

# Monthly measles and rubella monitoring report

November 2019

Period covered: 1 October 2018–30 September 2019

## Introduction

The monitoring report is based on measles and rubella data from The European Surveillance System (TESSy) for 1 October 2018 to 30 September 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 September 2019

Twenty-nine countries reported measles data for September 2019, of which 280 cases were reported by 17 countries; 12 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 112 and 56 cases, respectively (Table 1).

Notable decreases were reported in France, Italy, the United Kingdom and Lithuania.

- France reported 56 cases in September, compared with 110 in August and 314 in July.
- Italy reported 19 cases in September, compared with 78 in August and 151 in July.
- The United Kingdom reported nine cases in September, compared with 41 in August and 85 in July.
- Lithuania reported five cases in September, compared with 40 in August and 33 in July.

Germany did not report measles data for September 2019. 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, September 2019 (n=280)**



## Measles cases from October 2018–September 2019

From 1 October 2018–30 September 2019, 30 EU/EEA Member States reported 13 331 cases of measles, 10 541 (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 (2 699), Italy (1 811), Poland (1 582), Romania (1 485) and Bulgaria (1 175), accounting for 20%, 14%, 12%, 11% and 9% of all cases, respectively (Table 1). Notification rates per million population above the EU/EEA average of 25.7 were reported by Lithuania (305.1), Bulgaria (166.7), Slovakia (77.7), Romania (76.0), Malta (65.2), the Czech Republic (59.3), Poland (41.7), Luxembourg (41.5), France (40.3), Belgium (37.9) and Italy (29.9); (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; 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 October 2018–30 September 2019**

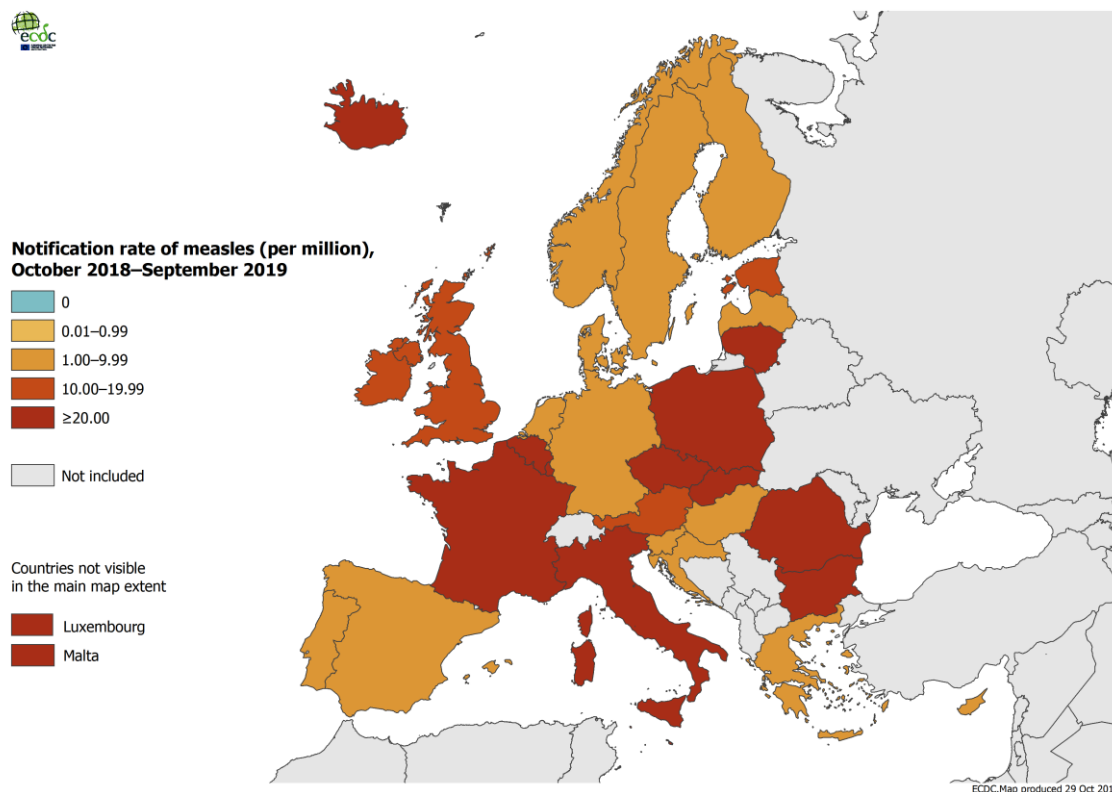
	2018	2018	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019			
Country	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total cases	Cases per million	Total lab-positive cases
Austria	0	4	1	25	33	1	27	38	8	4	7	1	149	16.9	138
Belgium	4	6	6	20	86	67	33	93	65	25	14	13	432	37.9	352
Bulgaria	0	0	0	0	51	185	279	281	236	84	42	17	1175	166.7	1064
Croatia	0	0	0	0	1	0	0	4	6	10	4	13	38	9.3	38
Cyprus	0	0	0	0	1	0	1	3	1	0	0	0	6	6.9	5
Czech Republic	7	16	19	58	150	199	90	50	20	14	4	2	629	59.3	549
Denmark	0	0	1	2	5	4	2	1	1	0	0	0	16	2.8	16
Estonia	0	0	0	3	6	2	0	6	7	1	1	0	26	19.7	25

	2018	2018	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019			
Country	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total cases	Cases per million	Total lab-positive cases
Finland	0	1	7	3	3	0	2	0	0	0	0	0	16	2.9	16
France	76	62	61	122	209	321	342	557	469	314	110	56	2699	40.3	1635
Germany	13	10	10	102	71	129	70	50	20	20	19	.	514	6.2	404
Greece	2	0	1	0	3	7	12	6	0	0	0	12	43	4.0	28
Hungary	0	0	1	2	5	4	2	9	0	1	0	0	24	2.5	24
Iceland	0	0	0	0	1	6	0	0	0	1	0	0	8	23.0	8
Ireland	1	1	0	2	18	23	6	10	2	3	1	3	70	14.5	36
Italy	82	58	76	180	173	229	310	237	218	151	78	19	1811	29.9	1520
Latvia	0	1	2	0	0	0	1	0	0	0	2	0	6	3.1	6
Lithuania	0	8	20	12	73	250	232	122	62	33	40	5	857	305.1	857
Luxembourg	0	1	0	0	0	15	7	1	1	0	0	0	25	41.5	25
Malta	0	0	0	0	0	3	13	11	3	0	1	0	31	65.2	31
Netherlands	0	0	2	4	4	10	2	13	16	10	15	2	78	4.5	65
Norway	0	0	0	0	1	7	3	3	1	0	2	0	17	3.2	14
Poland	21	79	114	164	239	287	256	244	123	41	9	5	1582	41.7	1054
Portugal	2	24	12	2	2	2	0	2	1	0	0	0	47	4.6	45
Romania	65	81	130	261	77	188	110	148	123	110	80	112	1485	76.0	1122
Slovakia	16	38	50	43	37	70	105	43	9	3	6	3	423	77.7	364
Slovenia	1	0	0	0	0	0	6	8	3	1	1	0	20	9.7	20
Spain	4	1	6	11	11	23	67	74	28	12	12	7	256	5.5	236
Sweden	1	0	3	0	1	4	6	4	2	2	0	1	24	2.4	21
United Kingdom	21	26	11	81	80	109	118	128	115	85	41	9	824	12.4	823
<b>EU/EEA</b>	<b>316</b>	<b>417</b>	<b>533</b>	<b>1097</b>	<b>1341</b>	<b>2145</b>	<b>2102</b>	<b>2146</b>	<b>1540</b>	<b>925</b>	<b>489</b>	<b>280</b>	<b>13331</b>	<b>25.7</b>	<b>10541</b>

Source: TESSy, data extracted on 29 October 2019

∴ data not reported.

**Figure 2. Measles notification rate per million population by country, EU/EEA, 1 October 2018–30 September 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 the United Kingdom (1); (Figure 3).

**Figure 3. Number of measles deaths by country, EU/EEA, 1 October 2018–30 September 2019 (n=11)**



Importation status was reported by 30 countries and known for 10 111 cases (76%), 886 (9%) of which were imported and 369 (4%) of which were import-related (see notes).

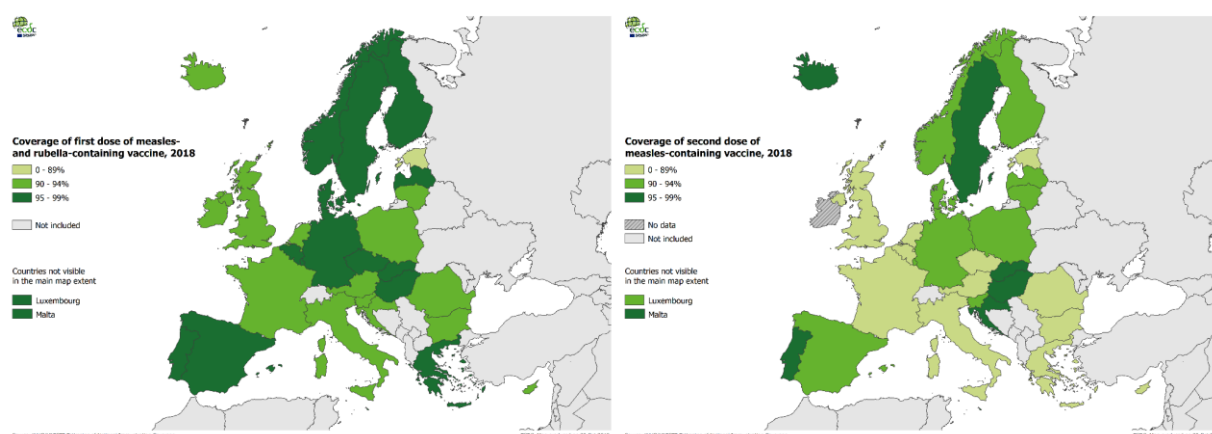
Of the 12 650 cases with known age, 3 588 (28%) were children under five years of age, and 7 000 (55%) were aged 15 years or older. The highest notification rates were observed in infants under one year (276.8 cases per million) and children aged 1–4 years (104.1 cases per million).

A total of 3 006 cases (23%) had unknown vaccination status. The proportion of cases with unknown vaccination status was highest in adults aged 30 years and above (1 629 of 4 061 cases; 40%). Of 9 644 cases (72% of all cases) with known age and vaccination status, 6 817 (71%) were unvaccinated, 1 697 (18%) were vaccinated with one dose of a measles-containing vaccine, 963 (10%) were vaccinated with two or more doses, and 167 (2%) were vaccinated with an unknown number of doses.

The proportion of unvaccinated cases was highest among infants under one year (1 216 of 1 410 cases; 86%). Infants under one year are particularly vulnerable to measles complications and are best protected by herd immunity because in most EU/EEA countries the first dose of a measles-containing vaccine is given after 12 months of age [6]. Among 2 178 cases aged 1–4 years (the target group of the first, and in certain countries second, dose [6]), 1 403 (64%) were unvaccinated, 455 (21%) were vaccinated with one dose of a measles-containing vaccine, 29 (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 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. They also need to 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 September 2019

Twenty-seven countries reported rubella data for September 2019, of which 13 cases were reported by two countries (Italy and Poland); 25 countries reported no cases (Figure 5).

Overall, case numbers continued to decrease compared with the previous two months. Eleven of the 13 cases (85%) were reported by Poland (Table 2).

Germany did not report rubella data for September 2019. 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, September 2019 (n=13)**

## Rubella cases from October 2018–September 2019

From 1 October 2018–30 September 2019, 10 EU/EEA Member States reported 420 cases of rubella, 44 (10%) of which were laboratory confirmed. Eighteen countries reported no cases during the 12-month period. The highest number of cases were reported by Poland (321), Germany (56), Italy (19) and Spain (12), accounting for 76%, 13%, 4% and 3% of all cases, respectively (Table 2). Notification rates per million population above the EU/EEA average (1.0) were reported by Poland (8.4) and Latvia (1.6); (Figure 6).

Data from Poland should be interpreted with caution, as only four of 321 cases (1%) were laboratory confirmed. The highest burden among cases reported by Poland was in children, with 91 (28%) cases in children aged 1–4 years, 88 (27%) cases in children aged 5–9 years, and 47 (15%) cases in infants under one year.

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 October 2018–30 September 2019**

	2018	2018	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019			
Country	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total cases	Cases per million	Total lab-positive cases
Austria	0	0	0	0	1	0	0	0	1	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	6	1	4	4	3	7	5	5	5	8	8	.	56	0.7	18
Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0

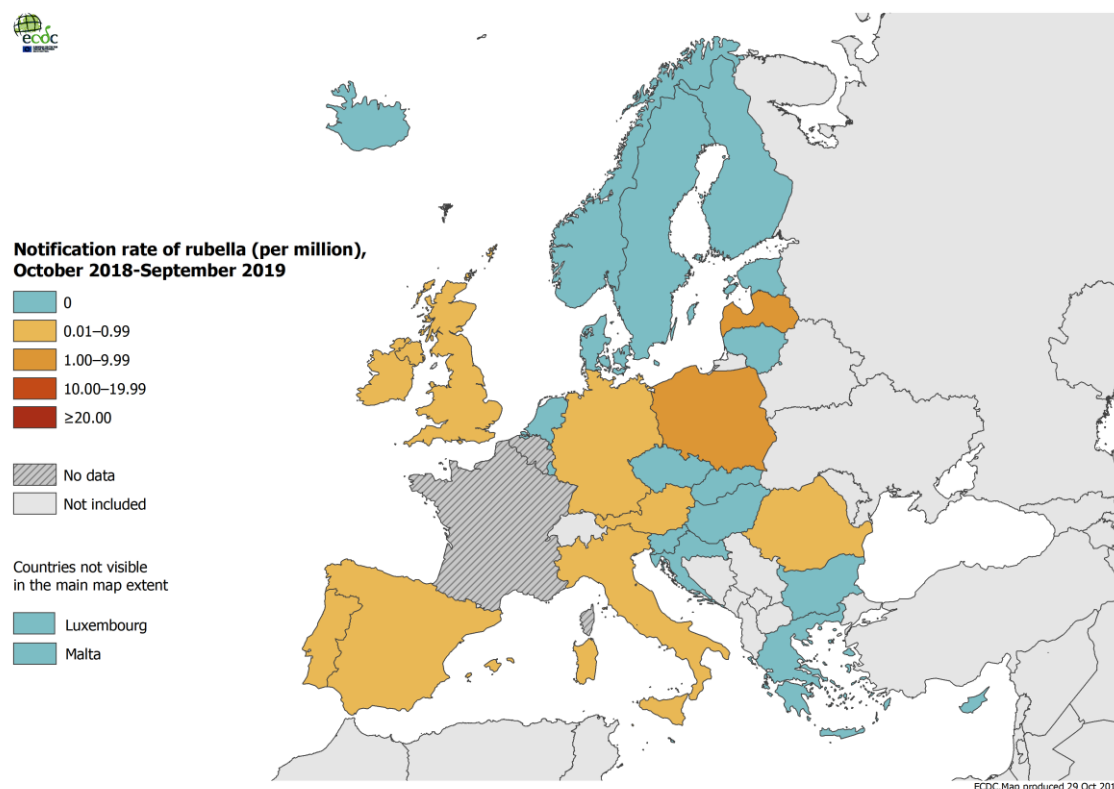
	2018	2018	2018	2019	2019	2019	2019	2019	2019	2019	2019	2019			
Country	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total cases	Cases per million	Total lab-positive cases
Hungary	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Ireland	0	0	0	0	0	1	2	0	0	0	0	0	3	0.6	0
Italy	0	1	0	2	2	2	0	4	5	0	1	2	19	0.3	9
Latvia	0	0	0	1	1	0	0	1	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	25	24	22	43	22	36	29	37	21	27	24	11	321	8.4	4
Portugal	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1	0
Romania	1	0	1	0	0	0	0	0	0	0	0	0	2	0.1	1
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	9	3	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	0	1	0	0	0	0	0	0	0	1	0.0	1
EU/EEA	32	26	36	54	30	46	36	47	32	35	33	13	420	1.0	44

Source: TESSy, data extracted on 29 October 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 October 2018–30 September 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 29 October 2019.

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.