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EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

SURVEILLANCE REPORT

Sexually transmitted infections in Europe

1990–2009

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Abbreviations

ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
ESSTI	European Surveillance of Sexually Transmitted Infections
EU	European Union
IDU	Injecting drug user
LGV	Lymphogranuloma venereum
MSM	Men who have sex with men
STI	Sexually transmitted infection(s)
TESSy	The European Surveillance System

Summary

This first surveillance report from the European Centre for Disease Prevention and Control (ECDC) on sexually transmitted infections (STI) covers the years 1990 to 2009. It aims to describe basic trends and epidemiological features of the five STI under EU surveillance: syphilis, congenital syphilis, gonorrhoea, chlamydia and lymphogranuloma venereum (LGV). EU Member States are expected to submit data related to all variables in the dataset, if available and relevant, as per Decision 2119/98/EC of the European Commission.

Chlamydia is the most frequently reported STI in Europe, accounting for the majority of all STI reports. In 2009, 343 958 cases of chlamydia were reported in 23 EU/EEA Member States (data were not available in, or not reported by, Bulgaria, the Czech Republic, France, Germany, Italy, Liechtenstein and Portugal), an overall rate of 185 per 100 000 population. Chlamydia was reported more in women than in men, with an overall rate of 217 per 100 000 in women and 152 per 100 000 in men. The true incidence of chlamydia is likely to be considerably higher than reported here. Three quarters (75%) of all cases were reported in young people between 15 and 24 years of age; young women are diagnosed more often than young men. Chlamydia is increasing continuously over time.

In 2009, 29 202 gonorrhoea cases have been reported from 28 EU/EEA Member States (no data were available from Germany and Liechtenstein), an overall rate of 9.7 per 100 000 population. Gonorrhoea was reported nearly three times more often in men than in women, with an overall rate of 15.9 per 100 000 in men and 6.3 per 100 000 in women. Forty-four per cent of all gonorrhoea cases were diagnosed in young people between 15 and 24 years of age. Nearly a quarter of all gonorrhoea cases in 2009 (24%) were reported in men who have sex with men. As compared with 2008, remarkable increases were observed in Denmark, Iceland, Portugal and Poland. Relatively small decreases were observed in 10 other countries.

In 2009, 18 279 syphilis cases have been reported from 28 EU/EEA Member States (no data were available from Iceland and Liechtenstein), an overall rate of 4.5 per 100 000 population. Syphilis was reported nearly three times more often in men than in women, with an overall rate in men of 6.6 per 100 000 and 2.2 in women. Almost one fifth of all syphilis cases in 2009 (17%) were reported in young people between 15 and 24 years of age; the majority of the cases were reported in people older than 25 years. Half (51%) of syphilis cases in countries with information on transmission were reported in men who have sex with men.

In 2009, 101 cases of congenital syphilis cases (of which 71 were confirmed) have been reported from 23 countries; 10 countries reported zero cases. The majority of the cases were reported from Bulgaria, Portugal, Italy, Spain, Poland and Romania. Between 1990 and 2009, 1 001 cases of congenital syphilis have been reported from 24 countries with varying degree of completeness over time, a rate of around 3.5 per 100 000 live births in the EU/EEA.

In 2009, 245 cases of LGV have been reported from 16 countries. In the period 2000–2009, 1398 cases of LGV have been reported from five countries: United Kingdom, Netherlands, Denmark, Belgium and Ireland. For all cases with known mode of transmission, 98% were reported as men who have sex with men, and for cases with known HIV status, 62% were HIV-positive (in 2009, 75%).

There are marked differences in trends across Europe. The overall trend in gonorrhoea and syphilis across the EU/EEA over the past decade appeared to be slightly decreasing and showed two patterns: 1) a decreasing trend in countries that previously reported very high rates (with present continuous decline or stabilisation); 2) continuous increases were observed in other countries over time. The overall trend in chlamydia showed a continuously increasing trend, reflecting an increase in testing and screening practices in a number of countries. These trends must be interpreted with caution due to the heterogeneity in reporting and healthcare systems. A further limitation to the interpretation of the epidemiological situation of STI in the EU/EEA is that many diagnoses are either not made or not reported. Diagnoses from certain countries cannot be included in trend analyses because these countries do not have comprehensive surveillance for STI.

Enhanced surveillance of STI in Europe is essential to provide the information that is necessary to monitor the distribution of the diseases and to evaluate the public health response to control the transmission of infections. In order to achieve this aim, countries in Europe need to ensure that surveillance data is of high quality, and need to provide, in particular, complete case reports with STI surveillance data.

Introduction

Since 2009, the European Centre for Disease Prevention and Control (ECDC) has been coordinating the enhanced surveillance of sexually transmitted infections (STI) in Europe. The Centre strives to ensure a high quality of standardised STI surveillance data from the 30 countries of the European Union (EU) and the European Economic Area (EEA) (referred to as EU/EEA). Until 2009, the STI surveillance in the EU/EEA was coordinated by the European Surveillance of STI (ESSTI) project, funded by the European Commission (Directorate-General for Health and Consumers) and the Health Protection Agency, from the United Kingdom. Upon the end of the ESSTI project, the evaluation and assessment team concluded that all surveillance activities of ESSTI should be integrated into ECDC and that the laboratory and training component of the ESSTI activities should be continued and outsourced. The main recommendations regarding future STI surveillance were as follows:

1. All activities of the ESSTI network should be continued, including surveillance, laboratory and training activities, alert system and dissemination of information through the internet;
2. The surveillance (epidemiological and microbiological) activity should be extended to all EU/EEA Member States that were not yet participating in the network;
3. Member States should be encouraged to comply with the agreed set of variables to fulfil future surveillance objectives. If countries are unable to provide all data, this needs to be discussed with the contact points for STI surveillance.

The long-term surveillance strategy (2008–13) for the European Union has been published by ECDC[1], outlining the future framework for strengthening surveillance at both EU level and in the EU Member States. General objectives for the surveillance of communicable diseases in the EU have been developed, together with a roadmap for the implementation of this strategy. The surveillance activities of ECDC should add value at all levels, through initiatives such as the application of EU case definitions, the integration of all dedicated surveillance networks into ECDC and by better harmonising the reporting methods, systems and practices in use for surveillance. ECDC will now regularly review the disease-specific surveillance objectives with Member States and will strive to harmonise them as far as possible, while still acknowledging the specific characteristics of each disease. The regular review of the surveillance objectives aims to keep the surveillance activities as accurate and relevant as possible. They should take into account the public health needs associated with the geographical and political diversities of the EU Member States across Europe.

The European Surveillance System (TESSy) is designed to be the single point for Member States (MS) to submit and retrieve data on all communicable diseases that are under EU surveillance. The STI under EU surveillance are syphilis, congenital syphilis, gonorrhoea, chlamydia and lymphogranuloma venereum (LGV). Member States are expected to submit data related to all variables in the dataset, if available and relevant, as per Decision 2119/98/EC of the European Commission.

Despite the existing heterogeneity in surveillance systems across Member States, there is an urgent need for STI surveillance data to be shared across Europe and to move towards making such data comparable. The data collection in TESSy by ECDC will help facilitate this objective. This first ECDC surveillance report on STI covers the years 1990 to 2009 and aims to describe basic trends and epidemiological features of the five STI under surveillance. The data are presented in five disease-specific chapters and focuses on key risk groups and the change in trends over time.

1 ECDC. Surveillance of communicable diseases in the European Union – A long-term strategy: 2008–2013. Stockholm: ECDC. Available at: http://ecdc.europa.eu/en/aboutus/Key%20Documents/08-13_KD_Surveillance_of_CD.pdf

1 Data collection and presentation

1 Data collection and presentation

1.1 Reporting in TESSy for STI surveillance

In the EU/EEA countries, the Member States' competent bodies for surveillance have nominated national contact points for STI surveillance to work with ECDC on the reporting of STI data to TESSy. National data are uploaded directly by the reporting country into the database. The set of validation rules implies the verification of the data within the database by an automated procedure. This verification of the data during the uploading process improves the quality of the data and allows each country to test their datasets before submission.

It has been agreed that STI data should be reported to TESSy annually or more frequently if Member States prefer and if validated data are available. Data should be submitted no later than six months after the end of the year to which it refers, e.g. 2009 data should (preferably) be submitted by June 2010. More frequent data submissions will be accepted by TESSy.

In preparing the enhanced surveillance for STI, an overview has been made of national surveillance systems for STI in all EU/EEA Member States. The description of national surveillance systems is included in this report (Annex 1) and will support the interpretation of national data.

Two types of data are collected: case-based and aggregated data for all five STI. TESSy aims to include case-based reports for each disease, but aggregated data will also be accepted until all Member States are in a position to comply with the EU standard of case-based reporting. The STI dataset consists of the common variable dataset for reporting all diseases, combined with an enhanced dataset specific to STI. The enhanced dataset differs to some extent depending on the infection, with for example a smaller number of variables recommended for the reporting of chlamydia cases. A list of variables for the STI data collection is included in Annex 2.

1.2 Implementation of EU case definitions

The new EU case definitions for syphilis, congenital syphilis, gonorrhoea and chlamydia should be followed for reporting to the European level as of 1 January 2009. It is recognised, however, that the case definitions currently used in a number of countries for STI may differ from the new EU case definitions. This should be specified in data submission. Given this situation, data will be accepted even if it does not conform with the EU case definitions until countries are in a position to submit data that does conform to the case definitions.

The full set of published case definitions is available from: http://ec.europa.eu/health/ph_threats/com/docs/1589_2008_en.pdf.

As agreed within the STI surveillance network, the implementation of case definitions for STI reporting implies that in principle only confirmed cases of gonorrhoea, syphilis, congenital syphilis, chlamydia and LGV should be reported to the EU level. As the information on 'clinical criteria' and 'epidemiological linked' cases is not included in the current case definition for a confirmed case, this information on these basic variables is not applicable. However, as this first round of data collection deals with historical data since 1990 and case definitions cannot be applied retrospectively, the submitted data will be reviewed with respect to case classification (confirmed, probable, unknown). The case definitions for STI are included in Annex 3.

1.3 Data collection 1990–2009

In 2009 the surveillance data on five STI were collected for the first time in TESSy as part of the enhanced surveillance for STI. The 1990–2009 data submission for STI surveillance took place between 4 June and 23 July 2010. The data presentation and tables were discussed with the network in September 2010. Data presented in this report were retrieved from the database on 2 December 2010.

For the period 2000–2009, data were collected in case-based data format as described in the STI reporting protocol. If case-based data were not available, then aggregate format was preferred broken down by: 1) gender, 2) age class, and 3) transmission category. To be able to provide trends, historical data for 1990–1999 were collected – if available – in aggregated data format broken down by: 1) gender, 2) age class (preferred category), and 3) transmission category.

To describe the national source of data and specify the national surveillance system from which the reported data originate, the variable 'data source' is included as a compulsory part of reporting. International comparisons are hampered by differences in surveillance systems because the quality and coverage of national surveillance are not consistent. Some countries have no national STI data or have only recently established or substantially modified the national reporting systems. Interpretation and cross-country comparisons should be made with caution as the amount of underdiagnosis and underreporting varies across countries. The source of data is described in each disease-specific chapter and provides a good overview of existing heterogeneity in reporting systems across countries.

1.4 Data analysis

Data were uploaded, validated and approved in TESSy for STI surveillance by the countries. Once the data were submitted, individual datasets were validated. An analysis of the completeness of data and 'Data source' variable provides an overview by country of the availability of data as from 1990 to 2009 and on the origin of the data. The information is needed to be able to interpret the actual data on STI. The information on 'Data source' will be compared with other available information on provided national surveillance systems for STI across countries (for instance: comprehensive, sentinel surveillance systems, clinical, laboratory-reported cases, compulsory, voluntary systems). It has to be taken into account that some countries have made changes to their surveillance systems in recent years and in these cases historical data was not provided as it would not have been comparable.

STI data are presented by 'Date of Diagnosis' and if not available, by 'Date of Statistics' according to the STI reporting protocol, 2010. In STI clinical services, the date of consultation can be used as a proxy for date of diagnosis, date of notification or data of specimen taken. For STI, the date of diagnosis will be used for the analysis and the report. In the comparison of the different dates across the database, there were only minor differences between them.

Absolute numbers are presented in the tables in this report. Annual rates are calculated per 100 000 population for countries that have comprehensive surveillance systems. Country population denominators used to calculate rates are based on data from the Eurostat database (http://epp.eurostat.ec.europa.eu). At time of analysis, the 2009 population data were retrieved from Eurostat, but 2009 data were not available for Belgium and the United Kingdom so the 2008 population data were used instead. Rates were not calculated for countries with sentinel surveillance systems. For congenital syphilis, annual rates are calculated per 100 000 live births (retrieved from Eurostat database).

For aggregate reporting, the age groups requested were: ‹ 15, 15–19, 20–24, 25–34, 35–44 and ›45. If data on age were unavailable or provided in an incompatible format, the specific country will be excluded from the analysis.

1.5 Quality and completeness of reporting

The completeness of reporting is an important attribute for the quality and the interpretation of the data. For the period from 1990 to 2009, 2 823 681 cases of chlamydia have been reported from 23 countries with varying degree of completeness over time; 724 986 cases of gonorrhoea (28 countries); 319 355 cases of syphilis (29 countries); 1001 cases of congenital syphilis (24 countries) and 1398 cases of LGV (16 countries).

Liechtenstein did not provide any data on STI and is omitted from the tables presenting the data per country.

Case classification (confirmed, unknown)

A few countries have submitted cases with 'unknown' or 'probable' case classification, e.g. it is uncertain whether the cases were confirmed with laboratory results as described in the EU 2002 or 2008 case definition. Cases have been included if the confirmation was 'unknown' for all cases for a specific country. Cases have been excluded if they were reported as 'probable' (except when all cases were reported as 'probable') and only the 'confirmed' cases were included. This affected the use of submitted cases as follows:

- Chlamydia: all cases from Austria were included, as well as the 406 'probable' cases in 2006. All cases from Poland were included as case classification is 'unknown' for all cases between 2006 and 2009. Only confirmed cases were included for Slovakia, excluding 13 cases reported in 2007 as 'possible' or 'probable'.
- Gonorrhoea: all 'unknown' cases from Austria reported in 1996–2005 were included; 11 'probable' cases in 2007 were excluded for Austria. All cases from Bulgaria were included as case classification is 'unknown' for all cases in 1990–2009. All cases from Portugal were included, including the 535 'unknown' cases in 1990–2009. Only confirmed cases were included for Slovakia, excluding 20 cases reported in 2007 as 'possible' or 'probable'. All cases from Spain from the mandatory notification system, classified as 'unknown', were included for 1990–2009. For Spain, data from two different data sources were submitted; data from the sentinel laboratory system were not used in the tables for gonorrhoea in Spain.
- Syphilis: all 'unknown' cases from Austria reported in 1996–2005 were included. All cases from Bulgaria were included as case classification is 'unknown' for all cases in 1990–2009. All cases for Ireland,

Table A: Total number of cases reported for chlamydia, gonorrhoea and syphilis and percentage of case-based data in 1990–1999, 2000–2009 and 2009

	1990–1999		2000–2009		2009	
	Number of cases	Case-based	Number of cases	Case-based	Number of cases	Case-based
Chlamydia	722586	7.2%	2101095	40.2%	343958	36.0%
Gonorrhoea	406753	0.9%	318233	13.8%	29202	26.0%
Syphilis	126438	2.3%	192917	29.3%	18279	42.8%

including those classified as 'unknown' in 2000–2006, were included. All cases reported as 'probable' in 2006 from Poland were included. All cases from Portugal were included, including the 397 'unknown' cases in 1990–2009. Only confirmed cases were included for Slovakia, excluding 39 cases reported in 2007 as 'possible' or 'probable'. All cases from Spain from the mandatory notification system, classified as 'unknown', were included for 1990–2009. For Spain, data from two different data sources were submitted; data from the sentinel laboratory system were not used in the tables for syphilis in Spain.

- Congenital syphilis: all cases with 'unknown' classification from Bulgaria and Portugal were included.
- LGV: only confirmed cases were provided.

Case-based and aggregate reports

For the STI data collection, it was agreed to collect the data for 1990–1999 in an aggregate format and the 2000–2009 data, if available, in case-based format with more variables describing the epidemiological characteristics (Annex 2). The completeness of the data will be affected by the use of these two formats as only limited information is provided in the aggregate format (gender, age, transmission category). The proportion of cases in case-based format differs between the STI and over time (Table A) and is highly influenced by a few countries with a large number of cases in aggregate format. More details will be presented in the disease-specific chapters.

Completeness of data

In Annex 4 the completeness of data reporting is presented for the total database, for 1990–1999, 2000–2009 and for 2000 and 2009 separately. It shows the completeness by variable and the minimum and maximum values in 2000 and 2009.

The completeness of reporting for 'age' and 'gender' was around 90% to 100% and had the highest score in the total database. The completeness was lower in aggregated data than in case-based data for age and gender. The other variables showed considerably less completeness, some of which was due to the amount of aggregated reporting, as most of the epidemiological variables are not included in the aggregated format.

The 'transmission' variable is important to distinguish between heterosexually acquired cases and homosexually acquired cases. Its completeness was low and fluctuated between 10% and 12% in the total database and between 14% and 23% in recent years, although it has increased considerably for gonorrhoea and syphilis in 2000–2009.

Presentation of age categories

The grouping of ages has been described in the reporting protocol and the STI data collection shows a heterogeneous situation with respect to the reporting of age in aggregated format. Countries have used different formats and have also used different formats within a disease. The heterogeneity in age categories jeopardises the analysis and presentation of STI by age, as incompatible data had to be excluded. More details on the exclusion of data per STI will be presented in the disease-specific chapters. For LGV, a different age category was used with only one country reporting aggregate data and the three remaining countries reporting case-based data (15–19, 20–24, 25–34, 35–44, 45–64, ›65).

2 Chlamydia

Table B: Data source, type and period of chlamydia surveillance data available

Country	Data source	Type	Period	Legal	Coverage
Austria	AT-STI Sentinel	A	2007–2009	V	Se
Belgium	BE-LABNET	C	2006–2009	V	Se
Bulgaria	-	-	-	-	-
Cyprus	CY-NOTIFIED_CASES	C	2006–2009	C	Co
Czech Republic	-	-	-	-	-
Denmark	DK-LAB	A	1990–1999	C	Co
	DK-LAB	C	2000–2009	C	Co
Estonia	EE-HCV/CHLAMYDIA	C	2008–2009	C	Co
	EE-HCV/CHLAMYDIA	A	1991–2007	C	Co
Finland	FI-NIDR	C	2000–2009	C	Co
France	-	-	-	-	-
Germany	-	-	-	-	-
Greece	GR-NOTIFIABLE_DISEASES	A	2008–2009	V	Other*
Hungary	HU-STD SURVEILLANCE	A	2000–2009	C	Se
Iceland	IS-SUBJECT_TO_REGISTRATION	C	1997–2009	C	Co
Ireland	IE-AGGR_STI	A	1995–2009	C	Co
Italy	-	-	-	-	-
Latvia	LV-BSN	C	2008–2009	C	Co
	LV-STI/SKIN_INFECTIONS	A	1993–2007	C	Co
Lithuania	LT-COMMUNICABLE_DISEASES	C	2008–2009	C	Co
	LT-COMMUNICABLE_DISEASES	A	2003–2007	C	Co
Luxembourg	LU-SYSTEM1	C	2006–2009	C	Co
Malta	MT-DISEASE_SURVEILLANCE	C	2007–2009	C	Co
Netherlands	NL-STI	C	2004–2009	V	Se
Norway	NO-MSIS_CHL	C	2007–2009	C	Co
Poland	PL-NATIONAL_SURVEILLANCE	A	2006–2009	C	Co
Portugal	-	-	-	-	-
Romania	RO-RNSSy	A	2004–2009	C	Co
Slovakia	SK-EPIS	C	2007–2009	C	Co
Slovenia	SI-SPOSUR	C	2006–2009	C	Co
Spain	ES-MICROBIOLOGICAL	C	1990–2009	V	Se
Sweden	SE-EpiBas	C	1990–1996	C	Co
	SE-SMINET	C	1997–2009	C	Co
United Kingdom	UK-GUM-COM**	A	2008–2009	C	Other
	UK-GUM	A	1990–2007	C	Other

Type: aggregated (A); case-based (C);
Legal: voluntary reporting (V), compulsory reporting (C), unknown (Unk);
Coverage: sentinel system (Se), comprehensive (Co), other.
* In 2008 a new surveillance system was introduced in Greece, which is designed to be comprehensive. At present it does not have a national coverage.
** Includes data from STI clinics (all ages) and community-based settings (cover 15–24 year-olds only).

2 Chlamydia

2.1 Key points

- Chlamydia is the most frequently reported STI in Europe, accounting for the majority of all STI reports.
- In 2009, 343 958 cases of chlamydia have been reported in 23 EU/EEA Member States, an overall rate of 185 per 100 000 population. Chlamydia was reported more often in women than in men, with an overall rate of 217 per 100 000 in women and 152 per 100 000 in men. The true incidence of chlamydia is likely to be considerably higher than reported here.
- Three quarters (75%) of all chlamydia cases have been reported in young people between 15 and 24 years of age; young women were diagnosed more often than young men.
- Overall trends over time across countries appeared to be increasing, except in four countries. Calculated for countries that reported consistently, the overall reporting rate increased from 143 per 100 000 population in 2000 and to 332 per 100 000 in 2009, which means more than a doubling of the rate. This is most likely due to increased case detection, improved diagnostics tools, improved surveillance systems and the introduction of chlamydia screening programmes in a number of countries. Decreasing or low rates may reflect changes in healthcare systems or the lack of accurate diagnostic tools or diagnostic capacity rather than a genuine low prevalence of chlamydia.

2.2 Source of data

For the period 1990–2009, chlamydia data were reported by 23 countries for at least one year. Chlamydia data were not available in, or not reported by, Bulgaria, the Czech Republic, France, Germany, Italy, Liechtenstein and Portugal.

Table B specifies the source of data, the type of data (aggregate and case-based), the coverage (either sentinel or comprehensive) and period of availability. Rates per 100 000 population were calculated for 18 countries with comprehensive or other systems. Countries with sentinel systems (Austria, Belgium, Spain, Hungary and the Netherlands) were excluded from the calculations.

The table shows the existing heterogeneity in systems, recent changes in systems and reporting periods. Due to these variations in the coverage, completeness and representativeness of these data, direct comparisons of absolute numbers and rates must be done with caution, since the proportion of diagnosed cases actually reported differs substantially across countries.

Table 2.1a shows that five countries have provided data on chlamydia for the period from 1990 to 2009 (Denmark, Estonia from 1991, Spain, Sweden and the United Kingdom). An additional five countries have provided data on chlamydia for the period 2000–2009 (Finland, Hungary, Ireland, Iceland and Latvia). In total, 23 countries have provided data on 2008–2009. Due to a large amount of missing or incorrect information on 'date of diagnosis' for Sweden, the 'date of statistics' is used to present chlamydia cases.

For the period 2000–2009, 40.2% of the data were provided in case-based format; in recent years, three countries have changed their reporting system (Estonia, Latvia and Lithuania) so that 36.0% of the 2009 data is available in case-based format. This affects the amount of information available for analysis as the aggregate format only includes gender, age and transmission category.

The completeness of the variables 'age' and 'gender' is above 95%. Completeness of the variable 'transmission category' increased between 2000 and 2009 and is available for 17% of the reported cases. 'HIV status' is reported by three countries only (1% completeness). 'Site of infection' is available for 13% of the reported cases in 2000–2009.

2.3 Case reports in 2009

Demographical variables

In 2009, 343 958 cases of chlamydia have been reported by 23 countries, with 88% of all cases being reported by four countries (Denmark, Norway, Sweden and the United Kingdom) (Table 2.1a). This gave an overall rate of 185 per 100 000 population for countries in the EU/EEA with comprehensive surveillance of chlamydia (Table 2.3). The overall rate is also highly affected by countries with large population sizes and relatively low number of reported chlamydia cases (e.g. Poland and Romania). When these two countries were excluded from the calculation, the overall rate of chlamydia was higher, e.g. 277 per 100 000 population. The United Kingdom contributed with 62% of all cases reported in 2009. This is due to the introduction of a new surveillance system in the UK in 2008 that includes data from community-based test services outside of STI clinics, resulting in a large increase of chlamydia diagnoses in 2008.

Information on gender was missing in 0.5% (N=1 840) of all cases in 2009. The male-to-female ratio in 2009 was 0.68 meaning that almost 50% more cases were reported in women (N=203 791) than in men (N=138 327). The overall rate in men was 152 per 100 000 and in women 217 per 100 000 (Table 2.4). The male-to-female ratios, based on the number of cases, were below or close to 1.0 in most countries except in Hungary, Malta, Poland, Romania and Slovenia, where the male-to-female ratios, based

Figure 2.1: Number of chlamydia cases per 100 000 population, EU/EEA, 2009

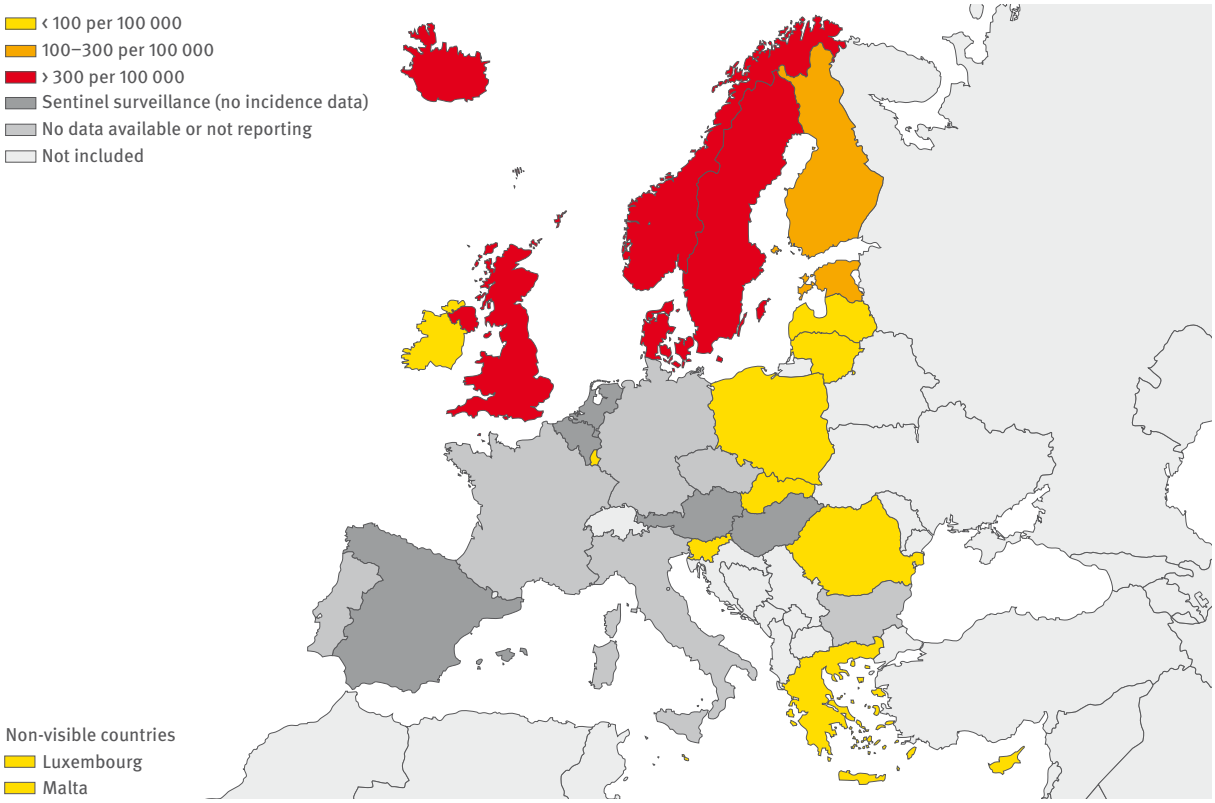


Figure 2.2: Chlamydia cases by age category for 2000 (nine countries) and 2009 (18 countries)

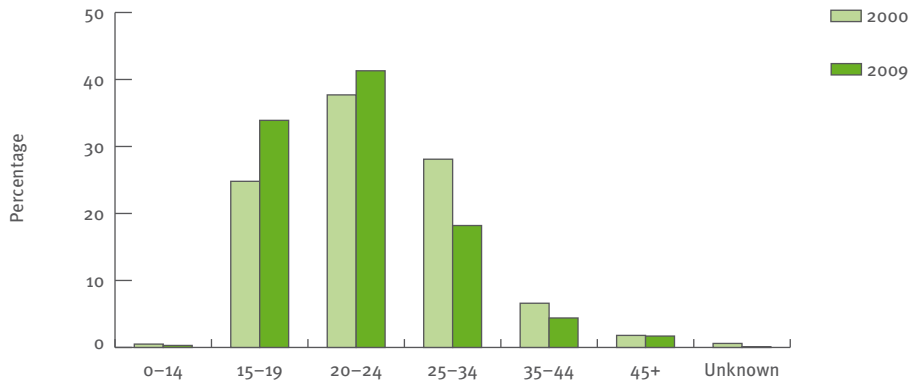


Table C: Number and percentage of chlamydia cases by transmission category and gender, 2009

	Number of cases	Reporting countries	MSM	Heterosexual		Unknown
				Male	Female	
Chlamydia cases	50 170	9	2 073 (4%)	19 267 (38%)	25 329 (51%)	3 477 (7%)

Note: 24 cases are reported as 'mother-to-child transmission'; cases with unknown gender and heterosexual transmission category are classified as 'unknown'.

on a relatively low number of cases, varied between 1.5 and 3.2. In Estonia, the male-to-female ratio was 0.2, indicating that five times as many female cases were reported as compared to male cases. For countries with information on gender and that have reported consistently in the period 2000–2009, there was no clear trend in the male-to-female ratio. The overall ratio fluctuated between 0.83 and 0.68 in 2000–2009. It must be kept in mind that the number of cases and the male-to-female ratio are highly influenced by testing and screening practices in countries (Table 2.2).

In 2009, the highest rates were observed in Iceland (711 per 100 000 population), Denmark (541), Norway (474), Sweden (408), the United Kingdom (348) and Finland (250) (Table 2.3; Figure 2.1). The lowest rates were observed in eight countries (Cyprus, Greece, Lithuania, Luxembourg, Poland, Romania, Slovakia and Slovenia) with rates less than 10 per 100 000 population. Malta and Latvia reported 14 and 48 per 100 000 population, respectively; Ireland and Estonia, 90 and 146, respectively.

In 2009, information on age was not available for Ireland and Poland providing 1.4% of the cases. Other countries have provided information in different age formats. Because of the data presentation and the incompatible age formats, the data from Austria were excluded for 2007–2008 and from Hungary for 2007–2009. Lithuania did not report information on age in 2003–2007.

Figure 2.2 presents the age distribution in percentage of all cases with information on age in 2000 and 2009 (Table 2.5). The age category 20–24 years is the largest with 41% of all cases in 2009 and 38% in 2000. The second largest group is the age group 15–19 years: 34% in 2009 and 25% in 2000. In 2009, three quarters (75%) of the 339 053 cases with known age were reported in young people between 15 and 24 years of age. The age distribution over the period 2000–2009 appears to have shifted towards the younger age groups with decreasing percentages in the over 25 age groups. This shift may have been highly influenced by changes in screening and testing practices targeted at young people. For instance, it must be noted that the UK introduced a new surveillance system in 2008 that captures data from STI services as well as community-based test settings, and the latter only includes data from 15–24 year-olds. The age distribution was calculated again without the UK to examine the potential effect on the age distribution in 2009. Without the UK, the percentage of the younger age groups became slightly smaller (28% and 39%, respectively; 67% in 15–24 year-olds instead of 75%); the percentage in the 25–34 years age group became higher: 24% instead of 18%.

Overall, the age distribution needs to be interpreted with caution, as screening practices and testing strategies are often targeted at young people, not only in the UK but also in other countries.

Epidemiological variables

In 2009, information on transmission category was not available for 85% of the chlamydia cases (N=293 788). The high proportion of missing data for transmission category is mainly due to the countries with the highest number of reported cases (Denmark, Norway, Finland and the UK). Information was available for 50 170 cases (nine countries) and was indicated as heterosexual in 89%,as in men who have sex with men (MSM) in 4% and as 'unknown' in 7% of the cases (Tables C and 2.6).

2.4 Trends in 1990–2009

Between 1990 and 2009, 2 823 681 cases of chlamydia have been reported from 23 countries with varying degree of completeness over time. Rates are calculated for countries with comprehensive surveillance systems for chlamydia (Table 2.3).

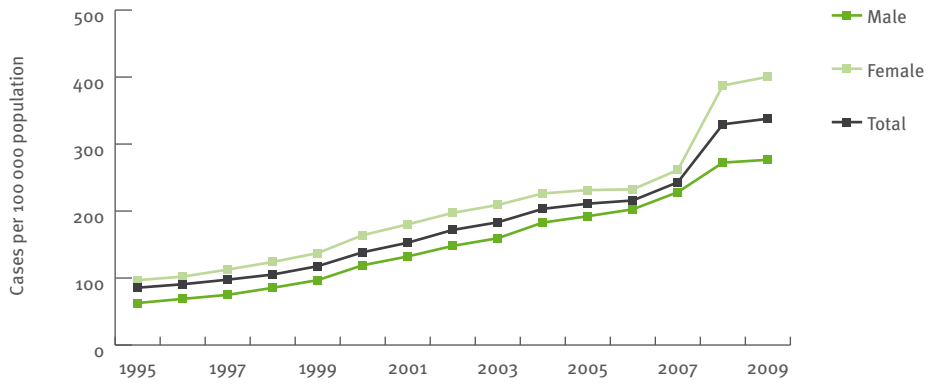
Figure 2.3 shows an overall increasing trend in the number of reported chlamydia cases per 100 000 population in EU/EEA. The overall rate increased from 55/100 000 in 1990 to 138.5 in 2000, after which year the rate has more than doubled to 337.8 in 2009 when calculated for countries that have reported consistently in 2000–2009 (Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Sweden and the UK).

The interpretation of the overall trend is difficult as it is the result of diverging trends in different countries and is highly influenced by changes in testing and screening practices and surveillance systems over time and across countries. The trends, however, show a consistent higher rate in women than in men. Separate rates by gender are unreliable for 1990–1994 due to the high amount of missing gender information in Denmark and Sweden. The sharp increase in 2008 is mainly caused by the UK, which introduced a new surveillance system that now captures data from community-based test settings as well as from STI services.

Four countries have reported chlamydia cases consistently over 1990–2009 (Denmark, Estonia, Sweden and United Kingdom). Figure 2.4 shows the trends over time for eight countries that have reported from the early 1990s. The rate per 100 000 population peaked in Estonia in 1995–1996 and decreased since then. The rate in Iceland shows continuous high levels between 1997 and 2009 with an apparent peak in 2000–2002. Trends in most other countries have increased over time.

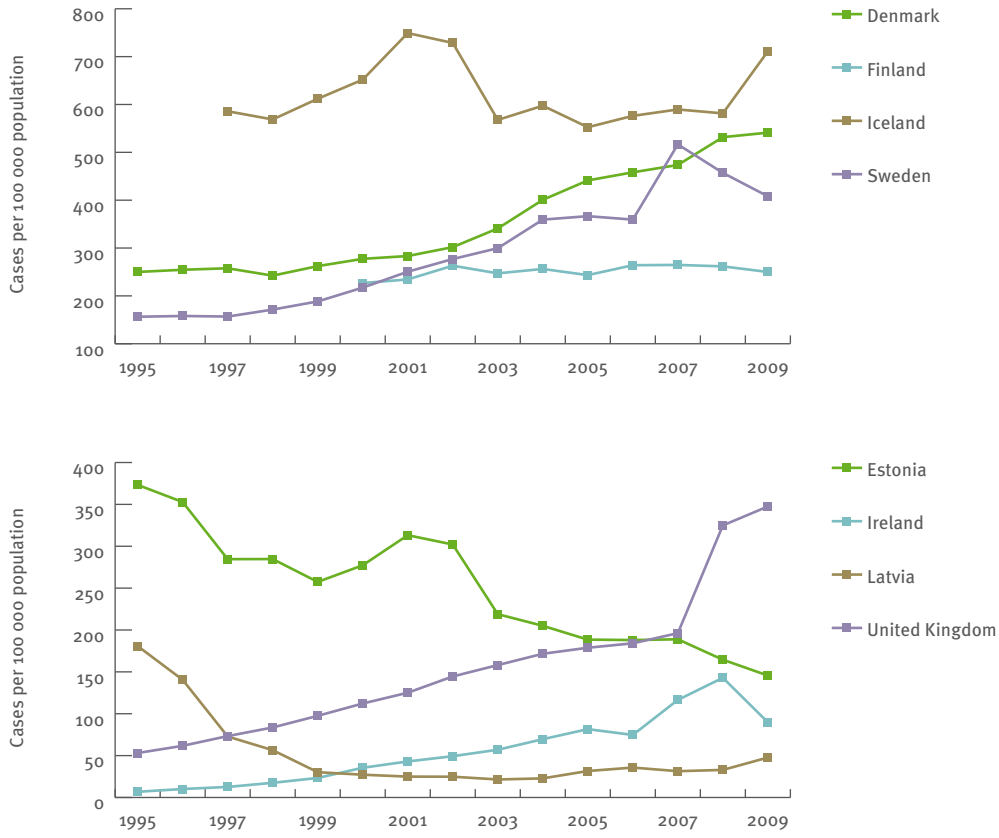
In 2006–2009, the overall rate increased by 42%. Rates have increased in Denmark (18%), Iceland (23%), Ireland (20%), Latvia (34%), Sweden (11%) and the UK (89%). Decreasing trends were reported by Estonia and Lithuania. No clear trends could be observed in Cyprus, Greece, Poland, Romania, Slovakia and Slovenia due to relatively low numbers or rates per 100 000 population.

Figure 2.3: Trend in number of reported chlamydia cases per 100 000 population, EU/EEA, 1995–2009



Note: Based on data from eight countries that have reported consistently.
In 2008, UK introduced a new chlamydia surveillance system that collects data from community-based test settings as well as from STI clinics; prior to 2008, data were based on STI clinic diagnoses only.

Figure 2.4: Number of chlamydia cases per 100 000 population in selected EU/EEA Member States, 1995–2009



Note: In 2008, UK introduced a new chlamydia surveillance system that collects data from community-based test settings as well as from STI clinics; prior to 2008, data were based on STI clinic diagnoses only.

2.5 Discussion

Completeness of data reported

Data on chlamydia were not available from seven countries. The completeness of the variables 'age' and 'gender' was above 95%. Completeness of the variable 'transmission category' increased over time but should be improved as it is missing for 85% of the cases due to countries with the highest case reports. 'HIV status' was only reported by three countries and the feasibility of collecting this information as part of the set of variables for chlamydia needs to be evaluated. The variable 'age' in aggregate reports was reported in many different ways, hampering the presentation of provided data.

Case reports and trends

The distribution of chlamydia across EU/EEA countries appears to be very heterogeneous with rates varying from below 1 to more than 500 cases per 100 000 population. Almost 90% of the cases were reported from four countries. High rates of 200 or more were reported by countries in the western and northern parts of the EU/EEA. Rates in central and east areas of the EU/EEA are much lower at 30 or less per 100 000 population, including the Baltic States, except Estonia. On average more female cases than male cases are reported, except in five countries, and three quarters of the cases were reported in young people between 15 and 24 years of age. The interpretation of both gender and age distributions needs to be done cautiously as this is strongly affected by current testing and screening practices as they are often targeted at young people.

In recent years, trends in chlamydia cases appear to be increasing in all countries, except in four countries (Estonia, Latvia, Lithuania and Slovenia). Chlamydia is the most frequently reported STI in the EU/EEA and in individual countries and is mainly diagnosed among young people. Because of the asymptomatic nature of chlamydia, especially in women, the number of cases reported is highly affected by the testing policies and practices in individual countries. A limitation to the interpretation of the epidemiological situation in the EU/EEA is that many diagnoses are either not made or are not reported. Diagnoses from certain countries cannot be included in trend analyses, as they do not have comprehensive surveillance for STI.

With respect to chlamydia, diagnostic tools have changed following the introduction of the more sensitive Nucleic Acid Amplification Tests (NAAT) in the 1990s. The wider availability and use of NAATs have improved chlamydia case detection considerably and has resulted in an increased number of diagnoses. In some countries NAAT technology is not widely available and will hamper chlamydia case detection and case management.

The overall increase of cases across the EU/EEA in the past decade is most likely due to a combination of effects: improved diagnostics tools, increased case detection, improved surveillance systems and the introduction of chlamydia screening programmes in a number of countries. For instance, the huge increase of cases reported by the United Kingdom between 2007 and 2008 is due to the inclusion of diagnoses made in community-based test settings for the first time. Although not many countries have implemented screening programmes, routine testing is ongoing in clinical services in many countries. This could account for the high rates being reported in the west and north of EU/EEA. On the contrary, the decreasing or low rates in east and central EU/EEA may reflect changes in healthcare systems (from public to private sector) and in reporting routines, so that the number of infections that remain undiagnosed and underreported may have increased substantially. In addition, the low rate in a number of countries most probably reflects a lack of accurate diagnostic tools or accurate diagnostic or reporting capacity rather than a genuinely low prevalence of chlamydia.

2.6 Tables

Table 2.1a: Chlamydia: Number of cases by year of diagnosis, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	822	742	597	**2161**
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2060	2480	2601	2942	**10083**
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	1	4	**11**
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Denmark	10672	13070	15235	12093	13869	13038	13369	13596	12831	13930	14786	15153	16205	18353	21628	23881	24866	25795	29116	29825	**351311**
Estonia	-	405	194	1152	4230	5348	4971	3954	3917	3507	3806	4283	4114	2969	2771	2541	2529	2536	2206	1952	**57385**
Finland	-	-	-	-	-	-	-	-	-	-	11729	12143	13666	12866	13378	12744	13878	13968	13873	13317	**131562**
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	327	**398**
Hungary	-	-	-	-	-	-	-	-	-	-	981	653	505	488	431	585	598	699	754	711	**6405**
Iceland	-	-	-	-	-	-	-	1581	1549	1687	1819	2123	2088	1638	1736	1622	1728	1814	1834	2271	**23490**
Ireland	-	-	-	-	-	245	364	462	646	869	1343	1649	1922	2258	2803	3353	3144	5023	6290	3997	**34368**
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Latvia	-	-	-	2626	3940	4520	3470	1780	1367	725	647	589	582	502	528	729	820	716	748	1078	**25367**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	390	406	563	556	403	403	326	**3047**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	4	0	**4**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	43	70	108	58	**284**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5075	5937	7140	7821	9355	9788	**45116**
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21259	22847	23488	22754	**90348**
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	612	627	695	908	**2842**
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	156	238	115	127	91	**732**
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	78	105	228	**472**
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	146	198	120	130	**603**
Spain	245	143	85	99	151	131	73	120	101	80	92	87	97	115	120	148	139	223	402	846	**3497**
Sweden	26764	20986	17080	14963	13626	13785	13967	13864	15166	16682	19255	22247	24676	26794	32263	33035	32518	47081	41974	37775	**484501**
United Kingdom	32692	33829	31492	29238	30638	30249	35225	41943	47904	56053	67173	75216	86127	94597	103137	107908	112013	120058	200169	214033	**1549694**
Total	**70373**	**68433**	**64086**	**60171**	**66454**	**67316**	**71439**	**77300**	**83481**	**93533**	**121631**	**134143**	**149982**	**160970**	**184281**	**193216**	**224354**	**253374**	**335186**	**343958**	**2823681**

Note: Possible/probable cases for Slovakia are excluded. For Sweden, data are presented by 'year of statistics'.

Table 2.1b: Chlamydia: Number of cases by year of statistics, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	822	742	597	**2161**
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2060	2480	2601	2942	**10083**
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	0	1	4	**11**
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Denmark	10672	13070	15235	12093	13869	13038	13369	13596	12831	13930	14786	15153	16205	18353	21628	23881	24866	25795	29116	29825	**351311**
Estonia	-	405	194	1152	4230	5348	4971	3954	3917	3507	3806	4283	4114	2969	2771	2541	2528	2480	2200	2015	**57385**
Finland	-	-	-	-	-	-	-	-	-	-	11729	12143	13666	12866	13378	12744	13878	13968	13873	13317	**131562**
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	327	**398**
Hungary	-	-	-	-	-	-	-	-	-	-	981	653	505	488	431	585	598	699	754	711	**6405**
Iceland	-	-	-	-	-	-	-	1581	1549	1687	1819	2123	2088	1638	1736	1622	1728	1814	1834	2271	**23490**
Ireland	-	-	-	-	-	245	364	462	646	869	1343	1649	1922	2258	2803	3353	3144	5023	6290	3997	**34368**
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Latvia	-	-	-	2626	3940	4520	3470	1780	1367	725	647	589	582	502	528	729	820	711	704	1127	**25367**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	390	406	563	556	403	403	326	**3047**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	4	0	**4**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	71	107	61	**284**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5075	5937	7140	7821	9355	9788	**45116**
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21259	22847	23488	22754	**90348**
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	612	627	695	908	**2842**
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	156	238	115	127	91	**732**
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	78	105	228	**472**
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144	201	127	131	**603**
Spain	245	143	85	99	151	131	73	120	101	80	92	87	97	115	120	148	139	223	402	846	**3497**
Sweden	26764	20986	17080	14963	13626	13785	13967	13864	15166	16682	19255	22247	24676	26794	32263	33035	32518	47081	41974	37775	**484501**
United Kingdom	32692	33829	31492	29238	30638	30249	35225	41943	47904	56053	67173	75216	86127	94597	103137	107908	112013	120058	200169	214033	**1549694**
Total	**70373**	**68433**	**64086**	**60171**	**66454**	**67316**	**71439**	**77300**	**83481**	**93533**	**121631**	**134143**	**149982**	**160970**	**184281**	**193202**	**224353**	**253317**	**335142**	**344074**	**2823681**

Note: Possible/probable cases for Slovakia are excluded. For Sweden, data are presented by 'year of statistics'.

Table 2.2: Chlamydia: Number of cases by year of diagnosis, 1990–2009

Country	1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	3214	10593	3191	9777	3277	10000	3502	10001	3477	9285	4000	9858	4374	10398
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1101	2816	1188	2319	1308	2498
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4538	7191
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	522	459
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	580	972	566	931	638	1010	674	1097
Ireland	-	-	-	-	-	-	-	-	-	-	118	127	166	198	218	244	287	359	398	471	662	679
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	-	-	-	-	-	-	1224	1402	1369	2571	1542	2978	1625	1845	905	875	708	659	429	296	431	216
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	79	166	44	98	36	47	44	54	48	103	35	95	13	60	22	98	16	85	7	73	14	78
Sweden	-	-	-	-	6373	10703	5865	9095	5467	8159	5520	8265	5683	8284	5665	8197	6252	8904	7003	9674	8201	11034
United Kingdom	15022	17670	15547	18282	14724	16768	13801	15437	13991	16647	13307	16942	15363	19862	17661	24282	20765	27139	24097	31956	29390	37783
Total	**15101**	**17836**	**15591**	**18380**	**21133**	**27518**	**20934**	**25988**	**24089**	**38073**	**23713**	**38184**	**26127**	**40249**	**28553**	**44669**	**33172**	**50178**	**37760**	**55657**	**50114**	**71433**

Note: For Sweden, date of statistics is used.

Country	2001		2002		2003		2004		2005		2006		2007		2008		2009		Cumulative total		Unk./ Missing	Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Austria	-	-	-	-	-	-	-	-	-	-	-	-	392	430	388	354	315	282	1095	1066	-	**2161**
Belgium	-	-	-	-	-	-	-	-	-	-	542	1508	680	1786	809	1780	1020	1910	3051	6984	48	**10083**
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Cyprus	-	-	-	-	-	-	-	-	-	-	4	2	-	-	1	0	0	4	5	6	-	**11**
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Denmark	4408	10731	5202	10985	5941	12390	7662	13943	8680	15168	9200	15650	9660	16106	10745	18338	11317	18493	97850	201716	51745	**351311**
Estonia	1782	2501	1353	2761	640	2329	604	2167	473	2068	408	2121	438	2098	336	1870	360	1592	9991	27140	20254	**57385**
Finland	4636	7507	5198	8468	4977	7889	5322	8056	5053	7691	5621	8257	5673	8295	5656	8217	5482	7835	52156	79406	-	**131562**
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	1	51	48	90	49	259	**398**
Hungary	391	262	302	203	266	222	255	176	348	237	375	223	438	261	500	254	490	221	3887	2518	-	**6405**
Iceland	774	1277	707	1325	614	962	645	1019	612	949	648	1024	679	1069	703	1079	892	1367	8732	14081	677	**23490**
Ireland	765	872	880	1018	993	1234	1264	1492	1518	1763	1454	1659	2042	2877	2481	3540	1641	2287	14887	18820	661	**34368**
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Latvia	395	194	395	187	352	150	364	164	516	213	533	287	454	262	402	346	502	576	12146	13221	-	**25367**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	177	226	173	153	350	379	2318	**3047**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	-	-	2	0	2	**4**
Malta	-	-	-	-	-	-	-	-	4	1	21	22	47	21	64	38	34	23	170	105	9	**284**
Netherlands	-	-	-	-	-	-	2633	2441	3047	2889	3588	3551	3918	3901	4880	4473	5115	4671	23181	21926	9	**45116**
Norway	-	-	-	-	-	-	-	-	-	-	8181	12932	8674	14003	9031	14346	8578	14088	34464	55369	515	**90348**
Poland	-	-	-	-	-	-	-	-	-	-	473	139	462	165	490	205	544	364	1969	873	-	**2842**
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Romania	-	-	-	-	-	-	1	4	127	29	184	54	89	26	91	36	67	24	559	173	-	**732**
Slovakia	-	-	-	-	-	-	-	-	-	-	25	36	20	58	38	67	86	142	169	303	-	**472**
Slovenia	-	-	-	-	-	-	-	-	8	1	91	55	141	57	89	31	98	31	427	175	1	**603**
Spain	9	78	17	80	27	86	39	81	44	101	37	102	55	168	163	238	365	480	1114	2371	12	**3497**
Sweden	9597	12645	10614	14046	11482	15299	14027	18208	14239	18752	14080	18436	20230	26850	18253	23714	16322	21449	184873	251714	47914	**484501**
United Kingdom	32871	42345	38119	48008	42589	52008	47993	55144	51360	56548	55514	56499	60103	59955	80758	118064	84875	127751	687850	859090	2754	**1549694**
Total	**55628**	**78412**	**62787**	**87081**	**67881**	**92569**	**80809**	**102895**	**86029**	**106410**	**100979**	**122557**	**114195**	**138388**	**136096**	**197217**	**138327**	**203791**	**1139018**	**1557485**	**127178**	**2823681**

Note: For Sweden, date of statistics is used.

Table 2.3: Chlamydia: Number of cases per 100 000 population, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	0.0	0.1	0.5
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Denmark	207.8	254.0	295.1	233.4	266.9	250.0	254.6	257.7	242.3	262.2	277.4	283.3	301.9	340.9	400.7	441.3	458.2	473.6	531.7	541.1
Estonia	-	26.1	12.6	77.0	289.4	373.3	352.8	284.6	284.7	257.4	277.3	313.2	302.1	218.9	205.0	188.5	188.0	188.9	164.5	145.6
Finland	-	-	-	-	-	-	-	-	-	-	226.8	234.4	263.1	247.1	256.3	243.4	264.1	264.7	261.7	250.0
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	2.9
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	585.8	568.7	611.9	651.9	749.2	728.6	567.8	597.4	552.5	576.2	589.6	581.4	711.1
Ireland	-	-	-	-	-	6.8	10.1	12.6	17.5	23.3	35.5	43.0	49.3	57.0	69.6	81.6	74.7	116.5	142.9	89.8
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	-	-	-	101.6	155.1	180.8	140.5	72.8	56.5	30.2	27.2	24.9	24.8	21.5	22.8	31.6	35.7	31.4	32.9	47.7
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	11.3	11.8	16.4	16.3	11.9	12.0	9.7
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.8	0.0
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	10.6	17.2	26.3	14.0
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	458.1	488.1	495.8	474.1
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	1.6	1.8	2.4
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.7	1.1	0.5	0.6	0.4
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	1.4	1.9	4.2
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	7.3	9.8	6.0	6.4
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	313.9	244.5	197.6	172.1	155.8	156.4	158.0	156.8	171.4	188.4	217.3	250.5	277.0	299.7	359.4	366.6	359.4	516.6	457.1	408.1
United Kingdom	58.0	59.9	55.6	51.5	53.9	53.1	61.7	73.3	83.6	97.5	112.2	125.1	144.5	158.1	171.6	178.8	184.1	196.2	324.9	347.5
Total	**100.2**	**95.2**	**88.9**	**80.4**	**88.7**	**85.6**	**90.7**	**97.6**	**105.2**	**117.7**	**138.5**	**152.7**	**171.8**	**176.7**	**158.3**	**161.4**	**129.9**	**146.4**	**180.6**	**185.1**

Note: Rate is only calculated for countries with comprehensive surveillance. For Sweden, date of statistics is used.

Table 2.4: Chlamydia: Number of cases per 100 000 population by gender, 1990–2009

Country	1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	-	125.4	402.3	124.0	370.0	126.4	376.1	134.4	374.5	132.9	346.6	152.4	366.7	166.1	385.7
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	172.2	382.3	187.8	317.9	206.8	337.9
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179.9	271.5
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	428.9	721.9	414.8	684.9	462.0	733.9	482.6	787.0
Ireland	-	-	-	-	-	-	-	-	-	-	6.6	7.0	9.2	10.9	12.0	13.3	15.7	19.3	21.5	25.1	35.3	35.7
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	-	-	-	-	-	-	102.1	101.1	116.5	188.3	133.6	221.2	142.7	138.6	80.3	66.4	63.5	50.5	38.8	22.9	39.3	16.8
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	149.2	244.7	136.6	206.8	126.5	184.4	126.7	185.3	130.2	185.3	129.6	183.2	143.0	198.9	160.0	216.0	187.2	246.2
United Kingdom	54.5	61.5	56.2	63.4	53.1	58.0	49.7	53.3	50.3	57.4	47.7	58.3	54.9	68.3	62.9	83.3	73.8	93.0	85.4	109.2	103.7	128.8
Total	**54.5**	**61.5**	**56.2**	**63.4**	**65.9**	**82.6**	**62.8**	**74.7**	**67.0**	**101.5**	**62.7**	**96.9**	**68.9**	**102.1**	**74.9**	**112.6**	**85.4**	**124.0**	**96.9**	**137.3**	**119.1**	**164.0**

Note: Rate is only calculated for countries with comprehensive surveillance. For Sweden, date of statistics is used.

Country	2001		2002		2003		2004		2005		2006		2007		2008		2009	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	1.1	0.5	0.0	0.0	0.3	0.0	0.0	1.0
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Denmark	166.7	396.7	196.0	404.7	223.1	455.3	287.0	511.2	324.2	554.8	342.5	570.8	358.2	585.6	396.1	663.7	414.2	665.4
Estonia	282.8	339.7	215.7	376.4	102.4	318.6	97.1	297.5	76.2	284.5	65.9	292.4	70.9	289.8	54.4	258.5	58.3	220.2
Finland	183.3	283.1	204.8	318.7	195.6	296.4	208.5	302.1	197.2	287.6	218.5	307.7	219.6	308.0	217.8	303.9	209.9	288.6
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	0.0	0.9	0.8
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	545.6	902.5	492.9	925.8	425.5	667.2	443.6	701.9	415.8	648.2	428.6	688.7	433.7	707.5	436.9	698.1	550.4	869.0
Ireland	40.2	45.3	45.4	51.9	50.4	61.9	63.1	73.8	74.2	85.6	69.2	78.8	94.7	133.7	112.9	160.6	74.1	102.5
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	36.3	15.2	36.6	14.8	32.8	11.9	34.1	13.1	48.5	17.1	50.4	23.2	43.2	21.3	38.4	28.3	48.1	47.3
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.3	12.6	11.1	8.5
Luxembourg	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Malta	-	-	-	-	-	-	-	-	2.0	0.5	10.5	10.8	23.2	10.3	31.4	18.5	16.5	11.1
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	355.4	553.1	372.9	594.5	382.7	603.4	358.2	586.0
Poland	-	-	-	-	-	-	-	-	-	-	2.6	0.7	2.5	0.8	2.7	1.0	3.0	1.8
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	0.0	0.0	1.2	0.3	1.7	0.5	0.8	0.2	0.9	0.3	0.6	0.2
Slovakia	-	-	-	-	-	-	-	-	-	-	1.0	1.3	0.8	2.1	1.4	2.4	3.3	5.1
Slovenia	-	-	-	-	-	-	-	-	0.8	0.1	9.3	5.4	14.3	5.6	9.0	3.0	9.8	3.0
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	218.5	281.6	240.8	312.1	259.4	338.9	315.5	402.0	318.8	412.6	313.8	404.2	447.2	585.0	399.9	513.4	354.5	461.0
United Kingdom	115.5	143.9	132.3	159.9	147.1	172.8	164.9	182.6	175.3	185.6	188.2	185.1	202.3	195.4	269.9	383.0	283.6	414.4
Total	**132.2**	**180.1**	**148.0**	**197.3**	**159.4**	**209.1**	**146.4**	**180.9**	**151.2**	**181.3**	**122.6**	**142.5**	**138.4**	**160.6**	**149.3**	**211.7**	**152.1**	**217.2**

Note: Rate is only calculated for countries with comprehensive surveillance. For Sweden, date of statistics is used.

Table 2.5: Chlamydia: Number of cases by age category, 2000–2009

Age	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total number by age category										
0-14	547	648	669	718	847	853	978	1082	1089	1032
15-19	29838	33812	38963	42919	50094	52356	59377	70323	109920	114901
20-24	45355	50438	57246	62170	70923	74590	85897	95372	131938	140135
25-34	33827	36232	38836	40069	45147	46603	55641	59573	63051	61691
35-44	7901	8728	9466	9676	10790	11349	13431	14176	14923	15014
45+	2151	2273	2440	2536	3063	3336	4222	4812	5444	5836
NA	669	363	440	234	208	213	814	462	340	444
Total	**120288**	**132494**	**148060**	**158322**	**181072**	**189300**	**220360**	**245800**	**326705**	**339053**
Proportion by age category										
0-14	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3
15-19	24.8	25.5	26.3	27.1	27.7	27.7	26.9	28.6	33.6	33.9
20-24	37.7	38.1	38.7	39.3	39.2	39.4	39.0	38.8	40.4	41.3
25-34	28.1	27.3	26.2	25.3	24.9	24.6	25.3	24.2	19.3	18.2
35-44	6.6	6.6	6.4	6.1	6.0	6.0	6.1	5.8	4.6	4.4
45+	1.8	1.7	1.6	1.6	1.7	1.8	1.9	2.0	1.7	1.7
NA	0.6	0.3	0.3	0.1	0.1	0.1	0.4	0.2	0.1	0.1

Note: For Sweden, date of statistics is used.

Table 2.6: Chlamydia: Number of cases by transmission category and gender, 2000–2009

Country	Transm.	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	Hetero F	-	-	-	-	-	-	-	-	-	226
	Hetero M	-	-	-	-	-	-	-	-	-	271
	MSM	-	-	-	-	-	-	-	-	-	6
	UNK	-	-	-	-	-	-	-	822	742	94
Belgium	NA	-	-	-	-	-	-	2060	2480	2601	2942
Bulgaria		-	-	-	-	-	-	-	-	-	-
Cyprus	NA	-	-	-	-	-	-	6	0	1	4
Czech Republic		-	-	-	-	-	-	-	-	-	-
Denmark	NA	14786	15153	16205	18353	21628	23881	24866	25795	29116	29825
Estonia	NA	3806	4283	4114	2969	2771	2541	2529	2536	2206	1952
Finland	NA	11729	12143	13666	12866	13378	12744	13878	13968	13873	13317
France		-	-	-	-	-	-	-	-	-	-
Germany		-	-	-	-	-	-	-	-	-	-
Greece	Hetero F	-	-	-	-	-	-	-	-	1	48
	Hetero M	-	-	-	-	-	-	-	-	34	43
	MSM	-	-	-	-	-	-	-	-	4	8
	UNK	-	-	-	-	-	-	-	-	32	228
Hungary	NA	981	653	505	488	431	585	598	699	754	711
Iceland	NA	1819	2123	2088	1638	1736	1622	1728	1814	1834	2271
Ireland	NA	1343	1649	1922	2258	2803	3353	3144	5023	6290	3997
Italy		-	-	-	-	-	-	-	-	-	-
Latvia	Hetero F	-	-	-	-	-	-	-	1	192	326
	Hetero M	-	-	-	-	-	-	-	1	274	357
	MSM	-	-	-	-	-	-	-	-	3	9
	UNK	647	589	582	502	528	729	820	714	279	386
Lithuania	Hetero F	-	-	-	-	-	-	-	-	195	124
	Hetero M	-	-	-	-	-	-	-	-	169	160
	MSM	-	-	-	-	-	-	-	-	5	0
	UNK	-	-	-	390	406	563	556	403	34	42
Luxembourg	NA	-	-	-	-	-	-	0	0	4	0
Malta	Hetero F	-	-	-	-	-	1	21	21	36	22
	Hetero M	-	-	-	-	-	4	19	39	55	24
	MSM	-	-	-	-	-	-	1	8	9	5
	UNK	-	-	-	-	-	-	2	2	8	7
Netherlands	Hetero F	-	-	-	-	2441	2889	3551	3901	4473	4671
	Hetero M	-	-	-	-	1865	2234	2630	2819	3319	3494
	MSM	-	-	-	-	752	803	951	1095	1556	1613
	UNK	-	-	-	-	17	11	8	6	7	10
Norway	NA	-	-	-	-	-	-	21259	22847	23488	22754
Poland	NA	-	-	-	-	-	-	612	627	695	908
Portugal		-	-	-	-	-	-	-	-	-	-
Romania	Hetero F	-	-	-	-	-	17	-	26	30	24
	Hetero M	-	-	-	-	-	60	-	89	46	66
	MSM	-	-	-	-	-	0	-	0	0	1
	UNK	-	-	-	-	5	79	238	0	51	0
Slovakia	NA	-	-	-	-	-	-	61	78	105	228
Slovenia	Hetero F	-	-	-	-	-	1	32	39	19	24
	Hetero M	-	-	-	-	-	8	71	79	49	90
	MSM	-	-	-	-	-	-	6	35	14	5
	UNK	-	-	-	-	-	-	37	45	38	11
Spain	NA	92	87	97	115	120	148	139	223	402	846
Sweden	Hetero F	10335	12025	13477	14880	17792	17969	17408	25207	22048	19864
	Hetero M	7557	8966	10011	10969	13337	13437	12963	18721	16775	14762
	MSM	146	164	211	229	341	301	311	421	386	426
	MTCT	0	0	1	0	0	0	0	0	0	24
	UNK	1217	1092	976	716	793	1328	1836	2732	2765	2699
United Kingdom	NA	67173	75216	86127	94597	103137	107908	112013	120058	200169	214033

Note: Cases with transmission=Hetero and unknown gender have been classified as NA. For Sweden, date of statistics is used.

3 Gonorrhoea

Table D: Data source, type and period of gonorrhoea surveillance data available

Country	Data source	Type	Period	Legal	Coverage
Austria	AT-STI Sentinel	A	1996–2005	V	Se
	AT-STI Sentinel	C	2006–2009	V	Se
Belgium	BE-LABNET	C	2006–2009	V	Se
Bulgaria	BG-STI	A	1990–2009	C	Co
Cyprus	CY-NOTIFIED_CASES	C	2006–2009	C	Se
Czech Republic	CZ-STD	A	1990–1998	C	Co
	CZ-STD	C	1999–2009	C	Co
Denmark	DK-LAB	A	1990–1999	C	Co
	DK-STI_CLINICAL	C	2000–2009	C	Co
Estonia	EE-GONOCOCC	A	1990–2007	C	Co
	EE-GONOCOCC	C	2008–2009	C	Co
Finland	FI-NIDR	C	2000–2009	C	Co
France	FR-STI	C	2004–2009	V	Se
Germany	-	-	-	-	-
Greece	GR-NOTIFIABLE_DISEASES	A	1990–2009	C	Other
Hungary	HU-STD SURVEILLANCE	A	1990–2009	C	Se
Ireland	IE-AGGR_STI	A	1995–2009	C	Co
Iceland	IS-SUBJECT_TO_REGISTRATION	C	1997–2009	C	Co
Italy*	IT-NRS	C	1998–2009	C	Other**
Latvia	LV-BSN	C	2008–2009	C	Co
	LV-STI/SKIN_INFECTIONS	A	1990–2007	C	Co
Lithuania	LT-COMMUNICABLE_DISEASES	C	2008–2009	C	Co
	LT-COMMUNICABLE_DISEASES	A	2003–2007	C	Co
Luxembourg	LU-SYSTEM1	C	2007–2009	C	Co
Malta	MT-DISEASE_SURVEILLANCE	C	2008–2009	C	Co
Netherlands	NL-STI	C	2004–2009	V	Se
Norway	NO-MSIS_B	C	2007–2009	C	Co
Poland	PL-NATIONAL_SURVEILLANCE	A	2006–2009	C	Co
Portugal	PT-GONOCOCCAL	C	1990–2009	C	Co
Romania	RO-RNSSy	A	1990–2009	C	Co
Slovakia	SK-EPIS	C	2007–2009	C	Co
Slovenia	SI-SPOSUR	C	2007–2009	C	Co
Spain**	ES-MICROBIOLOGICAL	C	1990–2009	V	Se
	ES-STATUTORY_DISEASES_STI_AGGR	A	1990–2009	C	Co
Sweden	SE-EpiBas	A	1990–1996	C	Co
	SE-SMINET	C	1997–2009	C	Co
United Kingdom	UK-GUM	A	1990–2009	C	Other

Type: aggregated (A), case-based (C);
Legal: voluntary reporting (V), compulsory reporting (C);
Coverage: sentinel system (Se), comprehensive (Co, Other).
* All physicians should report to national register in Italy but less than 10% do – there is no comprehensive system.
** Data from two different data sources were submitted for Spain; data from the ES_microbiological (sentinel laboratory system) were not used in the tables.

3 Gonorrhoea

3.1 Key points

- In 2009, 29 202 gonorrhoea cases have been reported from 28 EU/EEA Member States (data were not available from Germany and Liechtenstein) with an overall rate of 9.7 per 100 000 population. Gonorrhoea was reported nearly three times more often in men than in women, with an overall rate of 15.9 per 100 000 in men and 6.3 per 100 000 in women.
- More than 40% all gonorrhoea cases were reported in young people between 15 and 24 years of age.
- A quarter of all gonorrhoea cases in 2009 (24%) were reported in men who have sex with men.
- As compared with 2008, notable increases were observed in Denmark, Iceland, Portugal and Poland. Relatively small decreases were observed in 10 other countries.
- The overall trend in gonorrhoea across the EU/EEA over the past decade appears to be slightly decreasing and shows two patterns: 1) a decreasing trend in a number of countries that previously reported very high rates (with present continuous decline or stabilisation); 2) a continuous increase in other countries. These trends must be interpreted with caution due to the heterogeneity in reporting and healthcare systems.

3.2 Source of data

Gonorrhoea data were available from all countries except Germany and Liechtenstein. Table D specifies the source of the data, the type of data (aggregate and case-based), the coverage (either sentinel or comprehensive) and period of availability. Rates per 100 000 population were calculated for 22 countries with comprehensive or other systems, countries with sentinel systems (Austria, Belgium, Cyprus, Hungary, Italy and the Netherlands) were excluded from the calculations.

The table shows the existing heterogeneity in systems, recent changes in systems and reporting periods. Due to these variations in the coverage, completeness and representativeness of these data, direct comparisons of absolute numbers and rates must be done with caution since the proportion of diagnosed cases actually reported differs substantially across countries.

Table 3.1a shows that 12 countries have provided data on gonorrhoea for the period 1990–2009, e.g. Bulgaria, the Czech Republic, Denmark, Estonia, Greece, Hungary, Latvia, Portugal, Romania, Spain, Sweden and the United Kingdom. An additional four countries have provided data on gonorrhoea for 2000–2009: Finland, Iceland, Ireland and Italy.

For the period 2000–2009, 13.8% of the data were provided in case-based format, and in recent years four countries have changed their reporting (Austria, Estonia, Latvia and Lithuania) so that 26% of the 2009 data was available in case-based format. This affects the amount of information for analysis considerably as the aggregate format only includes gender, age and transmission category.

The completeness of the variables 'age' and 'gender' was above 90%. Completeness of the epidemiological variables was low: for the variable 'transmission category' information was available from 17 countries for 23% of the cases only. 'HIV status' was reported by seven countries and provides information on only 6% of the cases in 2000–2009. 'Site of infection' was available for 6% of the cases in 2000–2009.

3.3 Case reports in 2009

Demographical variables

In 2009, 29 202 gonorrhoea cases have been reported from 28 countries, with 58% of all cases being reported by one country (UK) (Table 3.1). This gave an overall rate of 9.7 per 100 000 population for countries in EU/EEA with comprehensive surveillance of gonorrhoea (Table 3.3). The overall rate is highly influenced by Poland with a relatively low number of diagnoses and a large population size. The overall rate excluding Poland was 11.3 per 100 000 population.

Information on gender was missing in 6.9% (N=1 992) of all cases in 2009; this was mainly due to missing information from Spain (1 954 cases). The male-to-female ratio in 2009 was 2.6, meaning that more than twice as many cases were reported in men (N=19 565) than in women (N=7 644) (Table 3.2) The overall rate in men was 15.9 per 100 000 and 6.3 per 100 000 in women (Table 3.4).

In 2009, the highest rate was observed in the UK (27.6 per 100 000), Latvia (18.5), Malta (15.0), Iceland (14.7), Lithuania (11.7) and Denmark (10.2). The lowest rates (< 1.5/100 000) were observed in five countries (Greece, Luxembourg, Poland, Portugal and Slovenia) (Table 3.3; Figure 3.1).

The majority of the countries reported male-to-female ratios of 2.6 or more when based on absolute number of cases. If calculated without the UK, the overall male-to-female ratio is 3.6. The male-to-female ratio ranged from 0.3 in Austria to 9.6 in Italy. Only three countries reported a ratio equal or below 1, namely Austria, Estonia and Ireland (Figure 3.2). An exceptionally high male-to-female ratio was reported by Greece (53.7). A possible explanation for this high ratio might be that

Figure 3.1: Number of gonorrhoea cases per 100 000 population, EU/EEA, 2009

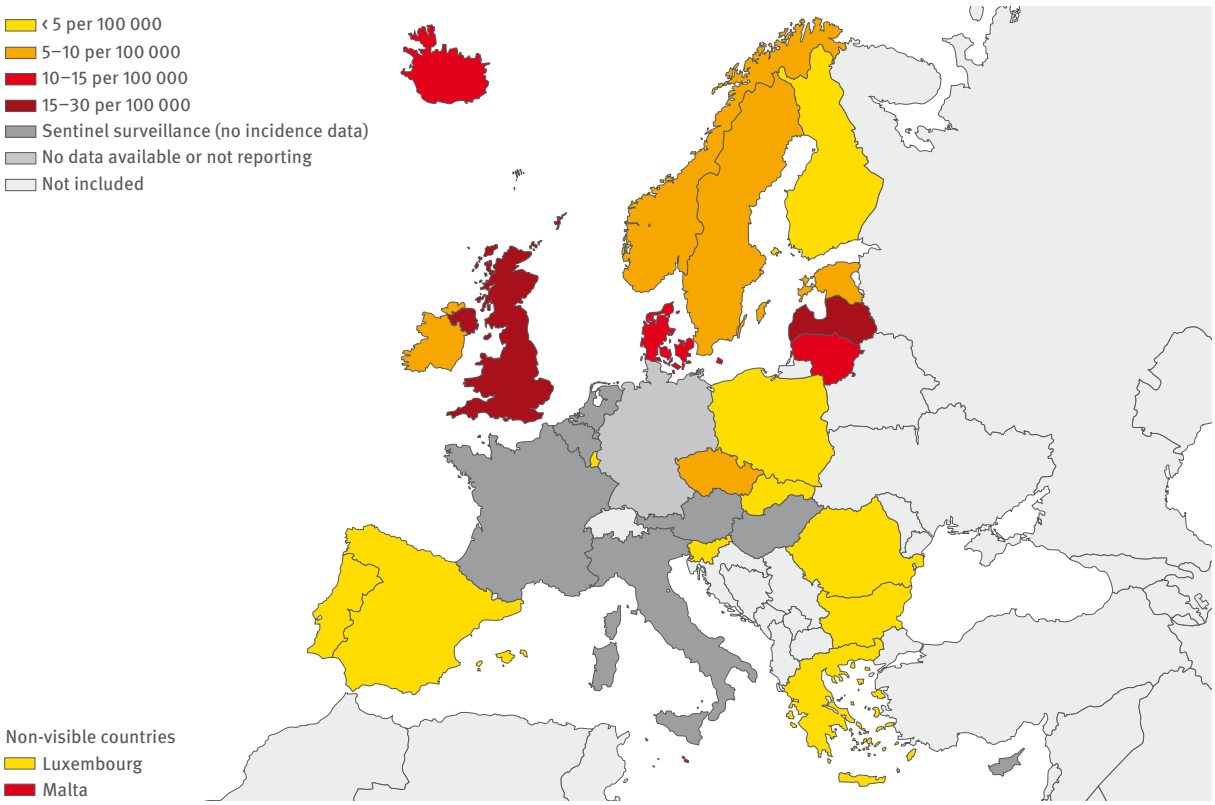
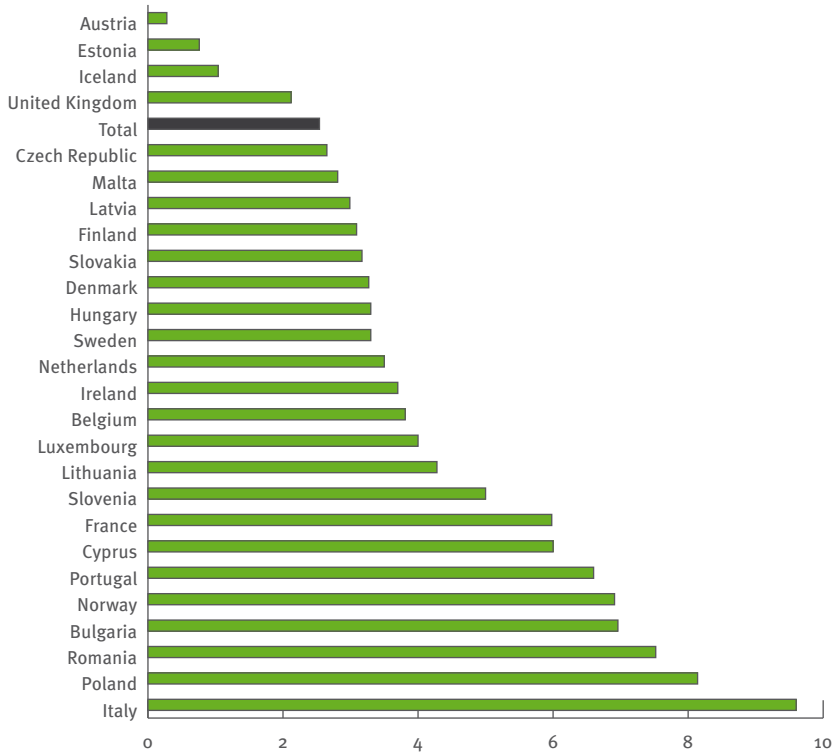


Figure 3.2: Male-to-female ratio in gonorrhoea cases by country, 2009



Note: Greece is excluded from the figure with a male-to-female ratio of 53.7.

women prefer to consult private physicians that do not notify diagnoses despite the compulsory reporting. For countries with information on gender and that have reported consistently in 2000–2009, the male-to-female ratio has remained fairly stable and fluctuated between 2.4 and 2.8.

In 2009, information on age was available for 24 countries in different formats. Because of the data presentation and the incompatible age formats, the data from Hungary were excluded for 2007–2008, Poland 2006–2009 and Romania for 2006. Information on age was not available for Bulgaria, Ireland and Spain, representing 9% of the cases.

Figure 3.3 presents the age distribution in percentage of all cases with information on age in 2000 and 2009. The age category 25–34 years was the largest, varying between 30% and 33% of all cases. The second largest group was the younger age group, 20–24 years. In 2009, almost half of all cases (44%) were reported in young people between 15–24 years of age. The age distribution appeared not to have changed substantially over time in 2000–2009.

In 2009, information on country of birth (or country of nationality, if country of birth was not available) was available for 10 countries (Austria, Czech Republic, Denmark, Finland, France, Luxembourg, Malta, Netherlands, Norway and Slovenia), reporting 17% of the cases (N=5 003). Of those cases, 67% were reported from the same country as the reporting country, 16% from another country and 17% unknown. The probably country of infection was reported consistently by 10 countries with an average of 19% of the cases being acquired in another country. This percentage varies across countries and includes a large number of cases without information.

Epidemiological variables

In 2009, information on transmission category was available for 13 countries (Austria, Cyprus, Czech Republic, France, Greece, Latvia, Lithuania, Malta, Netherlands, Norway, Slovenia, Sweden and United Kingdom) providing 80% of the gonorrhoea cases (N=23 137) (Table 3.6). Information was missing for 20% of the cases. The transmission category, unknown for 60%, was indicated as heterosexual in 18% and as in men who have sex with men (MSM) in 24% of the cases (Table E). The high proportion of unknown transmission category is due to cases diagnosed in the UK (N=13 736) which only collected data on confirmed transmissions among MSM. Cases diagnosed in MSM represent 29% (N=5 523) of all male cases diagnosed in 2009.

The percentage of all cases diagnosed in MSM (Figure 3.4) ranges from below 10% (Austria, Latvia and Lithuania) to almost 20–40% (Czech Republic, Denmark, Greece, Malta, Norway, Slovenia and United Kingdom), with the highest percentages reported by the Netherlands (58%) and France (56%).

In 2009, information on HIV status was provided by seven countries: Austria, Czech Republic, Denmark, France, Latvia, Netherlands and Norway, representing 17% of the gonorrhoea cases (4 936 cases), of which 546 cases (11%) were HIV positive (either known or newly diagnosed), 59% were HIV negative and information was unknown for 30%.

3.4 Trends in 1990–2009

Between 1990 and 2009, 724 986 cases of gonorrhoea have been reported from 28 countries with varying degree of completeness over time. Rates are calculated for 21 countries with comprehensive surveillance systems for gonorrhoea (Table 3.3). Figure 3.5 shows an overall declining trend in the number of reported cases per 100 000 population in the EU/EEA and for male and female populations when calculated for the 14 countries that have consistently reported in the period 2000–2009.

The rate declined from 33.9 per 100 000 in 1990 to 16.8 in 2000. In 2000–2009, the rate decreased by an overall 30% to 11.7 per 100 000 in 2009, when calculated for countries that have reported consistently over time.

Figure 3.3: Gonorrhoea cases by age category for 2000 (13 countries) and 2009 (24 countries)

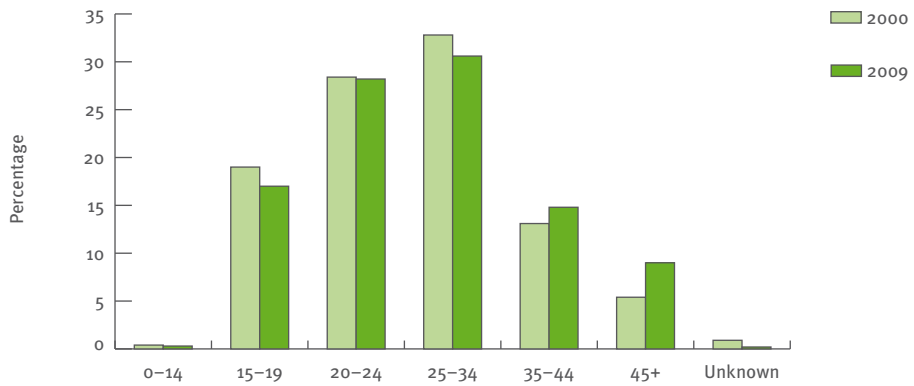


Table E: Number and percentage of gonorrhoea cases by transmission category and gender, 2009

	Number of cases	Reporting countries	MSM	Heterosexual		Unknown
				Male	Female	
Gonorrhoea	23137	13	5523 (24%)	2238 (10%)	1336 (6%)	14038 (60%)

Note: cases with unknown gender and heterosexual transmission category have been classified as 'unknown'.

Figure 3.4: Proportion of gonorrhoea cases diagnosed in men who have sex with men, 2009

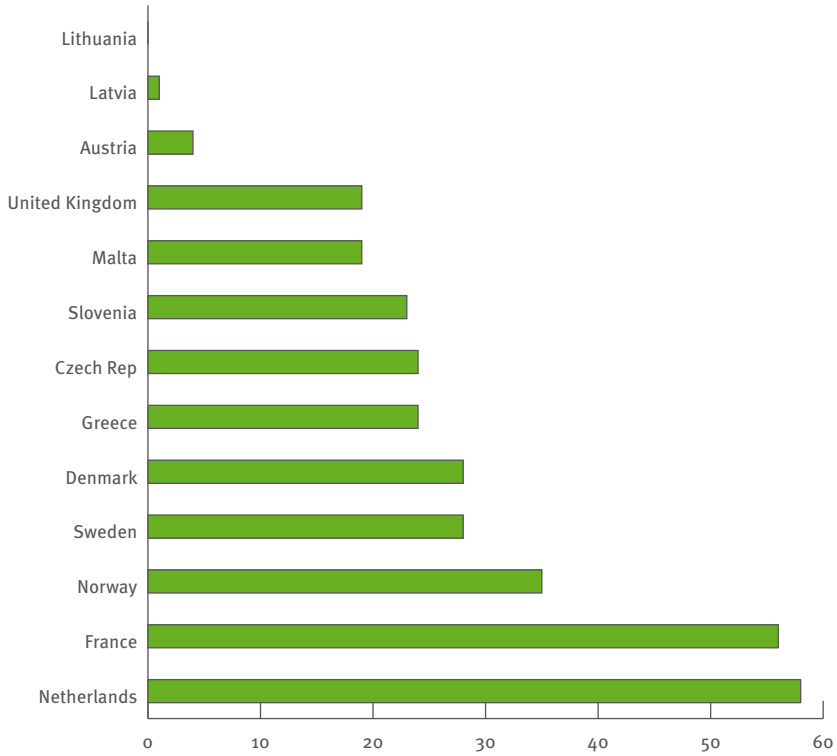
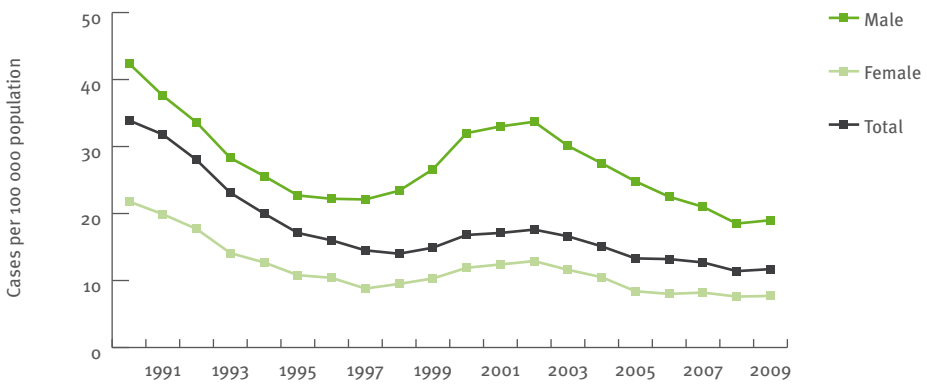


Figure 3.5: Trend in number of reported gonorrhoea cases per 100 000 population, EU/EEA, 1990–2009



Note: Based on data from 14 countries that have consistently reported.

It showed a slight increase in the period 2000–2003 mainly due to an increase in the rates in men.

The interpretation of the overall trend is hampered by diverging trends in different countries and is highly influenced by a number of countries that have reported a high number of cases in the early 1990s, like Bulgaria, Czech Republic, Estonia and Latvia (Figure 3.6).

Figure 3.6 shows three graphs with the number of reported cases per 100 000 population in a number of countries. Five countries (Bulgaria, Czech Republic, Estonia, Latvia and Romania) have reported very high rates in the early 1990s but rates have decreased significantly since then. However, the rate in Latvia remained fairly high. In the other countries, the number of cases per 100 000 population appeared to have stabilised or increased in 2000–2009. It is of interest to note the 50-fold difference in the Y axis in Figure 3.6.

Table F specifies the relative increases or decreases in notification rates in 2006–2009 and in 2000–2009. The overall rates in 2000–2009 have increased in six countries: Iceland, Denmark, Portugal, Greece, Spain and Ireland, although Greece and Ireland have reported a slight decrease in 2006–2009. Decreases were observed in Romania, Estonia, Bulgaria, Latvia, United Kingdom, Czech Republic and Finland, although Bulgaria has reported an increase in recent years.

Trends for 2006–2009 (with more complete reporting) showed marked differences across countries with an overall decrease of 9%. Decreasing trends were reported in 10 countries (Czech Republic, Estonia, Greece, Ireland, Latvia, Lithuania, Romania, Slovenia, Sweden and United Kingdom) ranging from 9% decrease (United Kingdom) to more than 50% decrease (Romania and Estonia). Increases were reported by Bulgaria, Denmark, Iceland, Malta, Norway, Portugal, Slovakia and Spain.

Table F: Relative increase or decrease in notification rates between 2006–2009 and 2000–2009

Country	2006–2009	2000–2009
Increase		
Iceland	43	308
Denmark	34	252
Portugal	120	175
Spain	30	65
Mixed		
Greece	-12	67
Ireland	-12	17
Sweden	-10	-1
Finland	0	-15
Bulgaria	19	-66
Decrease		
Czech Republic	-36	-17
United Kingdom	-9	-22
Latvia	-43	-41
Estonia	-55	-85
Romania	-53	-87

Note: Based on data from 14 countries that have consistently reported in 2000–2009.

As compared with 2008, the overall rate in 2009 remained fairly stable despite that several countries have observed notable increases, like Iceland (86%), Portugal (83%), Poland (57%) and Denmark (36%). Decreases between 10% and 25% were observed in Ireland, Norway, Czech Republic, Estonia, Latvia, Greece, Slovenia and Lithuania.

As rates cannot be calculated for countries with sentinel surveillance systems, the relative increase or decrease was also calculated for the absolute reported number of gonorrhoea cases in 2006–2009 by country. It showed that gonorrhoea has increased in 14 countries and decreased in 14 countries (Figure 3.7). The largest decrease was observed in the Czech Republic, Estonia, Latvia and Romania; the highest increase in France, Malta, Portugal and Slovakia. The overall decrease in the number of reported cases in EU/EEA was 5%.

3.5. Discussion

Completeness of data reported

Two countries could not provide data on gonorrhoea. The completeness of the variables 'age' and 'gender' was above 80%. Completeness of the variable 'transmission category' increased between 2000 and 2009 and could be improved, as the information is missing for 77% of the cases, mostly from countries with the highest case reports. 'Site of infection' was only available for 5% of the reported cases in 2000–2009. The variable 'age' in aggregate reports was reported in many different ways, hampering the presentation of provided data.

Case reports and trends

The distribution of gonorrhoea varied considerably across countries, with rates from less than 1 to 27 cases per 100 000 population. Almost 60% of the cases have been reported from one county. There is no distinct geographical pattern across EU/EAA with low rates (< 5 per 100 000) being reported in the south (Greece, Spain and Portugal), central-east (Bulgaria, Romania, Poland and Slovenia) but also in Finland; intermediate rates (< 15) were found in the Scandinavian countries (Denmark, Norway and Sweden), Iceland, Ireland, Estonia, Lithuania, Malta and the Czech Republic, and the highest rates in Latvia and the United Kingdom.

In all except two countries, more male cases than female cases were reported and half of the cases were reported in 15–24 year-olds. The proportion of gonorrhoea cases reported in MSM varied across the EU/EEA with high proportions being reported in mainly western and northern countries (France, Netherlands, Denmark, Norway and the United Kingdom) but also in Slovenia, Greece and the Czech Republic. The interpretation of these findings is hampered by the incompleteness of reporting and a lack of information from other countries. The high male-to-female ratio reported in many countries may indicate a possible underreporting of cases in MSM in countries where data on transmission category is available. Data from the other countries may suggest that homosexually

Figure 3.6: Number of gonorrhoea cases per 100 000 population in selected EU/EEA Member States (A 1990–2009; B/C 2000–2009)

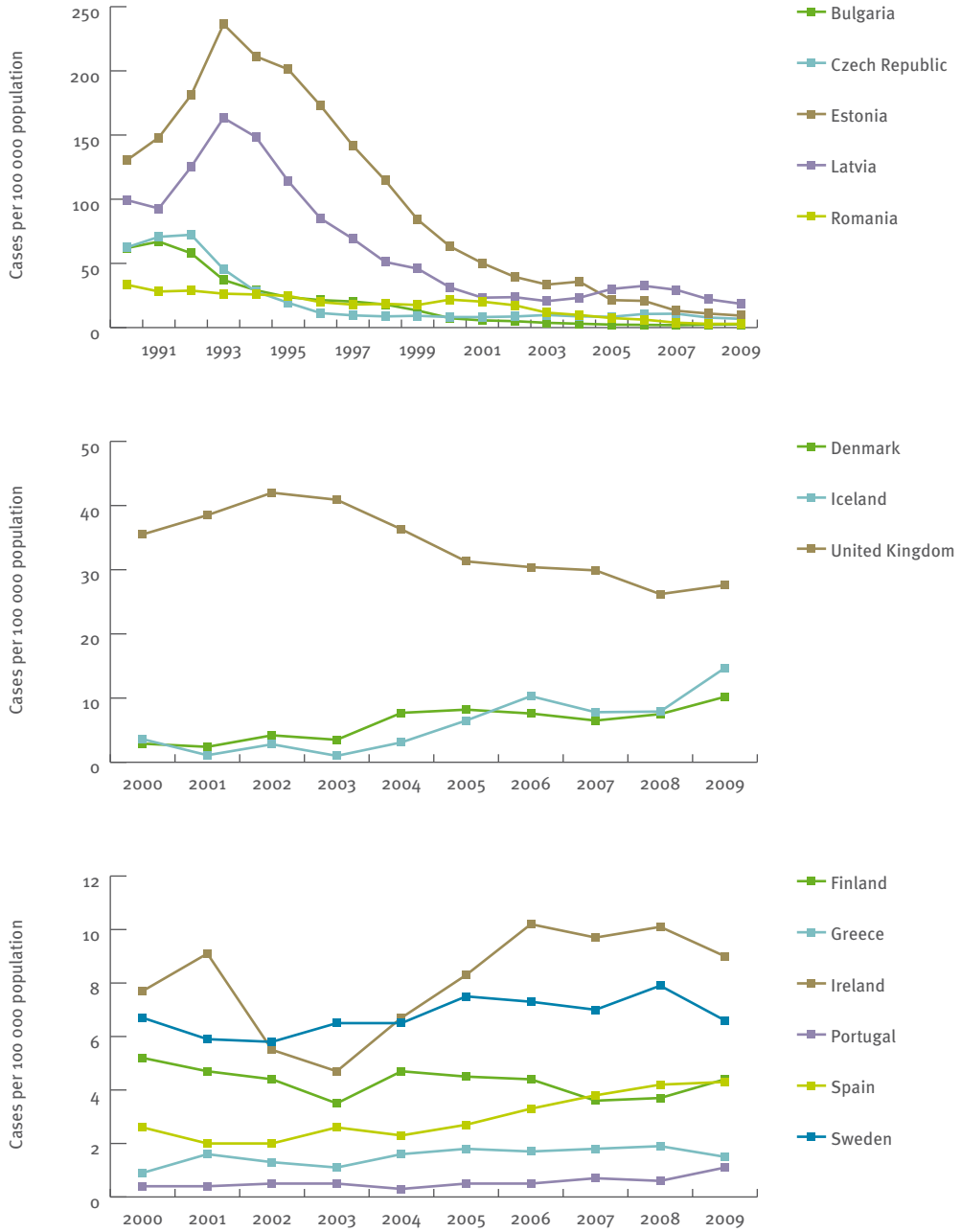
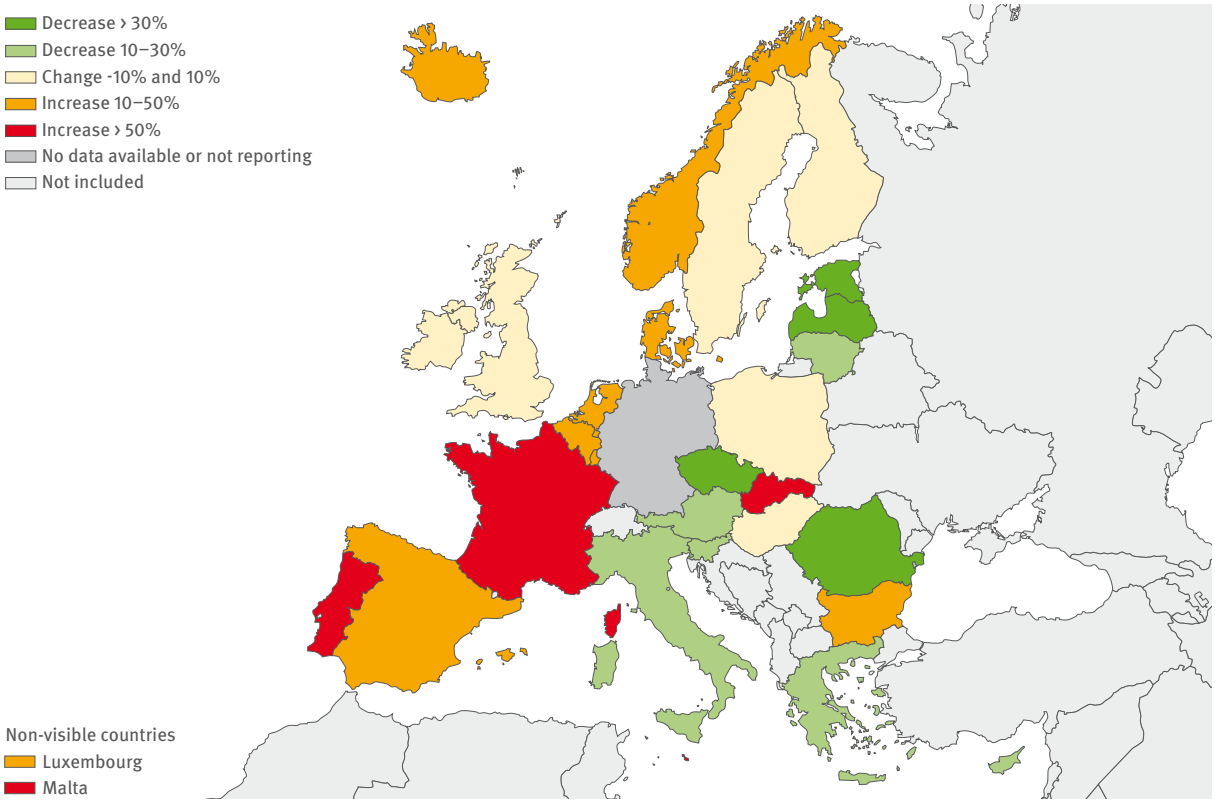


Figure 3.7: Relative increase or decrease in the number of reported gonorrhoea cases, EU/EEA, 2006–2009



acquired cases may not be indentified and reported as such or that many male cases could have been acquired through contact with sex workers. This needs to be reviewed in more detail in close collaboration with respective Member States, also to improve the quality and completeness of data.

The overall trend in gonorrhoea across the reporting countries in EU/EEA in the past decades shows two distinct patterns:

1) a decreasing trend in a number of countries that reported very high notification rates of gonorrhoea in the 1990s, e.g. Bulgaria, Estonia, Latvia, Czech Republic and Romania;

2) in other countries, a decreasing trend was observed until 1999, after which the overall number and rate have started to increase again in the early 2000s.

The previously high rates in east and central EU countries may reflect the results of routine screening in certain clinical services and stable reporting systems. Subsequent declines may reflect changes in healthcare systems (from public to private sector) and a decline in reporting routines so that the number of infections that remain undiagnosed and underreported may have increased substantially.

In general, information from the majority of countries that report gonorrhoea diagnoses indicates that data on STI are obtained from dedicated special services (STI clinics) rather than general practitioners. In addition, data are obtained from sentinel surveillance in a number of countries, suggesting that the actual number of reported cases may be grossly underestimated. A limitation to the interpretation of the epidemiological situation in the EU/EEA is that many diagnoses are either not made or are not reported. Diagnoses from certain countries cannot be included in trend analyses as they do not have comprehensive surveillance for STI.

3.6 Tables

Table 3.1a: Gonorrhoea: Number of cases by year of diagnosis, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	595	440	379	434	414	539	985	902	848	660	171	131	263	143	**6904**
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	535	585	718	711	**2549**
Bulgaria	5431	5811	4975	3146	2460	1994	1791	1690	1491	1096	599	461	395	288	235	181	165	149	178	191	**32727**
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	5	2	7	**22**
Czech Republic	6463	7283	7455	4700	2905	1993	1163	982	899	944	847	846	873	997	885	856	1087	1108	809	712	**43807**
Denmark	1990	1331	936	580	394	289	178	189	211	334	154	130	227	186	416	445	414	352	409	563	**9728**
Estonia	2025	2299	2790	3535	3089	2882	2437	1969	1577	1146	867	686	538	455	484	288	280	176	146	125	**27794**
Finland	-	-	-	-	-	-	-	-	-	-	271	241	226	184	247	235	231	192	198	237	**2262**
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	153	196	217	236	342	**1243**
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Greece	108	117	143	137	133	117	96	91	147	124	98	177	144	119	177	197	190	201	208	164	**2888**
Hungary	4862	4396	3614	2617	2351	2161	1967	1604	1388	1247	1183	1033	929	898	742	851	916	1041	892	872	**35564**
Iceland	-	-	-	-	-	-	-	5	6	6	10	3	8	3	9	19	31	24	25	47	**196**
Ireland	-	-	-	-	-	91	83	98	125	175	290	349	214	186	270	342	431	417	444	400	**3915**
Italy	-	-	-	-	-	-	-	-	290	261	237	345	278	287	349	370	258	152	154	213	**3194**
Latvia	2653	2466	3309	4223	3774	2853	2099	1690	1237	1101	745	551	555	481	537	694	746	670	500	419	**31303**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	503	482	433	437	471	533	391	**3250**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1	18	6	**29**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	52	50	62	**197**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1656	1603	1778	1830	1969	2426	**11262**
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	236	238	301	269	**1044**
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	395	330	285	402	**1412**
Portugal	246	227	167	147	80	67	69	59	38	64	45	38	54	52	28	52	53	74	67	114	**1741**
Romania	7751	6507	6558	6009	5872	5605	4477	4045	4166	3951	4907	4529	3806	2526	2119	1612	1348	815	631	622	**77856**
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	81	152	171	**470**
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	42	40	30	**146**
Spain	13702	11428	9059	7275	6168	4599	3951	2352	2169	1467	1048	805	833	1069	981	1155	1423	1698	1897	1954	**75033**
Sweden	834	621	475	368	307	246	211	251	357	424	598	527	521	582	579	679	657	642	722	608	**10209**
United Kingdom	18342	17665	13199	10489	10070	9928	12282	12760	12896	16087	21292	23166	25009	24443	21845	18875	18480	18291	16121	17001	**338241**
Total	**64407**	**60151**	**52680**	**43226**	**37603**	**32825**	**31399**	**28225**	**27376**	**28861**	**33605**	**34426**	**35595**	**34161**	**32988**	**29700**	**30603**	**29985**	**27968**	**29202**	**724986**

Table 3.1b: Gonorrhoea: Number of cases by year of statistics, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	595	440	379	434	414	539	985	902	848	660	171	131	263	143	**6904**
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	535	585	718	711	**2549**
Bulgaria	5431	5811	4975	3146	2460	1994	1791	1690	1491	1096	599	461	395	288	235	181	165	149	178	191	**32727**
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	5	2	7	**22**
Czech Republic	6463	7283	7455	4700	2905	1993	1163	982	873	954	838	855	870	980	914	852	1075	1129	805	718	**43807**
Denmark	1990	1331	936	580	394	289	178	189	211	334	154	130	227	186	416	445	414	352	409	563	**9728**
Estonia	2025	2299	2790	3535	3089	2882	2437	1969	1577	1146	867	686	538	455	484	288	280	174	146	127	**27794**
Finland	-	-	-	-	-	-	-	-	-	-	271	241	226	184	247	235	231	192	198	237	**2262**
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	153	196	217	236	342	**1243**
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Greece	108	117	143	137	133	117	96	91	147	124	98	177	144	119	177	197	190	201	208	164	**2888**
Hungary	4862	4396	3614	2617	2351	2161	1967	1604	1388	1247	1183	1033	929	898	742	851	916	1041	892	872	**35564**
Iceland	-	-	-	-	-	-	-	5	6	6	10	3	8	3	9	19	31	24	25	47	**196**
Ireland	-	-	-	-	-	91	83	98	125	175	290	349	214	186	270	342	431	417	444	400	**3915**
Italy	-	-	-	-	-	-	-	-	290	261	237	345	278	287	349	370	258	152	154	213	**3194**
Latvia	2653	2466	3309	4223	3774	2853	2099	1690	1237	1101	745	551	555	481	537	694	746	669	487	433	**31303**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	503	482	433	437	471	533	391	**3250**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1	18	6	**29**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	53	49	63	**197**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1656	1603	1778	1830	1969	2426	**11262**
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	236	238	301	269	**1044**
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	395	330	285	402	**1412**
Portugal	246	227	167	147	80	67	69	59	38	64	45	38	54	52	28	52	53	74	67	114	**1741**
Romania	7751	6507	6558	6009	5872	5605	4477	4045	4166	3951	4907	4529	3806	2526	2119	1612	1348	815	631	622	**77856**
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	81	152	171	**470**
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	39	43	30	**146**
Spain	13702	11428	9059	7275	6168	4599	3951	2352	2169	1467	1048	805	833	1069	981	1155	1423	1698	1897	1954	**75033**
Sweden	834	621	475	368	307	246	211	244	341	425	590	529	505	595	570	691	677	642	724	614	**10209**
United Kingdom	18342	17665	13199	10489	10070	9928	12282	12760	12896	16087	21292	23166	25009	24443	21845	18875	18480	18291	16121	17001	**338241**
Total	**64407**	**60151**	**52680**	**43226**	**37603**	**32825**	**31399**	**28218**	**27334**	**28872**	**33588**	**34437**	**35576**	**34157**	**33008**	**29708**	**30610**	**30001**	**27955**	**29231**	**724986**

Note: Probable cases for Austria and Slovakia are excluded. Microbiological data from Spain are excluded.

Table 3.2: Gonorrhoea: Number of cases by gender, 1990–2009

Country	1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	292	156	198	93	191	88	222	89	206	87
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	3931	2532	4334	2949	4483	2972	2842	1858	1814	1091	1304	689	778	385	694	288	602	297	668	276	608	239
Denmark	1133	857	807	524	588	348	371	209	291	103	221	68	142	36	154	35	187	24	291	43	136	18
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	926	651	694	452	528	339
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	211	60
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	46	1	34	2	113	2	93	3	59	0	66	0	55	0	61	2	116	5	114	2	93	5
Hungary	3496	1366	3204	1192	2635	979	1902	715	1745	606	1607	554	1440	527	1190	414	1078	310	952	295	855	328
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	4	2	3	3	5	5
Ireland	-	-	-	-	-	-	-	-	-	-	82	9	70	13	85	13	95	30	135	40	228	62
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	265	23	249	12	221	10
Latvia	1443	1210	1346	1120	1863	1446	2430	1793	2219	1555	1627	1226	1246	853	1091	599	880	357	777	324	520	225
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	189	57	182	45	141	26	128	19	72	8	57	10	60	9	47	12	35	3	45	19	37	8
Romania	5849	1902	4848	1659	4772	1786	4444	1565	4467	1405	4311	1294	3455	1022	3166	879	3340	826	3166	785	3921	986
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	434	183	353	121	272	96	224	83	201	45	173	38	202	48	295	62	363	61	515	83
United Kingdom	11810	6532	11278	6387	8500	4699	6931	3558	6744	3326	6626	3302	8244	4038	8744	4016	8732	4164	11081	5006	14907	6385
Total	**27897**	**14457**	**26467**	**14061**	**23448**	**12379**	**19413**	**9816**	**17635**	**8177**	**16102**	**7197**	**15955**	**7077**	**15635**	**6401**	**16746**	**6842**	**18760**	**7407**	**22991**	**8840**

Note: Probable cases for Austria and Slovakia are excluded. Microbiological data from Spain are excluded.

Country	2001		2002		2003		2004		2005		2006		2007		2008		2009		Cumulative total		Unk./ Missing	Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Austria	297	116	593	253	588	189	556	181	433	140	42	129	34	97	48	215	31	112	3731	1945	1228	**6904**
Belgium	-	-	-	-	-	-	-	-	-	-	417	115	433	147	557	160	560	147	1967	569	13	**2549**
Bulgaria	-	-	-	-	202	86	187	48	152	29	135	30	137	12	143	35	167	24	1123	264	31340	**32727**
Cyprus	-	-	-	-	-	-	-	-	-	-	8	0	4	1	2	0	6	1	20	2	-	**22**
Czech Republic	612	234	621	252	679	318	576	309	593	263	774	313	783	325	605	204	517	195	27818	15989	-	**43807**
Denmark	107	23	190	37	166	20	363	53	391	54	342	72	290	62	323	86	431	132	6924	2804	-	**9728**
Estonia	371	315	283	255	235	220	221	263	114	174	90	190	65	111	54	92	54	71	3635	3133	21026	**27794**
Finland	195	46	175	51	156	28	197	50	191	44	171	60	156	36	158	40	179	58	1789	473	-	**2262**
France	-	-	-	-	-	-	97	2	148	5	186	10	196	21	212	24	293	49	1132	111	-	**1243**
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Greece	169	8	140	4	115	4	174	3	192	5	186	4	198	3	203	5	161	3	2388	61	439	**2888**
Hungary	756	277	696	233	685	213	539	203	614	237	713	203	790	251	647	245	669	203	26213	9351	-	**35564**
Iceland	1	2	5	1	1	0	3	6	14	5	21	10	19	5	14	11	24	23	117	75	4	**196**
Ireland	265	82	90	122	146	38	234	30	303	32	380	48	355	56	360	73	311	84	3139	732	44	**3915**
Italy	327	11	265	10	268	13	322	24	347	20	232	25	136	15	135	19	192	20	2959	202	33	**3194**
Latvia	400	151	402	153	368	113	415	122	522	172	552	194	522	148	361	139	314	105	19298	12005	-	**31303**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	452	81	317	74	769	155	2326	**3250**
Luxembourg	-	-	-	-	-	-	-	-	-	-	4	0	1	0	12	4	4	1	21	5	3	**29**
Malta	-	-	-	-	-	-	-	-	-	-	27	6	43	9	42	8	45	16	157	39	1	**197**
Netherlands	-	-	-	-	-	-	1300	356	1270	333	1401	377	1405	424	1512	456	1887	539	8775	2485	2	**11262**
Norway	-	-	-	-	-	-	-	-	-	-	205	31	208	30	260	41	235	34	908	136	-	**1044**
Poland	-	-	-	-	-	-	-	-	-	-	351	44	295	35	257	28	358	44	1261	151	-	**1412**
Portugal	29	9	42	12	43	9	19	9	48	4	49	4	65	9	56	11	99	15	1443	298	-	**1741**
Romania	3611	918	3087	719	2085	441	1671	448	1341	271	1114	234	696	119	553	78	549	73	60446	17410	-	**77856**
Slovakia	-	-	-	-	-	-	-	-	-	-	53	13	60	21	121	31	130	41	364	106	-	**470**
Slovenia	-	-	-	-	-	-	-	-	-	-	32	2	37	5	39	1	25	5	133	13	-	**146**
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75033	**75033**
Sweden	443	84	431	90	462	120	501	78	569	110	521	136	519	123	585	137	466	141	7529	1839	841	**10209**
United Kingdom	16281	6885	17498	7511	17071	7372	15353	6492	13623	5252	13248	5232	12607	5684	10765	5356	11541	5434	231584	106631	26	**338241**
Total	**23864**	**9161**	**24518**	**9703**	**23270**	**9184**	**22728**	**8677**	**20865**	**7150**	**21254**	**7482**	**20054**	**7749**	**18476**	**7580**	**19565**	**7644**	**415643**	**176984**	**132359**	**724986**

Note: Probable cases for Austria and Slovakia are excluded. Microbiological data from Spain are excluded.

Table 3.3: Gonorrhoea: Number of cases per 100000 population, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	61.9	67.0	57.9	37.1	29.1	23.7	21.4	20.3	18.0	13.3	7.3	5.6	5.0	3.7	3.0	2.3	2.1	1.9	2.3	2.5
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	62.4	70.7	72.3	45.5	28.1	19.3	11.3	9.5	8.7	9.2	8.2	8.2	8.6	9.8	8.7	8.4	10.6	10.8	7.8	6.8
Denmark	38.8	25.9	18.1	11.2	7.6	5.5	3.4	3.6	4.0	6.3	2.9	2.4	4.2	3.5	7.7	8.2	7.6	6.5	7.5	10.2
Estonia	130.2	148.1	181.2	236.3	211.3	201.2	172.9	141.7	114.6	84.1	63.2	50.2	39.5	33.5	35.8	21.4	20.8	13.1	10.9	9.3
Finland	-	-	-	-	-	-	-	-	-	-	5.2	4.7	4.4	3.5	4.7	4.5	4.4	3.6	3.7	4.4
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	1.1	1.1	1.4	1.3	1.3	1.1	0.9	0.8	1.4	1.1	0.9	1.6	1.3	1.1	1.6	1.8	1.7	1.8	1.9	1.5
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	1.9	2.2	2.2	3.6	1.1	2.8	1.0	3.1	6.5	10.3	7.8	7.9	14.7
Ireland	-	-	-	-	-	2.5	2.3	2.7	3.4	4.7	7.7	9.1	5.5	4.7	6.7	8.3	10.2	9.7	10.1	9.0
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	99.4	92.8	125.2	163.3	148.5	114.1	85.0	69.1	51.1	45.9	31.3	23.3	23.7	20.6	23.2	30.1	32.5	29.4	22.0	18.5
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	14.5	14.0	12.6	12.8	13.9	15.8	11.7
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.9	0.2	3.7	1.2
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	12.7	12.2	15.0
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	5.1	6.4	5.6
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	0.9	0.7	1.1
Portugal	2.5	2.3	1.7	1.5	0.8	0.7	0.7	0.6	0.4	0.6	0.4	0.4	0.5	0.5	0.3	0.5	0.5	0.7	0.6	1.1
Romania	33.4	28.1	28.8	26.4	25.8	24.7	19.8	17.9	18.5	17.6	21.8	20.2	17.4	11.6	9.8	7.4	6.2	3.8	2.9	2.9
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	1.5	2.8	3.2
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2.1	2.0	1.5
Spain	35.3	29.4	23.2	18.6	15.7	11.7	10.0	6.0	5.5	3.7	2.6	2.0	2.0	2.6	2.3	2.7	3.3	3.8	4.2	4.3
Sweden	9.8	7.2	5.5	4.2	3.5	2.8	2.4	2.8	4.0	4.8	6.7	5.9	5.8	6.5	6.5	7.5	7.3	7.0	7.9	6.6
United Kingdom	32.6	31.3	23.3	18.5	17.7	17.4	21.5	22.3	22.5	28.0	35.5	38.5	42.0	40.9	36.3	31.3	30.4	29.9	26.2	27.6
Total	**33.9**	**31.8**	**28.0**	**23.1**	**20.0**	**17.1**	**16.0**	**14.5**	**14.0**	**14.9**	**16.8**	**17.1**	**17.6**	**16.6**	**15.0**	**13.3**	**10.8**	**10.4**	**9.5**	**9.7**

Table 3.4: Gonorrhoea: Number of cases per 100000 population by gender, 1990–2009

Country	1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	78.1	47.5	86.7	55.6	89.6	56.0	56.7	35.0	36.1	20.5	26.0	13.0	15.5	7.3	13.8	5.4	12.0	5.6	13.3	5.2	12.2	4.5
Denmark	44.8	32.9	31.8	20.1	23.1	13.3	14.5	8.0	11.4	3.9	8.6	2.6	5.5	1.4	5.9	1.3	7.1	0.9	11.1	1.6	5.2	0.7
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144.8	88.4	109.7	62.0	83.5	45.9
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	2.3
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	0.9	0.0	0.7	0.0	2.2	0.0	1.8	0.1	1.1	0.0	1.3	0.0	1.0	0.0	1.1	0.0	2.2	0.1	2.1	0.0	1.7	0.1
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	1.5	2.9	1.5	2.2	2.2	3.6	3.6
Ireland	-	-	-	-	-	-	-	-	-	-	4.6	0.5	3.9	0.7	4.7	0.7	5.2	1.6	7.3	2.1	12.1	3.3
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	116.3	84.8	108.9	78.8	151.6	102.2	202.7	129.3	188.8	113.9	140.9	91.1	109.4	64.1	96.8	45.4	78.9	27.3	70.3	25.0	47.4	17.5
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	3.9	1.1	3.8	0.9	3.0	0.5	2.7	0.4	1.5	0.2	1.2	0.2	1.2	0.2	1.0	0.2	0.7	0.1	0.9	0.4	0.8	0.2
Romania	51.1	16.2	42.4	14.1	42.6	15.4	39.7	13.5	40.0	12.1	38.7	11.2	31.1	8.8	28.6	7.6	30.3	7.2	28.8	6.8	35.7	8.6
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	10.2	4.2	8.3	2.8	6.3	2.2	5.2	1.9	4.6	1.0	4.0	0.8	4.6	1.1	6.7	1.4	8.3	1.4	11.8	1.9
United Kingdom	42.8	22.7	40.8	22.2	30.7	16.3	25.0	12.3	24.2	11.5	23.7	11.4	29.5	13.9	31.2	13.8	31.0	14.3	39.3	17.1	52.6	21.8
Total	**42.4**	**21.8**	**37.6**	**19.9**	**33.6**	**17.7**	**28.3**	**14.1**	**25.6**	**12.7**	**22.7**	**10.8**	**22.2**	**10.4**	**22.1**	**8.8**	**23.4**	**9.5**	**26.6**	**10.3**	**32.0**	**11.9**

Note: Rate is only calculated for countries with comprehensive surveillance.

Country	2001		2002		2003		2004		2005		2006		2007		2008		2009	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	5.3	2.1	4.9	1.2	4.0	0.7	3.6	0.8	3.7	0.3	3.9	0.9	4.5	0.6
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	12.2	4.4	12.5	4.8	13.7	6.1	11.6	5.9	11.9	5.0	15.5	6.0	15.6	6.2	11.9	3.9	10.1	3.7
Denmark	4.0	0.9	7.2	1.4	6.2	0.7	13.6	1.9	14.6	2.0	12.7	2.6	10.8	2.3	11.9	3.1	15.8	4.7
Estonia	58.9	42.8	45.1	34.8	37.6	30.1	35.5	36.1	18.4	23.9	14.5	26.2	10.5	15.3	8.7	12.7	8.7	9.8
Finland	7.7	1.7	6.9	1.9	6.1	1.1	7.7	1.9	7.5	1.6	6.6	2.2	6.0	1.3	6.1	1.5	6.9	2.1
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	3.1	0.1	2.6	0.1	2.1	0.1	3.2	0.1	3.5	0.1	3.4	0.1	3.6	0.1	3.7	0.1	2.9	0.1
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	0.7	1.4	3.5	0.7	0.7	0.0	2.1	4.1	9.5	3.4	13.9	6.7	12.1	3.3	8.7	7.1	14.8	14.6
Ireland	13.9	4.3	4.6	6.2	7.4	1.9	11.7	1.5	14.8	1.6	18.1	2.3	16.5	2.6	16.4	3.3	14.0	3.8
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	36.7	11.8	37.2	12.1	34.3	9.0	38.8	9.8	49.1	13.8	52.2	15.7	49.7	12.0	34.5	11.4	30.1	8.6
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.8	4.5	20.3	4.1
Luxembourg	-	-	-	-	-	-	-	-	0.0	0.0	1.7	0.0	0.4	0.0	5.0	1.6	1.6	0.4
Malta	-	-	-	-	-	-	-	-	-	-	13.5	3.0	21.3	4.4	20.6	3.9	21.9	7.7
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	8.9	1.3	8.9	1.3	11.0	1.7	9.8	1.4
Poland	-	-	-	-	-	-	-	-	-	-	1.9	0.2	1.6	0.2	1.4	0.1	1.9	0.2
Portugal	0.6	0.2	0.9	0.2	0.9	0.2	0.4	0.2	0.9	0.1	1.0	0.1	1.3	0.2	1.1	0.2	1.9	0.3
Romania	32.9	8.0	28.9	6.4	19.6	4.0	15.8	4.0	12.7	2.4	10.6	2.1	6.6	1.1	5.3	0.7	5.2	0.7
Slovakia	-	-	-	-	-	-	-	-	-	-	2.0	0.5	2.3	0.8	4.6	1.1	4.9	1.5
Slovenia	-	-	-	-	-	-	-	-	-	-	3.3	0.2	3.7	0.5	4.0	0.1	2.5	0.5
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	10.1	1.9	9.8	2.0	10.4	2.7	11.3	1.7	12.7	2.4	11.6	3.0	11.5	2.7	12.8	3.0	10.1	3.0
United Kingdom	57.2	23.4	60.7	25.0	59.0	24.5	52.8	21.5	46.5	17.2	44.9	17.1	42.4	18.5	36.0	17.4	38.6	17.6
Total	**33.0**	**12.4**	**33.7**	**12.9**	**30.1**	**11.6**	**27.5**	**10.5**	**24.8**	**8.4**	**18.7**	**6.5**	**17.4**	**6.6**	**15.3**	**6.2**	**15.9**	**6.3**

Note: Rate is only calculated for countries with comprehensive surveillance.

Table 3.5: Gonorrhoea: Number of cases by age category, 2000–2009

Age	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total number by age category										
0-14	119	135	165	119	90	96	68	82	71	72
15-19	5950	6176	6347	6077	5703	4629	4327	4640	4368	4341
20-24	8866	9277	9519	9101	8483	7473	7145	7303	6819	7325
25-34	10264	10192	10313	9501	9242	8451	8356	7766	7358	8119
35-44	4089	4400	4631	4488	4593	4337	4377	3922	3568	3932
45+	1686	1887	1926	1875	2004	1900	2066	2003	1974	2428
NA	280	202	267	52	57	43	502	163	114	38
Total	**31254**	**32269**	**33168**	**31213**	**30172**	**26929**	**26841**	**25879**	**24272**	**26255**
Proportion by age category										
0-14	0.4	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3
15-19	19.0	19.1	19.1	19.5	18.9	17.2	16.1	17.9	18.0	16.5
20-24	28.4	28.7	28.7	29.2	28.1	27.8	26.6	28.2	28.1	27.9
25-34	32.8	31.6	31.1	30.4	30.6	31.4	31.1	30.0	30.3	30.9
35-44	13.1	13.6	14.0	14.4	15.2	16.1	16.3	15.2	14.7	15.0
45+	5.4	5.8	5.8	6.0	6.6	7.1	7.7	7.7	8.1	9.2
NA	0.9	0.6	0.8	0.2	0.2	0.2	1.9	0.6	0.5	0.1

Note: Cases are excluded due to incompatible age classification from Hungary (2007–2009), Poland (2006–2009), Romania (2006;2009).

Table 3.6: Gonorrhoea: Number of cases by transmission category and gender, 2000–2009

Country	Transm.	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	Hetero F	-	-	-	-	-	-	129	-	215	112
	Hetero M	-	-	-	-	-	-	30	-	26	23
	MSM	-	-	-	-	-	-	10	-	12	6
	UNK	414	539	985	902	848	660	2	131	10	2
Belgium	NA	-	-	-	-	-	-	535	585	718	711
Bulgaria	NA	599	461	395	288	235	181	165	149	178	191
Cyprus	Hetero M	-	-	-	-	-	-	-	-	2	2
	UNK	-	-	-	-	-	-	8	5	0	5
Czech Republic	Hetero F	208	201	228	300	291	255	297	310	194	181
	Hetero M	471	461	514	510	433	398	563	550	430	329
	MSM	49	76	65	114	96	167	183	200	145	169
	UNK	119	108	66	73	65	36	44	48	40	33
Denmark	Hetero F	18	23	37	20	51	50	72	61	84	122
	Hetero M	77	39	99	89	129	143	152	142	174	235
	MSM	53	59	83	69	200	204	147	126	117	158
	UNK	6	9	8	8	36	48	43	23	34	48
Estonia	MTCT	-	-	-	-	-	-	-	-	-	1
	UNK	867	686	538	455	484	288	280	176	146	124
Finland	NA	271	241	226	184	247	235	231	192	198	237
France	Hetero F	-	-	-	-	2	5	10	21	23	49
	Hetero M	-	-	-	-	28	44	51	65	61	101
	MSM	-	-	-	-	68	104	132	128	149	191
	UNK	-	-	-	-	1	0	3	3	3	1
Germany		-	-	-	-	-	-	-	-	-	-
Greece	Hetero F	-	-	-	-	-	-	-	-	5	3
	Hetero M	-	-	-	-	-	-	-	-	130	119
	MSM	-	-	-	-	-	-	-	-	45	39
	UNK	98	177	144	119	177	197	190	201	28	3
Hungary	NA	1183	1033	929	898	742	851	916	1041	892	872
Iceland	Hetero F	-	-	0	-	-	-	7	2	2	-
	Hetero M	-	-	1	-	-	-	12	6	4	-
	MSM	-	-	0	-	-	-	0	1	1	-
	UNK	10	3	7	3	9	19	12	15	18	47
Ireland	NA	290	349	214	186	270	342	431	417	444	400
Italy	NA	237	345	278	287	349	370	258	152	154	213
Latvia	Hetero F	-	-	-	-	-	-	-	1	83	73
	Hetero M	-	-	-	-	-	-	-	-	214	213
	MSM	-	-	-	-	-	-	-	-	1	6
	UNK	745	551	555	481	537	694	746	669	202	127
Lithuania	Hetero F	-	-	-	-	-	-	-	-	77	68
	Hetero M	-	-	-	-	-	-	-	-	435	282
	MSM	-	-	-	-	-	-	-	-	9	1
	UNK	-	-	-	503	482	433	437	471	12	40
Luxembourg	NA	-	-	-	-	-	-	4	1	18	6
Malta	Hetero F	-	-	-	-	-	-	6	8	7	11
	Hetero M	-	-	-	-	-	-	6	31	29	30
	MSM	-	-	-	-	-	-	20	11	7	12
	UNK	-	-	-	-	-	-	1	2	7	9
Netherlands	Hetero F	-	-	-	-	356	333	377	424	456	539
	Hetero M	-	-	-	-	511	418	432	436	417	483
	MSM	-	-	-	-	786	848	966	964	1095	1402
	UNK	-	-	-	-	3	4	3	6	1	2
Norway	Hetero F	-	-	-	-	-	-	31	-	41	34
	Hetero M	-	-	-	-	-	-	126	-	162	135
	MSM	-	-	-	-	-	-	68	-	98	95
	MTCT	-	-	-	-	-	-	0	-	0	1
	UNK	-	-	-	-	-	-	11	238	0	4
Poland	NA	-	-	-	-	-	-	395	330	285	402
Portugal	MTCT	-	-	-	-	-	-	-	-	-	1
	UNK	45	38	54	52	28	52	53	74	67	113
Romania	Hetero F	-	-	-	-	-	193	-	119	63	73
	Hetero M	-	-	-	-	-	1079	-	694	423	547
	MSM	-	-	-	-	-	4	-	2	1	1
	UNK	4907	4529	3806	2526	2119	336	1348	0	144	1
Slovakia	NA	-	-	-	-	-	-	66	81	152	171
Slovenia	Hetero F	-	-	-	-	-	-	2	4	1	5
	Hetero M	-	-	-	-	-	-	19	9	27	16
	MSM	-	-	-	-	-	-	12	25	10	7
	UNK	-	-	-	-	-	-	1	4	2	2
Spain	NA	1048	805	833	1069	981	1155	1423	1698	1897	1954
Sweden	Hetero F	82	84	89	120	78	107	117	111	128	139
	Hetero M	263	258	234	250	225	232	268	275	312	270
	MSM	245	174	194	204	267	322	190	198	242	172
	MTCT	0	0	0	0	0	0	0	0	0	1
	UNK	8	11	4	8	9	18	82	58	40	26
United Kingdom	MSM	3051	3620	3504	3808	3851	4235	4395	3638	2951	3265
	UNK	18241	19546	21505	20635	17994	14640	14085	14653	13170	13736

Note: Cases with transmission=Hetero and unknown gender have been classified as NA.

4 Syphilis

Table G: Data source, type and period of syphilis surveillance data available

Country	Data source	Type	Period	Legal	Coverage
Austria	AT-STI Sentinel	A	1996–2005	V	Se
	AT-STI Sentinel	C	2006–2009	V	Se
Belgium	BE-LABNET	C	2006–2009	V	Se
Bulgaria	BG-STI	A	1990–2009	C	Co
Cyprus	CY-NOTIFIED _DISEASES	C	2006–2009	C	Se
Czech Republic	CZ-STD	A	1990–1998	C	Co
	CZ-STD	C	1999–2009	C	Co
Denmark	DK-LAB	A	1990–1999	C	Co
	DK-STI_CLINICAL	C	2000–2009	C	Co
Estonia	EE-PERTUSSIS/SHIGELLOSIS/ SYPHILIS	A	1990–2007	C	Co
	EE-PERTUSSIS/SHIGELLOSIS/ SYPHILIS	C	2008–2009	C	Co
Finland	FI-NIDR	C	2000–2009	C	Co
France	FR-STI	C	2000–2009	V	Se
Germany	DE-SURVNET@RKI-7.3	C	2001–2009	C	Co
Greece*	GR-NOTIFIABLE_DISEASES	A	2003–2009	C	Other*
Hungary	HU-STD SURVEILLANCE	A	1990–2009	C	Se
Iceland	IS-SUBJECT_TO_REGISTRATION	C	2000–2008	C	Co
Ireland	IE-SYPHILIS	C	2000–2009	C	Co
Italy**	IT-NRS	C	1998–2009	C	Other**
Latvia	LV-BSN	C	2008–2009	C	Co
	LV-STI/SKIN_INFECTIONS	A	1990–2007	C	Co
Lithuania	LT-COMMUNICABLE_DISEASES	C	2008–2009	C	Co
	LT-COMMUNICABLE_DISEASES	A	2003–2007	C	Co
Luxembourg	LU-SYSTEM1	C	2007–2009	C	Co
Malta	MT-DISEASE_SURVEILLANCE	C	2008–2009	C	Co
Netherlands	NL-STI	C	2004–2009	V	Se
Norway	NO-MSIS_B	C	2007–2009	C	Co
Poland	PL-NATIONAL_SURVEILLANCE	A	2006–2009	C	Co
Portugal	PT-SYPHILIS	C	1990–2009	C	Co
Romania	RO-RNSSy	A	1990–2009	C	Co
Slovakia	SK-EPIS	C	2006–2009	C	Co
Slovenia	SI-SPOSUR	C	2007–2009	C	Co
Spain***	ES-MICROBIOLOGICAL	C	1990–2009	V	Se
	ES-STATUTORY_DISEASES_STI_ AGGR	A	1990–2009	C	Co
Sweden	SE-EpiBas	A	1990–1996	C	Co
	SE-SMINET	C	1997–2009	C	Co
United Kingdom	UK-GUM	A	1990–2009	C	Other

Type: aggregated (A); case-based (C);
Legal: voluntary reporting (V), compulsory reporting (C);
Coverage: sentinel system (Se), comprehensive (Co, Other).
* In 2008 a new surveillance system, which is designed to be comprehensive, was introduced in Greece. At present, it does not have national coverage.
** All physicians should report to national register in Italy but less than 10% do – no comprehensive system.
*** Data from two different data sources were submitted for Spain; the data from the ES_microbiological (sentinel laboratory system) were not used in the tables.

4 Syphilis

4.1 Key points

- In 2009, 18 279 syphilis cases have been reported from 28 EU/EEA Member States (data were not available from Iceland and Liechtenstein), an overall rate of 4.5 per 100 000 population. Syphilis was reported nearly three times more in men than in women, with an overall rate in men of 6.6 per 100 000 and 2.2 in women.
- Nearly one fifth of all syphilis cases in 2009 (17%) were reported in young people between 15 and 24 years of age; the majority of the cases were reported in people older than 25 years.
- Half (51%) of syphilis cases with information on transmission category were reported in men who have sex with men.
- There were marked differences in trends across the EU Member States. The overall rate has decreased from 8.2 per 100 000 in 2000 to 4.5 in 2009. This is mainly due to a substantial decrease of cases in a number of countries that have reported very high rates of syphilis in the past decade. Declining trends may be due to changes in healthcare systems, diagnostic capacity and reporting rather than true changes in the incidence. In other countries, dramatic increases were noted and – based on the information from the male-to-female ratio – this may be due to recent increases of syphilis among men who have sex with men.

4.2 Source of data

Syphilis data were available from all countries except Liechtenstein. For 2009, no data were available for Iceland. Table G specifies the source of the data, the type of data (aggregate and case-based), the coverage (either sentinel or comprehensive), the legal requirement (voluntarily or compulsory) and period of availability. It shows the existing heterogeneity in systems, recent changes in systems and reporting periods. Due to these variations in the coverage, completeness and representativeness of these data, direct comparisons of absolute numbers and rates must be done with caution, since the proportion of diagnosed cases actually reported differs substantially across countries. Rates per 100 000 population can be calculated for 22 countries with comprehensive or other systems, countries with sentinel systems (Austria, Belgium, Cyprus, France, Hungary, Italy and the Netherlands) are excluded from the calculations.

Table 4.1a shows that 11 countries have provided data on syphilis for the period 1990–2009 (Bulgaria, Czech Republic, Denmark, Estonia, Hungary, Latvia, Portugal, Romania, Spain, Sweden and United Kingdom). An additional number of countries have provided data on syphilis for 2000–2009. All 29 countries have provided data on 2006–2009, except Iceland for 2009. Due to missing data for 'Date of diagnosis' for Italy, the 'Date of statistics' has been used to present syphilis data.

For the period 2000–2009, 28.6% of the data were provided in case-based format. In recent years four countries have changed their reporting systems (Austria, Estonia, Latvia and Lithuania) so that 39.9% of the 2009 data is available in case-based format. This affects the amount of information available for analysis as the aggregate format only includes gender, age and transmission category.

The completeness of the variables 'age' and 'gender' was above 80%. Completeness of the variable 'transmission category' increased in 2000–2009 and was reported by

Figure 4.1: Percentage and number of syphilis cases by stage of infection, 2009

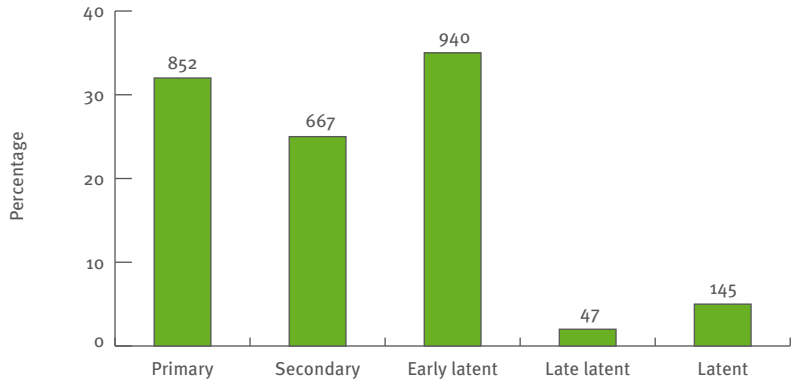


Figure 4.2: Number of syphilis cases per 100 000 population, EU/EEA, 2009

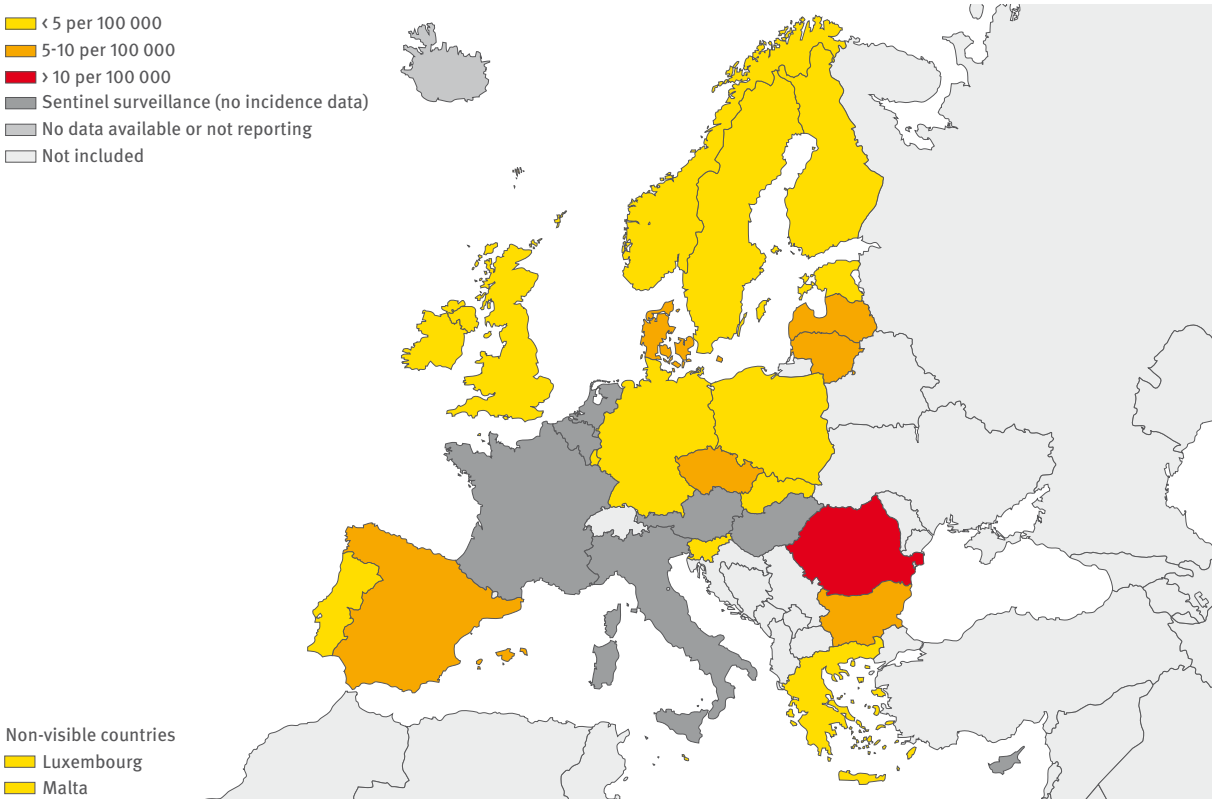
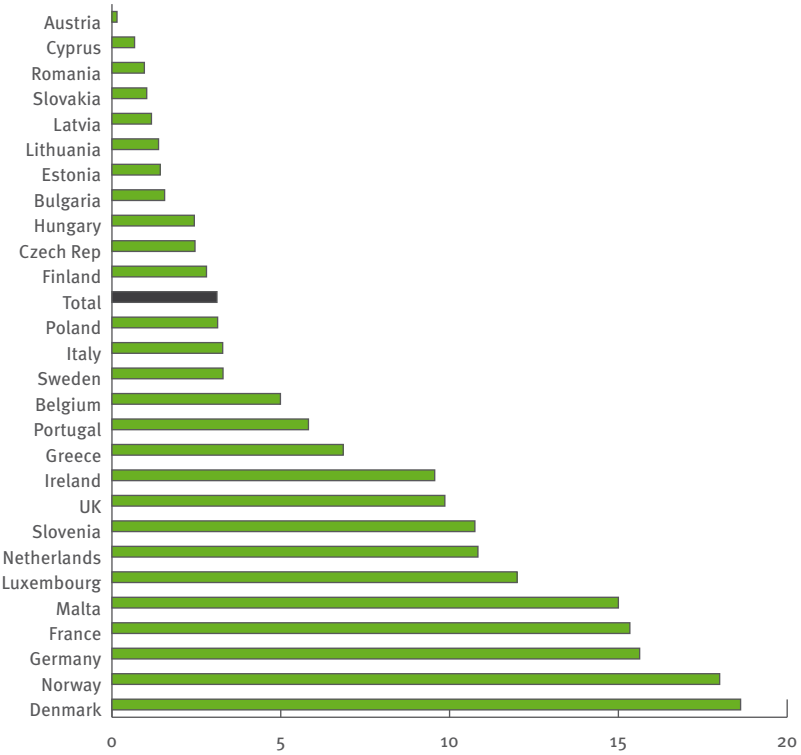


Figure 4.3: Male-to-female ratio in syphilis cases, 2009



15 countries for 17% of the reported cases. 'HIV status' was reported by 10 countries, providing information on 6% of the reported cases in 2000–2009.

Details on the stage of infection with respect to syphilis have been provided by 12 countries with in total 2 651 reported cases (15%) of syphilis in 2009.

It was agreed that the stage of infection would be collected in two different formats: a broad format (infectious or non-infectious), and the detailed one (primary, secondary, early latent, etc). It appears that only one country has used the broad format (Luxembourg) in 2009; 12 countries had used the detailed format (Austria, Cyprus, Czech Republic, Estonia, Iceland, Ireland, Latvia, Lithuania, Malta, Netherlands, Norway and Slovenia). The distribution of syphilis cases by stage of infection is presented in Figure 4.1. The majority of cases have been reported as primary, early latent or secondary infection.

4.3 Case reports in 2009

Demographical variables

In 2009, 18 279 syphilis cases have been reported from 28 countries, with 60% of all cases from four countries (Germany, Romania, Spain and United Kingdom) (Table 4.1a). This gave an overall rate of 4.5 per 100 000 population (Table 4.3). In 2009, the highest rate was observed in Romania (15.0 per 100 000 population), followed by Lithuania (9.7/100 000) and Latvia (7.3/100 000). The lowest rates below 2.0 per 100 000 population were observed in Portugal, Norway and Sweden (Figure 4.2, Table 4.3).

Information on gender was missing in 14% (N=2 606) of all cases in 2009, this was mainly due to missing information from Spain (N=2 496 cases). The male-to-female ratio in 2009 was 3.1 meaning that almost three times as many cases were reported in men (N=11 883) than in women (N=3 827). The overall rate in men was 6.6/100 000 and in women 2.2/100 000.

There were marked differences in the male-to-female ratios, based on the number of cases, across countries (Figure 4.3). Ratios above 10 were reported by Denmark, Norway, France, Norway, Slovenia, Germany and the Netherlands. Luxembourg and Malta reported a high male-to-female ratio based on a relatively low number of syphilis cases. A male-to-female ratio below one was reported by Austria, Cyprus and Romania. Estonia, Lithuania, Latvia and Slovakia have reported almost an equal number of syphilis cases in men and women (Table 4.2). For most countries with information on gender that have reported consistently in the period 2000–2009, the male-to-female ratio has increased over time. The overall ratio increased from 1.4 in 2000 to 3.1 in 2009.

In 2009, information on age was available for 25 countries. Because of the data presentation and the incompatible age formats, the data from Hungary were excluded for 2007–2008, Poland 2006–2009 and Romania for 2005–2006. Information on age was not available for Bulgaria and Spain, representing 16% of the cases.

Figure 4.4 presents the age distribution in percentage of all cases with information on age in 2001 and 2009, showing a shift towards the older age groups over time. The age categories 25–34 and 35–44 years were the largest, with 31.2% and 27.2%, respectively, of all reported cases in 2009. Only 13% of cases were diagnosed in 20–24 year-olds. In 2009, 83% of all cases were 25 years or older, only 17% was reported in the 15–24 years age group.

In 2009, information on country of birth (or country of nationality, if country of birth was not available) was provided by 12 countries (Austria, Czech Republic, Denmark, Finland, France, Germany, Ireland, Luxembourg, Malta, Netherlands, Norway and Slovenia), reporting 30% of the cases (N=5 269). Of those cases, 65% were reported from the same country as the reporting country, 14% from another country, and 21% unknown. The probable country of infection was reported consistently only by nine countries, with an average of 40% of the cases being acquired in another country. There was a wide variety in this percentage across countries and a high number of cases had no detailed information.

Epidemiological variables

In 2009, information on transmission category was available for 14 countries (Austria, Cyprus, Czech Republic, Denmark, France, Greece, Ireland, Latvia, Lithuania, Malta, Netherlands, Norway, Slovenia and Sweden; Romania was excluded because of inconsistent reporting) representing 20% of the syphilis cases (N=3 417). Of those cases, the transmission category was indicated as unknown for 8%, as heterosexual in 41% and as in men who have sex with men in 51% of the cases (Table H).

The percentage of cases diagnosed in MSM ranges from below 1% (Cyprus and Lithuania; not shown), between 25% and 40% (Czech Republic, Greece, Malta, Slovenia and Sweden), to more than 70% in Denmark, France, Ireland, Netherlands and Norway (Figure 4.5). The average percentage of MSM in syphilis cases is 40%. Cases diagnosed in MSM represent 16% (N=1783) of all male cases diagnosed in 2009.

In 2009, information on HIV status was provided by 10 countries (Austria, Czech Republic, Denmark, France, Ireland, Latvia, Luxembourg, Netherlands, Norway and Slovenia) representing 16% of the syphilis cases (N=2 635), of which 24% were HIV positive (either known or newly diagnosed), 55% as HIV negative, and information was unknown for 21%.

4.4 Trends in 1990–2009

Between 1990 and 2009, 319 355 cases of syphilis have been reported from 29 countries with varying degree of completeness over time (Table 4.1). Rates were

Figure 4.4: Syphilis cases by age category for 2001 (15 countries) and 2009 (25 countries)

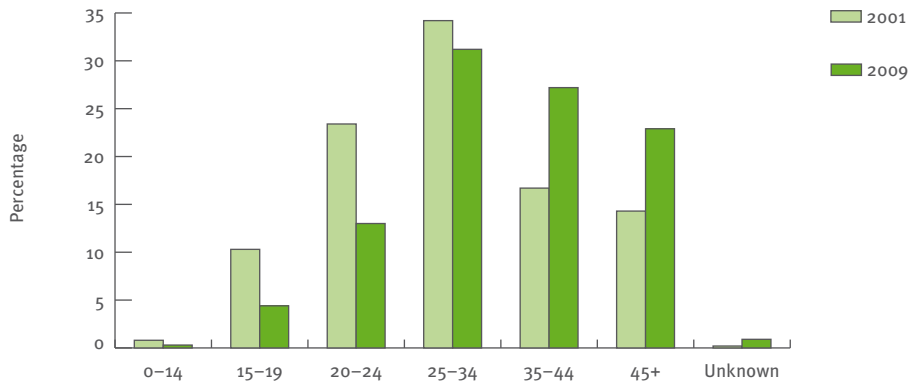


Figure 4.5: Proportion of syphilis cases diagnosed in men who have sex with men, 2009

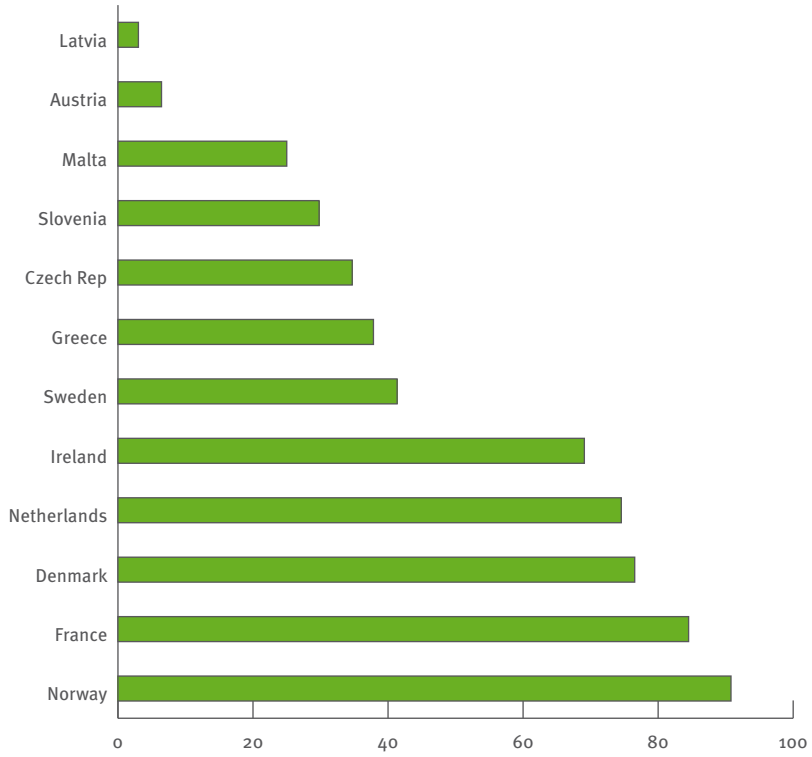


Table H: Number and percentage of syphilis cases by transmission category and gender, 2009

	Number of cases	Reporting countries	MSM	Heterosexual		Unknown
				Male	Female	
Syphilis	3456	14	1753 (51%)	785 (23%)	604 (18%)	275 (8%)

calculated for 22 countries with comprehensive surveillance systems for syphilis (Table 4.3). Figure 4.6 shows an overall declining trend in the number of reported cases per 100 000 population in the EU/EEA Member States and for men and women separately. The overall rate has increased between 1990 and 1998 and subsequently started to decrease. In 2001–2009 the rate has decreased from 8.2 per 100 000 to 5.5 in countries that have reported consistently over time. The interpretation of the overall trend is difficult as it is the result of diverging trends in different countries and is influenced highly by a number of countries that have reported a high number of cases in the past decade.

Ten countries with comprehensive surveillance systems have reported consistently in the period 1990–2009. Figure 4.7 shows two graphs with trends over time. Note the difference in the Y axis. Countries with very high rates of cases per 100 000 population in the 1990s were Bulgaria, Estonia, Latvia and Romania. In 1995–1997, trends in Latvia have peaked at rates of more than 100 per 100 000 population, and in Estonia at rates of 70–80 per 100 000 population. Trends have decreased significantly since then but remain the highest in the EU. Different trends were observed in other countries: Denmark, Sweden, United Kingdom and Spain had declining rates until 1999–2000 followed by a substantial increase. In 2000–2009 rates have increased substantially in several countries: the Czech Republic, Denmark, Ireland, Spain, Sweden and the United Kingdom (Table I; Figure 4.7).

Rates in 2006–2009 (with more complete reporting) showed different trends across countries: the Czech Republic, Denmark, Finland, Greece, Slovakia, Slovenia and Spain have reported increased rates, with the highest increase being reported in the Czech Republic, Denmark, Slovakia and Slovenia. A more than 30% decrease was reported in Estonia, Ireland, Latvia and Romania (Table I).

Table I: Relative increase or decrease in notification rates between 2000–2009 and 2006–2009

Country	2000–2009	2006–2009
Increase		
Denmark	1667	279
Czech Republic	267	843
Spain	200	38
Sweden	73	6
Mixed		
United Kingdom	607	-10
Ireland	83	-31
Finland	-5	50
Portugal	-18	17
Decrease		
Romania	-65	-43
Bulgaria	-72	-13
Iceland*	-81	-54
Latvia	-83	-65
Estonia	-90	-55

*Rates were calculated for 2000–2008.

As compared with 2008, the overall rate in 2009 remained fairly stable despite that several countries have reported remarkable increases. However, a more than 30% increase was reported in seven countries (Czech Republic, Denmark, Greece, Norway, Poland, Portugal and Slovakia). In Greece, the increase is most likely due to the introduction of a new surveillance system and the inclusion of more reporting centres. Decreases between 10% and 30% were reported by Estonia, Germany, Latvia, Malta, Romania and Slovenia.

As rates could not be calculated for countries with sentinel surveillance systems, the relative increase or decrease was also calculated for the absolute reported number of syphilis cases in 2006–2009 by country. It showed that syphilis has increased in 17 countries and decreased in 11 (Figure 4.8). The largest decrease was observed in Estonia, Latvia and Romania. The highest increase (by more than 100%) was observed in the Czech Republic, Denmark, Slovakia, Slovenia and Austria. The overall decrease across reported number of cases in the EU/EEA was 7%.

4.5 Discussion

Completeness of data reported

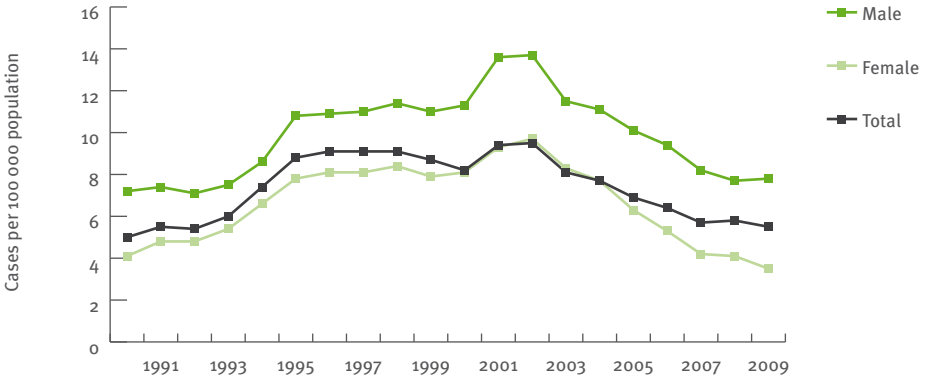
All countries (except Liechtenstein) could provide data on syphilis. The completeness of the variables 'age' and 'gender' was above 80%, which is the lowest compared with data on gonorrhoea and chlamydia. Completeness of the variable 'transmission category' increased in 2000–2009 and is still missing for 82% of the cases. The variable 'age' in aggregate reports was reported in many different ways, hampering the presentation of provided data.

Case reports and trends

The distribution of syphilis varied across countries with rates from less than 1 to 19 per 100 000 population. The overall declining rate seemed to be highly influenced by the substantial decrease of cases in four countries (Estonia, Latvia, Romania and Bulgaria) that have reported very high rates of syphilis in the past decade. On the contrary, dramatic increases have occurred in the period 2000–2009 in several countries, like the Czech Republic, Denmark, Germany, Ireland, Spain, Sweden and the United Kingdom, and based on the information from the male-to-female ratio, this may be due to an increase of cases among men.

In all except three countries, more male than female cases were reported and only a fifth of all cases were in young people between 15 and 24 years of age. The proportion of syphilis cases reported in MSM varies across the EU/EEA, with high proportions being reported in mainly western and northern countries (France, Netherlands, Denmark, Norway and Ireland) but also in Slovenia and the Czech Republic, suggesting that syphilis is largely transmitted among MSM in the EU/EEA. However, the interpretation of these findings is hampered by the incompleteness of reporting and lack

Figure 4.6: Trend in number of reported syphilis cases per 100 000 population, EU/EEA, 1990–2009



Note: Female and total rates are similar in certain years as Spain is included in the total rate but not in the male/female rates.

Figure 4.7: Number of syphilis cases per 100 000 population in selected EU/EEA Member States, 1990–2009

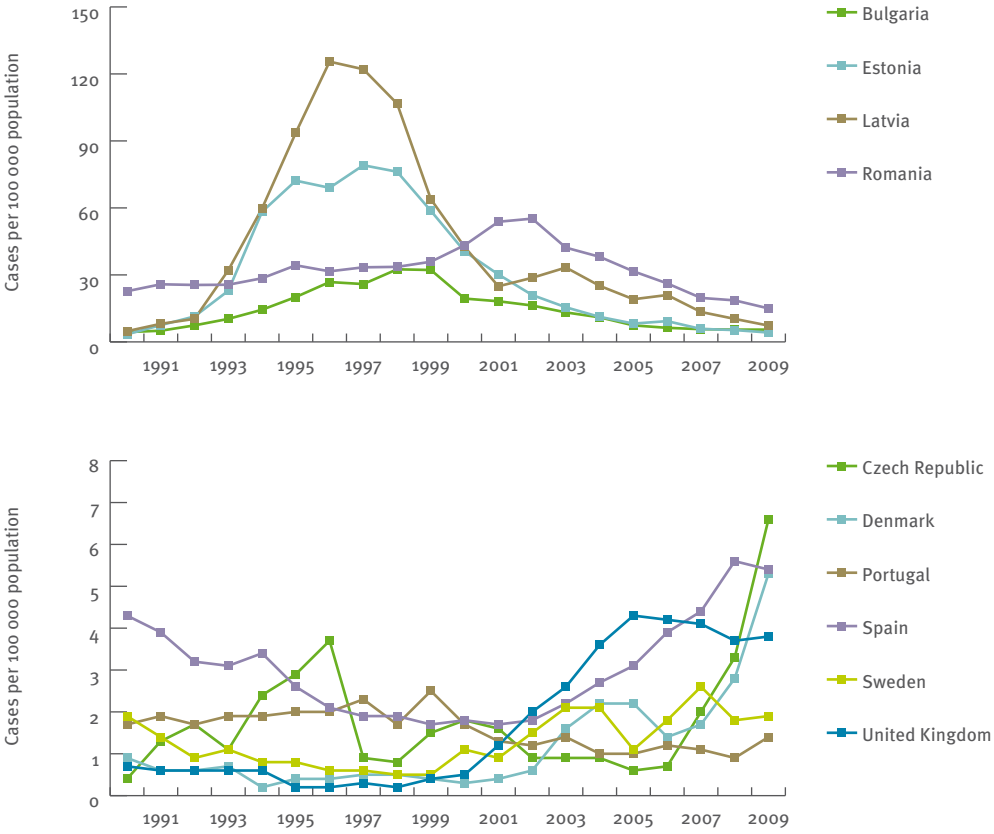
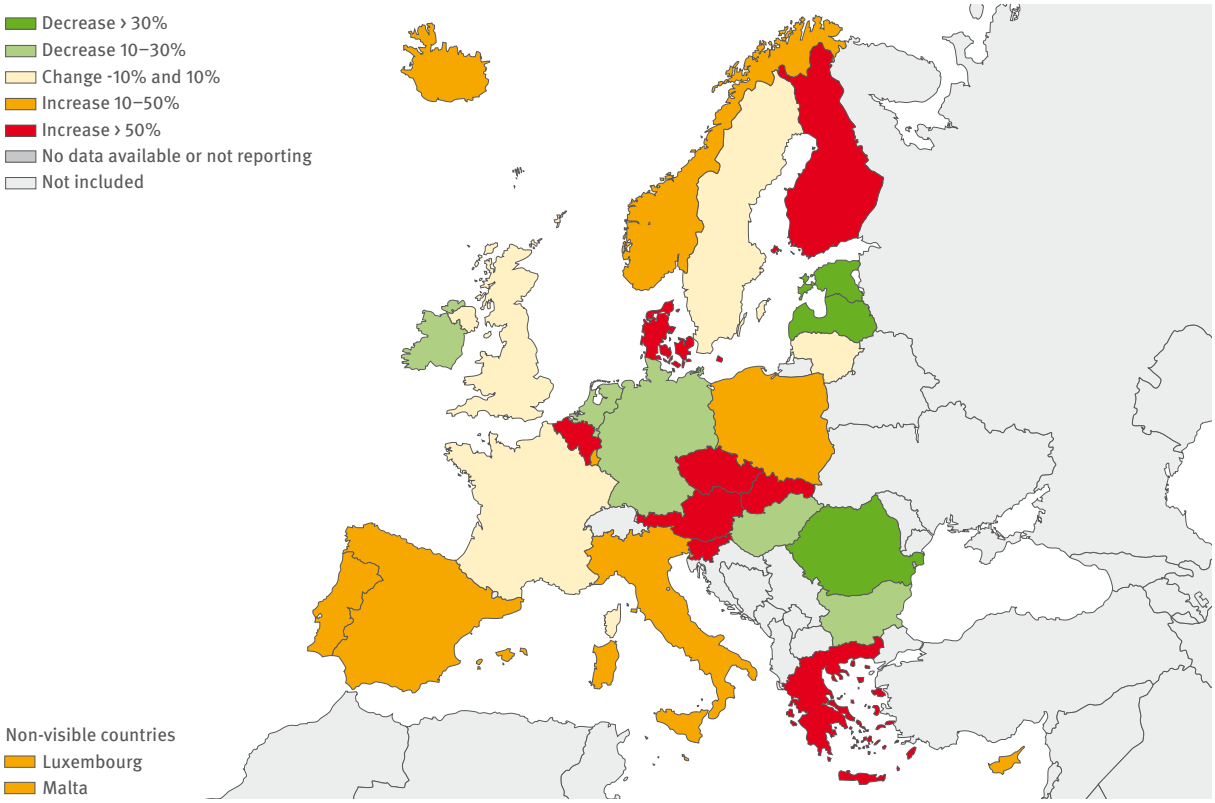


Figure 4.8: Relative increase or decrease in the number of reported syphilis cases, EU/EEA, 2006–2009



of information from other countries. The high male-to-female ratio reported in many countries may indicate a possible underreporting of cases in MSM in countries where data on transmission category is not available. Data in the other countries may suggest that homosexually acquired cases may not be identified and reported as such or that many male cases could have been acquired through contact with sex workers. This would need to be reviewed in more detail in close collaboration with respective Member States.

The overall trend in syphilis across the EU/EEA in the past decades appears to show two patterns:

1) a decreasing trend in four countries which have reported very high rates in the 1990s with a continuous decline at present;

2) in other countries, a decreasing trend was observed until 1999, after which the overall number and rate have started to increase substantially again. The increase could be due to active case detection or improved reporting. However, there is overwhelming evidence that behavioural changes have contributed to the increasing trends in many countries, particularly among men who have sex with men.

The previously high rates in east and central EU/EEA may reflect the results of routine screening in certain clinical services and stable reporting systems. Subsequent declines may reflect changes in healthcare systems (from public to private sector) and a decline in reporting routines, so that the number of infections that remain undiagnosed and underreported may have increased substantially.

In general, the majority of countries that reported syphilis diagnoses indicate that data on STI are obtained from dedicated special services (STI clinics) rather than general practitioners. In addition, data are obtained from sentinel surveillance in a number of countries, suggesting that the actual number of reported cases may be grossly underestimated. A limitation to the interpretation of the epidemiological situation in the EU/EEA is that many diagnoses are either not made or are not reported. Diagnoses from certain countries cannot be included in trend analyses as they do not have comprehensive surveillance for STI.

4.6 Tables

Table 4.1a: Syphilis: Number of cases by year of diagnosis, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	207	201	205	184	237	320	420	352	312	267	25	58	61	62	**2911**
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	288	403	480	486	**1657**
Bulgaria	385	436	635	871	1215	1695	2244	2157	2694	2649	1588	1482	1289	1034	861	572	490	440	419	420	**23576**
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	10	14	15	**52**
Czech Republic	40	135	172	116	247	297	386	92	84	153	189	161	91	96	97	58	75	205	342	686	**3722**
Denmark	46	32	31	34	10	19	19	25	25	19	14	23	34	84	119	117	77	92	151	255	**1226**
Estonia	53	116	176	342	852	1034	972	1099	1048	799	556	413	286	210	152	111	125	78	71	56	**8549**
Finland	-	-	-	-	-	-	-	-	-	-	199	150	122	129	108	140	127	185	211	194	**1565**
France	-	-	-	-	-	-	-	-	-	-	37	207	417	448	403	341	478	599	563	523	**4016**
Germany	-	-	-	-	-	-	-	-	-	-	-	1688	2389	2927	3352	3234	3160	3277	3188	2550	**25765**
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	116	103	139	141	197	155	259	**1110**
Hungary	122	148	204	142	235	239	213	298	306	256	362	430	377	353	455	541	559	393	549	489	**6671**
Iceland	-	-	-	-	-	-	-	-	-	-	9	8	7	2	4	3	4	1	2	-	**40**
Ireland	-	-	-	-	-	-	-	-	-	-	46	233	202	113	112	106	133	62	119	97	**1223**
Italy	-	-	-	-	-	-	-	-	370	315	345	450	788	1082	1339	1395	935	1001	923	916	**9859**
Latvia	127	215	272	830	1519	2342	3099	2986	2582	1532	1013	589	673	777	583	440	483	305	235	165	**20767**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	456	341	295	336	275	326	326	**2355**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	14	12	13	**49**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	11	19	16	**59**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	845	751	806	657	792	711	**4562**
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	61	56	76	**260**
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	933	847	929	1255	**3964**
Portugal	171	187	166	187	187	198	203	233	173	252	174	133	129	146	109	103	124	112	98	150	**3235**
Romania	5278	5994	5806	5832	6483	7781	7155	7552	7574	8076	9731	12075	12063	9197	8268	6850	5661	4245	4006	3229	**142856**
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	152	228	296	**765**
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	31	63	47	**157**
Spain	1685	1509	1255	1200	1343	1010	825	763	772	675	706	700	734	917	1152	1344	1711	1936	2545	2496	**25278**
Sweden	162	121	77	96	67	69	52	51	43	40	98	78	131	186	186	102	167	237	166	180	**2309**
United Kingdom	367	367	355	350	323	130	133	157	136	214	327	715	1186	1563	2176	2600	2565	2518	2304	2311	**20797**
Total	**8436**	**9260**	**9149**	**10000**	**12481**	**14814**	**15508**	**15614**	**16012**	**15164**	**15631**	**19855**	**21338**	**20188**	**21077**	**19509**	**19611**	**18402**	**19027**	**18279**	**319355**

Table 4.1b: Syphilis: Number of cases by year of statistics, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	207	201	205	184	237	320	420	352	312	267	25	58	61	62	**2911**
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	288	403	480	486	**1657**
Bulgaria	385	436	635	871	1215	1695	2244	2157	2694	2649	1588	1482	1289	1034	861	572	490	440	419	420	**23576**
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	10	14	15	**52**
Czech Republic	40	135	172	116	247	297	386	92	80	152	182	171	90	91	101	59	77	203	329	702	**3722**
Denmark	46	32	31	34	10	19	19	25	25	19	14	23	34	84	119	117	77	92	151	255	**1226**
Estonia	53	116	176	342	852	1034	972	1099	1048	799	556	413	286	210	152	111	125	75	71	59	**8549**
Finland	-	-	-	-	-	-	-	-	-	-	199	150	122	129	108	140	127	185	211	194	**1565**
France	-	-	-	-	-	-	-	-	-	-	37	207	417	448	403	341	478	599	563	523	**4016**
Germany	-	-	-	-	-	-	-	-	-	-	-	1688	2388	2924	3354	3233	3159	3277	3189	2553	**25765**
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	116	103	139	141	197	155	259	**1110**
Hungary	122	148	204	142	235	239	213	298	306	256	362	430	377	353	455	541	559	393	549	489	**6671**
Iceland	-	-	-	-	-	-	-	-	-	-	9	8	7	2	4	3	4	1	2	-	**40**
Ireland	-	-	-	-	-	-	-	-	-	-	46	233	202	113	112	106	133	62	119	97	**1223**
Italy	-	-	-	-	-	-	-	-	370	315	345	450	788	1082	1339	1395	935	1001	923	916	**9859**
Latvia	127	215	272	830	1519	2342	3099	2986	2582	1532	1013	589	673	777	583	440	483	301	233	171	**20767**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	456	341	295	336	275	326	326	**2355**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	14	12	13	**49**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	16	19	**59**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	845	751	806	657	792	711	**4562**
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	61	56	76	**260**
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	933	847	929	1255	**3964**
Portugal	171	187	166	187	187	198	203	233	173	252	174	133	129	146	109	103	124	112	98	150	**3235**
Romania	5278	5994	5806	5832	6483	7781	7155	7552	7574	8076	9731	12075	12063	9197	8268	6850	5661	4245	4006	3229	**142856**
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	152	225	299	**765**
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	28	65	49	**157**
Spain	1685	1509	1255	1200	1343	1010	825	763	772	675	706	700	734	917	1152	1344	1711	1936	2545	2496	**25278**
Sweden	162	121	77	96	67	69	52	47	42	38	99	78	127	177	189	105	172	239	171	181	**2309**
United Kingdom	367	367	355	350	323	130	133	157	136	214	327	715	1186	1563	2176	2600	2565	2518	2304	2311	**20797**
Total	**8436**	**9260**	**9149**	**10000**	**12481**	**14814**	**15508**	**15610**	**16007**	**15161**	**15625**	**19865**	**21332**	**20171**	**21086**	**19512**	**19615**	**18393**	**19014**	**18316**	**319355**

Note: Probable cases for Austria and Slovakia are excluded. Microbiological data from Spain are excluded.

Table 4.2: Syphilis: Number of cases by gender, 1990–2009

Country	1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	114	68	92	75	101	79	67	63	99	78
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	20	20	65	70	93	79	57	59	120	127	148	149	202	184	52	40	48	36	98	55	119	70
Denmark	41	5	21	11	19	12	28	6	8	2	14	5	13	6	16	9	19	6	15	4	10	4
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	524	524	377	422	240	316
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127	72
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	1
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	83	39	94	54	123	81	85	57	117	118	138	101	111	102	153	145	176	130	155	101	220	142
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5
Ireland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	8
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	275	91	242	67	247	79
Latvia	63	64	100	115	129	143	418	412	782	737	1229	1113	1702	1397	1599	1387	1314	1268	824	708	519	494
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	108	63	115	72	95	71	127	60	106	81	108	90	109	94	142	91	100	73	144	108	103	71
Romania	3308	1970	3571	2423	3383	2423	3326	2506	3652	2831	4532	3249	4088	3067	4334	3218	4453	3121	4697	3379	5592	4139
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	80	38	52	25	60	36	44	23	42	27	31	21	33	18	29	14	25	14	74	24
United Kingdom	242	125	248	119	241	114	238	112	204	119	101	29	91	42	103	54	88	48	160	54	252	75
Total	**3865**	**2286**	**4294**	**2902**	**4135**	**2948**	**4339**	**3248**	**5033**	**4038**	**6312**	**4763**	**6461**	**4981**	**6524**	**5037**	**7127**	**5390**	**6804**	**4975**	**7676**	**5578**

Country	2001		2002		2003		2004		2005		2006		2007		2008		2009		Cumulative total		Unk./ Missing	Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Austria	128	100	167	119	121	128	116	100	121	61	17	8	16	42	23	38	8	54	1190	1013	708	**2911**
Belgium	-	-	-	-	-	-	-	-	-	-	239	49	335	65	397	80	404	81	1375	275	7	**1657**
Bulgaria	-	-	-	-	509	525	427	434	278	294	272	218	244	196	251	168	256	164	2237	1999	19340	**23576**
Cyprus	-	-	-	-	-	-	-	-	-	-	7	6	7	3	7	7	6	9	27	25	-	**52**
Czech Republic	93	68	51	40	47	49	56	41	39	19	58	17	154	51	287	55	488	198	2295	1427	-	**3722**
Denmark	17	6	31	3	80	4	113	6	103	14	73	4	86	6	142	9	242	13	1091	135	-	**1226**
Estonia	190	223	110	176	59	151	39	113	36	75	46	79	27	51	30	41	33	23	1711	2194	4644	**8549**
Finland	84	66	67	55	67	62	55	53	83	57	65	62	120	65	135	76	143	51	946	619	-	**1565**
France	196	11	402	14	430	18	384	19	317	24	447	31	564	34	528	35	491	32	3795	219	2	**4016**
Germany	1377	264	2046	313	2636	270	3025	315	2896	334	2832	326	3010	265	2950	235	2392	153	23164	2475	126	**25765**
Greece	-	-	-	-	90	26	76	27	109	30	106	35	162	35	123	32	226	33	892	218	-	**1110**
Hungary	264	166	222	155	228	125	288	167	349	192	381	178	260	133	368	181	347	142	4162	2509	-	**6671**
Iceland	8	0	4	2	1	1	3	0	3	0	2	2	1	0	-	-	-	-	23	10	7	**40**
Ireland	214	19	155	47	81	32	86	26	85	21	112	21	43	19	98	17	86	9	997	219	7	**1223**
Italy	334	107	663	116	892	168	1090	227	1101	264	731	194	783	206	714	205	689	210	7761	1934	164	**9859**
Latvia	311	278	351	322	406	371	271	312	241	199	256	227	150	155	120	115	89	76	10874	9893	-	**20767**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	184	142	189	137	373	279	1703	**2355**
Luxembourg	-	-	-	-	-	-	-	-	-	-	7	3	10	3	11	1	12	1	40	8	1	**49**
Malta	-	-	-	-	-	-	-	-	-	-	10	3	7	4	14	5	15	1	46	13	-	**59**
Netherlands	-	-	-	-	-	-	738	105	654	96	705	97	577	64	703	62	618	57	3995	481	86	**4562**
Norway	-	-	-	-	-	-	-	-	-	-	65	2	60	1	51	5	72	4	248	12	-	**260**
Poland	-	-	-	-	-	-	-	-	-	-	665	268	634	213	708	221	951	304	2958	1006	-	**3964**
Portugal	64	69	68	61	89	57	62	47	71	32	92	32	77	35	67	31	128	22	1975	1260	-	**3235**
Romania	6883	5192	6583	5480	4816	4381	4244	4024	3525	3325	2936	2725	2191	2054	1896	2110	1579	1650	79589	63267	-	**142856**
Slovakia	-	-	-	-	-	-	-	-	-	-	48	41	80	72	127	101	150	146	405	360	-	**765**
Slovenia	-	-	-	-	-	-	-	-	-	-	13	3	26	5	59	4	43	4	141	16	-	**157**
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25278	**25278**
Sweden	71	7	107	24	162	24	154	32	82	20	120	43	196	39	122	44	135	41	1619	514	176	**2309**
United Kingdom	610	105	1056	130	1384	179	1908	268	2257	343	2289	276	2240	278	2057	247	2091	212	17860	2929	8	**20797**
Total	**10844**	**6681**	**12083**	**7057**	**12098**	**6571**	**13135**	**6316**	**12350**	**5400**	**12594**	**4950**	**12060**	**4094**	**12172**	**4267**	**11883**	**3827**	**171789**	**95309**	**52257**	**319355**

Table 4.3: Syphilis: Number of cases per 100 000 population, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	4.4	5.0	7.4	10.3	14.4	20.1	26.8	25.9	32.5	32.2	19.4	18.2	16.3	13.2	11.0	7.4	6.3	5.7	5.5	5.5
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	0.4	1.3	1.7	1.1	2.4	2.9	3.7	0.9	0.8	1.5	1.8	1.6	0.9	0.9	0.9	0.6	0.7	2.0	3.3	6.6
Denmark	0.9	0.6	0.6	0.7	0.2	0.4	0.4	0.5	0.5	0.4	0.3	0.4	0.6	1.6	2.2	2.2	1.4	1.7	2.8	4.6
Estonia	3.4	7.5	11.4	22.9	58.3	72.2	69.0	79.1	76.2	58.7	40.5	30.2	21.0	15.5	11.2	8.2	9.3	5.8	5.3	4.2
Finland	-	-	-	-	-	-	-	-	-	-	3.8	2.9	2.3	2.5	2.1	2.7	2.4	3.5	4.0	3.6
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	2.1	2.9	3.5	4.1	3.9	3.8	4.0	3.9	3.1
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	0.9	1.3	1.3	1.8	1.4	2.3
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-	-	3.2	2.8	2.4	0.7	1.4	1.0	1.3	0.3	0.6	-
Ireland	-	-	-	-	-	-	-	-	-	-	1.2	6.1	5.2	2.9	2.8	2.6	3.2	1.4	2.7	2.2
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	4.8	8.1	10.3	32.1	59.8	93.7	125.5	122.1	106.7	63.9	42.5	24.9	28.7	33.3	25.1	19.1	21.0	13.4	10.3	7.3
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	13.2	9.9	8.6	9.9	8.1	9.7	9.7
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	2.1	2.9	2.5	2.6
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	2.7	4.6	3.9
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	1.3	1.2	1.6
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	2.2	2.4	3.3
Portugal	1.7	1.9	1.7	1.9	1.9	2.0	2.0	2.3	1.7	2.5	1.7	1.3	1.2	1.4	1.0	1.0	1.2	1.1	0.9	1.4
Romania	22.7	25.8	25.5	25.6	28.5	34.3	31.6	33.4	33.6	35.9	43.3	53.8	55.2	42.2	38.1	31.6	26.2	19.7	18.6	15.0
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	2.8	4.2	5.5
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	1.5	3.1	2.3
Spain	4.3	3.9	3.2	3.1	3.4	2.6	2.1	1.9	1.9	1.7	1.8	1.7	1.8	2.2	2.7	3.1	3.9	4.4	5.6	5.4
Sweden	1.9	1.4	0.9	1.1	0.8	0.8	0.6	0.6	0.5	0.5	1.1	0.9	1.5	2.1	2.1	1.1	1.8	2.6	1.8	1.9
United Kingdom	0.7	0.6	0.6	0.6	0.6	0.2	0.2	0.3	0.2	0.4	0.5	1.2	2.0	2.6	3.6	4.3	4.2	4.1	3.7	3.8
Total	**5.0**	**5.5**	**5.4**	**6.0**	**7.4**	**8.8**	**9.1**	**9.1**	**9.1**	**8.7**	**8.2**	**7.1**	**7.4**	**6.5**	**6.4**	**5.8**	**5.0**	**4.6**	**4.7**	**4.5**

Table 4.4: Syphilis: Number of cases per 100 000 population by gender, 1990–2009

Country	1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	0.4	0.4	1.3	1.3	1.9	1.5	1.1	1.1	2.4	2.4	2.9	2.8	4.0	3.5	1.0	0.8	1.0	0.7	2.0	1.0	2.4	1.3
Denmark	1.6	0.2	0.8	0.4	0.7	0.5	1.1	0.2	0.3	0.1	0.5	0.2	0.5	0.2	0.6	0.3	0.7	0.2	0.6	0.1	0.4	0.1
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82.0	71.1	59.6	57.8	37.9	42.7
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	2.7
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	3.6
Ireland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	0.4
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	5.1	4.5	8.1	8.1	10.5	10.1	34.9	29.7	66.5	54.0	106.5	82.7	149.5	105.0	141.9	105.2	117.8	97.1	74.5	54.7	47.3	38.4
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	2.3	1.2	2.4	1.4	2.0	1.4	2.7	1.2	2.2	1.6	2.3	1.8	2.3	1.8	2.9	1.8	2.1	1.4	3.0	2.1	2.1	1.4
Romania	28.9	16.8	31.2	20.6	30.2	20.9	29.7	21.6	32.7	24.4	40.7	28.1	36.8	26.6	39.2	27.9	40.4	27.1	42.7	29.4	50.9	36.1
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	1.9	0.9	1.2	0.6	1.4	0.8	1.0	0.5	1.0	0.6	0.7	0.5	0.8	0.4	0.7	0.3	0.6	0.3	1.7	0.5
United Kingdom	0.9	0.4	0.9	0.4	0.9	0.4	0.9	0.4	0.7	0.4	0.4	0.1	0.3	0.1	0.4	0.2	0.3	0.2	0.6	0.2	0.9	0.3
Total	**7.2**	**4.1**	**7.4**	**4.8**	**7.1**	**4.8**	**7.5**	**5.4**	**8.6**	**6.6**	**10.8**	**7.8**	**10.9**	**8.1**	**11.0**	**8.1**	**11.4**	**8.4**	**11.0**	**7.9**	**11.3**	**8.1**

Note: Rate is only calculated for countries with comprehensive surveillance.

Country	2001		2002		2003		2004		2005		2006		2007		2008		2009	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	13.3	13.0	11.3	10.8	7.4	7.4	7.3	5.5	6.6	5.0	6.8	4.3	7.0	4.2
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Czech Republic	1.9	1.3	1.0	0.8	0.9	0.9	1.1	0.8	0.8	0.4	1.2	0.3	3.1	1.0	5.6	1.0	9.5	3.7
Denmark	0.6	0.2	1.2	0.1	3.0	0.1	4.2	0.2	3.8	0.5	2.7	0.1	3.2	0.2	5.2	0.3	8.9	0.5
Estonia	30.1	30.3	17.5	24.0	9.4	20.7	6.3	15.5	5.8	10.3	7.4	10.9	4.4	7.0	4.9	5.7	5.3	3.2
Finland	3.3	2.5	2.6	2.1	2.6	2.3	2.2	2.0	3.2	2.1	2.5	2.3	4.6	2.4	5.2	2.8	5.5	1.9
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	3.4	0.6	5.1	0.7	6.5	0.6	7.5	0.7	7.2	0.8	7.0	0.8	7.5	0.6	7.3	0.6	6.0	0.4
Greece	-	-	-	-	1.7	0.5	1.4	0.5	2.0	0.5	1.9	0.6	2.9	0.6	2.2	0.6	4.1	0.6
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	5.6	0.0	2.8	1.4	0.7	0.7	2.1	0.0	2.0	0.0	1.3	1.3	0.6	0.0	0.0	0.0	-	-
Ireland	11.2	1.0	8.0	2.4	4.1	1.6	4.3	1.3	4.2	1.0	5.3	1.0	2.0	0.9	4.5	0.8	3.9	0.4
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	28.6	21.8	32.5	25.4	37.8	29.5	25.4	24.9	22.7	16.0	24.2	18.3	14.3	12.6	11.5	9.4	8.5	6.2
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.7	7.9	12.1	7.7
Luxembourg	-	-	-	-	-	-	-	-	0.0	0.0	3.0	1.3	4.2	1.2	4.6	0.4	4.9	0.4
Malta	-	-	-	-	-	-	-	-	-	-	5.0	1.5	3.5	2.0	6.9	2.4	7.3	0.5
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	2.8	0.1	2.6	0.0	2.2	0.2	3.0	0.2
Poland	-	-	-	-	-	-	-	-	-	-	3.6	1.4	3.4	1.1	3.8	1.1	5.2	1.5
Portugal	1.3	1.3	1.4	1.2	1.8	1.1	1.2	0.9	1.4	0.6	1.8	0.6	1.5	0.7	1.3	0.6	2.5	0.4
Romania	62.8	45.3	61.7	49.1	45.3	39.3	40.1	36.2	33.4	30.0	27.9	24.6	20.8	18.6	18.1	19.1	15.1	15.0
Slovakia	-	-	-	-	-	-	-	-	-	-	1.8	1.5	3.1	2.6	4.8	3.6	5.7	5.2
Slovenia	-	-	-	-	-	-	-	-	-	-	1.3	0.3	2.6	0.5	6.0	0.4	4.3	0.4
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	1.6	0.2	2.4	0.5	3.7	0.5	3.5	0.7	1.8	0.4	2.7	0.9	4.3	0.8	2.7	1.0	2.9	0.9
United Kingdom	2.1	0.4	3.7	0.4	4.8	0.6	6.6	0.9	7.7	1.1	7.8	0.9	7.5	0.9	6.9	0.8	7.0	0.7
Total	**9.7**	**5.9**	**10.3**	**6.2**	**9.3**	**5.2**	**9.3**	**4.8**	**8.7**	**4.1**	**7.3**	**3.0**	**6.9**	**2.5**	**6.7**	**2.5**	**6.6**	**2.2**

Note: Rate is only calculated for countries with comprehensive surveillance.

Table 4.5: Syphilis: Number of cases by age category, 2000–2009

Age	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total number by age category										
0-14	152	140	137	87	85	20	13	93	38	42
15-19	1631	1794	1824	1546	1412	319	310	738	686	627
20-24	3207	4060	4011	3066	2892	1122	1074	1819	1913	1839
25-34	4419	5933	6518	6005	6173	3164	3148	4564	4396	4396
35-44	1962	2904	3713	3896	4544	3309	3500	4150	4268	3843
45+	1711	2489	2649	2746	3224	2195	2388	3005	3229	3230
NA	18	33	43	83	81	52	383	142	53	131
Total	**13100**	**17353**	**18895**	**17429**	**18411**	**10181**	**10816**	**14511**	**14583**	**14108**
Proportion by age category										
0-14	1.2	0.8	0.7	0.5	0.5	0.2	0.1	0.6	0.3	0.3
15-19	12.5	10.3	9.7	8.9	7.7	3.1	2.9	5.1	4.7	4.4
20-24	24.5	23.4	21.2	17.6	15.7	11.0	9.9	12.5	13.1	13.0
25-34	33.7	34.2	34.5	34.5	33.5	31.1	29.1	31.5	30.1	31.2
35-44	15.0	16.7	19.7	22.4	24.7	32.5	32.4	28.6	29.3	27.2
45+	13.1	14.3	14.0	15.8	17.5	21.6	22.1	20.7	22.1	22.9
NA	0.1	0.2	0.2	0.5	0.4	0.5	3.5	1.0	0.4	0.9

Note: Cases are excluded due to incompatible age classification: Hungary (2007–2009), Poland (2006–2009), Romania (2005, 2009)

Table 4.6: Syphilis: Number of cases by transmission category and gender, 2000–2009

Country	Transm.	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	Hetero F	-	-	-	-	-	-	8	-	38	54
	Hetero M	-	-	-	-	-	-	6	-	5	4
	MSM	-	-	-	-	-	-	10	-	13	4
	UNK	237	320	420	352	312	267	1	58	5	0
Belgium	NA	-	-	-	-	-	-	288	403	480	486
Bulgaria	NA	1588	1482	1289	1034	861	572	490	440	419	420
Cyprus	Hetero F	-	-	-	-	-	-	-	-	4	5
	Hetero M	-	-	-	-	-	-	-	-	4	2
	MSM	-	-	-	-	-	-	-	-	1	0
	UNK	-	-	-	-	-	-	13	10	5	8
Czech Republic	Hetero F	58	60	37	48	39	18	16	47	51	190
	Hetero M	86	66	41	32	36	20	28	57	107	238
	MSM	6	5	3	14	19	17	29	94	176	238
	UNK	39	30	10	2	3	3	2	7	8	20
Denmark	Hetero F	3	5	3	4	5	12	4	6	9	13
	Hetero M	6	4	7	10	24	18	8	10	18	30
	MSM	3	13	24	68	86	78	62	75	120	208
	UNK	2	1	0	2	4	9	3	1	4	4
Estonia	NA	556	413	286	210	152	111	125	78	71	56
Finland	NA	199	150	122	129	108	140	127	185	211	194
France	Hetero F	1	11	14	18	19	24	30	34	34	31
	Hetero M	6	26	52	54	43	44	49	80	85	45
	MSM	30	170	348	370	338	269	391	480	437	442
	UNK	0	0	3	6	3	4	8	5	7	5
Germany	NA	-	1688	2389	2927	3352	3234	3160	3277	3188	2550
Greece	Hetero F	-	-	-	-	-	-	-	-	32	33
	Hetero M	-	-	-	-	-	-	-	-	70	77
	MSM	-	-	-	-	-	-	-	-	47	98
	UNK	-	-	-	116	103	139	141	197	6	51
Hungary	NA	362	430	377	353	455	541	559	393	549	489
Iceland	Hetero F	2	0	2	-	0	0	-	-	-	-
	Hetero M	1	3	3	-	1	0	-	-	-	-
	MSM	0	0	0	-	2	1	-	-	-	-
	UNK	6	5	2	2	1	2	4	1	2	-
Ireland	Hetero F	8	19	47	31	25	20	20	19	16	7
	Hetero M	4	26	38	22	24	21	27	13	25	11
	MSM	33	184	115	58	61	60	82	30	70	67
	UNK	1	4	2	2	2	5	4	0	8	12
Italy	NA	345	450	788	1082	1339	1395	935	1001	923	916
Latvia	Hetero F	-	-	-	-	-	-	-	-	48	65
	Hetero M	-	-	-	-	-	-	-	1	54	65
	MSM	-	-	-	-	-	-	-	-	2	5
	UNK	1013	589	673	777	583	440	483	304	131	30
Lithuania	Hetero F	-	-	-	-	-	-	-	-	111	118
	Hetero M	-	-	-	-	-	-	-	-	151	163
	MSM	-	-	-	-	-	-	-	-	2	0
	UNK	-	-	-	456	341	295	336	275	62	45
Luxembourg	NA	-	-	-	-	-	-	10	14	12	13
Malta	Hetero F	-	-	-	-	-	-	3	4	5	1
	Hetero M	-	-	-	-	-	-	5	3	5	10
	MSM	-	-	-	-	-	-	4	4	6	4
	UNK	-	-	-	-	-	-	1	0	3	1
Netherlands	Hetero F	-	-	-	-	105	96	97	64	62	57
	Hetero M	-	-	-	-	113	110	101	80	82	86
	MSM	-	-	-	-	617	542	598	496	619	530
	UNK	-	-	-	-	10	3	10	17	29	38
Norway	Hetero F	-	-	-	-	-	-	2	-	5	4
	Hetero M	-	-	-	-	-	-	9	-	8	3
	MSM	-	-	-	-	-	-	56	-	43	69
	UNK	-	-	-	-	-	-	0	61	0	0
Poland	NA	-	-	-	-	-	-	933	847	929	1255
Portugal	NA	174	133	129	146	109	103	124	112	98	150
Romania	Hetero F	-	-	-	-	-	3290	-	2037	2097	1650
	Hetero M	-	-	-	-	-	3482	-	2159	1863	1574
	MSM	-	-	-	-	-	26	-	17	6	5
	MTCT	-	-	-	-	-	38	-	32	0	0
	UNK	9731	12075	12063	9197	8268	14	5661	0	40	0
Slovakia	NA	-	-	-	-	-	-	89	152	228	296
Slovenia	Hetero F	-	-	-	-	-	-	3	4	3	3
	Hetero M	-	-	-	-	-	-	5	11	16	19
	MSM	-	-	-	-	-	-	5	13	30	14
	UNK	-	-	-	-	-	-	3	3	14	11
Spain	NA	706	700	734	917	1152	1344	1711	1936	2545	2496
Sweden	Hetero F	19	6	20	20	21	16	23	29	1	23
	Hetero M	27	16	24	40	42	15	26	43	1	32
	MSM	42	49	74	104	99	55	62	108	0	74
	UNK	10	7	13	22	24	16	56	57	165	50
United Kingdom	NA	327	715	1186	1563	2176	2600	2565	2518	2304	2311

Note: Cases with transmission=Hetero and unknown gender have been classified as NA.

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Table J: Data source, type and period of congenital syphilis surveillance data available

Country	Data source	Type	Period	Legal	Coverage
Austria	-	-	-	-	-
Belgium	-	-	-	-	
Bulgaria	BG-STI	A	2005–2009	C	Co
Cyprus	CY-NOTIFIED_CASES	C	2009	C	Co
Czech Republic	CZ-STD	A	1990–1998	C	Co
	CZ-STD	C	1999–2009	C	Co
Denmark	DK-LAB	C	1991–2009	C	Co
Estonia	EE-CONSYPH	C	1998–2009	C	Co
Finland	-	-	-	-	-
France	-	-	-	-	-
Germany	DE-SURVNET	C	2001–2009	C	Co
Greece	GR-NOTIFIABLE_DISEASES	C	2008–2009	C	Co
Hungary	HU-STD SURVEILLANCE	A	1990–2009	C	Se
Iceland	IS-SUBJECT_TO_REGISTRATION	C	2009	C	Co
Ireland	IE-SYPHILIS	C	2000–2009	C	Co
Italy	IT-NRS	C	1998–2007	C	Other
Latvia	LV-BSN	C	2008–2009	C	Co
	LV-STI/SKIN_INFECTIONS	A	1990–2007	C	
Lithuania	LT-COMMUNICABLE_DISEASES	C	2008–2009	C	Co
	LT-COMMUNICABLE_DISEASES	A	2003–2007	C	Co
Luxembourg	LU-SYSTEM1	C	2009	C	Co
Malta	MT-DISEASE_SURVEILLANCE	C	2008–2009	C	Co
Netherlands	-	-	-	-	-
Norway	NO-MSIS_B	C	2008–2009	C	Co
Poland	PL-NATIONAL_SURVEILLANCE	C	2008–2009	C	Co
Portugal	PT-CONGENITAL_SYPHILIS	C	1999–2009	Unk	Unk
Romania	RO-RNSSy	A	2008–2009	C	Co
Slovakia	SK-EPIS	C	2008–2009	C	Co
Slovenia	SI-SPOSUR	C	2006–2009	C	Co
Spain	ES-STATUTORY_DISEASES	C	1997–2009	C	Co
Sweden	SE-EpiBas	A	1990–1996	C	Co
	SE-SMINET	C	1997–2009	C	Co
United Kingdom	UK-GUM	A	1990–2008	C	Other
Spain***	ES-STATUTORY_DISEASES_STI_AGGR	A	1990–2009	C	Co
Sweden	SE-EpiBas	A	1990–1996	C	Co
	SE-SMINET	C	1997–2009	C	Co
United Kingdom	UK-GUM	A	1990–2008	C	Other

Type: aggregated (A), case-based (C);
Legal: voluntary reporting (V), compulsory reporting (C);
Coverage: sentinel system (Se); comprehensive (Co, Other).

5 Congenital syphilis

5.1 Key points

- In 2009, 101 cases of congenital syphilis, of which 71 were confirmed, have been reported from 25 EU/EEA countries, representing an overall rate of 3.5 per 100 000 live births.
- It is very likely that the number of congenital syphilis cases is underreported and that the disease is underdiagnosed in the EU. The effectiveness of antenatal screening programmes can highly affect the occurrence of congenital syphilis but is unknown at present.

5.2 Discussion

Congenital syphilis data were available from 24 countries. Congenital syphilis is not a reportable disease in five countries: Austria, Belgium, Finland, Liechtenstein and the Netherlands. In Belgium, syphilis – congenital syphilis included – is a reportable disease; however, underreporting exists and databases do not allow to clearly identifying congenital cases.

Table J specifies the source of the data, the type of data (aggregate and case-based), the coverage (either sentinel or comprehensive) and period of availability. It shows the existing heterogeneity in systems, recent changes in systems and reporting periods. It shows that only three countries have provided data on congenital syphilis for the period 1990–2009 (Czech Republic, Latvia and United Kingdom); a variable number of countries have provided data on 2006–2009. Rates per 100 000 live births were calculated.

In 2009, cases of congenital syphilis were reported from 23 countries: 11 countries reported zero cases and 12 countries reported 101 cases, of which 71 were confirmed. The majority of cases was reported from Bulgaria (30 cases), Portugal (13), Italy (12), Spain (11) and Romania (7 cases). In 2008, 68 cases of congenital syphilis were reported; in 2007 the total number was 94. In the period 2006–2009 the majority of the cases were reported by Bulgaria, Portugal and Spain.

Between 1990 and 2009, 1001 cases of congenital syphilis have been reported from 24 countries with varying degrees of completeness over time (Table 5.1). Rates were calculated per 100 000 live births (Table 5.2, Figure 5.1) and trends appeared to have stabilised since 2000, with large differences across countries. In 2009, the overall rate was 3.5 per 100 000 live births, with the highest rates observed in Bulgaria (37.1 per 100 000), Portugal (13.1), Lithuania (10.9) and Latvia (9.2). Latvia has reported high rates of congenital syphilis in 1995–2003 (Table 5.2)

It must be noted that five countries do not report congenital syphilis cases and it is very likely that many diagnoses were not reported, so the genuine prevalence is underestimated. The availability of an antenatal screening programme for syphilis in pregnant women will heavily affect the number of prevented congenital cases, however, data on the effectiveness of these national screening programmes is lacking at the moment.

Figure 5.1: Number of reported congenital syphilis cases per 100 000 live births, EU/EEA, 2000–2009

5.3 Tables

Table 5.1a: Congenital syphilis: Number of cases by date of diagnosis, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	19	37	23	30	**131**
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Czech Republic	1	0	0	1	2	2	5	0	1	5	2	1	1	2	2	0	1	3	0	0	**29**
Denmark	0	2	1	1	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	**10**
Estonia	-	-	-	-	-	-	-	-	2	5	3	5	1	2	0	0	0	1	0	0	**19**
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	7	7	5	5	4	5	3	0	3	**39**
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	**1**
Hungary	0	0	0	0	3	0	3	4	4	4	3	2	5	9	4	4	2	3	1	1	**52**
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Ireland	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	**0**
Italy	-	-	-	-	-	-	-	-	1	6	4	1	5	2	6	8	10	9	1	12	**65**
Latvia	1	1	1	0	2	15	25	22	15	9	8	5	6	7	1	3	0	0	1	2	**124**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	3	2	1	2	4	**16**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	**0**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	**0**
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	12	**12**
Portugal	-	-	-	-	-	-	-	-	-	46	48	38	24	19	16	21	14	21	14	13	**274**
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	7	**16**
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	**6**
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	**0**
Spain	-	-	-	-	-	-	-	1	2	0	3	1	3	0	5	10	9	11	10	11	**66**
Sweden	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	1	1	2	**8**
United Kingdom	5	5	1	3	36	18	2	2	2	2	10	2	7	3	8	14	6	4	3	-	**133**
Total	**7**	**8**	**3**	**5**	**43**	**35**	**36**	**31**	**27**	**80**	**81**	**63**	**59**	**53**	**49**	**90**	**68**	**94**	**68**	**101**	**1001**

Table 5.1b: Congenital syphilis: Number of cases by year of statistics, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	19	37	23	30	**131**
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Czech Republic	1	0	0	1	2	2	5	0	1	5	2	1	1	1	3	0	0	4	0	0	**29**
Denmark	0	2	1	1	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	**10**
Estonia	-	-	-	-	-	-	-	-	2	5	3	5	1	2	0	0	0	1	0	0	**19**
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	7	7	5	5	4	5	3	0	3	**39**
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	**1**
Hungary	0	0	0	0	3	0	3	4	4	4	3	2	5	9	4	4	2	3	1	1	**52**
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Ireland	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	**0**
Italy	-	-	-	-	-	-	-	-	1	6	4	1	5	2	6	8	10	9	1	12	**65**
Latvia	1	1	1	0	2	15	25	22	15	9	8	5	6	7	1	3	0	0	1	2	**124**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	3	2	1	2	4	**16**
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	**0**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	**0**
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	12	**12**
Portugal	-	-	-	-	-	-	-	-	-	46	48	38	24	19	16	21	14	21	14	13	**274**
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	7	**16**
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	**6**
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	**0**
Spain	-	-	-	-	-	-	-	1	2	0	3	1	3	0	5	10	9	11	10	11	**66**
Sweden	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	1	3	**8**
United Kingdom	5	5	1	3	36	18	2	2	2	2	10	2	7	3	8	14	6	4	3	-	**133**
Total	**7**	**8**	**3**	**5**	**43**	**35**	**36**	**31**	**27**	**80**	**81**	**63**	**59**	**52**	**49**	**91**	**67**	**94**	**68**	**102**	**1001**

Table 5.2: Congenital syphilis: Number of cases per 100 000 live births, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.0	25.7	49.1	29.6	37.1
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
Czech Republic	0.8	0.0	0.0	0.8	1.9	2.1	5.5	0.0	1.1	5.6	2.2	1.1	1.1	2.1	2.0	0.0	0.9	2.6	0.0	0.0
Denmark	-	3.1	1.5	1.5	0.0	0.0	1.5	3.0	0.0	4.5	-	-	-	-	-	-	-	-	-	-
Estonia	-	-	-	-	-	-	-	-	16.4	40.2	23.0	39.6	7.7	15.3	0.0	0.0	0.0	6.3	0.0	0.0
Finland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	1.0	1.0	0.7	0.7	0.6	0.7	0.4	0.0	0.5
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	0.0
Hungary	0.0	0.0	0.0	0.0	2.6	0.0	2.8	4.0	4.1	4.2	3.1	2.1	5.2	9.5	4.2	4.1	2.0	3.1	1.0	1.0
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
Ireland	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Italy	-	-	-	-	-	-	-	-	0.2	1.1	0.7	0.2	0.9	0.4	1.1	1.4	1.8	1.6	0.2	2.1
Latvia	2.6	2.9	3.2	0.0	8.2	69.5	126.4	116.8	81.5	46.4	39.5	25.4	29.9	33.3	4.9	14.0	0.0	0.0	4.2	9.2
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	13.1	0.0	9.8	6.4	3.1	5.7	10.9
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	2.9
Portugal	-	-	-	-	-	-	-	-	-	39.7	40.0	33.7	21.0	16.9	14.6	19.2	13.3	20.5	13.4	13.1
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	3.1
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	6.5
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0
Spain	-	-	-	-	-	-	-	0.3	0.5	0.0	0.8	0.2	0.7	0.0	1.1	2.1	1.9	2.2	1.9	2.2
Sweden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.0	1.0	0.0	0.9	0.9	1.8
United Kingdom	0.6	0.6	0.1	0.4	4.8	2.5	0.3	0.3	0.3	0.3	1.5	0.3	1.0	0.4	1.1	1.9	0.8	0.5	0.4	-
Total	**0.7**	**0.9**	**0.3**	**0.5**	**4.3**	**4.1**	**3.5**	**2.4**	**1.5**	**4.9**	**4.1**	**2.3**	**2.2**	**2.3**	**1.7**	**3.1**	**2.4**	**3.1**	**2.5**	**3.5**

6 Lymphogranuloma venereum

Table K: Data source, type and period of LGV surveillance data available

Country	Data source	Type	Period	Legal	Coverage
Belgium	BE-STD	C	2008–2009	V	Se
Denmark	DK-LAB	C	2006–2008	V	Co
Ireland	IE-AGGR_STI	A	1995–2009	C	Co
Netherlands	NL-STI	C	2004–2009	V	Se
United Kingdom	UK-LGV	A	2005–2009	C	Other

Type: aggregated (A); case-based (C);
Legal: voluntary reporting (V), compulsory reporting (C);
Coverage: sentinel system (Se); comprehensive (Co, Other).

Figure 6.1: Number of reported LGV cases in four countries, 2004–2009

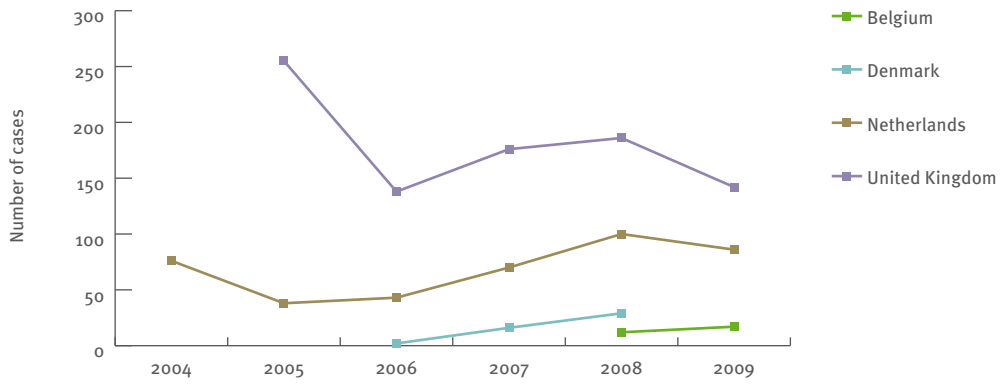
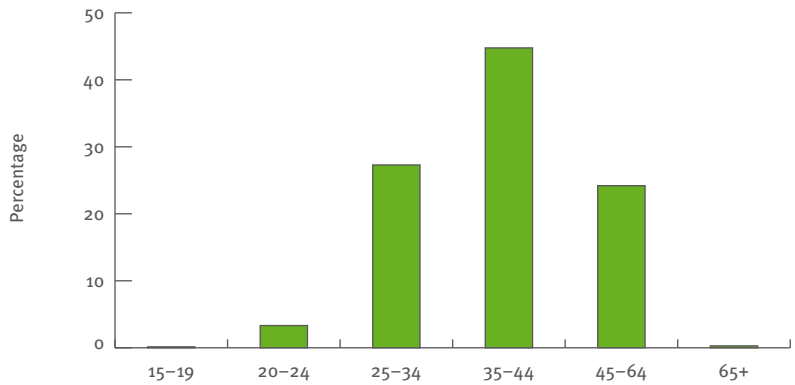


Figure 6.2: LGV cases by age category, 2004–2009



6 Lymphogranuloma venereum

6.1 Key points

- In 2009, 245 cases of lymphogranuloma venereum have been reported from five EU/EEA countries.
- Almost all cases were diagnosed in men who have sex with men (98%) and the majority (75%) was co-infected with HIV (for those with information).
- Reporting is highly affected by available diagnostics, and the true incidence of LGV is unknown.

6.2 Discussion

In 2000–2009, cases of lymphogranuloma venereum (LGV) have been reported from 16 countries of which only five reported more than zero cases (Belgium, Denmark, Ireland, Netherlands and United Kingdom). Additional countries have reported zero cases for LGV (Cyprus, Czech Republic, Estonia, Finland, Hungary, Latvia, Luxembourg, Malta, Poland, Slovenia and Sweden). No information is available for the remaining countries (Table 6.1).

Table K specifies the source of the data, the type of data (aggregate and case-based), the coverage (either sentinel or comprehensive) and period of availability for the five countries that actually have reported LGV cases. The table shows the existing heterogeneity in systems and reporting periods. Rates per 100 000 population were not calculated for LGV.

In 2009, 245 cases of LGV were reported from five countries (2008: 327 cases). Between 2000 and 2009, 1 390 cases of LGV were reported from five countries: United Kingdom (897 cases), Netherlands (413), Denmark (47), Belgium (29) and Ireland (4) (Figure 6.1). From those with known information on mode of transmission, 98% were diagnosed in MSM. Information on age was available for 1385 cases, showing the highest proportion in the 35–44 age group (Figure 6.2). In 2009, information on HIV status was available for 103 cases (42%), indicating that 75% were reported as HIV-positive, 17% as HIV-negative and 8% as unknown. In the period 2004–2009, information on HIV status was available for 489 cases (35%of all cases in the period), indicating that 62% of these 489 was reported as HIV-positive, 14% as HIV-negative and 24% as unknown.

It must be noted that many countries do not report LGV and that diagnosis of LGV is complicated by confirmation through genotyping. Therefore it is very likely that the true incidence is greatly underestimated.

The emergence of rectal LGV among MSM in western Europe and other parts of the world was first described in 2003[2]. The agent, *Chlamydia trachomatis* serotype L2, causes severe anorectal infections, mainly proctitis, tenesmus, constipation and anal discharge. The majority of LGV patients are co-infected with HIV, reported large numbers of partners and had unprotected anal intercourse. After the initial reports, more cases were reported from a number of countries (Belgium, Germany, France, Italy, Portugal, Spain, Sweden and the United Kingdom, and also in the USA and Canada)[3]. Enhanced surveillance systems and strengthened case ascertainment have been initiated in the Netherlands, France and the United Kingdom.

2 Nieuwenhuis RF, Ossewaarde JM, Götz HM et al. Resurgence of lymphogranuloma venereum in Western Europe: an outbreak of *Chlamydia trachomatis* serovar L2 proctitis in the Netherlands among men who have sex with men. Clin Infect Dis 2004;39(7):996-1003.

3 Van de Laar M. The emergence of LGV in Western Europe: what do we know, what can we do? Euro Surveill 2006;11(9):146-8. Available from: http://www.eurosurveillance.org/em/v11n09/1109-221.asp

6.3 Tables

Table 6.1a: LGV: Number of cases by date of diagnosis, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	17	**29**
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	**0**
Denmark	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	16	29	-	**47**
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	**0**
Finland	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	**0**
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	0	0	5	1	2	0	0	1	0	0	1	0	2	0	0	**12**
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	**0**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	38	43	70	100	86	**413**
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	**0**
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	**0**
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	255	138	176	186	142	**897**
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5**	**1**	**2**	**-**	**-**	**1**	**-**	**76**	**294**	**183**	**264**	**327**	**245**	**1398**

Table 6.1b: LGV: Number of cases by year of statistics, 1990–2009

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Austria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	17	**29**
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	**0**
Denmark	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	16	29	-	**47**
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	**0**
Finland	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	**0**
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	0	0	5	1	2	0	0	1	0	0	1	0	2	0	0	**12**
Italy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Malta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	**0**
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	38	43	70	100	86	**413**
Norway	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	**0**
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	**0**
Spain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	**0**
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	255	138	176	186	142	**897**
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5**	**1**	**2**	**-**	**-**	**1**	**-**	**76**	**294**	**183**	**264**	**327**	**245**	**1398**

7 Discussion and conclusion

7 Discussion and conclusion

This is the first time that EU-wide data on four STI and congenital syphilis are collated for a period of 1990–2009 as reported from individual Member States. It shows that STI surveillance systems have been implemented in various ways, from laboratory reporting systems to sentinel surveillance systems to comprehensive surveillance systems. The heterogeneity in reporting makes an interpretation of the international distribution of STI and its trends very challenging. It is essential to learn more about the individual surveillance systems. However, despite the complex heterogeneity, common features appeared that can be addressed.

The overall comparison between chlamydia, gonorrhoea and syphilis with respect to numbers of cases per 100 000 population, number of countries reporting, male-to-female ratio, age distribution, proportion in young people and proportion in MSM show distinct differences between these three STI (Table L).

Chlamydia is the most frequently reported STI in Europe, accounting for the majority of all STI reports with an overall rate of 185 per 100 000 population in 2009. Chlamydia was reported more often in women than in men, with an overall rate of 217 per 100 000 in women and 152 per 100 000 in men. Gonorrhoea was reported nearly three times more often in men than in women, with an overall rate of 15.9 per 100 000 in men and 6.3 in women. Syphilis was reported nearly three times more in men (6.7) than in women (2.2). Syphilis appeared to be the most completely reported disease among the five STI under EU surveillance, with long-standing surveillance based on serology in most European countries, including central and eastern countries. The genuine incidence of STI is likely to be higher than reported here as many diagnoses are either not made or not reported. In particular for several countries, the detection and reporting of chlamydia cases seemed to be incomplete.

A number of countries have implemented sentinel surveillance systems to monitor trends in clinical testing services rather than having mandatory notification systems. The interpretation of those data is affected by the populations targeted in these clinical testing services and they may, of course, differ across countries. Gonorrhoea surveillance appears to have a relatively good coverage but the trend to move from culture to nucleic acid amplification testing (NAAT) and polymerase chain reaction (PCR) testing will affect the ability to perform susceptibility testing and will most likely also affect the number of detected cases. This has to be monitored carefully in the coming years with respect to the implementation of the European gonococcal antimicrobial surveillance programme[4].

Chlamydia trends appear to be increasing in all but four countries. Between 2000 and 2009, the overall reporting rate has more than doubled. This can most likely be due to increased case detection, improved diagnostics tools, improved surveillance systems and the introduction of chlamydia screening programmes in a number of countries. Decreasing or low rates may reflect the lack of accurate diagnostic tools or diagnostic capacity in a number of countries rather than a real low prevalence of chlamydia. The overall trends in gonorrhoea and syphilis across the EU/EEA over the past decade appear to be decreasing. It showed a notable decreasing trend in countries that had previously reported very high rates, and increasing numbers in other countries. These declines are probably due to changes in healthcare systems, diagnostic capacity and reporting rather than true changes in the incidence. However, dramatic increases are noted in other countries and – based on the information from the male-to-female ratio – this is most likely due to recent increases of syphilis among men who have sex with men.

With respect to the distribution of STI, it appears that the three STI affect different subpopulations as characterised by age, gender and transmission category (sexual orientation). Only one fifth of all syphilis cases were reported in young people as compared to 44% in

4 European Centre for Disease Prevention and Control. Gonococcal antimicrobial susceptibility surveillance in Europe, 2009. Stockholm: ECDC; 2011.

Table L: Comparison of indicators between chlamydia, gonorrhoea and syphilis, EU/EEA, 2009

Indicators 2009	Chlamydia	Gonorrhoea	Syphilis
Rate per 100 000 population*	185.0	9.7	4.5
Number of countries reporting	23	28	29
Trends over 2006–2009	+ 42%	- 9%	- 7%
Male-to-female ratio in reported cases**	0.7	2.6	3.1
Percentage in young people (15–24 year-olds)**	75%	44%	17%
Percentage in MSM**	4%	24%	51%

* Calculated for countries with comprehensive surveillance systems.
** Based on countries with known information regarding these indicators.

gonorrhoea and 75% in chlamydia, reflecting not only the prevalence in this age group but also testing and screening practices for chlamydia. Half of all syphilis cases were reported in MSM (of those cases with information on transmission category) as compared to a quarter in gonorrhoea and nearly 5% in chlamydia, indicating higher prevalence rates in MSM for syphilis. This finding is consistent with other evidence on increasing trends of syphilis (and other STI) among MSM in recent years[5] and shows that MSM play a disproportionate role in transmission of syphilis and LGV in Europe. It highlights the importance for obtaining reliable epidemiological information to guide prevention measures. The male-to-female ratio may be used to interpret the contribution of different populations to the spread of STI. Information on sexual orientation may be missing due to incomplete reporting or because MSM cannot or do not wish to disclose their sexual orientation.

The epidemic of rectal LGV among MSM in western Europe, with the majority of LGV patients co-infected with HIV, was reported in a number of countries. However, only five countries have submitted available data for the period 2000–2009 and no LGV cases were reported from Germany, France, Italy, Portugal, Spain and Sweden, hampering the monitoring of the ongoing LGV epidemic in Europe. Enhanced surveillance systems and strengthened case ascertainment have been initiated in a number of countries, like the Netherlands, France and the United Kingdom.

The data on congenital syphilis are difficult to interpret as a high diversity was revealed. It is suggested to investigate the reporting of congenital syphilis in relation to existing antenatal screening programmes for pregnant women in EU/EEA countries to be able to improve the interpretation of data. Hence, the data on the effectiveness of antenatal screening programmes (process and results) are lacking at the moment.

In conclusion, the number of STI reports in Europe shows diverging trends. Each STI seems to affect distinct subpopulations at risk. Overall, EU-wide comparison should be done cautiously and acknowledging the heterogeneity in healthcare and reporting systems. Chlamydia is the most prevalent STI, with high rates in the western and northern part of the EU. With respect to gonorrhoea and syphilis, different trends exist across countries reflecting different populations at risk and changes in healthcare and reporting systems. On the whole, data suggest fast increasing trends for chlamydia and slightly decreasing trends for gonorrhoea and syphilis, although the latter is due to diverging trends across countries.

Enhanced surveillance of STI in Europe is essential to provide the information that is necessary to monitor the distribution of disease and to evaluate the public health response to control the transmission of infections. In order to achieve this aim, countries in Europe need to work towards providing high quality surveillance data, and need to provide, in particular, complete case reports with STI surveillance data.

5 EJ Savage, G Hughes, C Ison, et al. Syphilis and gonorrhoea in men who have sex with men: a European overview Eurosurveillance, Volume 14, Issue 47, 2009. Available from: http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19417

Annexes

Annex 1: Description of national STI surveillance systems

Austria

One system providing data to TESSy:

- AT-STISentinella, which is a case-based, voluntary, sentinel laboratory system using EU-2008 case definitions. This system does not provide national coverage. Diseases under surveillance: chlamydia, gonorrhoea, syphilis.

Case reporting

Mandatory universal (since 1945)

- Diseases covered: syphilis and gonorrhoea.
- Coverage: theoretically it is obligatory for all physicians in all settings, private and public, to report (only if there is risk of onward transmission).
- Laboratory confirmation: NOT required.
- Variables: date of diagnosis

Voluntary

- Disease covered: syphilis and gonorrhoea.

Aggregate

- Disease covered: syphilis and gonorrhoea.
- Aggregate data for Austria reported from district level.

Laboratory test reporting

Voluntary universal

- Diseases covered: gonorrhoea, syphilis, chlamydia.
- Aggregate reporting for chlamydia; case-based reporting for gonorrhoea and syphilis.
- Variables: number of positive results (just for chlamydia).
- Reports from the national reference centre for syphilis and gonorrhoea: data not representative for Austria (from one centre that mostly examines sex workers).
- Chlamydia is reported by only one centre so the data are not representative for Austria.

Belgium

Two surveillance systems reporting data to TESSy:

- BE-LABNET: voluntary, sentinel laboratory system reporting case-based data for chlamydia, gonorrhoea and syphilis with national coverage.
- BE-STD: voluntary, sentinel clinician system reporting case-based data for LGV. Coverage not known.

Case reporting

Mandatory universal (since 1946)

- Diseases covered: syphilis and gonorrhoea (congenital syphilis).
- Coverage: unknown. Theoretically it is obligatory for all physicians in all settings, private and public, to report.
- Laboratory confirmation: NOT required.
- Individual level reporting.
- Variables: place of residence, gender, age, sexual orientation (Flemish community only), stage of syphilis.

Sentinel (since 2000)

- 50 sites distributed throughout the country report. Participation is voluntary by gynaecologists, dermatologists, GPs, urologists, STI clinics, student clinics and family planning centres.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, PID, urethritis, cervicitis, genital ulcer.
- Coverage: unknown.
- Laboratory confirmation: required for syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, PID.
- Variables: age, sex, nationality, place or residence, level of education, reason for testing, symptoms, sexual orientation, number of partners in last six months, sex worker, drug use, contact with sex worker, where infection contracted, HIV status.

Laboratory test reporting

Sentinel (since 2001)

- Voluntary participation by private and hospital microbiology laboratories.
- Diseases covered: syphilis, gonorrhoea and chlamydia.
- Coverage: 110 laboratories currently participate representing 61% of all recognised laboratories.
- Individual level reporting.
- Can NOT be linked to case reports.
- Variables: place of residence, gender, age, test used.
- Gonorrhoea AMR testing is undertaken for all isolates.

Bulgaria

- Bulgaria reports STI cases through the BG-STI data source. This comprehensive system collects aggregated data on gonorrhoea, syphilis and congenital syphilis from hospitals and 'other' sources. Reporting is compulsory and EU-2002 case-definitions are applied. Geographical coverage is not reported.

Cyprus

One surveillance system providing data to TESSy:

- CY-NOTIFIED_DISEASES: a mandatory, comprehensive, case-based surveillance system based on clinician reporting that has national coverage. The system reports data on chlamydia, gonorrhoea and syphilis and applies EU-2008 case definitions.

Case reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea (since 1984) and chlamydia (since 2005).
- Coverage: theoretically, it is obligatory for all physicians in all settings, private and public, to report. It is estimated that overall 26–50% of diagnosed cases are reported in this system (76–99% of cases diagnosed in the five STI/DV clinics in Cyprus are estimated to be reported; there is no data available on the actual proportion of doctors who report).
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: place of residence, clinic/physician type, date of onset, date of diagnosis, place of diagnosis, gender, age, probable route of transmission, site of infection, nationality/country of birth.

Sentinel (since 2004)

- This is a convenience-based sample of 40 physicians (26 gynaecologists and 14 dermatologists) from all geographical areas of Cyprus. Participation is voluntary in the private sector but all STI clinics of the public sector must report.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes, genital warts.
- Coverage: it is estimated that overall 26–50% of diagnosed cases are reported in this system.
- Laboratory confirmation: only required for chlamydia.
- Variables: place of residence, Clinic/physician type, date of diagnosis, place of diagnosis, gender, age, probable route of transmission, site of infection.

Laboratory test reporting

Sentinel (since 2004)

- It is obligatory for public labs to participate in this surveillance. It is voluntary for private labs and it is estimated that 26–50% participate.
- Diseases covered: syphilis, gonorrhoea and chlamydia.
- Coverage: it is estimated that 26–50% of all positive test results for STI in the country are reported in this system.
- Individual level reporting.
- Can be linked to case reports.
- Variables: place of residence, clinic/physician type, date of diagnosis, place of diagnosis, gender, age, nationality/country of birth.
- Gonorrhoea AMR testing is undertaken for all isolates.

Czech Republic

One surveillance system providing data to TESSy:

- CZ-STD: used for reporting of data on gonorrhoea, LGV, syphilis and congenital syphilis. The surveillance system for syphilis and gonorrhoea is reported as being case-based, comprehensive, compulsory and based on reporting by clinicians, laboratories, hospitals and 'other' sources. National case-definitions are used. The characteristics of the surveillance systems for congenital syphilis and LGV are the same as for syphilis and gonorrhoea. All of these infections are notified through identical IT tools.

Laboratory test reporting

Mandatory universal

- Laboratory test results are mandatory reported via clinical case reports as basic information of notification.

Denmark

Two system are used to report data to TESSy:

- DK-LAB: comprehensive, case-based, compulsory laboratory surveillance system for chlamydia and LGV (LGV part of data source is incomplete). National case-definitions are used.
- DK-STI_CLINICAL: comprehensive, case-based, compulsory clinician-based surveillance system for gonorrhoea. National case definitions are used.

Coverage for both systems is not reported.

Case reporting

Mandatory universal (since 1865)

- Diseases covered: syphilis, gonorrhoea, congenital syphilis.
- Coverage: unknown. Theoretically, it is obligatory for all physicians in all settings, private and public, to report.
- Laboratory confirmation: required for syphilis (but some cases are notified without lab reports e.g. partners traced on clinical diagnosis).
- Individual level reporting.
- Variables: place of diagnosis, date of diagnosis, age, gender, country of birth/nationality, sexual orientation, HIV status, place where infection was contracted, mode of transmission, anatomical site of infection, type of healthcare provider.

Sentinel

None

Laboratory test reporting

Mandatory universal

- Diseases covered: gonorrhoea, chlamydia, syphilis.
- Coverage: >99% of all positive tests for chlamydia, >98% for gonorrhoea and >99% for syphilis are reported.
- Individual level reporting.
- Can NOT be linked to case reports.
- Variables: place of diagnosis, date of diagnosis, age, gender, anatomical site of infection, lab test used, type of healthcare provider.
- Gonorrhoea AMR testing is undertaken for all isolates.

Estonia

Data is reported to TESSy through four data sources with generally identical characteristics except for case-definitions:

- EE-CONSYPH for reporting of congenital syphilis, using EU-2008 case definition;
- EE-GONOCOCC for reporting of gonorrhoea using legacy EU case definitions;
- EE-HCV/CHLAMYDIA for reporting of chlamydia, case definitions not reported;
- EE-PERTUSSIS/SHIGELLOSIS/SYPHILIS for reporting of syphilis, case definitions not reported.

The systems are all comprehensive, case-based, compulsory and providing national coverage. Data is reported by hospitals, clinicians, laboratories and other sources.

Case reporting

Mandatory Universal (since 1950)

- Disease covered: syphilis, congenital syphilis, gonorrhoea, chlamydia, genital herpes.
- Coverage: theoretically, it is obligatory for all physicians in all settings, private and public, to report.
- Estimated that 51–75% of all physicians report.
- Estimated that 76–99% of all syphilis cases, 51–75% gonorrhoea cases, 26–50% chlamydia cases, 10–25% genital herpes reported.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: age, gender, date of onset, date of diagnosis, place of diagnosis, stage of syphilis (ICD 10).

Sentinel

None

Laboratory test reporting

Mandatory universal (since 2004)

- It is obligatory for laboratories to participate in this surveillance.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes.
- Coverage: unknown.
- Individual level reporting.
- Can be linked to case reports but not always.
- Variables: age, gender, place of residence (county level), date of test result.

Finland

Finland has one surveillance system reporting STI data to TESSy:

- FI-NIDR.: a comprehensive, case-based, compulsory system that provides national coverage. Data is reported by clinicians and laboratories for gonorrhoea, LGV and syphilis. Only laboratories report chlamydia data.

Case reporting

Mandatory universal (since 1939)

- Diseases covered: syphilis and gonorrhoea, congenital syphilis.
- Coverage: obligatory for all physicians in all settings, private and public, to report. It is estimated that overall 90% of diagnosed cases are reported in this system.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: place of residence, gender, age, symptoms, date of diagnosis.

Sentinel (since 1995)

- Six STI clinics, two gynaecological clinics, three healthcare centres and two student healthcare centres participate in this surveillance system.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, LGV.
- Coverage: unknown.
- Laboratory confirmation: required on chlamydia, syphilis, gonorrhoea, LGC.
- Individual level reporting.
- Variables: age, gender, occupation, symptoms, treatment, history of STI, smoking, prevention method used, number of partners in 12 months, sexual orientation, HIV status, date of test, reasons for testing, where/how patient was infected.

Laboratory test reporting

Mandatory universal (since 1995)

- It is obligatory for laboratories to participate in this surveillance.
- Diseases covered: syphilis, gonorrhoea and chlamydia.
- Coverage: it is estimated that 99% of all positive test results for STI in the country are reported in this system.
- Individual level reporting.
- Gonorrhoea and syphilis can be linked to case reports.
- Variables: age, gender, date of diagnosis, place of diagnosis, sample type, lab test used.
- Gonorrhoea AMR testing is undertaken for all isolates.
- Congenital syphilis is reportable as a part of other syphilis cases by ICD-10 code in Finland.

France

One system reports STI data from France to TESSy:

- FR-STI: a sentinel, voluntary system that reports case-based data and provides national coverage. Data is reported by clinicians, hospitals, laboratories and other sources. The data source is used to report data on gonorrhoea and syphilis; there is no data source reporting chlamydia data from France. The case-definitions in use have not been specified.

Case reporting

Mandatory STI clinics (since 2006)

- Diseases covered: syphilis, gonorrhoea, chlamydia and herpes simplex virus (HSV).
- Coverage: unknown. Introduced in 2006. Theoretically, it is obligatory for all STI clinics to report.
- Laboratory confirmation: required.
- Aggregate reporting.
- Variables: gender.

Voluntary universal

- Diseases covered: syphilis, gonorrhoea, LGV.
- Coverage: unknown.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: place of diagnosis, date of diagnosis, age, gender, place of residence, country of birth, country of residence in previous 10 years, sexual orientation, history of STI, HIV status, date of HIV test, reason for testing, concurrent STI, condom use, number and gender of partners in last 12 months, syphilis: clinical symptoms, lab test used, stage of syphilis.
- Gonorrhoea: history of GC infection in last 12 months, clinical symptoms, site of infection, imported, treatment, partner status (i.e. casual, stable, sex worker), drug use.

Laboratory test reporting

Sentinel (since 1986)

- Geographically representative sample of public and private laboratories.
- Diseases covered: chlamydia (RENACHLA) and gonorrhoea (RENAGO).
- Coverage: 5–10% of all gonorrhoea and chlamydia cases in country are reported through this system.
- Individual level reporting.
- Can NOT be linked to case reports.
- Variables:
  - RENACHLA: gender, age, site of infection, clinical symptoms, reason for testing, lab test used, concurrent STI, clinic/physician type, date of notification, place of notification.
  - RENAGO: gender, age, site of infection, reason for testing, concurrent STI, place of infection, lab test used, beta-lactamase results, date of sample, clinic/physician type, place of diagnosis, place of notification.
- Gonorrhoea AMR of RENAGO's strains testing is undertaken in some routine labs and in reference lab.

Germany

One system reports STI data from Germany to TESSy:

- DE-SURVNET@RKI-7.3: reports data for syphilis and congenital syphilis. The system is a comprehensive and compulsory system with national coverage providing case-based data. Data is reported by clinicians and laboratories. National case-definitions are used.

There are no data sources reporting data for chlamydia and gonorrhoea.

Case reporting

Mandatory universal (since 2001)

- Cases are linked with laboratory reports.
- Diseases covered: syphilis.
- Coverage: 75–99% of syphilis cases are reported. Theoretically, it is obligatory for all physicians in all settings, private and public, to report.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: place of residence, gender, age, lab results, clinical symptoms, date of infection, sex worker, contact with sex worker, sexual orientation, history of STI, country of origin, place where infection was contracted.

Sentinel (2003–2009)

- A combination of local health offices (LHOs), hospital-based STI clinics and private practitioners report. LHOs and STI clinics were selected based on convenience sample. Private practitioners were selected randomly in a process stratified by speciality and location.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, pelvic inflammatory disease (PID), urethritis, cervicitis.
- Coverage: unknown.
- Laboratory confirmation: required for syphilis, gonorrhoea and chlamydia.
- Variables: date of consultation, age, sex, country of origin, place of residence, sexual orientation, sex worker, contact with sex worker, drug habits, history of STI, HIV status, reason for testing, place where infection was contracted, number of partners in six months, gender of partners, condom use, education, financial situation, nationality, country of birth, migration status.

Laboratory test reporting

Mandatory universal

- Diseases covered: syphilis.
- Individual level reporting.
- Can be linked to case reports – see above.
- Variables: see universal case variables above.

Greece

Greece uses one data source for reporting STI data to TESSy:

- GR-NOTIFIABLE_DISEASES: a system developed by the Hellenic Center for Disease Control and Prevention (KEELPNO). KEELPNO is responsible under law for epidemiological surveillance in Greece. The new surveillance system for STI, established in 2009, collects actively data (case-based and aggregated) on cases of chlamydia, gonorrhoea, syphilis, congenital syphilis and LGV. Data is collected from clinicians/laboratories/ hospitals, in public and private sector. Reporting is compulsory for all above mentioned diseases, except chlamydia. However, actions are undertaken to include chlamydia in the mandatory surveillance system. EU-2008 case definitions are used. The new system is intended to be comprehensive but does not yet provide national coverage. Significant underreporting may exist, therefore, coverage is described as 'other'.

Case reporting

Mandatory universal (since 1950)

- Diseases covered: syphilis, gonorrhoea, congenital syphilis and LGV.
- Data presented in this report have been retrieved from the database on 10 August 2010 and is subject to change if new evidence is provided by other centres. Due to the introduction of the new surveillance system, no time trends can be calculated at this point. The increase in the reported number of chlamydia and syphilis cases is mainly attributed to the inclusion of data from other centres. Data on gonorrhoea presented in this report have been provided by the National Reference Center for N.gonorrhoea.
- Coverage: theoretically, reporting is obligatory for all physicians/laboratories/hospitals in all settings, private and public. Active surveillance has been implemented in order to increase case detection and reporting since 2009. Currently, the system does not provide national coverage, therefore, coverage is described as 'other'.
- Laboratory confirmation: required.
- Variables (case-based): age, gender, date of onset, date of diagnosis, date of notification, reporting centre, clinical service type, country of birth, possible country of infection, HIV status, reason for testing, transmission category, clinical symptoms, laboratory results, sex worker, contact with sex worker, site of infection, stage of syphilis.
- Variable (aggregated): age, gender, transmission category.

Sentinel

None

Laboratory test reporting

Mandatory universal (since 1987)

- Diseases covered: syphilis and gonorrhea.
- National Reference Center for *N. Gonorrhoea*: Hellenic Pasteur Institute performs AMR testing in all reported isolates.

Hungary

One system reports STI data from Hungary to TESSy:

- HU-STD SURVEILLANCE: covers chlamydia, LGV, gonorrhoea, syphilis and congenital syphilis. This sentinel system reports aggregated data for all the STI, except congenital syphilis (case-based). Data is reported by clinicians and reporting is compulsory. The system has national coverage and uses EU-2008 case definitions.

Iceland

Iceland reports STI data to TESSy through one data source:

- IS-SUBJECT_TO_REGISTRATION: a compulsory, comprehensive system that provides national coverage. Case-based data is reported to the system by hospitals, laboratories and clinicians. The system applies EU-2008 case definitions for all diseases under surveillance (chlamydia, gonorrhoea and syphilis).

Case reporting

Mandatory universal (since 1999)

- Diseases covered: syphilis, gonorrhoea, chlamydia and genital warts.
- Coverage: theoretically, it is obligatory for all physicians in all settings, private and public, to report. It is estimated that overall 76–99% of diagnosed syphilis and gonorrhoea cases are reported in this system.
- Laboratory confirmation: required for syphilis, gonorrhoea and chlamydia.
- Individual level reporting for syphilis, gonorrhoea and chlamydia.
- Aggregate reporting for genital warts and urethritis.
- Variables: place of residence, clinic/physician type, date of onset, date of diagnosis, place of diagnosis, gender, age, probable route of transmission, site of infection, nationality/country of birth, IDU, reason for testing, country where infection was contracted, sexual orientation.

Sentinel

None

Laboratory test reporting

Mandatory universal (since 1999)

- It is obligatory for public labs to participate in this surveillance.
- Diseases covered: syphilis, gonorrhoea and chlamydia.
- Coverage: it is estimated that all positive test results for STI in the country are reported in this system.
- Individual level reporting.
- Can be linked to case reports.
- Variables: place of residence, clinic/physician type, date of diagnosis, place of diagnosis, gender, age, reason for testing, site of infection, all clinical data from the clinician to laboratory.
- Gonorrhoea AMR testing is undertaken for all isolates.

Ireland

Two data sources are used for reporting of STI data from Ireland:

- IE-AGGR_STI: used to report aggregated data on chlamydia, gonorrhoea and LGV. The system is comprehensive, compulsory, has national coverage and collects data reported by clinicians, laboratories and hospitals;
- IE-SYPHILIS: used to report case-based data on syphilis and congenital syphilis. The system is comprehensive, compulsory, has national coverage and collects data reported by clinicians, laboratories and hospitals.

Both systems use EU-2002 case-definitions.

Case reporting

Mandatory universal (since 1981)

- Diseases covered: syphilis, congenital syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, urethritis, chancroid, granuloma inguinale, infectious hepatitis B, LGV, trichomoniasis.
- Coverage: national.
- Laboratory confirmation: not required.
- Aggregate reporting, except for syphilis and congenital syphilis, which are case-based.
- Variables: disease, quarter of notification, age group, gender, geographical area.

Enhanced

- Diseases covered: syphilis and congenital syphilis (since 2000).
- Coverage: national.
- Laboratory confirmation: required for syphilis.
- Variables: date of birth, age, gender, country of birth, country of residence, place of residence, source of referral, syphilis stage, place of diagnosis, date of diagnosis, re-infection or not, testing history, treatment history, diagnosis and treatment abroad, concurrent STI, history STI, HIV status, sexual orientation, country of infection, number of sexual contacts in prior 12 months, gender of partners, mode of acquisition.

Laboratory test reporting

Mandatory universal (since 2004)

- Diseases covered: syphilis, congenital syphilis, gonorrhoea, chlamydia, genital herpes, chancroid, granuloma inguinale, infectious hepatitis B, LGV, trichomoniasis.
- Coverage: national.
- Aggregate reporting, except for syphilis and congenital syphilis, which are case-based.
- Variables: as reported above in case reporting section.

Italy

Italy reports STI data to TESSy through one data source:

- IT-NRS: a comprehensive, compulsory system that has national coverage and provides case-based data for gonorrhoea and syphilis. Data is reported by hospitals and clinicians. The case-definitions applied have not been reported.

Case reporting

Mandatory universal (since 1956)

- Diseases covered: syphilis and gonorrhoea (congenital syphilis).
- Coverage: unknown. Theoretically, it is obligatory for all physicians in all settings, private and public, to report but less than 10% do.
- Laboratory confirmation is required for syphilis and gonorrhoea.
- Individual level reporting.
- Variables: place of residence, age, gender, country of birth.

Sentinel (since 1991)

- 12 public STI clinics participate in this system. It is a non-random sample.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, urethritis, PID.
- Coverage: 5% of STI diagnosed are reported through this system.
- Laboratory confirmation is required for syphilis, gonorrhoea and chlamydia.
- Variables: clinic/physician type, date of diagnosis, place of diagnosis, site of infection, sexual orientation, country where infection contracted, nationality, age, gender, place of residence, history of STI, HIV status, date of HIV test, number of partners in last six months, condom use, drug use.

Laboratory test reporting

Mandatory universal

None

Voluntary sentinel (since 2009)

- 13 large public laboratories located in major cities report to this system.
- Diseases covered: gonorrhoea, chlamydia, trichomonas vaginalis.
- Individual level reporting.
- Variables collected: age, gender, nationality, site of infection, symptoms, pregnancy, use of condoms, number of partners in previous six months, stable partner in previous three months, date of diagnosis.

Latvia

Latvia reports STI data to TESSy through one data source:

- LV-BSN: used to report cases of chlamydia, gonorrhoea, syphilis and congenital syphilis. The system is case-based, comprehensive, and compulsory and has national coverage. The current EU case definitions are used.

Case reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea, chlamydia, LGV and genital HSV.
- Coverage: obligatory for all physicians in all setting, private and public.
- Laboratory confirmation: required for syphilis, gonorrhoea and chlamydia.
- Individual level reporting.
- Variables: place of residence, age, gender, date of onset, date of diagnosis, lab test used, sexual orientation etc.

Sentinel

None

Laboratory test reporting

Mandatory universal (since 2008)

- Diseases covered: syphilis, gonorrhoea, chlamydia and genital HSV.
- Individual level reporting only for positive results according to EU case definitions.
- Variables: age, gender, place of residence, date of test result, method etc.

Lithuania

One data source is used for reporting of STI data from Lithuania:

- LT-COMMUNICABLE_DISEASES: used to report cases of chlamydia, gonorrhoea, syphilis and congenital syphilis. The system is comprehensive and provides national coverage. Case-based data is reported by clinicians and reporting is compulsory. EU-2008 case-definitions are used.

Case reporting

Mandatory universal (2003)

- Diseases covered: syphilis, gonorrhoea and chlamydia, congenital syphilis.
- Coverage: it is obligatory for all physicians in all settings, private and public, to report.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: place of residence (county level), probable place where infection was contracted, date of onset, date of diagnosis, date of notification, place of diagnosis, gender, age, education, probable route of transmission, reason for testing, sex worker contact in six months, number of partners in 12 months, condom use.

Sentinel

None

Laboratory test reporting

Mandatory universal

None

Voluntary universal

None

Luxembourg

Luxembourg reports STI data to TESSy through two data sources:

- LU-CHLAMYDIA: a sentinel, voluntary system reporting case-based data from laboratories and hospitals. The system does not have national coverage. The case-definitions in use are not reported.
- LU-SYSTEM1: a comprehensive, case-based, compulsory notification system. Data is reported by clinicians. Geographical coverage is not reported. No case-definitions are applied.

Malta

Malta reports STI data to TESSy through one data source:

- MT-DISEASE_SURVEILLANCE: the system is used for reporting case-based data for chlamydia, LGV, gonorrhoea, syphilis and congenital syphilis. Data is reported by clinicians, laboratories and hospitals (also by other sources for chlamydia, gonorrhoea and syphilis). The system is compulsory and comprehensive and applies EU-2008 case definitions. Geographical coverage is not reported.

Case reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea and chlamydia (congenital syphilis).
- Coverage: unknown. Theoretically, it is obligatory for all physicians in all settings, private and public, to report.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: place of residence, clinic/physician type, date of diagnosis, place of diagnosis, gender, age.

Sentinel

None

Laboratory test reporting

Mandatory universal

- All laboratories participate in this surveillance.
- Diseases covered: syphilis, gonorrhoea and chlamydia.
- Coverage: it is estimated that 76–99% of all positive test results for STI in the country are reported in this system.
- Individual level reporting.
- Can be linked to case reports but not always.
- Variables: sex, age, mode of transmission, clinic/physician type, site of infection, date report is issued.

Netherlands

STI are reported to TESSy through one data source:

- NL-STI: a system that covers chlamydia, gonorrhoea, syphilis and LGV. This sentinel surveillance system covers all STI centres in the country, which has national coverage, but is selective for the more high-risk population by triage according to a fixed set of criteria (i.e. young age, MSM, risk behaviour, having STI symptoms, notification, ethnic origin from countries with generalised HIV epidemics). All clients are tested for chlamydia, gonorrhoea, syphilis, HIV; other tests are done on indication. The surveillance system collects case-based data regarding the diagnosis, with national case-definitions applied (laboratory confirmation), as well as demographic and behavioural data.

Case reporting

Sentinel (since 2006)

- Eight STI regions report, representing all 36 Municipal Health Services.
- Diseases covered: syphilis, gonorrhoea, chlamydia, HIV, hepatitis B and C, genital herpes, genital warts, trichomoniasis, non–specific urethritis, LGV.
- Coverage: national
- Laboratory confirmation: required for syphilis, gonorrhoea, chlamydia, LGV, HIV and hepatitis.
- Variables: place of diagnosis, date of diagnosis, sex, age, place of residence, ethnic origin (by country of birth or parent's country of birth, reason for testing, sexual orientation, history of STI, sex worker, contact with sex worker, IDU, HIV status, date of HIV test, number of partners in last six months, condom use at last sexual contact, lab test, site of infection, AMR.

Laboratory test reporting

Mandatory

None

Sentinel

None

Norway

The data source MSIS is used to report cases of chlamydia, gonorrhoea, syphilis and congenital syphilis to TESSy.

- NO-MSIS_B: this data source provides data for gonorrhoea, syphilis and congenital syphilis. For gonorrhoea and syphilis, the system is reported as being comprehensive and case-based, collecting reports from clinicians, laboratories and hospitals. Notification is compulsory. For congenital syphilis, features of the data source are not reported.
- NO-MSIS_CHLAMYDIA: the data source is used to report data on chlamydia. The system is comprehensive, compulsory and collects case-based data from laboratories (since 2005).

The system is case-based and comprehensive. Data is collected from clinicians (gonorrhoea and syphilis) and laboratories (chlamydia, gonorrhoea and syphilis) and reporting is compulsory.

Case reporting

Mandatory universal (since 1922):

- Diseases covered: syphilis and gonorrhoea.
- Coverage: >95%.
- EU-case definitions 2008 are used.
- Individual level reporting.
- Variables: place of residence, date of onset, date of diagnosis, place of diagnosis, gender, age, nationality/country of birth, clinic type, a/symptomatic, reason for testing, site of infection, route of transmission, place/country of infection, relation to source partner.

Sentinel

None

Laboratory test reporting

Mandatory universal

- Diseases covered: chlamydia, syphilis, and gonorrhoea.
- Coverage: >95%.
- Individual level reporting for all three STI (chlamydia since 2005).
- Case definition for chlamydia: one or more positive tests for chlamydia within a period of 60 days.
- Aggregate data on total number of tests per year for chlamydia.
- Variables:
  - chlamydia: birth year, sex, municipality of living, data of diagnosis, reporting laboratory.
  - gonorrhoea/syphilis: age, gender, date of sending the report, reporting laboratory, reporting form unique ID number.
- Gonorrhea AMR testing (PPNG, kinolon) is undertaken for all isolates

Sentinel

None

Poland

Poland report STI data to TESSy through one data source:

- PL-NATIONAL_SURVEILLANCE: a comprehensive system used for reporting of chlamydia, gonorrhoea, syphilis and congenital syphilis. Cases are reported by clinicians and laboratories. Reporting is compulsory. The case-definitions in use and geographical coverage are not reported. The system is reported as being case-based, however, only aggregate data is reported to TESSy.

Case reporting

Mandatory universal (since 1961, modified in 2000, new regulations expected in 2007)

- All doctors (in theory), mainly STI units (in practice) report.
- Diseases covered: syphilis and gonorrhoea.
- Coverage: estimated as 70–80%.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: gender, birth date, place of residence, clinical symptoms, laboratory test results, date of possible infection, place of possible infection, possible contact, history of STI.

Sentinel (since 2003)

- A network of local STI clinics (16 in the country) with central unit (Centre of Diagnostics and Treatment of STI, Warsaw Medical University); system of reporting to local health offices and, in parallel, to the central unit in Warsaw.
- Mainly local STI units (also selected private practitioners) report
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, urethritis
- Coverage: estimated as 60-70%
- Laboratory confirmation required for syphilis, gonorrhoea and chlamydia
- Both individual and aggregate reporting
- Variables: Date of consultation, gender, birth date, place of residence, clinical symptoms, laboratory test results, date of possible infection, place of possible infection, possible contact, gender of partner/s, history of STIs, HIV status, nationality, condom use, drug use

Laboratory test reporting

Mandatory universal (since 1961, modified in 2000, new regulations expected in 2007)

- All laboratories (in theory), laboratories specialised in diagnostics of infectious disease (in practice) report.
- Disease covered: syphilis.
- Coverage: about 80%.
- Individual level reporting.
- Can be linked to case reports.
- Variables: see above.

Portugal

Portugal reports STI data to TESSy through three data sources:

- PT-GONOCOCCAL: used to report data on gonorrhoea.
- PT-SYPHILIS: used to report data on syphilis.
- PT-CONGENITAL_SYPHILIS: used to report data on congenital syphilis.

All three systems are comprehensive, compulsory and have national coverage. Case-based data is reported by clinicians. National case-definitions are applied.

Case reporting

Mandatory universal (since 1950)

- Diseases covered: syphilis, gonorrhoea and congenital syphilis.
- Coverage: unknown. Theoretically it is obligatory for all physicians in all settings, private and public, to report.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: place of residence, date of onset, date of reporting, gender, age (birth date), probable route of transmission.

Sentinel (since 2002)

- Surveillance is done by Grupo de Estudo e Investigação das Doenças Sexualmente Transmissíveis (GEIDST).
- Diseases covered: syphilis, gonorrhoea, chlamydia and genital herpes (HPV, trichomoniasis, urethritis, chancroid, molluscum, pediculosis, HBV, HCV).
- Coverage: unknown.
- Laboratory confirmation: required for syphilis, gonorrhoea and chlamydia.
- Individual level reporting.
- Variables: place of residence, date of diagnosis, gender, age (birth date), school level, country of birth/ nationality, clinic type, reason for testing, site of infection, concurrent STI, HIV status, sexual orientation, number of partners in six months, drug use, sex worker.

Laboratory test reporting

None

Gonorrhoea AMR testing is undertaken for all isolates in reference lab.

Romania

One data source is used to report data on STI from Romania:

- RO-RNSSy: reports aggregate data on chlamydia, gonorrhoea, syphilis and congenital syphilis. The system is comprehensive, compulsory and has national coverage. Data is reported by hospitals using EU-2008 case definitions.

Slovakia

Slovakia uses one data source to report STI to TESSy:

- SK-EPIS: a system that covers reporting of syphilis, congenital syphilis, gonorrhoea and chlamydia. Collects case-based data from hospitals, laboratories and clinicians, has national coverage and is compulsory. EU-2008 case definitions are used.

Case reporting

Mandatory universal (since 1945)

- Diseases covered: syphilis, gonorrhoea (since 1945), LGV (since 1960), chlamydia (since 2006).
- Coverage: reporting is obligatory for all physicians in all setting. It is estimated that overall 90% of syphilis cases and 70–80% of gonorrhoea cases are reported in this system.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: date of birth, gender, permanent address, citizenship, country of birth, profession, marital status, sexual partners, history of STI, date of onset, date of diagnosis, site of infection, date of notification, laboratory test results.

Sentinel

None

Laboratory test reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea and chlamydia (since 2006).
- Coverage: it is estimated that about 50% of positive test results for STI are reported in this system.
- Individual level reporting.
- Can be linked to case reports.

Slovenia

Slovenia reports STI data through one data source:

- SI-SPOSUR: a system used for reporting of cases of chlamydia, LGV, gonorrhoea, syphilis and congenital syphilis.

The system is comprehensive, compulsory and provides national coverage. Case-based data is reported by clinicians. EU-2008 case-definitions are applied.

Case reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea (since 1948), chlamydia, genital herpes, genital warts (since 1995).
- Coverage: theoretically, it is obligatory for all physicians in all settings, private and public, to report. All 11 STI/DV clinics report. It is estimated that overall 76–99% of diagnosed syphilis cases are reported in this system. There is no data available on the actual proportion of doctors that report.
- Laboratory confirmation: required for syphilis, gonorrhoea and chlamydia.
- Individual level reporting.
- Variables: Soundex code, date of birth, gender, administrative unit (i.e. region), citizenship, country of birth, profession, marital status, previous STI, if yes year of last diagnosis, number of sexual partners last three months – male and female, number of sexual partners foreigners last three months – male and female (citizenship of partners; sex in which countries), paid for sex last three months – number of male and female partners, date of diagnosis, date of notification, clinic/physician type (i.e. speciality), place of notification.

Sentinel

None

Laboratory test reporting

None

Gonorrhoea AMR testing is undertaken for all isolates.

Spain

Spain has two data sources reporting STI data to TESSy:

- ES-MICROBIOLOGICAL: is a sentinel laboratory, case-based, voluntary system for chlamydia, gonorrhoea and syphilis and uses EU-2008 case definitions.
- ES-STATUTORY_DISEASES: is a comprehensive, compulsory, clinician-based system reporting aggregate data for gonorrhoea and syphilis and case-based data for congenital syphilis. National case-definitions are used and it has a national (country-wide) coverage.

Case reporting

Mandatory universal (since 1982)

- Diseases covered: syphilis and gonorrhoea.
- Coverage: reporting is compulsory for all physicians in all settings, private and public. Underreporting is unknown.
- Laboratory confirmation: not required.
- Aggregate reporting.
- Variables: number of cases, province and region.

Mandatory universal (since 1997)

- Diseases covered: congenital syphilis.
- Coverage: reporting is compulsory for all physicians in all settings, private and public. Underreporting is unknown.
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: sex, age, date of diagnosis, outcome, date of death, HIV status of the mother, province and region of notification, other variables.

Sentinel

- STI sentinel is implemented in July 2005: 14 centres of diagnosis and treatment in 13 cities.
- Disease covered: syphilis and gonorrhoea.
- Coverage: around 20% of all syphilis cases and 30% of all gonorrhoea cases declared to the mandatory system (period 2006–2008).
- Laboratory confirmation: required.
- Individual level reporting.
- Variables: clinic type, reason for testing, site of infection, date of diagnosis, place of diagnosis, age, gender, country of birth/nationality, concurrent STI, HIV status, history of STI, country where infection contracted, transmission route, sex worker contact, number of partners in 12 months, sexual contact with HIV positive partner.

Laboratory test reporting

Sentinel reporting

- Sistema de Información Microbiológica (SIM) since 1989.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes.
- Individual level reporting.
- Variables: sex, age, specimen type.

Sweden

Sweden uses one data source to report STI to TESSy:

- SMINET: a comprehensive system that collects case-based data on chlamydia, gonorrhoea, syphilis and congenital syphilis from laboratories; is compulsory and has national coverage. EU-2008 case definitions are used.

Case reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea (since 1912), chlamydia (since 1988) and congenital syphilis.
- Coverage: >90 %.
- Laboratory confirmation: required.
- Individual level reporting n.
- Variables: place of residence, date of onset, date of diagnosis, place of diagnosis, gender, age, nationality/country of birth, clinic type, a/symptomatic, reason for testing, site of infection, imported, country, route of transmission.

Sentinel

None

Laboratory test reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea and chlamydia (since 2004).
- Coverage: it is estimated that >95% of all positive test results for STI in the country are reported in this system.
- Aggregate total test data for gonorrhoea and chlamydia.
- Variables: clinic/physician type, gender, age.
- Can NOT be linked to case reports.
- Gonorrhoea AMR testing is undertaken for all isolates.

United Kingdom

The UK uses three data sources to reports STI to TESSy:

- UK-GUM: to report gonorrhoea, syphilis and congenital syphilis. This system collects data on diagnoses made in all genitourinary medicine (GUM – also known as STI) clinics across the UK and reporting is mandatory. GUM clinics have comprehensive coverage but some STI may be diagnosed in other settings.
- UK-GUM-COM: to report chlamydia. This system is comprehensive and collects data on all diagnoses of chlamydia made in GUM clinics and community-based test settings across the UK. UK-GUM-COM data are provided by GUM clinics, community-based testing sites and laboratories but reporting is only part-mandatory.
- UK-LGV: to report LGV. This system collects enhanced surveillance data on all LGV diagnoses made in the UK. Reporting is comprehensive and voluntary. Data are provided by the UK LGV reference laboratories and physicians.

These sources report confirmed diagnoses and provide aggregated data.

Case reporting

Mandatory universal (since 1917) – UK-GUM

- Diseases covered: any condition diagnosed in a GUM clinic including syphilis, congenital syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, trichomonas.
- Coverage: comprehensive for GUM clinics but some STI may be diagnosed in other settings. All syphilis and most gonorrhoea diagnoses are confirmed by GUM clinics, whereas most chlamydia diagnoses are made in community-based test settings.
- Laboratory confirmation: required.
- Data format: aggregated.
- Variables: local geographic area, gender, age group, sexual orientation.

Voluntary universal

- Diseases covered: chlamydia and LGV.
- Coverage: comprehensive.
- Laboratory confirmation: required.
- Data format: aggregated.
- Variables: local geographic area, gender, age group plus extensive enhanced variable collection for LGV.

Sentinel

None

Laboratory test reporting

Mandatory universal

None

Voluntary universal

- Diseases covered: chlamydia.
- Coverage: comprehensive.
- Laboratory confirmation: required.
- Data format: aggregated.
- Variables: local geographic area, gender, age group.

Annex 2: Enhanced set of variables for STI surveillance

Variable name	Syphilis	Gonorrhoea	Chlamydia	LGV	Congenital syphilis
Common set of variables					
1. RecordID	√	√	√	√	√
2. RecordType	√	√	√	√	√
3. RecordTypeVersion	√	√	√	√	√
4. Subject	√	√	√	√	√
5. Status	√	√	√	√	√
6. Data source	√	√	√	√	√
7. Age	√	√	√	√	√
8. Gender	√	√	√	√	√
9. Outcome	NA	NA	NA	NA	√
10. DateofOnset	√	√	√	√	√
11. DateOfDiagnosis	√	√	√	√	√
12. DateOfNotification	√	√	√	√	√
13. DateUsedForStatistics	√	√	√	√	√
14. ReportingCountry	√	√	√	√	√
15. Classification	√	√	√	√	√
16. ClinicalCriteria	NA	NA	NA	NA	NA
17. LaboratoryResult	√	√	√	√	√
18. EpiLinked	NA	NA	NA	NA	NA
Disease-specific variables					
19. ClinicalServiceType	√	√	√	√	
20. CountryOfBirth	√	√		√	√
21. CountryOfNationality	√	√		√	
22. ProbableCountryOfInfection	√	√		√	
23. Transmission	√	√	√	√	
24. HIVStatus	√	√	√	√	
25. SexWorker	√	√		√	
26. ContactSW	√	√		√	
27. SiteOfInfection	√	√	√	√	
28. StagesSYPH	√				
29. StagesSYPHdetailed	√				
30. CountryOfBirthOfMother					√
31. CountryOfNationalityOfMother					√
32. AgeMonth					√

NA: not applicable

Annex 3: Case definitions for STI

Source: Commission Decision of 28/IV/2008 amending Decision 2002/253/EC laying down case definitions for reporting communicable diseases to the Community network under Decision No 2119/98/EC of the European Parliament and of the Council

Chlamydial infection

(*Chlamydia trachomatis* including lymphogranuloma venereum (LGV))

Clinical criteria

Any person with at least one of the following clinical forms:

Chlamydial infection non-LGV

At least one of the following six:

- Urethritis
- Epididymitis
- Acute salpingitis
- Acute endometritis
- Cervicitis
- Proctitis

In newborn children, at least one of the following two:

- Conjunctivitis
- Pneumonia

Lymphogranuloma venereum (LGV)

At least one of the following five:

- Urethritis
- Genital ulcer
- Inguinal lymphadenopathy
- Cervicitis
- Proctitis

Laboratory criteria

Chlamydial infection non-LGV

At least one of the following three:

1. Isolation of *Chlamydia trachomatis* from a specimen of the anogenital tract or from the conjunctiva
2. Demonstration of *Chlamydia trachomatis* by DFA test in a clinical specimen
3. Detection of *Chlamydia trachomatis* nucleic acid in a clinical specimen

LGV

At least one of the following two:

- Isolation of *Chlamydia trachomatis* from a specimen of the anogenital tract or from the conjunctiva
- Detection of *Chlamydia trachomatis* nucleic acid in a clinical specimen

AND

- Identification of serovar (genovar) L1, L2 or L3

Epidemiological criteria

An epidemiological link by human-to-human transmission (sexual contact or vertical transmission)

Case classification

A. Possible case: NA

B. Probable case: Any person meeting the clinical criteria and with an epidemiological link

C. Confirmed case: Any person meeting the laboratory criteria

Gonorrhoea

(*Neisseria gonorrhoeae*)

Clinical criteria

Any person with at least one of the following eight:

- Urethritis
- Acute salpingitis
- Pelvic inflammatory disease
- Cervicitis
- Epididymitis
- Proctitis
- Pharyngitis
- Arthritis

OR

- Any newborn child with conjunctivitis

Laboratory criteria

At least one of the following four:

- Isolation of *Neisseria gonorrhoeae* from a clinical specimen
- Detection of *Neisseria gonorrhoeae* nucleic acid in a clinical specimen
- Demonstration of *Neisseria gonorrhoeae* by a non-amplified nucleic acid probe test in a clinical specimen
- Microscopic detection of intracellular Gram-negative diploccocci in an urethral male specimen

Epidemiological criteria

An epidemiological link by human-to-human transmission (sexual contact or vertical transmission)

Case classification

A. Possible case: NA

B. Probable case: Any person meeting the clinical criteria and with an epidemiological link

C. Confirmed case: Any person meeting the laboratory criteria

Syphilis

(*Treponema pallidum*)

Clinical criteria

Primary syphilis

Any person with one or several (usually painless) chancres in the genital, perineal, anal area or mouth or pharyngeal mucosa or elsewhere extragenitally

Secondary syphilis

Any person with at least one of the following three:

- Diffuse maculo-papular rash often involving palms and soles
- Generalised lymphadenopathy
- Condyloma lata
- Enanthema
- Allopetia diffusa

Early latent syphilis (< 1 year)

A history of symptoms compatible with those of the earlier stages of syphilis within the previous 12 months

Late latent syphilis (> 1 year)

Any person meeting laboratory criteria (specific serological tests)

Laboratory criteria

At least one of the following four laboratory tests:

- Demonstration of *Treponema pallidum* in lesion exudates or tissues by dark-field microscopic examination
- Demonstration of *Treponema pallidum* in lesion exudates or tissues by DFA test
- Demonstration of Treponema in lesion exudates or tissues by PCR
- Detection of *Treponema pallidum* antibodies by screening test (TPHA, TPPA or EIA)

AND

- detection of Tp-IgM antibodies (by IgM-ELISA, IgM immunoblot or 19S-IgM-FTA-abs) – confirmed by a second IgM assay

Epidemiological criteria

Primary/secondary syphilis

An epidemiological link by human-to-human (sexual contact)

Early latent syphilis (< 1 year)

An epidemiological link by human-to-human (sexual contact) within the 12 previous months

Case classification

A. Possible case: NA

B. Probable case: Any person meeting the clinical criteria and with an epidemiological link

C. Confirmed case: Any person meeting the laboratory criteria for case confirmation

Syphilis, congenital and neonatal

(*Treponema pallidum*)

Clinical criteria

Any infant ‹ 2 years of age with at least one of the following:

- Hepatospenomegaly
- Mucocutaneous lesions
- Condyloma lata
- Persistent rhinitis
- Jaundice
- Pseudoparalysis (due to periostitis and osteochondritis)
- Central nervous involvement
- Anaemia
- Nephrotic syndrome
- Malnutrition

Laboratory criteria

Laboratory criteria for case confirmation

At least one of the following three:

- Demonstration of *Treponema pallidum* by dark field microscopy in the umbilical cord, the placenta, a nasal discharge or skin lesion material
- Demonstration of *Treponema pallidum* by DFA-TP in the umbilical cord, the placenta, a nasal discharge or skin lesion material
- Detection of *Treponema pallidum*-specific IgM (FTA-abs, EIA)

AND

- a reactive non-treponemal test (VDRL, RPR) in the child's serum

Laboratory criteria for a probable case

At least one of the following three:

- Reactive VDRL-CSF test result
- Reactive non-treponemal and treponemal serologic tests in the mother's serum
- Infant's non-treponemal antibody titre is fourfold or greater than the antibody titre in the mother's serum

Epidemiological criteria

Any infant with an epidemiological link by human-to-human transmission (vertical transmission)

Case classification

A. Possible case: NA

B. Probable case: Any infant or child meeting the clinical criteria and with at least one of the following two:
   - An epidemiological link
   - Meeting the laboratory criteria for a probable case

C. Confirmed case: Any infant meeting the laboratory criteria for case confirmation

Annex 4: Completeness of reporting

	Completeness (%)			2000			2009		
	Total	1999–2000	2000–2009	Countries	Min	Max	Countries	Min	Max
Chlamydia									
Age	94.4	83.7	98.1	9	84.8	100.0	21	87.5	100.0
Gender	95.5	83.4	99.6	10	66.7	100.0	22	66.7	100.0
Classification	99.9	100.0	99.9	10	100.0	100.0	21	100.0	100.0
ClinicalServiceType	9.9	0.4	13.2	2	63.0	99.6	9	0.2	100.0
Transmission	13.4	3.8	16.7	1	94.2	94.2	9	64.5	100.0
HIVStatus	0.8	-	1.1	-	-	-	3	0.2	59.8
SiteOfInfection	9.4	0.2	12.6	2	95.7	97.4	7	99.2	100.0
Gonorrhoea									
Age	80.7	72.6	91.1	13	87.5	100.0	24	83.3	100.0
Gender	81.7	71.8	94.5	15	66.7	100.0	27	75.0	100.0
ClinicalServiceType	2.4	0.0	5.5	2	10.0	99.4	12	3.2	100.0
CountryOfBirth	3.8	0.2	8.3	3	93.4	100.0	11	0.9	100.0
CountryOfNationality	0.5	-	1.2	1	97.8	97.8	7	0.9	100.0
ProbableCountryOfInfection	6.3	0.9	13.2	3	81.5	94.5	10	0.9	100.0
Transmission	11.5	2.5	23.0	4	33.3	98.7	17	0.8	100.0
HIVStatus	2.6	0.2	5.8	2	81.1	81.8	7	1.0	100.0
SexWorker	2.2	0.0	4.9	2	2.0	97.4	7	0.8	100.0
ContactSW	1.9	-	4.3	1	87.7	87.7	8	0.2	99.4
SiteOfInfection	2.7	-	6.2	-	-	-	12	0.8	100.0
Syphilis									
Age	77.6	69.4	82.8	14	87.5	100.0	26	87.5	100.0
Gender	83.6	75.5	89.0	15	66.7	100.0	27	66.7	100.0
ClinicalServiceType	2.5	-	4.1	2	97.8	100.0	11	85.6	100.0
CountryOfBirth	9.2	0.1	15.2	4	83.9	100.0	12	40.8	100.0
CountryOfNationality	0.8	-	1.3	1	99.0	99.0	6	87.6	100.0
ProbableCountryOfInfection	7.2	0.1	11.8	4	22.2	86.7	10	17.7	100.0
Transmission	10.6	0.2	17.4	6	33.3	100.0	15	46.7	100.0
HIVStatus	3.3	0.0	5.5	4	56.1	94.6	10	1.8	100.0
SexWorker	2.1	0.0	3.4	3	3.2	92.9	6	1.0	100.0
ContactSW	1.8	-	2.9	2	6.5	57.1	8	0.6	94.0
StageSYPH	0.0	-	0.0	1	2.2	2.2	1	100.0	100.0
StageSYPHdetailed	4.2	0.1	6.8	4	33.3	100.0	12	33.3	100.0

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European Centre for Disease Prevention and Control (ECDC)

Postal address:
ECDC, 171 83 Stockholm, Sweden

Visiting address:
Tomtebodavägen 11A, Solna, Sweden

Phone +46 (0)8 58 60 1000
Fax +46 (0)8 58 60 1001
www.ecdc.europa.eu

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