

SURVEILLANCE REPORT

Monthly measles and rubella monitoring report

July 2018

Measles

Every month, ECDC reports on European measles and rubella surveillance data. Thirty EU/EEA countries routinely submit data to ECDC's The European Surveillance System (TESSy). This month's report is based on disease surveillance data reported for the period between 1 June 2017 and 31 May 2018. ECDC also monitors European measles outbreaks through epidemic intelligence and publishes the most recent updates once a month in the Communicable Disease Threats Report (CDTR) [1].

Additionally, ECDC conducts assessments as 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 March 2018 [2].

May 2018

Twenty EU/EEA countries reported a total of 1 386 cases of measles for May 2018 (source: TESSy). France, Germany, Greece, Italy and the United Kingdom continued to report high case counts but with a decreasing trend. The Czech Republic did not report data for May 2018. The number of cases by country for May 2018 is presented in Figure 1.

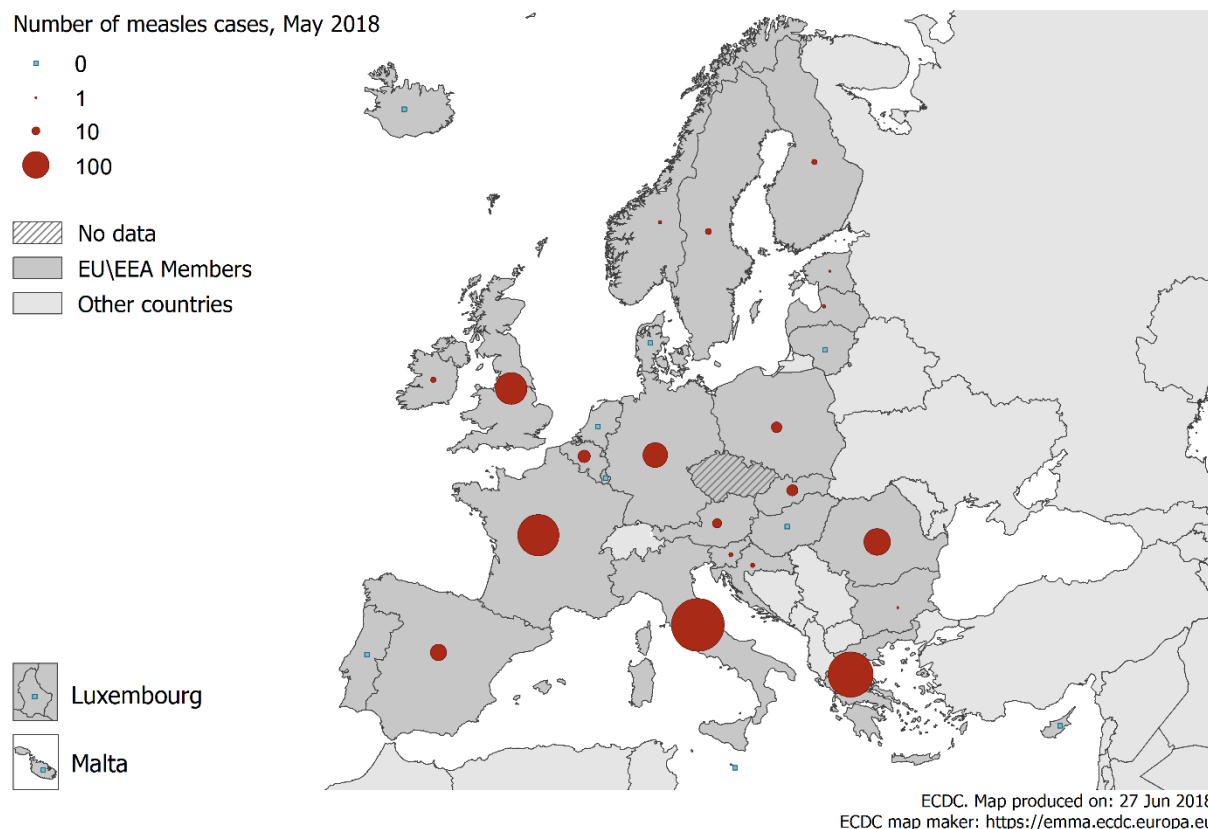
Italy reported 396 cases for May 2018, compared with 449 and 367 cases reported for April and March 2018, respectively. The most recent updates on this outbreak are available from the National Centre for Disease Prevention and Health Promotion of Italy [3] and in the CDTR [1] of 13 July 2018.

Greece reported 290 cases for May 2018, a decrease from 352 cases (including one death) reported for April 2018 and 549 cases for March 2018. The most recent updates on this outbreak are available from the Hellenic Centre for Disease Control and Prevention (HCDCP) [4] and in the CDTR [1] of 13 July 2018.

For May 2018, France reported 239 cases (including one death), which was a decrease from 619 cases reported in April 2018 and 762 cases reported in March 2018. For more information on this outbreak, see the most recent updates from the French National Institute of Public Health (Santé Publique France) [5] and the CDTR [1] of 13 July 2018.

The United Kingdom reported 142 cases for May 2018, a decrease from 199 (April 2018) and 149 cases (March 2018). More information on the ongoing outbreak in England is available from Public Health England [6] and the CDTR [1] of 13 July 2018.

Eighty-seven cases were reported by Germany for May 2018, compared with 92 cases for April and 51 cases for March 2018. More information on the situation is available from Robert Koch Institute [7] and the CDTR [1] of 13 July 2018. Measles outbreaks are also ongoing in other EU/EEA countries [1].

Figure 1. Number of measles cases by country, EU/EEA, May 2018 (n=1 386)

June 2017–May 2018

Between 1 June 2017 and 31 May 2018, 29 EU/EEA Member States reported 12 921 cases of measles (source: TESSy). Only Malta reported zero cases during this period. The number of measles cases reported to TESSy may be an underestimation, in particular for Romania. The sustained outbreak in the country has caused delays in case-based reporting to ECDC, and the most up-to-date data are available from the Romanian National Institute of Public Health (INSP). ECDC previously published a Rapid Risk Assessment on the Romanian outbreak in March 2017 [8].

During the period from 1 June 2017 to 31 May 2018, most cases were reported by Italy (3 697), Greece (3 039), France (2 585) and Romania (1 198), accounting for 29%, 24%, 20% and 9%, respectively, of all cases reported by EU/EEA countries. The diagnosis of measles was confirmed by positive laboratory results (serology, virus detection or isolation) in 69% of all reported cases. The number of cases by month and notification rate per million population by country for this 12-month period are presented in Table 1. Figure 2 shows the notification rates per million population by country for this period.

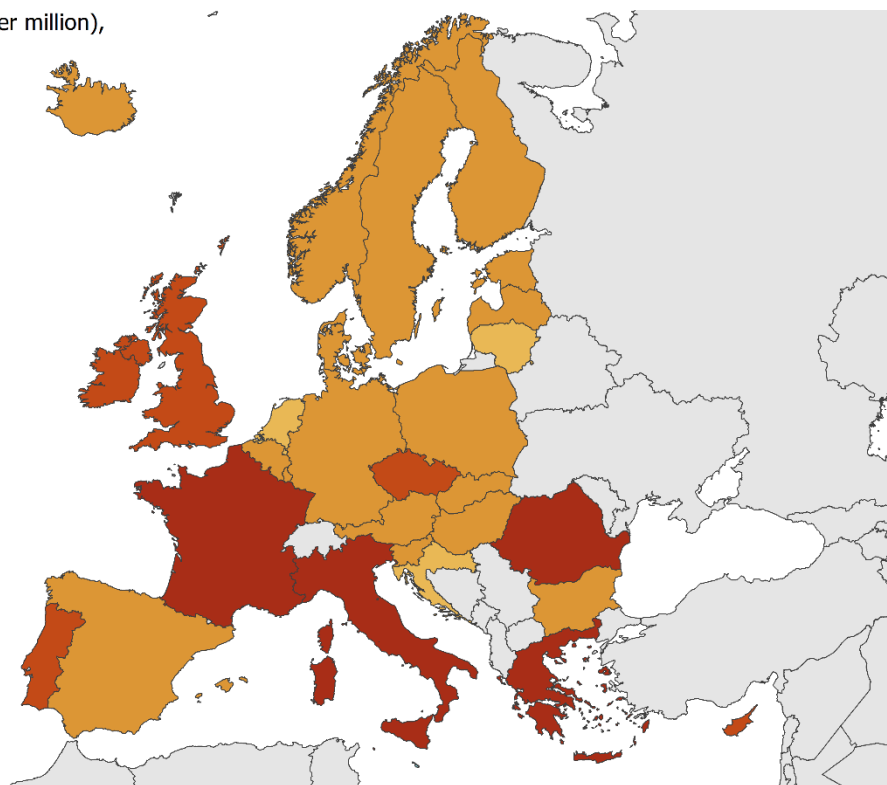
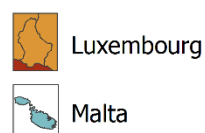
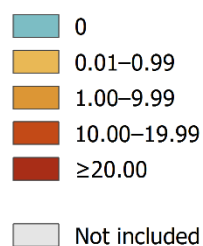
Table 1. Number of measles cases by month and notification rate per million population by country, EU/EEA, 1 June 2017–31 May 2018

Country	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2018	Total cases	Cases per million	Total lab-positive cases
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			
Austria	1	2	2	1	2	8	1	7	5	15	17	12	73	8.3	65
Belgium	34	16	0	2	0	3	1	1	6	9	11	23	106	9.3	82
Bulgaria	44	5	0	0	0	0	0	0	1	2	1	1	54	7.6	47
Croatia	0	0	0	0	0	0	0	0	0	0	1	3	4	1.0	3
Cyprus	2	0	0	0	0	0	0	5	6	4	0	0	17	19.9	17
Czech Republic	7	1	0	0	0	6	4	0	0	59	44	NR	121	11.4	119
Denmark	0	0	3	0	0	0	0	0	0	3	0	0	6	1.0	6
Estonia	0	0	0	0	0	0	0	0	0	2	7	1	10	7.6	10
Finland	1	4	5	0	0	0	0	0	0	0	0	4	14	2.5	14
France	43	39	15	19	13	11	65	237	523	762	619	239	2585	38.6	1147

Country	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2018	Total cases	Cases per million	Total lab-positive cases
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			
Germany	77	23	51	16	9	9	14	26	30	51	92	87	485	5.9	407
Greece	1	7	71	126	167	250	342	431	453	549	352	290	3039	282.2	1766
Hungary	0	9	10	1	1	0	0	2	5	6	0	0	34	3.5	34
Iceland	0	0	0	0	0	1	0	0	0	0	0	0	1	3.0	1
Ireland	0	0	0	0	10	9	5	11	17	17	20	4	93	19.4	71
Italy	661	598	251	166	126	66	114	210	293	367	449	396	3697	61.0	2931
Latvia	0	0	0	0	0	0	0	7	7	1	0	2	17	8.7	17
Lithuania	0	1	0	0	0	0	0	0	0	0	0	0	1	0.4	1
Luxembourg	0	0	0	0	0	1	0	0	0	0	1	0	2	3.4	2
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Netherlands	2	1	1	1	3	0	0	0	2	2	0	0	12	0.7	10
Norway	0	1	0	0	0	0	0	0	4	0	1	2	8	1.5	8
Poland	4	6	1	12	13	3	1	17	10	2	10	16	95	2.5	61
Portugal	0	0	0	0	0	0	0	0	4	108	13	0	125	12.1	117
Romania	100	100	100	91	101	102	100	100	100	100	104	100	1198	61.0	870
Slovakia	0	0	0	0	0	0	5	1	0	0	3	18	27	5.0	17
Slovenia	0	0	0	0	0	0	1	2	0	0	0	3	6	2.9	6
Spain	16	9	10	2	0	1	11	6	14	51	48	37	205	4.4	193
Sweden	0	0	2	2	2	0	11	17	2	2	2	6	46	4.6	45
United Kingdom	25	22	12	18	22	65	46	58	82	149	199	142	840	12.8	840
EU/EEA	1018	844	534	457	469	535	721	1138	1564	2261	1994	1386	12921	25.0	8907

Figure 2. Measles notification rate per million population by country, EU/EEA, 1 June 2017–31 May 2018

Notification rate of measles (per million),
June 2017–May 2018

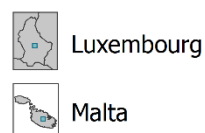
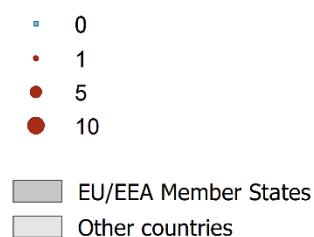


ECDC. Map produced on: 09 Jul 2018
ECDC map maker: <https://emma.ecdc.europa.eu>

Seventeen deaths attributable to measles were reported to TESSy during the 12-month period; with six in Italy, four in Greece, four in Romania and three in France (Figure 3).

Figure 3. Number of measles deaths by country, EU/EEA, 1 June 2017–31 May 2018 (n=17)

Number of measles deaths,
June 2017–May 2018



ECDC. Map produced on: 09 Jul 2018
ECDC map maker: <https://emma.ecdc.europa.eu>

Importation status was reported by 28 countries and known for 11 654 cases (90%). Among cases with known importation status, 7 821 (67%) were reported to be endemic, 3 310 (28%) were import related, and 523 (4%) were imported. 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.

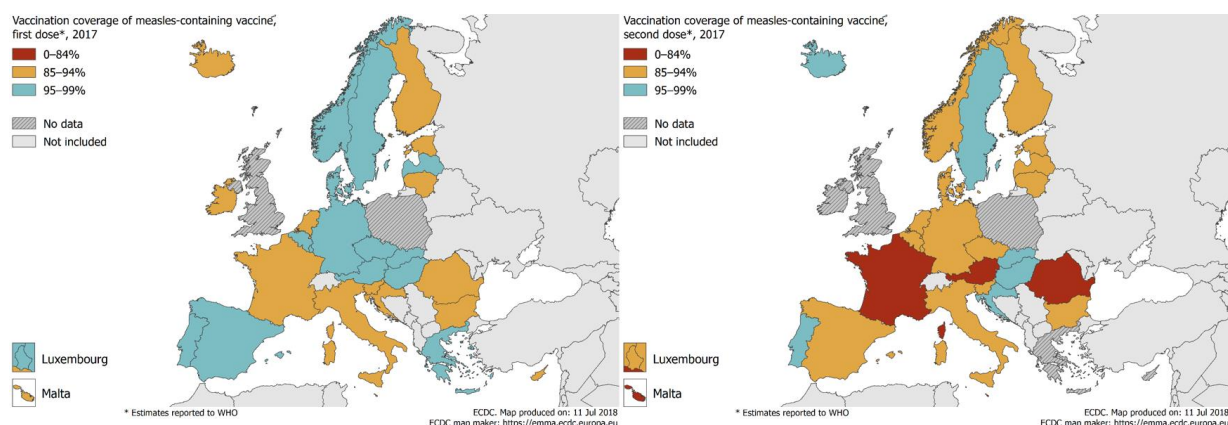
Of all cases, 3 781 (29%) were children less than five years of age, while 6 778 (52%) were aged 15 years or older. The highest incidence was reported in children below one year of age (243.7 cases per million) and children from 1 to 4 years of age (120.2 cases per million). These data are also published in the ECDC Surveillance Atlas of Infectious Diseases [9].

Of all cases, 1 328 (10%) had an unknown vaccination status. The proportion of cases with unknown vaccination status was highest in adults aged 30 years and older (approximately 19%). Of 11 592 cases (90% of all cases) with known age and vaccination status, 83% were unvaccinated, 10% were vaccinated with one dose of measles-containing vaccine, 5% were vaccinated with two or more doses, and 2% were vaccinated with an unknown number of doses.

The proportion of unvaccinated cases was highest among children below one year of age (93%), who are too young to have received the first dose of the measles-containing vaccine. Infants are particularly vulnerable to complications of measles and are best protected by herd immunity.

Among cases aged one to four years, 81% of the cases were unvaccinated, 13% were vaccinated with one dose, 2% with two doses or more, 1% with an unknown number of doses, and 4% had an unknown vaccination status.

Measles continues to spread across Europe because vaccination coverage in many countries is suboptimal. The latest WHO data on national vaccination coverage for the first [10] and second [11] doses of measles-containing vaccine are presented in Figure 4. Only four EU/EEA countries reported at least 95% vaccination coverage for both doses of measles-containing vaccine for 2017. If the elimination goal is to be reached, vaccination coverage for children and adults needs to increase in a number of countries because the vaccination coverage for both the first and the second dose must be at least 95% at all subnational levels and in all communities to interrupt measles circulation.

Figure 4. Vaccination coverage for the first (left panel) and second (right panel) doses of measles-containing vaccine by country, EU/EEA, 2017, provisional data reported to WHO as of 25 May 2018

Rubella

Between 1 June 2017 and 31 May 2018, 13 EU/EEA Member States reported a total of 620 cases of rubella (source: TESSy). Belgium and France do not report rubella cases to TESSy. Croatia did not report data for May 2018; the Czech Republic did not report for March, April and May 2018.

In the 12-month period covered in this report, the highest number of cases was reported by Poland (481), Germany (63), Italy (30) and Austria (21), accounting for 78%, 10%, 5% and 3% of reported cases, respectively. In May 2018, seven EU/EEA Member States (Germany, Ireland, Italy, Latvia, Lithuania, Poland and Spain) reported a total of 69 cases, 60 of which were reported by Poland. The diagnosis of rubella was confirmed by positive laboratory results in 10% of all reported cases in the 12-month period.

The number of rubella cases by month and notification rate by country for the 12-month period is presented in Table 2; the number of cases by country for May 2018 is shown in Figure 5, and the notification rates per million population by country are shown in Figure 6.

Table 2. Number of rubella cases by month and notification rate per million population by country, EU/EEA, 1 June 2017–31 May 2018.

Country	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2018	Total cases	Cases per million	Total lab-positive cases
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			
Austria	0	0	0	0	1	7	5	8	0	0	0	0	21	2.39	21
Bulgaria	0	0	0	0	0	0	0	0	0	0	1	0	1	0.14	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	NR	0	0.00	0
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Czech Republic	0	0	0	0	0	0	0	0	0	NR	NR	NR	0	0.00	0
Denmark	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Estonia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Finland	0	0	0	0	1	0	0	0	0	0	0	0	1	0.18	1
Germany	9	6	4	4	9	5	3	4	4	7	5	3	63	0.76	9
Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Hungary	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Ireland	0	0	0	0	0	0	0	0	1	0	1	1	3	0.63	0
Italy	6	3	1	3	2	2	2	1	2	2	4	2	30	0.50	9
Latvia	0	0	0	0	0	0	0	0	1	1	0	1	3	1.54	3
Lithuania	0	0	0	0	0	0	0	0	0	0	0	1	1	0.35	1
Luxembourg	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Netherlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Norway	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Poland	44	43	37	30	34	31	33	34	43	43	49	60	481	12.67	7

Country	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2018	Total cases	Cases per million	Total lab-positive cases
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			
Portugal	0	0	0	2	0	0	0	0	1	0	0	0	3	0.29	0
Romania	0	1	2	0	0	1	0	1	0	1	1	0	7	0.36	5
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Slovenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Spain	0	1	0	0	0	0	0	0	0	0	1	1	3	0.06	3
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
United Kingdom	0	0	0	0	1	1	0	0	1	0	0	0	3	0.05	3
EU/EEA	59	54	44	39	48	47	43	48	53	54	62	69	620	1.40	62

Figure 5. Number of rubella cases by country, EU/EEA, May 2018 (n=69)

Number of rubella cases, May 2018



ECDC. Map produced on: 09 Jul 2018
ECDC map maker: <https://emma.ecdc.europa.eu>

Data from Poland were reported in an aggregated format and should be interpreted with caution, as only seven cases (1%) were confirmed through laboratory testing during the 12-month period. The highest number of cases in Poland was observed in children, with 45% of cases in children under five years of age and 31% in children aged five to nine years.

ECDC monitors European rubella outbreaks on a monthly basis through epidemic intelligence. No new rubella outbreaks were detected in the EU/EEA since the last monthly update. Figure 7 shows the latest vaccination coverage data for the first dose of rubella-containing vaccine [12] by country in the EU/EEA.

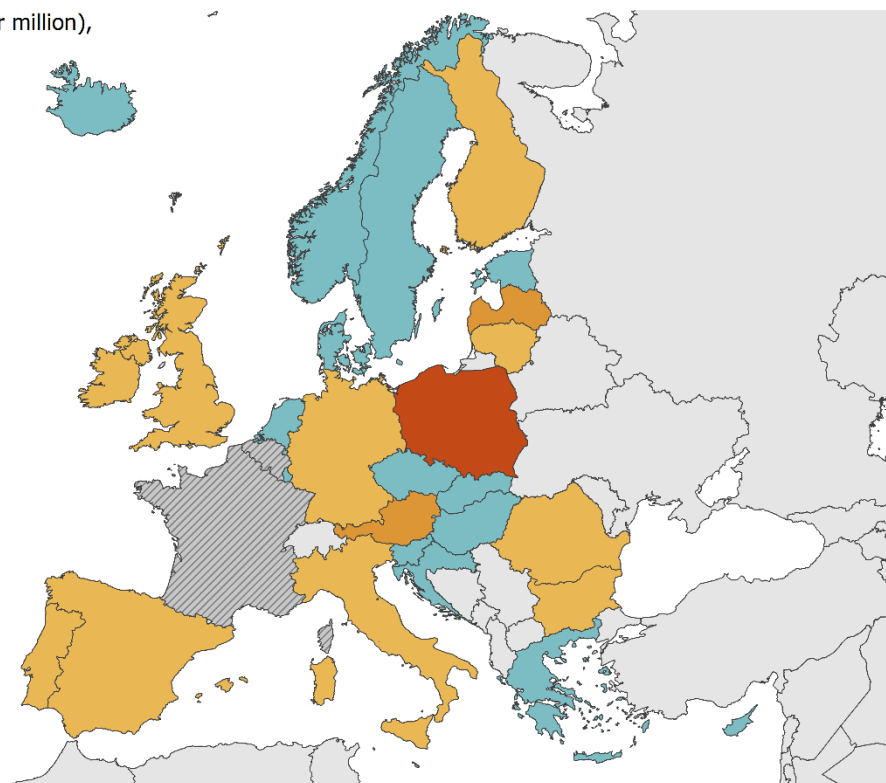
Figure 6. Rubella notification rate per million population by country, EU/EEA, 1 June 2017–31 May 2018

Notification rate of rubella (per million),
June 2017–May 2018

- 0
- 0.01–0.99
- 1.00–9.99
- 10.00–19.99
- ≥20.00

- No data
- Not included

- Luxembourg
- Malta



ECDC. Map produced on: 09 Jul 2018
ECDC map maker: <https://emma.ecdc.europa.eu>

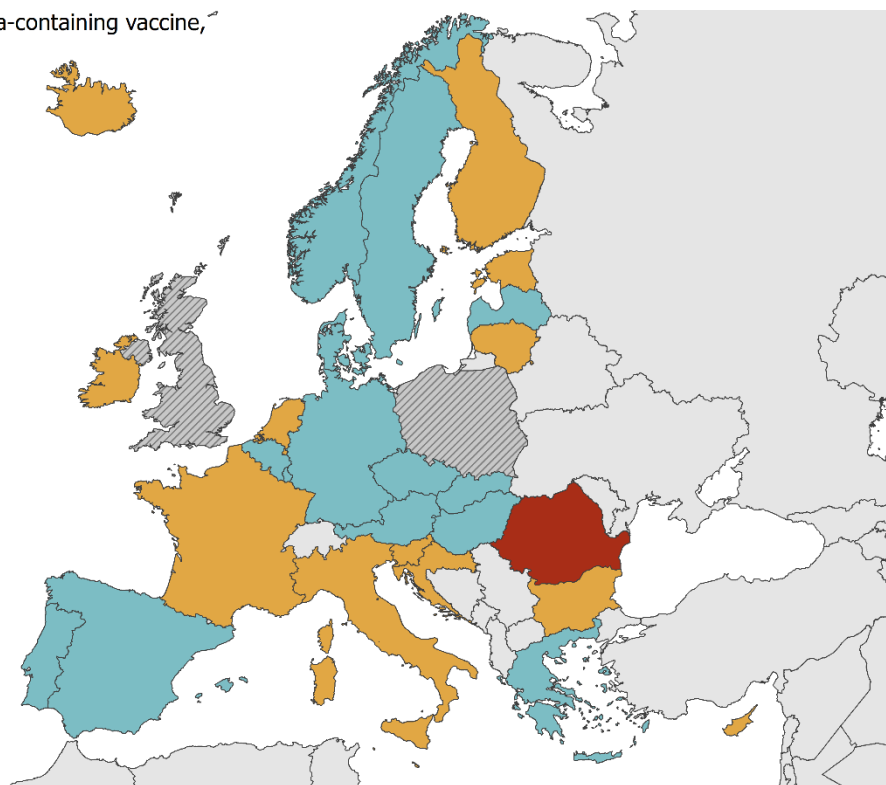
Figure 7. Vaccination coverage for the first dose of rubella-containing vaccine by country, EU/EEA, 2017, provisional data reported to WHO as of 25 May 2018

Vaccination coverage of rubella-containing vaccine,
first dose*, 2017

- 0–84%
- 85–94%
- 95–99%

- No data
- Not included

- Luxembourg
- Malta



* Estimates reported to WHO

ECDC. Map produced on: 11 Jul 2018
ECDC map maker: <https://emma.ecdc.europa.eu>

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