

SURVEILLANCE REPORT

Monthly measles and rubella monitoring report

June 2018

Measles

This report is based on measles and rubella surveillance data reported to the European Surveillance System (TESSy) by 30 EU/EEA countries for the period 1 May 2017 to 30 April 2018. ECDC reports such data on a monthly basis. ECDC also monitors European measles outbreaks through epidemic intelligence and publishes the most recent updates in the [Communicable Disease Threats Report \(CDTR\)](#).

Additionally, a [Rapid Risk Assessment \(RRA\)](#) on the risk of measles transmission in the EU/EEA was published in March 2018.

April 2018

Nineteen EU/EEA countries reported 1 708 cases of measles for April 2018 (Source: TESSy). Italy and Germany in particular continued to report an increasing number of cases. France and Greece continued to report high case counts but with a decreasing trend. The United Kingdom did not report data for April 2018. The distribution of cases by country for April 2018 is presented in Figure 1.

Italy reported 389 cases for April 2018, an increase from 355 (including two deaths) and 289 cases reported for March and February 2018, respectively. The most recent updates on this outbreak are available from the National centre for disease prevention and health promotion of Italy ([Centro nazionale per la prevenzione delle malattie e la promozione della salute](#)) and in the [CDTR](#) of 8 June 2018.

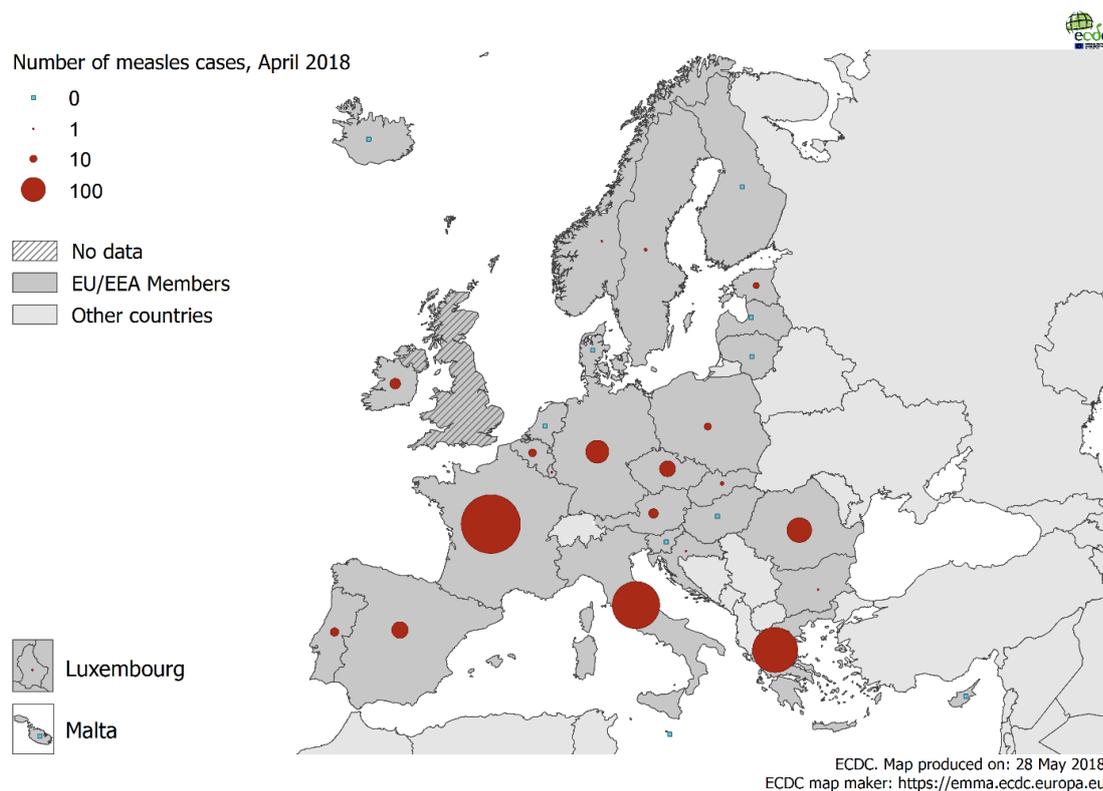
The 91 cases reported by Germany for April 2018 was an increase from 51 and 30 cases reported for March and February 2018, respectively. More information on this situation is available from the [CDTR](#) of 8 June 2018.

For April 2018, France reported 596 cases, which was a decrease from 761 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](#)) of 27 May 2018 and the [CDTR](#) of 8 June 2018.

Greece reported 352 cases (including one death) for April 2018, compared with 549 in March 2018 and 453 cases (including one death) in February 2018. The most recent updates on this outbreak are available from the [Hellenic Centre for Disease Control and Prevention \(HCDCP\)](#) and in the [CDTR](#) of 8 June 2018.

Having reported no cases for January and February 2018, the Czech Republic reported 44 cases for April 2018, compared with 59 cases in March 2018. Portugal reported 13 cases for April 2018, compared with 108 cases in March 2018. Measles outbreaks are also ongoing in other EU/EEA countries. More information on the situation is available from the [CDTR](#) of 8 June 2018.

Figure 1. Distribution of measles cases by country, EU/EEA, April 2018 (n=1 708).



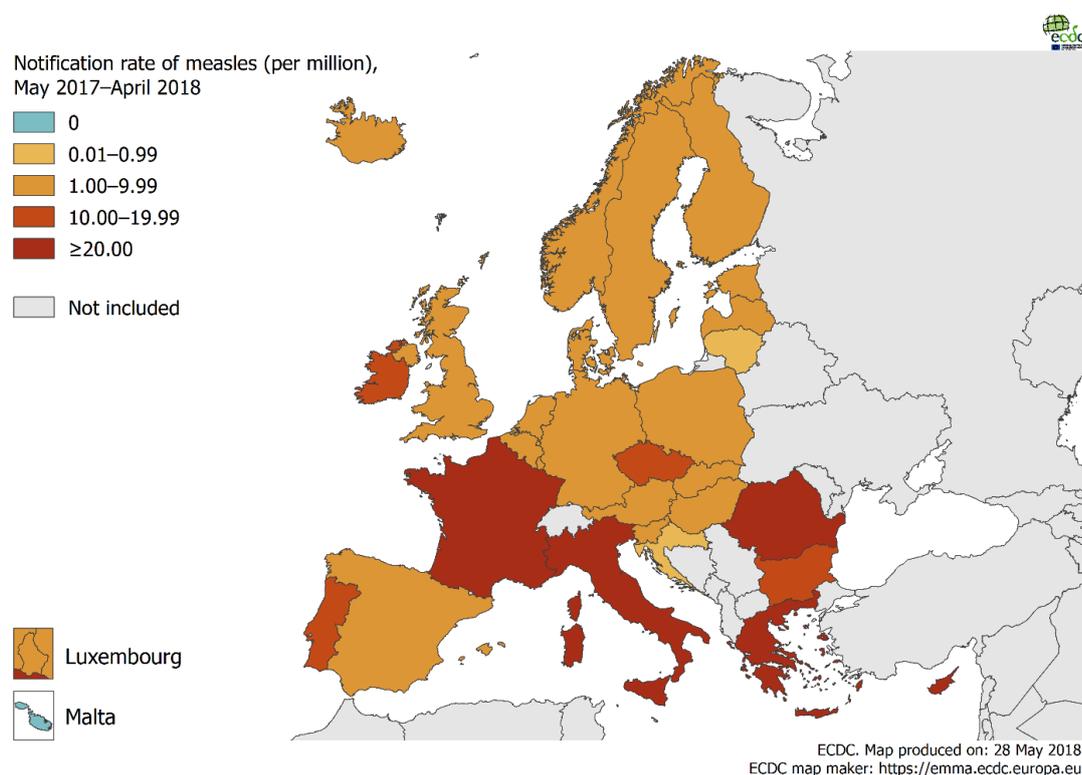
May 2017–April 2018

Between 1 May 2017 and 30 April 2018, 28 EU/EEA Member States reported 13 475 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 [RRA](#) on the Romanian outbreak in March 2017.

During the period from 1 May 2017 to 30 April 2018, most cases were reported by Italy (4 032), Greece (2 752), France (2 436) and Romania (2 127), accounting for 30%, 20%, 18% and 16%, 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 67% of all reported cases. The number of cases by month and notification rate per million population per country for this 12-month period is presented in Table 1. Figure 2 shows the notification rate per million population by country for this period.

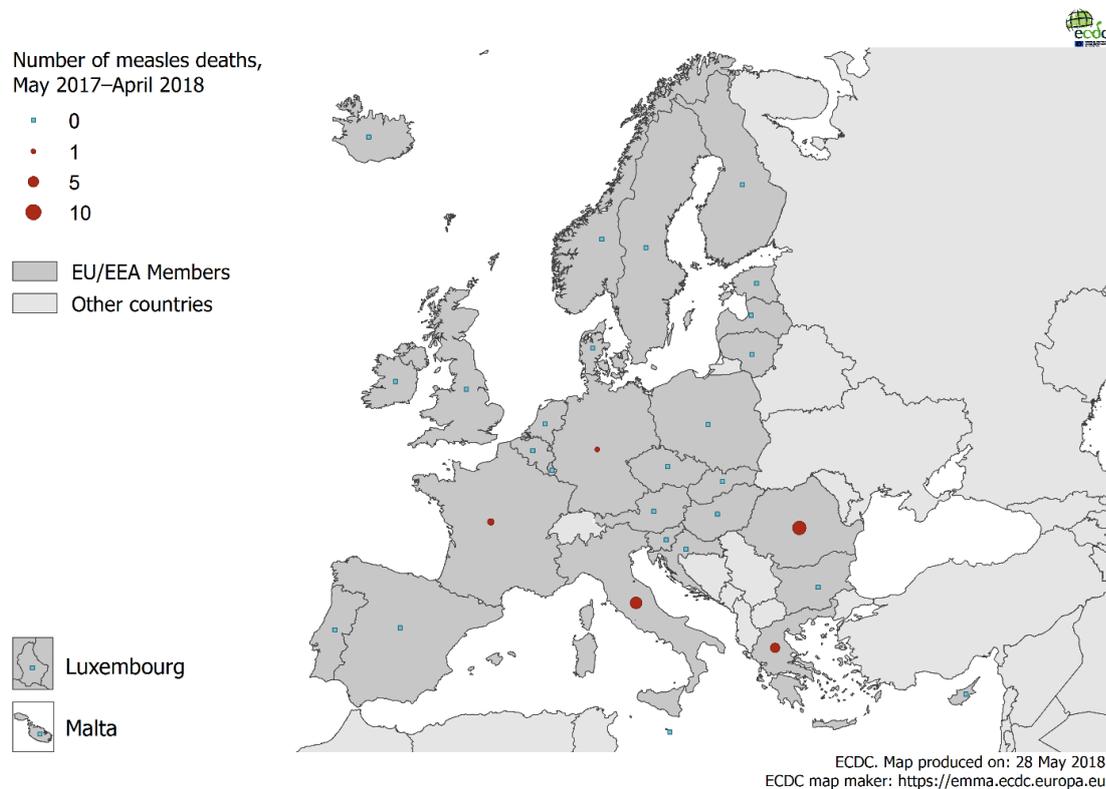
Table 1. Number of measles cases by month and notification rate per million population by country, EU/EEA, 1 May 2017–30 April 2018.

Country	2017	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	Total cases	Cases per million	Total lab-positive cases
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr			
Austria	6	1	2	2	1	2	8	1	7	5	15	16	66	7.5	58
Belgium	21	34	16	0	2	0	3	1	1	6	11	11	106	9.3	83
Bulgaria	55	44	5	0	0	0	0	0	0	1	2	1	108	15.2	70
Croatia	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	1
Cyprus	1	2	0	0	0	0	0	0	5	6	4	0	18	21.1	18
Czech Republic	43	7	1	0	0	0	6	4	0	0	59	44	164	15.5	161
Denmark	0	0	0	3	0	0	0	0	0	0	3	0	6	1.0	6
Estonia	1	0	0	0	0	0	0	0	0	0	2	7	10	7.6	10
Finland	0	1	4	5	0	0	0	0	0	0	0	0	10	1.8	10
France	114	43	39	15	19	13	11	65	237	523	761	596	2 436	36.4	1 075
Germany	137	77	23	51	16	9	9	14	26	30	51	91	534	6.5	429
Greece	3	1	7	71	126	167	250	342	431	453	549	352	2 752	255.6	1 644
Hungary	0	0	9	10	1	1	0	0	2	5	6	0	34	3.5	34
Iceland	0	0	0	0	0	0	1	0	0	0	0	0	1	3.0	1
Ireland	0	0	0	0	0	10	9	5	11	17	17	20	89	18.6	71
Italy	804	661	600	252	166	126	66	116	208	289	355	389	4 032	66.6	3232
Latvia	0	0	0	0	0	0	0	0	7	7	1	0	15	7.7	15
Lithuania	0	0	1	0	0	0	0	0	0	0	0	0	1	0.4	1
Luxembourg	0	0	0	0	0	0	1	0	0	0	0	1	2	3.4	2
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Netherlands	6	2	1	1	1	3	0	0	0	2	2	0	18	1.1	16
Norway	0	0	1	0	0	0	0	0	0	4	0	1	6	1.1	6
Poland	2	4	6	1	12	13	3	1	17	10	2	10	81	2.1	56
Portugal	4	0	0	0	0	0	0	0	0	4	108	13	129	12.5	120
Romania	1 029	100	100	100	91	101	102	100	100	100	100	104	2 127	108.3	1147
Slovakia	0	0	0	0	0	0	0	5	1	0	0	3	9	1.7	8
Slovenia	0	0	0	0	0	0	0	1	2	0	0	0	3	1.5	3
Spain	38	16	9	10	2	0	1	11	6	14	51	46	204	4.4	195
Sweden	4	0	0	2	2	2	0	11	17	2	2	2	44	4.4	44
United Kingdom	34	25	22	12	18	22	65	46	57	79	89	NR	469	7.1	469
EU/EEA	2 302	1 018	846	535	457	469	535	723	1 135	1 557	2 190	1 708	13 475	26.1	8 985

Figure 2. Measles notification rate per million population by country, EU/EEA, 1 May 2017–30 April 2018.

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

Figure 3. Distribution of measles deaths by country, EU/EEA, 1 May 2017–30 April 2018 (n=21).



Importation status was reported by 28 countries and was known for 12 227 cases (91%). Among cases with known importation status, 8 710 (71%) were reported to be endemic, 3 020 (25%) import-related and 497 (4%) 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. 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 13 474 cases with known age, 4 203 (31%) were children less than five years of age, while 6 788 (50%) were aged 15 years or older. The highest incidence was reported in children below one year of age (282.7 cases per million) and children from 1 to 4 years of age (130.8 cases per million). These data are also published in the ECDC Surveillance Atlas of Infectious Diseases.

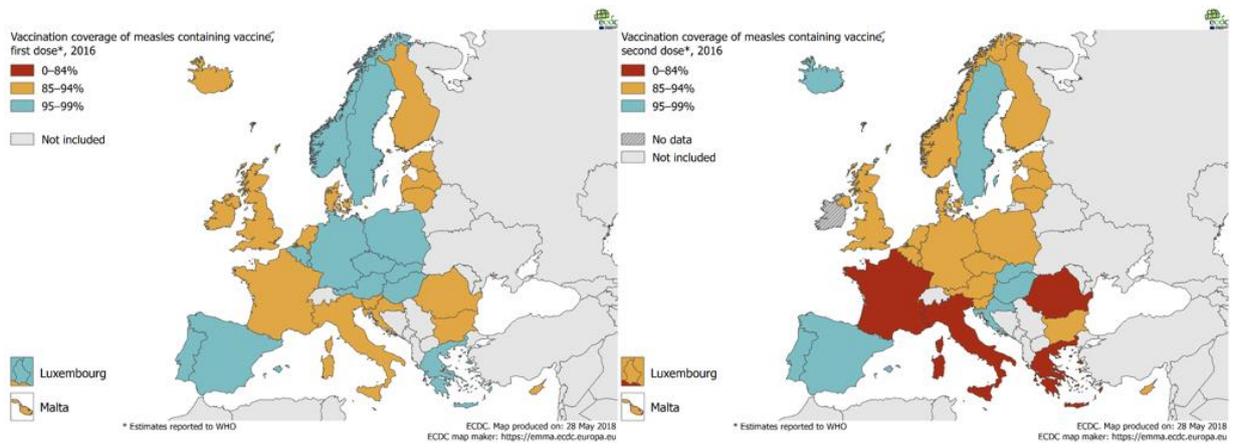
Of 12 111 cases with known age and vaccination status, 83% were unvaccinated, 10% were vaccinated with one dose of measles-containing vaccine, 5% were vaccinated with two or more doses, and 2% were vaccinated with an unknown number of doses. Of all cases, 10% had an unknown vaccination status. The proportion of cases with unknown vaccination status was highest in adults aged 30 years and more, reaching 19%.

The proportion of unvaccinated cases was highest among children below one year of age (94%), who were too young to have received the first dose of the measles-containing vaccine. Infants below the age of one year are particularly vulnerable to complications of measles and are best protected by herd immunity, which is achieved when population coverage for the second dose of measles-containing vaccine is at least 95%.

Among cases aged one to four years, 82% of the cases were unvaccinated, 12% were vaccinated with one dose, 2% with two doses or more, 1% with an unknown number of doses and 3% had an unknown vaccination status.

Measles continues to spread across Europe as the vaccination coverage in many EU/EEA countries is suboptimal. The latest available data on national vaccination coverage for the first and second doses of measles-containing vaccine are presented in Figure 4. Only five EU/EEA countries reported at least 95% vaccination coverage for both doses of measles-containing vaccine. If the elimination goal is to be reached, vaccination coverage for children and adults needs to increase in a number of countries, as the vaccination coverage of both the first and the second dose must be at least 95% at all subnational levels 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, 2016.



Rubella

Between 1 May 2017 and 30 April 2018, 13 EU/EEA Member States reported 633 cases of rubella (Source: TESSy). Belgium and France did not report rubella cases to TESSy. Czech Republic, Romania and United Kingdom did not report data for April 2018.

In the 12-month period, the highest number of cases were reported by Poland (480), Germany (69), Italy (40) and Austria (22) accounting for 76%, 11%, 6% and 3% of reported cases, respectively. In April 2018, five EU/EEA Member States: Bulgaria, Germany, Ireland, Italy and Poland reported 61 cases; of which 50 were reported by Poland. The diagnosis of rubella was confirmed by positive laboratory results in 9% of all reported cases in the 12-month's period.

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

Table 2. Number of rubella cases by month and notification rate per million population by country, EU/EEA, 1 May 2017–30 April 2018.

Country	2017	2017	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	Total cases	Cases per million	Total lab-positive cases
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr			
Austria	1	0	0	0	0	1	7	5	8	0	0	0	22	2.51	22
Bulgaria	0	0	0	0	0	0	0	0	0	0	0	1	1	0.14	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
Czech Republic	1	0	0	0	0	0	0	0	0	0	NR	NR	1	0.09	1
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	0	1	0	0	0	0	0	0	1	0.18	1
Germany	9	9	6	4	4	9	5	3	4	4	7	5	69	0.84	7
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	0	1	0	1	2	0.42	0
Italy	12	6	3	1	3	2	2	2	1	2	2	4	40	0.66	13
Latvia	0	0	0	0	0	0	0	0	0	1	1	0	2	1.03	2
Lithuania	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
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	57	44	43	37	30	34	31	33	34	43	44	50	480	12.64	6
Portugal	0	0	0	0	2	0	0	0	0	1	0	0	3	0.29	0
Romania	2	0	1	2	0	0	1	0	1	0	1	NR	8	0.41	6
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	0	1	0	0	0	0	0	0	0	0	0	1	0.02	1
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0
United Kingdom	0	0	0	0	0	1	1	0	0	1	0	NR	3	0.05	3
EU/EEA	82	59	54	44	39	48	47	43	48	53	55	61	633	1.40	62

Figure 5. Distribution of rubella cases by country, EU/EEA, April 2018 (n=61).

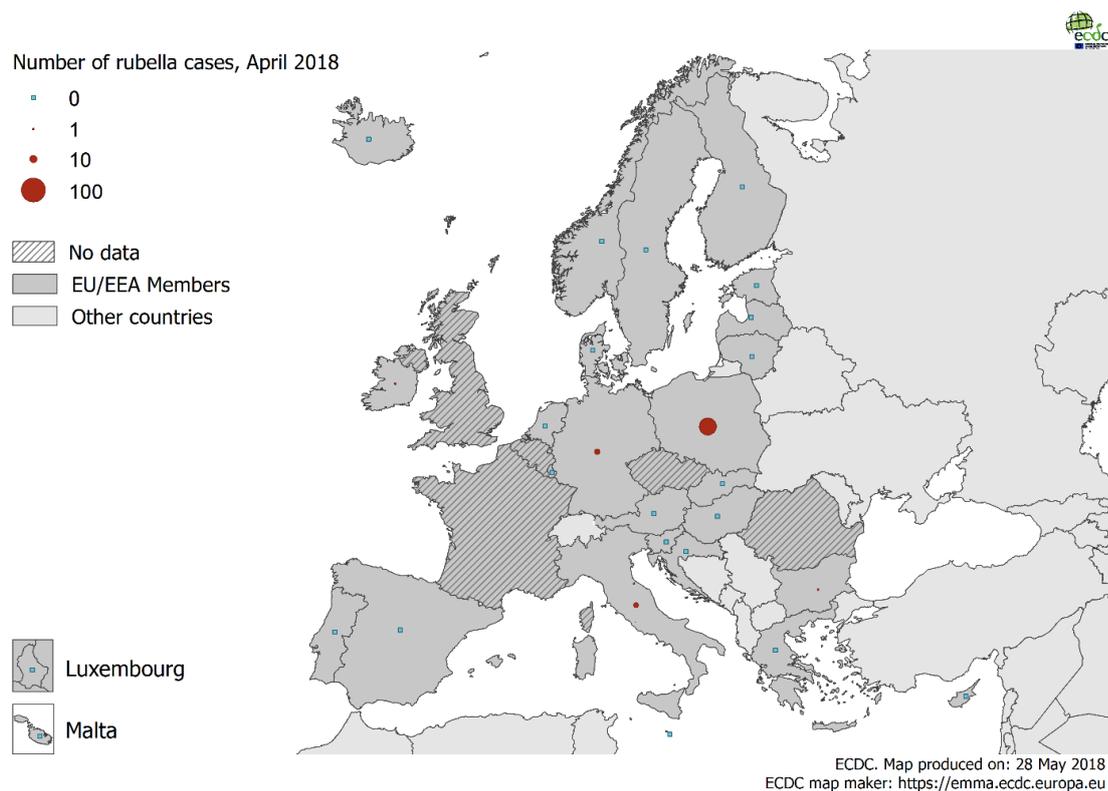
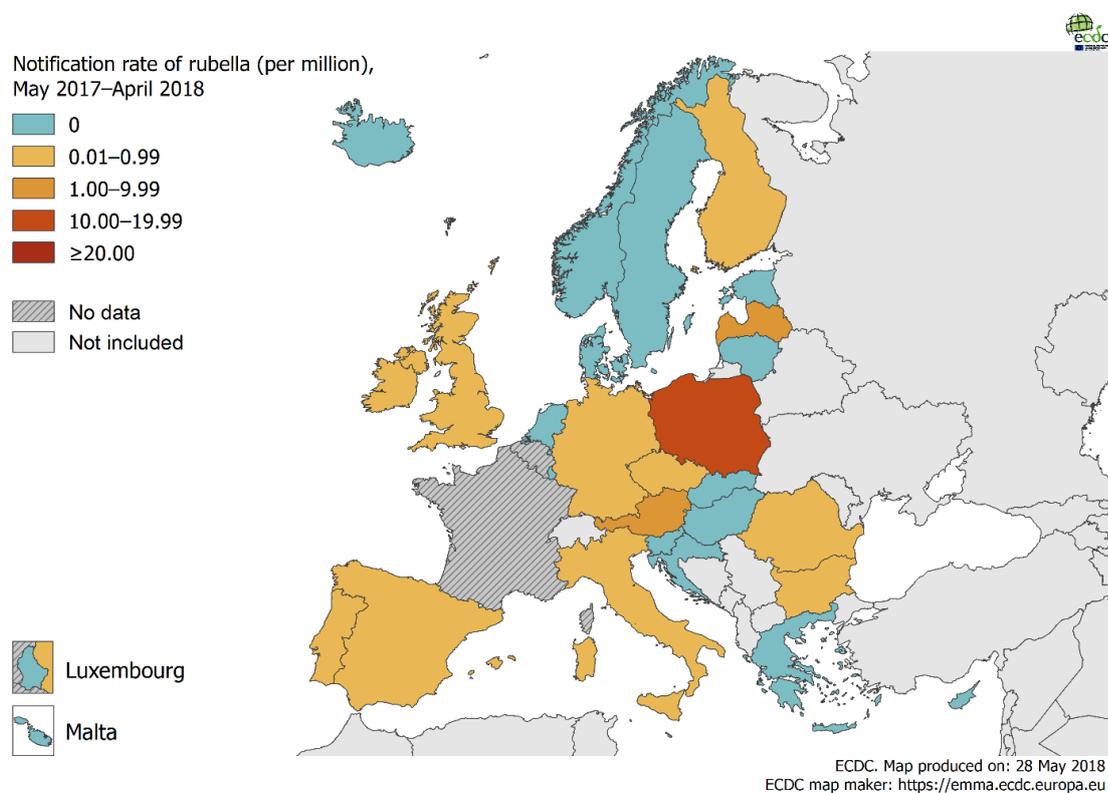


Figure 6. Rubella notification rate per million population by country, EU/EEA, 1 May 2017–30 April 2018.



Data from Poland were reported in an aggregated format and should be interpreted with caution, as only six cases (1%) were confirmed through laboratory testing during the 12-month period. The highest number of cases in Poland was observed in children, with 46% of cases in children less than five years of age and 30% 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 by country in the EU/EEA.

Figure 7. Vaccination coverage for the first dose of rubella-containing vaccine by country, EU/EEA, 2016.

