

Monthly measles and rubella monitoring report

January 2020

Period covered: 1 December 2018-30 November 2019

Introduction

The monitoring report is based on measles and rubella data from The European Surveillance System (TESSy) for the period 1 December 2018 to 30 November 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). TESSy 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) [3] on the same day as the monitoring report. Additionally, ECDC conducts assessments as significant outbreaks or public health events develop. The last ECDC rapid risk assessment on the risk of measles transmission in the EU/EEA was published in May 2019 [4].

Measles

Measles in November 2019

Twenty-seven countries reported measles data for November 2019, of which 232 cases were reported by 17 countries, and 10 countries reported no cases (Figure 1).

Overall, case numbers continued to decrease compared with the previous two months. Romania and France had the highest case counts, with 79 and 48 cases respectively (Table 1).

Notable decreases were reported in Romania and United Kingdom.

- Romania reported 79 cases in November, compared with 100 in October and 112 in September.
- United Kingdom reported five cases in November, compared with 46 in October and 28 in September.

A notable increase was reported in Slovenia, with seven cases reported in November, compared with zero in October and zero in September.

The Czech Republic, Croatia and Latvia did not report measles data for November 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 [3].

Figure 1. Number of measles cases by country, EU/EEA, November 2019 (n=232)

Measles cases December 2018–November 2019

From 1 December 2018 to 30 November 2019, 30 EU/EEA Member States reported 13 460 cases of measles, 10 589 (79%) of which were laboratory-confirmed. No countries reported zero cases during the 12-month period. The highest number of cases were reported by France (2 674), Romania (1 746), Italy (1 689), Poland (1 532) and Bulgaria (1 201), 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 26.0 were reported by Lithuania (304.0), Bulgaria (170.3), Romania (89.4), Slovakia (67.8), Malta (67.3), Czech Republic (57.1), Belgium (42.1), Luxembourg (41.5), Poland (40.3), France (40.0) and Italy (27.9); (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 the country has caused delays in case-based reporting to TESSy and the most up-to-date data are available from the Romanian National Institute of Public Health [5].

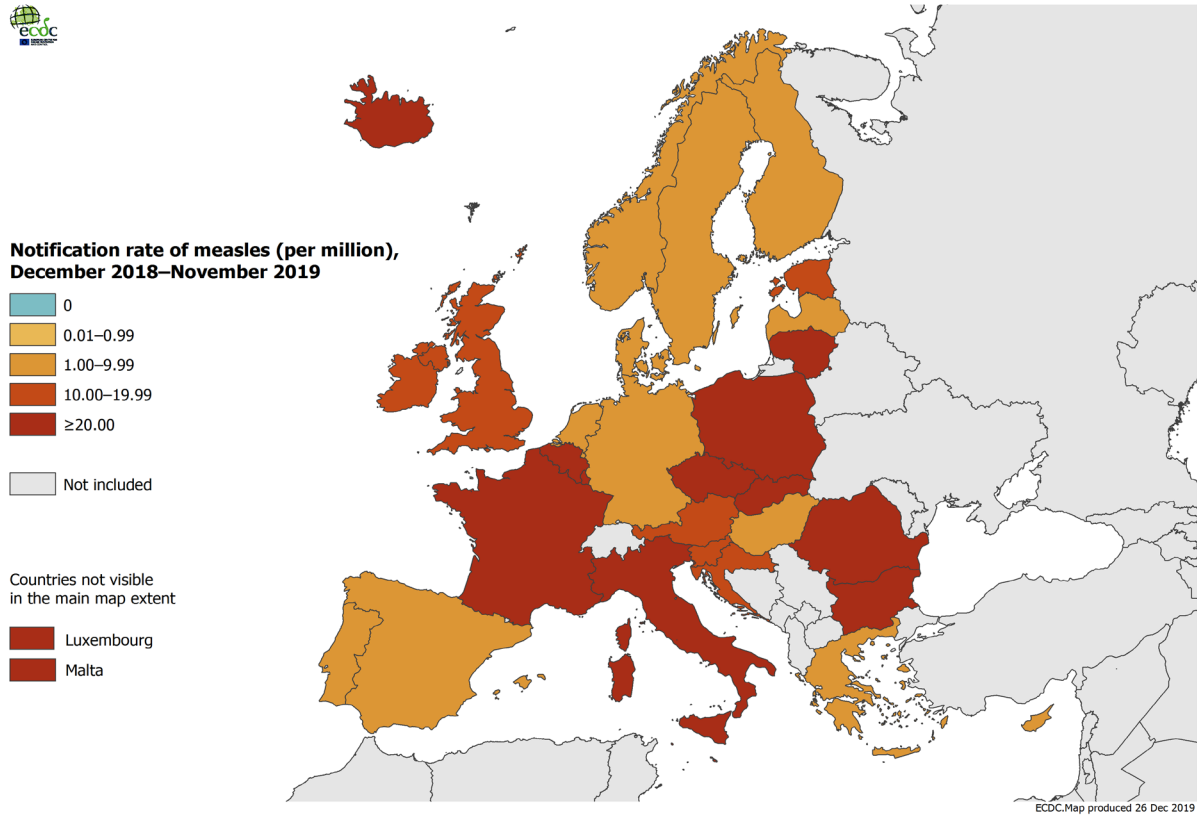
Table 1. Number of measles cases by month and notification rate per million population by country, EU/EEA, 1 December 2018–30 November 2019

	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019			
Country	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total cases	Cases per million	Total lab-positive cases
Austria	1	25	33	1	27	38	8	4	7	1	2	2	149	16.9	138
Belgium	6	18	86	66	33	93	61	26	14	12	32	33	480	42.1	372
Bulgaria	0	0	51	185	279	281	236	84	42	17	5	21	1201	170.3	1087
Croatia	0	0	1	0	0	4	6	10	4	13	10	.	48	11.7	48
Cyprus	0	0	1	0	1	3	1	0	0	0	0	0	6	6.9	5
Czech Republic	19	58	150	198	90	50	20	14	4	2	1	.	606	57.1	527
Denmark	1	2	5	4	2	1	1	0	0	0	0	0	16	2.8	16
Estonia	0	3	6	2	0	6	7	1	1	0	0	0	26	19.7	25
Finland	7	3	3	0	2	0	0	0	0	0	0	2	17	3.1	17
France	61	122	209	321	342	557	470	316	112	57	59	48	2674	40.0	1603
Germany	10	102	71	127	70	48	21	21	19	17	6	6	518	6.3	410
Greece	1	0	3	7	12	6	0	0	0	12	3	1	45	4.2	28
Hungary	1	2	5	4	2	9	0	1	0	0	0	0	24	2.5	24
Iceland	0	0	1	6	0	0	0	1	0	0	0	0	8	23.0	8
Ireland	0	2	18	23	6	10	2	3	1	3	9	7	84	17.4	42
Italy	76	180	173	229	311	237	219	151	78	19	7	9	1689	27.9	1451
Latvia	2	0	0	0	1	0	0	0	2	0	0	.	5	2.6	5
Lithuania	20	12	73	249	231	125	62	33	39	6	2	2	854	304.0	854
Luxembourg	0	0	0	15	7	1	1	0	0	0	1	0	25	41.5	25
Malta	0	0	0	3	13	11	3	0	1	0	0	1	32	67.3	32
Netherlands	2	4	4	10	2	13	17	10	17	2	0	1	82	4.8	68
Norway	0	0	1	7	3	3	1	0	2	0	0	0	17	3.2	14
Poland	114	164	239	287	289	249	124	41	9	5	6	5	1532	40.3	997
Portugal	12	2	2	2	0	2	1	0	0	0	0	0	21	2.0	21
Romania	130	263	303	188	110	148	123	110	80	112	100	79	1746	89.4	1296
Slovakia	50	43	37	70	105	43	9	3	6	3	0	0	369	67.8	315
Slovenia	0	0	0	0	6	8	3	1	1	0	0	7	26	12.6	26
Spain	6	11	11	24	67	99	34	13	12	6	1	3	287	6.2	266
Sweden	3	0	1	4	6	4	2	2	0	1	0	0	23	2.3	20
United Kingdom	11	81	80	109	118	129	114	87	42	28	46	5	850	12.8	849
EU/EEA	533	1097	1567	2141	2135	2178	1546	932	493	316	290	232	13460	26.0	10589

Source: TESSy, data extracted on 26 December 2019

.: data not reported.

Figure 2. Measles notification rate per million population by country, EU/EEA, 1 December 2018–30 November 2019



Ten deaths 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).

Figure 3. Number of measles deaths by country, EU/EEA, 1 December 2018–30 November 2019 (n=10)



Importation status was reported by 30 countries and known for 10 123 cases (75%), 815 (8%) of which were imported and 442 (4%) of which were import-related (see notes).

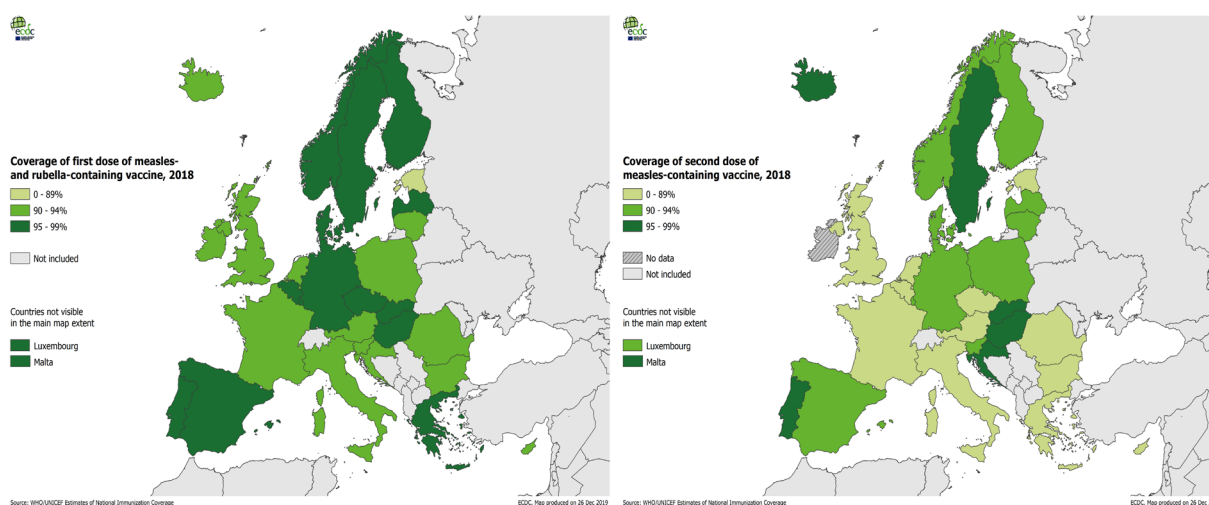
Of the 12 731 cases with known age, 3 568 (28%) were children under five years and 7 037 (55%) were aged 15 years or older. The highest notification rates were observed in infants under one year (278 cases per million) and in children aged 1–4 years (102.8 cases per million).

A total of 2 988 cases (22%) had unknown vaccination status. The proportion of cases with unknown vaccination status was highest in adults aged 30 years and above (1 614 of 4 053 cases; 40%). Of 9 743 cases (72% of all cases) with known age and vaccination status, 6 879 (71%) were unvaccinated, 1 726 (18%) were vaccinated with one dose of a measles-containing vaccine, 977 (10%) were vaccinated with two or more doses and 161 (2%) were vaccinated with an unknown number of doses.

The proportion of unvaccinated cases was highest among infants under one year (1 211 of 1 416 cases; 86%). Infants under one year are particularly vulnerable to measles complications and are best protected by herd immunity as the first dose of a measles-containing vaccine is given after 12 months of age in most EU/EEA countries [6]. Among 2 152 cases aged 1–4 years (the target group of the first, and in certain countries second, dose [6]), 1 364 (63%) were unvaccinated, 465 (22%) were vaccinated with one dose of a measles-containing vaccine, 28 (1%) were vaccinated with two or more doses and six (<1%) were vaccinated with an unknown number of doses.

Measles continues to spread across Europe because vaccination coverage in many countries is suboptimal. Sustained coverage of at least 95% for two doses of a measles-containing vaccine at all subnational levels is recommended [7]. 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 [8] and second [9] 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 and also close immunity gaps in adolescents and adults who have missed vaccination opportunities in the past [4].

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



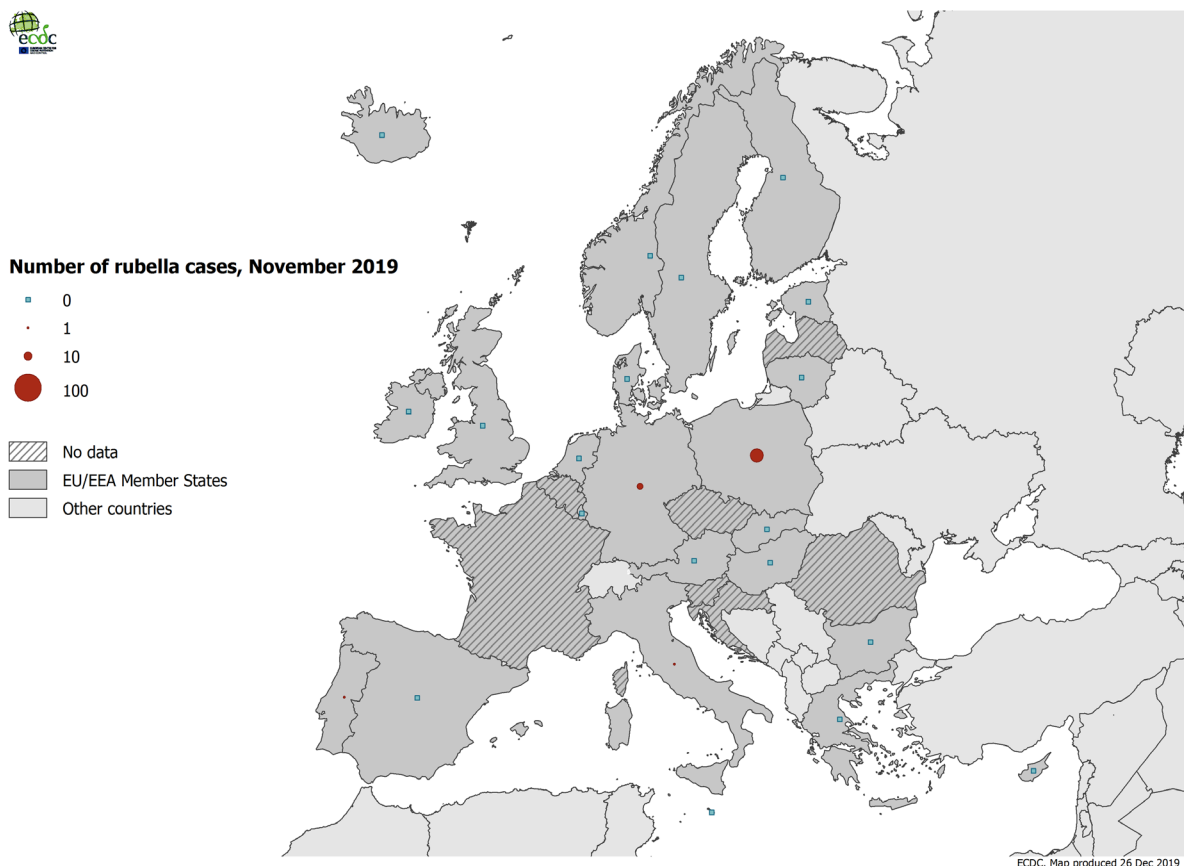
Rubella

Rubella in November 2019

Twenty-three countries reported rubella data for November 2019, with 31 cases reported by four countries (Germany, Italy, Poland and Portugal) and 19 countries reporting no cases (Figure 5).

Overall, case numbers changed little compared with the previous two months. Twenty-four of the 31 cases (77%) were reported by Poland (Table 2).

Czech Republic, Croatia, Latvia, Romania and Slovenia did not report rubella data for November 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, November 2019 (n=31)

Rubella cases December 2018–November 2019

From 1 December 2018 to 30 November 2019, 10 EU/EEA Member States reported 421 cases of rubella, 49 (12%) of which were laboratory-confirmed. Eighteen countries reported no cases during the 12-month period. The highest number of cases were reported by Poland (310), Germany (60), Italy (20), Spain (12) and Romania (5), accounting for 74%, 14%, 5%, 3% and 1% of all cases, respectively (Table 2). Notification rates per million population above the EU/EEA average (1.0) were reported by Poland (8.2) and Latvia (1.6); (Figure 6).

Data from Poland should be interpreted with caution, as only four of 310 cases (1%) were laboratory-confirmed. The highest burden among cases reported by Poland was in children, with 94 (30%) cases in children aged 1–4 years, 82 (26%) cases in children aged 5–9 years and 44 (14%) cases in adults aged 30 years and above.

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

Table 2. Number of rubella cases by month and notification rate per million population by country, EU/EEA, 1 December 2018–30 November 2019

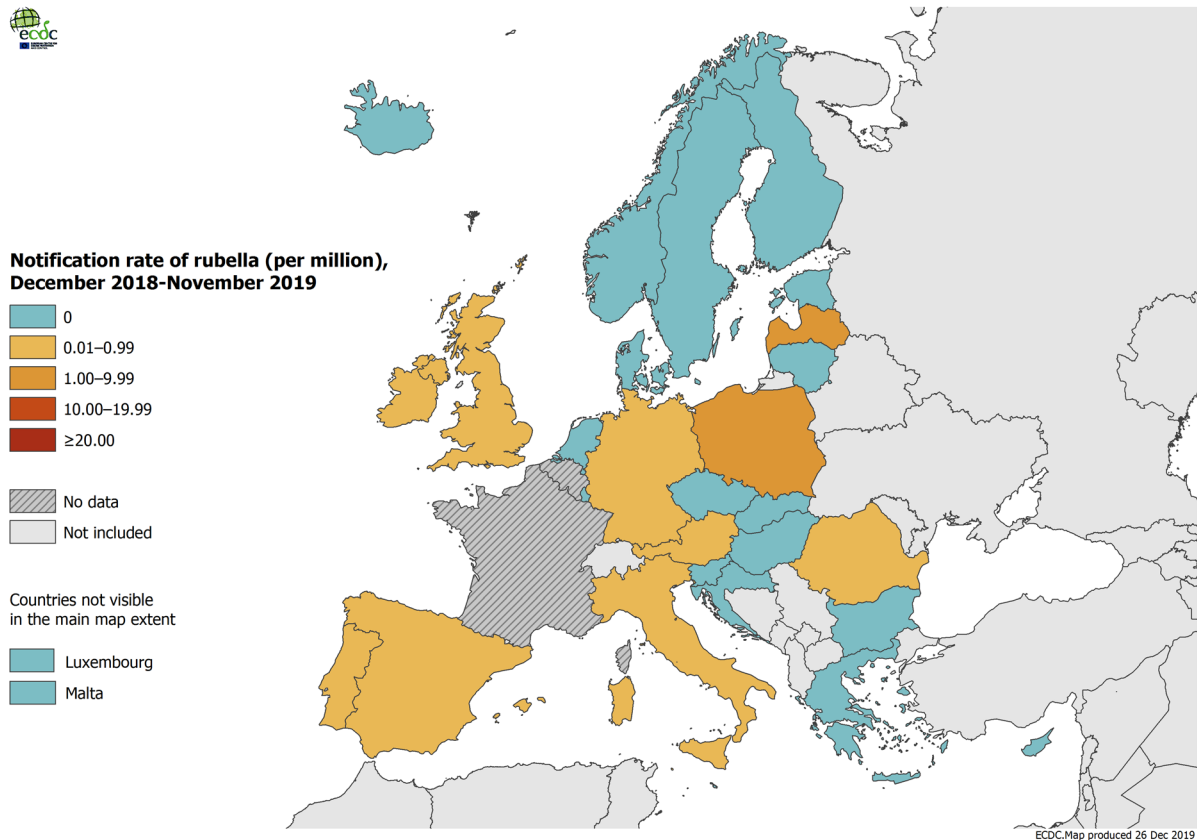
Country	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	Total cases	Cases per million	Total lab-positive cases
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov			
Austria	0	0	1	0	0	0	1	0	0	0	0	0	2	0.2	1
Bulgaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	.	0	0.0	0
Cyprus	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
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	4	3	7	5	5	5	8	10	3	1	5	60	0.7	17
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	2	0	0	0	0	0	0	0	3	0.6	0
Italy	0	2	2	2	0	4	5	0	2	2	0	1	20	0.3	9
Latvia	0	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	22	43	22	36	29	37	21	26	15	10	25	24	310	8.2	4
Portugal	0	1	0	0	0	0	0	0	0	0	1	1	3	0.3	0
Romania	1	0	0	0	1	0	0	1	0	1	1	.	5	0.3	5
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
Spain	9	3	0	0	0	0	0	0	0	0	0	0	12	0.3	9
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
United Kingdom	0	0	1	0	0	0	0	0	1	1	0	0	3	0.0	3
EU/EEA	36	54	30	46	37	47	32	35	28	17	28	31	421	1.0	49

Source: TESSy, data extracted on 26 December 2019

.: data not reported.

The national surveillance system for rubella in Denmark currently only captures rubella infections during pregnancy and 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 December 2018–30 November 2019



The latest WHO-UNICEF estimates of national immunisation coverage [10] 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 [7].

References

1. European Centre for Disease Prevention and Control. Surveillance Atlas of Infectious Diseases – Measles [Internet]. Stockholm: ECDC; 2019 [cited 7 January 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 7 January 2020]. Available from: <http://ecdc.europa.eu/measles/facts/infographics>
3. European Centre for Disease Prevention and Control. Communicable disease threats report, 5-11 January 2020, week 2. Stockholm: ECDC; 2019 Available from <http://ecdc.europa.eu/publications-data/communicable-disease-threats-report-5-11-january-2020-week-2>
4. 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>
5. National Institute of Public Health Romania. Situatia rujeolei in Romania (Measles situation reports in Romania) [Internet]. Bucharest: INSP; 2019 [cited 7 January 2020]. Available from: <http://www.cnsrbt.ro/index.php/informari-saptamanale/rujeola-1>
6. European Centre for Disease Prevention and Control. Vaccine Scheduler [Internet]. Stockholm: ECDC; 2019 [cited 7 January 2020]. Available from: <http://vaccine-schedule.ecdc.europa.eu>
7. 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
8. 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
9. 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
10. 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 26 December 2019.

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.