

Congenital syphilis

Annual Epidemiological Report for 2019

Key facts

- In 2019, 72 confirmed congenital syphilis cases were reported in 13 European Union/European Economic Area (EU/EEA) countries, while 12 other EU/EEA countries reported zero cases.
- This is the second consecutive year in a decade in which the number of notified cases of congenital syphilis has increased (66 cases reported in 2018).
- This report may include some under-reporting: six countries did not contribute to the reporting of congenital syphilis for 2019 and one of the countries that reported has a sentinel surveillance system.
- The low national rates of congenital syphilis suggest that most EU/EEA countries have effective programmes for the elimination of congenital syphilis; however, the increase observed in several countries in 2018-2019 deserves careful scrutiny.
- Additional data are needed to ascertain the factors associated with congenital syphilis prevention failure in EU/EEA countries.

Methods

This report is based on data for 2019 retrieved from The European Surveillance System (TESSy) on 9 September 2021. 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 on ECDC's website [2].

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

In 2019, the majority of countries (19/25) reported congenital syphilis data using the standard EU case definitions [4]: two countries reported using the 2018 EU case definition, nine countries reported using the 2012 EU case definition, six used the 2008 definition, and two used the 2002 definition. The remaining six countries either reported using national case definitions (3) or did not specify the case definition in use (3).

Reporting of congenital syphilis is compulsory in all 25 countries except for France and the United Kingdom (then still an EU Member State). Of the 24 countries that provided the information, all have comprehensive surveillance systems for congenital syphilis except for France, which has sentinel surveillance for congenital syphilis.

Cases are analysed by date of diagnosis.

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Epidemiology

In 2019, 72 confirmed cases of congenital syphilis were reported in 13 EU countries (Table 1). Twelve countries reported zero cases. Bulgaria and Portugal reported most of the cases (68%) in 2019 (37 and 12, respectively). The total number of reported congenital syphilis cases increased in 2019 compared with 2018, when 66 cases were reported. This was the first time since 2010 when the number of reported congenital syphilis cases increased for two consecutive years, both in 2018 and 2019. The increase in 2019 was mostly due to larger number of cases reported by Bulgaria (37 in 2019, compared with 25 in 2018) and Portugal (12 in 2019, compared with four in 2018). In addition, Czechia, Denmark, and Ireland, which all reported no cases in 2018, reported between one and three cases in 2019 (Table 1). In contrast, there were reductions of between one and four confirmed cases in France, Hungary, Italy, Romania, Slovakia, Spain, Sweden, and the United Kingdom.

The national rates of congenital syphilis in 2019 in the EU/EEA countries that reported cases ranged between 0.3 cases per 100 000 live births in Spain and 60.1 cases per 100 000 live births in Bulgaria (Table 1). In 2019, as in previous years, Bulgaria continued to report the highest rate of reported congenital syphilis cases in the EU/EEA. The highest increase (three-fold) in 2019 in the notification rate was in Portugal, from 4.6 in 2018 to 13.9 in 2019. During 2015–2019, eight countries, Croatia, Cyprus, Estonia, Iceland, Luxembourg, Malta, Norway, and Slovenia continuously reported zero congenital syphilis cases.

In 2019, data on the mother's country of birth were reported by eight countries for a total of 25 cases. Of these, two mothers were born outside the reporting country.

Table 1. Distribution of confirmed congenital syphilis cases and rates per 100 000 live births by country and year, EU/EEA, 2015–2019

Country	2015		2016		2017		2018		2019	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Austria	.	.	.	.	.	.	.	.	.	.
Belgium	.	.	.	.	.	.	.	.	.	.
Bulgaria	10	15.2	13	20.0	14	21.9	25	40.2	37	60.1
Croatia	0	0.0	0	0.0	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
Czechia	4	3.6	1	0.9	1	0.9	0	0.0	3	2.7
Denmark	0	0.0	1	1.6	0	0.0	0	0.0	1	1.6
Estonia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Finland	.	.	.	.	.	.	.	.	.	.
France	2	-	2	-	7	-	5	-	2	-
Germany	3	0.4	2	0.3	3	0.4	3	0.4	3	0.4
Greece	2	2.2	.	.	.	.	.	.	.	.
Hungary	0	0.0	2	2.1	3	3.2	5	5.3	3	3.2
Iceland	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ireland	0	0.0	0	0.0	1	1.6	0	0.0	1	1.7
Italy	5	1.0	.	.	.	.	7	1.6	4	1.0
Latvia	0	0.0	0	0.0	1	4.8	0	0.0	0	0.0
Liechtenstein	.	.	.	.	.	.	.	.	.	.
Lithuania	3	9.5	0	0.0	1	3.5	0	0.0	0	0.0
Luxembourg	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
Netherlands	.	.	.	.	.	.	.	.	.	.
Norway	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Poland	4	1.1	6	1.6	1	0.2	2	0.5	3	0.8
Portugal	5	5.8	2	2.3	4	4.6	4	4.6	12	13.9
Romania	5	2.5	4	1.9	6	2.8	4	2.0	0	0.0
Slovakia	0	0.0	0	0.0	0	0.0	2	3.5	1	1.8
Slovenia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Spain	1	0.2	4	1.0	2	0.5	5	1.3	1	0.3
Sweden	0	0.0	2	1.7	0	0.0	2	1.7	1	0.9

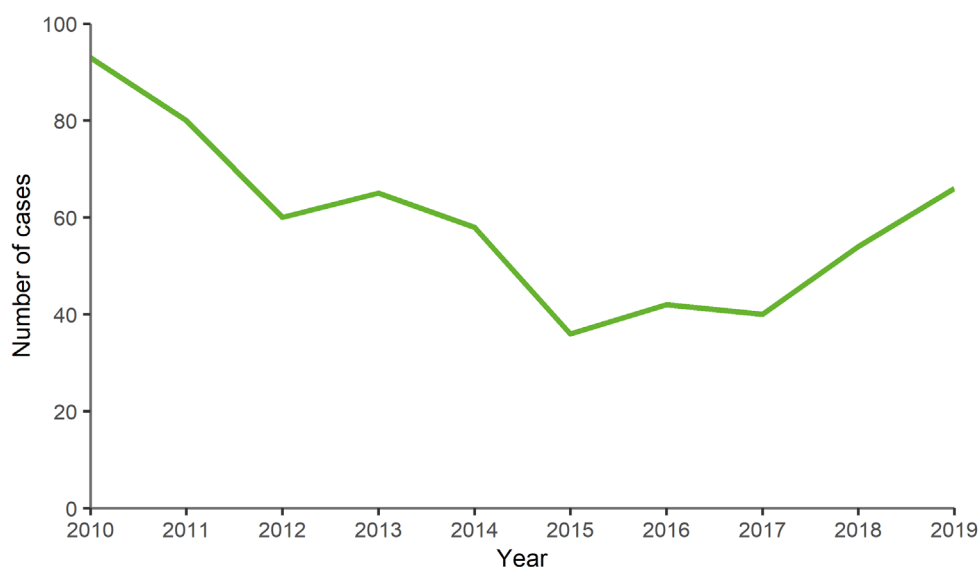
Country	2015		2016		2017		2018		2019	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
United Kingdom	1	0.1	5	0.6	3	0.4	2	0.3	0	0.0
EU-EEA	45	1.1	44	1.2	47	1.2	66	1.6	72	1.9

Source: Country reports.

:: no data reported. -: no rate calculated.

The total number of congenital syphilis notifications in 22 EU/EEA countries with comprehensive surveillance systems that consistently reported data for 2010-2019 showed a marked decrease between 2010 and 2015 (Figure 1). A notable increase in the number of reported cases was observed for 2018 and 2019.

Figure 1. Number of confirmed congenital syphilis cases by year in EU/EEA countries reporting consistently, 2010-2019



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

Discussion

In 2019, in most EU/EEA countries the number of cases decreased or remained stable at a very low number of cases or no cases, suggesting effective national antenatal screening programmes being rolled out in most Member States. For the EU/EEA overall, 2019 is the second consecutive year when the number of reported cases has increased in over a decade. This increase is largely due to increases in number of cases reported from Bulgaria (25 cases in 2018 and 37 in 2019) and Portugal (12 cases in 2019).

Results from investigations around congenital syphilis cases diagnosed in Member States are not collected at the EU/EEA level. Information on risk factors of the mother/parents and social and healthcare circumstances is available from case reports. For example, poor compliance of a young mother with unwanted pregnancy to attend for treatment after diagnosis of syphilis in the third trimester of pregnancy was reported by authors in Portugal [5]. Failure to seek treatment for a genital ulcer that occurred during the second trimester of pregnancy by a mother with negative serology during first trimester screening and no apparent risk factors and a stable partner was reported by authors in Spain [6]. Also in Spain, a case of congenital syphilis with severe clinical presentation was associated with an uncontrolled pregnancy of a mother who used drugs [7]. In the Netherlands, congenital syphilis occurred in a newborn from a mother with negative serology at 16 weeks gestation and who was not tested later in pregnancy and a father who had sexual contact with a possible case at 26 weeks of gestation [8]. Despite severe symptoms in the infant, congenital syphilis was not suspected until the diagnosis of a recent syphilis infection in the father, three months after birth.

Congenital syphilis cases reported to ECDC underrepresent the amount/burden of vertical transmission in the EU/EEA. In addition to five Member States not reporting congenital syphilis cases, the current EU/EEA case definition does not include stillborn cases. Authors from France reported that 27.3% (6/22) of infants identified

with congenital syphilis by a reference centre between 2011 and 2018 were stillborn [9]. A revision of the EU case definition for congenital syphilis is ongoing and should address this issue.

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 [10]. 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 a high risk of acquiring syphilis infection during the third trimester of pregnancy; and testing of all women at delivery if they have not previously been tested.

Public health implications

In 2016, a global target for congenital syphilis elimination of ≤ 50 cases of congenital syphilis per 100 000 live births to be achieved by 2030 in 80% of countries was set by the World Health Organization (WHO) [11]. Following a broad multi-country consultation by the WHO Regional Office for Europe in 2021, targets specific to the European region will be defined in the European Action Plan for ending HIV, viral hepatitis, and sexually transmitted infections [12]. For congenital syphilis, an interim 2025 target of ≤ 10 cases per 100 00 live births and a 2030 target of ≤ 1 cases per 100 00 live births are proposed [13].

Advancing levels of congenital syphilis to the revised 2030 targets, especially by the EU/EEA Member States reporting larger number of cases, requires more comprehensive congenital syphilis surveillance data, such as data that link syphilis-infected pregnant women to their birth outcomes, and the laboratory methods used to diagnose cases. These are essential to gaining a more comprehensive understanding of the epidemiology of mother-to-child transmission of syphilis as well as identifying gaps in prevention and informing targeted interventions.

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