

Monthly measles and rubella monitoring report

February 2020

Period covered: 1 January 2019–31 December 2019

Introduction

The monitoring report is based on measles and rubella data from The European Surveillance System (TESSy) for the period 1 January 2019 to 31 December 2019.

Routine disease data are submitted on a monthly basis by 30 European Union/European Economic Area (EU/EEA) countries for measles, and 28 EU/EEA countries for rubella (France and Belgium do not submit data). European Surveillance System data on measles and rubella are published each month in the ECDC Surveillance Atlas of Infectious Diseases [1], an interactive tool providing access to additional tables and graphs not included in the report. A monthly measles infographic is also published online [2].

ECDC also monitors European measles and rubella outbreaks through epidemic intelligence and publishes recent updates in the Communicable Disease Threats Report (CDTR). Additionally, ECDC conducts assessments as significant outbreaks or public health events develop. The latest ECDC rapid risk assessment on the risk of measles transmission in the EU/EEA was published in May 2019 [3].

Measles

Measles in December 2019

Twenty-eight countries reported measles data for December 2019, of which 286 cases were reported by 17 countries, and 11 countries reported no cases (Figure 1).

Overall, case numbers increased compared with the previous month. Romania, France and Bulgaria had the highest case counts with 90, 40 and 34 cases respectively (Table 1).

Notable decreases were reported in France, Belgium and Ireland.

- France reported 40 cases in December, compared with 49 in November and 61 in October.
- Belgium reported 24 cases in December, compared with 36 in November and 31 in October.
- Ireland reported three cases in December, compared with seven in November and nine in October.

Notable increases were reported in Bulgaria, Slovenia and Spain.

- Bulgaria reported 34 cases in December, compared with 21 in November and five in October.
- Slovenia reported 22 cases in December, compared with seven in November and zero in October.
- Spain reported 10 cases in December, compared with three in November and one in October.

Suggested citation: European Centre for Disease Prevention and Control. Monthly measles and rubella monitoring report – February 2020. Stockholm: ECDC; 2020

Stockholm, February 2020

© European Centre for Disease Prevention and Control, 2020. Reproduction is authorised, provided the source is acknowledged.

Croatia and Latvia did not report measles data for December 2019 (see notes). Belgium and Poland reported aggregate data, while all other countries reported case-based data. Cases classified as discarded (see notes) are not included in the figures presented in the report.

Where available, links to recent updates published by national public health authorities in the EU/EEA can be found in the CDTR.

Figure 1. Number of measles cases by country, EU/EEA, December 2019 (n=286)



Measles cases January 2019–December 2019

From 1 January 2019 to 31 December 2019, 30 EU/EEA Member States reported 13 207 cases of measles, 10 534 (80%) of which were laboratory confirmed. No countries reported zero cases during the 12-month period. The highest number of cases were reported by France (2 636), Romania (1 706), Italy (1 626), Poland (1 423) and Bulgaria (1 235), accounting for 20%, 13%, 12%, 11% and 9% of all cases, respectively (Table 1). Notification rates per million population above the EU/EEA average of 25.5 were reported by Lithuania (296.9), Bulgaria (175.2), Romania (87.3), Malta (67.3), Slovakia (58.6), Czech Republic (55.6), Belgium (43.9), Luxembourg (41.5), France (39.4), Poland (37.5), Italy (26.9) and Iceland (25.8); (Figure 2).

The number of measles cases reported to TESSy may be an underestimation in certain countries. In particular, this may apply to Romania. The sustained outbreak in Romania has caused delays in case-based reporting to TESSy, with the most up-to-date data are available from the Romanian National Institute of Public Health [4].

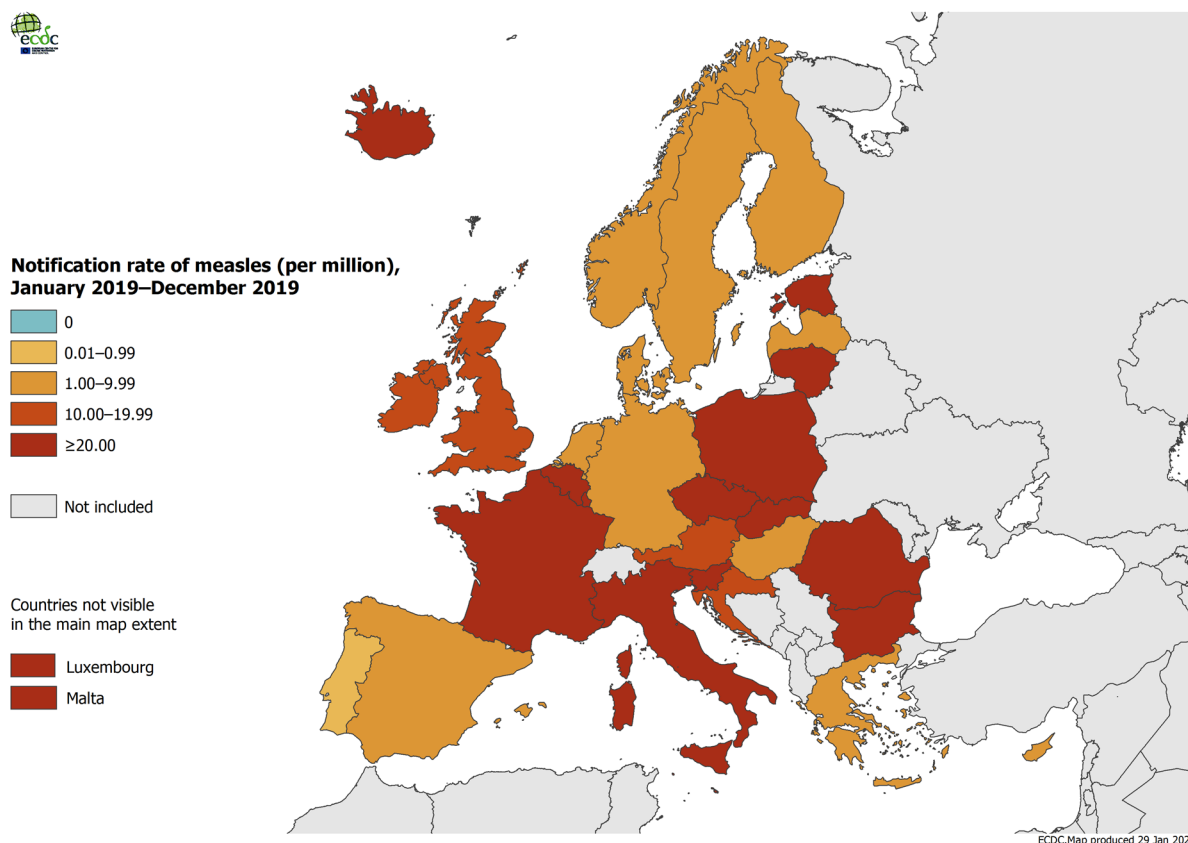
Table 1. Number of measles cases by month and notification rate per million population by country, EU/EEA, 1 January 2019–31 December 2019

Country	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	Total cases	Cases per million	Total lab-positive cases
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Austria	25	33	1	27	38	8	4	7	1	2	2	3	151	17.1	140
Belgium	18	86	66	33	93	61	26	14	12	31	36	24	500	43.9	375
Bulgaria	0	51	185	279	281	236	84	42	17	5	21	34	1 235	175.2	1 119
Croatia	0	1	0	0	6	4	10	4	14	11	1	.	51	12.4	51
Cyprus	0	1	0	1	3	1	0	0	0	0	0	0	6	6.9	5
Czech Republic	58	150	198	90	49	20	14	4	2	1	4	0	590	55.6	511
Denmark	2	5	4	2	1	1	0	0	0	0	0	0	15	2.6	15
Estonia	3	6	2	0	6	7	1	1	0	0	0	1	27	20.5	26
Finland	3	3	0	2	0	0	0	0	0	0	2	2	12	2.2	12
France	122	209	320	339	554	465	312	109	56	61	49	40	2 636	39.4	1 659
Germany	102	71	127	70	48	21	21	19	17	6	6	6	514	6.2	405
Greece	0	3	7	12	6	0	0	0	12	3	1	1	45	4.2	28
Hungary	2	5	4	2	9	0	1	0	0	0	0	0	23	2.4	23
Iceland	0	1	6	0	0	0	1	0	0	0	0	1	9	25.8	9
Ireland	1	17	18	6	5	2	2	1	3	9	7	3	74	15.3	42
Italy	180	173	229	311	236	219	151	78	19	7	9	14	1 626	26.9	1 410
Latvia	0	0	0	1	0	0	0	2	0	0	.	.	3	1.6	3
Lithuania	12	73	249	231	125	62	33	39	6	2	2	0	834	296.9	834
Luxembourg	0	0	15	7	1	1	0	0	0	1	0	0	25	41.5	25
Malta	0	0	3	13	11	3	0	1	0	0	1	0	32	67.3	32
Netherlands	4	4	10	2	13	17	10	17	3	0	2	0	82	4.8	68
Norway	0	1	7	3	3	1	0	2	0	0	0	0	17	3.2	14
Poland	164	239	287	289	249	124	41	9	5	6	2	8	1 423	37.5	951
Portugal	2	2	2	0	2	1	0	0	0	0	0	1	10	1.0	10
Romania	263	303	188	110	148	123	110	80	112	100	79	90	1 706	87.3	1 270
Slovakia	43	37	70	105	43	9	3	6	3	0	0	0	319	58.6	273
Slovenia	0	0	0	6	8	3	1	1	0	0	7	22	48	23.2	48
Spain	11	11	24	68	99	34	13	12	6	1	3	10	292	6.3	276
Sweden	0	1	4	6	4	2	2	0	1	0	0	0	20	2.0	19
United Kingdom	81	80	110	119	129	115	87	42	29	49	15	26	882	13.3	881
EU/EEA	1 096	1 566	2 136	2 134	2 170	1 540	927	490	318	295	249	286	1 3207	25.5	10 534

Source: TESSy, data extracted on 29 January 2020

.: data not reported.

Figure 2. Measles notification rate per million population by country, EU/EEA, 1 January 2019–31 December 2019



Ten deaths (case-fatality rate (CFR): 0.09%) attributable to measles were reported to TESSy during the 12-month period in Romania (5), France (2), Hungary (1), Italy (1) and United Kingdom (1) (see Figure 3). Over the 12 month period, the case fatality rates by age group ranged between 0 and 0.09% (Table 2).

Table 2. Number of deaths and case-fatality rate by age-group, EU/EEA, 1 January 2019–31 December 2019

	Number of deaths	Case-fatality rate
< 1 year	2	0.16%
1–4 years	1	0.05%
5–9 years	1	0.09%
10–14 years	0	-
15–19 years	1	0.14%
20–29 years	2	0.12%
> 30 years	3	0.09%

Figure 3. Number of measles deaths by country, EU/EEA, 1 January 2019–31 December 2019 (n=10)

Importation status of these cases was reported by 30 countries and was known for 9 836 cases (74%) - 759 (8%) of which were imported and 467 (5%) of which were import-related (see notes).

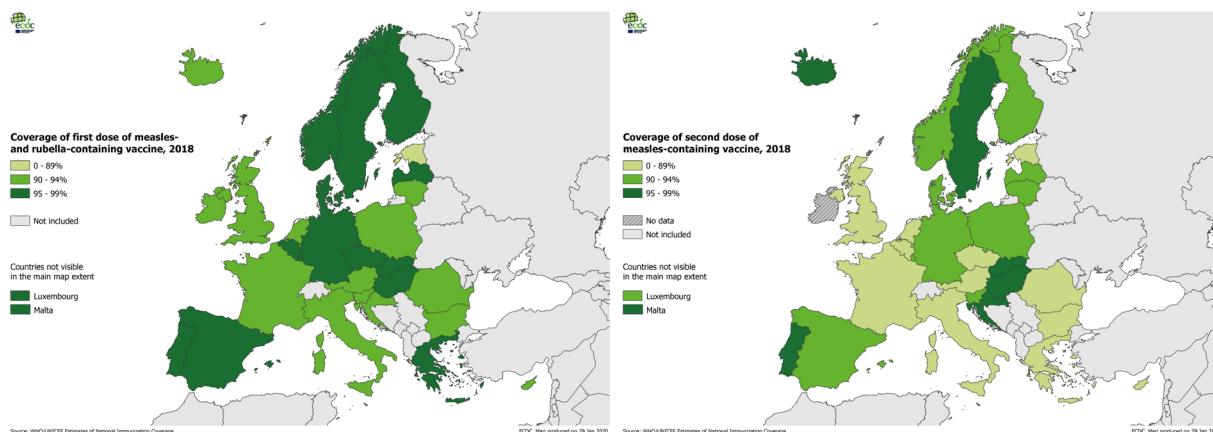
Of the 12 470 cases with known age, 3 487 (28%) were in children under five years and 6 866 (55%) were aged 15 years or older. The highest notification rates were observed in infants under one year (269.1 cases per million) and in children aged 1–4 years (101.1 cases per million).

A total of 2 889 cases (22%) had an unknown vaccination status. The proportion of cases with unknown vaccination status was highest in adults aged 30 years and above (1 553 of 3 944 cases; 39%). Of 9 581 cases (73% of all cases) with a known age and vaccination status, 6 758 (71%) were unvaccinated, 1 712 (18%) were vaccinated with one dose of a measles-containing vaccine, 951 (10%) were vaccinated with two or more doses and 160 (2%) were vaccinated with an unknown number of doses.

The proportion of unvaccinated cases was highest among infants under one year (1 169 of 1 371 cases; 85%). Infants under one year are particularly vulnerable to measles and its complications and are best protected by a high level of herd immunity, as the first dose of a measles-containing vaccine is given after 12 months of age in most EU/EEA countries [5]. Among 2 116 cases reported in 1–4 year-olds (the target age group of the first, and in certain countries second, dose [5]), 1 340 (63%) were unvaccinated, 464 (22%) were vaccinated with one dose of a measles-containing vaccine, 24 (1%) were vaccinated with two or more doses and 6 (<1%) were vaccinated with an unknown number of doses.

Measles continues to spread across Europe because vaccination coverage in many countries remains suboptimal. Sustained coverage of at least 95% for two doses of a measles-containing vaccine at all subnational levels is recommended [6]. However, the latest WHO-UNICEF estimates of national immunisation coverage show that only five EU/EEA countries (Hungary, Malta, Portugal, Slovakia and Sweden) reported at least 95% vaccination coverage for both the first [7] and second [8] doses in 2018 (Figure 4). If the elimination goal is to be reached, many countries need to make sustained improvements in the coverage of their routine childhood immunisation programmes, as well as closing immunity gaps in adolescents and adults who have missed vaccination opportunities in the past [3].

Figure 4. Vaccination coverage for first (left) dose of a measles- and rubella-containing vaccine and second (right) dose of a measles-containing vaccine, EU/EEA, 2018



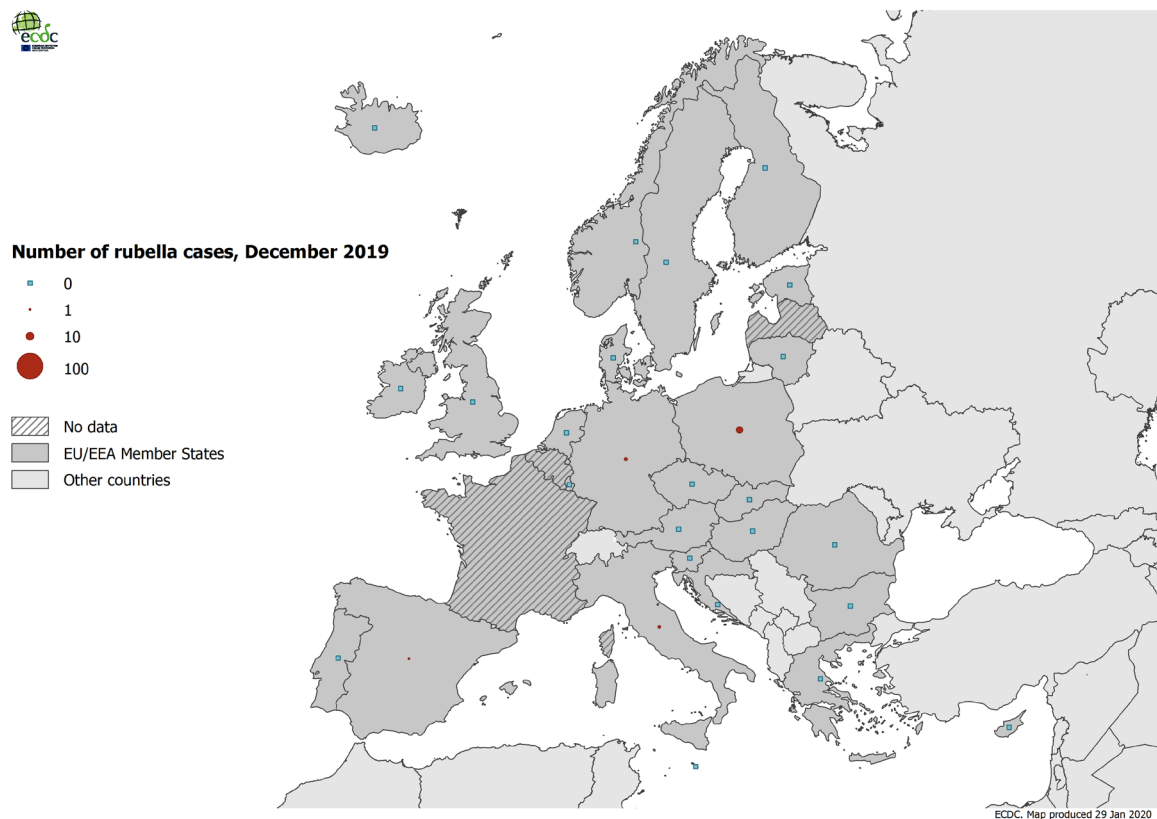
Rubella

Rubella in December 2019

Twenty-seven countries reported rubella data for December 2019. Overall, case numbers continued to decrease compared with the previous two months. Twelve cases were reported by four countries (Germany, Spain, Italy and Poland) and 23 countries reported no cases (Figure 5). Seven of the 12 cases (58%) were reported by Poland (Table 2).

Latvia did not report rubella data for December 2019 (see notes). Poland reported aggregate data, while all other countries reported case-based data. Cases classified as discarded (see notes) are not included in the figures presented in the report.

Figure 5. Number of rubella cases by country, EU/EEA, December 2019 (n=12)



Rubella cases January 2019–December 2019

From 1 January 2019 to 31 December 2019, nine EU/EEA Member States reported 389 cases of rubella, 37 (10%) of which were laboratory confirmed. Nineteen countries reported no cases during the 12-month period. The highest number of cases were reported by Poland (292), Germany (57), Italy (22), Romania (4) and Spain (4), accounting for 75%, 15%, 6%, 1% and 1% of all cases, respectively (Table 2). Notification rates per million population above the EU/EEA average (0.9) were reported by Poland (7.7) and Latvia (1.6); (Figure 6).

Data from Poland should be interpreted with caution, as only four of 292 cases (1%) were laboratory confirmed. The highest burden among cases reported by Poland was in children, with 88 (30%) cases in children aged 1–4 years, 79 (27%) cases in children aged 5–9 years and 40 (14%) cases in adults aged 30 years and above.

No deaths attributable to rubella were reported to TESSy during the 12-month period.

Table 3. Number of rubella cases by month and notification rate per million population by country, EU/EEA, 1 January 2019–31 December 2019

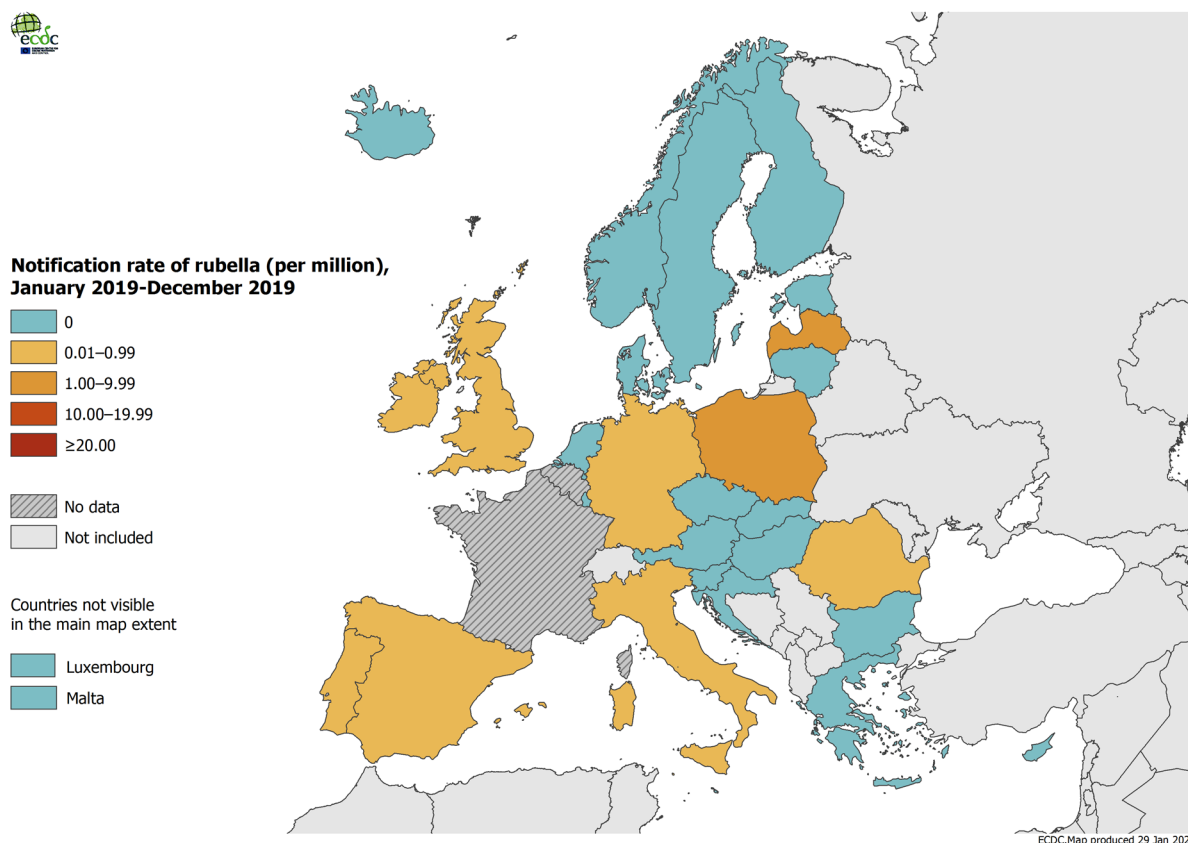
Country	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	Total cases	Cases per million	Total lab-positive cases
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Austria	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Bulgaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Denmark	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Germany	4	3	7	5	5	5	8	10	3	1	4	2	57	0.7	14
Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Hungary	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Ireland	0	0	0	1	0	0	0	0	0	0	0	0	1	0.2	0
Italy	2	2	2	0	4	5	0	2	2	0	1	2	22	0.4	9
Latvia	1	1	0	0	1	0	0	0	0	0	.	.	3	1.6	1
Lithuania	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Norway	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Poland	43	22	36	29	37	21	26	15	9	25	22	7	292	7.7	4
Portugal	1	0	0	0	0	0	0	0	0	1	1	0	3	0.3	0
Romania	0	0	0	1	0	0	1	0	1	1	0	0	4	0.2	4
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Slovenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Spain	3	0	0	0	0	0	0	0	0	0	0	1	4	0.1	2
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
United Kingdom	0	1	0	0	0	0	0	1	1	0	0	0	3	0.0	3
EU/EEA	54	29	45	36	47	31	35	28	16	28	28	12	389	0.9	37

Source: TESSy, data extracted on 29 January 2020

..: data not reported.

The national surveillance system for rubella in Denmark currently only captures rubella infections during pregnancy; therefore the true incidence of rubella in the Danish population is underestimated.

Figure 6. Rubella notification rate per million population by country, EU/EEA, 1 January 2019–31 December 2019



The latest WHO-UNICEF estimates of national immunisation coverage [9] show that 15 EU/EEA countries reported at least 95% vaccination coverage for the first dose of a rubella-containing vaccine in 2018 (Figure 4). Sustained vaccination coverage of at least 95% for at least one dose of a rubella-containing vaccine at all subnational levels is recommended to achieve elimination [6].

References

1. European Centre for Disease Prevention and Control. Surveillance Atlas of Infectious Diseases – Measles [Internet]. Stockholm: ECDC; 2019 [cited 11 February 2020]. Available from: <https://atlas.ecdc.europa.eu/public/index.aspx?Dataset=335>
2. European Centre for Disease Prevention and Control. Infographics on measles – Monthly measles infographics [Internet]. Stockholm: ECDC; 2019 [cited 11 February 2020]. Available from: <http://ecdc.europa.eu/measles/facts/infographics>
3. European Centre for Disease Prevention and Control. Risk assessment: Who is at risk for measles in the EU/EEA? Identifying susceptible groups to close immunity gaps towards measles elimination – 28 May 2019. Stockholm: ECDC; 2019. Available from <https://ecdc.europa.eu/en/publications-data/risk-assessment-measles-eu-eea-2019>
4. National Institute of Public Health Romania. Situatia rujeolei in Romania (Measles situation reports in Romania) [Internet]. Bucharest: INSP; 2019 [cited 11 February 2020]. Available from: <http://www.cnscbt.ro/index.php/informari-saptamanale/rujeola-1>
5. European Centre for Disease Prevention and Control. Vaccine Scheduler [Internet]. Stockholm: ECDC; 2019 [cited 11 February 2020]. Available from: <http://vaccine-schedule.ecdc.europa.eu>
6. World Health Organization Regional Office for Europe. Eliminating measles and rubella – Framework for the verification process in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2014.

Available from: http://www.euro.who.int/_data/assets/pdf_file/0009/247356/Eliminating-measles-and-rubella-Framework-for-the-verification-process-in-the-WHO-European-Region.pdf

7. World Health Organization. WHO-UNICEF estimates of MCV1 coverage [Internet]. Geneva: WHO; 2019 [cited 3 September 2019]. Available from: http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tswucoveragemcv1.html
8. World Health Organization. WHO-UNICEF estimates of MCV2 coverage [Internet]. Geneva: WHO; 2019 [cited 3 September 2019]. Available from: http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tswucoveragemcv2.html
9. World Health Organization. WHO-UNICEF estimates of RCV1 coverage [Internet]. Geneva: WHO; 2019 [cited 3 September 2019]. Available from: http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tswucoveragercv1.html

Notes

TESSy collects a 'date used for statistics', which is a date chosen by the country for reporting purposes. This date may indicate onset of disease, date of diagnosis, date of notification or date of laboratory confirmation, depending on reporting practices in the respective countries. All data presented in this report are based on the 'date used for statistics'. In addition, when reporting data on measles, rubella and other vaccine-preventable diseases to TESSy, countries may update previously reported data. This means that the date of retrieval can influence the data presented in this report, as later retrievals of data relating to the same period may result in slightly different numbers. The data for this report were retrieved on 29 January 2020.

In this report and in the ECDC Surveillance Atlas of Infectious Diseases [1], a Member State will be listed as having not reported data for a particular month if they do not have a reporting period in TESSy that covers the entire month. As such, if a Member State either reports no data for a month or some cases in a month but with an incomplete reporting period, the entire month is considered to have missing data. Similarly, if no cases occurred in a Member State in a given month this needs to be reported to TESSy in order for zero cases to be included in these surveillance outputs.

Cases classified as discarded were suspected cases where subsequent investigation revealed a negative laboratory test, or confirmation of an alternative aetiology, supported by epidemiological and/or virological evidence.

Cases were classified as imported if there was virological and/or epidemiological evidence of exposure outside the region or country 7–18 days prior to rash onset, while cases were classified as import-related if they were locally acquired infections caused by imported virus, as supported by epidemiological and/or virological evidence.