SURVEILLANCE REPORT

Monthly measles and rubella monitoring report

March 2020

Period covered: 1 February 2019 – 31 January 2020

Introduction

The monitoring report is based on measles and rubella data from The European Surveillance System (TESSy) for the period 1 February 2019 to 31 January 2020.

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 latest ECDC rapid risk assessment on the risk of measles transmission in the EU/EEA was published in May 2019 [4].

Measles

Measles in January 2020

All 30 countries reported measles data for January 2020, of which 417 cases were reported by 19 countries, and 11 countries reported no cases (Figure 1). Overall, case numbers continued to increase compared with the previous two months. France, Bulgaria and Romania had the highest case counts with 87, 81 and 74 cases, respectively (Table 1).

Notable increases were reported in France, Bulgaria and Italy.

- France reported 87 cases in January, compared with 40 in December and 49 in November.
- Bulgaria reported 81 cases in January, compared with 34 in December and 21 in November.
- Italy reported 52 cases in January, compared with 12 in December and 10 in November.

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.

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

Stockholm, March 2020

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, January 2020 (n=417)

Measles cases February 2019–January 2020

From 1 February 2019 to 31 January 2020, 30 EU/EEA Member States reported 12 521 cases of measles, 10 000 (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 (2 601), Romania (1 517), Italy (1 494), Bulgaria (1 316) and Poland (1 265), accounting for 21%, 12%, 12%, 10% and 10% of all cases, respectively (Table 1). Notification rates per million population above the EU/EEA average of 24.2 were reported by Lithuania (293.0), Bulgaria (186.7), Romania (77.7), Malta (67.3), Slovakia (50.7), Czech Republic (50.1), Belgium (45.0), Luxembourg (41.5), France (38.9), Poland (33.3), Iceland (25.8), Slovenia (25.6) and Italy (24.7); (Figure 2).

The number of measles cases reported to TESSy may be an underestimation in certain countries. In particular, this may apply to Romania where the sustained outbreak has caused delays in case-based reporting to TESSy. The most up-to-date data are available from the Romanian National Institute of Public Health [5].

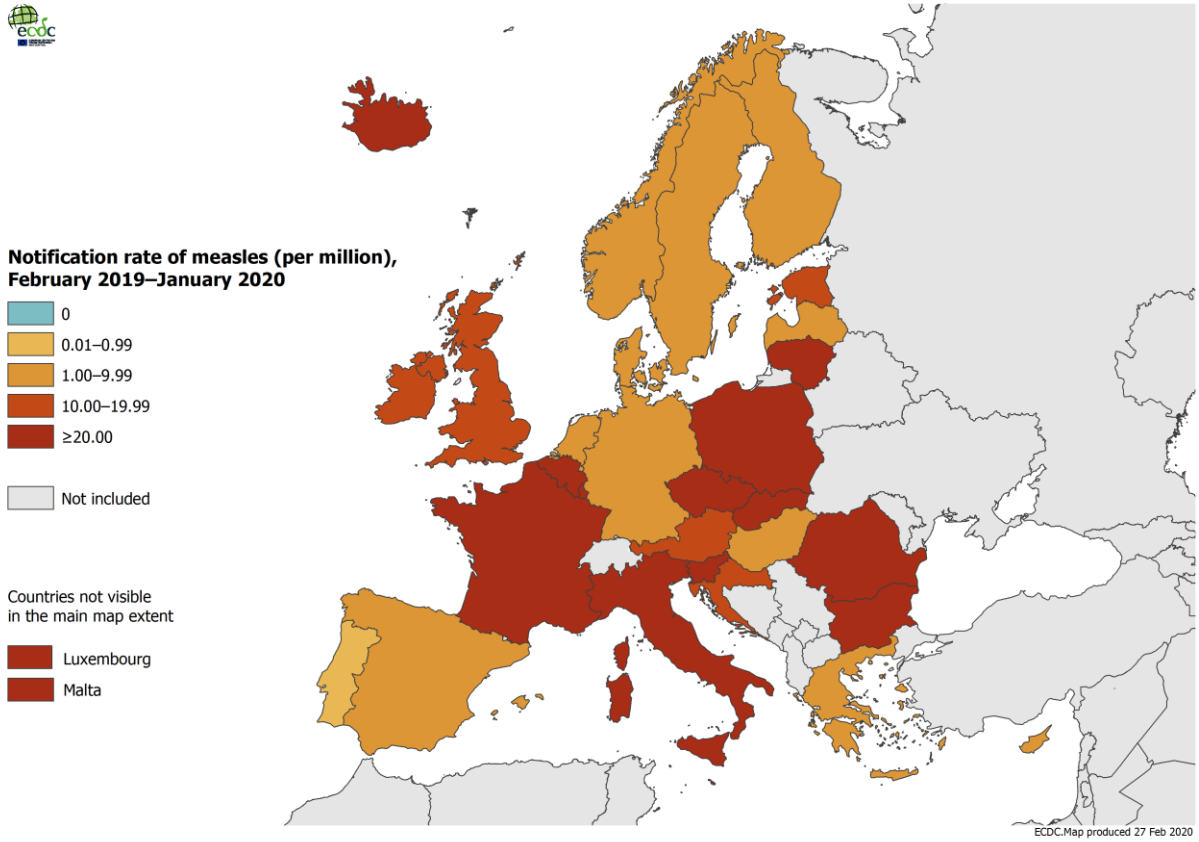
Table 1. Number of measles cases by month and notification rate per million population by country, EU/EEA, 1 February 2019–31 January 2020

	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2020			
Country	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total cases	Cases per million	Total lab-positive cases
Austria	33	1	27	38	8	4	7	1	2	2	3	2	128	14.5	118
Belgium	86	66	32	93	61	26	14	12	30	34	22	37	513	45.0	378
Bulgaria	51	185	279	281	236	84	42	17	5	21	34	81	1316	186.7	1193
Croatia	1	0	0	6	4	10	4	14	12	1	0	0	52	12.7	52
Cyprus	1	0	1	3	1	0	0	0	0	0	0	0	6	6.9	5
Czech Republic	150	198	90	49	20	14	4	2	1	4	0	0	532	50.1	459

	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2020			
Country	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total cases	Cases per million	Total lab-positive cases
Denmark	5	4	2	1	1	0	0	0	0	0	0	4	17	2.9	17
Estonia	6	2	0	6	7	1	1	0	0	0	1	0	24	18.2	23
Finland	3	0	2	0	0	0	0	0	0	2	2	2	11	2.0	11
France	209	320	339	554	465	312	109	56	61	49	40	87	2601	38.9	1629
Germany	71	127	70	48	21	21	19	17	6	6	6	15	427	5.2	354
Greece	3	7	12	6	0	0	0	12	3	1	1	1	46	4.3	29
Hungary	5	4	2	9	0	1	0	0	0	0	0	0	21	2.1	21
Iceland	1	6	0	0	0	1	0	0	0	0	1	0	9	25.8	9
Ireland	17	18	6	5	2	2	1	3	9	7	3	1	74	15.3	42
Italy	175	228	309	236	216	152	77	20	7	10	12	52	1494	24.7	1311
Latvia	0	0	1	0	0	0	2	0	0	0	0	0	3	1.6	3
Lithuania	73	249	231	125	62	33	39	6	2	2	0	1	823	293.0	823
Luxembourg	0	15	7	1	1	0	0	0	1	0	0	0	25	41.5	25
Malta	0	3	13	11	3	0	1	0	0	1	0	0	32	67.3	32
Netherlands	4	10	2	13	17	10	17	3	0	4	0	0	80	4.7	66
Norway	1	7	3	3	1	0	2	0	0	0	0	3	20	3.8	17
Poland	239	287	289	249	124	41	9	5	6	2	8	6	1265	33.3	831
Portugal	2	2	0	2	1	0	0	0	0	0	1	5	13	1.3	12
Romania	303	188	110	148	123	110	80	112	100	79	90	74	1517	77.7	1123
Slovakia	37	70	105	43	9	3	6	3	0	0	0	0	276	50.7	239
Slovenia	0	0	6	8	3	1	1	0	0	7	22	5	53	25.6	53
Spain	11	24	68	99	34	13	12	6	1	3	10	8	289	6.2	273
Sweden	1	4	6	4	2	2	0	1	0	0	0	2	22	2.2	21
United Kingdom	80	110	119	129	115	87	42	29	49	15	26	31	832	12.6	831
EU/EEA	**1568**	**2135**	**2131**	**2170**	**1537**	**928**	**489**	**319**	**295**	**250**	**282**	**417**	**12521**	**24.2**	**10000**

Source: TESSy, data extracted on 27 February 2020

Figure 2. Measles notification rate per million population by country, EU/EEA, 1 February 2019–31 January 2020



Ten deaths (case fatality rate (CFR): 0.1%) attributable to measles were reported to TESSy during the 12-month period in Romania (4), France (2), Bulgaria (1), Hungary (1), Italy (1) and United Kingdom (1) (see Figure 3). The distribution of CFR by age group, in descending order, was 0.18% (5–9 years), 0.15% (15–19 years), 0.13% (20–29 years), 0.1% (30 years and above), 0.09% (under 1 year) and 0.06% (1–4 years).

Figure 3. Number of measles deaths by country, EU/EEA, 1 February 2019–31 January 2020 (n=10)

Importation status of the cases was reported by 30 countries and was known for 9 242 cases (74%), 680 (7%) of which were imported and 457 (5%) of which were import-related (see Notes).

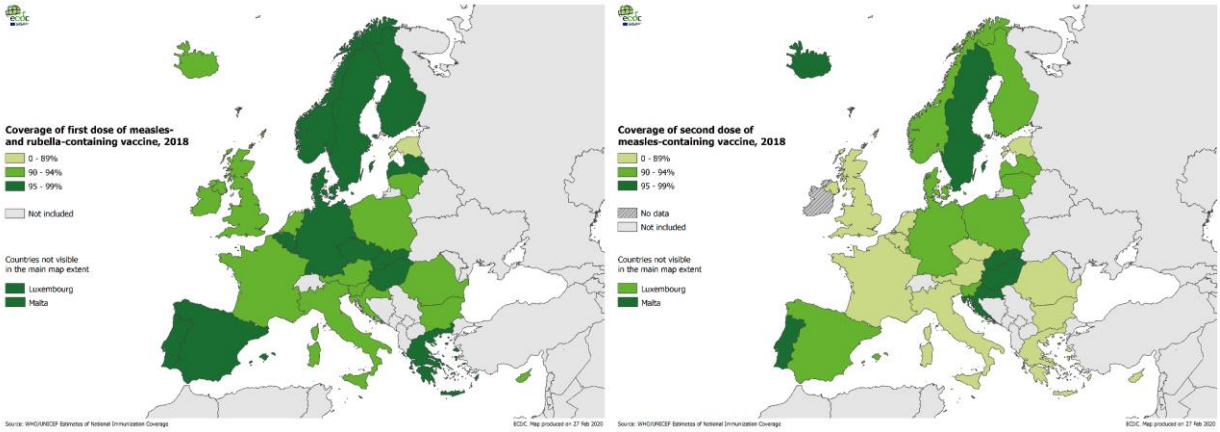
Of the 11 778 cases with known age, 3 289 (28%) were in children under five years and 6 462 (55%) were aged 15 years or older. The highest notification rates were observed in infants under one year (256.6 cases per million) and in children aged 1–4 years (94.7 cases per million).

A total of 2 737 cases (22%) had an unknown vaccination status. The proportion of cases with unknown vaccination status was highest in adults aged 30 years and above (1 473 of 3 733 cases; 39%). Of 9 041 cases (72% of all cases) with a known age and vaccination status, 6 373 (70%) were unvaccinated, 1 641 (18%) were vaccinated with one dose of a measles-containing vaccine, 883 (10%) were vaccinated with two or more doses, and 144 (2%) were vaccinated with an unknown number of doses.

The proportion of unvaccinated cases was highest among infants under one year (1 124 of 1 307 cases; 86%). 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 [6]. Among 1 982 cases reported in the ages 1–4 years (the target age group of the first, and in certain countries second, dose [6]), 1 232 (62%) were unvaccinated, 455 (23%) were vaccinated with one dose of a measles-containing vaccine, 22 (1%) were vaccinated with two or more doses and 5 (<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 [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 January 2020

All 28 countries reported rubella data for January 2020. Overall, case numbers continued to increase compared with the previous two months. Forty-three cases were reported by three countries (Germany, Italy and Poland) and 25 countries reported no cases (Figure 5). Thirty-two of the 43 cases (74%) were reported by Poland (Table 2) (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, January 2020 (n=43)

Rubella cases February 2019–January 2020

From 1 February 2019 to 31 January 2020, nine EU/EEA Member States reported 378 cases of rubella, 39 (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 (281), Germany (55), Italy (29), Romania (4) and United Kingdom (3), accounting for 74%, 15%, 8%, 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 (7.4) and Latvia (1.0); (Figure 6).

Data from Poland should be interpreted with caution, as only four of 281 cases (1%) were laboratory confirmed. The highest burden among cases reported by Poland was in children, with 95 (34%) cases in children aged 1–4 years, 67 (24%) cases in children aged 5–9 years and 38 (14%) cases in adults aged 30 years and above.

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

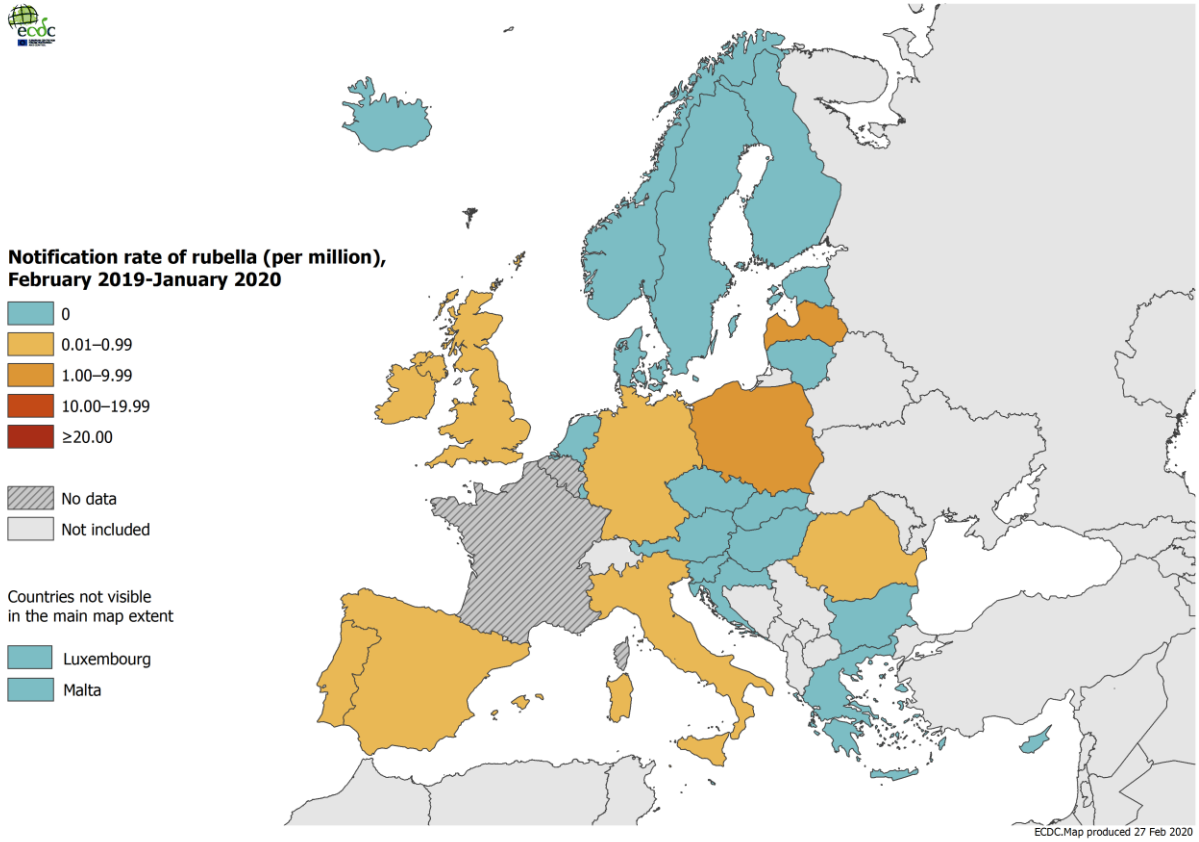
Table 2. Number of rubella cases by month and notification rate per million population by country, EU/EEA, 1 February 2019–31 January 2020

	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2020			
Country	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total cases	Cases per million	Total lab-positive cases
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	3	7	5	5	5	8	10	3	1	4	2	2	55	0.7	15
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	1	0	0	0	0	0	0	0	0	0	1	0.2	0
Italy	2	2	0	4	5	0	2	1	0	1	3	9	29	0.5	12
Latvia	1	0	0	1	0	0	0	0	0	0	0	0	2	1.0	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	36	29	37	21	26	15	9	25	22	7	32	281	7.4	4
Portugal	0	0	0	0	0	0	0	0	1	1	0	0	2	0.2	0
Romania	0	0	1	0	0	1	0	1	1	0	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	0	0	0	0	0	0	0	0	0	0	1	0	1	0.0	0
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
United Kingdom	1	0	0	0	0	0	1	1	0	0	0	0	3	0.0	3
EU/EEA	**29**	**45**	**36**	**47**	**31**	**35**	**28**	**15**	**28**	**28**	**13**	**43**	**378**	**0.9**	**39**

Source: TESSy, data extracted on 27 February 2020

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 February 2019–31 January 2020



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; 2020 [cited 10 March 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 10 March 2020]. Available from: http://ecdc.europa.eu/measles/facts/infographics
3. European Centre for Disease Prevention and Control. Communicable disease threats report, 8-14 March 2020, week 11. Stockholm: ECDC; 2020 Available from http://ecdc.europa.eu/publications-data/communicable-disease-threats-report-8-14-march-2020-week-11
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 10 March 2020]. Available from: http://www.cnscbt.ro/index.php/informari-saptamanale/rujeola-1
6. European Centre for Disease Prevention and Control. Vaccine Scheduler [Internet]. Stockholm: ECDC; 2019 [cited 10 March 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 27 February 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.