

# Monthly measles and rubella monitoring report

## December 2019

Period covered: 1 November 2018–31 October 2019

## Introduction

The monitoring report is based on measles and rubella data from The European Surveillance System (TESSy) for the period 1 November 2018 to 31 October 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 October 2019

Twenty-nine countries reported measles data for October 2019, of which 259 cases were reported by 14 countries, and 15 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 100 and 59 cases respectively (Table 1).

Notable decreases were reported in Italy and Bulgaria.

- Italy reported seven cases in October, compared with 19 in September and 78 in August.
- Bulgaria reported five cases in October, compared with 17 in September and 42 in August.

Notable increases were reported in Belgium and Ireland.

- Belgium reported 32 cases in October, compared with 12 in September and 14 in August.
- Ireland reported nine cases in October, compared with three in September and one in August.

Germany did not report measles data for October 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, October 2019 (n=259)**



## Measles cases from November 2018–October 2019

From 1 November 2018–31 October 2019, 30 EU/EEA Member States reported 13 544 cases of measles, 10 682 (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 (2 684), Romania (1 748), Italy (1 738), Poland (1 569) and Bulgaria (1 180), accounting for 20%, 13%, 13%, 12% and 9% of all cases, respectively (Table 1). Notification rates per million population above the EU/EEA average of 26.1 were reported by Lithuania (306.5), Bulgaria (167.4), Romania (89.5), Slovakia (74.8), Malta (65.2), Czech Republic (58.6), Luxembourg (43.2), Poland (41.3), France (40.1), Belgium (39.7) and Italy (28.7); (Figure 2).

The number of measles cases reported to TESSy may be an underestimation in certain countries. This may apply in particular 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].

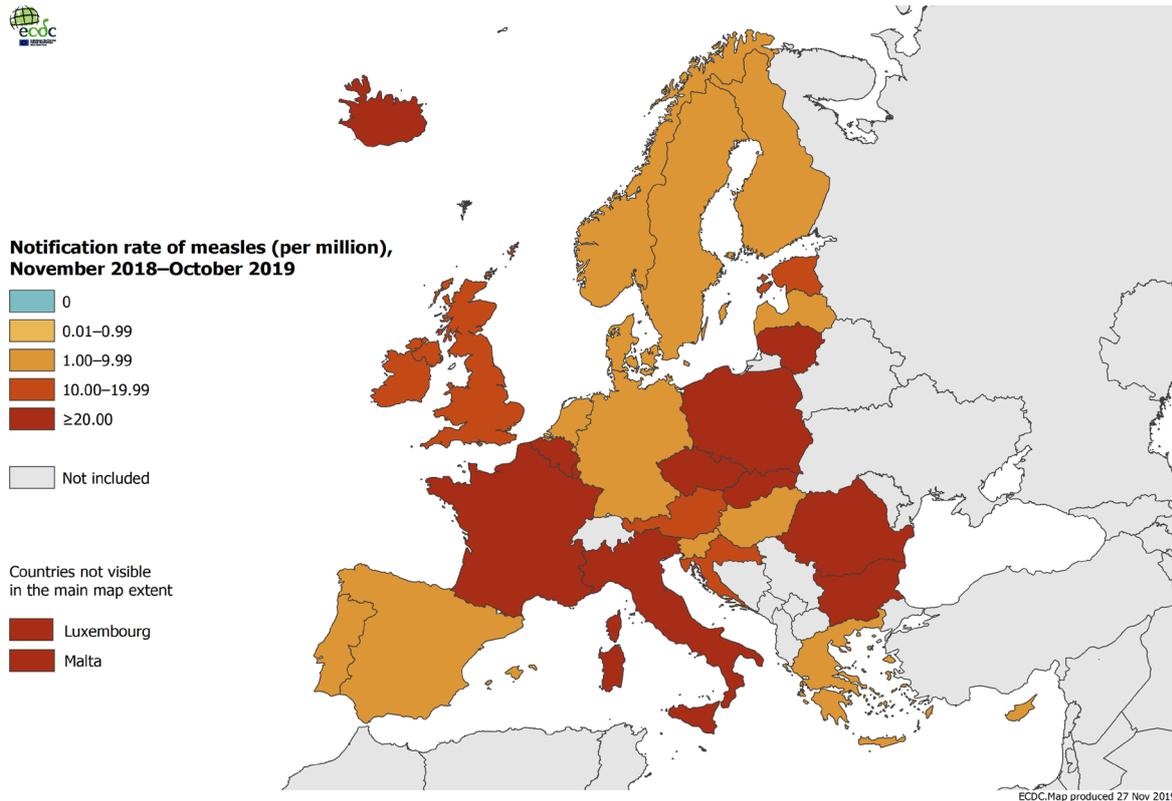
**Table 1. Number of measles cases by month and notification rate per million population by country, EU/EEA, 1 November 2018–31 October 2019**

Country	2018	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	Total cases	Cases per million	Total lab-positive cases
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct			
Austria	4	1	25	33	1	27	38	8	4	7	1	2	151	17.1	140
Belgium	6	6	18	86	66	33	93	61	26	14	12	32	453	39.7	366
Bulgaria	0	0	0	51	185	279	281	236	84	42	17	5	1180	167.4	1068
Croatia	0	0	0	1	0	0	4	6	10	4	13	10	48	11.7	48
Cyprus	0	0	0	1	0	1	3	1	0	0	0	0	6	6.9	5
Czech Republic	16	19	58	150	198	90	50	20	14	4	2	1	622	58.6	543
Denmark	0	1	2	5	4	2	1	1	0	0	0	0	16	2.8	16
Estonia	0	0	3	6	2	0	6	7	1	1	0	0	26	19.7	25
Finland	1	7	3	3	0	2	0	0	0	0	0	0	16	2.9	16
France	62	61	122	209	321	342	557	470	314	110	57	59	2684	40.1	1612
Germany	10	10	102	71	129	70	50	20	21	17	17	.	517	6.2	410
Greece	0	1	0	3	7	12	6	0	0	0	12	3	44	4.1	27
Hungary	0	1	2	5	4	2	9	0	1	0	0	0	24	2.5	24
Iceland	0	0	0	1	6	0	0	0	1	0	0	0	8	23.0	8
Ireland	1	0	2	18	23	6	10	2	3	1	3	9	78	16.1	40
Italy	58	76	180	173	229	311	237	219	151	78	19	7	1738	28.7	1489
Latvia	1	2	0	0	0	1	0	0	0	2	0	0	6	3.1	6
Lithuania	8	20	12	73	249	232	125	62	33	39	6	2	861	306.5	861
Luxembourg	1	0	0	0	15	7	1	1	0	0	0	1	26	43.2	26
Malta	0	0	0	0	3	13	11	3	0	1	0	0	31	65.2	31
Netherlands	0	2	4	4	10	2	13	16	10	15	2	0	78	4.5	65
Norway	0	0	0	1	7	3	3	1	0	2	0	0	17	3.2	14
Poland	79	114	164	239	287	258	244	123	41	9	5	6	1569	41.3	1039
Portugal	24	12	2	2	2	0	2	1	0	0	0	0	45	4.4	43
Romania	81	130	263	303	188	110	148	123	110	80	112	100	1748	89.5	1308
Slovakia	38	50	43	37	70	105	43	9	3	6	3	0	407	74.8	349
Slovenia	0	0	0	0	0	6	8	3	1	1	0	0	19	9.2	19
Spain	1	6	11	11	24	68	76	28	12	13	8	0	258	5.5	241
Sweden	0	3	0	1	4	6	4	2	2	0	1	0	23	2.3	20
United Kingdom	26	11	81	80	109	118	128	114	87	43	26	22	845	12.8	823
<b>EU/EEA</b>	<b>417</b>	<b>533</b>	<b>1097</b>	<b>1567</b>	<b>2143</b>	<b>2106</b>	<b>2151</b>	<b>1537</b>	<b>929</b>	<b>489</b>	<b>316</b>	<b>259</b>	<b>13544</b>	<b>26.1</b>	<b>10682</b>

Source: TESSy, data extracted on 27 November 2019

.: data not reported.

**Figure 2. Measles notification rate per million population by country, EU/EEA, 1 November 2018–31 October 2019**



Eleven deaths attributable to measles were reported to TESSy during the 12-month period in Romania (5), France (3), Hungary (1), Italy (1) and United Kingdom (1) (see Figure 3).

**Figure 3. Number of measles deaths by country, EU/EEA, 1 November 2018–31 October 2019 (n=11)**



Importation status was reported by 30 countries and known for 10 287 cases (76%), 866 (8%) of which were imported and 371 (4%) of which were import-related (see notes).

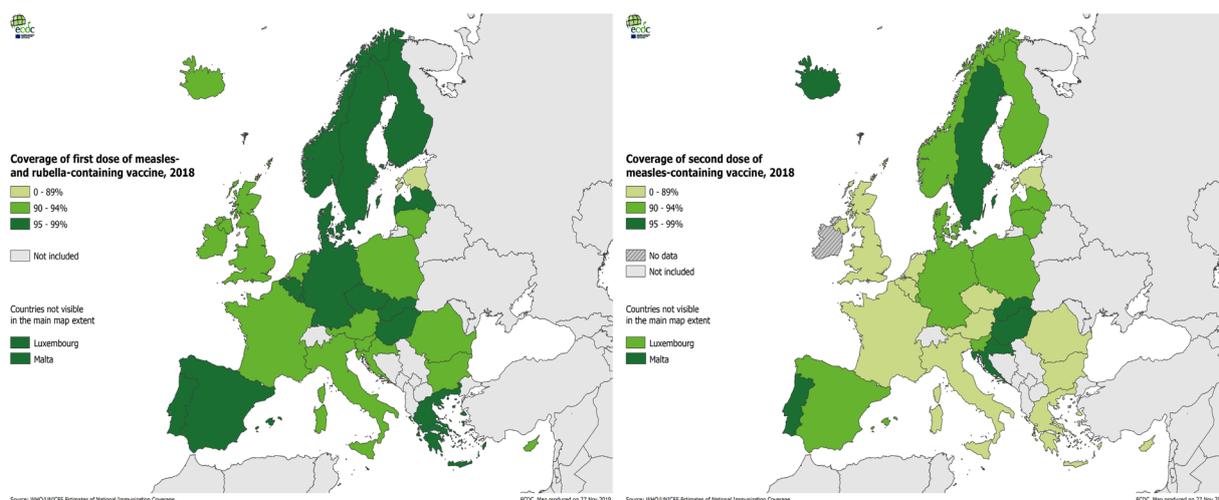
Of the 12 855 cases with known age, 3 655 (28%) were children under five years and 7 090 (55%) were aged 15 years or older. The highest notification rates were observed in infants under one year (286.8 cases per million) and children aged 1–4 years (104.8 cases per million).

A total of 3 023 cases (22%) had unknown vaccination status. The proportion of cases with unknown vaccination status was highest in adults aged 30 years and above (1 632 of 4 085 cases; 40%). Of 9 832 cases (73% of all cases) with known age and vaccination status, 6 943 (71%) were unvaccinated, 1 738 (18%) were vaccinated with one dose of a measles-containing vaccine, 989 (10%) were vaccinated with two or more doses and 162 (2%) were vaccinated with an unknown number of doses.

The proportion of unvaccinated cases was highest among infants under one year (1 257 of 1 461 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 2 194 cases aged 1–4 years (the target group of the first, and in certain countries second, dose [6]), 1 415 (64%) were unvaccinated, 458 (21%) were vaccinated with one dose of a measles-containing vaccine, 26 (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 October 2019

Twenty-seven countries reported rubella data for October 2019, of which 26 cases were reported by two countries (Poland and Romania) and 25 countries reported no cases (Figure 5).

Overall, case numbers changed little compared with the previous month. Twenty-five of the 26 cases (96%) were reported by Poland (Table 2).

Germany did not report rubella data for October 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, October 2019 (n=26)**

## Rubella cases from November 2018–October 2019

From 1 November 2018–31 October 2019, 10 EU/EEA Member States reported 412 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 (53), Italy (20), Spain (12) and Romania (5), accounting for 75%, 13%, 5%, 3% and 1% of all cases, respectively (Table 2). Notification rates per million population above the EU/EEA average (0.9) 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 90 (29%) cases in children aged 1–4 years, 88 (28%) cases in children aged 5–9 years and 43 (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 November 2018–31 October 2019**

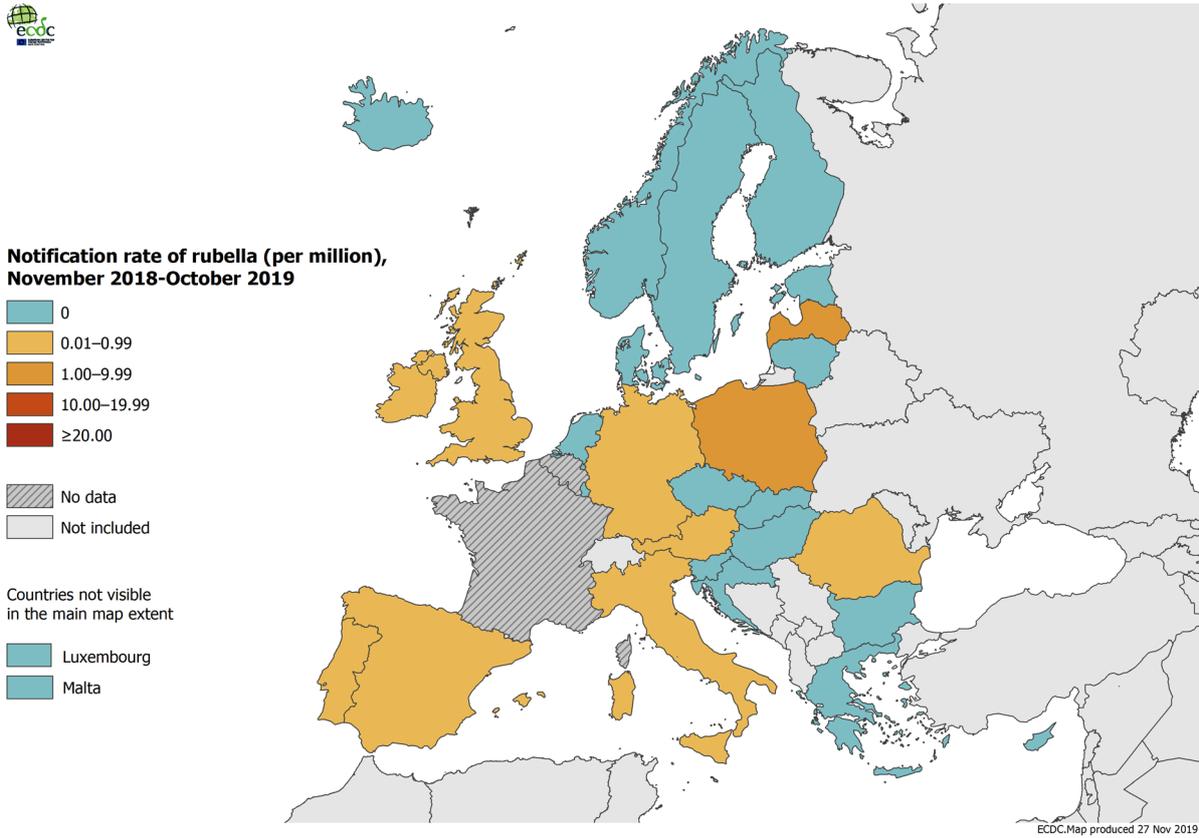
Country	2018	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	Total cases	Cases per million	Total lab-positive cases
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct			
Austria	0	0	0	1	0	0	0	1	0	0	0	0	2	0.2	1
Bulgaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Cyprus	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	1	4	4	3	7	5	5	5	8	8	3		53	0.6	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	0	1	2	0	0	0	0	0	0	3	0.6	0
Italy	1	0	2	2	2	0	4	5	0	2	2	0	20	0.3	9
Latvia	0	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	24	22	43	22	36	29	37	21	26	15	10	25	310	8.2	4
Portugal	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1	0
Romania	0	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	0
Spain	0	9	3	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	0	1	0	0	0	0	0	1	1	0	3	0.0	3
<b>EU/EEA</b>	<b>26</b>	<b>36</b>	<b>54</b>	<b>30</b>	<b>46</b>	<b>37</b>	<b>47</b>	<b>32</b>	<b>35</b>	<b>26</b>	<b>17</b>	<b>26</b>	<b>412</b>	<b>0.9</b>	<b>49</b>

Source: TESSy, data extracted on 27 November 2019

.: 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 November 2018–31 October 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

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## 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 November 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 for whom 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.