per year)

Year	AIDS diagnoses (Cumulative)	AIDS diagnoses (year)	Deaths (Cumulative)	Deaths (year)
≤ 1987	504	504	223	223
1988	829	325	358	135
1989	1220	391	560	202
1990	1639	419	829	269
1991	2089	450	1123	294
1992	2599	510	1535	412
1993	3080	481	1962	427
1994	3574	494	2406	444
1995	4107	533	2845	439
1996	4566	459	3172	327
1997	4903	337	3356	184
1998	5141	238	3492	136
1999	5319	178	3629	137
2000	5563	244	3761	132
2001	5809	246	3889	128
2002	6095	286	3978	89
2003	6351	256	4065	87
2004	6591	240	4150	85
2005*	6648	57	NA	NA

Source AIDS related deaths: Statistics Netherlands, CBS
< 2000: AIDS cases registered by Health Inspectorate, after 2000: data from the HMF
* first 5 months of 2005; NA = not available

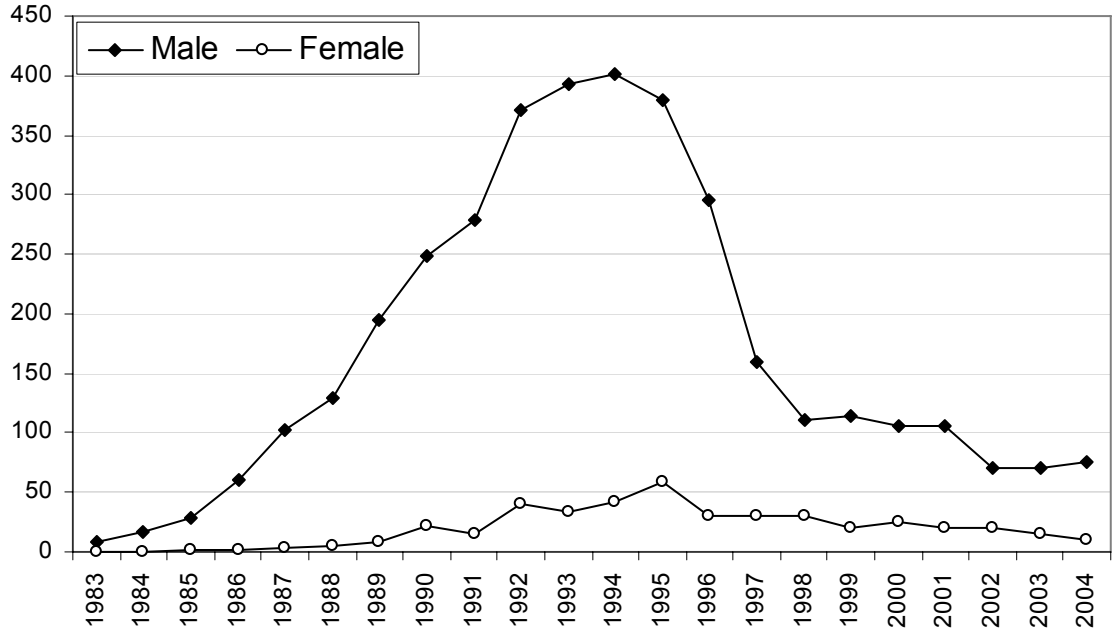

Figure C.4: Number of yearly AIDS related deaths, by sex

Table C.18: Number of AIDS patients, by year of AIDS diagnosis and transmission risk group

Year of diagnosis	MSM	Hetero-sexual contact	IDU	Blood (contacts)	Mother to child	NK	Total
≤ 87	424 (84%)	26 (5%)	28 (6%)	18 (4%)	3 (0.6%)	5 (1%)	504
1988	250 (77%)	18 (6%)	39 (12%)	13 (4%)	2 (0.6%)	3 (0.9%)	325
1989	305 (78%)	33 (8%)	36 (9%)	11 (3%)	1 (0.3%)	5 (1%)	391
1990	318 (76%)	34 (8%)	42 (10%)	17 (4%)	3 (0.7%)	5 (1%)	419
1991	335 (74%)	46 (10%)	43 (10%)	19 (4%)	2 (0.4%)	5 (1%)	450
1992	376 (74%)	51 (10%)	60 (12%)	12 (2%)	2 (0.4%)	9 (2%)	510
1993	317 (66%)	80 (17%)	61 (13%)	8 (2%)	3 (0.6%)	12 (2%)	481
1994	314 (64%)	94 (19%)	65 (13%)	14 (3%)	2 (0.4%)	5 (1%)	494
1995	314 (59%)	116 (22%)	74 (14%)	7 (1%)	9 (2%)	13 (2%)	533
1996	299 (65%)	95 (21%)	50 (11%)	5 (1%)	2 (0.4%)	8 (2%)	459
1997	174 (52%)	104 (31%)	43 (13%)	3 (1%)	2 (0.6%)	11 (3%)	337
1998	116 (49%)	78 (33%)	27 (11%)	1 (0.4%)	3 (1%)	13 (5%)	238
1999	81 (46%)	63 (35%)	24 (13%)	1 (0.6%)	2 (1%)	7 (4%)	178
2000	101 (41%)	102 (42%)	13 (5%)	3 (1%)	1 (0.4%)	24 (10%)	244
2001	101 (41%)	100 (41%)	9 (4%)	4 (2%)	0 (0%)	32 (13%)	246
2002	113 (40%)	126 (44%)	6 (2%)	6 (2%)	0 (0%)	35 (12%)	286
2003	106 (41%)	99 (39%)	10 (4%)	2 (1%)	0 (0%)	39 (15%)	256
2004	102 (43%)	93 (39%)	6 (3%)	3 (1%)	0 (0%)	36 (15%)	240
2005	27 (47%)	19 (33%)	2 (4%)	1 (2%)	0 (0%)	8 (14%)	57
Total	4173	1377	638	148	37	275	6648

< 2000: AIDS cases registered by Health Inspectorate, after 2000: data from the HMF
* 2005 data are incomplete, reported up to June

Table C.19: Number of AIDS cases, by year of AIDS diagnosis, age group and gender*

Age group	2000		2001		2002		2003		2004	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
<15	1	0	0	0	0	0	0	0	0	0
	(0.5%)	(0%)	(0%)	(0%)	(0%)	(0%)	(0%)	(0%)	(0%)	(0%)
15-19	1	1	4	3	5	6	2	2	2	2
	(0.5%)	(2%)	(2%)	(6%)	(2%)	(8%)	(1%)	(3%)	(1%)	(3%)
20-24	3	6	10	4	10	5	2	6	5	3
	(2%)	(12%)	(5%)	(8%)	(5%)	(6%)	(1%)	(10%)	(3%)	(5%)
25-29	20	5	9	8	12	11	12	12	11	7
	(10%)	(10%)	(5%)	(15%)	(6%)	(14%)	(6%)	(20%)	(6%)	(11%)
30-39	73	22	71	20	84	35	82	29	67	21
	(38%)	(43%)	(37%)	(38%)	(41%)	(44%)	(42%)	(48%)	(32%)	(41%)
40-49	71	10	53	13	54	11	59	4	63	13
	(37%)	(20%)	(27%)	(25%)	(26%)	(14%)	(30%)	(7%)	(31%)	(32%)
> 49	24	7	47	4	42	11	39	7	40	6
	(11%)	(14%)	(24%)	(8%)	(20%)	(14%)	(20%)	(12%)	(26%)	(8%)
Total	193	51	194	52	207	79	196	60	188	52

M: male, F: female
* Age at time of AIDS diagnosis

Table C.20: Median age (years) of AIDS patients at AIDS diagnosis, by region of origin and gender

Region of origin	Male (age/IQR)	Female (age/IQR)	Total (age/IQR)
The Netherlands	40.6 (34.6-47.9)	36.3 (30.3-43.2)	40.2 (34.1-47.4)
Western Europe	37.3 (32.4-42.9)	34.6 (31.9-38.7)	36.6 (32.3-42.6)
Sub-Saharan Africa	34.4 (28.6-38.8)	31.7 (26.4-36.1)	33.0 (27.7-37.7)
Caribbean	36.4 (32.3-44.0)	35.2 (29.3-41.1)	36.2 (32.1-43.9)
Latin America	36.7 (32.9-41.9)	33.4 (29.0-42.9)	36.3 (32.0-42.2)
South (East) Asia	39.1 (31.8-45.4)	32.2 (27.9-34.6)	34.5 (30.4-42.4)

IQR: interquartile range

Table C.21: Number of AIDS related deaths, by gender

	Male (%)*	Female (%)*
1996	295	30
1997	160	30
1998	110	30
1999	115	20
2000	105	25
2001	105	20
2002	70	20
2003	70	15
2004	75	10

Source AIDS related deaths: Statistics Netherlands, CBS
* round off to sets of 5 years

Table C.22: Number of death among AIDS patients (in SHM database), by year of death, age group and gender***

Age group	2001		2002		2003		2004		2005#	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
<20	2	0	0	0	1	2	0	0	0	0
	(3%)	(0%)	(0%)	(0%)	(1%)	(8%)	(0%)	(0%)	(0%)	(0%)
20-25	0	0	2	1	2	1	1	0	0	1
	(0%)	(0%)	(2%)	(6%)	(2%)	(4%)	(1%)	(0%)	(0%)	(20%)
25-30	0	0	3	2	7	1	6	0	0	0
	(0%)	(0%)	(3%)	(11%)	(6%)	(4%)	(6%)	(0%)	(0%)	(0%)
30-35	6	2	5	4	7	1	15	3	3	2
	(9%)	(25%)	(6%)	(22%)	(6%)	(4%)	(14%)	(19%)	(9%)	(40%)
35-40	13	0	7	4	10	2	11	1	1	0
	(19%)	(0%)	(7%)	(22%)	(9%)	(8%)	(10%)	(6%)	(3%)	(0%)
40-45	8	1	7	0	7	3	11	3	7	1
	(12%)	(12%)	(7%)	(0%)	(6%)	(12%)	(10%)	(19%)	(20%)	(20%)
45-50	12	0	7	0	9	0	10	0	3	0
	(18%)	(0%)	(7%)	(0%)	(8%)	(0%)	(9%)	(0%)	(9%)	(0%)
50-55	6	0	4	0	9	1	10	0	3	0
	(9%)	(0%)	(4%)	(0%)	(8%)	(4%)	(9%)	(0%)	(9%)	(0%)
55-60	0	1	6	0	9	0	8	0	4	0
	(0%)	(12%)	(6%)	(0%)	(8%)	(0%)	(7%)	(0%)	(11%)	(0%)
>65	2	0	5	0	4	2	3	1	2	1
	(3%)	(0%)	(5%)	(0%)	(4%)	(8%)	(3%)	(6%)	(6%)	(20%)
NK	18	4	48	7	49	13	33	6	12	0
	(27%)	(50%)	(51%)	(39%)	(45%)	(54%)	(31%)	(38%)	(34%)	(0%)
Total	67	8	94	18	108	24	107	16	35	5

* age group at time of death, ** includes all causes of deaths, # first 5 months of 2005

Table C.23: Number of HIV cases, by transmission risk group and known country of infection

Transmission risk group	Total number	Country of infection known (%)	Infected in the Netherlands (%)
MSM	5556	3858 (69%)	3423 (89%)
- Dutch	4113	3053 (74%)	2950 (97%)
- Non-Dutch	1443	805 (56%)	473 (59%)
Heterosexual contact	3465	2525 (73%)	1005 (40%)
- Dutch	1025	788 (77%)	605 (77%)
- Non-Dutch	2440	1737 (71%)	398 (23%)
IDU	563	409 (73%)	357 (87%)
- Dutch	376	291 (77%)	285 (98%)
- Non-Dutch	187	118 (63%)	72 (61%)
Blood (products)	139	125 (90%)	63 (50%)
- Dutch	75	65 (87%)	56 (86%)
- Non-Dutch	64	60 (94%)	7 (12%)

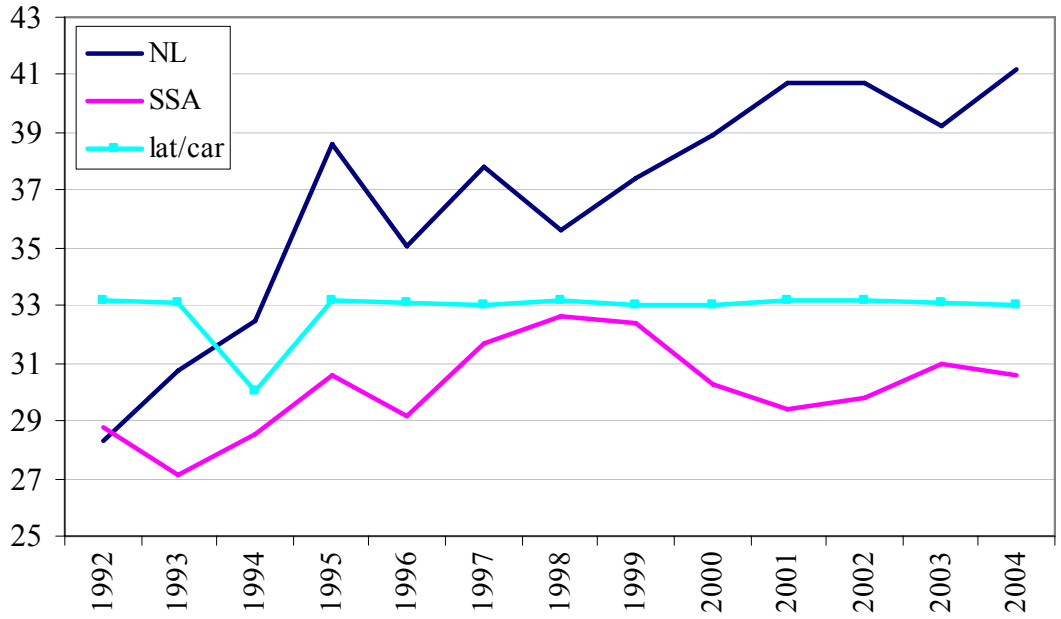

Figure C.5: Median age of heterosexual population over time, by geographic region; NL= Netherlands, SSA= sub-Saharan Africa, Lat/Car= Latin America and the Caribbean

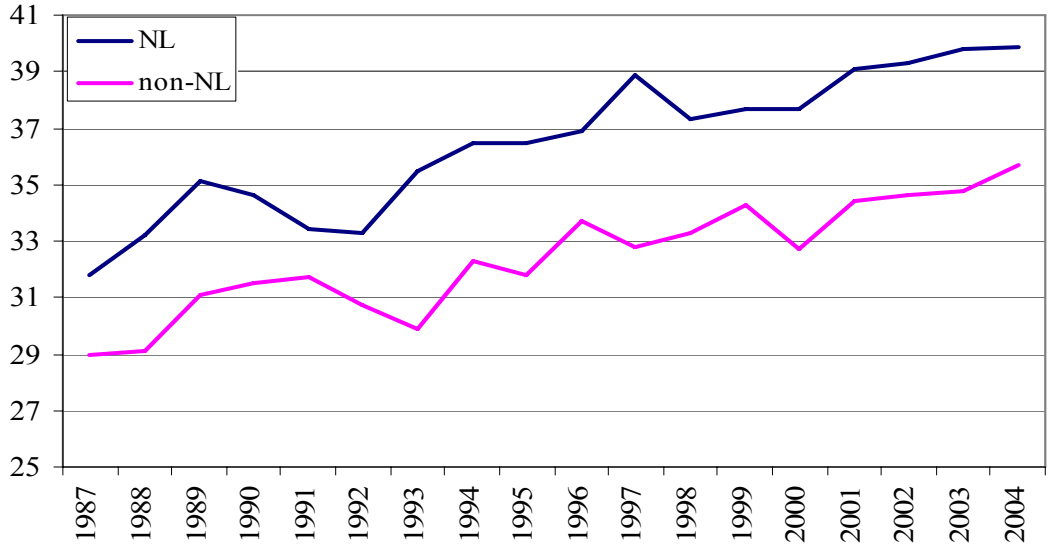

Figure C.6: Median age of MSM population over time, by ethnicity (Dutch/non-Dutch)

Table C.24: Age groups of MSM, by year of HIV diagnosis

Age group	2000	2001	2002	2003	2004	2005*
<15;1	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.2%)	1 (0.8%)
15-19;2	1 (0.3%)	0 (0%)	2 (0.5%)	2 (0.5%)	5 (1%)	0 (0%)
20-24;3	19 (6%)	16 (4%)	15 (4%)	20 (5%)	25 (5%)	7 (6%)
25-29;4	47 (14%)	45 (11%)	43 (10%)	44 (11%)	52 (11%)	12 (10%)
30-39;5	165 (49%)	170 (43%)	193 (46%)	170 (41%)	175 (38%)	50 (40%)
40-49;6	68 (20%)	108 (28%)	116 (27%)	109 (26%)	142 (31%)	42 (33%)
≥ 50;7	34 (10%)	53 (14%)	54 (13%)	74 (18%)	59 (13%)	14 (11%)
Total	334	392	423	419	459	126

* first 5 months of 2005

Table C.25: Summary of HIV/AIDS figures, June 2005

Cumulative number of HIV cases [1]	10619
Male/female	8215/2404
Route of transmission [1]	
- MSM	5556 (52%)
- Heterosexual contact	3465 (33%)
- Injecting drug use	563 (5%)
- Blood (products)	139 (1%)
- Needle stick injury	22 (0.2%)
- Mother to child transmission	86 (0.8%)
- Other/ NK	788 (7%)
Newly diagnosed HIV cases (2004) [1]	938
Male/female	707/231
Route of transmission	
- MSM	459 (49%)
- Heterosexual contact	373 (40%)
- Injecting drug use	9 (1%)
- Blood (products)	4 (0.4%)
- Needle stick injury	3 (0.3%)
- Mother to child transmission	6 (0.6%)
- Other/NK	84 (9%)
Estimated number of people living with HIV/AIDS in 2003	16000-23000
Cumulative number of AIDS cases since epidemic began [2]	6591
Newly diagnosed AIDS cases in 2004	240
Cumulative number of deaths from HIV/AIDS since epidemic began	4150
Cumulative number of deaths from HIV/AIDS in 2004 [3]	85
Cumulative number of AIDS patients alive in 2004	≈ 2400

* age at diagnosis; 1: data source: HMF, 2: data source AIDS cases < 2000: Health Inspectorate, data source AIDS cases ≥ 2000: HMF
3: data source: CBS, Statistics Netherlands

Appendix D. Tables and figures STI Surveillance

Table D.1: Number of consultations by sex

Gender	Total (%)
Men	26534 (53.4)
Women	23138 (46.6)
Transgender*	29 (0.1)
Total	49701

*Transgenders are disregarded in the rest of the tables

Table D.2: Number of consultations per month

Month	Total (%)
January	3826 (7.7)
February	3613 (7.3)
March	4365 (8.8)
April	3686 (7.4)
May	3315 (6.7)
June	4521 (9.1)
July	4433 (8.9)
August	4448 (9.0)
September	4326 (8.7)
October	4321 (8.7)
November	4480 (9.0)
December	4338 (8.7)
Total	49672

Table D.3: Number of consultations by sex and age

Age	Male (%)	Female (%)	Total (%)
Unknown	6(0.0)	5(0.0)	11(0.0)
≤14	16(0.1)	68(0.3)	84(0.2)
15-19	1073(4.0)	3073(13.3)	4146(803)
20-24	5568(21.0)	8957(38.7)	14525(29.2)
25-29	5438(20.5)	5201(22.5)	10639(21.4)
30-34	4410(16.6)	2508(10.8)	6918(13.9)
35-39	3513(13.2)	1425(6.2)	4938(9.9)
40-44	2667(10.1)	931(4.0)	3598(7.2)
45-49	1711(6.4)	502(2.2)	2213(4.5)
50-54	981(3.7)	261(1.1)	1242(2.5)
≥55	1151(4.3)	207(0.9)	1358(2.7)
Total	26534	23138	49672

Table D.4: Number of consultations by sex and ethnicity (excluding GGD Amsterdam)

Ethnicity	Male (%)	Female (%)	Total (%)
The Netherlands	11664(80.3)	11376(80.2)	23040(80.2)
Turkey	305(2.1)	61(0.4)	366(1.3)
Northern Africa/ Morocco	268(1.8)	102(0.7)	370(1.3)
Surinam	504(3.5)	470(3.3)	974(3.4)
The Netherlands Antilles	396(2.7)	283(2.0)	679(2.4)
Eastern Europe	91(0.6)	439(3.1)	530(1.8)
Sub-Saharan Africa	309(2.1)	291(2.1)	600(2.1)
Latin America	101(0.7)	310(2.2)	411(1.4)
Europe else	368(2.5)	492(3.5)	860(3.0)
Asia	302(2.1)	217(1.5)	519(1.8)
Unknown	145(1.0)	130(0.9)	275(1.0)
Else	68(0.5)	19(0.1)	87(0.3)
Total	14521	14190	28711

Table D.5: Number of consultations for men by sexual preference

Sexual preference	Total (%)
Heterosexual	18033(68.0)
Homo/bisexual	7381(27.8)
Unknown	1120(4.2)
Total	26534

Table D.6: Number of consultations by client of CSW (M) or CSW (F)

Sex worker (or client)	Male client (%)	Female CSW (%)	Total 2003
No	24782(93.4)	20596(89.0)	45378(91.4)
Yes, in past 6 months	1165 (4.4)	2234(9.7)	3399 (6.8)
Unknown	587 (2.2)	308(1.3)	895 (1.8)
Total	26534	23138	49672

Table D.7: Number of consultations by sex and injecting drug use (excluding GGD Amsterdam)

Injecting drug use	Male (%)	Female (%)	Total (%)
No	14209(97.9)	13987 (98.6)	28196 (98.2)
Yes, in past 6 months	41 (0.3)	25 (0.2)	66 (0.2)
Unknown	271 (1.9)	178 (1.3)	449 (1.6)
Total	14521	14190	28711

Table D.8: Number of consultations by sex and prior HIV test (excluding GGD Amsterdam)

Prior HIV test	Male (%)	Female (%)	Total (%)
No	8839(60.9%)	9225(65.0%)	18064(62.9%)
Yes, positive	316 (2.2%)	26 (0.2%)	342 (1.2%)
Yes, negative	4568(31.5%)	4117(29.0%)	8685(30.2%)
Yes, result unknown	67 (0.5%)	52(0.4%)	119(0.4%)
Unknown	731 (5.0%)	770(5.4%)	1501(5.2%)
Total	14521	14190	28711

Table D.9: Number of consultations by sex and previous GO/CT/Lues in anamnesis (excluding GGD Amsterdam)

Previous GO/CT/Lues	Male (%)	Female (%)	Total (%)
Yes	2861(19.7%)	2196(15.5%)	5057(17.6%)
No	10990(75.7%)	11418(80.5%)	22408(78.0%)
Do not know	86 (0.6%)	66(0.5%)	152(0.5%)
Unknown	584(4.0%)	510(3.6%)	1094(3.8%)
Total	14521	14190	28711

Table D.10: Reported reasons for consultation (excluding GGD Amsterdam)

Reason	Men(%)	Female(%)	Total(%)
Symptoms	5316(28.5)	4332(23.2)	9648(25.9)
New relationship	2315(12.4)	2276(12.2)	4591(12.3)
Risk behaviour	5636(30.2)	5181(27.8)	10817(29.0)
Risk behaviour partner	499(2.7)	1311(7.0)	1810(4.9)
Partner HIV positive	53(0.3)	14(0.1)	67(0.2)
Notification	1042(5.6)	613(3.3)	1655(4.4)
Periodic screening	462(2.5)	1130(6.1)	1592(4.3)
HBV vaccination	795(4.3)	523(2.8)	1318(3.5)
Only information	19(0.1)	19(0.1)	38(0.1)
Other	377(2.0)	286(1.5)	663(1.8)
HIV test	379(2.0)	303(1.6)	682(1.8)
Uncertainty, anxiety, concern	1425(7.6)	1995(10.7)	3420(9.2)
Condom failure	187(1.0)	303(1.6)	490(1.3)
Sexual violence	22(0.1)	223(1.2)	245(0.7)
Non HIV declaration or visa	61(0.3)	21(0.1)	82(0.2)
Child wish or pregnancy	32(0.2)	54(0.3)	86(0.2)
Needle Stick or bite incident	10(0.1)	14(0.1)	24(0.1)
Unknown	45(0.2)	35(0.2)	80(0.2)
Total	18675	18633	37308

Table D.11a: Number of diagnoses by sex

Diagnosis	Male(%)	Female(%)	Total(%)
Gonorrhoea	1265(14.0)	303(4.9)	1568(10.3)
Chlamydia	2389(26.4)	2081(33.7)	4470(29.4)
Syphilis: primary	250(2.8)	17(0.3)	267(1.8)
“” : secondary	164(1.8)	12(0.2)	176(1.2)
“” : latens recens	158(1.7)	25(0.4)	183(1.2)
“” : latens tarda	94(1.0)	45(0.7)	139(0.9)
“” : not specified	60(0.7)	18(0.3)	78(0.5)
HIV +	186(2.1)	32(0.5)	218(1.4)
Genital warts	1048(11.6)	755(12.2)	1803(11.9)
Genital herpes: prim.: HSV type 1	43(0.5)	75(1.2)	118(0.8)
“” : prim.: HSV type 2	91(1.0)	67(1.1)	158(1.0)
“” : prim.: HSV type unknown	187(2.1)	110(1.8)	297(2.0)
“” : recurrent	21(0.2)	27(0.4)	48(0.3)
Hepatitis B: acute	21(0.2)	5(0.1)	26(0.2)
Hepatitis B: chronic	32(0.4)	18(0.3)	50(0.3)
Hepatitis B: recovered	332(3.7)	116(1.9)	448(2.9)
Non specified Urethritis	2142(23.7)	27(0.4)	2169(14.3)
Candidiasis	90(1.0)	1048(17.0)	1138(7.5)
Bacterial Vaginose	3(0.0)	1095(17.8)	1098(7.2)
Trichomoniasis	5(0.1)	232(3.8)	237(1.6)
Scabies	38(0.4)	11(0.1)	49(0.3)
Pubic Lice	15(0.2)	1(0.0)	16(0.1)
Ulcus e.c.i.	148(1.6)	33(0.5)	181(1.2)
Lymphogranuloma venereum	69(0.8)	0(0)	69(0.5)
Mollusca Contagiosa	19(0.2)	11(0.2)	30(0.2)
Proctitis	170(1.9)	2(0.0)	172(1.1)
Total	9040	6166	15206

Table D.11b: Location of chlamydial infection by sex and sexual preference

Location	Male hetero (%)	MSM (%)	Female (%)	Total (%)
Urethral/cervical	1675 (99.8)	342 (46.0)	2034(93.5)	4051(88.1)
Anorectal	1 (0.1)	383 (51.5)	116 (5.3)	500(10.9)
Oral	0 (0)	14 (1.9)	23 (1.1)	37 (0.8)
Unknown	2 (0.1)	4 (0.5)	2 (0.1)	8 (0.2)
Total	1678	743	2175	4596

Table D.11c: Location of gonorrhoea by sex and sexual preference

Location	Male hetero (%)	MSM (%)	Female (%)	Total (%)
Urethral/cervical	488(99.9)	444(50.3)	272(75.3)	1204(69.4)
Anorectal	0 (0.1)	334(37.9)	52(14.4)	386(22.3)
Oral	1(0.2)	104(11.8)	36(10.0)	141(8.)
Unknown	2 (0.4)	0 (0)	1 (0.3)	3 (0.2)
Total	491	882	361	1734

Table D.12a: Diagnoses by age, men

Diagnosis	≤14(%)	15-19 (%)	20-24(%)	25-29(%)	30-34(%)	35-39(%)	40-44(%)	45-49(%)	50-54(%)	>55(%)	Total(%)
Gonorrhoea	0(0)	51(4.0)	195(15.4)	228(18.0)	224(17.7)	194(15.3)	157(12.4)	107(8.5)	50(4.0)	59(4.7)	1265(21.9)
Chlamydia	1(0.0)	114(4.8)	654(27.4)	547(22.9)	387(16.2)	299(12.5)	185(7.7)	112(4.7)	49(2.1)	41(1.7)	2389(41.3)
Syphilis	0(0)	5(0.9)	39(6.8)	69(12.1)	97(17.0)	96(16.8)	103(18.0)	76(13.3)	49(8.6)	38(6.6)	572(9.9)
HIV+	0(0)	2(1.1)	17(9.1)	37(19.9)	31(16.7)	34(18.3)	31(16.7)	17(9.1)	11(5.9)	6(3.2)	186(3.2)
Genital warts	0(0)	29(2.8)	179(17.1)	249(23.8)	196(18.7)	170(16.2)	89(8.5)	73(7.0)	30(2.9)	33(3.1)	1048(18.1)
Genital herpes	0(0)	14(4.4)	40(12.5)	57(17.8)	59(18.4)	52(16.2)	35(10.9)	28(8.7)	16(5.0)	20(6.2)	321(5.6)

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.12b: Diagnoses by age, women

Diagnosis	≤14(%)	15-19(%)	20-24(%)	25-29(%)	30-34(%)	35-39(%)	40-44(%)	45-49(%)	50-54(%)	>55(%)	Unknown	Total(%)
Gonorrhoea	0(0)	90(29.7)	117(38.6)	48(15.8)	18(5.9)	15(5.0)	8(2.6)	3(1.0)	2(0.7)	2(0.7)	0(0)	303(8.7)
Chlamydia	2(0.1)	452(21.7)	957(46.0)	396(19.0)	137(6.6)	77(3.7)	34(1.6)	13(0.6)	7(0.3)	5(0.2)	1(0.0)	2081(59.9)
Early syphilis	0(0)	2(3.7)	9(16.7)	7(13.0)	7(13.0)	9(16.7)	5(9.3)	6(11.1)	4(7.4)	5(9.3)	0(0)	54(1.6)
HIV+	0(0)	1(3.1)	13(40.6)	8(25.0)	4(12.5)	4(12.5)	2(6.3)	0(0)	0(0)	0(0)	0(0)	32(0.9)
Genital warts	0(0)	91(12.1)	298(39.5)	179(23.7)	78(10.3)	48(6.4)	32(4.2)	15(2.0)	10(1.3)	4(0.5)	0(0)	755(21.7)
Genital herpes	0(0)	30(11.9)	86(34.1)	42(16.7)	39(14.7)	17(6.7)	17(6.7)	9(3.6)	8(3.2)	6(2.4)	0(0)	252(7.2)

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.13a: Diagnoses by ethnicity, men (excluding GGD Amsterdam)

Diagnosis	The Netherlands (%)	Turkey (%)	North Africa/ Mor (%)	Sur./Ant./ Aruba (%)	Sub-Sah. Africa (%)	Eastern Europe (%)	Latin America (%)	Asia (%)	Europe other (%)	Else (%)	Unknown (%)	Total
Gonorrhoea	334(66.1)	15(3.0)	12(2.4)	79(15.6)	16(3.2)	3(6.0)	7(1.4)	7(1.4)	22 (4.4)	4(0.8)	6(1.2)	505
Chlamydia	845(72.0)	35(3.0)	31(2.7)	139(11.8)	33(2.8)	8(9.7)	10(0.9)	17(1.4)	36(3.1)	8(0.7)	12(1.0)	1174
Early syphilis*	279(79.3)	5(1.4)	2(0.6)	28(7.9)	5(1.4)	2(0.6)	3(0.9)	10(2.8)	13(3.7)	0(0)	5(1.4)	352
HIV+	63(75.0)	0(0)	0(0)	5(6.0)	6(7.1)	3(3.6)	2(2.4)	0(0)	3(3.6)	1(1.2)	1(1.2)	84
Genital warts	473(73.7)	21(3.3)	28(4.3)	52(8.1)	13(2.0)	6(0.9)	3(0.5)	15(2.3)	15(2.3)	4(0.6)	12(1.9)	642
Genital herpes	111(74.0)	1(9.7)	1(0.7)	21(14.0)	3(2.0)	1(0.7)	2(1.3)	3(2.0)	6(4.0)	0(0)	1(0.7)	150

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.13b: Diagnoses by ethnicity, women (excluding GGD Amsterdam)

Diagnosis	The Netherlands (%)	Turkey (%)	North Africa/ Mor (%)	Sur./Ant./ Aruba (%)	Sub-Sah. Africa (%)	Eastern Europe (%)	Latin America (%)	Asia (%)	Europe other (%)	Else (%)	Unknown (%)	Total
Gonorrhoea	89(60.1)	3(2.0)	1(0.7)	28(18.9)	6(4.1)	10(6.8)	1(0.7)	4(2.7)	4(2.7)	0(0)	2(1.4)	148
Chlamydia	947(77.8)	12(1.0)	6(0.5)	121(10.0)	19(1.6)	30(2.5)	16(1.3)	23(1.9)	35(2.9)	1(0.1)	8(0.7)	1218
Early syphilis*	26(66.7)	0(0)	0(0)	5(12.8)	0(0)	2(5.1)	2(5.1)	2(5.1)	1(2.6)	0(0)	1(2.6)	39
HIV+	4(26.7)	0(0)	0(0)	2(13.4)	8(53.3)	0(0)	0(0)	0(0)	1(6.7)	0(0)	0(0)	15
Genital warts	444(83.0)	2(0.4)	7(1.3)	41(7.7)	5(0.9)	3(0.6)	3(0.6)	9(1.7)	14(2.6)	2(0.4)	5(0.9)	535
Genital herpes	126(77.3)	2(1.2)	1(0.6)	15(8.8)	3(1.8)	0(0)	2(1.2)	6(3.7)	5(3.1)	2(1.2)	1(0.6)	163

* Early syphilis includes Lues I, Lues II and Lues latens recens1218

Table D.14: Diagnoses by sexual preference, men

Diagnosis	Heterosexual (%)	MSM (%)	Unknown (%)	Total
Gonorrhoea	490(38.7)	757(59.8)	18(1.4)	1265
Chlamydia	1678(70.2)	686(28.7)	25(1.0)	2389
Early syphilis*	69(12.1)	489(85.5)	14(2.4)	572
HIV+	31(16.7)	146(78.5)	9(4.8)	186
Genital warts	697(66.5)	337(32.3)	14(1.3)	1048
Genital herpes	221(68.8)	95(29.6)	5(1.6)	321

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.15a: Diagnoses by client of CSW, men

Diagnosis	No	Yes, in past 6 months	Unknown	Total
Gonorrhoea	1181(93.4)	63(5.0)	21(1.7)	1265
Chlamydia	2273(95.1)	74(3.1)	42(1.8)	2389
Early syphilis*	548(95.8)	12(2.1)	12(2.1)	572
HIV+	181(97.3)	1(0.5)	4(2.2)	186
Genital warts	984(93.9)	41(3.9)	23(2.2)	1048
Genital herpes	306(95.2)	8(2.5)	7(2.2)	321

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.15b: Diagnoses by CSW, women

Diagnosis	No	Yes, in past 6 months	Unknown	Total
Gonorrhoea	267(88.1)	33(10.9)	3(1.0)	303
Chlamydia	1923(92.4)	148(7.1)	10(0.5)	2081
Early syphilis*	36(66.7)	15(27.8)	3(5.6)	54
HIV+	29(90.6)	2(6.3)	1(3.1)	32
Genital warts	701(92.8)	50(6.6)	4(0.5)	755
Genital herpes	239(94.8)	12(4.8)	1(0.4)	252

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.16: Diagnoses by injecting drug use (excluding GGD Amsterdam)

Diagnosis	No	Yes, in past 6 months	Unknown	Total
Gonorrhoea	641(98.2)	1(0.2)	11(1.7)	653
Chlamydia	2365(98.8)	4(0.2)	23(1.0)	2392
Early syphilis*	378(96.7)	1(0.3)	12(3.1)	391
HIV+	96(97.0)	0(0)	3(3.0)	99
Genital warts	1163(98.8)	0(0)	14(1.2)	1177
Genital herpes	309(98.7)	2(0.6)	2(0.6)	313

- Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.17: Diagnoses by previous HIV test (excluding GGD Amsterdam)

Diagnosis	No	Yes, positive	Yes, negative	Yes, result unknown	Unknown	Total
Gonorrhoea	377(57.7)	36(5.5)	203(31.1)	4(0.6)	33(5.1)	653
Chlamydia	1641(68.6)	33(1.4)	596(24.9)	13(0.5)	109(4.6)	2392
Early syphilis*	151(38.6)	61(15.6)	157(40.2)	1(0.3)	21(5.4)	391
HIV+	53(53.5)	0(0)	43(43.4)	0(0)	3(3.0)	99
Genital warts	673(57.2)	26(2.2)	420(35.7)	4(0.3)	54(4.6)	1177
Genital herpes	193(61.7)	5(1.6)	98(31.3)	2(0.6)	15(4.8)	313

* Early syphilis includes Lues I, Lues II and Lues latens recens2392

Table D.18a: Diagnoses by previous GO/CT/Lues in anamnesis, men (excluding GGD Amsterdam)

Diagnosis	Yes	No	Don't know	Unknown	Total
Gonorrhoea	187(37.0)	296(58.6)	0(0)	22(4.4)	505
Chlamydia	279(23.8)	857(73.0)	6(0.5)	32(2.7)	1174
Early syphilis*	152(43.2)	186(52.8)	1(0.3)	13(3.7)	352
HIV+	35(41.7)	48(57.1)	0(0)	1(1.2)	84
Genital warts	137(21.3)	477(74.3)	7(1.1)	21(3.3)	642
Genital herpes	34(22.7)	105(70.0)	1(0.7)	10(6.7)	150

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.18b: Diagnoses by previous GO/CT/Lues in anamnesis, women (excluding GGD Amsterdam)

Diagnosis	Yes	No	Don't know	Unknown	Total
Gonorrhoea	30(20.3)	111(75.0)	1(0.7)	6(4.1)	148
Chlamydia	210(17.2)	973(79.9)	6(0.5)	29(2.4)	1218
Early syphilis*	11(28.2)	20(51.3)	1(2.6)	7(17.9)	39
HIV+	2(13.3)	12(80.0)	0(0)	1(6.7)	15
Genital warts	86(16.1)	431(80.6)	0(0)	18(3.4)	535
Genital herpes	19(11.7)	137(84.0)	3(1.8)	4(2.5)	163

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.19a: Number of tests and percentage of positive tests by age, heterosexual men

	HIV		Gonorrhoea		Chlamydia		Early syphilis*	
Age	**Tests**	**% pos.**	**Tests**	**% pos.**	**Tests**	**% pos.**	**Tests**	**% pos.**
0-14	5	0	6	0	6	16.7	10	0
15-19	456	0.4	778	4.9	800	13.0	807	0.1
20-24	2692	0.2	4295	2.9	4500	13.2	4200	0.2
25-29	2524	0.3	3828	2.8	3978	11.0	3803	0.2
30-34	1717	0.2	2771	2.3	2849	9.3	2774	0.3
35-39	1022	0.6	1762	2.8	1830	7.8	1761	0.7
40-44	593	0.3	1141	3.5	1183	5.6	1117	0.7
45-49	388	0.3	757	4.0	778	5.0	748	1.2
50-54	211	0.9	411	3.4	433	3.5	412	1.2
55 >	291	0.3	528	4.0	548	2.6	512	1.6
Unknown	1	0	2	0	2	0	1	0
Total	9898	0.3	16279	3.0	16907	9.9	16145	0.4

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.19b: Number of tests and percentage of positive tests by age, homo- and bisexual men

	HIV		Gonorrhoea		Chlamydia		Early syphilis*	
Age	**Tests**	**% pos.**	**Tests**	**% pos.**	**Tests**	**% pos.**	**Tests**	**% pos.**
0-14	1	0	0	0	0	0	1	0
15-19	80	0	99	11.1	105	8.6	116	3.4
20-24	452	2.2	554	12.8	588	9.7	629	4.8
25-29	591	4.7	891	13.1	925	11.2	971	6.2
30-34	556	4.7	1056	14.8	1084	10.6	1103	7.4
35-39	570	4.6	1243	11.1	1272	11.7	1279	6.4
40-44	473	5.7	1109	10.5	1133	10.5	1162	8.1
45-49	323	4.6	702	10.7	723	10.1	739	8.9
50-54	207	4.3	407	8.8	321	7.8	429	10.0
55 >	230	2.2	417	8.9	435	6.2	439	6.4
Unknown	0	0	3	0	3	0	3	0
Total	3483	4.2	6481	11.7	6689	10.3	6871	7.1

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.19c: Number of tests and percentage of positive tests by age, women

	HIV		Gonorrhoea		Chlamydia		Early syphilis*	
Age	**Tests**	**% pos.**	**Tests**	**% pos.**	**Tests**	**% pos.**	**Tests**	**% pos.**
0-14	23	0	39	0	46	4.3	55	0
15-19	1443	0.1	2784	3.2	2858	15.8	2653	0.1
20-24	5165	0.3	8309	1.4	8597	11.1	7816	0.1
25-29	3120	0.3	4784	1.0	4910	8.1	4613	0.2
30-34	1498	0.3	2302	0.8	2367	5.8	2237	0.3
35-39	797	0.5	1273	1.2	1318	5.8	1231	0.7
40-44	502	0.4	825	1.0	852	4.0	821	0.6
45-49	279	0	445	0.7	460	2.8	447	1.3
50-54	142	0	227	0.9	231	3.0	220	1.8
>55	100	0	177	1.1	181	2.8	182	2.7
Unknown	1	0	5	0	5	20.0	55	0
Total	13070	0.2	21170	1.4	21825	9.5	20275	0.3

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.20a: Diagnoses in young heterosexual men

Diagnosis	16-17 (%)	18-19 (%)	20-21 (%)	22-24 (%)
Gonorrhoea	3(13.6)	31(20.8)	46(14.6)	78(13.3)
Chlamydia	15(68.2)	86(57.7)	219(69.3)	374(63.6)
Early syphilis*	1(4.5)	0(0)	2(0.6)	7(1.2)
HIV+	0(0)	2(1.3)	2(0.6)	4(0.7)
Genital warts	2(9.1)	21(14.1)	34(10.8)	101(17.2)
Genital herpes	1(4.5)	9(6.0)	13(4.1)	24(4.1)

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.20b: Diagnoses in young MSM

Diagnosis	16-17 (%)	18-19 (%)	20-21 (%)	22-24 (%)
Gonorrhoea	3(60.0)	8(28.6)	26(36.6)	45(32.6)
Chlamydia	1(20.0	8(28.6)	19(26.8)	38(27.5)
Early syphilis*	0(0)	4(14.3)	10(14.1)	20(14.5)
HIV+	0(0)	0(0)	5(7.0)	5(3.6)
Genital warts	0(0)	6(21.4)	9(12.7)	29(21.0)
Genital herpes	1(20.0)	2(7.1)	2(2.8)	1(0.7)

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.20c: Diagnoses in young women

Diagnosis	16-17 (%)	18-19 (%)	20-21 (%)	22-24 (%)
Gonorrhoea	22(13.8)	63(13.2)	57(8.1)	60(7.7)
Chlamydia	105(66.0)	326(68.3)	459(65.2)	498(64.2)
Early syphilis*	0(0)	2(0.4)	5(0.7)	4(0.5)
HIV+	0(0)	1(0.2)	6(0.9)	7(0.9)
Genital warts	23(14.5)	66(13.8)	145(20.6)	153(19.7)
Genital herpes	9(5.7)	19(4.0)	32(4.5)	54(7.0)

* Early syphilis includes Lues I, Lues II and Lues latens recens

Table D.21a: Ethnicity in young men (<25) by STI (excluding GGD Amsterdam)

Ethnicity	Gonorrhoea (%)	Chlamydia (%)	Genital warts (%)	Genital herpes (%)
The Netherlands	55(47.0)	280(67.6)	92(66.2)	20(71.4)
Turkey	3(2.6)	11(2.7)	1(0.7)	0(0)
Northern Africa	4(3.4)	13(3.1)	2(1.4)	0(0)
Surinam/Neth. Antilles	35(19.9)	66(16)	21(15.1)	5(17.9)
Eastern Europe	2(1.7)	3(0.7)	2(2.9)	0(0)
Sub-Saharan Africa	9(7.7)	22(5.3)	6(4.3)	1(3.6)
Latin America	4(3.4)	3(0.7)	2(1.4)	1(3.6)
Europe else	2(1.7)	8(1.9)	4(2.9)	0(0)
Asia	2(1.7)	6(1.4)	4(2.)	1(3.6)
Unknown	1(0.9)	1(0.2)	2(1.4)	0(0)
Else	0(0)	1(0.2)	1(0.7)	0(0)

Table D.21b: Ethnicity in young women (<25) by STI (excluding GGD Amsterdam)

Ethnicity	Gonorrhoea (%)	Chlamydia (%)	Genital warts (%)	Genital herpes (%)
The Netherlands	62(63.9)	653(78.9)	215(81.7)	61(79.2)
Turkey	0(0)	6(0.7)	1(0.4)	0(0)
Northern Africa	0(0)	2(0.2)	5(1.9)	0(0)
Surinam/Neth. Antilles	22(22.7)	94(11.3)	20(7.6)	9(11.7)
Eastern Europe	4(4.1)	16(1.9)	1(0.4)	0(0)
Sub-Saharan Africa	3(3.1)	11(1.3)	3(1.1)	2(2.6)
Latin America	1(1.0)	6(0.7)	2(0.8)	0(0)
Europe else	2(2.1)	21(2.5)	6(2.3)	1(1.3)
Asia	2(2.1)	15(1.8)	4(1.5)	3(3.9)
Unknown	1(1.0)	4(0.5)	4(1.5)	0(0)
Else	0(0)	0(0)	2(0.8)	1(1.3)

Figure D1. Age distribution for STI by sex, 2004

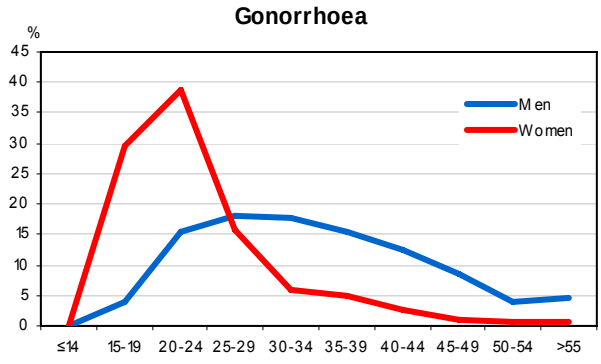

Figure D.1a: Age distribution: gonorrhoea

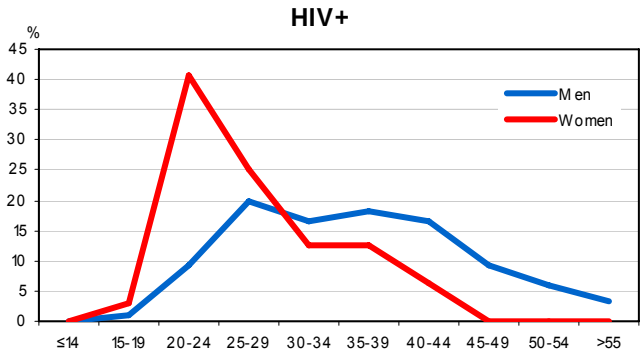

Figure D.1d: Age distribution: HIV+

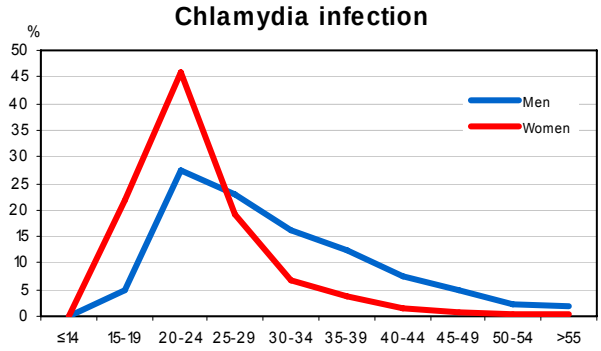

Figure D.1b: Age distribution: Chlamydia

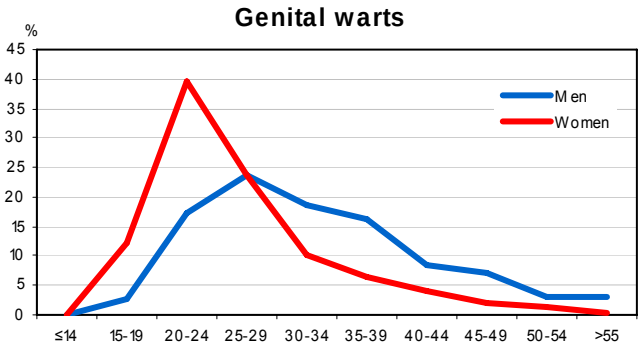

Figure D.1e: Age distribution: genital warts

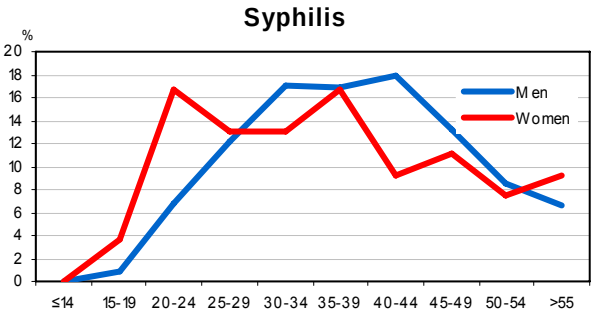

Figure D.1c: Age distribution: syphilis

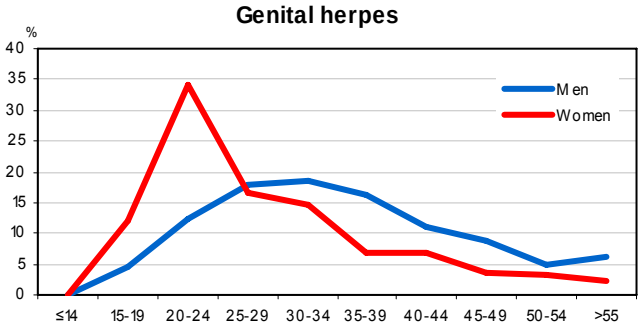

Figure D.1f: Age distribution: genital herpes

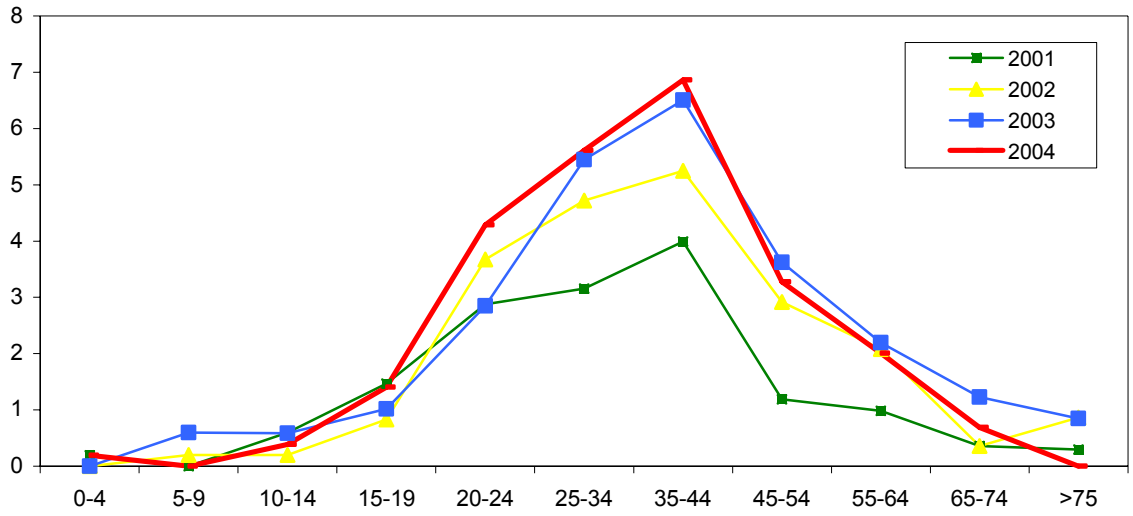

Figure D.2a: Incidence of acute HBV per 100000 inhabitants by age group, males, 2001-2004 (Source: notification data)

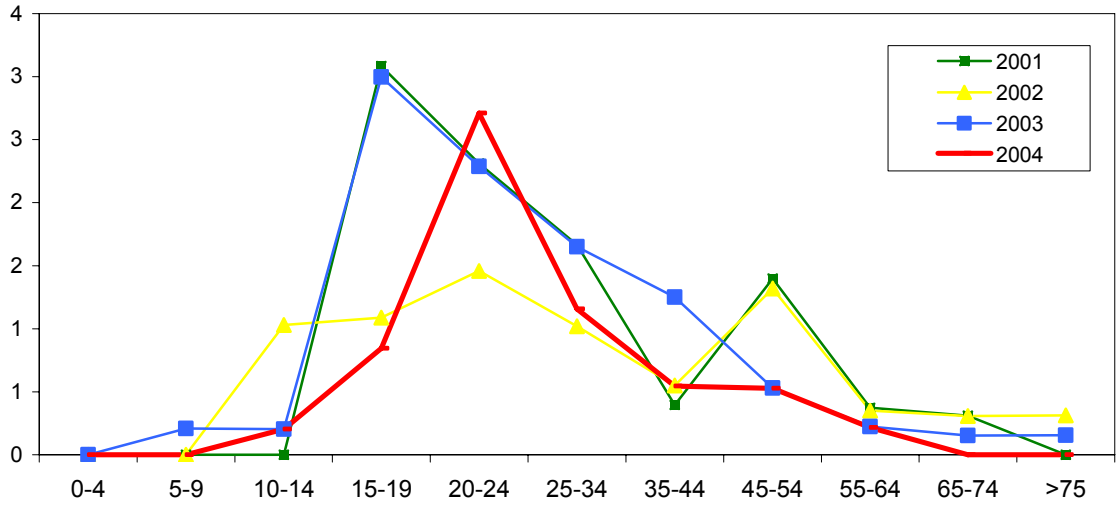

Figure D.2b: Incidence of acute HBV per 100000 inhabitants by age group, females, 2001-2004 (Source: notification data)

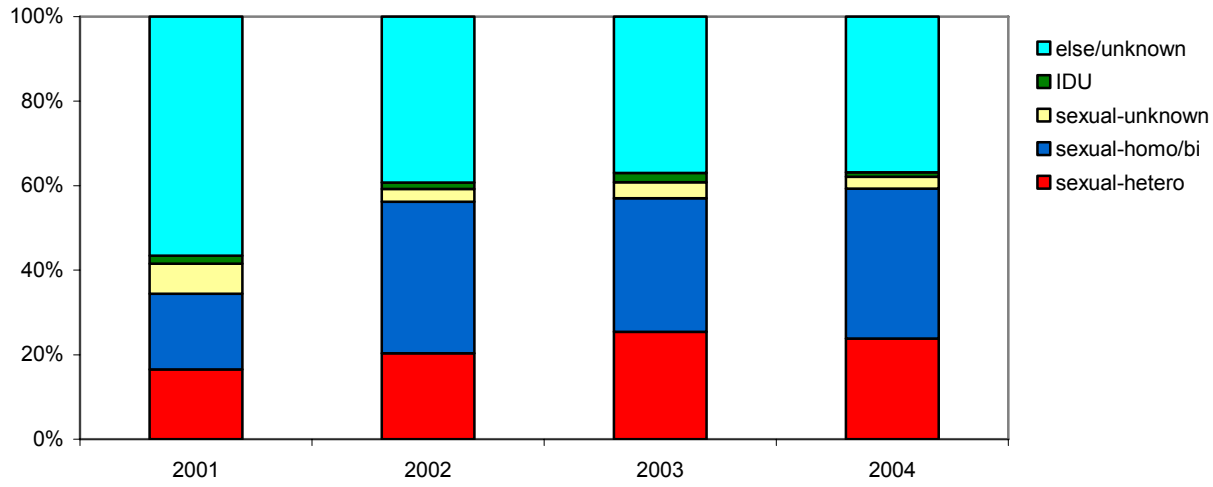

Figure D.3: Reported risk factors among cases with acute HBV, 2001-2004 (Source: notification data)

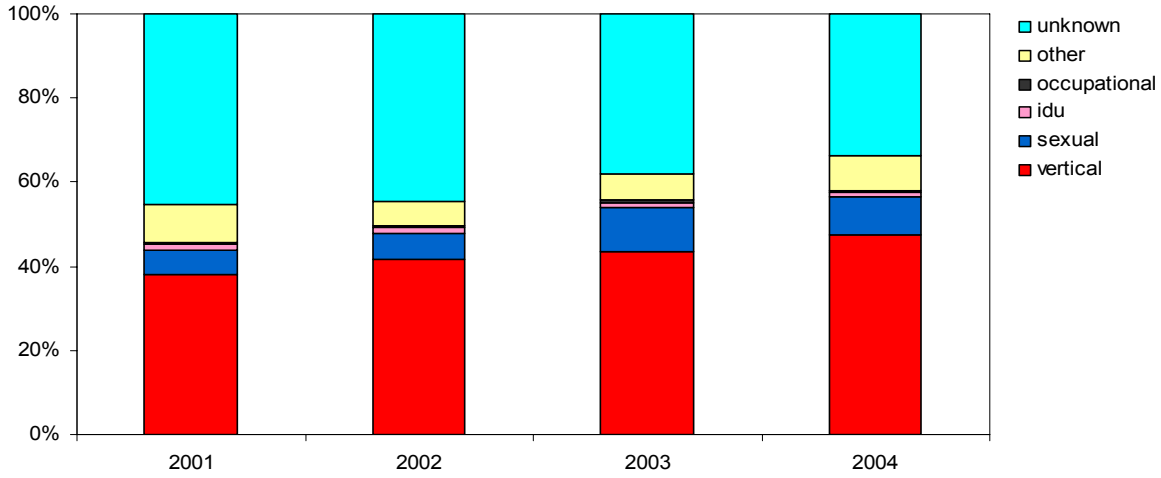

Figure D.4: Distribution of risk groups in chronic HBV carriers, 2001-2004 (Source: notification data)

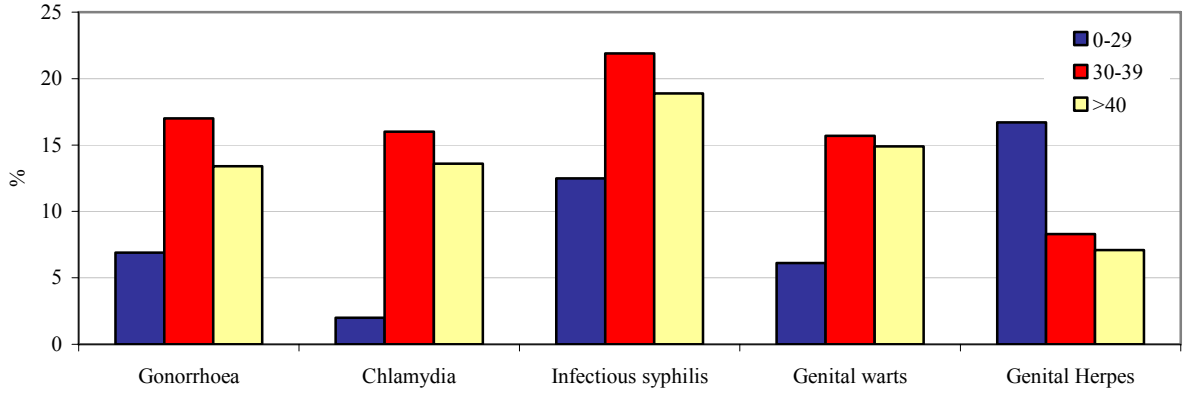

Figure D.6: Percentage of previous positive HIV tests in MSM by STI and age group, STI sentinel surveillance network, 2004 (excluding GGD Amsterdam)

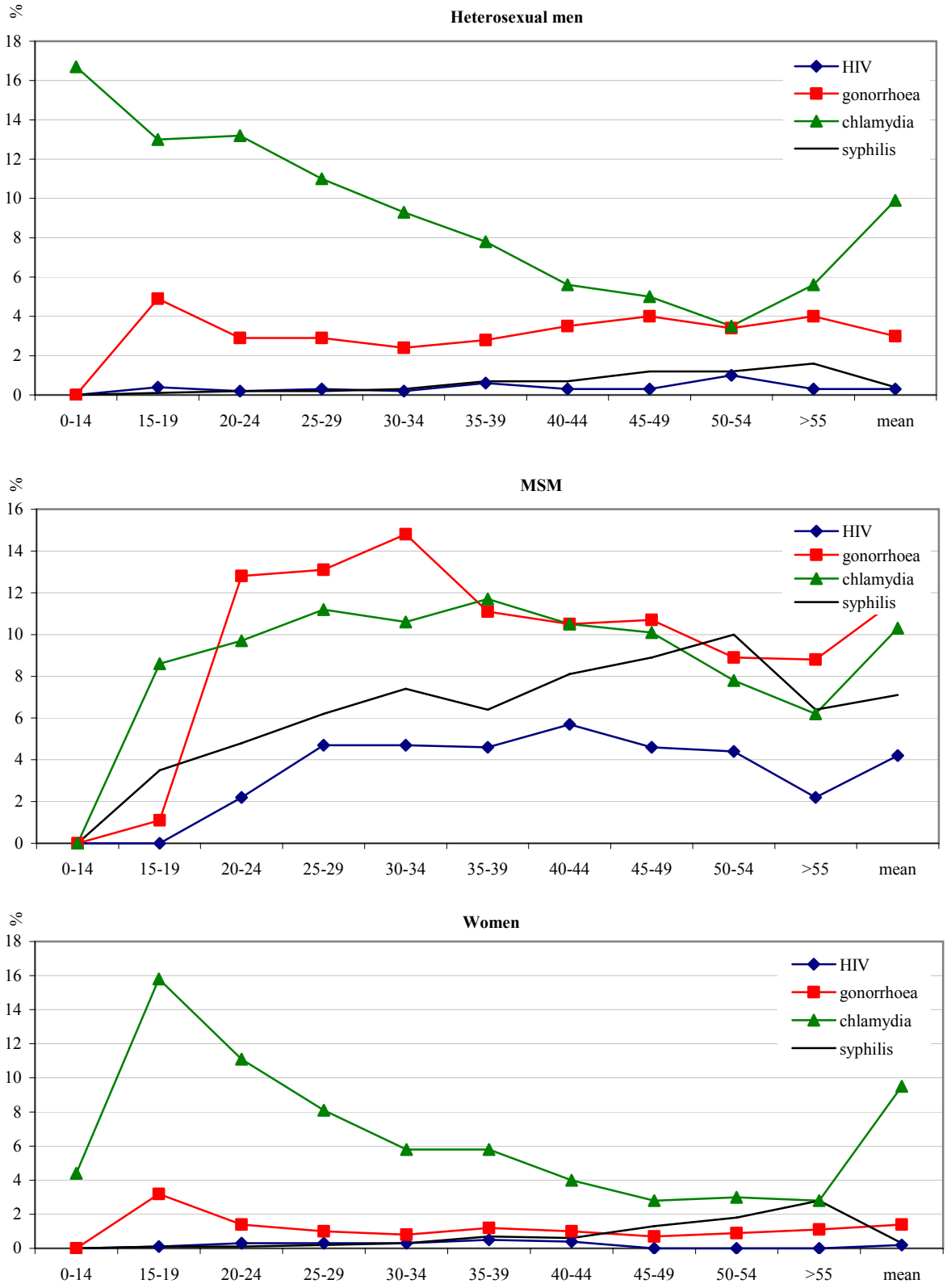

Figure D.7: Percentages of positive test results risk groups: heterosexual men, MSM, women, STI sentinel surveillance network, 2004

Appendix E. HIV Monitoring Foundation

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

*Treating physicians (*Site coordinating physicians)*

- Dr. W. Bronsveld*, Drs. M.E. Hillebrand-Haverkort, Medisch Centrum Alkmaar
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- Dr. J.H. ten Veen*, Dr. J.C. Roos, Onze Lieve Vrouwe Gasthuis, locatie Prinsengracht, Amsterdam
- Dr. K. Brinkman*, Dr. P.H.J. Frissen, Dr. H.M. Weigel, Onze Lieve Vrouwe Gasthuis, locatie Oosterpark, Amsterdam
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- Dr. J. Veenstra*, St. Lucas Andreas Ziekenhuis, Amsterdam
- Prof. Dr. S.A. Danner*, Dr. M.A. Van Agtmael, Drs. F.A.P. Claessen, Dr. R.M. Perenboom, Drs. A. Rijkeboer, Dr. M.G.A. van Vonderen, VU Medisch Centrum, Amsterdam
- Dr. C. Richter*, Dr. J. van der Berg, Ziekenhuis Rijnstate, Arnhem
- Dr. R. Vriesendorp*, Dr.F.J.F. Jeurissen, Medisch Centrum Haaglanden, locatie Westeinde, Den Haag
- Dr. R.H. Kauffmann*, Dr. E.L.W. Koger († July 2, 2005), HAGA, locatie Leyenburg, Den Haag
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- Dr. C.H.H. ten Napel*, Dr. G.J. Kootstra Medisch Spectrum Twente, Enschede
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- Dr. R. Doedens, Dr. E.H. Scholvinck, Universitair Medisch Centrum Beatrix kliniek, Groningen
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- Dr. F.P. Kroon*, Prof. Dr. P.J. van den Broek, Prof. Dr. J.T. van Dissel, Dr. E.F. Schippers, Leids Universitair Medisch Centrum, Leiden
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- Dr. P.H.P. Groeneveld*, Isala Klinieken, Zwolle
- Dr. J.G. den Hollander* Medisch Centrum Rijnmond Zuid-locatie Clara, Rotterdam

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  Locatie Jan van Goyen, Jan van Goyenkade 1, 1075 HN Amsterdam
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- St. Lucas Andreas Ziekenhuis, Postbus 9243, 1006 AE Amsterdam
- Streekziekenhuis Walcheren, Koudekerkseweg 88, 4382 EE Vlissingen;
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- Universitair Medisch Centrum Utrecht, Heidelberglaan 100, 3584 CX Utrecht
- VU Medisch Centrum, De Boelelaan 1117, 1081 HV Amsterdam
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- Streeklaboratorium voor de Volksgezondheid voor Groningen en Drenthe, Van Ketwich Verschuurlaan 92, 9821 SW Groningen
- Streeklaboratorium Volksgezondheid Kennemerland, Boerhaavelaan 26, 2035 RE Haarlem
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- R.F. Beard, assistant data logistics
- Dr. M.M.J. Claassens, data monitor
- Drs. M.M. Hillebregt, data monitor (from May 1, 2005)
- Drs. S. Grivell, data monitor

- Dr. T. Rispens, data monitor

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Appendix F. STI sentinel surveillance network

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Appendix G. Tables and figures in this report

Tables

Figures