

Congenital syphilis

Annual Epidemiological Report for 2018

Key facts

- In 2018, 60 confirmed congenital syphilis cases were reported in 23 EU/EEA Member States, a crude rate of 1.6 cases per 100 000 live births.
- For the first time since 2013, the number of notified cases of congenital syphilis increased in 2018.
- This report may include some underreporting: seven countries did not contribute to the reporting of congenital syphilis and a further 12 reported no cases for 2018.
- The low rates of congenital syphilis and of reported syphilis among women suggest that most Member States have effective programmes for elimination of congenital syphilis; the recent 50% increase over the previous year, however, deserves careful scrutiny. Better indicator data are needed to assess the effectiveness of antenatal screening programmes in all EU/EEA countries.

Methods

This report is based on data for 2018 retrieved from The European Surveillance System (TESSy) on 9 December 2019. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases.

For a detailed description of methods used to produce this report, refer to the *Methods* chapter [1].

An overview of the national surveillance systems is available at the ECDC website [2].

A subset of the data used for this report is available through ECDC's online *Surveillance atlas of infectious diseases* [3].

In 2018, the majority of countries (18) reported congenital syphilis data using the standard EU case definitions [4]: one country reported using the 2018 EU case definition, eight countries reported using the 2012 EU case definition, seven used the 2008 definition and two used the 2002 definition. The remaining five countries reported either using national case definitions (4) or did not specify the case definition in use (1).

All reporting countries have comprehensive surveillance systems for congenital syphilis. Reporting of congenital syphilis is compulsory in all countries except for the United Kingdom. Cases are analysed by date of diagnosis.

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Epidemiology

In 2018, 70 cases of congenital syphilis were reported in 11 EU countries, 60 of which were confirmed and 10 were reported with 'unknown' confirmation status (all by Poland). Twelve countries reported no cases. Only Bulgaria and Italy reported more than five cases in 2018 (25 and 7, respectively). The total number of reported congenital syphilis cases increased in 2018 compared with 2017 when 40 cases were reported. This was the first time the number of reported congenital syphilis cases increased since 2013. The increase was mostly due to a larger number of cases reported by Bulgaria (25 in 2018, compared with 14 in 2017) and seven cases reported by Italy, which did not report data for 2017 (Table 1). In addition, there were increases of between one and three confirmed cases each in Hungary, Poland, Slovakia, Spain and Sweden. The crude rate of reported congenital syphilis in the EU/EEA was 1.6 cases per 100 000 live births, an increase over the previously stable rate of between 1.1 and 1.2 cases per 100 000 live births reported between 2015 and 2017 (Figure 1). The highest rate continued to be observed in Bulgaria (39.1 per 100 000 live births). In 2018, data on the mother's country of birth were reported by six countries for a total of 28 cases. Of these, four mothers were born outside the reporting country.

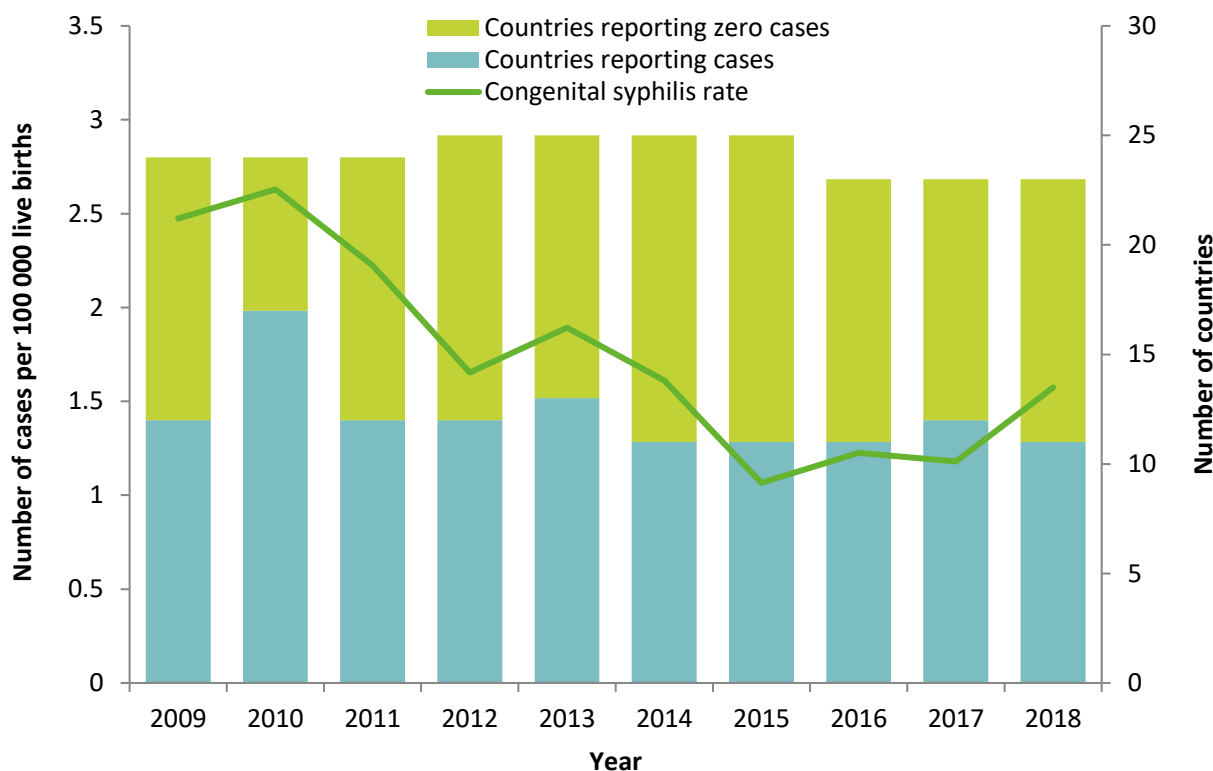
Table 1. Distribution of confirmed congenital syphilis cases and rates per 100 000 population by country, EU/EEA, 2014–2018

Country	2014		2015		2016		2017		2018		
	Confirmed cases	Rate	Confirmed cases	Rate	Confirmed cases	Rate	Confirmed cases	Rate	Confirmed cases	Rate	Reported cases
Austria	.	.	.	.	.	.	.	.	.	.	.
Belgium	.	.	.	.	.	.	.	.	.	.	.
Bulgaria	24	35.5	10	15.2	13	20.0	14	21.9	25	39.1	25
Croatia	0	0.0	0	0.0	0	0.0	0	.	.	.	.
Cyprus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Czechia	0	0.0	4	3.6	1	0.9	1	0.9	0	0.0	0
Denmark	1	1.8	0	0.0	1	1.6	0	0.0	0	0.0	0
Estonia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Finland	.	.	.	.	.	.	.	.	.	.	.
France	.	.	.	.	.	.	.	.	.	.	.
Germany	0	0.0	3	0.4	2	0.3	3	0.4	3	0.4	3
Greece	0	0.0	2	2.2	.	.	.	.	.	.	.
Hungary	1	1.1	0	0.0	2	2.1	3	3.2	5	5.3	5
Iceland	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Ireland	0	0.0	0	0.0	0	0.0	1	1.6	0	0.0	0
Italy	4	0.8	5	1.0	.	.	.	.	7	1.5	7
Latvia	0	0.0	0	0.0	0	0.0	1	4.8	0	0.0	0
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.
Lithuania	1	3.3	3	9.5	0	0.0	1	3.5	0	0.0	0
Luxembourg	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Malta	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Netherlands	.	.	.	.	.	.	.	.	.	.	.
Norway	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Poland	8	2.1	4	1.1	6	1.6	1	0.2	2	0.5	12
Portugal	7	8.5	5	5.8	2	2.3	4	4.6	3	3.5	3
Romania	7	3.5	5	2.5	4	2.0	6	3.0	4	2.0	4
Slovakia	2	3.6	0	0.0	0	0.0	0	0.0	2	3.5	2
Slovenia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Spain	6	1.4	1	0.2	4	1.0	2	0.5	5	1.3	5
Sweden	0	0.0	0	0.0	2	1.7	0	0.0	2	1.7	2
United Kingdom	1	0.1	1	0.1	5	0.6	3	0.4	2	0.3	2
EU/EEA	62	1.6	43	1.1	42	1.2	40	1.2	60	1.6	70

Source: country reports.

..: no data reported.

Figure 1. Number of confirmed congenital syphilis cases per 100 000 live births; number of countries reporting congenital syphilis data, by year, EU/EEA, 2009–2018



Source: Country reports from Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

Discussion

Overall, congenital syphilis rates in the EU/EEA have decreased since the early 2000s, however in 2018, for the first time in over five years, there was an increase in the congenital syphilis rate in the EU/EEA, largely due to an increase in the number of cases reported by Bulgaria. The reasons for this increase are being investigated. The number of cases reported from other EU/EEA countries has remained relatively stable, with only Bulgaria and Italy reporting more than five cases. Although these data suggest a stable or improving situation in most EU/EEA countries, underreporting of congenital syphilis is likely in parts of the EU/EEA. In addition, indicators of the effectiveness of antenatal screening programmes and results from investigations around congenital syphilis cases diagnosed in Europe are not routinely collected at the European level. It is therefore difficult to understand the underlying risk factors, both social and those relating to antenatal care service provision, which result in the persistence of a disease that causes very severe morbidity in infants but that is also completely preventable.

The ease of movement of people across the EU/EEA, as well as increasing global travel, implies that the elimination of congenital syphilis in EU/EEA countries will also depend on efforts in the EU/EEA countries as well as those outside of Europe. Although surveillance data are incomplete, among the 28 cases where the country of birth of the mother was reported in 2018, four were reported to be born outside the reporting country. In addition, a recent study from France reported that almost a third of mothers of congenital syphilis cases were born abroad [5]. The study also highlights other challenges in eliminating congenital syphilis, including the large proportion of mothers with psychological or social problems as well as laboratory diagnostic issues. The same study reported that six infants out of 22 identified congenital syphilis cases were stillborn. Stillborn cases are not included in the current EU/EEA case definition. An update to the EU case definition for congenital syphilis is awaiting publication and should address this issue.

The latest data on the performance of antenatal screening programmes in the EU/EEA are available from an ECDC survey performed in 2013. The survey results showed that all participating EU/EEA countries (26/26) have implemented antenatal screening for syphilis. Most countries (22/24) test pregnant women for syphilis during the first trimester of pregnancy. Seven countries reported repeat testing during the third trimester of pregnancy as a general recommendation. Another three countries offer repeat testing for women in risk groups. The reported coverage of antenatal screening of syphilis was high: 14/18 countries reported a coverage of $\geq 95\%$, while three

reported a coverage of $\geq 90\%$. Access to antenatal screening for vulnerable groups is still an issue in a number of countries [6].

In 2019, ECDC published a comprehensive review of epidemiological trends of syphilis and congenital syphilis in the EU/EEA and options for response to the increasing trends [7]. The review reported that congenital syphilis levels in the EU/EEA have been consistently low. In order to sustain these low rates, effective national antenatal screening programmes are needed, together with control of syphilis transmission among heterosexual populations. Effective interventions include the universal offer of antenatal syphilis screening during the first trimester together with treatment appropriate to the stage of maternal infection before 28 weeks of gestation; re-testing of pregnant women at high risk of acquiring syphilis infection during the third trimester of pregnancy and testing of all women at delivery if they have not been tested before.

Public health implications

Validation of the elimination of congenital syphilis in Europe is under way by WHO, following the establishment of an elimination target and indicators [8,9]. Better congenital syphilis surveillance data, including more information on the circumstances around transmission of congenital syphilis and the laboratory methods used to diagnose cases, are essential to understand where antenatal screening programmes need to be improved and to have a more comprehensive understanding of the epidemiology of mother to child transmission of syphilis. This is particularly important in countries reporting larger numbers of cases.

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