

### 4.38 Syphilis

Syphilis is a sexually transmitted infection (STI) caused by the bacterium *Treponema pallidum*. It may also be transmitted mother-to-child (congenital syphilis).

Humans are the only reservoir and, apart from congenital cases, the only epidemiologically relevant mode of transmission is by direct contact with treponema-rich, open, muco-cutaneous lesions and contaminated secretions from a patient.

After an incubation period of 10 to 90 days (three weeks on average) clinical symptoms appear: at first a primary lesion (chancre), then a series of eruptions of muco-cutaneous lesions (secondary syphilis), followed by long periods of latency (latent or tertiary syphilis). If untreated, many years after the initial infection, tertiary syphilis lesions might finally appear (visceral, multi-organ involvement, including serious vascular and neurological damage).

Mother-to-child transmission might result in foetal death, peri-natal death or congenital syphilis. The latter can be asymptomatic or present stigmata or determine multi-organ pathology.

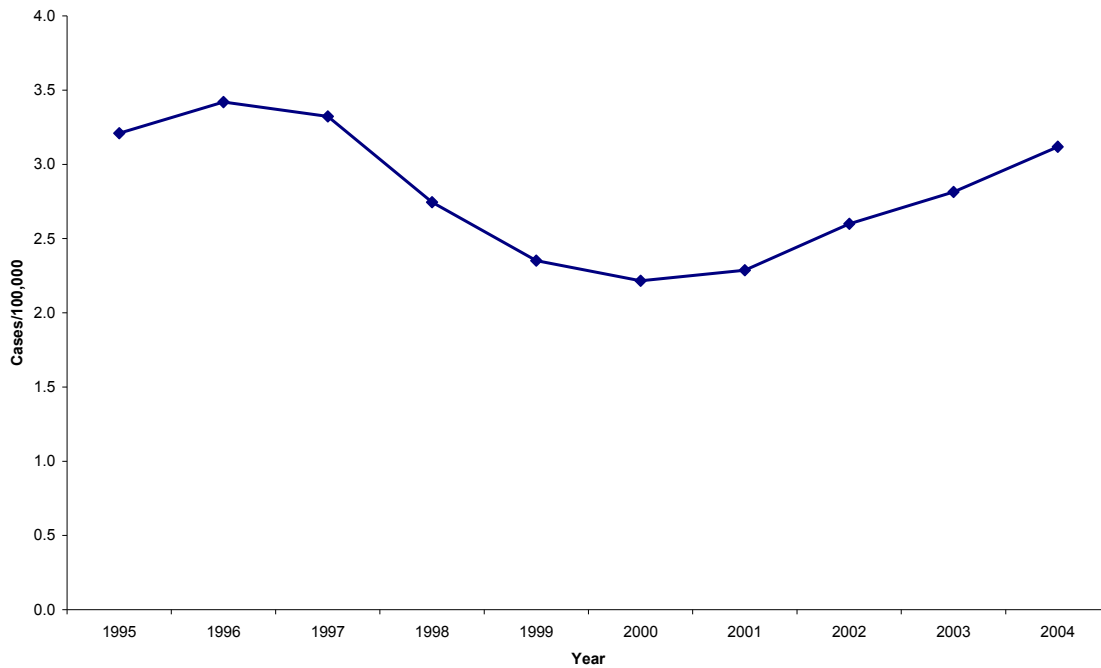
With the widespread use of penicillin, syphilis prevalence had significantly declined after World War II. However, in several industrialised countries a considerable resurgence occurred in the late 1980s.

#### 10-year trends

Twenty-one EU Member States, Iceland and Norway submitted data for the whole period, while France, Malta, Greece and the Netherlands provided syphilis incidence data for some of the years (Liechtenstein did not provide any data).

In the last 10 years, the overall incidence decreased steadily after 1996 from just under 3.5 to 2.2 per 100 000 in 2000, but has been rising steadily since then to 3.1 per 100 000 in 2004, mainly due to outbreaks in large cities involving men who have sex with men. In the Baltic States (Estonia, Latvia and Lithuania) where syphilis incidence was very high in the early 1990s (over 60 cases per 100 000 in 1995), a sharp decrease in incidence has been observed from 1996 to 2004. In some central European countries (Slovakia, Slovenia and Poland) syphilis incidence remained below 10 cases per 100 000 and the overall trend is decreasing.

**Figure 4.38.1. Incidence rate of syphilis cases in EU and EEA/EFTA countries by year reported, 1995–2004**



Source: Eurostat. Data missing from Liechtenstein.

### ***The situation in 2005***

In 2005, 12 945 syphilis cases were reported by 23 countries. There are many variations in the reporting systems throughout Europe. These vary from syphilis being a notifiable disease with national coverage in for example Cyprus, Czech Republic, Estonia, Finland, Germany, Lithuania and Malta, to syphilis being reported on a voluntary basis by a sentinel network of laboratories in Spain. The highest incidence rates were still recorded in Latvia (19.21 per 100 000), Lithuania (8.61 per 100 000) and Estonia (8.24 per 100 000). The overall incidence rate for Europe was 3.48 per 100 000.

**Table 4.38.1. Number of syphilis cases in the EU and EEA/EFTA, 2005**

Country	Report type*	Reported cases	Incidence /100 000
Austria	C	267	3.25
Belgium	C	359	3.44
Cyprus	C	21	2.80
Czech Republic	C	523	5.12
Denmark	C	116	2.14
Estonia	A	111	8.24
Finland	C	142	2.71
France	—	—	—
Germany	C	3 215	3.90
Greece**	—	—	—
Hungary	A	545	5.40
Ireland	—	—	—
Italy	C	1 397	2.39
Latvia	C	443	19.21
Lithuania	C	295	8.61
Luxembourg	C	22	4.84
Malta	C	16	3.97
Netherlands	—	—	—
Poland	C	613	1.61
Portugal	C	90	0.85
Slovakia	C	168	3.12
Slovenia	C	40	2.00
Spain	C	516	1.20
Sweden	C	109	1.21
United Kingdom	C	3 910	6.51
<b>EU total</b>		<b>12 918</b>	<b>3.52</b>
Iceland	C	3	1.02
Liechtenstein	—	—	—
Norway	C	24	0.52
<b>Total</b>		<b>12 945</b>	<b>3.48</b>

Source: Country reports. \*A: Aggregated report; C: Case-based report; —: No report.

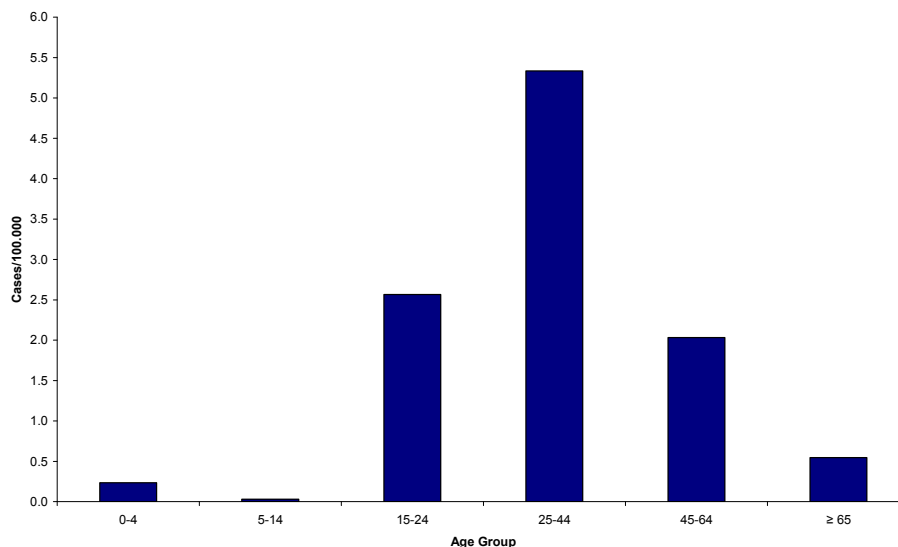
\*\* Syphilis is not notifiable in Greece.

### **Age and gender distribution**

The highest incidence rates were reported in the age groups 25–44 years (5.33 per 100 000) and 15–24 years (2.57 cases per 100 000). In all, 31 syphilis cases were diagnosed in children aged under four years giving an incidence rate equal to 0.23 per 100 000.

Data with information on gender were available from 18 countries (n = 7 112). The incidence was higher in men (3.16 per 100 000) than in women (0.72 per 100 000), giving a male to female ratio of 4.4:1.

**Figure 4.38.2. Age-specific incidence distribution of syphilis cases for selected European countries, 2005 (n = 6 991)**



*Source:* Country reports. Reports with age-specific data were available from: Belgium, Cyprus, Denmark, Estonia, Finland, Germany, Italy, Latvia, Luxembourg, Malta, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Iceland and Norway.

### **Seasonality**

As expected, no seasonal trends were observed in the syphilis reported cases (n=5 414) with information on month of report for 2005.

### **Conclusions**

- High rates of syphilis reached epidemic levels in the Baltic States in the early 1990s. These increases were related to the behaviour and socioeconomic changes that followed the collapse of the former USSR<sup>1</sup>. A decrease in incidence was observed in these countries post-1995, this could reflect a true decrease of the disease but could possibly be linked to under-reporting<sup>2</sup>.
- Until the mid-1990s, syphilis incidence rates were very low in western European countries. From 1995 to 1998, increasing incidence rates were observed in most of these countries. These increases were related to several outbreaks of syphilis in large cities, with men having sex with men among the most affected groups<sup>3</sup>.
- Reliable national syphilis data was provided by few countries so the incidence for the EU is certainly under-estimated.
- The Baltic States, especially Latvia, Lithuania and Estonia are still reporting the highest incidences in 2005 with 19.21, 8.61 and 8.24 cases per 100 000, respectively.
- Syphilis cases were diagnosed mainly in individuals aged between 25 and 44 years and much more frequently in men than in women.

### **References**

1. Laukman-Josten Y, Klavs I, Renton A, Fenton K. Sexually transmitted infections in Europe: no impact on HIV — yet. Matic Ed. WHO Europe 2006.
2. Riedner G, Dehne KL, Gromyko A. Recent declines in reported syphilis rates in eastern Europe and central Asia: are the epidemics over? *Sex Transm Inf* 2000;76:363–65.

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3. Fenton KA, Lowndes CM and the European Surveillance of Sexually Transmitted Infections (ESSTI) network. Sex Transm Infect 2004;80:255–63.

**Surveillance systems overview**

Country	System	Compulsory/ Voluntary	Comprehensive/ Sentinel	Active/Passive	Case-based/ Aggregated	Data reported by				National Coverage
						Labs	Physicians	Hospitals	Others	
Austria	GESCHLECHTSKRANKHEITENGESETZ (STD-law) 1945	C	Co	P	C-B	Y	Y	Y	Y	Y
Belgium	Laboratory network (sentinel + reference laboratories)	V	Se	A	C-B	Y	N	N	N	Y
Belgium	Mandatory notification in French Community	C	Co	P	C-B	Y	Y	Y	Y	N
Belgium	Mandatory notification in Flanders and Brussel Capital region	C	Co	P	C-B	Y	Y	Y	Y	N
Cyprus	System for Mandatory Notified Diseases	C	Co	P	C-B	N	Y	N	N	Y
Czech Republic	Register of STD	C	Co	P	C-B	Y	Y	Y	N	Y
Denmark	STI clinical	C	Co	P	C-B	N	Y	N	N	Y
Denmark	Clinical STI system	C	Co	P	C-B	N	Y	N	N	Y
Estonia	Obligatory, countrywide, based on a double system of reporting Pertussis, Shigellosis, Syphilis	C	Co	P	A	Y	Y	Y	Y	Y
Finland	National Infectious Disease Register (NIDR)	C	Co	P	C-B	Y	Y	N	N	Y
Finland	STD sentinel surveillance	V	Se	P	C-B	N	Y	N	N	N
France	National reference Centres	V	Co	P	C-B	Y	N	N	N	Y
France	Sexually transmitted infection	V	Se	A	C-B	Y	Y	Y	Y	N
Germany	SurvNet@RKI - 7.3 (1)	C	Co	P	C-B	Y	N	N	N	Y
Greece										

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Hungary	STD surveillance	C	Se	P	A	N	Y	N	N	Y
Iceland	Mandatory surveillance of diseases subject to registration in Iceland	C	Co	P	C-B	Y	Y	N	N	Y
Ireland	General and EU case definition	C	Co	P	C-B	Y	Y	N	N	Y
Italy	SIMI	C	Co	P	C-B	N	Y	Y	N	Y
Latvia	STI and skin infections surveillance system	C	Co	P	C-B	N	Y	Y	N	Y
Lithuania	National Communicable diseases surveillance System	C	Co	P	C-B	Y	Y	N	N	Y
Luxembourg	System 1	C	Co	P	C-B	N	Y	N	N	Y
Malta	Disease Surveillance Unit	C	Co	A	C-B	Y	Y	Y	Y	Y
Netherlands	ISIS-laboratory surveillance system	V	Ot	P	C-B	Y	N	N	N	N
Netherlands	STI sentinel surveillance network	V	Se	P	C-B	N	Y	N	N	N
Norway	MSIS (group B diseases)	C	Co	P	C-B	Y	Y	Y	N	Y
Poland	National Surveillance System of Infectious Diseases	C	Co	P	C-B	Y	Y	N	N	Y
Portugal	Syphilis Surveillance System	C	Co	P	C-B	N	Y	N	N	Y
Slovakia	EPIS - Epidemiological Information system	C	Co	A	C-B	Y	Y	Y	Y	Y
Slovenia	SPOSUR	C	Co	P	C-B	N	Y	N	N	Y
Spain	Microbiological Information System	V	Se	P	C-B	Y	N	N	N	N
Sweden	SmiNet	C	Co	P	C-B	Y	Y	Y	N	Y
United Kingdom	UK Syphilis	V	Ot	A	C-B	Y	Y	Y	Y	Y

# **The First European Communicable Disease Epidemiological Report**

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The European Communicable Disease Epidemiological Report is also available as an Executive Summary and a Highlights version. As updates have been received up to the 5 June 2007, this full version is the authoritative final version.