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EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

SURVEILLANCE REPORT

Sexually transmitted infections in Europe

2012

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2012

This report of the European Centre for Disease Prevention and Control (ECDC) was coordinated and written by Gianfranco Spiteri.

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Abbreviations

CSW	Commercial sex worker
ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
ESSTI	European Surveillance of Sexually Transmitted Infections
EU	European Union
LGV	Lymphogranuloma venereum
MSM	Men who have sex with men
NAAT	Nucleic acid amplification tests
STI	Sexually transmitted infection
TESSy	The European Surveillance System

Summary

This ECDC surveillance report on sexually transmitted infections (STIs) in Europe covers the years 2003 to 2012 and describes the epidemiological features and basic trends of the five STIs under EU surveillance: chlamydia, gonorrhoea, syphilis, congenital syphilis and lymphogranuloma venereum.

Chlamydia remains the most frequently reported STI in Europe, accounting for the majority of all STI cases reported. In 2012, 385 307 cases of chlamydia were reported in 26 EU/EEA Member States, an overall notification rate of 184 per 100 000 population. Chlamydia was reported more frequently in women than in men, with a rate of 211 per 100 000 in women and 153 in men. The true incidence of chlamydia is likely to be considerably higher as differences in testing methods and coverage, screening programmes and surveillance systems across Europe mean that many diagnoses are not made or not reported; in fact, 84 % of all cases have been reported by four countries (Denmark, Norway, Sweden and the United Kingdom). More than two thirds (68 %) of all cases were reported in young people between 15 and 24 years of age, and 88 % of cases were reportedly due to heterosexual transmission. The age and gender distribution of cases is significantly affected by testing and screening practices in the United Kingdom, which reports 62 % of cases overall and targets young people in its screening programme. Overall, the number of chlamydia cases has increased over the last decade, while rates seem to have stabilised over the last four years. Among those countries that reported consistently between 2003 and 2012, the overall reporting rate has increased by 90 %, from 182 per 100 000 population in 2003 to 345 per 100 000 in 2012. This is most likely due to increased case detection, improved diagnostic tools, improved surveillance systems and the introduction of chlamydia screening programmes in a few countries. Decreasing or low rates may reflect changes in healthcare systems or the lack of accurate diagnostic tools or diagnostic capacity rather than a genuinely low prevalence of chlamydia.

In 2012, 47 387 gonorrhoea cases were reported in 29 EU/EEA Member States (no data were available from Germany and Liechtenstein), an overall notification rate of 15.3 per 100 000 population. As opposed to chlamydia, gonorrhoea was reported three times more often in men than in women, with a rate of 25.7 per 100 000 in men and 9.2 in women. Young people between 15 and 24 years of age accounted for 41 % of all gonorrhoea cases. More than a third of all gonorrhoea cases in 2012 (38 %) were reported in men who have sex with men (MSM). Since 2008, the overall rate has increased by 62 %, and trends show an increase for most EU/EEA Member States. Increasing rates appear to be mainly due to increased diagnoses among men and among MSM in particular.

Syphilis data were reported in 30 EU/EEA Member States in 2012 (no data available from Liechtenstein); 20 802 syphilis cases were reported resulting in an overall notification rate of 5.1 per 100 000 population. Syphilis was also reported almost four times more often in men than in women, with an overall rate of 7.7 per 100 000 in men and 1.7 in women. Only 15 % of cases reported in 2012 were among young people between 15 and 24 years of age; the majority of cases were reported in people 25 years and older. Close to half (48 %) of the syphilis cases were reported in MSM. After a long-term decreasing trend, overall rates are now stable but appear to have started increasing among males. A number of countries reported increasing trends between 2008 and 2012.

In 2012, 101 cases of congenital syphilis cases were reported in 11 countries. Twelve countries reported zero cases. The majority of the cases were reported from Bulgaria, Poland and Portugal. Between 2003 and 2012, 1 236 cases of congenital syphilis were reported in 24 countries, with varying degrees of completeness. Following a decreasing trend, the notification rate has stabilised since 2006. The number of reported cases from Poland and Portugal, however, increased between 2011 and 2012. The effectiveness of national syphilis antenatal screening programmes is being investigated in an ECDC project.

In 2012, 830 cases of lymphogranuloma venereum (LGV) were reported in eight countries. From 2003 to 2012, 2 824 cases of LGV were reported in eight countries: Belgium, the Czech Republic, Finland, France, Hungary, Ireland, the Netherlands and the United Kingdom. Of the cases with known mode of transmission, all but one were reported among MSM, and 71 % of the cases with known HIV status were HIV positive. The number of reported LGV cases increased by 16 % in 2012 over 2011, mainly due to increased numbers from the Netherlands.

These results show that young adults and MSM continue to be the key vulnerable groups for STIs in the EU/EEA. The contribution of young adults is more important for chlamydia and gonorrhoea, although targeting of chlamydia testing to young adults affects these rates. MSM account for a larger proportion of the burden of gonorrhoea and syphilis. Based on reported rates among males and high male-to-female ratios, the contribution of MSM is likely to be underreported in many countries. Prevention messages targeting these groups need to be reinforced.

There are marked differences in trends across the EU/EEA Member States. The overall trends in gonorrhoea and syphilis over the past decade were initially decreasing, but have more recently stabilised or started increasing again, particularly among males. Chlamydia rates showed a continuously increasing trend, which is

now stabilising, perhaps reflecting an increase in testing and changing screening practices in a number of countries.

These trends must be interpreted with caution due to the heterogeneity between reporting and healthcare systems in EU/EEA Member States. A further limitation to the interpretation of the epidemiological situation of STIs in EU/EEA is that many cases are either not diagnosed or not reported. In addition, cases from a number of countries cannot be included in trend analyses, as the national STI surveillance systems are not comprehensive.

Enhanced surveillance of STIs in Europe is essential to provide the information necessary to monitor the distribution of disease and evaluate the public health response to control the transmission of infections. In order to achieve this goal, countries in Europe need to ensure that surveillance data are of high quality and STI surveillance data are complemented by comprehensive case reports.

1 Chlamydia

Table A: Chlamydia: data source, type of data, surveillance period, 2012

Country	Data source	Type	Period	Legal status	Coverage
Austria	AT-STISentinella	A	2007–2008, 2011	V	Se
	AT-STISentinella	C	2009–2010	V	Se
Belgium	BE-LABNET	C	2006–2012	V	Se
Bulgaria	BG-STI	A	2010–2012	C	Co
Croatia	HR-CNIPH	A	2012–2012	C	Co
Cyprus	CY-NOTIFIED_DISEASES	C	2006–2012	C	Co
Czech Republic	–	–	–	–	–
Denmark	DK-LAB	A	1990–1999	C	Co
	DK-LAB	C	2000–2012	C	Co
Estonia	EE-HCV/CHLAMYDIA	A	1991–2007	C	Co
	EE-HCV/CHLAMYDIA	C	2008–2012	C	Co
Finland	FI-NIDR	C	2000–2012	C	Co
France	FR-RENACHLA	C	2001–2012	V	Se
Germany	–	–	–	–	–
Greece	GR-NOTIFIABLE_DISEASES*	A	2008–2012	Not specified/unknown	Co
Hungary	HU-STD SURVEILLANCE	A	2000–2012	C	Se
Iceland	IS-SUBJECT_TO_REGISTRATION	C	1997–2012	C	Co
Ireland	IE-AGGR_STI	A	1995–2012	C	Co
Italy	IT-COA ISS- STI clin	C	2007–2011	V	Se
	IT-COA_ISS_STI lab	C	2009–2012	V	Se
Latvia	LV-STI/SKIN_INFECTIONS	A	1993–2007	C	Co
	LV-BSN	C	2008–2012	C	Co
Liechtenstein	–	–	–	–	–
Lithuania	LT-COMMUNICABLE_DISEASES	A	2003–2007	C	Co
	LT-COMMUNICABLE_DISEASES	C	2008–2012	C	Co
Luxembourg	LU-SYSTEM1	A	2006–2012	C	Co
Malta	MT-DISEASE_SURVEILLANCE	C	2006–2012	C	Co
Netherlands	NL-STI	C	2004–2012	V	Se
Norway	NO-MSIS_CHLAMYDIA	C	2006–2012	C	Co
Poland	PL-NATIONAL_SURVEILLANCE	A	2006–2012	C	Co
Portugal	–	–	–	–	–
Romania	RO-RNSSy	A	2004–2009	C	Co
	RO-RNSSy	C	2010–2012	C	Co
Slovakia	SK-EPIS	C	2006–2012	C	Co
Slovenia	SI-SPOSUR	C	2006–2012	C	Co
Spain	ES-MICROBIOLOGICAL	C	1990–2012	V	Se
Sweden	SE-EpiBas	A	1990–1996	C	Co
	SE-SMINET	C	1997–2012	C	Co
United Kingdom	UK-GUM	A	1990–2007	C	Co
	UK-GUM-COM-LAB**	A	2008–2012	O	Co

Legend: type: aggregated (A); case-based (C); legal status: voluntary reporting (V), compulsory reporting (C), other (O); coverage: sentinel system (Se), comprehensive (Co)

* Greece: In 2009, a new surveillance system was introduced which is designed to be comprehensive; at present, it includes mainly data from the public health sector.

** UK-GUM-COM: Includes data from STI clinics (all ages) and community-based settings (covering only 15–24-year-olds).

1 Chlamydia

1.1 Key points

- Chlamydia continues to be the most frequently reported STI in Europe.
- In 2012, 385 307 cases of chlamydia were reported in 26 EU/EEA Member States – an overall rate of 184 per 100 000 population. Chlamydia was reported more often in women than in men, with an overall rate of 211 per 100 000 in women and 153 per 100 000 in men. The true incidence of chlamydia is likely to be considerably higher, as differences in testing methods, coverage and surveillance systems across Europe mean that many infections are either not diagnosed or not reported.
- Two thirds (68 %) of all chlamydia cases were reported in young people between 15 and 24 years of age, with the highest rates reported among women aged 20 to 24 years (1 684 cases per 100 000).
- Heterosexual transmission accounted for 88 % of cases.
- General trends in a number of countries show an increase. Among the countries reporting consistently between 2003 and 2012, the overall reporting rate has increased by 90 %, from 182 per 100 000 population in 2003 to 345 in 2012. This is most likely due to increased case detection, improved diagnostic tools, improved surveillance systems and the introduction of chlamydia screening programmes in a few countries. Decreasing or low rates may reflect changes in healthcare systems or the lack of accurate diagnostic tools or diagnostic capacity rather than a genuinely low prevalence of chlamydia.

1.2 Source of data

Chlamydia data for 2012 were reported by 26 countries and, for the first time, included Croatia and France. No data were reported by Austria, the Czech Republic, Germany, Liechtenstein and Portugal. Table A specifies the source of the data, the type of data (aggregate or case-based), coverage (sentinel or comprehensive) and surveillance period. It further shows the heterogeneity between surveillance systems as well as recent changes in systems and reporting periods.

1.3 Case reports, 2012

Demographic variables

In 2012, 385 307 cases of chlamydia were reported in 26 countries, with 84 % of all cases reported by four countries (Denmark, Norway, Sweden and the United Kingdom) (Table 1a). This resulted in an overall notification rate of 184 per 100 000 population for EU/EEA countries with comprehensive surveillance of chlamydia (Table 3). This rate is strongly affected by countries with a large population which report a relatively small number of chlamydia cases (e.g. Bulgaria, Poland and Romania). When these three countries are excluded from the calculation, the overall rate of chlamydia increases to 282 per 100 000 population. The United Kingdom continues to contribute a large proportion of reported cases: 62 % in 2012. This is due to the inclusion of data from a screening programme which has been targeting 15–24-year-olds in England since 2008. This programme offers community-based testing services outside of STI clinics and has resulted in a large increase of chlamydia diagnoses from 2008 onwards.

In 2012, rates greater than 200 cases per 100 000 were observed in Iceland (600 per 100 000 population), Denmark (473), Norway (431), Sweden (398), the United Kingdom (377) and Finland (245) (Table 3). All countries reporting rates above 200 per 100 000 had chlamydia control strategies recommending either screening (UK – England) or opportunistic screening (Denmark, Finland, Iceland, Norway, Sweden and the rest of the United Kingdom) (Table B). Rates below 10 per 100 000 were reported by eight countries (Bulgaria, Cyprus, Croatia, Greece, Lithuania, Luxembourg, Poland and Romania).

The male-to-female ratio in 2012 was 0.7:1, which means that there were 43 % more cases reported in women (n=224 656) than in men (n=157 497), most likely reflecting their different screening practices and testing possibilities. The overall rate was 153 per 100 000 in men and 211 per 100 000 in women (Table 4). The male-to-female ratios, based on the number of cases, were below or close to 1.0:1 in the majority of countries. Male-to-female ratios above 1.5:1 were reported from four countries with comprehensive systems: Malta (2.2), Poland (3), Romania (13.8) and Slovenia (2.1). These countries report a relatively small number of cases. The lowest male-to-female ratios were reported by Croatia (0.2), Estonia (0.2) and Greece (0.2), indicating five times more female than male cases (Table 2, Figure 1.1).

In 2012, information on age was not available for Ireland, and data from Poland were excluded due to incompatible formats. These countries contributed 1.7 % of all cases. The use of incompatible age formats meant that data from the following countries were excluded for certain years: Austria (2007–2008), Hungary (2007–2008), and Poland (2006–2012). Lithuania did not report information on age in 2003–2007. Age distribution should be interpreted with caution, as screening practices and testing strategies are often targeted at young people.

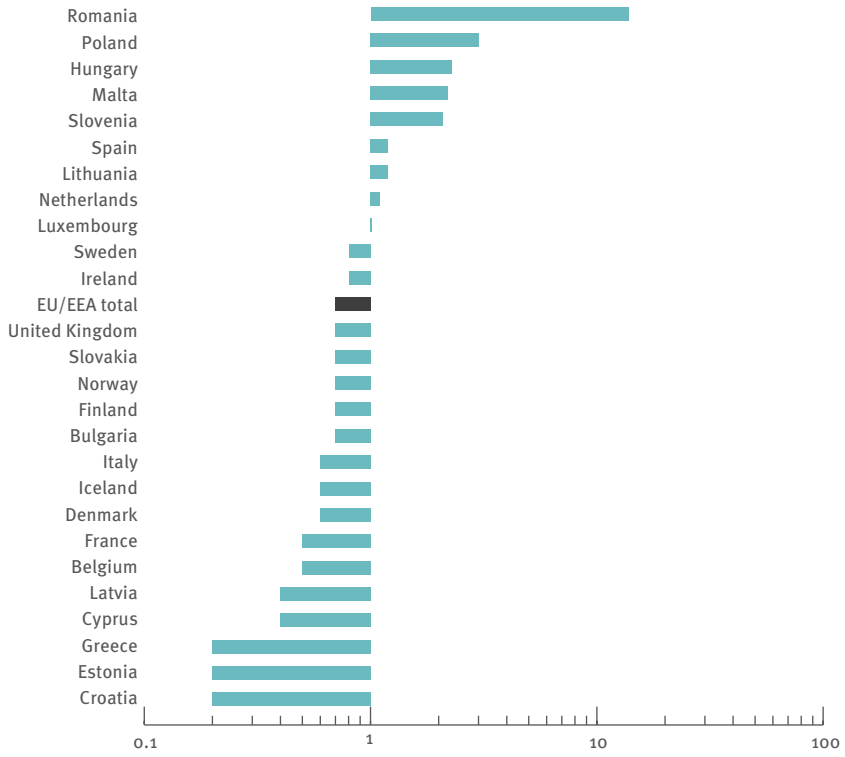
Figure 1.2 compares the age distribution for 2003 and 2012 for all countries that consistently reported age (Table 5). The age group 20–24 years was consistently

Table B: Chlamydia control activities in 28 EU/EEA countries, 2012[1]

Category	Countries
Category 1: No organised chlamydia control activity (n=6)	Ireland*, Luxembourg, Malta, Portugal, Slovakia, Slovenia
Category 2: Case management guidelines (n=3)	Belgium, Cyprus, Italy
Category 3: Case management guidelines, including partner notification (n=5)	Czech Republic, Hungary, Liechtenstein, Romania, Spain
Category 4: Opportunistic testing (n=13)	Austria, Bulgaria, Denmark, Estonia, Finland, France, Germany, Iceland, Latvia, Lithuania, Netherlands, Norway, Sweden, United Kingdom (Northern Ireland, Scotland and Wales)
Category 5: Screening programme (n=1)	UK (England)

* No case management guidelines. Opportunistic screening is a standard practice.

Figure 1.1: Chlamydia male-to-female ratio in 26 EU/EEA countries, 2012



[1] Adapted from: European Centre for Disease Prevention and Control. Chlamydia control in Europe: A survey in the Member States. Stockholm: ECDC; 2014.

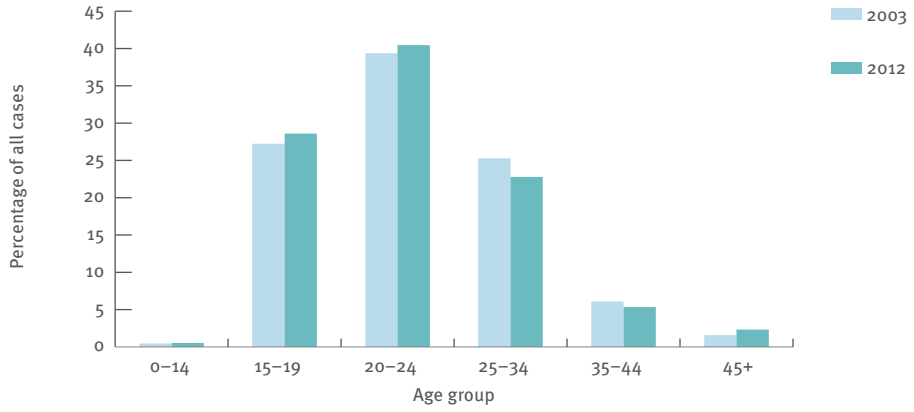
the largest, accounting for 39 % of all cases in 2003 and 40 % in 2012. The second largest group is the age group 15–19 years: 26 % in 2003, increasing to 29 % in 2012. In 2012, more than two thirds (68 %) of the 319 124 cases with known age were reported in young people between 15 and 24 years of age. Between 2003 and 2012, the age distribution appears to have shifted slightly towards the younger age groups.

This pattern is also reflected in the age-specific notification rates. The highest rates for 2012 are seen in the 20–24 year age group, with 621 cases per 100 000 reported by countries with comprehensive systems. Rates among 15–19-year-olds are also very high at 466 per 100 000 population, with females in this age group being three times more frequently affected than males. The highest overall rates were reported among women aged 15 to 24 years (15–19 years: 1665 cases per 100 000, 20–24 years: 1683 cases per 100 000 persons) (Figure 1.3). Rates in all age groups have increased since 2003, with the largest increases seen among those aged 45 and older (188 %), 15–19-year-olds (160 %) and 20–24-year-olds (152 %). Age-specific rates show different trends in recent years: since 2009, rates among 15–19-year-olds have decreased from 532 to 466 per 100 000, whereas rates among 20–24-year-olds have remained stable. Rates among persons aged 25–34, 35–44 and 45 years and older have continued to increase during this time.

Epidemiological variables

In 2012, information on transmission category was available for 45 % of reported chlamydia cases (n=175 261). The high proportion of missing data for this variable is mainly due to some of the countries with the highest numbers of reported cases (Denmark, Norway, Finland and France) not reporting on transmission. The United Kingdom reported transmission category data for 53 % of its cases and has been excluded from this particular analysis. When excluding countries that reported transmission category for less than 60 % of their cases, information was available for 55 257 cases from eight countries in 2012. Transmission category in these cases

Figure 1.2: Comparison of the percentage of chlamydia cases by age group, EU/EEA countries with comprehensive systems reporting consistently, 2003 (n=157 488) and 2012 (n=319 124)



Note: Includes data from Denmark, Estonia, Finland, Iceland, Latvia, Sweden and the United Kingdom.

Figure 1.3: Age and gender-specific rate of reported chlamydia cases per 100 000 population, EU/EEA, 2012

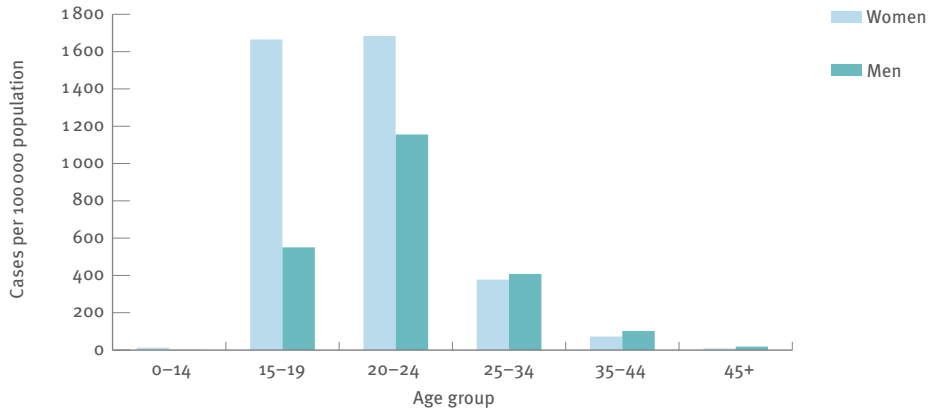
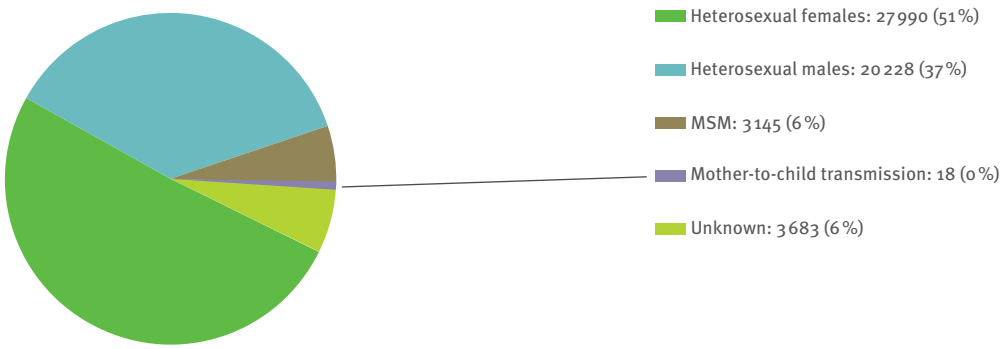
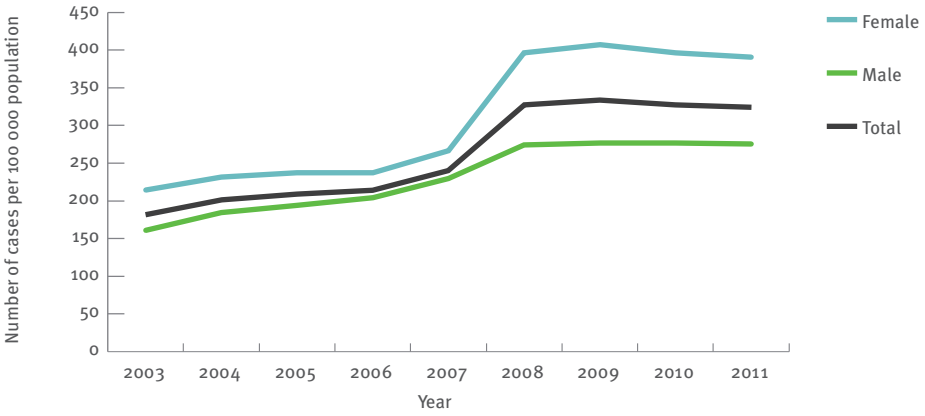


Figure 1.4: Number and percentage of chlamydia cases by transmission category and gender (n=55 257), EU/EEA, 2012



Note: Includes data from Greece, Latvia, Lithuania, Malta, the Netherlands, Romania, Slovenia and Sweden.

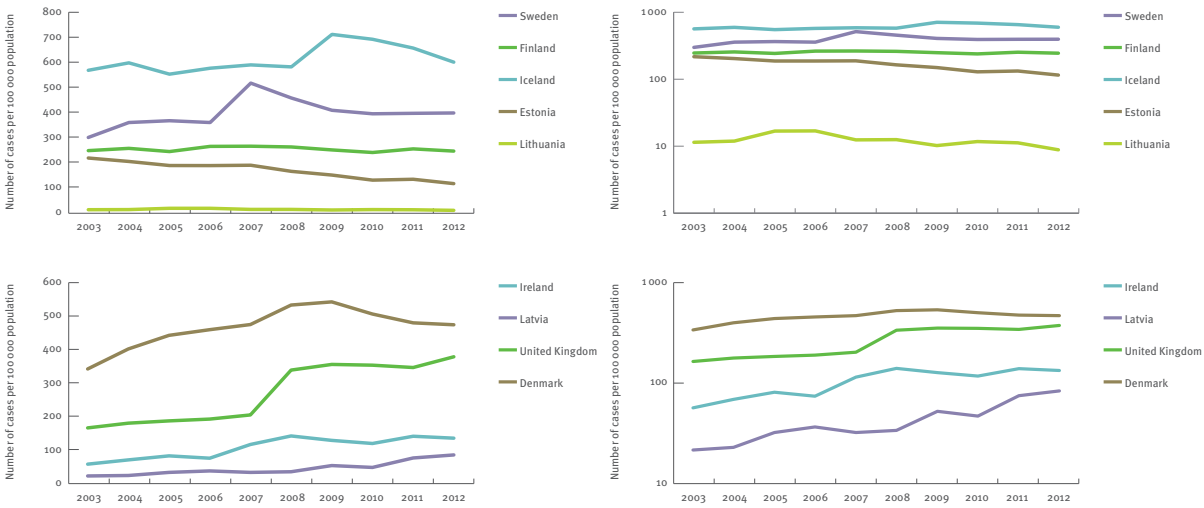
Figure 1.5: Reported chlamydia cases per 100 000 population in nine EU/EEA countries with consistent reporting, by gender, 2003–2012



Note: Countries included: Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania (only for total rate), Sweden, and the United Kingdom.

In 2008, the United Kingdom started to include data from community-based test settings in its annual reports to ECDC; prior to 2008, data were based on STI clinic diagnoses only.

Figure 1.6: Number of chlamydia cases per 100 000 population in selected EU/EEA countries, 2003–2012



(a) Arithmetic scale

(b) Logarithmic scale

Note: In 2008, the United Kingdom started to include data from community-based test settings in its annual reports to ECDC; prior to 2008, data were based on STI clinic diagnoses only.

was indicated as heterosexual for 88 %, as in MSM for 6 % and as 'unknown' for 7 % (Figure 1.4 and Table 6).

1.4 Trends 2003–2012

Between 1990 and 2012, 4 016 995 cases of chlamydia were reported from 27 countries with varying degrees of completeness over time (Table 1a). The overall rate increased from 102.1 per 100 000 in 1990 to 145.4 in 2000 and peaked at 190.3 in 2009. Since then, the overall rate has decreased slightly to 178 per 100 000 in 2011, but increased again to 184.2 in 2012. Changes in reporting rates are affected by the increasing number of countries reporting data over the years. The overall rate for countries which have reported consistently between 2003 and 2012 (Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Sweden, and the United Kingdom) has increased by 90 % from 181.6 to 344.7 per 100 000 (Figure 1.5). Trends over time for the nine countries that have reported since 2003 are shown in Figure 1.6.

Between 2008 and 2012, the overall rate has remained stable (decrease of 0.9 %), but country-specific trends varied, with countries reporting the highest rates showing increasing trends until 2009, and stable or decreasing rates thereafter (e.g. Denmark, Iceland, Sweden, United Kingdom). Other countries have reported consistently increasing trends since 2007 (e.g. Slovakia, Slovenia, Latvia and Malta), whereas a number of countries, generally those reporting low numbers or rates, have reported stable or decreasing trends (e.g. Poland, Romania) (Table 3).

An interpretation of the overall trend is difficult, mainly because of the impact of changes in testing and screening practices as well as surveillance systems. An Analysis of gender-specific trends, however, showed a consistently higher rate in women than in men. The sharp increase in 2008 can be explained by the introduction of a screening programme (targeting 15–24-year-olds) in the United Kingdom which captures data from community-based test settings as well as from STI services.

1.5 Discussion

Surveillance data suggest that the distribution of chlamydia across Europe has not changed significantly over the last few years. The picture appears to be very heterogeneous, with large variations in reported rates (from below 1 to more than 500 cases per 100 000 population) and close to 90 % of cases reported from only four countries. The highest rates (200 per 100 000 or higher) are reported by countries in the western and northern parts of the EU/EEA, with rates in the central and eastern parts (including Lithuania and Latvia) being much lower (30 or less per 100 000). All but four countries reported more female than male cases. The majority of cases were reported in young people between 15 and 24 years of age, which is probably biased by testing strategies which focus on this age group. The large majority of cases are due to heterosexual transmission with MSM, accounting for 6 % of the reported cases that included transmission data. In recent years, trends in chlamydia cases appear to have stabilised in many countries, although some trends are still on the increase.

The varying rates of reported chlamydia infection across Europe are understood to be most likely driven by different testing policies rather than true differences in prevalence of infection. Although only a few countries have implemented or piloted chlamydia screening programmes, most of the countries reporting higher rates of infection have developed policies recommending more routine testing in clinical services. This accounts for the high rates reported in the western and northern parts of the EU/EEA. The overall increase of cases in the past decade reflects the implementation of these programmes together with improved diagnostic tools, the introduction and increased use of nucleic acid amplification tests (NAATs), increased case detection and improved surveillance systems. On the other hand, the low or decreasing rates in eastern and central EU/EEA countries may be due to changes in healthcare systems (e.g. more privatisation) and changing reporting practices so that the number of infections that remain undiagnosed, or are underreported, have probably increased substantially. In addition, the low rates reported by a number of countries are likely to reflect a lack of effective national testing policies, lack of accurate diagnostic tools, incorrect diagnostics, or a shortage of reporting capacity rather than a genuinely low prevalence of chlamydia. There are still countries where NAAT technology is not yet widely available, and this hampers wider chlamydia case detection and case management.

Surveillance of chlamydia infection presents a number of challenges which make the interpretation of the epidemiological situation across the EU/EEA difficult: the asymptomatic nature of chlamydia infection, especially in women, makes the diagnosis difficult and – as was discussed above – the number of cases reported depends heavily on national screening or testing policies and practices. Many cases are therefore not diagnosed if asymptomatic young adults are not specifically targeted for testing. Surveillance approaches for chlamydia also vary across the EU/EEA, with many countries opting for sentinel systems, which makes comparisons at the European level difficult and prevents the inclusion of data in trend and other analyses. Also, the testing policies of countries reporting the largest numbers of cases significantly impact the overall trends and rates. The results reported above should therefore be viewed with these limitations in mind.

The difficulties in interpreting chlamydia surveillance data suggest that a change in focus is needed to monitor chlamydia epidemiology effectively at the European level. Alternative approaches, such as focusing more on measuring prevalence or developing a sentinel approach where more testing data are collected, should be considered. This would allow for the better monitoring of trends and comparisons across Europe and would make it possible to take into account the various testing policies.

2 Gonorrhoea

Table C: Gonorrhoea: data source, type of data surveillance, surveillance period, 2012

Country	Data source	Type	Period	Legal status	Coverage
Austria	AT-STISentinella	A	1996–2005	V	Se
	AT-STISentinella	C	2006–2012	V	Se
Belgium	BE-LABNET	C	2006–2012	V	Se
Bulgaria	BG-STI	A	1990–2012	C	Co
Croatia	HR-CNIPH	A	2012–2012	C	Co
Cyprus	CY-NOTIFIED_DISEASES	C	2006–2012	C	Co
Czech Republic	CZ-STD	A	1990–1998	C	Co
	CZ-STD	C	1999–2012	C	Co
Denmark	DK-LAB	A	1990–1999	C	Co
	DK-STI_CLINICAL	C	2000–2012	C	Co
Estonia	EE-GONOCOCC	A	1990–2007	C	Co
	EE-GONOCOCC	C	2008–2012	C	Co
Finland	FI-NIDR	C	2000–2012	C	Co
France*	FR-RENAGO	C	2001–2012	V	Se
	FR-STI	C	2004–2012	V	Se
Germany					
Greece**	GR-NOTIFIABLE_DISEASES	A	1990–2012	C	Co
Hungary	HU-STD SURVEILLANCE	A	1990–2012	C	Se
Iceland	IS-SUBJECT_TO_REGISTRATION	C	1997–2012	C	Co
Ireland	IE-AGGR_STI	A	1995–2012	C	Co
Italy***	IT-NRS	C	1998–2012	C	Co
	IT-COA ISS- STI clin	C	2007–2009	V	Se
	IT-COA_ISS_STI lab	C	2009–2011		
Latvia	LV-STI/SKIN_INFECTIONS	A	1990–2007	C	Co
	LV-BSN	C	2008–2012	C	Co
Liechtenstein					
Lithuania	LT-COMMUNICABLE_DISEASES	A	2003–2007	C	Co
	LT-COMMUNICABLE_DISEASES	C	2008–2012	C	Co
Luxembourg	LU-SYSTEM1	A	2006–2006	C	Co
	LU-SYSTEM1	C	2007–2012	C	Co
Malta	MT-DISEASE_SURVEILLANCE	C	2006–2012	C	Co
Netherlands	NL-STI	C	2004–2012	V	Se
Norway	NO-MSIS_B	C	1993–2012	C	Co
Poland	PL-NATIONAL_SURVEILLANCE	A	2006–2012	C	Co
Portugal	PT-GONOCOCCAL	C	1990–2012	C	Co
Romania	RO-RNSSy	A	1990–2009	C	Co
	RO-RNSSy	C	2010–2012	C	Co
Slovakia	SK-EPIS	C	2006–2012	C	Co
Slovenia	SI-SPOSUR	C	2006–2012	C	Co
Spain	ES-STATUTORY_DISEASES_STI_AGGR	A	1990–2012	C	Co
Sweden	SE-EpiBas	A	1990–1996	C	Co
	SE-SMINET	C	1997–2012	C	Co
United Kingdom	UK-GUM	A	1990–2009	C	Co
	UK-GUM-COM-LAB	A	2010–2012	O	Co

Legend: type: aggregated (A); case-based (C); legal status: voluntary reporting (V), compulsory reporting (C), other (O); coverage: sentinel system (Se), comprehensive (Co)

* France: data used for analysis in this report are based on the 'FR-STI' data source.

** Greece: in 2009 a new surveillance system was introduced which is designed to be comprehensive; at present it includes mainly data from the public health sector

*** Italy: all physicians are required to report to the national register but less than 10% comply – no comprehensive system

2 Gonorrhoea

2.1 Key points

- In 2012, 47387 gonorrhoea cases were reported in 29 EU/EEA Member States (data were not available from Germany and Liechtenstein), with an overall rate of 15.3 per 100000 population.
- Gonorrhoea was reported almost three times more often in men than in women in 2012, with a rate of 25.7 per 100000 in men and 9.2 in women.
- Almost half of the cases (41%) were reported among young adults. MSM accounted for 38% of cases reported in 2012.
- Since 2008, the rate of gonorrhoea has increased by 62%, with most EU/EEA countries reporting increasing trends. These trends, however, must be interpreted with caution due to the heterogeneity in national reporting and healthcare systems.

2.2 Source of data

Gonorrhoea data for 2012 were available from all countries except Germany and Liechtenstein. Table C specifies the source of the data, the type of data (aggregate or case-based), coverage (sentinel or comprehensive) and surveillance period. Rates per 100000 population were calculated for 22 countries with comprehensive or other systems. Countries with sentinel systems (Austria, Belgium, Cyprus, France, Hungary, Italy, the Netherlands) were excluded from these calculations.

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

Table 7a shows that reporting of gonorrhoea has improved over the years: 12 countries submitted data on gonorrhoea since 1990, 18 since 2000, and 29 provided data for 2012.

2.3 Case reports, 2012

Demographic variables

In 2012, 47387 gonorrhoea cases were reported in 29 countries, with 60% of all cases reported by the United Kingdom (Table 7a). This resulted in an overall notification rate of 15.3 per 100000 population for countries with comprehensive surveillance systems (Table 9).

Information on gender was missing in 7.4% (n=3483) of all reported cases in 2012, mainly due to missing information from Spain (3042 cases). The male-to-female ratio in 2012 was 2.8:1, with more than twice as many cases reported in men (n=32247) than in women (n=11657) (Table 8). The rate was 25.7 per 100000 in men and 9.2 per 100000 in women (Table 10).

In 2012, the highest rates (>15/100000 population) were observed in the United Kingdom (45.4 per 100000), Latvia (29.4), Ireland (24.2) and Estonia (15.7). The lowest rates (≤1.5/100000) were observed in Bulgaria, Croatia, Luxembourg and Portugal (Table 9; Figure 2.1).

Only one country reported a male-to-female ratio below 2.0:1: Estonia (0.9). The highest male-to-female ratio was reported by Slovenia (14.0:1) (Figure 2.2). Countries that supply information on gender and reported consistently between 2003 and 2012 had a fairly stable male-to-female ratio between 2.3:1 and 2.6:1.

In 2012, information on age was available for 25 countries, but in different formats. Due to incompatibilities in data presentation and age formats, data from the following countries were excluded: Hungary (2007–2008), Poland (2006–2012) and Romania (2006). Information on age was not available for Austria, Ireland and Spain (10% of all cases).

Figure 2.3 presents the age distribution in 2003 and 2012 for countries reporting consistently during this time. The age group 25–34 years was the largest, representing 30% of all cases in 2003 and 34% in 2012. It was followed by 20–24-year-olds, who accounted for 28% of cases in 2003 and 29% in 2012. Young adults aged 15–24 years contributed 41% of cases in 2012. Between 2003 and 2012, the proportion of cases among those below 25 years of age decreased, with a corresponding increase in the proportion of cases among older age groups.

Age-specific rates of reported cases in 2012 were highest among 20–24-year-olds (45 per 100000 population) overall and for both genders. Males predominated in all age groups 20 years and older. The highest age and gender-specific rates were among males aged 20–24 years (89 per 100000) (Figure 2.4). Age-specific rates decreased for all age groups between 2003 and 2008. Since 2008, however, age-specific rates have increased particularly among those aged 20 years or over. The largest increases in rates have been among those aged 45+ (94%), 25–34 years (93%), 35–44 years (90%) and 20–24 years (54%).

In 2012, information on country of birth (or, if not available, country of nationality) was reported by 14 countries (Cyprus, the Czech Republic, Denmark, Estonia, France,

Figure 2.1: Number of gonorrhoea cases per 100 000 population, EU/EEA, 2012

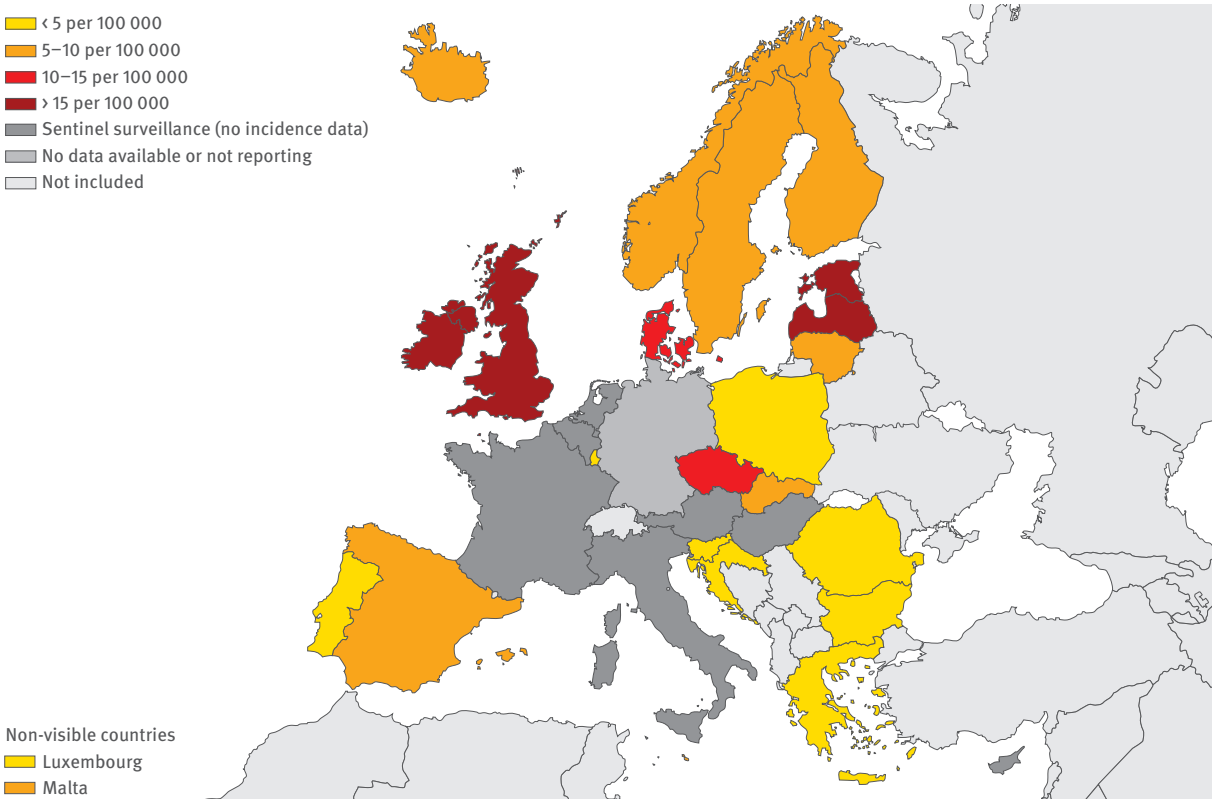
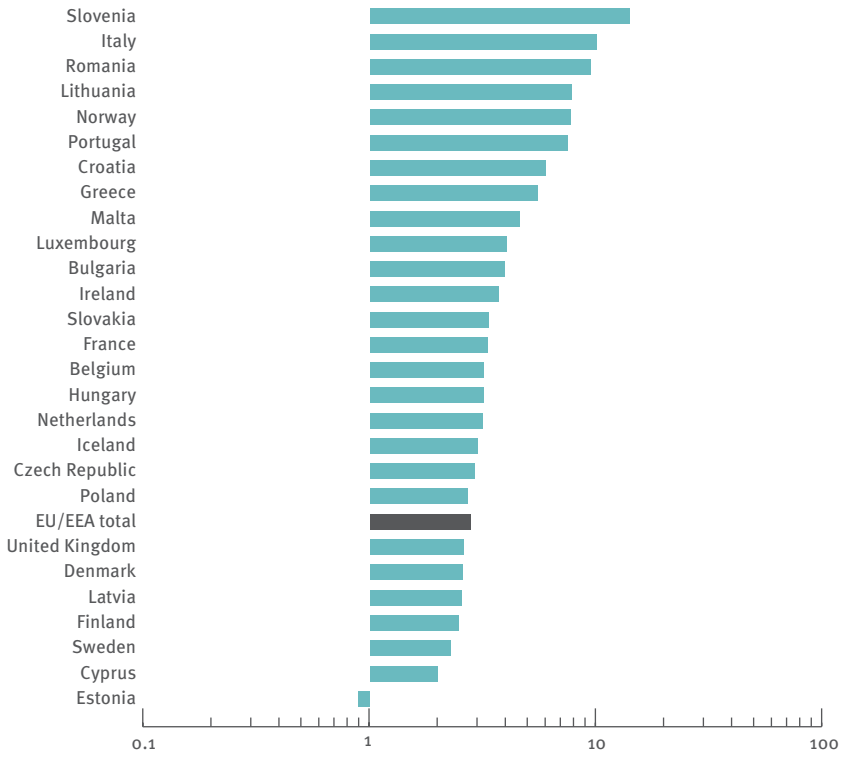


Figure 2.2: Gonorrhoea male-to-female ratio in 27 EU/EEA countries, 2012



Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovenia and Slovakia), which together reported 19 % of all cases (n=9 052). Of those cases, 71 % were born in (or had the nationality of) the reporting country, 14 % came from another country, and 15 % were of unknown nationality. The percentage of cases born outside (or with a nationality different from) the reporting country varied from 0 in Cyprus, Estonia, Norway, Portugal, Romania and Slovakia to over 20 % in France, Luxembourg and the Netherlands. The probable country of infection was reported by 11 countries in 2012 and was available for 11 % of cases: among these cases, 59 % were infected in the reporting country, 12 % were infected outside the reporting country, whereas the information was not known for 29 % of cases. The most frequently reported countries of infection were Thailand (155 cases, 89 % heterosexual transmission), the Philippines (41 cases, 93 % heterosexual transmission) and Germany (40 cases, 70 % MSM transmission).

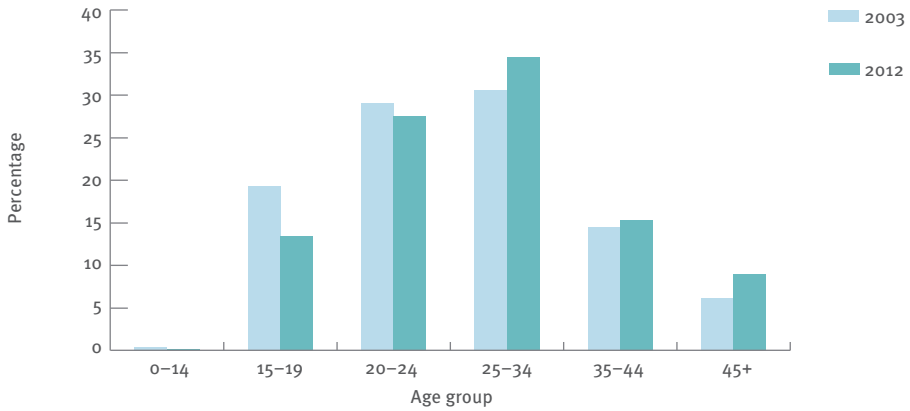
Epidemiological variables

In 2012, information on transmission category was available for 19 countries (Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Greece, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Sweden and the United Kingdom) reporting 83 % of the reported gonorrhoea cases (n=39 254) (Table 12). The transmission category was indicated as heterosexual in 57 %, MSM in 38 % and unknown in 5 % of the cases (Figure 2.5). Cases diagnosed in MSM represented 55 % (n=15 097) of all male cases diagnosed in 2012.

The percentage of cases diagnosed in MSM (Figure 2.6) ranged from 10 % or below in Estonia, Latvia, Lithuania, Portugal, Romania and Slovakia to over 45 % in the Netherlands (57 %), Norway (54 %), France (49 %), and Slovenia (47 %).

In 2012, information on HIV status was provided by nine countries (the Czech Republic, Denmark, Estonia, France, Latvia, Malta, the Netherlands, Norway and Slovakia), representing 18 % of all reported gonorrhoea cases (8 304 cases). Of these cases, 912 cases (11 %) were HIV positive (either known or newly diagnosed), 68 % were HIV negative, and no further information was available for 31 %.

Figure 2.3: Comparison of the percentage of gonorrhoea cases by age group, EU/EEA countries reporting consistently, 2003 (n=31 481) and 2012 (n=35 364)



Note: Includes data from the Czech Republic, Denmark, Estonia, Finland, Greece, Iceland, Italy, Latvia, Norway, Portugal, Romania, Sweden, United Kingdom.

Figure 2.4: Age and gender-specific rates of reported cases of gonorrhoea per 100 000, EU/EEA, 2012

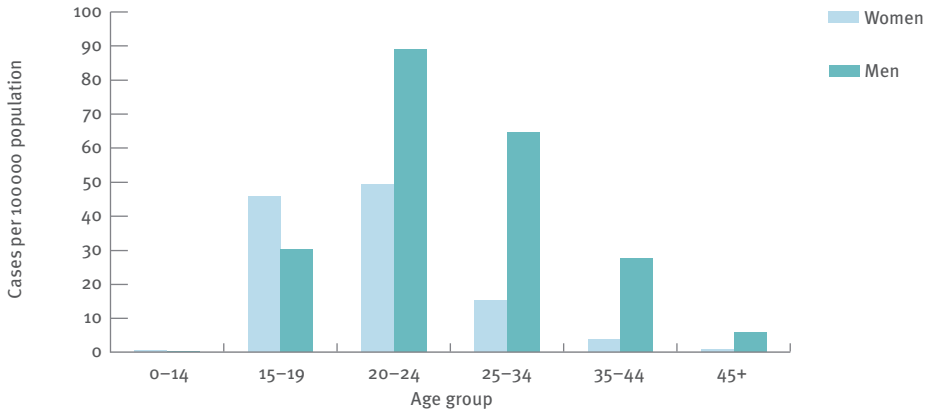
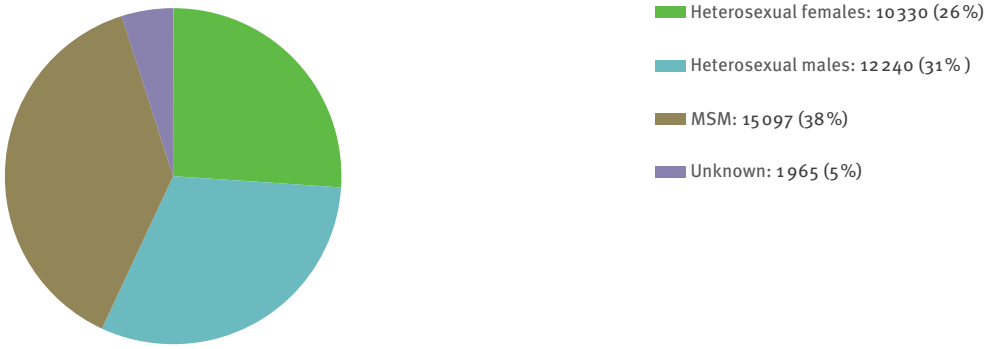
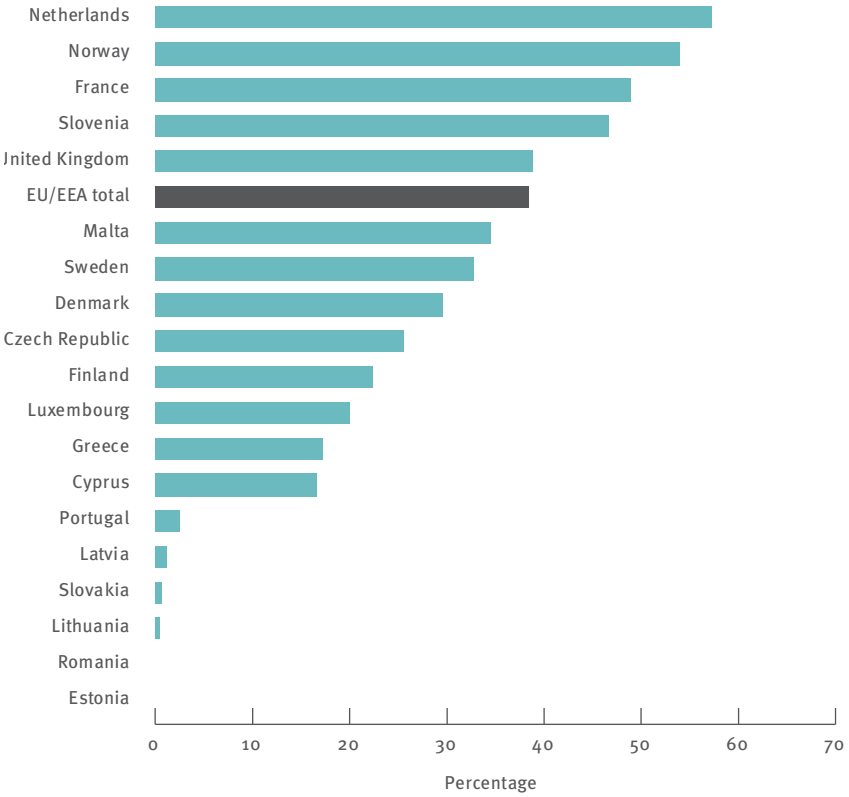


Figure 2.5: Number and percentage of gonorrhoea cases by transmission category and gender (n=47 387), EU/EEA, 2012



Note: Includes data from Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Greece, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Sweden and the United Kingdom.

Figure 2.6: Percentage of gonorrhoea cases diagnosed in MSM; cases with known mode of transmission, EU/EEA, 2012



2.4 Trends 2003–2012

Between 2003 and 2012, 859743 cases of gonorrhoea were reported from 29 countries, with varying degrees of completeness over time. Rates were calculated for the 22 countries that maintain comprehensive surveillance systems for gonorrhoea (Table 9).

Figure 2.7 shows the overall and gender-specific trends in 15 countries which reported consistently between 2003 and 2012. Gonorrhoea rates declined between 2003 and 2008, mirroring the trend in the United Kingdom and some east European countries. Among countries reporting throughout the period, however, the overall rate has increased by 62% since 2008 (from 10 to 16 per 100000 population). The increase was greater in men (+71%) than in women (+44%), whose rates were considerably lower than the rates in men throughout the 2003–2012 period.

The three graphs in Figure 2.8 show the number of reported cases per 100000 population for countries reporting data between 2003 and 2012. The majority of countries have been reporting increasing rates, particularly since 2008, with 11 reporting increases of 40% or more (Figure 2.9). Only five countries reported decreasing rates.

Increasing numbers of cases between 2008 and 2012 were also reported by countries with sentinel systems. Figure 2.10 presents the relative change in reported cases between 2008 and 2012 among countries reporting sentinel or comprehensive surveillance data throughout the time period. Reported cases increased by 100% (i.e. doubled) or more in France, Cyprus, Poland, Ireland and the Netherlands. Decreases were mainly reported by smaller countries (Lithuania, Malta, Luxembourg) or by countries in eastern Europe (Romania, Bulgaria), although Italy also reported a decreasing number of cases.

2.5 Discussion

The distribution of gonorrhoea varies considerably across countries, with rates ranging from below 1 case to 45 cases per 100000. The United Kingdom continued to report around 60% of the EU/EEA cases in 2012. Low rates (‹5 per 100000) were generally reported in central and eastern Europe (Bulgaria, Greece, Poland, Romania, Slovakia and Slovenia), but were also low in Luxembourg and Portugal. Higher rates were reported in the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden), the Baltic states, Ireland, Malta, Spain and the United Kingdom. This geographical pattern has been stable in recent years, although rates have increased in the majority of these countries.

In all countries (bar one) with a comprehensive surveillance system, more male than female cases were reported. Young people aged between 15 to 24 years accounted for 41% of cases, and the highest rate was reported among males aged 20 and 24 years, with 89 cases per 100000. The proportion of gonorrhoea cases reported in MSM varied across the EU/EEA, with high proportions reported mainly in the western and northern countries (Denmark, France, Netherlands, Norway, Sweden and the United Kingdom) but also in the Czech Republic, Greece, Malta and Slovenia.

The interpretation of these findings is hampered by incompleteness of reporting. In some countries, the high male-to-female ratio suggests underreporting of MSM transmission (e.g. Lithuania, Romania, and Portugal). This could be due to lack of identification of homosexually acquired cases, lack of reporting of such transmission, or alternatively that many male cases were acquired through contact with sex workers. Further analysis of the epidemiology of gonorrhoea in these countries needs to be done in collaboration with the respective Member States.

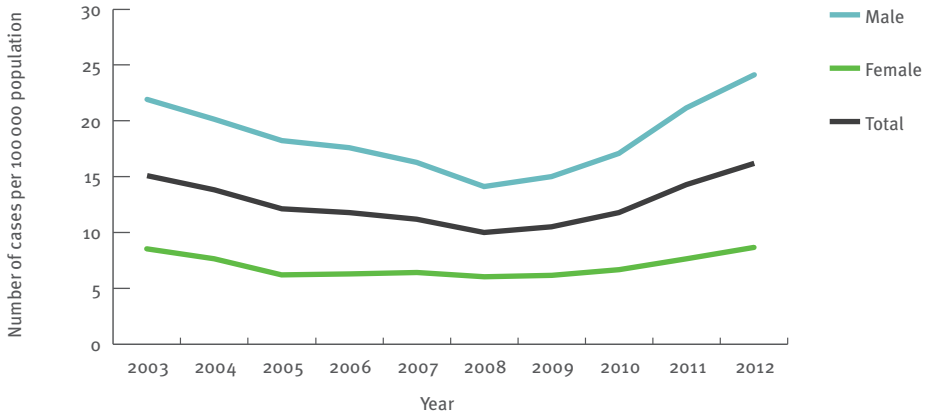
The trend in gonorrhoea notifications in the EU/EEA in the past decade varies among countries. A number of countries which reported high rates in the 1990s have either continued to show a decreasing trend or report stable rates, e.g. Bulgaria, the Czech Republic, Estonia, Latvia and Romania; other countries reported increasing trends, some throughout the past decade, but many more since 2008. The previously high rates in eastern 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, including more privatisation and reduced reporting, and therefore substantially increased numbers of infections that remain either undiagnosed or unreported. The increasing rates of gonorrhoea in many countries are worrying considering the threat of antimicrobial resistant *N. gonorrhoeae* that is reported by ECDC[1]. Although recent resistance data from the European Gonococcal Antimicrobial Surveillance Programme suggests declining levels of resistance to cefixime and no significant increase in resistance to ceftriaxone, the development of resistance to existing treatments is feared to be only a matter of time.

The majority of countries reporting gonorrhoea cases indicate that most of their data on STIs are obtained from dedicated special services (STI clinics) rather than general practitioners. In addition, several countries obtain data through sentinel surveillance, which means that the actual number of reported cases is likely to be underestimated. Many cases are also either not diagnosed or not reported, which makes it difficult to evaluate the epidemiological situation in the EU/EEA.

Increasing numbers of reported cases in many countries in recent years can be partially attributed to increased use of more sensitive diagnostic tests such as NAAT – and in particular more use of dual CT-NG NAAT – across the EU/EEA. Also, testing policies have changed (e.g. testing at multiple anatomical sites among MSM), resulting in improved case ascertainment. Increased high-risk behaviour is, however, likely to explain some of the

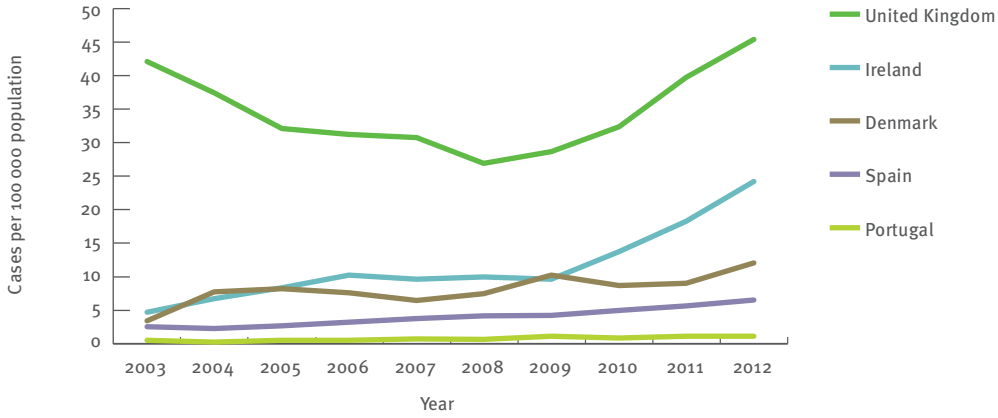
1 European Centre for Disease Prevention and Control. Gonococcal antimicrobial susceptibility surveillance in Europe, 2011. Stockholm: ECDC, 2013

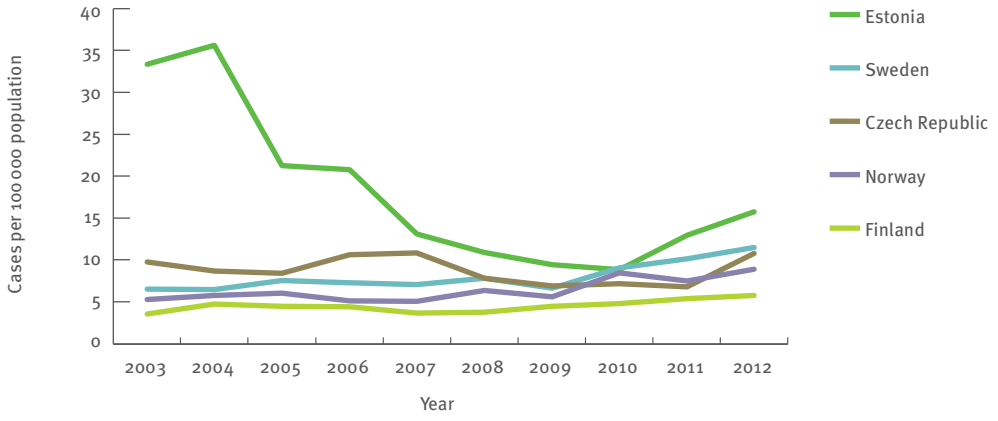
Figure 2.7: Trend in number of reported gonorrhoea cases per 100 000 population, 15 EU/EEA countries with consistent reporting, 2003–2012

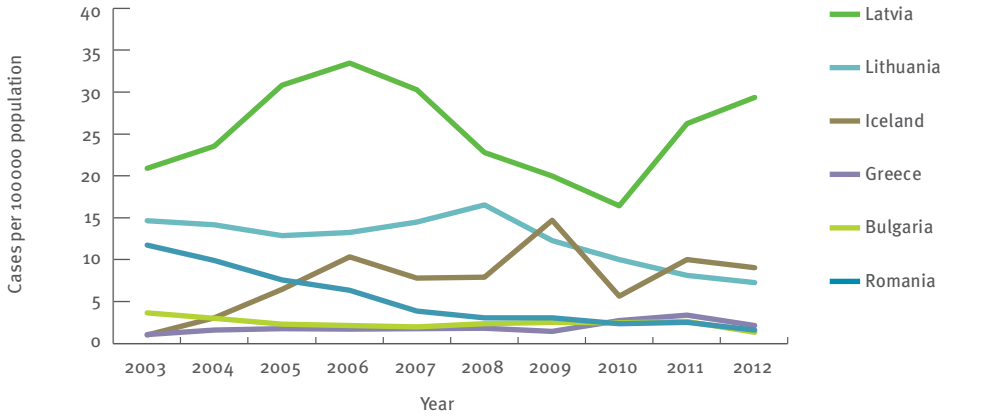


Note: Includes Bulgaria, the Czech Republic, Denmark, Estonia, Finland, Greece, Iceland, Ireland, Latvia, Lithuania, Norway, Portugal, Romania, Sweden and the United Kingdom.

Figure 2.8a–c: Number of gonorrhoea cases per 100 000 population in selected EU/EEA countries, 2003–2012







increase in gonorrhoea notifications, considering the recent rise reported in other STIs, particularly among MSM (e.g. syphilis and HIV).

Figure 2.9: Relative change in notification rates, 21 EU/EEA countries with consistent reporting, 2008–2012

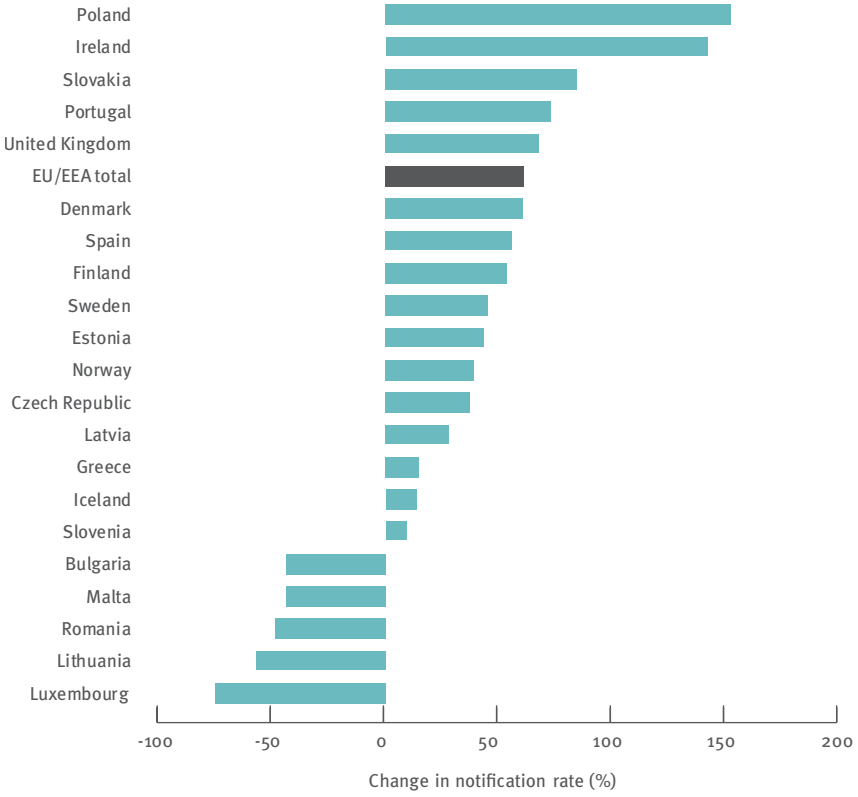
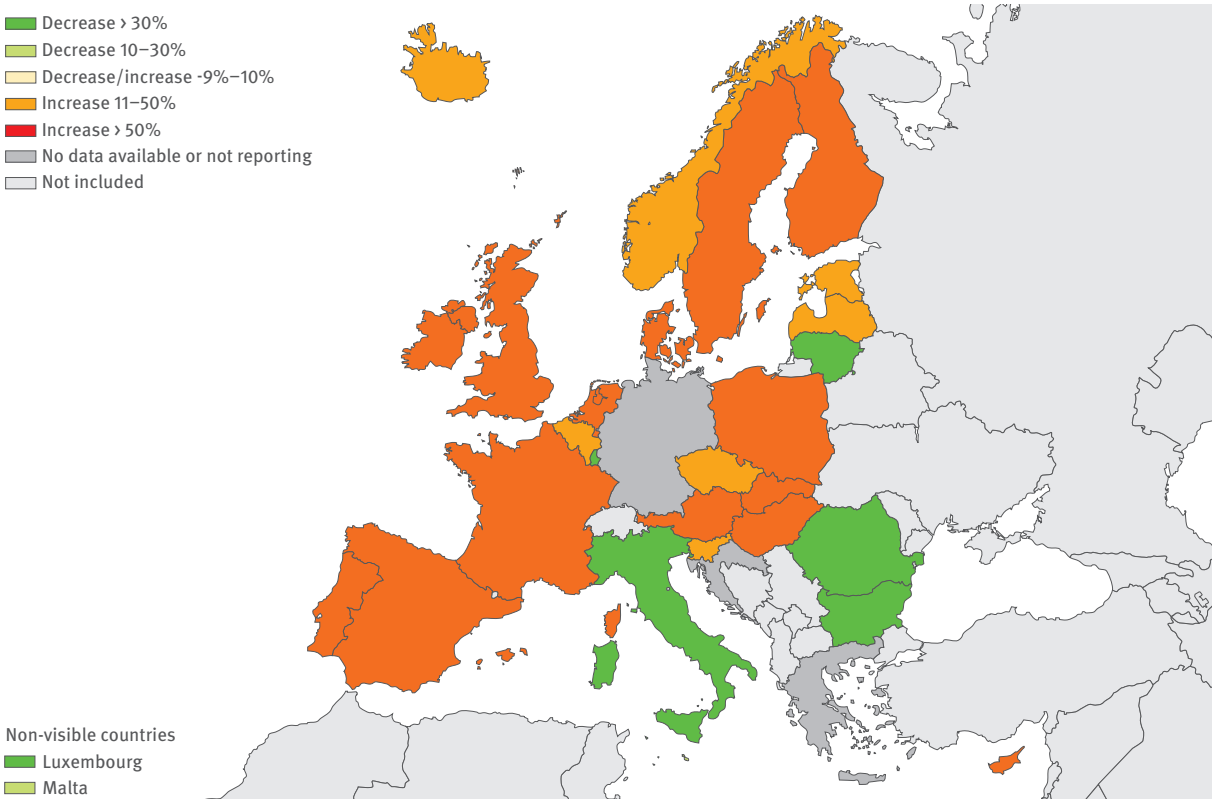


Figure 2.10: Relative change in the number of reported gonorrhoea cases, EU/EEA, 2008–2012



Note: Greece is not included, as a new surveillance system was put in place in 2010, and data are not comparable between the old and the new system.

3 Syphilis

Table D: Syphilis: data source, type of data surveillance, surveillance period, 2012

Country	Data source	Type	Period	Legal status	Coverage
Austria	AT-STISentinella	A	1996–2005	V	Se
	AT-STISentinella	C	2006–2012	V	Se
Belgium	BE-LABNET	C	2002–2012	V	Se
Bulgaria	BG-STI	A	1990–2012	C	Co
Croatia	HR-CNIPH	A	2012–2012	C	Co
Cyprus	CY-NOTIFIED_DISEASES	C	2006–2012	C	Co
Czech Republic	CZ-STD	A	1990–1998	C	Co
	CZ-STD	C	1999–2012	C	Co
Denmark	DK-LAB	A	1990–1999		
	DK-STI_CLINICAL	C	2000–2012	C	Co
Estonia	EE-PERTUSSIS/SHIGELLOSIS/SYPHILIS	A	1990–2007	C	Co
	EE-PERTUSSIS/SHIGELLOSIS/SYPHILIS	C	2008–2012	C	Co
Finland	FI-NIDR	C	2000–2012	C	Co
France	FR-STI	C	2000–2012	V	Se
Germany	DE-SURVNET@RKI-7.3	C	2001–2012	C	Co
Greece*	GR-NOTIFIABLE_DISEASES	A	2003–2012	C	Co
Hungary	HU-STD SURVEILLANCE	A	1990–2012	C	Se
Iceland	IS-SUBJECT_TO_REGISTRATION	C	2000–2012	C	Co
Ireland	IE-SYPHILIS	C	2000–2011	C	Co
	IE-CIDR	C	2012–2012	C	Co
Italy**	IT-NRS	C	1998–2012	C	Co
	IT-COA ISS- STI clin	C	2007–2009	V	Se
Latvia	LV-STI/SKIN_INFECTIONS	A	1990–2007	C	Co
	LV-BSN	C	2008–2012	C	Co
Liechtenstein					
Lithuania	LT-COMMUNICABLE_DISEASES	A	2003–2007	C	Co
	LT-AIDS_CENTRE	A	2006–2006		
	LT-COMMUNICABLE_DISEASES	C	2008–2012	C	Co
Luxembourg	LU-SYSTEM1	C	2006–2012	C	Co
Malta	MT-DISEASE_SURVEILLANCE	C	2006–2012	C	Co
Netherlands	NL-STI	C	2004–2012	V	Se
Norway	NO-MSIS_B	C	1992–2012	C	Co
Poland	PL-NATIONAL_SURVEILLANCE	A	2006–2012	C	Co
Portugal	PT-SYPHILIS	C	1990–2012	C	Co
Romania	RO-RNSSy	A	1990–2009	C	Co
	RO-RNSSy	C	2010–2012	C	Co
Slovakia	SK-EPIS	C	2006–2012	C	Co
Slovenia	SI-SPOSUR	C	2006–2012	C	Co
Spain	ES-STATUTORY_DISEASES_STI_AGGR	A	1990–2012	C	Co
Sweden	SE-EpiBas	A	1990–1996	C	Co
	SE-SMINET	C	1997–2012	C	Co
United Kingdom	UK-GUM	A	1990–2009	C	Co
	UK-GUM-COM-LAB	A	2010–2012	O	Co

Legend: type: aggregated (A); case-based (C); legal status: voluntary reporting (V), compulsory reporting (C), other (O); coverage; sentinel system (Se), comprehensive (Co)
* Greece: in 2009 a new surveillance system was introduced which is designed to be comprehensive; at present it does not offer national coverage.
** Italy: all physicians are required to report to the national register but less than 10% comply – no comprehensive system

3 Syphilis

3.1 Key points

- In 2012, 20 802 syphilis cases were reported in 30 EU/EEA Member States (data were not available from Liechtenstein), an overall rate of 5.1 per 100 000 population. Syphilis was reported almost four times more often in men than in women, with a rate of 7.7 per 100 000 in men and 1.7 in women.
- The majority of cases were reported in people older than 25 years, with young people between 15 and 24 years of age accounting for only 15 % of cases.
- Almost half (48 %) of the syphilis cases with information on transmission category were reported in MSM.
- There were marked differences in trends across the EU Member States. The overall rate decreased between 2003 and 2012, mainly due to a substantial decrease of cases in countries that reported very high rates of syphilis in the past decade. In other countries, dramatic increases were noted, appearing to be mainly among older MSM.

3.2 Source of data

Syphilis data were available from all countries except Liechtenstein. Table D specifies the source of the data, the type of data (aggregate or case-based), the coverage (sentinel or comprehensive), the legal status (voluntary or compulsory) and the surveillance period. It shows the heterogeneity between countries as well as recent changes in systems and reporting periods. Due to variations in the coverage, completeness and representativeness of data, direct comparisons of absolute numbers and rates must be undertaken with caution since the proportion of diagnosed cases that are actually reported differs substantially from country to country.

Rates per 100 000 population could be calculated for 23 countries with comprehensive or other systems; countries with sentinel systems (Austria, Belgium, Cyprus, France, Hungary, Italy and the Netherlands) were not included. Due to missing data for 'date of diagnosis' from Italy, the 'date used for statistics' was used in the analyses.

3.3 Case reports, 2012

Demographic variables

In 2012, 20 802 syphilis cases were reported in 30 countries, with 63 % of all cases coming from four countries (Germany, Romania, Spain and the United Kingdom) (Table 13a). The overall notification rate was 5.1 per 100 000 population (Table 16). The highest rate was observed in Romania (8.5 per 100 000 population), followed by Malta (8.4) and Spain (7.8). Rates below 2.5 per 100 000 population were observed in Croatia, Iceland, Ireland, Norway and Sweden (Figure 3.1) (Table 16).

Information on gender was missing in 18 % (n=3 729) of all cases in 2012, mainly due to Spain not reporting this variable (n=3 638 cases). The male-to-female ratio in 2012 was 4.9:1; 14 156 cases were reported in men and 2 915 in women. The rate was 7.7 per 100 000 in men and 1.7 per 100 000 in women.

There were marked differences in the male-to-female ratios across countries, based on the number of reported cases (Figure 3.2). Ratios above 10.0:1 were reported by France, Germany, Italy, the Netherlands, Norway and the United Kingdom. Lithuania was the only country to report a male-to-female ratio below 1.0:1, although ratios close to 1.0:1 were also reported by Bulgaria, Cyprus, Estonia, Romania and Slovakia (Table 15). The male-to-female ratio has continuously increased over time from 1.9:1 in 2003 to 4.9:1 in 2012.

Information on age was available for 27 countries in 2012; no information on age was available for Austria, Bulgaria and Spain. Overall, 24 % of cases were reported without age or incorrectly. Because of incompatible formats, the data from three countries were excluded: Hungary (2007–2008), Poland (2006–2012) and Romania (2005).

For 2012, data show a higher percentage of syphilis cases in older age groups in comparison with 2003 (Figure 3.3). Of all cases reported in 2012, the age groups 25–34 years of age (30 % of cases) and 35–44 (28 %) had the highest percentage of cases. Only 11 % of cases were reported in the 20–24-year age group. In 2012, 85 % of all cases were 25 years or older (compared with 73 % in 2003), whereas only 15 % were reported in the 15–24-years age category (26 % in 2003). Between 2003 and 2012, age-specific rates decreased among all age groups, with the largest decreases among those below 25 years of age. Age-specific rates were highest among 25–34-year-old males in 2012, with a rate of 16.1 per 100 000 (Figure 3.4).

In 2012, information on country of birth (or, if not available, country of nationality) was reported in 15 countries (Cyprus, the Czech Republic, Denmark, Estonia, France, Ireland, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovenia and Slovakia), representing 26 % of the cases (n=5 310). In 79 %, the country of birth was identical with the reporting country, 9 % were born abroad, and for 12% no country of birth was given. The proportion of cases born abroad varied widely across countries, and more than 20 % of cases from abroad were reported in Ireland, Luxembourg, Malta and the Netherlands.

Figure 3.1: Number of syphilis cases per 100 000 population, EU/EEA, 2012

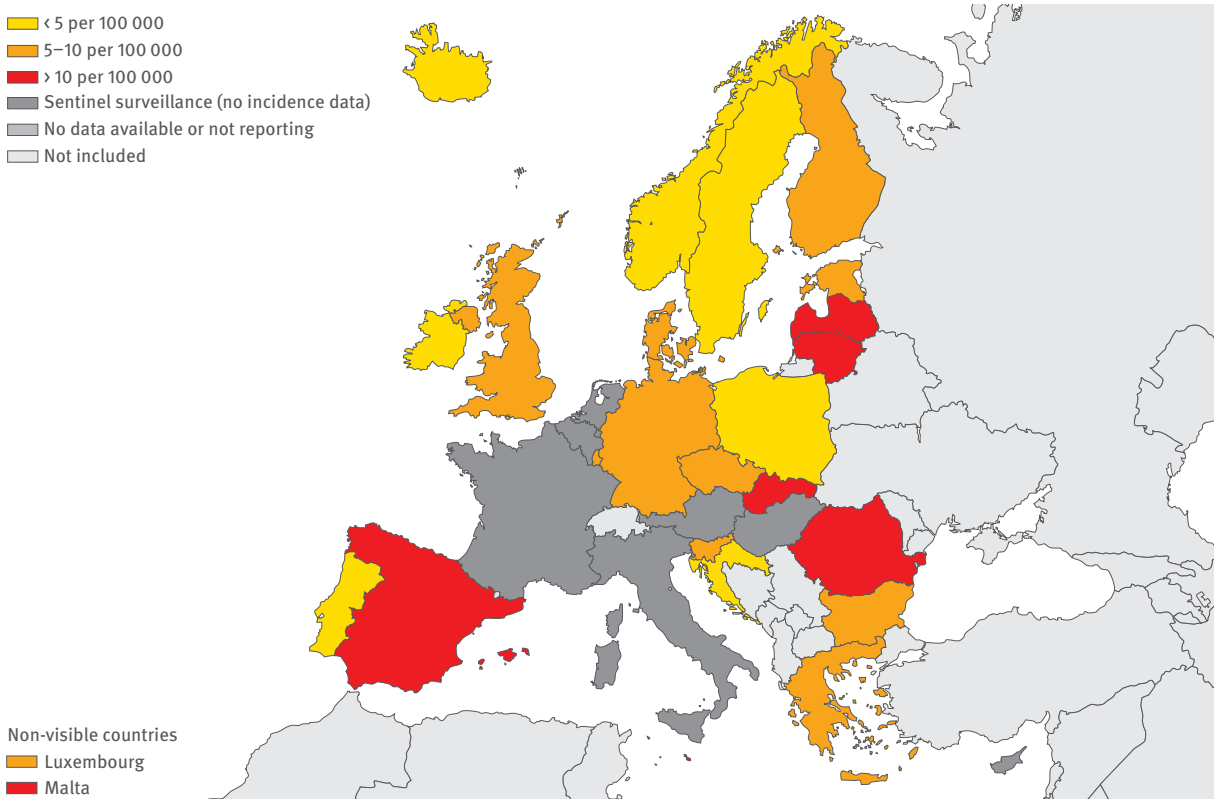
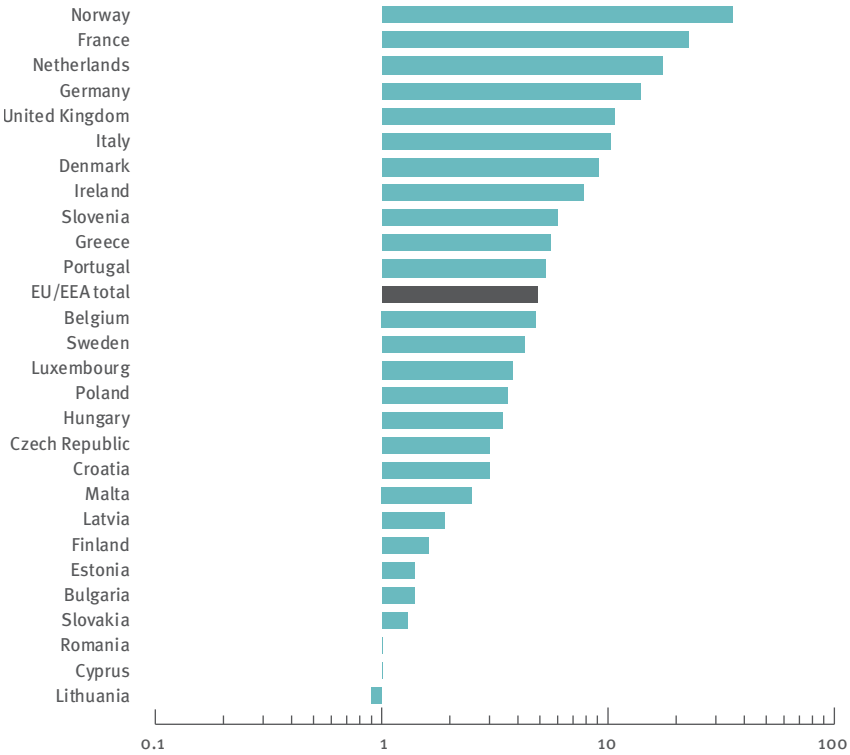


Figure 3.2: Syphilis male-to-female ratio in 27 EU/EEA countries, 2012



Epidemiological variables

In 2012, information on transmission category was available for 19 countries, representing 45 % of the reported syphilis cases (n=9 365). Of these cases, transmission category was indicated as MSM in 48 %, heterosexual in 40 % and unknown in 12 % (Figure 3.5).

The percentage of cases diagnosed in MSM ranged from below 10 % (Cyprus, Lithuania and Romania) to more than 70 % in Denmark, France, Ireland, the Netherlands, and Norway (Figure 3.6). Among countries reporting transmission category, cases diagnosed in MSM represented 64 % (n=4 489) of the male cases diagnosed in 2012.

In 2012, the HIV status was known for 24 % of syphilis cases (data provided by 12 countries). Of these, 29 % were HIV-positive (either known or newly diagnosed).

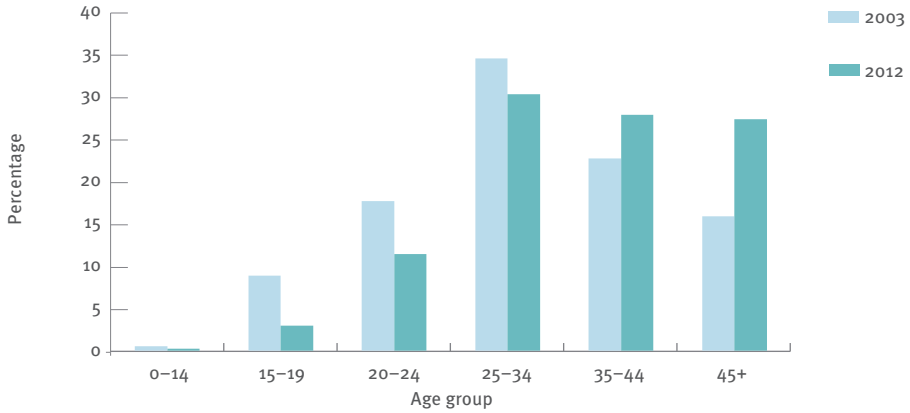
Details on the stage of syphilis infection were provided by 14 countries and represent 23 % of all reported cases of syphilis in 2012. The stage of infection is collected in two different formats: a broad (infectious or non-infectious) and a detailed format (primary, secondary, early latent, etc.). Only one country used the broad format (Luxembourg) in 2012; 14 countries used the detailed format (the Czech Republic, Estonia, France, Ireland, Latvia, Lithuania, Malta, Netherlands, Norway, Portugal, Romania, Slovenia, Slovakia and Sweden). The distribution of syphilis cases by stage of infection is presented in Figure 3.7. The majority of cases were reported as primary, secondary or early infection.

3.4 Trends 2003–2012

Between 2003 and 2012, 391 166 cases of syphilis were reported in 30 countries; the degree of completeness varied over time (Table 13a). Rates were calculated for a total of 23 countries which maintain comprehensive surveillance systems for syphilis (Table 15). Figure 3.8 shows a declining trend in the number of reported cases per 100 000 population from 2003 to 2009. Since 2010, however, the trend has stabilised overall, but men and women show divergent trends (Figure 3.8b, logarithmic scale), with a marked increase reported for men.

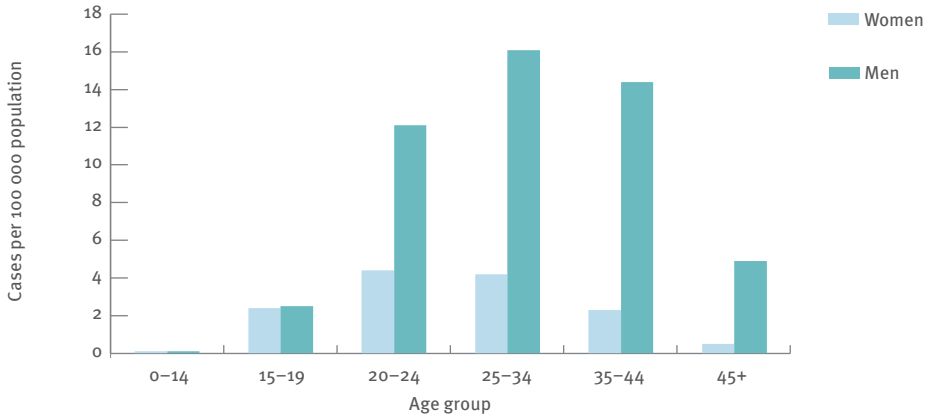
Data from 17 countries with comprehensive surveillance systems were available for the period 2003–2012. Figure 3.9 shows four graphs with trends over time for these countries. Countries in the east, which had reported

Figure 3.3: Comparison of the percentage of syphilis cases by age group, EU/EEA countries reporting consistently, 2003 (n=17 446) and 2012 (n=14 576)



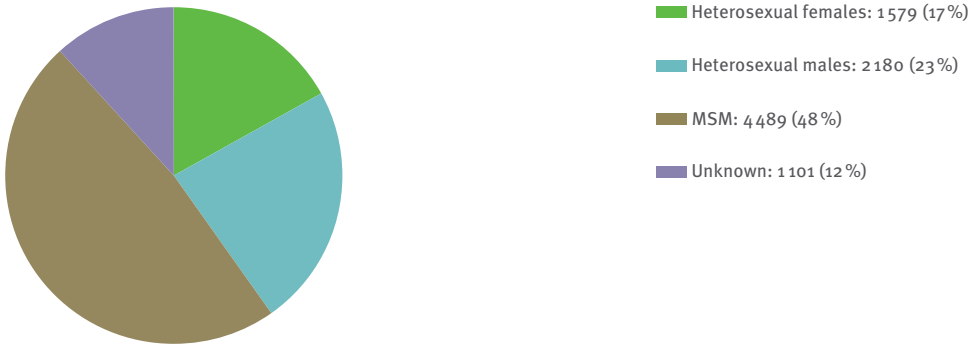
Note: Includes data from Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Norway, Portugal, Romania, Sweden and the United Kingdom.

Figure 3.4: Age and gender-specific rate of reported cases of syphilis, EU/EEA, 2012



Note: Includes data from Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Finland, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Norway, Portugal, Slovakia, Slovenia, Sweden and United Kingdom.

Figure 3.5: Number and percentage of syphilis cases by transmission category and gender (n=9 365), 2012



Note: Includes data from Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Greece, Ireland, Latvia, Lithuania, Malta, the Netherlands, Norway, Romania, Slovenia, Slovakia, Sweden and the United Kingdom; 16 additional cases were reported with 'other' transmission.

Figure 3.6: Percentage of syphilis cases diagnosed in MSM; cases with known mode of transmission, EU/EEA, 2012

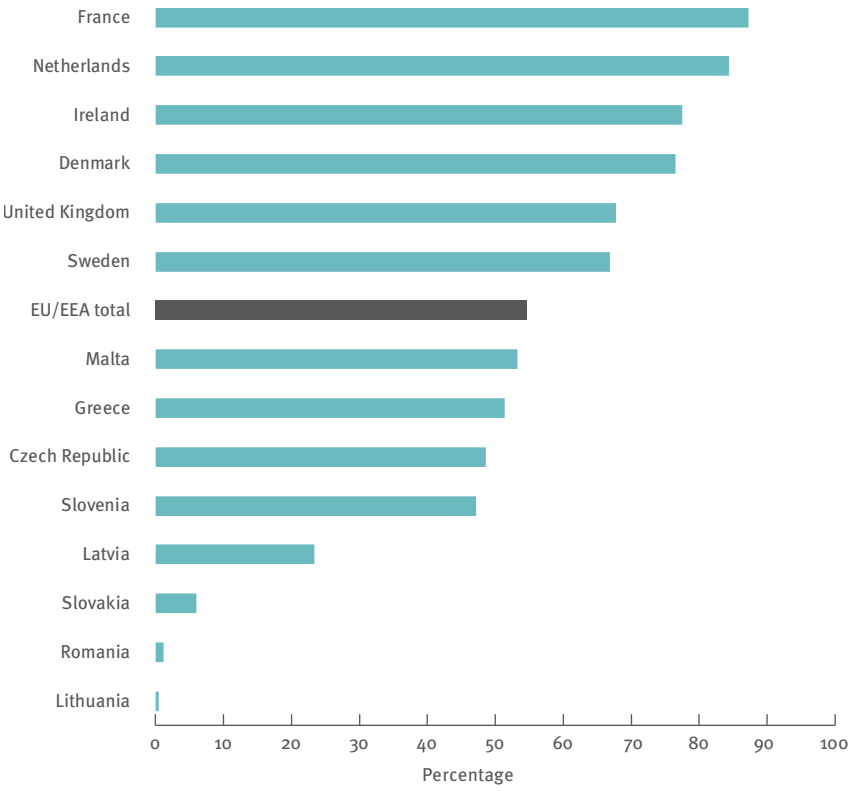
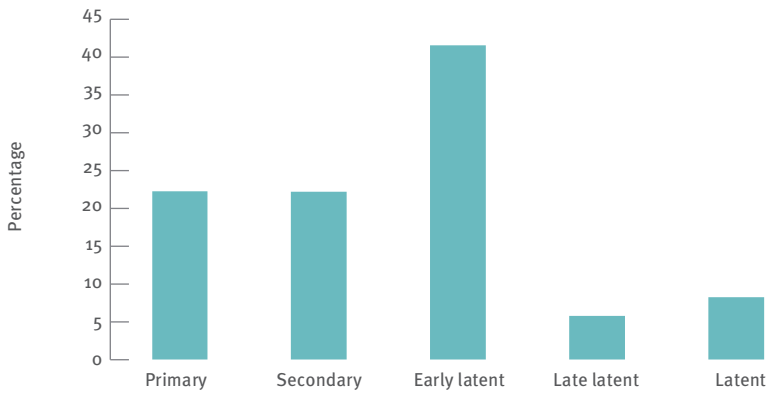


Figure 3.7: Percentage of syphilis cases by stage of infection, as reported by 14 EU/EEA countries, 2012 (n=4 856)



Note: Includes data from the Czech Republic, Estonia, France, Ireland, Latvia, Lithuania, Malta, the Netherlands, Norway, Portugal, Romania, Slovenia, Sweden and the United Kingdom.

very high rates in the 1990s (Bulgaria, Estonia, Latvia and Romania), have continued to report decreasing rates: a decrease by more than 30% was reported in Estonia, Latvia and Romania, although rates in Romania are still the highest in Europe. Rates in Ireland, Sweden and the United Kingdom appear to be stable, particularly in recent years. In other countries, however, rates have increased over this period (e.g. in the Czech Republic, Denmark, Spain). The increasing rates in Greece are most likely related to improved coverage of the surveillance system.

More recent trends (2008–2012) show a sharp increase in rates of syphilis, particularly in western Europe. In countries reporting more than ten cases in 2008, rates have increased by more than 50% (Denmark, Greece, Malta, Norway, Portugal and Slovakia; Figure 3.10).

As rates could not be calculated for countries with sentinel surveillance systems, the relative increase or decrease was calculated for the absolute number of reported syphilis cases per country in 2008–2012. The number of reported syphilis cases increased in 17 countries and decreased or remained the same in 12 countries (Figure 3.11). The largest decreases were observed in Cyprus, Italy and Romania. Increases greater than 100% were observed in Denmark, Greece and Portugal. Although the number of cases reported by Iceland increased by 150% between 2008 and 2012, less than five cases were reported annually during this time, and fluctuations in numbers make it difficult to identify an underlying trend.

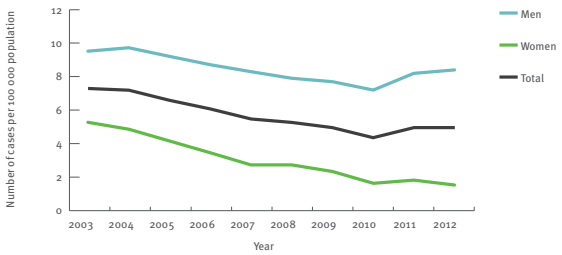
3.5 Discussion

The distribution of syphilis varied across countries, with rates ranging from below 1 to 8.5 per 100 000 population. In 2012, the rate of reported cases remained stable compared to 2011. Despite the decreasing or stable overall trends, a number of European countries have reported large increases between 2003 and 2012. The male-to-female ratio and gender-specific rates suggest that this is mainly due to increases in cases among men, and increasing transmission among MSM is likely to have contributed significantly to this trend. The long-term declining rate was strongly influenced by the decrease of reported cases in four countries (Bulgaria, Estonia, Latvia and Romania) that reported very high rates of syphilis in the past decade. These decreases may reflect changes in healthcare systems or reporting systems rather than an actual decrease in disease prevalence.

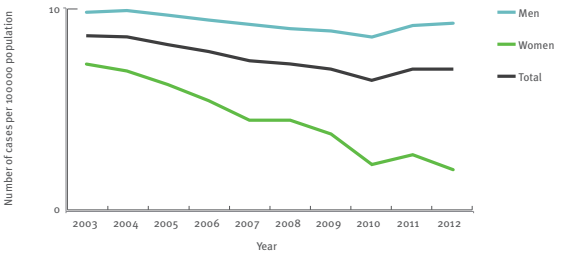
Less than one fifth of all syphilis cases were reported in young people between 15 and 24 years of age. This is the smallest proportion reported among all STIs. On the other hand, the proportion of syphilis cases reported in MSM was higher for syphilis compared with gonorrhoea and chlamydia. The proportion of syphilis cases among MSM varies across the EU/EEA, with high proportions reported in western and northern countries (Denmark, France, Ireland, the Netherlands, and Norway) but also in Slovenia and the Czech Republic, suggesting that syphilis is largely transmitted among MSM in the EU/EEA. The interpretation of these findings is hampered by incomplete reporting of the transmission mode. As for gonorrhoea, underreporting of cases in MSM is likely in many countries. Homosexually acquired cases may not be identified and reported as such. Alternatively, many male cases could have been acquired through contact with sex workers.

The increasing trend of syphilis in many EU/EEA countries can be partly explained by increased case detection through, for example, more testing among HIV-positive MSM as recommended in current HIV management guidelines, or to improved reporting. However, there is overwhelming evidence that behavioural changes, particularly among MSM, have contributed to the increasing trends in many countries, and this is reflected in increases in other STIs such as gonorrhoea and HIV among MSM.

Figure 3.8a–b: Trend in number of reported syphilis cases per 10 000 population, EU/EEA, 2003–2012

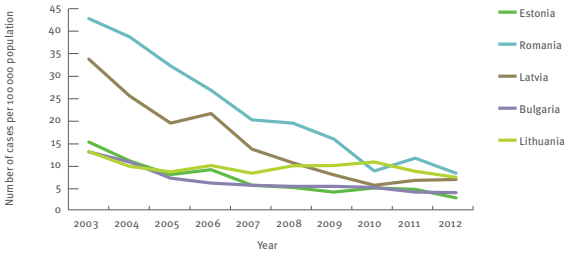


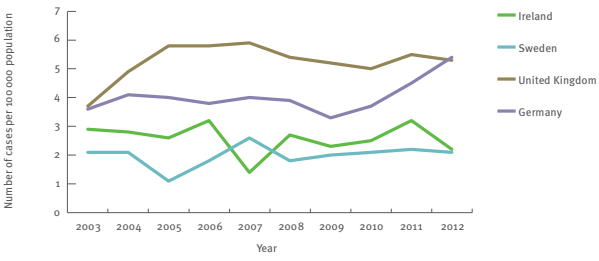
Please note that the Y-axis is on an arithmetic scale.

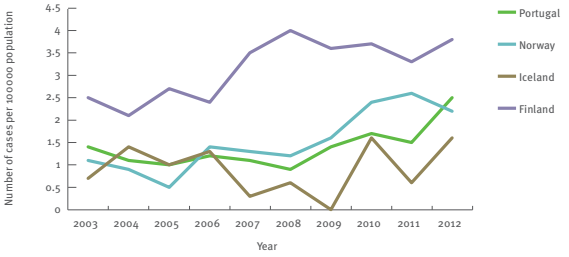


Please note that the Y axis is on a logarithmic scale.
Note: Includes data from Bulgaria, the Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Iceland, Ireland, Latvia, Lithuania, Norway, Portugal, Romania, Sweden and the United Kingdom.

Figure 3.9a–b: Syphilis cases per 100 000 population in selected EU/EEA countries, 2003–2012







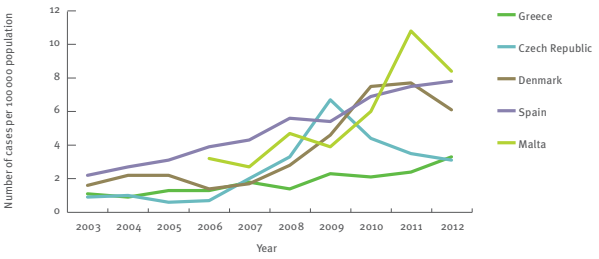


Figure 3.10: Relative change in notification rates, 21 EU/EEA countries with consistent reporting, 2008–2012

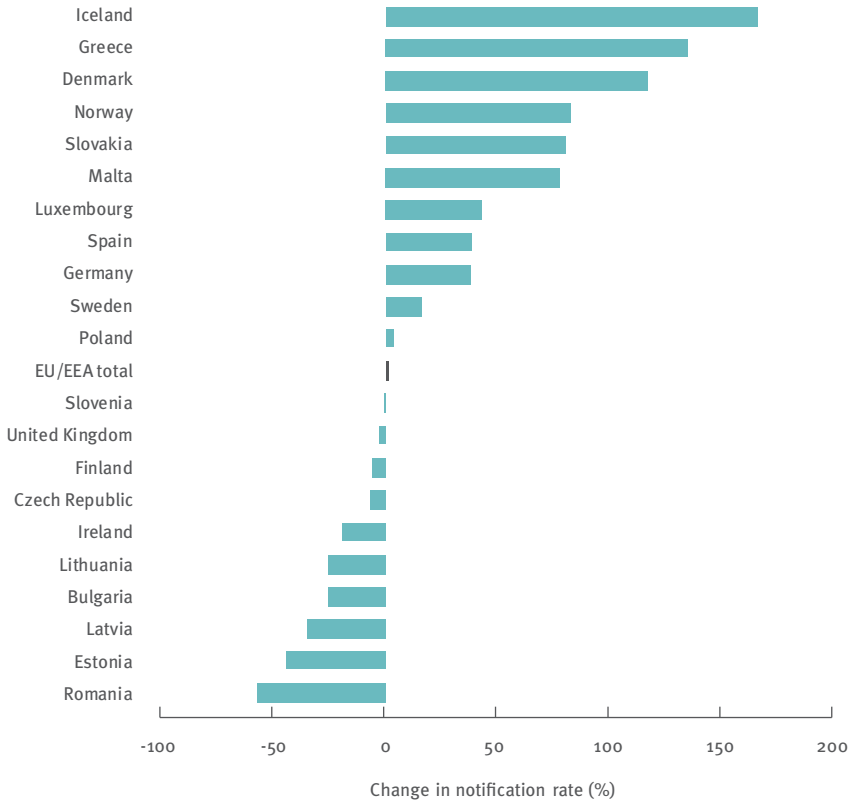
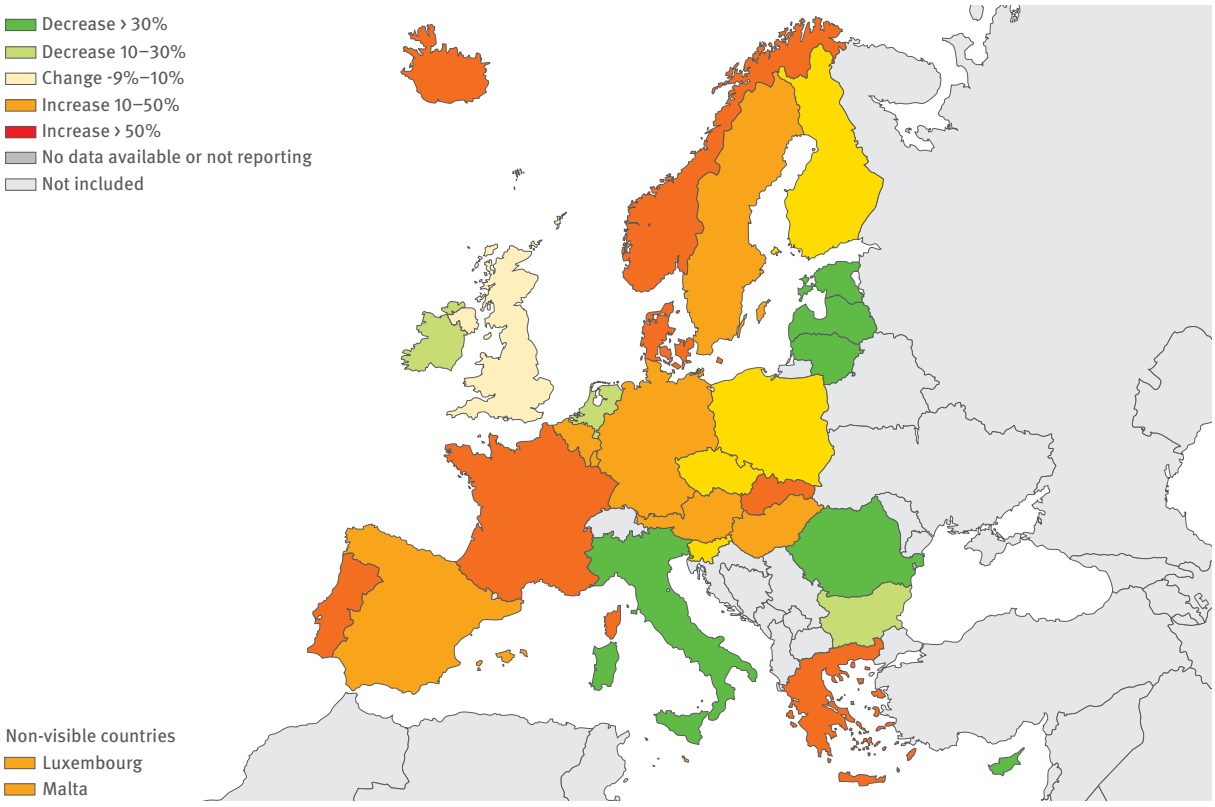


Figure 3.11: Relative increase or decrease in the number of reported syphilis cases, EU/EEA, 2008–2012



Note: Increased case numbers reported in Greece are mainly due to improvements in surveillance system coverage.
Iceland reported two cases of syphilis in 2008 and five cases in 2012.

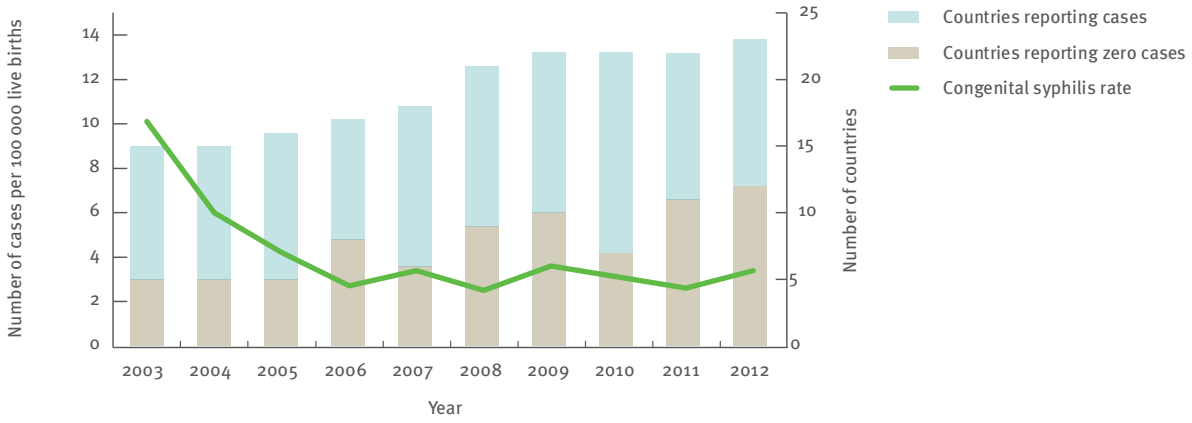
4 Congenital syphilis

Table E: Congenital syphilis: data source, type of data surveillance, surveillance period, 2012

Country	Data source	Type	Period	Legal status	Coverage
Austria					
Belgium					
Bulgaria	BG-STI	A	2005–2012	C	Co
Croatia					
Cyprus					
Czech Republic	CZ-STD	A	1990–1998	C	Co
	CZ-STD	C	1999–2012	C	Co
Denmark	DK-LAB	C	1991–1999		
Estonia	EE-CONSYPH	C	1998–2012	C	Co
Finland					
France					
Germany	DE-SURVNET@RKI-7.3	C	2001–2012	C	Co
Greece	GR-NOTIFIABLE_DISEASES	C	2008–2011	C	Co
Hungary	HU-STD SURVEILLANCE	A	1990–2007	C	Co
	HU-STD SURVEILLANCE	C	2008–2010	C	Co
Iceland					
Ireland	IE-SYPHILIS	C	2010–2010	C	Co
Italy	IT-NRS	C	1998–2012	C	Co
Latvia	LV-STI/SKIN_INFECTIONS	A	1990–2007	C	
	LV-BSN	C	2008–2012	C	Co
Liechtenstein					
Lithuania	LT-COMMUNICABLE_DISEASES	A	2003–2007	C	Co
	LT-COMMUNICABLE_DISEASES	C	2008–2012	C	Co
Luxembourg					
Malta					
Netherlands					
Norway	NO-MSIS_B	C	1995–1995		
Poland	PL-NATIONAL_SURVEILLANCE	A	2007–2012	C	Co
Portugal	PT-CONGENITAL_SYPHILIS	C	1999–2012	C	Co
Romania	RO-RNSSy	A	1990–2009	C	Co
	RO-RNSSy	C	2008–2012	C	Co
Slovakia	SK-EPIS	C	2008–2011	C	Co
Slovenia	SI-SPOSUR	C	2006–2012	C	Co
Spain	ES-STATUTORY_DISEASES	C	1997–2012	C	Co
Sweden	SE-SMINET	C	2001–2012	C	Co
United Kingdom	UK-GUM	A	1990–2009	C	Co
	UK-GUM-COM-LAB	A	2010–2012	O	Co

Legend: type: aggregated (A); case-based (C); legal status: voluntary reporting (V), compulsory reporting (C), other (O); coverage: sentinel system (Se), comprehensive (Co)

Figure 4.1: Number of reported congenital syphilis cases per 100 000 live births and number of countries reporting congenital syphilis data, 24 EU/EEA countries, 2003–2012



4 Congenital syphilis

4.1 Key points

- In 2012, 91 congenital syphilis cases were reported from 23 EU/EEA Member States, an overall rate of 3.4 per 100 000 live births.
- The trend of reported congenital syphilis cases has remained stable over the years, but it is suspected that there is considerable underreporting: eight countries do not report congenital syphilis, and a further 12 reported zero cases in 2012.
- The low rates of congenital syphilis and decreasing rates of reported syphilis among women suggest that most Member States have systems in place to reach the elimination of congenital syphilis; better indicator data are needed, however, to assess the effectiveness of antenatal screening programmes in all EU/EEA countries.

4.2 Facts and figures

Congenital syphilis data were available from 23 countries. Congenital syphilis is not a reportable disease in Austria, Finland and Liechtenstein. In Belgium, syphilis, including congenital syphilis, is a reportable disease; however, underreporting exists and Belgian databases do not support the unambiguous identification of congenital cases.

Table E specifies the source of the data, the type of data (aggregate or case-based), the coverage (sentinel or comprehensive) and the surveillance period. It shows the existing heterogeneity in systems as well as recent changes in systems and reporting periods. It also shows that only four countries submitted data on congenital syphilis for the period from 1990 to 2012 (the Czech Republic, Latvia, Romania and the United Kingdom). Reporting has improved in recent years, but eight countries still do not report data for congenital syphilis.

In 2012, 91 confirmed cases of congenital syphilis were reported in 11 countries, while 12 countries reported zero cases. The majority of cases were reported from Poland (32 cases), Bulgaria (29) and Portugal (12). The number of congenital cases reported in 2012 was the same as 2011, however the number of cases reported from Poland doubled (Table 19a).

Between 2003 and 2012, 1225 cases of congenital syphilis were reported by 24 countries, with varying degrees of completeness over time (Table 19a). Rates were calculated per 100 000 live births (Table 20) (Figure 4.1) and appear to have stabilised since 2006, following a period of decline, mainly related to large decreases in reported numbers of cases from Latvia and Romania. The rate of congenital syphilis was 3.4 cases per 100 000 live births in 2012, with the highest rates observed in Bulgaria (42 per 100 000) and Portugal (13.4). It should be noted that eight countries did not report congenital syphilis data for 2012, and it is possible that a significant number of diagnosed cases were not reported.

4.3 Discussion

Congenital syphilis rates have been stable in the EU/EEA since 2005. During this time, rates of syphilis among women have decreased by 62 %, from 4.2 per 100 000 in 2005 to 1.6 in 2012. Although the number of countries reporting congenital syphilis data has increased over time, it is likely that there is underreporting of congenital syphilis cases in some countries, which makes it difficult to evaluate the effectiveness of antenatal screening programmes for congenital syphilis. In conjunction with its call for the elimination of congenital syphilis, the World Health Organization has identified three indicators to monitor programme progress:

- the proportion of women tested for syphilis at their first antenatal care visit;
- the proportion of pregnant women with a positive test for syphilis; and
- the proportion of syphilis-positive pregnant women treated for syphilis, ideally by week 24 of gestation.

These three indicators let countries estimate programme effectiveness, defined as ‘the estimated proportion of all syphilis-positive pregnant women treated by 24 weeks of gestational age.’ An ECDC project is currently investigating the effectiveness of national screening programmes.

5 Lymphogranuloma venereum

Table F: LGV: data source, data type and surveillance period, 2012

Country	Data source	Type	Period	Legal	Coverage
Belgium	BE-STD	C	2008–2012	V	Se
Czech Republic	CZ-STD	C	2010–2012	C	Co
Denmark	DK-LAB	C	2006–2008		
Finland	FI-NIDR	C	2011–2012	C	Co
France	FR-STI	C	2010–2012	V	Se
Hungary	HU-STD SURVEILLANCE	A	1990–2012	C	Se
Ireland	IE-AGGR_STI	A	1995–2008	C	Co
	IE-LGV	C	2010–2012	C	Co
Italy	IT-COA ISS- STI clin	C	2008–2011	V	Se
Netherlands	NL-STI	C	2004–2012	V	Se
United Kingdom	UK-ENHANCED	A	2005–2010	V	
	UK-LGV	C	2011		
	UK-GUM-COM-LAB	C	2012	O	Co

Legend: type: aggregated (A); case-based (C); legal: voluntary reporting (V), compulsory reporting (C), other (O); coverage: sentinel system (Se); comprehensive (Co)

Figure 5.1: Number of reported LGV cases in five EU countries, 2004–2012

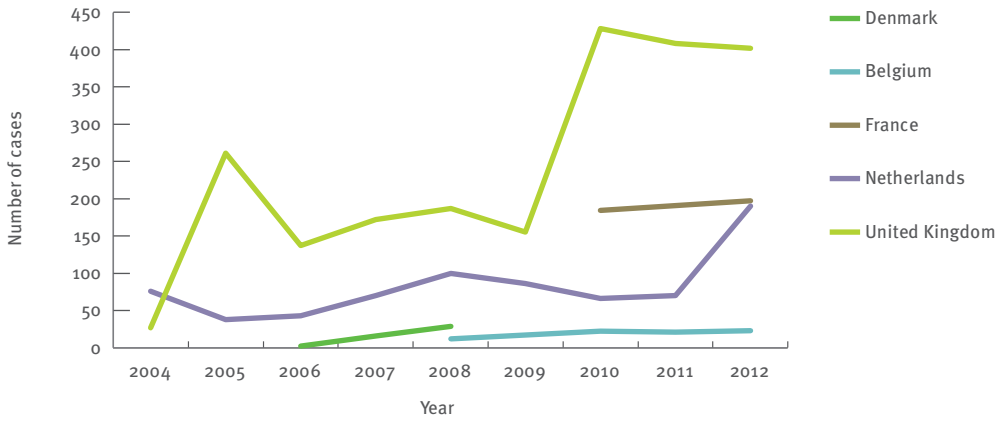
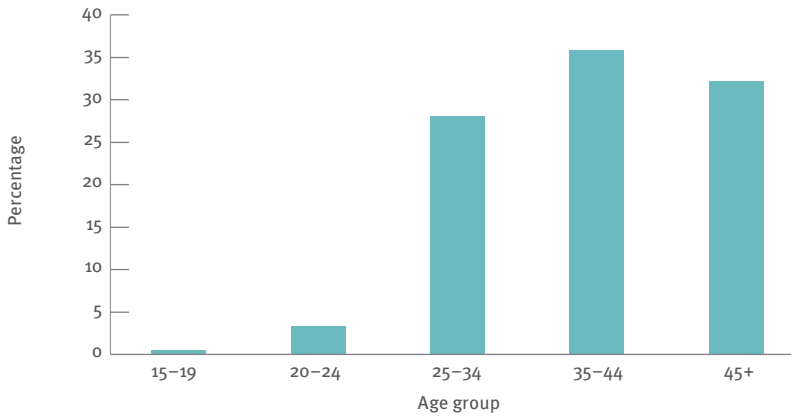


Figure 5.2: Percentage of LGV cases by age group, EU/EEA (n=829), 2012



Note: Includes data from Belgium, the Czech Republic, Finland, France, Hungary, Ireland, the Netherlands and the United Kingdom
Two cases were reported in women in 2012, both in the 20–24-year age group

5 Lymphogranuloma venereum

5.1 Key points

- In 2012, 830 cases of lymphogranuloma venereum (LGV) were reported in eight countries.
- The number of reported cases in 2012 has increased by 17 % compared with 2011.
- A number of countries (including Spain and Sweden) have reported no cases, but it is likely that there is considerable underreporting of LGV.

5.2 Facts and figures

Data on lymphogranuloma venereum (LGV) were provided by 17 countries between 2004 and 2012, but only ten reported cases (Belgium, the Czech Republic, Denmark, Finland, France, Hungary, Ireland, Italy, the Netherlands and the United Kingdom). Cyprus, Estonia, Latvia, Luxembourg, Malta, Poland, Slovenia, and Sweden reported zero cases of LGV. No information was available for the remaining countries (Table 21a).

Table F specifies the source of the data, the type of data (aggregate or case-based), the coverage (sentinel or comprehensive) and the surveillance period for the eight countries which actually reported LGV cases. It shows the existing heterogeneity in systems as well as recent changes in systems and reporting periods. Rates per 100 000 population were not calculated for LGV.

In 2012, 830 cases of LGV were reported in eight countries (2011: 710 cases), including the first case reported in Hungary. Between 2004 and 2012, 3 691 cases of LGV were reported in ten countries, with the majority of cases reported in the United Kingdom (2 177 cases), the Netherlands (739) and France (572) (Figure 5.1).

The transmission category was known for 296 cases in 2012 (36 % of all re=ported cases); 295 cases were reported among MSM, and one case was reported in a heterosexual male. Age was reported for 829 cases, with the highest proportion (36 %) aged 35–44 years (Figure 5.2).

In 2012, information on HIV status was available for 422 cases (53 %), of whom 59 % were reported as HIV-positive, 16 % as HIV-negative and 24 % as unknown. Of all cases with known HIV status, 79 % were HIV-positive. The United Kingdom did not report the HIV status of cases reported in 2012, which resulted in low completeness for this variable. Between 2004 and 2012, information on HIV status was available for 2 398 cases (65 %), of which 71 % were reported as HIV-positive, 17 % as HIV-negative, and 13 % as unknown.

The overall trend for reported cases of LGV has been on the increase during this period. Compared with 2011, the number of cases reported in 2012 increased by 17 %, mainly related to increased reports from the Netherlands.

It must be noted that many countries do not routinely report LGV and that diagnosis of LGV is complicated because it needs to be confirmed by genotyping. Therefore, the actual prevalence is very likely to be greatly underestimated.

5.3 Discussion

In 2012, the number of reported cases of LGV continued to increase. The increase, mainly due to more cases reported by the Netherlands, indicates that LGV transmission continues mainly among HIV-positive MSM[2]. Different, and at times insufficient, testing strategies fail to detect a substantial number of asymptomatic cases[2,3]. Reporting of LGV cases is likely to remain incomplete at the European level because many countries have insufficient testing capabilities or inadequate reporting systems for the disease.

2 Rönn M, Hughes G, Simms I, Ison C, Alexander S, White P, et al. Challenges presented by re-emerging sexually transmitted infections: an observational study of lymphogranuloma venereum in the UK. The Lancet. 2013;382:S86.

3 Koper NE, van der Sande MA, Gotz HM, Koedijk FD. Lymphogranuloma venereum among men who have sex with men in the Netherlands: regional differences in testing rates lead to underestimation of the incidence, 2006–2012. Euro Surveill. 2013 Aug 22;18(34).

6 Discussion and conclusion

Table G: Comparison of indicators: chlamydia, gonorrhoea and syphilis, EU/EEA, 2012

Indicators	Chlamydia	Gonorrhoea	Syphilis
Rate per 100 000 population*	184.2	15.3	5.1
Number of countries reporting	26	29	30
Change in reported rates between 2008 and 2012*	−0.9 %	+62 %	+2 %
Male-to-female ratio in reported cases**	0.7:1	2.8:1	4.9:1
Percentage in 15–24-year-olds**	68 %	41 %	15 %
Rate for 20–24-year-olds per 100 000 population*	621.0	89.0	3.5
Percentage in MSM**	6 %	38 %	48 %

* Calculated for countries with comprehensive surveillance systems

** Based on countries reporting the underlying data

6 Discussion and conclusion

This report presents EU/EEA-wide data on four STIs and congenital syphilis for 2003–2012, as reported by individual Member States through their STI surveillance systems. The results describe the epidemiology of STIs in Europe, which, although blurred by the heterogeneity of surveillance systems across Europe, gives a good indication of where the public health burden of STIs lies.

In order to interpret the findings more accurately, a thorough understanding of the characteristics of national surveillance systems and national screening and testing policies is needed. Table G summarises a set of indicators which can be used to describe the key features of the three main STIs under surveillance in the EU/EEA.

Chlamydia infection continues to be the most frequently reported STI in Europe, with an overall rate of 184 per 100 000 population in 2012. Chlamydia shows the widest variation in reported rates, with a 2000-fold difference between countries with the lowest and highest reported rates. By contrast, gonorrhoea and syphilis show substantially less variation in reported rates between countries.

Syphilis appears to be the most completely reported disease among the five STIs, with long-standing surveillance based on serology in most European countries; completeness, however, of some of the reported variables – for example mode of transmission data – is relatively low. For all five STIs, the number of reported cases is most likely only a fraction of their true incidence, with many cases not diagnosed or not reported.

The large variation in chlamydia rates suggests that the detection and reporting of chlamydia cases is incomplete in several countries. The implementation of sentinel surveillance systems to monitor trends in clinical testing services, rather than mandatory comprehensive notification systems, also means that many countries only capture a subset of all diagnoses made in the country; interpretation of such data is affected by the populations targeted by these clinical testing services, and these populations differ across countries.

Surveillance data suggest that the ongoing epidemics of chlamydia, gonorrhoea and syphilis affect different subpopulations as characterised by age, gender and sexual orientation. Chlamydia is the only STI of the three which is reported more frequently in women than men, with a rate of 211 per 100 000 in women and 153 in men, though this ratio is influenced by the greater exposure of women to screening and testing. Gonorrhoea and syphilis were reported more often among men, with male-to-female ratios of 2.7:1 and 3.9:1, respectively. The rate of gonorrhoea among men was 25.7 per 100 000, compared with 9.2 in women. Similarly, the rate of syphilis was higher in men (7.7) than in women (1.7).

The low rates of syphilis and gonorrhoea among women are encouraging, considering the aim to eliminate mother-to-child transmission of syphilis and the reproductive health risk of gonorrhoea. The high rates of chlamydia among young women indicate that some countries are successfully implementing effective case detection and management, thus reducing the likelihood of reproductive tract complications from the infection; consistently high rates suggest, however, that there is little, if any, effect of current chlamydia control activities on overall prevalence.

There are also differences in the affected age groups: while young adults contributed only 14 % of all syphilis cases, their role was more pronounced for gonorrhoea (42 %) and chlamydia (68 %), reflecting not only the prevalence of the disease in these age categories but also testing and screening practices, particularly for chlamydia.

Almost half of all syphilis cases with information on transmission category were reported in MSM (gonorrhoea: 38 %, chlamydia: 6 %) indicating a higher prevalence of syphilis in MSM. Although the proportion of cases among MSM varies among countries, the high male-to-female ratio in some countries indicates that it is likely that transmission among MSM is even more important than reported here. The reasons for insufficient reporting of MSM transmission could be related to incomplete reporting at the national level, and in some countries, stigmatisation of MSM might affect disclosure to clinicians and reporting.

MSM clearly play a disproportionate role in transmission of gonorrhoea, syphilis and LGV in Europe, highlighting the importance of obtaining reliable epidemiological information to inform prevention measures that should be specifically targeted at this vulnerable population.

The epidemic of LGV among MSM in western Europe continues with an increase in reported cases in 2012 over the previous year, mainly due to an increased number of diagnoses in the Netherlands. The proportion of cases co-infected with HIV remains high. Although the number of countries reporting LGV has increased over time, no reports were received from Germany, Italy, Portugal, Spain and Sweden, hampering the monitoring of the ongoing LGV epidemic. Enhanced surveillance systems and strengthened case ascertainment have been initiated in a number of countries, for example France, the Netherlands, and the United Kingdom. Recent reports suggest that even where LGV testing and surveillance are well developed, cases may be missed due to regional differences in testing algorithms[4].

4 Koper NE, van der Sande MA, Gotz HM, Koedijk FD, on behalf of the Dutch STI clinics. Lymphogranuloma venereum among men who have sex with men in the Netherlands: regional differences in testing rates lead to underestimation of the incidence, 2006–2012. Euro Surveill. 2013;18(34)

Congenital syphilis is still a problem in a number of countries. In 2012, increases were reported in Poland, suggesting that antenatal syphilis care needs to be strengthened further in a number of countries. ECDC is currently reviewing the effectiveness of antenatal screening programmes for syphilis, HIV and hepatitis B. Further guidance in this field is also planned. Additional efforts are needed in order to reach the target of eliminating mother-to-child transmission of syphilis as formulated by the World Health Organization[5].

The changing use of diagnostics across the EU/EEA has affected STI surveillance findings. The increasing use of more sensitive tests such as NAAT across Europe has resulted in an increased number of diagnoses of both chlamydia and gonorrhoea. However, there are still countries that do not use NAAT consistently used, which leads to underdiagnosis, particularly for asymptomatic chlamydia and gonorrhoea infections. On the other hand, the use of NAAT affects the capacity of some countries to perform susceptibility testing for *Neisseria gonorrhoeae*. With the threat from strains which are resistant to third-generation cephalosporins, it is essential to ensure that countries remain able to perform cultures and susceptibility testing. The European Gonococcal Antimicrobial Susceptibility Surveillance Programme[6] aims to support countries in performing culture and susceptibility testing through a quality assessment programme. In 2012, ECDC also launched a response plan to control and manage the threat of multidrug-resistant gonorrhoea in Europe, with the aim of supporting the EU/EEA Member States in controlling this threat[7].

National testing and screening policies have a major effect on reported cases. Chlamydia data in particular are affected by the testing policies implemented at national level, which vary across Europe as described in a forthcoming ECDC report. Countries with screening programmes or opportunistic testing policies tend to report higher rates of chlamydia. The target groups of these policies (for example young adults) clearly influence the surveillance results. A deeper understanding of the groups being tested across Europe would allow for better interpretation of surveillance data. In this sense, monitoring positivity results in selected settings and for specific groups over time is likely to provide better data on chlamydia epidemiology across Europe.

Testing policies also affect gonorrhoea surveillance. Recent guidance from BASHH[8], for example, which included the use of NAAT to test rectal and pharyngeal specimens and recommended testing at multiple sites among MSM, is likely to have led to increased testing at these sites, where infection is frequently asymptomatic, leading to increased diagnoses. Similarly, inclusion of syphilis testing in the management of HIV-positive MSM might lead to increased testing among a high-risk group leading to more syphilis diagnoses. Variations in policies across the EU/EEA result in different rates of underdiagnosis across Europe.

Changes in testing policies and coverage are likely to affect the interpretation of long-term STI trends. The increasing trend in chlamydia notification rates over the last decade is most likely due to improved case detection, better diagnostic tools, more sensitive surveillance systems, and new chlamydia screening programmes in some countries. Decreasing or low rates may reflect the lack of accurate diagnostic tools or diagnostic capacity in a number of countries rather than an actual low prevalence of chlamydia.

In recent years, trends in chlamydia rates appear to have stabilised. Trends in gonorrhoea rates have been increasing in recent years: since 2008, the overall rate of gonorrhoea has shown an upturn, particularly among men. Remarkable increases have also been noted in many European countries and – based on the male-to-female ratio and the proportion of cases among MSM, where reported – this appears to be most likely due to increased numbers of cases among MSM. Syphilis rates showed a long-term decreasing trend overall, which has stabilised since 2010. Gender-specific trends, however, are divergent, and rates among men appear to have started increasing while rates among women have continued on a downward trend.

Although the surveillance data presented in this report are strongly affected by the heterogeneity in healthcare and surveillance systems across Europe, some key points are clear. Chlamydia continues to be the most prevalent STI, with high rates in the western and northern parts of Europe, where countries focus on testing young adults in order to decrease the number of complications from the infection. Trends in gonorrhoea and syphilis rates differ across countries, but increasing rates in most European countries are in large part due to an increasing number of diagnoses among MSM. While increased testing is likely to account for part of the increase, the concurrent increase in HIV among MSM and data showing high levels of risk behaviour suggest that increased transmission is also playing a role.

The quality of surveillance data in Europe needs to continue to improve to better monitor disease trends and evaluate public health responses, such as the prevention and control efforts for sexually transmitted infections.

5 World Health Organization. The global elimination of congenital syphilis: rationale and strategy for action. Geneva: WHO; 2007. Available from: http://whqlibdoc.who.int/publications/2007/9789241595858_eng.pdf

6 European Centre for Disease Prevention and Control. Gonococcal antimicrobial susceptibility surveillance in Europe, 2012. Stockholm: ECDC, 2014.

7 British Association of Sexual Health and HIV. United Kingdom national guideline for gonorrhoea testing 2012. Macclesfield: BASHH; 2012. Available from: http://www.bashh.org/documents/4490.pdf

8 British Association of Sexual Health and HIV. United Kingdom national guideline for gonorrhoea testing 2012. Macclesfield: BASHH; 2012. Available from: http://www.bashh.org/documents/4490.pdf

Tables

Chlamydia

Table 1a: Chlamydia: number of cases by year of diagnosis, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria					822	742	597	1085	1004	
Belgium				2060	2480	2601	2942	3310	3566	4667
Bulgaria								49	55	131
Croatia										305
Cyprus				6	0	1	4	3	6	10
Czech Republic										
Denmark	18353	21628	23881	24866	25795	29116	29825	27950	26617	26385
Estonia	2969	2771	2541	2529	2536	2206	2003	1729	1775	1541
Finland	12866	13378	12744	13878	13968	13873	13317	12825	13666	13247
France	2404	3031	3340	3973	4725	6219	7516	9083	10969	13011
Germany										
Greece						71	327	657	502	396
Hungary	488	431	585	598	699	754	711	710	858	1060
Iceland	1638	1736	1622	1728	1813	1834	2271	2197	2091	1918
Ireland	2258	2803	3353	3144	5023	6290	5781	5399	6407	6162
Italy					261	210	610	736	715	469
Latvia	502	528	729	820	716	750	1142	1000	1565	1727
Liechtenstein										
Lithuania	390	406	563	556	403	403	326	367	343	265
Luxembourg				1	0	4	0	2	1	4
Malta			5	43	70	108	67	138	146	139
Netherlands		5075	5937	7140	7821	9355	9788	11374	12922	14731
Norway				21259	22847	23488	22754	22527	22530	21489
Poland				612	627	695	908	539	319	314
Portugal										
Romania	0	5	156	238	115	127	91	97	133	59
Slovakia				61	78	105	228	188	305	753
Slovenia			9	146	198	120	135	176	232	249
Spain	115	120	148	139	223	402	846	947	1059	909
Sweden	26794	32263	33035	32518	47081	41974	37775	36814	37290	37691
United Kingdom	97635	106384	111162	115257	123629	206339	218392	218560	215972	237675
EU/EEA total	**166412**	**190559**	**199810**	**231572**	**261930**	**347787**	**358356**	**358462**	**361048**	**385307**

Numbers for Sweden use 'date used for statistics'.

Table 1b: Chlamydia: number of cases by year used for statistics, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria					822	742	597	1085	1004	
Belgium				2060	2480	2601	2942	3310	3566	4667
Bulgaria								49	55	131
Croatia										305
Cyprus				6	0	1	4	3	6	10
Czech Republic										
Denmark	18353	21628	23881	24866	25795	29116	29825	27950	26617	26385
Estonia	2969	2771	2541	2528	2480	2200	2015	1737	1763	1596
Finland	12866	13378	12744	13878	13968	13873	13317	12825	13666	13247
France	2404	3031	3340	3973	4725	6219	7516	9083	10969	13011
Germany										
Greece						71	327	657	502	396
Hungary	488	431	585	598	699	754	711	710	858	1060
Iceland	1638	1736	1622	1728	1813	1834	2271	2197	2091	1918
Ireland	2258	2803	3353	3144	5023	6290	5781	5399	6407	6162
Italy					261	210	610	736	715	469
Latvia	502	528	729	820	711	704	1127	1042	1576	1740
Liechtenstein										
Lithuania	390	406	563	556	403	403	326	367	343	265
Luxembourg				1	0	4	0	2	1	4
Malta				45	71	107	61	138	155	139
Netherlands		5075	5937	7140	7821	9355	9788	11374	12922	14731
Norway				21259	22847	23488	22754	22527	22530	21489
Poland				612	627	695	908	539	319	314
Portugal										
Romania	0	5	156	238	115	127	91	97	133	59
Slovakia				61	78	105	228	186	306	754
Slovenia				144	201	127	136	176	232	249
Spain	115	120	148	139	223	402	846	947	1059	909
Sweden	26794	32263	33035	32518	47081	41974	37775	36814	37290	37691
United Kingdom	97635	106384	111162	115257	123629	206339	218392	218560	215972	237675
EU/EEA total	**166412**	**190559**	**199796**	**231571**	**261873**	**347741**	**358348**	**358510**	**361057**	**385376**

Table 2: Chlamydia: number of cases by gender, 2003–2012

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Country	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	631	454	604	400		
Belgium							542	1508	680	1786	809	1780	1020	1910	1133	2163	1296	2255	1640	3013
Bulgaria															20	29	23	32	55	76
Croatia																			54	251
Cyprus							4	2			1			4	2	1	3	3	3	7
Czech Republic																				
Denmark	5941	12390	7662	13943	8680	15168	9200	15650	9660	16106	10745	18338	11317	18493	10526	17401	10067	16508	10125	16241
Estonia	640	2329	604	2167	473	2068	408	2121	438	2098	336	1870	365	1638	258	1471	276	1499	249	1292
Finland	4977	7889	5322	8056	5053	7691	5621	8257	5673	8295	5656	8217	5482	7835	5298	7527	5570	8096	5444	7803
France	733	1671	1036	1995	1162	2177	1263	2708	1555	3169	1817	4330	2152	5274	2581	6427	3238	7634	4088	8805
Germany																				
Greece											39	1	51	48	81	336	112	390	66	325
Hungary	266	222	255	176	348	237	375	223	438	261	500	254	490	221	487	223	598	260	735	325
Iceland	614	962	645	1019	612	949	648	1024	679	1068	703	1079	892	1367	841	1293	799	1247	731	1138
Ireland	993	1234	1264	1492	1518	1763	1454	1659	2042	2877	2481	3540	2303	3388	2409	2895	2761	3446	2712	3300
Italy									173	88	133	77	286	324	369	367	382	333	171	298
Latvia	352	150	364	164	516	213	533	287	454	262	404	346	524	618	359	641	508	1057	526	1201
Liechtenstein																				
Lithuania											177	226	173	153	243	124	198	145	145	120
Luxembourg							1				2					2			2	2
Malta					4	1	21	22	47	21	64	38	38	28	83	55	90	56	95	44
Netherlands			2633	2441	3047	2889	3588	3551	3918	3901	4880	4473	5115	4671	5908	5463	6782	6137	7666	7062
Norway							8181	12932	8674	14003	9031	14346	8578	14088	8587	13868	8753	13701	8529	12912
Poland							473	139	462	165	490	205	544	364	406	133	247	72	236	78
Portugal																				
Romania			1	4	127	29	184	54	89	26	91	36	67	24	71	26	108	25	55	4
Slovakia							25	36	20	58	38	67	86	142	36	152	115	190	300	453
Slovenia					8	1	91	55	141	57	89	31	103	31	115	61	160	71	169	80
Spain	27	86	39	81	44	101	37	102	55	168	163	238	365	480	427	517	545	513	495	403
Sweden	11482	15299	14027	18208	14239	18752	14080	18436	20230	26850	18253	23714	16322	21449	15868	20943	16077	21211	16260	21431
United Kingdom	43266	54369	48695	57689	52148	59014	56336	58921	60953	62676	81906	123035	85429	131524	87724	130149	87656	127684	96946	137992
EU/EEA total	**69291**	**96601**	**82547**	**107435**	**87979**	**111053**	**103065**	**127687**	**116773**	**144365**	**139196**	**206595**	**142017**	**214356**	**144463**	**212721**	**146968**	**212965**	**157497**	**224656**

Note: Numbers for Sweden use 'date used for statistics'.

Table 3: Chlamydia: number of cases per 100 000 population, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria										
Belgium										
Bulgaria								0.7	0.7	1.8
Croatia										7.2
Cyprus				0.8	0	0.1	0.5	0.4	0.7	1.2
Czech Republic										
Denmark	340.9	400.7	441.3	458.2	473.6	531.7	541.1	505	478.7	472.8
Estonia	217.6	204	187.7	187.5	188.8	164.5	149.6	129.3	132.8	115.5
Finland	247.1	256.3	243.4	264.1	264.7	261.7	250	239.7	254.2	245.3
France										
Germany										
Greece						0.6	2.9	5.8	4.5	3.6
Hungary										
Iceland	567.8	597.4	552.5	576.2	589.3	581.4	711.1	691.7	656.6	600.2
Ireland	57	69.6	81.6	74.7	115.7	141.1	127.9	118.7	140.2	134.5
Italy										
Latvia	21.8	23.2	32.4	36.8	32.4	34.2	52.8	47.2	75.4	84.5
Liechtenstein										
Lithuania	11.4	11.9	16.8	16.9	12.4	12.5	10.2	11.7	11.2	8.8
Luxembourg			0	0.2	0	0.8	0	0.4	0.2	0.8
Malta			1.2	10.6	17.3	26.5	16.3	33.3	35.2	33.3
Netherlands										

Table 3: Chlamydia: number of cases per 100 000 population, 2003–2012 (continued)

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Norway				458.1	488.1	495.8	474.1	463.7	457.9	431
Poland				1.6	1.6	1.8	2.4	1.4	0.8	0.8
Portugal										
Romania	0	0	0.7	1.1	0.5	0.6	0.5	0.5	0.7	0.3
Slovakia				1.1	1.5	2	4.2	3.5	5.7	13.9
Slovenia			0.5	7.3	9.8	6	6.6	8.6	11.3	12.1
Spain										
Sweden	299.7	359.4	366.6	359.4	516.6	457.1	408.1	394.1	396	397.5
United Kingdom	165.2	179.2	186	191.5	203.9	337.6	354.6	352.3	345.3	377.3
EU/EEA total	**181.6**	**162.9**	**165.9**	**132.6**	**149.8**	**185.9**	**190.3**	**179.3**	**178**	**184.2**

Note: Rates are only calculated for countries with comprehensive surveillance.
Numbers for Sweden use 'date used for statistics'.

Table 4: Chlamydia: number of cases per 100 000 population by gender, 2003–2012

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Country	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria																				
Belgium																				
Bulgaria															0.6	0.8	0.6	0.8	1.5	2
Croatia																			2.6	11.6
Cyprus							1.1	0.5	0	0	0.3	0	0	1	0.5	0.2	0.7	0.7	0.7	1.6
Czech Republic																				
Denmark	223.1	455.3	287	511.2	324.2	554.8	342.5	570.8	358.2	585.6	396.1	663.7	414.2	665.4	383.7	623.4	365.2	588.7	365.9	577.2
Estonia	101.1	318.3	95.9	297.5	75.3	284.9	65.2	293.5	70.2	291.6	53.9	260.4	58.6	228.6	41.4	205.8	44.3	210.2	40	181.6
Finland	195.6	296.4	208.5	302.1	197.2	287.6	218.5	307.7	219.6	308	217.8	303.9	209.9	288.6	201.8	276.1	211.1	295.8	205.2	283.9
France																				
Germany																				
Greece											0.7	0	0.9	0.8	1.4	5.9	2.1	6.9	1.2	5.7
Hungary																				
Iceland	425.5	667.2	443.6	701.9	415.8	648.2	428.6	688.7	433.7	706.8	436.9	698.1	550.4	869	525.8	819.9	499.4	787	455.8	714.8
Ireland	50.4	61.9	63.1	73.7	74.1	85.5	69.1	78.8	94	132.7	111.4	158.7	102.2	149.3	106.5	126.5	121.7	149.7	119.5	142.7
Italy																				
Latvia	33.4	12.1	34.9	13.3	50	17.5	52.2	23.8	44.8	21.9	40.1	29.2	52.8	52.8	37	55.8	53.6	93.8	56.3	108.2
Liechtenstein																				
Lithuania											11.9	13.1	11.7	8.9	16.8	7.3	14.1	8.8	10.5	7.4
Luxembourg							0.4	0	0	0	0.8	0	0	0	0	0.8	0	0	0.8	0.8
Malta					2	0.5	10.5	10.8	23.3	10.3	31.6	18.5	18.6	13.6	40.3	26.5	43.6	26.8	45.7	21
Netherlands																				
Norway							355.4	553.1	372.9	594.5	382.7	603.4	358.2	586	353.8	570.4	355.7	557.1	341.3	519.2
Poland							2.6	0.7	2.5	0.8	2.7	1	3	1.8	2.2	0.7	1.3	0.4	1.3	0.4
Portugal																				
Romania			0	0	1.2	0.3	1.8	0.5	0.9	0.2	0.9	0.3	0.7	0.2	0.7	0.3	1.1	0.2	0.6	0
Slovakia							1	1.3	0.8	2.1	1.5	2.4	3.3	5.1	1.4	5.5	4.4	6.9	11.4	16.3
Slovenia					0.8	0.1	9.3	5.4	14.3	5.6	9	3	10.3	3	11.3	5.9	15.8	6.9	16.6	7.7
Spain																				
Sweden	259.4	338.9	315.5	402	318.8	412.6	313.8	404.2	447.2	585	399.9	513.4	354.5	461	341.3	446.4	342.8	448.9	344	450.6
United Kingdom	149.4	180.4	167.3	190.6	177.9	193.9	190.7	192.3	204.7	203.2	272.6	395.9	282	420.2	287.3	413.2	284.3	402.5	312	432.2
EU/EEA total	**161**	**214.3**	**148.2**	**185.8**	**153.3**	**186.5**	**123.7**	**145.4**	**138.8**	**163.1**	**151.6**	**216.6**	**153.1**	**222.8**	**147.2**	**208.9**	**147.3**	**206.4**	**153.3**	**210.6**

Note: Rates are only calculated for countries with comprehensive surveillance. Numbers for Sweden use 'date used for statistics'.

Table 5: Chlamydia: number of cases by age category, 2003–2012

Age	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total number by age category										
0–14	724	854	861	983	1090	1117	1090	1128	1035	1797
15–19	43233	50481	52791	59966	71060	111627	117137	114641	107589	101424
20–24	62977	71999	75741	87328	97174	135712	145286	147387	149901	153192
25–34	40875	46176	47748	56948	61202	65667	65182	64191	68593	88696
35–44	9933	11135	11730	13827	14688	15548	15933	16026	17048	21556
45+	2632	3208	3492	4410	5003	5733	6221	6796	7691	9909
NA	6038	6706	7447	8110	11713	12383	7507	8293	9191	8733
Total	**166412**	**190559**	**199810**	**231572**	**261930**	**347787**	**358356**	**358462**	**361048**	**385307**
Percentage by age category										
0–14	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.5
15–19	26.0	26.5	26.4	25.9	27.1	32.1	32.7	32.0	29.8	26.3
20–24	37.8	37.8	37.9	37.7	37.1	39.0	40.5	41.1	41.5	39.8
25–34	24.6	24.2	23.9	24.6	23.4	18.9	18.2	17.9	19.0	23.0
35–44	6.0	5.8	5.9	6.0	5.6	4.5	4.4	4.5	4.7	5.6
45+	1.6	1.7	1.7	1.9	1.9	1.6	1.7	1.9	2.1	2.6
NA	3.6	3.5	3.7	3.5	4.5	3.6	2.1	2.3	2.5	2.3

Note: NA includes data for countries which reported incorrect age groups or unknown case classification. Numbers for Sweden use 'date used for statistics'.

Table 6: Chlamydia: number of cases by transmission category and gender, 2003–2012

Country	Transmission	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	HETERO_F							226			
	HETERO_M							271			
	MSM							6			
	UNK					822	742	94	1085	1004	
Belgium	NA				2060	2480	2601	2942	3310	3566	4667
Bulgaria	NA								49	55	131
Croatia	UNK										305
Cyprus	NA				6		1	4	3	6	10
Denmark	NA	18353	21628	23881	24866	25795	29116	29825	27950	26617	26385
Estonia	HETERO_F								19	132	236
	HETERO_M								2	9	24
	UNK	2969	2771	2541	2529	2536	2206	2003	1708	1634	1281
Finland	NA	12866	13378	12744	13878	13968	13873	13317	12825	13666	13247
France	UNK	2404	3031	3340	3973	4725	6219	7516	9083	10969	13011
Greece	HETERO_F						1	48	336	390	325
	HETERO_M						34	43	48	31	7
	MSM						4	8	11	10	1
	UNK						32	228	262	71	63
Hungary	NA	488	431	585	598	699	754	711	710	858	1060
Iceland	NA	1638	1736	1622	1728	1813	1834	2271	2197	2091	1918
Ireland	NA	2258	2803	3353	3144	5023	6290	5781	5399	6407	6162
Italy	HETERO_F					78	67	71	64	123	
	HETERO_M					139	111	120	168	191	
	MSM					30	22	30	41	53	
	UNK					14	10	389	463	348	469
Latvia	HETERO_F					1	192	359	497	847	906
	HETERO_M					1	276	376	260	419	411
	MSM						3	9	2	1	4
	O						2	3	2	2	4
	UNK	502	528	729	820	714	277	395	239	296	402
Lithuania	HETERO_F						195	124	110	118	101
	HETERO_M						169	160	238	190	142
	MSM						5				
	O						2	2	1		1
	UNK	390	406	563	556	403	32	40	18	35	21
Luxembourg	NA				1		4		2	1	4
Malta	HETERO_F			1	21	21	36	27	55	56	44
	HETERO_M			4	19	39	55	27	60	61	61
	MSM				1	8	9	6	22	28	34
	MTCT									1	
	O							1			
	UNK				2	2	8	6	1		
Netherlands	HETERO_F		2441	2889	3551	3901	4473	4671	5463	6137	7062
	HETERO_M		1865	2234	2630	2819	3319	3494	3908	4492	5076
	MSM		752	803	951	1095	1556	1613	1996	2285	2566
	O		1	1	1	2	2	2	3	3	3

Table 6: Chlamydia: number of cases by transmission category and gender, 2003–2012 (continued)

Country	Transmission	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	UNK		16	10	7	4	5	8	4	5	24
Norway	NA				21259	22847	23488	22754	22527	22530	21489
Poland	NA				612	627	695	908	539	319	314
Romania	HETERO_F			17		26	30	24	25	20	4
	HETERO_M			60		89	46	66	70	66	55
	MSM							1			
	O			79			12				
	UNK		5		238		39		2	47	
Slovakia	NA				61	78	105	228	188	305	753
Slovenia	HETERO_F			1	32	39	19	24	48	53	53
	HETERO_M			8	71	79	49	94	102	138	146
	MSM				6	35	14	5	2	6	5
	UNK				37	45	38	12	24	35	45
Spain	NA	115	120	148	139	223	402	846	947	1059	909
Sweden	HETERO_F	14880	17792	17969	17408	25207	22048	19864	19263	19420	19495
	HETERO_M	10969	13337	13437	12963	18721	16775	14762	14171	14255	14330
	MSM	229	341	301	311	421	386	426	512	570	535
	MTCT							24	27	16	18
	O	40	42	119	182	240	183	202	154	161	185
	UNK	676	751	1209	1654	2492	2582	2497	2687	2868	3128
United Kingdom	HETERO_F	54369	57689	59014	58921	62676	74087	57195	59093	64351	62551
	HETERO_M	43214	48648	52077	56268	60881	65306	46490	48122	51244	51877
	MSM	52	47	71	68	72	89	4232	5304	7851	8509
	UNK						66857	110475	106041	92526	114738

Note: Cases with known transmission mode 'heterosexual' and 'unknown gender' are classified as NA.
Numbers for Sweden use 'date used for statistics'.

Gonorrhoea

Table 7a: Gonorrhoea: number of cases by year of diagnosis, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	902	848	660	171	131	263	143	331	470	402
Belgium				535	585	718	734	752	842	930
Bulgaria	288	235	181	165	149	178	191	184	197	99
Croatia										14
Cyprus				8	5	2	7	23	11	6
Czech Republic	997	885	856	1087	1108	809	716	749	714	1134
Denmark	186	416	445	414	352	409	563	482	501	673
Estonia	455	484	288	280	176	146	126	118	173	210
Finland	184	247	235	231	192	198	237	255	289	312
France		99	153	196	217	236	395	534	737	933
Germany										
Greece	119	177	197	190	201	208	164	312	378	238
Hungary	898	742	851	916	1041	892	872	1170	1369	1487
Iceland	3	9	19	31	24	25	47	18	32	29
Ireland	186	270	342	431	417	444	434	625	834	1108
Italy	379	418	427	392	612	526	712	402	415	289
Latvia	481	537	694	746	670	500	433	349	545	601
Liechtenstein										
Lithuania	503	482	433	437	471	533	391	315	248	219
Luxembourg			0	4	1	18	6	3	2	5
Malta				33	52	50	62	48	46	29
Netherlands		1656	1603	1778	1830	1969	2426	2815	3576	3998
Norway	241	264	278	236	238	301	269	412	368	443
Poland				395	330	285	402	301	298	733
Portugal	52	28	52	53	74	67	114	89	120	119
Romania	2526	2119	1612	1348	815	631	622	479	510	325
Slovakia				66	81	152	174	130	212	283
Slovenia				34	42	40	30	44	25	45
Spain	1069	981	1155	1423	1698	1897	1954	2306	2640	3042
Sweden	582	579	680	658	642	720	613	847	952	1087
United Kingdom	24850	22234	19189	18801	18631	16451	17653	20101	24868	28594
EU/EEA total	**34901**	**33710**	**30350**	**31059**	**30785**	**28668**	**30490**	**34194**	**41372**	**47387**

Table 7b: Gonorrhoea: number of cases by year of statistics, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	902	848	660	171	131	263	143	331	470	402
Belgium				535	585	718	711	775	842	930
Bulgaria	288	235	181	165	149	178	191	184	197	99
Croatia										14
Cyprus				8	5	2	7	23	11	6
Czech Republic	980	914	852	1075	1129	805	718	748	709	1144
Denmark	186	416	445	414	352	409	563	482	501	673
Estonia	455	484	288	280	174	146	127	109	176	217
Finland	184	247	235	231	192	198	237	255	289	312
France		99	153	196	217	236	395	534	737	933
Germany										
Greece	119	177	197	190	201	208	164	312	378	238
Hungary	898	742	851	916	1041	892	872	1170	1369	1487
Iceland	3	9	19	31	24	25	47	18	32	29
Ireland	186	270	342	431	417	444	434	625	834	1108
Italy	379	418	427	392	612	526	712	402	415	289
Latvia	481	537	694	746	669	487	433	357	550	602
Liechtenstein										
Lithuania	503	482	433	437	471	533	391	315	248	219
Luxembourg			0	4	1	18	6	3	2	5
Malta				32	53	49	63	47	47	29
Netherlands		1656	1603	1778	1830	1969	2426	2815	3576	3998
Norway	241	264	278	236	238	301	269	412	368	443
Poland				395	330	285	402	301	298	733
Portugal	52	28	52	53	74	67	114	89	120	119

Table 7b: Gonorrhoea: number of cases by year of statistics, 2003–2012 (continued)

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Romania	2526	2119	1612	1348	815	631	622	479	521	314
Slovakia				66	81	152	171	126	201	301
Slovenia				34	39	43	30	44	25	45
Spain	1069	981	1155	1423	1698	1897	1954	2306	2640	3042
Sweden	595	570	691	677	642	724	614	842	951	1098
United Kingdom	24850	22234	19189	18801	18631	16451	17653	20101	24868	28594
EU/EEA total	**34897**	**33730**	**30357**	**31065**	**30801**	**28657**	**30469**	**34205**	**41375**	**47423**

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

Table 8: Gonorrhoea: number of cases by gender, 2003–2012

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Country	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria																				
Belgium							417	115	433	147	557	160	579	151	582	163	647	189	701	220
Bulgaria	202	86	187	48	152	29	135	30	137	12	143	35	167	24	156	28	147	50	79	20
Croatia																			12	2
Cyprus							8		4	1	2		6	1	21	2	10	1	4	2
Czech Republic	679	318	576	309	593	263	774	313	783	325	605	204	519	197	542	207	515	199	843	291
Denmark	166	20	363	53	391	54	342	72	290	62	323	86	431	132	363	119	405	96	484	189
Estonia	235	220	221	263	114	174	90	190	65	111	54	92	54	72	41	77	58	115	99	111
Finland	156	28	197	50	191	44	171	60	156	36	158	40	179	58	190	65	201	88	222	90
France			97	2	148	5	186	10	196	21	212	24	337	58	445	89	557	180	716	217
Germany																				
Greece	115	4	174	3	192	5	186	4	198	3	203	5	161	3	260	6	333	31	193	35
Hungary	685	213	539	203	614	237	713	203	790	251	647	245	669	203	898	272	1071	298	1130	357
Iceland	1		3	6	14	5	21	10	19	5	14	11	24	23	12	5	23	8	21	7
Ireland	146	38	234	30	303	32	380	48	355	56	360	73	341	88	469	149	650	157	864	234
Italy	355	17	379	35	399	23	358	32	568	43	492	34	659	52	362	37	379	32	261	26
Latvia	368	113	415	122	522	172	552	194	522	148	361	139	322	111	274	75	407	138	431	170
Liechtenstein																				
Lithuania											452	81	317	74	283	32	225	23	194	25
Luxembourg							4		1		12	4	4	1	3		1		4	1
Malta							27	6	43	9	42	8	45	16	43	5	44	2	23	5
Netherlands			1300	356	1270	333	1401	377	1405	424	1512	456	1887	539	2158	655	2668	907	3030	964
Norway	206	35	227	37	226	52	205	31	208	30	260	41	235	34	365	47	314	54	392	51
Poland							351	44	295	35	257	28	358	44	273	28	267	31	535	198
Portugal	43	9	19	9	48	4	49	4	65	9	56	11	99	15	75	14	105	15	105	14
Romania	2085	441	1671	448	1341	271	1114	234	696	119	553	78	549	73	433	46	460	50	294	31
Slovakia							53	13	60	21	121	31	132	42	100	30	151	60	218	65
Slovenia							32	2	37	5	39	1	25	5	42	2	23	2	42	3
Spain																				
Sweden	462	120	501	78	570	110	522	136	519	123	583	137	470	142	625	222	656	296	754	333
United Kingdom	17175	7675	15484	6750	13719	5470	13334	5467	12701	5930	10860	5591	11885	5747	13852	6232	17735	7128	20596	7996
EU/EEA total	**23079**	**9337**	**22587**	**8802**	**20807**	**7283**	**21425**	**7595**	**20546**	**7926**	**18878**	**7615**	**20454**	**7905**	**22867**	**8607**	**28052**	**10150**	**32247**	**11657**

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

Table 9: Gonorrhoea: number of cases per 100 000 population, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria										
Belgium										
Bulgaria	3.67	3.01	2.33	2.14	1.97	2.37	2.56	2.48	2.67	1.35
Croatia										0.33
Cyprus										
Czech Republic	9.78	8.68	8.39	10.63	10.81	7.82	6.87	7.16	6.81	10.8
Denmark	3.45	7.71	8.22	7.63	6.46	7.47	10.22	8.71	9.01	12.06
Estonia	33.34	35.63	21.27	20.76	13.1	10.89	9.41	8.82	12.95	15.74
Finland	3.53	4.73	4.49	4.4	3.64	3.74	4.45	4.77	5.38	5.78
France										
Germany										
Greece	1.08	1.6	1.78	1.71	1.8	1.85	1.46	2.76	3.4	2.14
Hungary										
Iceland	1.04	3.1	6.47	10.34	7.8	7.92	14.72	5.67	10.05	9.07
Ireland	4.69	6.7	8.32	10.24	9.61	9.96	9.6	13.74	18.25	24.18
Italy										
Latvia	20.92	23.59	30.85	33.49	30.33	22.81	20.02	16.46	26.27	29.39
Liechtenstein										
Lithuania	14.66	14.18	12.91	13.28	14.49	16.59	12.28	10.03	8.13	7.29
Luxembourg			0	0.85	0.21	3.72	1.22	0.6	0.39	0.95
Malta				8.15	12.82	12.26	15.09	11.59	11.08	6.95
Netherlands										
Norway	5.29	5.77	6.04	5.09	5.08	6.35	5.61	8.48	7.48	8.89
Poland				1.04	0.87	0.75	1.05	0.79	0.77	1.9
Portugal	0.51	0.27	0.5	0.51	0.71	0.65	1.1	0.86	1.16	1.13
Romania	11.77	9.92	7.6	6.39	3.89	3.09	3.08	2.39	2.56	1.62
Slovakia				1.23	1.51	2.83	3.23	2.41	3.93	5.24
Slovenia				1.7	2.09	1.99	1.48	2.15	1.22	2.19
Spain	2.56	2.31	2.67	3.23	3.79	4.15	4.23	4.96	5.66	6.5
Sweden	6.51	6.45	7.55	7.27	7.04	7.84	6.62	9.07	10.11	11.46
United Kingdom	42.05	37.44	32.11	31.24	30.73	26.91	28.66	32.4	39.75	45.39
EU/EEA total	**16.6**	**15.11**	**13.38**	**10.96**	**10.63**	**9.65**	**10.06**	**11.21**	**13.47**	**15.29**

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

Table 10: Gonorrhoea: number of cases per 100 000 population by gender, 2003–2012

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Country	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria																				
Belgium																				
Bulgaria	5.29	2.13	4.93	1.2	4.03	0.73	3.61	0.75	3.72	0.31	3.91	0.91	4.59	0.63	4.32	0.74	4.1	1.32	2.21	0.53
Croatia																			0.59	0.09
Cyprus																				
Czech Republic	13.68	6.08	11.6	5.91	11.93	5.03	15.51	5.98	15.63	6.2	11.94	3.87	10.14	3.71	10.55	3.89	10.01	3.73	16.34	5.44
Denmark	6.23	0.74	13.59	1.94	14.6	1.98	12.73	2.63	10.75	2.25	11.91	3.11	15.78	4.75	13.23	4.26	14.69	3.42	17.49	6.72
Estonia	37.13	30.06	35.07	36.11	18.15	23.97	14.38	26.29	10.42	15.43	8.67	12.81	8.67	10.05	6.58	10.77	9.31	16.12	15.9	15.61
Finland	6.13	1.05	7.72	1.87	7.45	1.65	6.65	2.24	6.04	1.34	6.08	1.48	6.85	2.14	7.24	2.38	7.62	3.22	8.37	3.27
France																				
Germany																				
Greece	2.11	0.07	3.18	0.05	3.5	0.09	3.38	0.07	3.58	0.05	3.66	0.09	2.89	0.05	4.64	0.11	6.11	0.55	3.54	0.62
Hungary																				
Iceland	0.69	0	2.06	4.13	9.51	3.42	13.89	6.73	12.13	3.31	8.7	7.12	14.81	14.62	7.5	3.17	14.37	5.05	13.1	4.4
Ireland	7.41	1.91	11.68	1.48	14.79	1.55	18.07	2.28	16.34	2.58	16.17	3.27	15.14	3.88	20.74	6.51	28.64	6.82	38.07	10.12
Italy																				
Latvia	34.89	9.08	39.73	9.9	50.58	14.13	54.01	16.09	51.49	12.39	35.85	11.73	32.44	9.49	28.22	6.52	42.94	12.25	46.11	15.32
Liechtenstein																				
Lithuania											30.39	4.7	21.52	4.33	19.52	1.89	15.99	1.4	14.02	1.54
Luxembourg							1.72	0	0.42	0	5.01	1.64	1.63	0.4	1.2	0	0.39	0	1.53	0.38
Malta							13.44	2.94	21.34	4.41	20.72	3.9	21.99	7.75	20.85	2.41	21.32	0.96	11.07	2.38
Netherlands																				

Table 10: Gonorrhoea: number of cases per 100 000 population by gender, 2003–2012 (continued)

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Country	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Norway	9.13	1.52	10	1.6	9.89	2.24	8.91	1.33	8.94	1.27	11.02	1.72	9.81	1.41	15.04	1.93	12.76	2.2	15.69	2.05
Poland							1.9	0.22	1.6	0.18	1.4	0.14	1.94	0.22	1.48	0.14	1.43	0.16	2.87	1
Portugal	0.86	0.17	0.38	0.17	0.96	0.08	0.98	0.07	1.3	0.17	1.12	0.21	1.98	0.28	1.5	0.26	2.11	0.28	2.09	0.25
Romania	19.95	4	16.05	4.09	12.97	2.49	10.84	2.17	6.82	1.11	5.57	0.74	5.59	0.7	4.45	0.45	4.75	0.49	3.02	0.3
Slovakia							2.03	0.47	2.3	0.76	4.63	1.12	5.04	1.52	3.81	1.08	5.75	2.17	8.28	2.34
Slovenia							3.26	0.2	3.75	0.49	3.95	0.1	2.49	0.49	4.14	0.19	2.27	0.19	4.13	0.29
Spain																				
Sweden	10.44	2.66	11.27	1.72	12.76	2.42	11.63	2.98	11.47	2.68	12.77	2.97	10.21	3.05	13.44	4.73	13.99	6.26	15.95	7
United Kingdom	59.32	25.46	53.18	22.3	46.8	17.97	45.13	17.84	42.65	19.22	36.14	17.99	39.23	18.36	45.36	19.79	57.53	22.47	66.29	25.05
EU/EEA total	**29.66**	**11.74**	**27.21**	**10.56**	**24.59**	**8.58**	**18.81**	**6.72**	**17.54**	**6.88**	**15.54**	**6.43**	**16.35**	**6.61**	**18.39**	**7.06**	**22.63**	**8.14**	**25.67**	**9.17**

Note: Rates are only calculated for countries with comprehensive surveillance.

Table 11: Gonorrhoea: number of cases by age category, 2003–2012

Age	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total number by age category										
0–14	122	91	98	69	84	71	78	69	89	97
15–19	6 096	5 723	4 650	4 319	4 647	4 364	4 448	4 567	5 071	5 344
20–24	9 155	8 534	7 519	7 123	7 340	6 792	7 601	8 541	10 086	11 409
25–34	9 614	9 388	8 559	8 326	7 915	7 395	8 449	9 715	12 191	14 231
35–44	4 572	4 664	4 434	4 384	4 007	3 631	4 156	4 613	5 670	6 582
45+	1 925	2 039	1 956	2 079	2 048	2 001	2 559	2 785	3 618	4 117
NA	3 417	3 271	3 134	4 759	4 744	4 414	3 199	3 904	4 647	5 607
Total	**34 901**	**33 710**	**30 350**	**31 059**	**30 785**	**28 668**	**30 490**	**34 194**	**41 372**	**47 387**
Percentage by age category										
0–14	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2
15–19	17.5	17.0	15.3	13.9	15.1	15.2	14.6	13.4	12.3	11.3
20–24	26.2	25.3	24.8	22.9	23.8	23.7	24.9	25.0	24.4	24.1
25–34	27.5	27.8	28.2	26.8	25.7	25.8	27.7	28.4	29.5	30.0
35–44	13.1	13.8	14.6	14.1	13.0	12.7	13.6	13.5	13.7	13.9
45+	5.5	6.0	6.4	6.7	6.7	7.0	8.4	8.1	8.7	8.7
NA	9.8	9.7	10.3	15.3	15.4	15.4	10.5	11.4	11.2	11.8

Note: NA includes data for countries which reported incorrect age groups.

Table 12: Gonorrhoea: number of cases by transmission category and gender, 2003–2012

Country	Transmission	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	NA	902	848	660	171	131	263	143	331	470	402
Belgium	NA				535	585	718	734	752	842	930
Bulgaria	NA	288	235	181	165	149	178	191	184	197	99
Croatia	NA										14
Cyprus	HETERO_F										1
	HETERO_M						2	2			
	MSM										1
	NA				8	5			23	11	
	UNK							5			4
Czech Republic	HETERO_F	300	291	255	297	310	194	183	199	195	279
	HETERO_M	510	433	398	563	550	430	331	367	355	533
	MSM	114	96	167	183	200	145	169	161	151	290
	O	3		1	3	5	3	1	2	2	5
	UNK	70	65	35	41	43	37	32	20	11	27
Denmark	HETERO_F	20	51	50	72	61	84	122	110	96	189
	HETERO_M	89	129	143	152	142	174	235	174	201	262
	MSM	69	200	204	147	126	117	158	153	187	199
	UNK	8	36	48	43	23	34	48	45	17	23
Estonia	HETERO_F								3	10	18
	HETERO_M								5	5	7
	MTCT							1			
	NA	455	484	288	280	176	146				
	UNK							125	110	158	185
Finland	HETERO_F									64	63
	HETERO_M									81	93
	MSM									61	70
	NA	184	247	235	231	192	198	237	255		
	UNK									83	86
France	HETERO_F		2	5	10	21	23	58	85	176	214
	HETERO_M		28	44	51	65	61	122	183	238	249
	MSM		68	104	132	128	149	214	254	308	457
	O						1		4	4	3
	UNK		1		3	3	2	1	8	11	10
Greece	HETERO_F						5	3	6	31	35
	HETERO_M						130	119	155	210	99
	MSM						45	39	53	35	41
	NA	119	177	197	190	201					
	UNK						28	3	98	102	63
Hungary	NA	898	742	851	916	1041	892	872	1170	1369	1487
Iceland	HETERO_F				7	2	2				
	HETERO_M				12	6	4				
	MSM					1	1				
	NA	3	9	19				47	18	32	29
	UNK				12	15	18				
Ireland	NA	186	270	342	431	417	444	434	625	834	1108
Italy	HETERO_F					23	10	11			
	HETERO_M					219	192	150			
	MSM					120	99	170			
	NA	379	418	427	392				402	415	289
	UNK					250	225	381			
Latvia	HETERO_F					1	83	78	58	118	148
	HETERO_M						214	218	185	333	362
	MSM						1	6	2	10	7
	NA	481	537	694	746						
	O										2
	UNK					669	202	131	104	84	82
Lithuania	HETERO_F						77	68	30	22	24
	HETERO_M						435	282	265	217	184
	MSM						9	1	7	3	1
	NA	503	482	433	437	471					
	O						2	4	3	1	1
	UNK						10	36	10	5	9
Luxembourg	HETERO_M										2

Table 12: Gonorrhoea: number of cases by transmission category and gender, 2003–2012 (continued)

Country	Transmission	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	MSM									1	1
	NA				4	1	18	6	3		
	UNK									1	2
Malta	HETERO_F				6	8	7	11	5	2	3
	HETERO_M				6	31	29	30	27	25	12
	MSM				20	11	7	12	14	17	10
	O					1	1	2			
	UNK				1	1	6	7	2	2	4
Netherlands	HETERO_F		356	333	377	424	456	539	655	907	964
	HETERO_M		511	418	432	436	417	483	545	711	728
	MSM		786	848	966	964	1095	1402	1612	1955	2291
	O					1	1		2	1	4
	UNK		3	4	3	5		2	1	2	11
Norway	HETERO_F	35	37	52	31	30	41	34	45	54	51
	HETERO_M	135	115	139	126	130	162	135	148	137	149
	MSM	71	109	80	68	77	98	95	215	176	239
	MTCT							1	1		
	O								1		
	UNK		3	7	11	1		4	2	1	4
Poland	NA				395	330	285	402	301	298	733
Portugal	HETERO_F									1	1
	HETERO_M									1	3
	MSM									5	3
	MTCT							1			
	NA	52	28	52	53	74	67		89		
	UNK							113		113	112
Romania	HETERO_F			193		119	63	73	46	39	30
	HETERO_M			1079		694	423	547	433	392	287
	MSM			4		2	1	1		2	
	NA	2526	2119		1348						
	O			336			54	1			
	UNK						90			77	8
Slovakia	HETERO_F								1	35	39
	HETERO_M								6	84	104
	MSM										2
	MTCT									1	2
	NA				66	81	152	174			
	UNK								123	92	136
Slovenia	HETERO_F				2	4	1	5	2	1	3
	HETERO_M				19	9	27	16	24	14	16
	MSM				12	25	10	7	17	8	21
	UNK				1	4	2	2	1	2	5
Spain	NA	1069	981	1155	1423	1698	1897	1954	2306	2640	3042
Sweden	HETERO_F	120	78	107	117	111	128	140	212	282	326
	HETERO_M	250	225	233	268	276	310	274	329	371	378
	MSM	204	267	322	191	197	242	172	279	265	357
	MTCT							1	3	1	
	O	1	2	2	2	8	6	2	2	10	7
	UNK	7	7	16	80	50	34	24	22	23	19
United Kingdom	HETERO_F	7675	6750	5470	5467	5930	5591	4340	5521	5981	7595
	HETERO_M	13354	11629	9456	8919	9046	7890	5864	7457	7472	8723
	MSM	3821	3855	4263	4415	3655	2970	3837	4967	8083	11101
	UNK							3612	2156	3332	1175
EU/EEA	HETERO_F	8150	7565	6465	6386	7044	6765	5665	6978	8014	9983
	HETERO_M	14338	13070	11910	10548	11604	10900	8808	10303	10847	12191
	MSM	4279	5381	5992	6134	5506	4989	6283	7734	11267	15091
	MTCT							4	4	2	2
	NA	8045	7577	5534	7791	5552	5258	5194	6459	7108	8133
	O	4	2	339	5	15	68	10	14	18	22
	UNK	85	115	110	195	1064	688	4526	2702	4116	1965

Note: Cases with known transmission mode 'heterosexual' and 'unknown gender' are classified as NA.

Syphilis

Table 13a: Syphilis: number of cases by year of diagnosis, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	352	312	267	25	58	61	62	59	72	78
Belgium	167	245	349	281	397	586	699	704	746	776
Bulgaria	1034	861	572	490	440	419	420	397	314	309
Croatia										28
Cyprus				13	10	14	15	20	16	6
Czech Republic	96	97	58	75	205	342	697	462	372	325
Denmark	84	119	117	77	92	151	255	413	427	343
Estonia	210	152	111	125	78	71	57	69	66	40
Finland	129	108	140	127	185	211	194	200	176	203
France	433	403	341	478	597	570	540	657	782	857
Germany	2926	3353	3233	3161	3277	3186	2738	3029	3692	4406
Greece	116	103	139	141	197	155	259	241	272	363
Hungary	353	455	541	559	393	549	489	504	565	621
Iceland	2	4	3	4	1	2	0	5	2	5
Ireland	113	112	106	134	62	119	106	115	148	99
Italy	1082	1339	1395	935	1482	1412	1433	1060	898	596
Latvia	777	583	440	483	305	236	175	122	143	146
Liechtenstein										
Lithuania	456	341	295	336	275	326	326	345	273	227
Luxembourg			0	10	14	12	13	13	28	19
Malta				13	11	19	16	25	45	35
Netherlands		845	751	806	657	792	711	695	545	649
Norway	51	43	24	67	61	56	76	118	130	110
Poland				924	847	929	1255	914	941	961
Portugal	146	109	103	124	112	98	150	179	159	267
Romania	9197	8268	6850	5661	4245	4006	3252	1809	2348	1707
Slovakia				89	152	228	301	328	416	412
Slovenia				16	31	63	47	40	79	63
Spain	917	1152	1344	1711	1936	2545	2496	3187	3522	3638
Sweden	186	186	102	167	237	167	181	198	206	197
United Kingdom	2159	2924	3481	3486	3561	3309	3192	3082	3440	3316
EU/EEA total	**20986**	**22114**	**20762**	**20518**	**19918**	**20634**	**20155**	**18990**	**20823**	**20802**

Table 13b: Syphilis: number of cases by year of statistics, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	352	312	267	25	58	61	62	59	72	78
Belgium	167	245	349	281	397	586	699	704	746	776
Bulgaria	1034	861	572	490	440	419	420	397	314	309
Croatia										28
Cyprus				13	10	14	15	20	16	6
Czech Republic	91	101	59	77	203	329	702	470	361	339
Denmark	84	119	117	77	92	151	255	413	427	343
Estonia	210	152	111	125	75	71	59	68	67	41
Finland	129	108	140	127	185	211	194	200	176	203
France	433	403	341	478	597	570	540	657	782	857
Germany	2923	3355	3232	3160	3277	3187	2741	3028	3694	4406
Greece	116	103	139	141	197	155	259	241	272	363
Hungary	353	455	541	559	393	549	489	504	565	621
Iceland	2	4	3	4	1	2	0	5	2	5
Ireland	113	112	106	133	62	119	106	106	146	112
Italy	1082	1339	1395	935	1482	1412	1433	1060	898	596
Latvia	777	583	440	483	301	233	171	133	143	146
Liechtenstein										
Lithuania	456	341	295	336	275	326	326	345	273	227
Luxembourg			0	10	14	12	13	13	28	19
Malta				12	12	16	19	25	45	35
Netherlands		845	751	806	657	792	711	695	545	649
Norway	51	43	24	67	61	56	76	118	130	110
Poland				924	847	929	1255	914	941	961
Portugal	146	109	103	124	112	98	150	179	159	267
Romania	9197	8268	6850	5661	4245	4006	3229	1815	2381	1691
Slovakia				89	152	225	299	331	385	445
Slovenia				15	28	65	49	40	79	63
Spain	917	1152	1344	1711	1936	2545	2496	3187	3522	3638
Sweden	177	189	105	172	239	171	181	198	205	200
United Kingdom	2159	2924	3481	3486	3561	3309	3192	3082	3440	3316
EU/EEA total	**20969**	**22123**	**20765**	**20521**	**19909**	**20619**	**20141**	**19007**	**20814**	**20850**

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

Table 14: Syphilis: number of cases by gender, 2003–2012

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Country	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria																				
Belgium	153	14	198	44	290	57	234	47	329	66	511	73	610	88	585	119	614	129	642	134
Bulgaria	509	525	427	434	278	294	272	218	244	196	251	168	256	164	221	176	184	130	181	128
Croatia																			21	7
Cyprus							7	6	7	3	7	7	6	9	15	5	12	4	3	3
Czech Republic	47	49	56	41	39	19	58	17	154	51	287	55	496	201	324	138	264	108	244	81
Denmark	80	4	113	6	103	14	73	4	86	6	142	9	242	13	363	50	381	46	309	34
Estonia	59	151	39	113	36	75	46	79	27	51	30	41	33	24	35	34	37	29	23	17
Finland	67	62	55	53	83	57	65	62	120	65	135	76	143	51	126	74	102	71	126	77
France	415	18	384	19	317	24	447	31	562	34	535	35	507	33	617	39	737	44	820	36
Germany	2636	269	3026	315	2895	335	2833	326	3010	265	2948	235	2571	162	2815	208	3452	233	4109	293
Greece	90	26	76	27	109	30	106	35	162	35	123	32	226	33	209	32	240	32	306	55
Hungary	228	125	288	167	349	192	381	178	260	133	368	181	347	142	369	135	393	172	479	142
Iceland	1	1	3		3		2	2	1						3	1	2		4	
Ireland	81	32	86	26	85	21	113	21	43	19	98	17	91	14	103	12	137	11	86	11
Italy	892	168	1090	227	1101	264	731	194	1208	262	1148	260	1132	284	842	184	823	72	540	53
Latvia	406	371	271	312	241	199	256	227	150	155	121	115	98	77	87	35	84	59	95	51
Liechtenstein																				
Lithuania											184	142	189	137	210	135	152	121	106	121
Luxembourg							7	3	10	3	11	1	12	1	12		25	3	15	4
Malta							10	3	7	4	14	5	15	1	20	5	35	10	25	10
Netherlands			738	105	654	96	705	97	577	64	703	62	618	57	595	56	491	53	613	35
Norway	43	8	36	7	23	1	65	2	60	1	51	5	72	4	111	7	123	7	107	3
Poland							660	264	634	213	708	221	951	304	660	254	704	237	754	207
Portugal	89	57	62	47	71	32	92	32	77	35	67	31	128	22	139	40	137	22	224	42
Romania	4816	4381	4244	4024	3525	3325	2936	2725	2191	2054	1896	2110	1589	1663	884	925	1168	1180	846	861
Slovakia							48	41	92	99	127	101	154	147	167	161	220	196	232	180
Slovenia							13	3	26	5	59	4	43	4	35	5	70	9	54	9
Spain	135	95	246	122	361	152	567	236	220	125	286	119								
Sweden	162	24	154	32	82	20	120	43	196	39	122	44	135	43	160	34	170	34	160	37
United Kingdom	1828	331	2460	464	2950	531	3016	470	3115	446	2905	404	2804	385	2605	319	2927	323	3032	284
EU/EEA total	**12737**	**6711**	**14052**	**6585**	**13595**	**5738**	**13863**	**5366**	**13568**	**4429**	**13837**	**4553**	**13468**	**4063**	**12312**	**3183**	**13684**	**3335**	**14156**	**2915**

Table 15: Syphilis: number of cases per 100 000 population, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria										
Belgium										
Bulgaria	13.2	11	7.4	6.3	5.8	5.6	5.6	5.3	4.3	4.2
Croatia										0.7
Cyprus										
Czech Republic	0.9	1	0.6	0.7	2	3.3	6.7	4.4	3.5	3.1
Denmark	1.6	2.2	2.2	1.4	1.7	2.8	4.6	7.5	7.7	6.1
Estonia	15.4	11.2	8.2	9.3	5.8	5.3	4.3	5.2	4.9	3
Finland	2.5	2.1	2.7	2.4	3.5	4	3.6	3.7	3.3	3.8
France										
Germany	3.6	4.1	4	3.8	4	3.9	3.3	3.7	4.5	5.4
Greece	1.1	0.9	1.3	1.3	1.8	1.4	2.3	2.1	2.4	3.3
Hungary										
Iceland	0.7	1.4	1	1.3	0.3	0.6	0	1.6	0.6	1.6
Ireland	2.9	2.8	2.6	3.2	1.4	2.7	2.3	2.5	3.2	2.2
Italy										
Latvia	33.8	25.6	19.6	21.7	13.8	10.8	8.1	5.8	6.9	7.1
Liechtenstein										
Lithuania	13.3	10	8.8	10.2	8.5	10.1	10.2	11	8.9	7.6
Luxembourg			0	2.1	2.9	2.5	2.6	2.6	5.5	3.6
Malta				3.2	2.7	4.7	3.9	6	10.8	8.4
Netherlands										
Norway	1.1	0.9	0.5	1.4	1.3	1.2	1.6	2.4	2.6	2.2
Poland				2.4	2.2	2.4	3.3	2.4	2.4	2.5
Portugal	1.4	1.1	1	1.2	1.1	0.9	1.4	1.7	1.5	2.5
Romania	42.8	38.7	32.3	26.9	20.3	19.6	16.1	9	11.8	8.5
Slovakia				1.7	2.8	4.2	5.6	6.1	7.7	7.6
Slovenia				0.8	1.5	3.1	2.3	2	3.9	3.1
Spain	2.2	2.7	3.1	3.9	4.3	5.6	5.4	6.9	7.5	7.8
Sweden	2.1	2.1	1.1	1.8	2.6	1.8	2	2.1	2.2	2.1
United Kingdom	3.7	4.9	5.8	5.8	5.9	5.4	5.2	5	5.5	5.3
EU/EEA total	**6.7**	**6.6**	**6.1**	**5.3**	**4.9**	**5**	**4.9**	**4.6**	**5.2**	**5.1**

Note: Rates are only calculated for countries with comprehensive surveillance.

Table 16: Syphilis: number of cases per 100 000 population by gender, 2003–2012

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
Country	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Austria																				
Belgium																				
Bulgaria	13.3	13	11.3	10.8	7.4	7.4	7.3	5.5	6.6	5	6.9	4.4	7	4.3	6.1	4.6	5.1	3.4	5.1	3.4
Croatia																			1	0.3
Cyprus																				
Czech Republic	0.9	0.9	1.1	0.8	0.8	0.4	1.2	0.3	3.1	1	5.7	1	9.7	3.8	6.3	2.6	5.1	2	4.7	1.5
Denmark	3	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	13.2	1.8	13.8	1.6	11.2	1.2
Estonia	9.3	20.6	6.2	15.5	5.7	10.3	7.3	10.9	4.3	7.1	4.8	5.7	5.3	3.3	5.6	4.8	5.9	4.1	3.7	2.4
Finland	2.6	2.3	2.2	2	3.2	2.1	2.5	2.3	4.6	2.4	5.2	2.8	5.5	1.9	4.8	2.7	3.9	2.6	4.8	2.8
France																				
Germany	6.5	0.6	7.5	0.7	7.2	0.8	7	0.8	7.5	0.6	7.3	0.6	6.4	0.4	7	0.5	8.6	0.6	10.2	0.7
Greece	1.7	0.5	1.4	0.5	2	0.5	1.9	0.6	2.9	0.6	2.2	0.6	4.1	0.6	3.7	0.6	4.4	0.6	5.6	1
Hungary																				
Iceland	0.7	0.7	2.1	0	2	0	1.3	1.3	0.6	0	0	0	0	0	1.9	0.6	1.2	0	2.5	0
Ireland	4.1	1.6	4.3	1.3	4.1	1	5.4	1	2	0.9	4.4	0.8	4	0.6	4.6	0.5	6	0.5	3.8	0.5
Italy																				
Latvia	38.5	29.8	25.9	25.3	23.4	16.3	25	18.8	14.8	13	12	9.7	9.9	6.6	9	3	8.9	5.2	10.2	4.6
Liechtenstein																				
Lithuania											12.4	8.2	12.8	8	14.5	8	10.8	7.4	7.7	7.5
Luxembourg							3	1.3	4.2	1.2	4.6	0.4	4.9	0.4	4.8	0	9.8	1.2	5.7	1.5
Malta							5	1.5	3.5	2	6.9	2.4	7.3	0.5	9.7	2.4	17	4.8	12	4.8
Netherlands																				
Norway	1.9	0.3	1.6	0.3	1	0	2.8	0.1	2.6	0	2.2	0.2	3	0.2	4.6	0.3	5	0.3	4.3	0.1
Poland							3.6	1.3	3.4	1.1	3.8	1.1	5.2	1.5	3.6	1.3	3.8	1.2	4	1
Portugal	1.8	1.1	1.2	0.9	1.4	0.6	1.8	0.6	1.5	0.7	1.3	0.6	2.6	0.4	2.8	0.7	2.8	0.4	4.5	0.8
Romania	46.1	39.8	40.8	36.7	34.1	30.6	28.6	25.2	21.5	19.1	19.1	20.1	16.2	16	9.1	9	12.1	11.5	8.7	8.3
Slovakia							1.8	1.5	3.1	2.6	4.9	3.7	5.9	5.3	6.4	5.8	8.4	7.1	8.8	6.5
Slovenia							1.3	0.3	2.6	0.5	6	0.4	4.3	0.4	3.5	0.5	6.9	0.9	5.3	0.9
Spain																				
Sweden	3.7	0.5	3.5	0.7	1.8	0.4	2.7	0.9	4.3	0.8	2.7	1	2.9	0.9	3.4	0.7	3.6	0.7	3.4	0.8
United Kingdom	6.3	1.1	8.4	1.5	10.1	1.7	10.2	1.5	10.5	1.4	9.7	1.3	9.3	1.2	9	1.1	10.1	1.1	9.8	0.9
EU/EEA total	**9.5**	**5.3**	**9.7**	**4.9**	**9.2**	**4.2**	**7.8**	**3.2**	**7.5**	**2.6**	**7.4**	**2.6**	**7.3**	**2.4**	**6.7**	**1.8**	**7.7**	**2**	**7.7**	**1.7**

Note: Rates are only calculated for countries with comprehensive surveillance.

Table 17: Syphilis: number of cases by age category, 2003–2012

Age	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total number by age category										
0–14	87	88	24	16	86	47	46	41	39	41
15–19	1551	1425	328	315	763	695	672	587	546	476
20–24	3089	2938	1184	1098	1883	1979	1994	1770	1888	1810
25–34	6060	6368	3378	3309	4800	4669	4922	4293	4831	4694
35–44	3997	4694	3532	3680	4351	4557	4388	3926	4436	4361
45+	2853	3405	2463	2650	3216	3536	3652	3520	3940	4326
NA	3594	3569	10374	10259	5216	5567	4481	4701	4955	5094
Total	21231	22487	21283	21327	20315	21050	20155	18838	20635	20802
Percentage by age category										
0–14	0.4	0.4	0.1	0.1	0.4	0.2	0.2	0.2	0.2	0.2
15–19	7.3	6.3	1.5	1.5	3.8	3.3	3.3	3.1	2.6	2.3
20–24	14.5	13.1	5.6	5.1	9.3	9.4	9.9	9.4	9.1	8.7
25–34	28.5	28.3	15.9	15.5	23.6	22.2	24.4	22.8	23.4	22.6
35–44	18.8	20.9	16.6	17.3	21.4	21.6	21.8	20.8	21.5	21.0
45+	13.4	15.1	11.6	12.4	15.8	16.8	18.1	18.7	19.1	20.8
NA	16.9	15.9	48.7	48.1	25.7	26.4	22.2	25.0	24.0	24.5

Note: NA includes data for countries which reported incorrect age groups.

Table 18: Syphilis: number of cases by transmission category and gender, 2003–2012

Country	Transmission	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	NA	352	312	267	25	58	61	62	59	72	78
Belgium	NA	167	242	347	281	395	584	698	704	743	776
Bulgaria	NA	1034	861	572	490	440	419	420	397	314	309
Croatia	NA										28
Cyprus	HETERO_F						4	5			1
	HETERO_M						4	2			1
	MSM						1				
	NA				13	10			20	16	
	UNK						5	8			4
Czech Republic	HETERO_F	48	39	18	16	47	51	193	136	100	78
	HETERO_M	32	36	20	28	57	107	241	173	118	85
	MSM	14	19	17	29	94	176	242	142	137	154
	O					3		1	1		
	UNK	2	3	3	2	4	8	20	10	17	8
Denmark	HETERO_F	4	5	12	4	6	9	13	49	46	34
	HETERO_M	10	24	18	8	10	18	30	58	44	44
	MSM	68	86	78	62	75	120	208	299	322	254
	UNK	2	4	9	3	1	4	4	7	15	11
Estonia	HETERO_F								7	3	2
	HETERO_M								3	1	1
	MSM								1		1
	NA	210	152	111	125	78	71	57			
	UNK								58	62	36
Finland	HETERO_F									17	21
	HETERO_M									16	29
	MSM									30	29
	NA	129	108	140	127	185	211	194	200		
	UNK									113	124
France	HETERO_F	18	19	24	30	34	34	33	39	44	33
	HETERO_M	51	44	44	50	80	88	49	74	91	71
	MSM	358	338	269	394	478	440	455	536	631	742
	O				1	1	1		1	1	4
	UNK	6	2	4	3	4	7	3	7	15	7
Germany	NA	2926	3353	3233	3161	3277	3186	2738	3029	3692	4406
Greece	HETERO_F						32	33	32	32	55
	HETERO_M						70	77	80	102	117
	MSM						47	98	114	128	182
	NA	116	103	139	141	197					
	UNK						6	51	15	10	9
Hungary	NA	353	455	541	559	393	549	489	504	565	621
Iceland	HETERO_F										
	HETERO_M		1								
	MSM		2	1							
	NA	2			4	1	2		5	2	5
	UNK		1	2							
Ireland	HETERO_F	31	25	20	20	19	16	14	11	11	11
	HETERO_M	22	24	21	27	13	25	8	13	6	9
	MSM	58	61	60	83	30	70	82	89	125	69
	O	1	1	1							
	UNK	1	1	4	4		8	2	2	6	10
Italy	HETERO_F					48	42	40			
	HETERO_M					249	254	141			
	MSM					169	177	175			
	NA	1082	1339	1395	935				1060	898	596
	UNK					1016	939	1077			
Latvia	HETERO_F						48	66	30	53	49
	HETERO_M					1	54	73	55	61	49
	MSM						2	5	11	10	30
	NA	777	583	440	483						
	O						1	3			
	UNK					304	131	28	26	19	18
Lithuania	HETERO_F						111	118	125	112	106
	HETERO_M						151	163	202	144	95
	MSM						2		1	4	1
	NA	456	341	295	336	275					

Table 18: Syphilis: number of cases by transmission category and gender, 2003–2012 (continued)

Country	Transmission	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	O						6	5	7	1	2
	UNK						56	40	10	12	23
Luxembourg	HETERO_M									2	
	MSM								2	3	
	NA				10	14	12	13			19
	UNK								11	23	
Malta	HETERO_F				3	4	5	1	4	7	8
	HETERO_M				5	3	5	10	4	13	6
	MSM				4	4	6	4	13	19	16
	O						3				
	UNK				1			1	4	6	5
Netherlands	HETERO_F		105	96	97	64	62	57	56	53	35
	HETERO_M		113	110	101	80	82	86	79	50	65
	MSM		617	542	598	496	619	530	516	439	548
	O		2	1					4	1	1
	UNK		8	2	10	17	29	38	40	2	
Norway	HETERO_F	8	7	1	2	1	5	4	7	7	3
	HETERO_M	15	17	6	9	6	8	3	16	14	10
	MSM	28	19	17	56	54	43	69	95	109	97
Poland	NA				924	847	929	1255	914	941	961
Portugal	HETERO_F									8	21
	HETERO_M									12	33
	MSM									10	36
	NA	146	109	103	124	112	98	150	179		
	UNK									129	177
Romania	HETERO_F			3290		2037	2097	1663	729	1008	709
	HETERO_M			3482		2159	1863	1582	668	951	632
	MSM			26		17	6	5		30	16
	MTCT			38		32					
	NA	9197	8268		5661						
	O						7			19	7
	UNK			14			33	2	412	340	343
Slovakia	HETERO_F									89	118
	HETERO_M								1	70	118
	MSM									4	15
	NA				89	191	228	301			
	O									1	1
	UNK								327	252	160
Slovenia	HETERO_F				3	4	3	3	5	8	8
	HETERO_M				5	11	16	19	14	13	20
	MSM				5	13	30	14	17	45	25
	UNK				3	3	14	11	4	13	10
Spain	NA	1162	1525	1865	2520	2294	2961	2496	3187	3522	3638
Sweden	HETERO_F	20	21	16	23	29	1	24	11	19	19
	HETERO_M	40	42	15	26	43	1	32	16	21	32
	MSM	104	99	55	62	108		74	112	114	105
	O		3		4	1		6	2	5	1
	UNK	22	21	16	52	56	165	45	57	47	40
United Kingdom	HETERO_F	331	464	531	470	446	404	281	289	287	268
	HETERO_M	1623	2165	2536	2563	2596	2411	696	701	722	763
	MSM	205	295	414	453	519	494	1744	1612	2077	2169
	UNK							471	328	166	116
EU/EEA	HETERO_F	460	685	4008	668	2739	2924	2548	1530	1904	1579
	HETERO_M	1793	2466	6252	2822	5308	5157	3212	2157	2451	2180
	MSM	835	1536	1479	1746	2057	2233	3705	3560	4237	4489
	MTCT			38		32					
	NA	18109	17751	9448	16008	8767	9311	8873	10258	10765	11437
	O	1	6	2	5	5	18	15	15	28	16
	UNK	33	40	54	78	1405	1405	1801	1318	1247	1101

Note: Cases with known transmission mode 'heterosexual' and 'unknown gender' are classified as NA.

Congenital syphilis

Table 19a: Congenital syphilis: number of cases by year of diagnosis, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria										
Belgium										
Bulgaria			22	19	37	23	30	34	38	29
Croatia										0
Cyprus							0	0	0	0
Czech Republic	2	2	0	0	3	0	0	1	0	1
Denmark	0	0	0	0	0	0				
Estonia	2	0	0	0	1	0	0	1	0	0
Finland										
France										
Germany	5	5	4	5	3	0	3	0	2	4
Greece						1	0	2	3	0
Hungary	9	4	4	2	3	1	1	1	0	0
Iceland										
Ireland	0	0	0	0	0	0	0	1	0	0
Italy	2	6	8	10	9	1	13	12	7	3
Latvia	7	1	3	0	0	1	3	0	0	1
Liechtenstein										
Lithuania	4	0	3	2	1	2	4	2	0	1
Luxembourg							0	0	0	0
Malta						0	0	0	0	0
Netherlands										
Norway	0	0	0	0	0	0	0	0	0	0
Poland					4	0	12	18	14	32
Portugal	19	16	21	14	21	14	13	11	10	12
Romania	202	136	38	16	26	9	7	6	10	6
Slovakia						2	4	1	1	0
Slovenia				0	0	0	0	0	0	0
Spain	0	5	10	9	11	10	11	5	4	1
Sweden	0	2	1	0	0	1	2	1	1	1
United Kingdom	3	8	14	6	4	3	0	0	1	0
EU/EEA total	**255**	**185**	**128**	**84**	**124**	**68**	**103**	**97**	**91**	**91**

Table 19b: Congenital syphilis: number of cases by year of statistics, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria										
Belgium										
Bulgaria			22	19	37	23	30	34	38	29
Croatia										0
Cyprus							0	0	0	0
Czech Republic	1	3	0	0	4	0	0	1	0	1
Denmark	0	0	0	0	0	0				
Estonia	2	0	0	0	1	0	0	1	0	0
Finland										
France										
Germany	5	5	4	5	3	0	3	0	2	4
Greece						1	0	2	3	0
Hungary	9	4	4	2	3	1	1	1	0	0
Iceland										
Ireland	0	0	0	0	0	0	0	1	0	0
Italy	2	6	8	10	9	1	13	12	7	3
Latvia	7	1	3	0	0	1	2	1	0	1
Liechtenstein										
Lithuania	4	0	3	2	1	2	4	2	0	1
Luxembourg							0	0	0	0
Malta						0	0	0	0	0
Netherlands										
Norway	0	0	0	0	0	0	0	0	0	0

Table 19b: Congenital syphilis: number of cases by year of statistics, 2003–2012 (continued)

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Poland					4	0	12	18	14	32
Portugal	19	16	21	14	21	14	13	11	10	12
Romania	202	136	38	16	26	9	7	6	10	6
Slovakia						2	4	1	1	0
Slovenia				0	0	0	0	0	0	0
Spain	0	5	10	9	11	10	11	5	4	1
Sweden	0	1	2	0	0	1	3	1	1	1
United Kingdom	3	8	14	6	4	3	0	0	1	0
EU/EEA total	**254**	**185**	**129**	**83**	**124**	**68**	**103**	**98**	**91**	**91**

Table 20: Congenital syphilis: number of cases per 100 000 live births, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria										
Belgium										
Bulgaria	0	0	31	25.7	49.1	29.6	37.1	45	53.6	42
Croatia										0
Cyprus							0	0	0	0
Czech Republic	2.1	2	0	0.9	2.6	0	0	0.9	0	0.9
Denmark										
Estonia	15.3	0	0	0	6.3	0	0	6.3	0	0
Finland										
France										
Germany	0.7	0.7	0.6	0.7	0.4	0	0.5	0	0.3	0.6
Greece						0.8	0	1.7	2.8	0
Hungary	9.5	4.2	4.1	2	3.1	1	1	1.1	0	0
Iceland							0	0		
Ireland	0	0	0	0	0	0	0	1.3	0	0
Italy	0.4	1.1	1.4	1.8	1.6	0.2	2.3	2.1	1.3	0.6
Latvia	33.1	4.9	13.7	0	0	4.1	13.6	0	0	5
Liechtenstein										
Lithuania	13.1	0	9.8	6.4	3.1	5.7	10.9	5.6	0	3.3
Luxembourg							0	0	0	0
Malta						0	0	0	0	0
Netherlands										
Norway	0	0	0	0	0	0	0	0	0	0
Poland					1	0	2.9	4.4	3.6	8.3
Portugal	16.9	14.6	19.2	13.3	20.5	13.4	13.1	10.9	10.3	13.4
Romania	95.1	62.9	17.2	7.3	12.1	4.1	3.1	2.8	5.1	3
Slovakia						3.5	6.5	1.7	1.6	0
Slovenia				0	0	0	0	0	0	0
Spain	0	1.1	2.2	1.9	2.2	1.9	2.2	1	0.9	0.2
Sweden	0	2	1	0	0.9	0.9	1.8	0.9	0.9	0.9
United Kingdom	0.4	1.1	1.9	0.8	0.5	0.4	0	0	0.1	0
EU/EEA total	**10.1**	**6**	**4.2**	**2.7**	**3.4**	**2.5**	**3.6**	**3.1**	**2.6**	**3.4**

Lymphogranuloma venereum

Table 21a: LGV: number of cases by year of diagnosis, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria										
Belgium						12	17	22	21	23
Bulgaria										
Croatia										0
Cyprus							0	0	0	0
Czech Republic	0	0	0	0	0	0	0	1	6	9
Denmark				2	16	29				
Estonia						0	0	0	0	0
Finland	0	0	0	0	0	0	0	0	3	5
France								184	191	197
Germany										
Greece										0
Hungary	0	0	0	0	0	0	0	0		1
Iceland										
Ireland	0	0	1	0	2	0	0	1	0	3
Italy						4	8	6	11	
Latvia	0	0	0	0	0	0	0	0	0	0
Liechtenstein										
Lithuania										
Luxembourg							0			
Malta						0	0	0	0	0
Netherlands		76	38	43	70	100	86	66	70	190
Norway										
Poland							0	0	0	0
Portugal										
Romania										
Slovakia										
Slovenia				0	0	0	0	0	0	0
Spain										
Sweden	0	0	0	0	0	0	0	0	0	0
United Kingdom		27	261	137	172	187	155	428	408	402
EU/EEA total	**0**	**103**	**300**	**182**	**260**	**332**	**266**	**708**	**710**	**830**

Table 21b: LGV: number of cases by year of statistics, 2003–2012

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria										
Belgium						12	17	22	21	23
Bulgaria										
Croatia										0
Cyprus							0	0	0	0
Czech Republic	0	0	0	0	0	0	0	1	6	9
Denmark				2	16	29				
Estonia						0	0	0	0	0
Finland	0	0	0	0	0	0	0	0	3	5
France								184	191	197
Germany										
Greece										0
Hungary	0	0	0	0	0	0	0	0		1
Iceland										
Ireland	0	0	1	0	2	0	0	1	0	3
Italy						4	8	6	11	
Latvia	0	0	0	0	0	0	0	0	0	0
Liechtenstein										
Lithuania										
Luxembourg							0			
Malta						0	0	0	0	0
Netherlands		76	38	43	70	100	86	66	70	190
Norway										

Table 21b: LGV: number of cases by year of statistics, 2003–2012 (continued)

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Poland							0	0	0	0
Portugal										
Romania										
Slovakia										
Slovenia				0	0	0	0	0	0	0
Spain										
Sweden	0	0	0	0	0	0	0	0	0	0
United Kingdom		27	261	137	172	187	155	428	408	402
EU/EEA total	**0**	**103**	**300**	**182**	**260**	**332**	**266**	**708**	**710**	**830**

Annexes

Annex 1. Data collection and reporting

Since 2009, the European Centre for Disease Prevention and Control (ECDC) has been coordinating the enhanced surveillance of sexually transmitted infections (STIs) in Europe. The Centre strives to attain a high quality of standardised STI surveillance data from the 31 countries of the European Union (EU) and the European Economic Area (EEA).

Surveillance at the EU level is facilitated by ECDC's The European Surveillance System (TESSy), a web-based platform designed to offer Member States a single entry point for data submission and retrieval for all communicable diseases under EU surveillance. The reportable STIs, namely syphilis, congenital syphilis, gonorrhoea, chlamydial infection and lymphogranuloma venereum (LGV) are included within TESSy and Member States are expected to submit relevant data, if available, as stipulated by Decision 1082/2013/EU of the European Parliament and of the Council. Data collection in TESSy helps facilitate making surveillance data comparable, so that STI data can be shared across Europe in a meaningful way.

This ECDC surveillance report presents data from 2003 to 2012 and describes epidemiological features and trends of the five STIs under EU/EEA surveillance. The data are presented in five disease-specific chapters, focussing on key risk groups and changes in trends over time.

Data reporting in TESSy for STI surveillance

STI data are reported to TESSy at least once a year. Alternatively, Member States can upload data more frequently if validated data are available. For all five monitored STIs, two data types are used: case-based and aggregate data. Case-based reporting is preferred; however, aggregate data are still accepted because some Member States cannot comply with the EU standard, i.e. case-based reporting. The STI variable set consists of the common variables used for all diseases and an STI-specific set of variables. There are some differences between the STIs with regard to the number of variables to be reported: chlamydia reporting, for example, uses a smaller number of variables. A complete list of variables used for STI data collection can be found in Annex 4.

Implementation of EU case definitions

As of 1 January 2009, the EU case definitions for chlamydial infection, gonorrhoea, LGV, syphilis and congenital syphilis should be used when reporting at the European level. However, since STI case definitions used by a number of Member States differ from the published EU case definitions, reporting according to national case definitions is acceptable as long as it is indicated when submitting data.

The case definitions are included in Commission Decision 2002/253/EC and were amended by subsequent commission decisions. The current case definitions are available from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2002D0253:20120927:EN:PDF.

The STI surveillance network agreed that only confirmed cases of gonorrhoea, syphilis, congenital syphilis, chlamydial infection and LGV should be reported at the EU level. The case definitions for STIs are available in Annex 5.

Data collection 2012

The data collection organised in 2013 marked the fourth time that Member States reported enhanced STI surveillance data to ECDC. The deadline for submitting 2012 data was 20 September 2013. Data presented in this report were retrieved from the database on 15 November 2013.

Data were collected in a case-based data format as described in the STI reporting protocol. If case-based data were not available, the aggregate format was accepted, broken down by 1) gender, 2) age group, and 3) transmission category. Countries were able to modify previously uploaded historical data during the data collection period.

This report includes descriptions of national STI data sources in order to aid interpretation of data (Annex 3). Key features of the surveillance systems from which the data originate are presented in each disease-specific chapter and offer an overview of the heterogeneity between national reporting systems.

Data analysis

Case classification

As a rule, all confirmed cases – based on the agreed case definitions – were included in the analysis. As several countries submitted cases with 'unknown' or 'probable' case classifications it was not clear whether these cases were laboratory-confirmed in accordance with EU case definitions.

Cases were included when case confirmation was 'unknown' for all cases in a country. Cases were excluded when they were reported as 'probable' (except when all cases were reported as 'probable'), and only

the 'confirmed' cases were included. This affected the inclusion of submitted cases as follows:

- **Chlamydia.** All cases from Austria were included, including the 406 'probable' cases from 2006. All cases from Poland were included as case classification was 'unknown' for all cases between 2006 and 2012. Only confirmed cases were included for Slovakia; 13 cases reported in 2007 as 'possible' or 'probable' were excluded.
- **Gonorrhoea.** All 'unknown' cases from Austria reported from 1996 to 2005 were included; 11 'probable' cases in Austria in 2007 were excluded. All cases from Bulgaria between 1990 and 2005 were included, as case classification was 'unknown' for all cases. All cases from Portugal were included, including the 572 'unknown' cases from 1990 to 2012. Only confirmed cases were included for Slovakia, excluding 20 cases reported in 2007 as 'possible' or 'probable'. Spain submitted data from two different data sources: all cases from Spain's mandatory notification system classified as 'unknown' were included for the period 1990 to 2012; data from the Spanish sentinel laboratory system were not used in the tables for gonorrhoea in Spain.
- **Syphilis.** All Austrian cases classified as 'unknown' reported between 1996 and 2005 were included. All cases from Bulgaria were included, as case classification was 'unknown' for all cases from 1990 to 2005. All cases for Ireland, including those classified as 'unknown' from 2000 to 2006, were included. All cases from Portugal were included, including the 454 'unknown' cases from 1990 to 2012. Only confirmed cases were included for Slovakia, excluding 39 cases reported as 'possible' or 'probable' in 2007. For Spain, data from two different data sources were submitted: all cases from the mandatory notification system classified as 'unknown' were included for the period 1990 to 2012; data from the Spanish sentinel laboratory system were not used in the tables for syphilis in Spain.
- **Congenital syphilis.** All cases with 'unknown' classification from Bulgaria (2005) and Portugal (1999, 2000, and 2004) were included.
- **LGV.** One 'unknown' case from France in 2010 was included.

Analysis

In accordance with the STI reporting protocol (2013), STI data are presented by 'date of diagnosis' or, if unavailable, by 'date used for statistics'[9]. The date of consultation (for clinical STI services) can be used as a proxy for date of diagnosis, date of notification, or date of specimen taken. Due to a large amount of missing or incorrect information on 'date of diagnosis' for Sweden, chlamydia cases are presented by the 'date used for statistics'.

The various tables in this report use absolute numbers. 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), as extracted on 25 October 2013[10]. Rates were not calculated for countries with sentinel surveillance systems. For congenital syphilis, annual rates are calculated per 100 000 live births (population data retrieved from Eurostat).

For aggregate reporting, the age groups requested were: <15, 15–19, 20–24, 25–34, 35–44, ≥45; if data on age were unavailable or in an incompatible format, the country was excluded from analysis of age data.

9 The 'date used for statistics' can be any date that the reporting country finds applicable, e.g. date of notification, date of diagnosis or any other date.

10 Eurostat population data can differ from the population data published by national statistics offices; consequently, rates in this report may differ from those published by national surveillance institutes.

Annex 2. Data quality

The completeness of reporting is an important criterion for the quality and the interpretation of surveillance data. From 1990 to 2012, 4 016 995 cases of chlamydia were reported from 27 countries with varying degrees of completeness, 859 743 cases of gonorrhoea (29 countries), 391 166 cases of syphilis (30 countries), 3 291 cases of congenital syphilis (24 countries) and 3 700 cases of LGV (23 countries).

Liechtenstein did not provide any data on STIs.

Case-based and aggregate reports

Member States have agreed to report STI surveillance data in an aggregate format (1990–1999); all 2000–2012 data, if available, were reported in a case-based format. The case-based format allows the use of additional variables describing more epidemiological characteristics (Annex 4).

The completeness of reported data is affected by the use of these two formats as the aggregated format provides only limited information (gender, age, transmission category). The proportion of cases reported through the case-based format differs between STIs and over time (Tables A1-3) and is strongly influenced by a number of countries which report large numbers of cases in an aggregate format.

Completeness of data

Table A4 presents the completeness levels of data for 2003, 2011 and 2012. The completeness of reporting of basic variables such as 'age' and 'gender' has been very high for the whole time period and for all reported diseases. Completeness for age and gender was lower in aggregate data than in case-based data. There are still difficulties in analysing the 'age class' variable for countries reporting aggregate data, as the formats differ. Completeness of other variables was considerably lower, partly due to the amount of aggregate reporting, as most epidemiological variables are not included. Some variables, such as HIV status, were very incomplete even in case-based data.

Chlamydia

The number of countries reporting chlamydia data has increased over the years (Tables 1a, A1): four countries reported data for 1990; this increases to 12 countries in 2003 and 26 in 2012. For the period 2003 to 2012, 39 % of the data were provided in case-based format. The amount of case-based data has fluctuated between 36 and 49 % between 2003 and 2012.

The completeness of the basic variables 'age' and 'gender' has remained close to 100 % in 2012. Completeness of 'transmission category' increased between 2003 and 2012. This variable is now reported by 12 countries, but is only available for 45 % of cases in 2012. 'HIV status' is reported by five countries, with 2 % completeness overall. 'Site of infection' is available for 16 % of the reported cases in 2012 and is reported by 13 countries. The variable 'ClinicalServiceType' was reported for 12 % of cases in 2012. The usefulness of collecting variables which are only reported by very few countries needs to be re-evaluated.

Gonorrhoea

The number of countries reporting gonorrhoea data has increased to 29 in 2012 (Table A2). For the period 2003–2012, 21 % of the data were provided in a case-based format. The percentage of case-based reporting has increased over the years; in 2012, 26 % of data were reported case-based, compared with 8 % in 2003. The following countries reported aggregate data: Bulgaria, Croatia, Greece, Hungary, Ireland, Poland, Spain and the United Kingdom.

Table A1: Overview of chlamydia reporting, EU/EEA countries, 1990–2012

Year	Number of countries reporting data	Number of countries reporting case-based data	Number of cases reported	Percentage of cases reported as case-based data (%)
1990	4	1	71696	0.3
2003	12	6	166412	37.4
2011	26	19	361048	37.6
2012	26	19	385307	36.1

Table A2: Overview of gonorrhoea reporting, EU/EEA countries, 1990–2012

Year	Number of countries reporting data	Number of countries reporting case-based data	Number of cases reported	Percentage of cases reported as case-based data (%)
1990	12	1	64933	0.4
2003	19	8	34901	7.5
2011	28	21	41372	26.1
2012	29	21	47387	25.5

Completeness of the variables 'age' and 'gender' was above 90% between 2003 and 2012, and in 2012 reached 91% and 94%, respectively. Completeness of the variable 'transmission category' increased to 80% in 2012, and the variable is reported by 20 countries. The variable 'site of infection' is now reported by thirteen countries; however, completeness is still low at 16% of cases in 2012. 'HIV status' was reported by 10 countries in 2012, amounting to 13% of all cases.

Syphilis

All countries (except Liechtenstein) provided data on syphilis in 2012. For the period 2003–2012, 41% of the data were provided in a case-based format. In recent years, five countries changed their reporting systems (Austria, Estonia, Latvia, Lithuania and Romania) so that 56% of the 2012 data are now available in a case-based format. Only seven countries still report syphilis data in an aggregate format.

Completeness of the variables 'age' and 'gender' was just above 80%, which is lower than for gonorrhoea or chlamydia. Completeness of the variable 'transmission category' has increased, and this information was available for 40% of cases in 2012; however, there are still ten countries not reporting this variable. The variable 'stage of infection' was reported for only 24% of cases. 'HIV status' was reported by 13 countries and for 13% of the reported cases in 2012.

Table A3: Overview of syphilis reporting, EU/EEA countries, 1990–2012

Year	Number of countries reporting data	Number of countries reporting case-based data	Number of cases reported	Percentage of cases reported as case-based data (%)
1990	11	1	8436	2.0
2003	22	12	20986	25.8
2011	29	23	20823	56.5
2012	30	23	20802	55.6

Table A4: Completeness of reporting for key variables; 2003, 2011 and 2012

	2003				2011				2012			
	Countries reporting variable	Overall completeness (%)	Min (%)	Max (%)	Countries reporting variable	Overall completeness (%)	Min (%)	Max (%)	Countries reporting variable	Overall completeness (%)	Min (%)	Max (%)
Chlamydia												
Age	10	96	82	100	23	98	78	100	25	98	75	100
Gender	11	100	67	100	25	100	67	100	26	99	67	100
Classification	12	100	100	100	25	100	100	100	25	100	100	100
Clinical service type	2	12	60	100	11	12	88	100	11	12	83	100
Transmission	2	74	98	100	13	48	8	100	12	45	17	100
HIV status	≤1	≤1	≤1	≤1	6	2	0	98	5	2	≤1	96
Site of infection	3	12	97	100	13	15	53	100	13	16	98	100
Gonorrhoea												
Age	14	90	80	100	24	91	83	100	26	91	67	100
Gender	17	95	33	100	27	93	50	100	28	94	67	100
Clinical service type	2	≤1	100	100	14	16	14	100	13	15	70	100
Country of birth	4	4	78	100	12	16	4	100	11	16	64	100
Country of nationality	2	≤1	100	100	10	4	4	100	10	3	2	100
Probable country of infection	4	3	78	97	11	8	3	100	12	8	0	100
Transmission	5	77	93	100	19	74	6	100	20	80	6	100
HIV status	3	3	20	82	10	13	≤1	100	10	13	0	100
Sex worker	2	≤1	4	92	8	12	2	100	10	12	≤1	100
Contact with sex worker	2	≤1	88	89	9	12	≤1	100	9	12	≤1	99
Site of infection	1	≤1	100	100	13	17	13	100	13	16	10	100
Syphilis												
Age	18	84	80	100	27	81	81	100	28	81	80	100
Gender	20	93	67	100	28	83	96	100	29	82	80	100
Clinical service type	4	≤1	96	100	12	22	89	100	13	19	30	100
Country of birth	6	12	63	100	13	25	≤1	100	13	21	0	100
Country of nationality	2	≤1	95	100	10	16	18	100	10	12	23	100
Probable country of infection	6	11	5	92	13	9	≤1	100	14	7	0	100
Transmission	7	15	88	100	20	42	6	100	20	40	10	100
HIV status	5	3	6	94	12	12	0	100	13	13	≤1	100
Sex worker	4	≤1	≤1	99	11	9	3	99	12	15	≤1	100
Contact with sex worker	3	≤1	37	86	10	9	≤1	99	11	8	≤1	99
Stage of syphilis infection	0	0	0	0	2	0	2	100	1	0	100	100
Stage of syphilis infection (detailed)	4	3	97	100	15	27	66	100	15	24	65	100

Annex 3. 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. The system does not provide national coverage.
- Diseases under surveillance: chlamydia, gonorrhoea, syphilis

Case reporting

Mandatory universal (since 1945)

- Diseases covered: syphilis and gonorrhoea
- Coverage: Reporting is obligatory for all physicians in all settings (private and public), but only if there is a risk of onward transmission.
- Laboratory confirmation is not required.
- Variables: date of diagnosis

Voluntary

- Disease covered: syphilis and gonorrhoea

Aggregate

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

Laboratory test reporting

Voluntary universal

- Diseases covered: gonorrhoea, syphilis, and 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 which examines mostly sex workers).
- Chlamydia is reported by one centre, so 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 determinants. Coverage not known.

Case reporting

Mandatory universal (since 1946)

- Diseases covered: syphilis and gonorrhoea (congenital syphilis)
- Coverage: unknown. Reporting is obligatory for all physicians in all settings (private and public).
- Laboratory confirmation is 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, LGV, acute hepatitis B and acute hepatitis C (only in MSM). Coverage: unknown.
- Laboratory confirmation is required for all STIs, in accordance with ECDC case definition 2008.
- Variables: age, sex, nationality, place or residence, level of education, reason for testing, symptoms, sexual orientation, number of partners in last six months, group sex, fellation, stable relationship, CSW, drug use, contact with CSW, place where infection was contracted, HIV testing situation, HIV status, HBV status, HCV status, HPV vaccination status, partner notification.

Laboratory test reporting

Sentinel (since 2001)

- Voluntary participation by private and hospital microbiology laboratories
- Diseases covered: syphilis, gonorrhoea and chlamydia
- Coverage: 101 of the 178 laboratories of microbiology currently participate, covering 60 % of the STI testing activities
- Individual level reporting
- Cannot be linked to case reports
- Variables: place of residence, gender, age, test used
- Gonorrhoea AMR testing for all isolates

Greece

Greece uses one data source for reporting STI data to TESSy, the GR-NOTIFIABLE_DISEASES system developed by the Hellenic Centre for Disease Control and Prevention (KEELPNO). KEELPNO is responsible under law for epidemiological surveillance in Greece.

The new surveillance system for STIs, established in 2009, actively collects data (case based and aggregated) on cases of chlamydia, gonorrhoea, syphilis, congenital syphilis, and LGV. Data are collected from clinicians/laboratories/hospitals, both in the public and private sector. Reporting is compulsory for all above-mentioned diseases. EU-2008 case definitions are used.

The new system is intended to be comprehensive but data are mainly reported from public hospitals, thus significant underreporting may exist. 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, syphilis and gonorrhoea cases since the launching of the new surveillance system has mainly been attributed to the inclusion of data from more centres.

Data presented in this report were retrieved from the database on 10 September 2012 and are subject to change if new evidence is provided by other centres.

Case reporting

Mandatory universal

- Diseases covered: syphilis and congenital syphilis (since 1950), gonorrhoea (since 1950), LGV and chlamydia (since 2011).
- Coverage: Theoretically, reporting is obligatory for all physicians/laboratories/hospitals in all settings, private and public. Active surveillance has been implemented in 2009 in order to increase case detection and reporting. Data are mainly reported from public hospitals.
- Laboratory confirmation is 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.
- Variables (aggregated): age, gender, transmission category

Laboratory test reporting

- Diseases covered: syphilis, gonorrhoea, and chlamydia
- Gonococcal antimicrobial susceptibility data are reported at a national level by the National Reference Centre for *N. gonorrhoeae* (Hellenic Pasteur Institute), which also participates in the Euro-GASP project.

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.

Case reporting

Mandatory universal

Sentinel (since 2000)

Laboratory test reporting

Mandatory universal

Voluntary universal

Cyprus

One surveillance system providing data to TESSy: CY-NOTIFIED_DISEASES

This system is a mandatory, comprehensive, case-based surveillance system based on clinician reporting which 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: Reporting is obligatory for all physicians in all settings (private and public). An estimated total of 26–50 % of all diagnosed cases is reported in this system. It is also estimated that 76–99 % of cases diagnosed in the five STI/DV clinics in Cyprus are reported. There is no data available on the actual proportion of doctors who report.
- Laboratory confirmation is 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)

Convenience-based sample of 40 physicians (26 gynaecologists and 14 dermatologists) from all parts of Cyprus. Participation is voluntary in the private sector but all STI clinics in the public sector must report.

- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes, genital warts
- Coverage: An estimated total of 26–50 % of diagnosed cases is reported in this system.
- Laboratory confirmation is 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 STIs 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 for all isolates

Czech Republic

The CZ-STD data source is used for reporting data for gonorrhoea, LGV, syphilis and congenital syphilis. The surveillance system for syphilis and gonorrhoea is descirbed as 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 same as for syphilis and gonorrhoea. All infections are notified through identical IT tools.

Case reporting

Mandatory universal

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
- Laboratory and clinical reports can be linked in about 95 % of all syphilis and gonorrhoea cases. There is no clinical reporting for chlamydia.
- Variables: place of diagnosis, date of diagnosis, age, gender, anatomical site of infection, lab test used, type of health care provider.
- Gonorrhoea AMR testing for all isolates

Denmark

Two systems 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, syphilis and congenital syphilis. National case definitions are used.

Both systems have national coverage.

Case reporting

Mandatory universal (since 1865)

- Diseases covered: syphilis, gonorrhoea, (congenital syphilis)
- Coverage: Unknown. Reporting is obligatory for all physicians in all settings (private and public).
- Laboratory confirmation is 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

Estonia

Data are reported to TESSy through four data sources:

- EE-CONSYPH for reporting of congenital syphilis
- EE-GONOCOCC for reporting of gonorrhoea
- EE-HCV/CHLAMYDIA for reporting of Chlamydia
- EE-PERTUSSIS/SHIGELLOSIS/SYPHILIS for reporting of syphilis

All systems are comprehensive, case-based, compulsory and provide national coverage. Data are reported by hospitals, clinicians, laboratories and other sources. Estonia applies EU-2008 case definitions.

Case reporting

Mandatory universal (since 1950)

- Disease covered: syphilis, congenital syphilis, gonorrhoea, chlamydia, genital herpes
- Coverage: Reporting is obligatory for all physicians in all settings (private and public).
- An estimated total of 51–75 % of all physicians report.
- An estimated total of 76–99 % of all syphilis cases, 51–75 % of all gonorrhoea cases, 26–50 % of all chlamydia cases, and 10–25 % of genital herpes cases are reported.
- Laboratory confirmation is 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 disease surveillance.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes
- Coverage: unknown
- Individual level reporting
- Can be, but is not always, linked to case reports.
- Variables: age, gender, place of residence (county level), date of test result

Finland

The data source NIDR reports cases of chlamydia, gonorrhoea, LGV, syphilis (including congenital syphilis) to TESSy. The system is case-based and comprehensive. Data are collected from clinicians and laboratories, and reporting is compulsory. Geographical coverage and used case-definitions are not reported. No features are reported for congenital syphilis.

Case reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea, LGV
- Coverage: >95 %
- Laboratory confirmation is required
- Individual level reporting
- Variables: place of residence, gender, age, symptoms, sexual orientation, source country

Sentinel

- Six STI clinics, two gynaecological clinics, three healthcare centres and two student healthcare centres participate in this surveillance system.
- Diseases covered: syphilis, HIV, gonorrhoea, chlamydia, LGV, genital herpes, genital warts
- Laboratory confirmation is required for chlamydia, syphilis, gonorrhoea, LGV.
- Individual level reporting
- Variables: age, gender, symptoms, history of STI, number of partners during the last 12 months, sexual orientation, source country

Laboratory test reporting

Mandatory universal

- Diseases covered: syphilis, gonorrhoea, LGV and chlamydia
- Coverage: >95 %
- Individual level reporting
- Gonorrhoea; LGV 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 for all isolates

France

The data source FR-STI reports cases of gonorrhoea and syphilis to TESSy. The system is case-based and sentinel. Data are collected from clinicians and reporting is voluntary. Surveillance is national but the coverage rate is unknown. National case-definitions are used, based on clinical and laboratory criteria. To date, no features are reported to TESSy for congenital syphilis, chlamydia and LGV, but these latter two are routinely monitored.

Case reporting

Mandatory universal (until 2000)

Mandatory notification for four STIs (gonorrhoea, syphilis, LGV and chancroid) was stopped in 2000 due to very low completeness levels.

Voluntary sentinel (since 2000 for syphilis, 2004 for gonorrhoea)

- Diseases covered: syphilis, gonorrhoea
- Coverage: Unknown. Sentinel network of clinicians in STI clinics, less often in hospitals; private practitioners.
- Laboratory confirmation is required.
- Individual level reporting
- Common variables: place of diagnosis, date of diagnosis, age, gender, place of residence, country of birth, country of residence, sexual orientation, history of STI, HIV status, date of HIV test, reason for IST consultation, clinical symptoms, concurrent STI, condom use, number and gender of partners in the last 12 months, for syphilis: lab test used and stage of syphilis, for gonorrhoea: history of gonorrhoea in the last 12 months, site of infection, country of acquisition, treatment, partner status (casual, stable, CSW), drug/alcohol use.

Voluntary sentinel (since 2004)

- Diseases covered: LGV
- Coverage: unknown. Sentinel network of clinicians and public or private laboratories
- Laboratory confirmation is required (genotyping of anorectal chlamydial infections).
- Individual level reporting
- Variables: place of diagnosis, date of diagnosis, age, gender, place of residence, country of birth, country of residence, sexual orientation, history of STI, HIV status, date of HIV test, reason for IST consultation, clinical symptoms, concurrent STI, condom use, number and gender of partners in last 12 months; for syphilis: lab test used, stage of syphilis; for gonorrhoea: history of gonorrhoea in last 12 months, site of infection, country of acquisition, treatment, partner status (casual, stable, CSW), drug/alcohol use.

Laboratory test reporting

Mandatory universal

None

Voluntary sentinel (since 1986 for gonorrhoea, 1989 for Chlamydia, 2004 for LGV)

- Diseases covered: gonorrhoea (RENAGO), chlamydia (RENACHLA) and LGV
- Coverage: unknown. Sentinel network of public or private laboratories (~200 laboratories for RENAGO, ~80 laboratories for RENACHLA, ~30 laboratories for LGV network).
- Individual level reporting. Cannot be linked to cases reported for gonorrhoea and for chlamydia.
- Common variables: place of diagnosis, date of diagnosis, gender, age, site of infection, clinical symptoms, reason for testing, concurrent STIs, lab test used, category of clinic and of physician; for LGV: HIV status, sexual orientation, partner status (casual, stable, CSW), country of acquisition, number of partners in the last month. Antimicrobial resistance of RENAGO's strains tested in the reference lab is the basis for participation to EuroGASP.

Germany

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

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

Case reporting

Mandatory universal

- New system introduced in 2001. Laboratory-reported cases are linked with reports from physicians.
- Diseases covered: syphilis
- Coverage: 75–99 % of syphilis cases are reported. Reporting is obligatory for all physicians in all settings (private and public).
- Laboratory confirmation is required.
- Individual level reporting
- Variables: three-digit postcode of residence, gender, age, lab results, clinical symptoms, date of infection, CSW, contact with CSW, sex between men, connatal infection, heterosexual transmission country of origin, place where infection was contracted

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, the GR-NOTIFIABLE_DISEASES system, developed by the Hellenic Centre for Disease Control and Prevention (KEELPNO). KEELPNO is, by law, responsible for epidemiological surveillance in Greece. The new surveillance system for STI, established in 2009, collects case-based and aggregate data for chlamydia, gonorrhoea, syphilis, congenital syphilis and LGV. Data are collected from clinicians, laboratories, and hospitals in the public and private sector. Reporting is compulsory for all diseases mentioned above. EU-2008 case definitions are used. The new system is intended to be comprehensive, but significant underreporting may exist in the private sector. Since 2011, this system provides national coverage for chlamydia and gonorrhoea.

Case reporting

Mandatory and universal (since 1950) for syphilis, gonorrhoea, congenital syphilis, LGV and (since 2011) chlamydia

- Data presented in this report are subject to change if new evidence is provided by reporting 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, gonorrhoea and syphilis cases is mainly attributed to the inclusion of data from more reporting centres. Data on gonorrhoea were provided by the National Reference Centre for N. gonorrhoea until 2009 and by KEELPNO from 2010 onwards, incorporating data from more centres than before.
- Coverage: In theory, the system is comprehensive, as reporting is obligatory for all private and public physicians, laboratories and hospitals, but underreporting exists in the private sector. Active surveillance has been implemented since 2009 to increase case detection in, and reporting from, the public sector. Since 2011, the system provides national coverage of chlamydia and gonorrhoea for the entire public sector.
- 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, syphilis stage
- Variable (aggregate): age, gender, transmission category

Sentinel

none

Laboratory test reporting

Mandatory and universal (since 1987)

- Diseases covered: syphilis and gonorrhoea, chlamydia
- Antimicrobial susceptibility testing of *N. gonorrhoeae* and gonorrhea AMR surveillance is carried out by the National Reference Centre for *N. gonorrhoeae*, Laboratory of Bacteriology, Hellenic Pasteur Institute (NRCNG).

Hungary

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

Case reporting

Mandatory universal (since 1945)

Sentinel

Laboratory test reporting

Mandatory universal

Voluntary universal

Iceland

Iceland reports STI data to TESSy through one data source: IS-SUBJECT_TO_REGISTRATION. The system is compulsory, comprehensive and provides national coverage. Case-based data are 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: Reporting is obligatory for all physicians in all settings (private and public). An estimated total of 76–99 % of all diagnosed syphilis and gonorrhoea cases are reported to this system.
- Laboratory confirmation is 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)

- Obligatory for public laboratories 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 to the 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 for all isolates

Ireland

Three data sources are used for reporting STI data from Ireland: the IE-AGGR_STI and IE-SYPHILIS systems use EU-2002 case-definitions. A national case definition is used for the IE-LGV system.

- IE-AGGR_STI: The system reports aggregated data on chlamydia, gonorrhoea and LGV (1995–2008). The system is comprehensive, compulsory, has national coverage and collects data reported by clinicians, laboratories and hospitals.
- IE-SYPHILIS: The system reports 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.
- IE-LGV: The system has been used to report case-based data on LGV since 2009. The system is comprehensive, compulsory, has national coverage and collects data reported by clinicians, laboratories and hospitals.

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 is not required.
- Aggregate reporting except for LGV, syphilis and congenital syphilis (case-based)
- Variables: disease, neighbourhood where disease was notified, age group, gender, geographical area

Enhanced

- Diseases covered: syphilis and congenital syphilis (since 2000); LGV (since 2009)
- Coverage: national
- Laboratory confirmation is required for both syphilis and LGV.
- 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, gonorrhea, 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 under ‘case reporting’

Italy

Italy reports STI data to TESSy through the IT-NRS data source. The system is comprehensive, compulsory, has national coverage and provides case-based data for gonorrhoea and syphilis. Data are reported by hospitals and clinicians. The case definitions applied were not reported.

Case reporting

Mandatory universal (since 1956)

- Diseases covered: syphilis and gonorrhoea
- Coverage: Unknown. Reporting is obligatory for all physicians in all settings (private and public).
- Laboratory confirmation is required for syphilis and gonorrhoea.
- Individual level reporting
- Variables: place of residence, age group, gender, country of birth.

Sentinel (since 1991)

- 12 public STI clinics participate in this system. Non-random samples.
- Diseases covered: syphilis, gonorrhoea, chlamydia, genital herpes, genital warts, urethritis, PID, LGV
- Coverage: An estimated total of 50 % of all syphilis and gonorrhoea cases is recorded in the 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 was contracted, nationality, age, gender, place of residence, history of STI, HIV status, date of previous HIV test, number of partners in last 6 months, condom use in last six months, drug use lifetime.

Laboratory test reporting

Mandatory universal

None

Voluntary universal (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 the previous six months, stable partner in the previous three months, date of diagnosis

Latvia

The data source LV-BSN reports cases of chlamydia, gonorrhoea, syphilis and congenital syphilis to TESSy. The system is case-based and comprehensive, compulsory and has national coverage. Data are collected from clinicians and laboratories. 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 is required for syphilis, gonorrhoea, chlamydia
- Individual level reporting
- Variables: reporting centre, place of residence, age, gender, date of onset, date of diagnosis, date of notification, laboratory results and method of testing, transmission, contact with sex worker, drug use stage of syphilis, etc.

Sentinel

None

Laboratory test reporting

Mandatory universal (since 2008)

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

Voluntary universal

None

Lithuania

The data source LT-COMMUNICABLE_DISEASES reports cases of chlamydia, gonorrhoea, syphilis and congenital syphilis to TESSy. LGV has been included in reporting since July 2011. The system is comprehensive and provides national coverage. Case-based data are reported by clinicians and reporting is compulsory. EU-2008 case definitions are used.

Case reporting

Mandatory universal (2003)

- Diseases covered: syphilis, gonorrhoea, chlamydia and LGV (since 2011), congenital syphilis
- Coverage: Reporting is obligatory for all physicians in all settings (private and public).
- Laboratory confirmation is 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, reason for testing, gender, age, education, probable route of transmission, contact with CSW in the last 6 months, number of partners in the last 12 months, condom use

Sentinel

None

Laboratory test reporting

Mandatory universal

None

Voluntary universal

None

Luxembourg

Luxembourg reports STI data through two data sources:

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

Case reporting

Mandatory universal (since 1945)

Sentinel

Laboratory test reporting

Mandatory universal

Voluntary universal

Malta

Malta reports STI data through the MT-DISEASE_SURVEILLANCE data source. The system is used for reporting case-based data for chlamydia, LGV, gonorrhoea, syphilis and congenital syphilis. Data are reported by clinicians, laboratories and hospitals. Other sources supply additional data 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. Reporting is obligatory for all physicians in all settings (private and public).
- Laboratory confirmation is 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 the surveillance system.
- Diseases covered: syphilis, gonorrhoea and chlamydia
- Coverage: An estimated total of 76–99 % of all positive test results for STIs is reported to the system.
- Individual level reporting
- Can be, but is not always, linked to case reports
- Variables: sex, age, mode of transmission, clinic/physician type, site of infection, date of report

The Netherlands

STI are reported through the NL-STI data source. Reports cover chlamydia, gonorrhoea, syphilis and LGV. This sentinel surveillance system covers all STI centres in the country. The system offers national coverage and is particularly sensitive towards high-risk populations by using a fixed set of criteria (i.e. young age, MSM, risk behaviour, having STI symptoms, notification, ethnic origin from a country with a generalised HIV epidemic).

All clients are tested for chlamydia, gonorrhoea, syphilis, HIV; other tests are done on indication. Since 2012, young people with no other risk factors are tested for chlamydia first. If positive, tests for gonorrhoea, syphilis and HIV follow. 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)

- Reporting by eight STI regions, 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 is 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 parents' country of birth, reason for testing, sexual orientation, history of STIs, CSW, contact with CSW, IDU, HIV status, date of HIV test, number of partners in the last six months, condom use at last sexual contact, lab test, site of infection, AMR (for GO only).

Laboratory test reporting

Mandatory

None

Sentinel

None

Norway

The data source MSIS reports cases of chlamydia, gonorrhoea, syphilis and congenital syphilis to TESSy. The system is case-based and comprehensive. Data are collected from clinicians (gonorrhoea and syphilis) and laboratories (chlamydia, gonorrhoea and syphilis) and reporting is compulsory.

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 reports data on chlamydia. The system is comprehensive, compulsory and collects case-based data from laboratories (since 2005).

Case reporting

Mandatory universal (since 1922)

- Diseases covered: syphilis and gonorrhoea
- Coverage: >95 %
- EU-case definitions 2008
- Individual level reporting
- Variables: place of residence, date of onset, date of diagnosis, place of diagnosis, gender, age, nationality/country of birth, type of clinic, 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 STIs (chlamydia since 2005)
- Case definition 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 residence, date of diagnosis, reporting laboratory;
  - gonorrhoea/syphilis: age, gender, date of sending the report, reporting laboratory, reporting form's unique ID number
- Gonorrhea AMR testing (PPNG, quinolones) for all isolates

Sentinel

None

Poland

Poland reports STI data through the data source PL-NATIONAL_SURVEILLANCE. This comprehensive system is used for reporting chlamydia, gonorrhoea, syphilis and congenital syphilis. Cases are reported by clinicians and laboratories. Reporting is compulsory. Case definitions and geographical coverage are not reported. The system is reported as being case based, but reports only aggregate data to TESSy.

Case reporting

Mandatory universal

- Date introduced: 1961, modified in 2000, new regulations under development.
- Reports come mainly from STI units, although all doctors should report.
- Diseases covered: syphilis, gonorrhoea
- Coverage: 70–80 % (estimated)
- Laboratory confirmation required
- Individual level reporting
- Variables: gender, date of birth, place of residence, clinical symptoms, laboratory test results, date of possible infection, place of possible infection, possible contacts, history of STIs

Sentinel

- Introduced in 2003; network of local STI clinics (16 nationwide) with one 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, date of birth, 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

- Date introduced: 1961, modified in 2000, new regulations under development.
- Reports from laboratories specialised in infectious disease diagnostics, although all laboratories should 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: data on gonorrhoea
- PT-SYPHILIS: data on syphilis
- PT-CONGENITAL_SYPHILIS: data on congenital syphilis

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

Case reporting

Mandatory universal (since 1950)

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

Sentinel (since 2002)

- GEIDST
- Diseases covered: syphilis, gonorrhoea, chlamydia and genital herpes (HPV, trichomoniasis, urethritis, chancroid, molluscum, pediculosis, HBV, HCV)
- Coverage: unknown
- Laboratory confirmation is required for syphilis, gonorrhoea and chlamydia
- Individual level reporting
- Variables: place of residence, date of diagnosis, gender, age (date of birth), level of education, country of birth/nationality, type of clinic, reason for testing, site of infection, concurrent STIs, HIV status, sexual orientation, number of partners in the last six months, drug use, CSW..

Laboratory test reporting

Mandatory universal

- None
- Gonorrhoea AMR testing for all isolates in reference laboratory.

Romania

The data source RO-RNSSy collects data on STIs from Romania. The system reports case-based data on chlamydia, gonorrhoea, syphilis and congenital syphilis. The system is comprehensive, compulsory and has national coverage. Data are reported by hospitals using the EU-2008 case definitions.

Case reporting

Mandatory universal

- The legislation for compulsory STI (gonorrhea and syphilis) reporting started in March 1953 and was updated in 1971. Since 1 January 2005, the reporting of cases is compulsory (Ordinance Number 1060/25 Aug 2004). Only laboratory-confirmed cases are reported.
- Since 1 January 2014, STI cases have been reported according to Order 1342/25 Nov 2013. Epidemiological investigation formats were updated in accordance with the ECDC/TESSy requirements.
- Testing for syphilis is required for marriage health certificates, university enrolment, military service, employment, and if ordered by a clinician.
- Syphilis cases are confirmed by dermatovenereology specialists; reporting is mandatory universal with national coverage. There are no sentinel systems.
- Variables are identical for chlamydia, gonorrhoea and syphilis cases.
- Variables: place of residence, place of infection, date of diagnosis, gender, age (date of birth), level of education, marital status, country of birth/nationality, diagnosis, site of infection, passive or active investigation, notification of the source infection, sexual orientation, number of contacts, risk behaviour (drug use, CSW), history of STIs, testing of source and contacts, month of statistics

Laboratory test reporting

Mandatory universal

All positive cases of chlamydia and syphilis are reported to the District Public Heath Directorate.

Slovakia

Slovakia uses one data source to report STIs to TESSy: SK-EPIS covers syphilis, congenital syphilis, gonorrhoea, chlamydia and LGV. It 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 settings (private and public). It is estimated that 90 % of all syphilis cases and 70–80 % of all gonorrhoea cases are reported to this system.
- Laboratory confirmation: required
- Individual level reporting
- Variables: date of birth, gender, permanent address, place of diagnosis, citizenship, country of birth, profession, marital status, sexual partners, history of STIs, 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: An estimated 70 % of all positive test results for STIs are reported to the system.
- Individual level reporting
- Can be linked to case reports.
- Gonorrhoea AMR testing for all isolates

Slovenia

The data source SI-SPOSUR reports cases of chlamydia, LGV, gonorrhoea, syphilis and congenital syphilis to TESSy.

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

Case reporting

Mandatory universal

- Diseases covered: syphilis, congenital syphilis, gonorrhoea (since 1948), chlamydia, LGV (since 1995)
- Coverage: Reporting is obligatory for all physicians in all settings (private and public). All 11 STI/DV clinics report. An estimated total of 76–99 % of all diagnosed syphilis cases is reported to the system. No reliable estimates of underascertainment and underreporting of STIs are available.
- Laboratory confirmation is required for syphilis, gonorrhoea, chlamydia and LGV.
- Individual level reporting
- Variables: Soundex code of surname, date of birth, gender, residence administrative unit, citizenship, country of birth, profession, marital status, previous STI, if previous STI year of last STI, number and nationality of sexual partners in last three months, probable country of infection, paid for sex in the last three months (number of male and female partners), date of diagnosis, ICD code for STI diagnosis, date of notification, reporting physician, reporting physician's speciality

Sentinel

None

Laboratory test reporting

Mandatory universal

None

Voluntary universal

- None
- Gonorrhoea AMR testing 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 (syphilis until 2008) 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 offers countrywide coverage.

Case reporting

Mandatory universal (since 1982)

- Diseases covered: syphilis, gonorrhoea
- Coverage: Reporting is obligatory for all physicians in all settings (private and public). Level of underreporting is unknown.
- Laboratory confirmation is not required.
- Aggregate reporting
- Variables: number of cases, province, region, year of diagnosis

Mandatory universal (since 1997)

- Diseases covered: congenital syphilis
- Coverage: Reporting is compulsory for all physicians in all settings (private and public). Level of underreporting is unknown.
- Laboratory confirmation is 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 surveillance was implemented in July 2005: 14 centres of diagnosis and treatment in 13 cities.
- Diseases covered: syphilis, gonorrhoea
- Coverage: Around 20 % of all syphilis cases and 30 % of all gonorrhoea cases are reported to the mandatory system (2006–2008).
- Laboratory confirmation is required.
- Individual level reporting
- Variables: type of clinic, 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 was contracted, transmission route, CSW contact, number of partners in the last 12 months, sexual contact with HIV-positive partner

Laboratory test reporting

Sentinel reporting

- Sistema de Información Microbiológica (SIM) since 1989
- Diseases covered: syphilis (until 2008), gonorrhoea, chlamydia, genital herpes
- Individual level reporting
- Variables: sex, age, specimen type, site of infection

Sweden

Sweden uses the data source SMINET to report STI to TESSy. The comprehensive system 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) and Chlamydia (since 1988), congenital syphilis
- Coverage: >90 %
- Laboratory confirmation is required.
- Individual level reporting
- Variables: Place of residence, date of onset, date of diagnosis, place of diagnosis, gender, age, nationality/country of birth, type of clinic, 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: An estimated total of >95 % of all positive test results for STIs in the country are reported to the system.
- Aggregate total test data for gonorrhoea and chlamydia
- Variables: clinic/physician type, gender, age
- Cannot be linked to case reports
- Gonorrhoea AMR testing for all isolates

United Kingdom

The United Kingdom uses four data sources to report STIs to TESSy:

- UK-GUM to report chlamydia, gonorrhoea, syphilis and congenital syphilis;
- UK-LAB to report gonorrhoea and syphilis;
- UK-GUM-COM to report chlamydia; and
- UK-ENHANCED to report LGV.

These sources report confirmed diagnoses and provide aggregated data. UK-GUM collects data on diagnoses made in all genitourinary medicine (GUM – also known as STI) clinics across the United Kingdom, and reporting is mandatory. GUM clinics have comprehensive coverage but some STIs may be diagnosed in other settings.

UK-GUM-COM is comprehensive and collects data on all diagnoses of chlamydia made in GUM clinics and, for England and Wales, community-based test settings. UK-GUM-COM data are provided by GUM clinics, community-based testing sites and laboratories but reporting is only part-mandatory. UK-LGV collects laboratory reports for all LGV diagnoses made in the United Kingdom. Reporting is comprehensive and voluntary. Data are provided by the UK LGV reference laboratories.

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 STIs 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, LGV
- Coverage: comprehensive
- Laboratory confirmation is 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

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

Variation in surveillance methods across the United Kingdom

STI surveillance methods vary across the countries of the United Kingdom. The following summaries briefly describe how these variations are reflected in the United Kingdom STI TESSy return.

England

For 2012, the English contribution to the United Kingdom datasets consisted of data on chlamydia, gonorrhoea, syphilis, and LGV diagnoses made in GUM clinics throughout England. The data are collected through the GUM Clinic Activity Dataset (GUMCADv2), a disaggregate patient-level dataset of all STI diagnoses and services at GUM clinics in England.

Scotland

The Scottish contribution to the United Kingdom datasets consisted of data on laboratory-positive diagnoses for chlamydia and gonorrhoea, and data from an enhanced syphilis surveillance system which collects both clinical and laboratory information.

Wales

Data reported to TESSy are collected through the Sexual health in Wales surveillance system (SWS). The SWS receives data from two sources: laboratories and integrated sexual health (ISH) clinics. Laboratory data include tests requested from all healthcare settings, but most information captured by the clinical arm of SWS is from hospital clinics (previously known as GUM clinics). Data on syphilis, gonorrhoea and chlamydia are reported to TESSy.

Northern Ireland

Northern Ireland contributes data collected in all GUM clinics to the United Kingdom TESSy STI report. Data on syphilis, congenital syphilis, gonorrhoea and chlamydia are collected in aggregate format from GUM clinics (mandatory universal reporting).

Annex 4. 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	N/A	N/A	N/A	N/A	✓
10. DateofOnset	✓	✓	✓	✓	✓
11. DateOfDiagnosis	✓	✓	✓	✓	✓
12. DateOfNotification	✓	✓	✓	✓	✓
13. DateUsedForStatistics	✓	✓	✓	✓	✓
14. ReportingCountry	✓	✓	✓	✓	✓
15. Classification	✓	✓	✓	✓	✓
16. ClinicalCriteria	N/A	N/A	N/A	N/A	N/A
17. LaboratoryResult	✓	✓	✓	✓	✓
18. EpiLinked	N/A	N/A	N/A	N/A	N/A
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					✓

N/A = Not applicable

Annex 5. Case definitions for STI

Source: Commission Decision 2002/253/EC as updated by subsequent commission decisions, laying down case definitions for reporting communicable diseases to the Community network under Decision No 1082/2013/EU of the European Parliament and of the Council.

Available from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2002D0253:20120927:EN:PDF

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 ano-genital 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 ano-genital 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: N/A

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 a urethral male specimen

Epidemiological criteria

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

Case classification

A. Possible case: N/A

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 five:

- 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

- additionally 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

- Possible case: N/A
- Probable case: Any person meeting the clinical criteria and with an epidemiological link
- 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 ten:

- 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

- Possible case: N/A
- 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
- Confirmed case: Any infant meeting the laboratory criteria for case confirmation

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