

SURVEILLANCE REPORT

Monthly measles and rubella monitoring report

December 2017

Measles

ECDC reports on routine surveillance data submitted by 30 EU/EEA countries to the European Surveillance System (TESSy) on a monthly basis. This report is based on measles and rubella surveillance data reported to TESSy from 1 November 2016 to 31 October 2017. ECDC also monitors European and worldwide measles outbreaks through epidemic intelligence, and publishes the most recent updates monthly in the [Communicable Disease Threats Report \(CDTR\)](#).

In October 2017, 450 cases of measles were reported by 11 EU/EEA countries (Source: TESSy). The distribution of cases by country is presented in Figure 1. Greece is currently experiencing a measles outbreak, with 167 cases reported including one death in October 2017. This was an increase from 126 cases in September and 71 cases in August. For more information on this outbreak, see the most recent updates from the [Hellenic Centre for Disease Control and Prevention \(KEELPNO\)](#) and the [CDTR](#) of 8 December 2017. Measles outbreaks are also ongoing in other EU/EEA countries.

Between 1 November 2016, and 31 October 2017, 30 EU/EEA Member States reported 13 726 cases of measles (Source: TESSy). Twenty-nine Member States reported consistently throughout this period (Croatia did not report for October 2017). All EU/EEA countries have reported measles cases in the last 12 months, except Latvia and Malta. The number of measles cases reported to TESSy may represent an underestimation, in particular for Romania. The ongoing 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](#). ECDC also published a [Rapid Risk Assessment](#) on the outbreak in Romania.

During the period from 1 November 2016, to 31 October 2017, the highest numbers of cases were reported by Romania (5 605), Italy (4 973) and Germany (952), accounting for 41%, 36% and 7% 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 61% of all cases reported by EU/EEA countries. The number of cases by month and notification rate per million population by 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, 1 November 2016–31 October 2017, EU/EEA countries

Country	2016	2016	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	Total cases	Cases per million	Total lab-positive cases
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct			
Austria	1	4	28	34	8	2	6	1	2	2	1	2	91	10.47	80
Belgium	2	3	27	79	147	35	23	33	15	1	3	0	368	32.53	237
Bulgaria	0	0	0	0	19	41	57	44	5	0	0	0	166	23.2	86
Croatia	0	0	2	5	0	0	0	0	0	0	0	NR	7	1.67	7
Cyprus	0	0	0	0	0	0	1	2	0	0	0	0	3	3.54	3
Czech Republic	1	0	0	0	21	64	43	7	1	0	0	0	137	12.98	130
Denmark	0	1	0	0	1	0	0	0	0	3	0	0	5	0.88	5
Estonia	0	0	0	0	0	0	1	0	0	0	0	0	1	0.76	1
Finland	0	3	0	0	0	0	0	1	4	5	0	0	13	2.37	13
France	2	4	34	54	49	61	114	43	39	15	20	14	449	6.73	290
Germany	25	22	47	157	212	178	137	77	23	50	16	8	952	11.58	660
Greece	0	0	0	0	0	0	3	1	7	71	126	167	375	34.77	257
Hungary	0	0	1	11	3	0	0	0	9	10	0	1	35	3.56	35
Iceland	0	0	0	0	2	0	0	0	0	0	0	0	2	6.01	2
Ireland	0	0	0	1	1	1	0	0	1	0	2	11	17	3.6	11
Italy	83	89	287	464	899	803	730	590	532	232	152	112	4 973	81.97	3 888
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lithuania	0	0	0	0	0	1	0	0	1	0	0	0	2	0.69	2
Luxembourg	0	0	0	0	3	0	0	0	0	0	0	0	3	5.21	3
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	0	4	0	0	0	2	6	2	1	1	0	1	17	1	15
Norway	0	0	0	0	0	0	0	0	1	0	0	0	1	0.19	1
Poland	13	4	6	6	5	4	2	4	6	1	12	11	74	1.95	43
Portugal	0	0	0	2	10	18	4	0	0	0	0	0	34	3.29	29
Romania	614	506	484	843	1 334	1 176	156	100	100	100	91	101	5 605	283.65	2 243
Slovakia	0	0	0	0	0	1	0	0	0	0	0	0	1	0.18	1
Slovenia	0	0	2	4	0	0	0	0	0	0	0	0	6	2.91	6
Spain	6	2	10	29	22	10	40	31	9	10	2	0	171	3.68	161
Sweden	0	0	2	8	7	3	4	0	0	2	2	2	30	3.05	30
United Kingdom	14	1	10	1	8	17	35	28	22	13	19	20	188	2.88	188
Total	761	643	940	1698	2 751	2 417	1 362	964	778	516	446	450	13 726	26.6	8 427

Figure 1. Distribution of measles cases by country, October 2017 (n = 13 726), EU/EEA countries

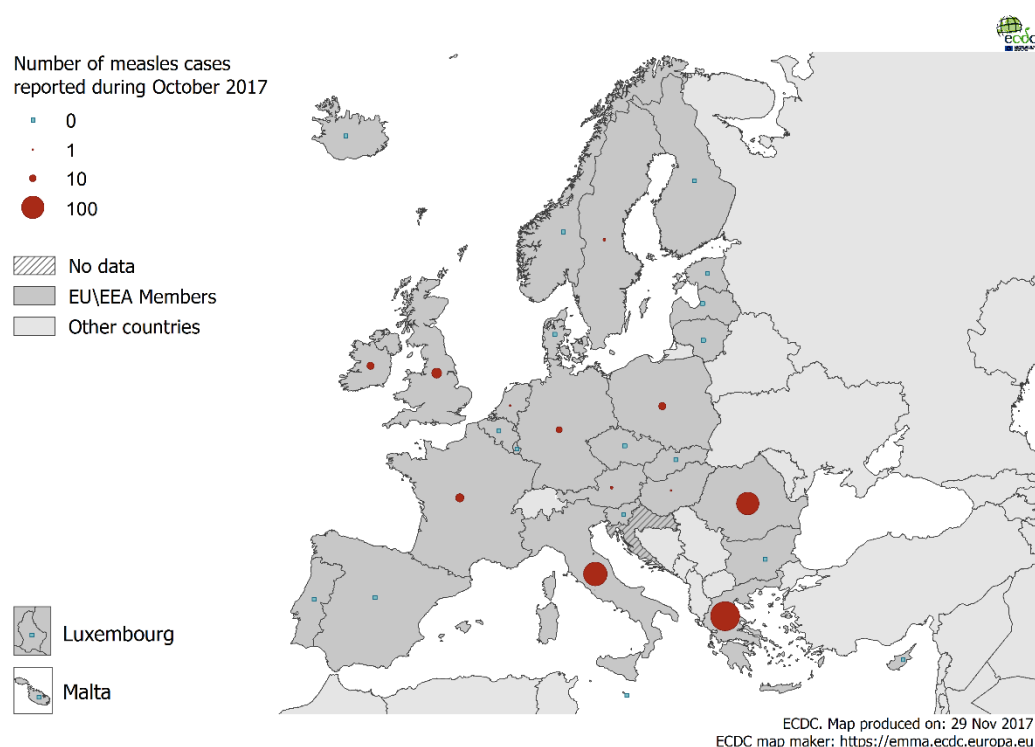
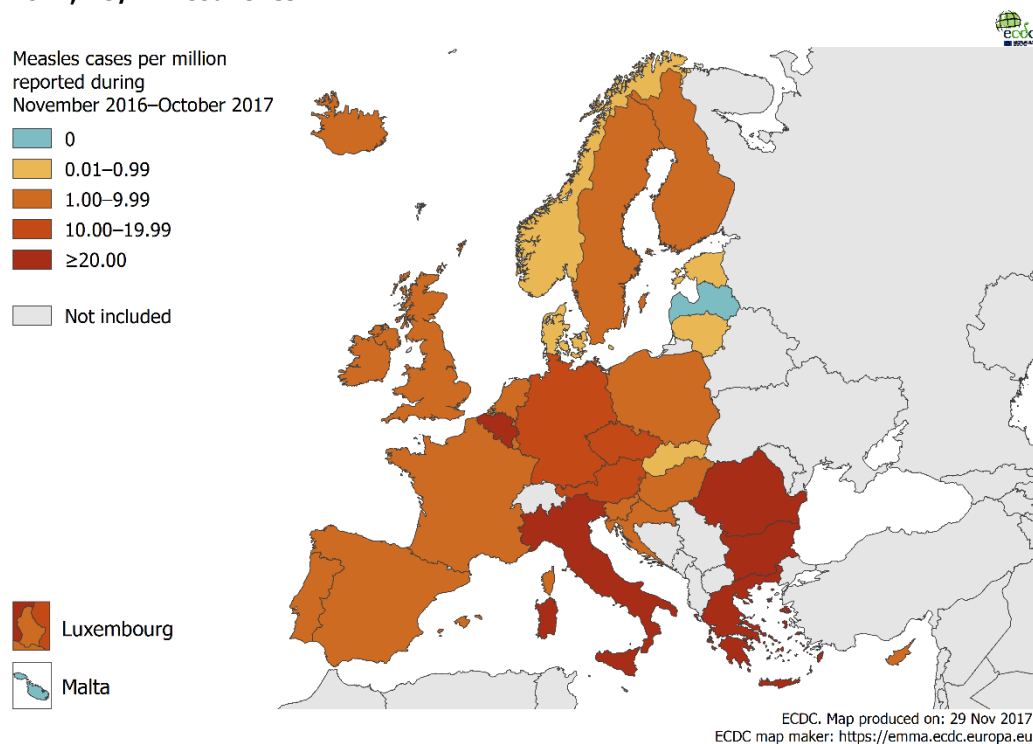


Figure 2. Measles notification rate per million population by country, 1 November 2016–31 October 2017, EU/EEA countries



Importation status was known for 13 231 cases (96%) and was reported by 27 countries. Among cases with known importation status, 11 961 (90%) were reported to be endemic, 589 (4%) import-related and 313 (2%) 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 13 724 cases with known age, 5 019 (37%) were in children less than five years of age, while 6 186 (45%) were aged 15 years or older. The highest incidence was reported in children below one year of age (336.2 cases per million) and children from one to four years of age (156 cases per million). These data are also published in the [ECDC Surveillance Atlas of Infectious Diseases](#).

Of 12 904 cases with known vaccination status, 87% were unvaccinated, 8% were vaccinated with one dose, 3% were vaccinated with two or more doses, and 2% were vaccinated with an unknown number of doses. Of all cases, 6% had an unknown vaccination status.

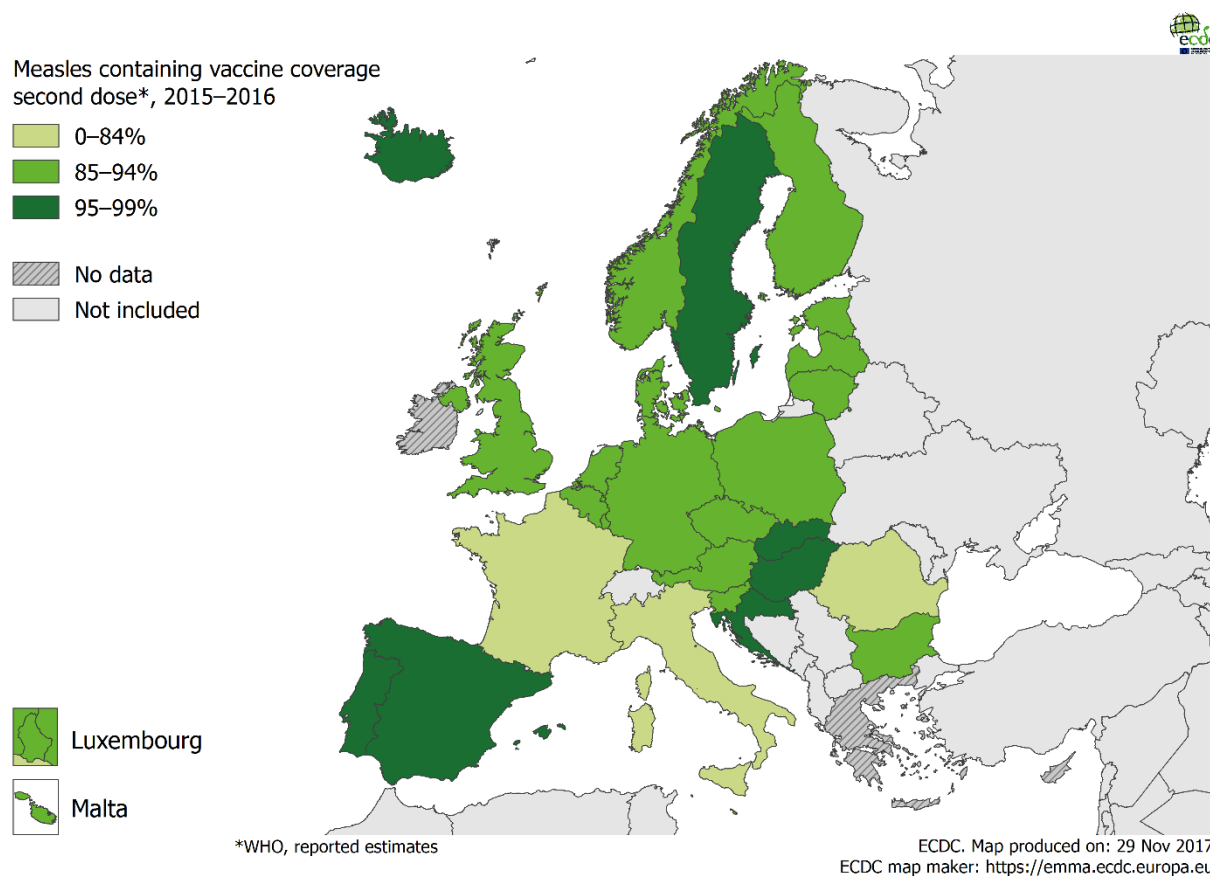
The proportion of cases with unknown vaccination status was highest in adults aged 25–29 years old, reaching 12%. The proportion of unvaccinated cases was highest among children below one year of age (96%), who were too young to have received the first dose of the measles vaccine. Infants below the age 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 a measles-containing vaccine is at least 95%.

In the target group for the first dose of routine childhood measles, mumps and rubella (MMR) vaccination (1–4 year-olds), 86% of the cases were unvaccinated, 11% were vaccinated with one dose, 0% with two doses or more, 1% with an unknown number of doses and 2% had an unknown vaccination status.

Thirty deaths due to measles were reported to TESSy during the 12-month period; with 20 in Romania, four in Italy, and one each in Bulgaria, France, Germany, Greece, Spain and Portugal.

Measles continues to spread across Europe as the vaccination coverage in many EU/EEA countries is suboptimal. The [vaccination coverage](#) in 2015–2016, for the second dose of measles-containing vaccine was below 95% in 20 of 27 EU/EEA countries (Figure 3). If the elimination goal is to be reached, vaccination coverage rates for children targeted by routine vaccination programmes should increase in a number of countries as the vaccination coverage of the second dose must be at least 95% to interrupt measles circulation.

Figure 3. Vaccination coverage for the second dose of measles-containing vaccine by country, 2015-2016, WHO*, EU/EEA countries



Rubella

Between 1 November 2016, and 31 October 2017, 28 EU/EEA Member States reported 754 cases of rubella (Source: TESSy). Belgium and France did not report rubella cases to TESSy. Of the 28 reporting countries reporting data on rubella, 24 reported consistently throughout the 12-month period. Austria, Croatia, Czech Republic and the Netherlands did not report for October 2017.

In the 12-month period, the highest number of cases were reported by Poland (559), Germany (78) and Italy (66) accounting for 74%, 10% and 9% of reported cases, respectively. In October 2017, four EU/EEA countries reported 53 cases, of which 42 were reported by Poland.

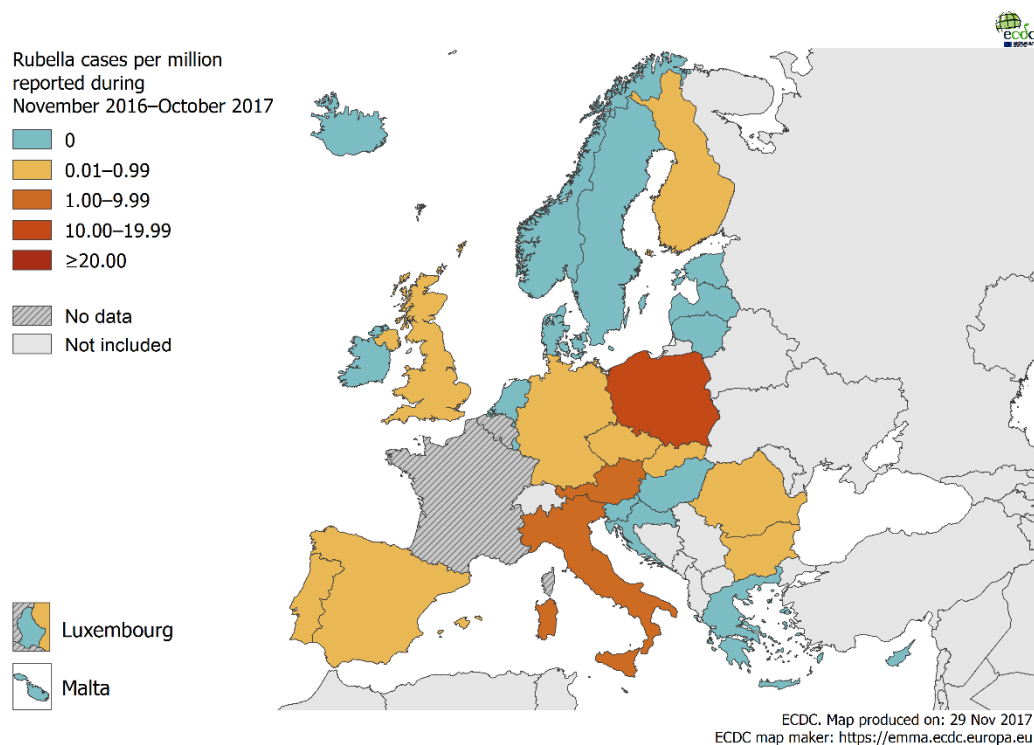
The number of rubella cases by month and notification rate by country for this 12-month period is presented in Table 2; the distribution of cases by country for October 2017 is shown in Figure 4 and the notification rate per million population by country is shown in Figure 5.

Table 2. Number of rubella cases by month and notification rate per million population by country, 1 November 2016–31 October 2017, EU/EEA countries

Country	2016	2016	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	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	0	24	1	1	0	0	0	0	NR	26	2.99	23
Bulgaria	1	1	0	0	0	0	0	0	0	0	0	0	2	0.28	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	NR	0	0	0
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	0	0	0	0	0	1	1	0	0	0	0	NR	2	0.19	2
Denmark	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
Finland	0	0	0	0	0	0	0	0	0	0	0	1	1	0.18	1
Germany	7	5	5	5	8	7	9	9	6	4	4	9	78	0.95	15
Greece	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
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Italy	4	2	3	8	12	12	12	7	2	1	2	1	66	1.09	29
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lithuania	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
Malta	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	NR	NR	0	0	0
Norway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poland	57	70	49	39	44	43	57	45	45	37	31	42	559	14.72	6
Portugal	1	0	0	1	1	0	0	0	0	0	2	0	5	0.48	0
Romania	2	2	0	1	1	0	2	1	1	1	0	0	11	0.56	8
Slovakia	0	0	0	0	0	1	0	0	0	0	0	0	1	0.18	0
Slovenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0	1	0	0	0	1	0.02	1
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Kingdom	1	0	0	0	0	1	0	0	0	0	0	0	2	0.03	2
Total	73	80	57	54	90	66	82	62	55	43	39	53	754	1.7	87

Figure 4. Distribution of rubella cases by country, October 2017 (n =754), EU/EEA countries

Figure 5. Rubella notification rate per million population by country, 1 November 2016–31 October 2017, EU/EEA countries



Data from Poland were reported in an aggregated format and should to be interpreted with caution, as only six cases 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 29% in children aged from five to nine years of age.

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 6 shows the latest vaccination coverage data for the first dose of rubella-containing vaccine by country in the EU/EEA.

Figure 6. Vaccination coverage for the first dose of rubella-containing vaccine by country, 2015–2016, WHO*, EU/EEA countries

