

## SURVEILLANCE REPORT

# Monthly measles and rubella monitoring report

January 2018

## Measles

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

In November 2017, 510 cases of measles were reported by 14 EU/EEA countries (Source: TESSy). The distribution of cases by country is presented in Figure 1.

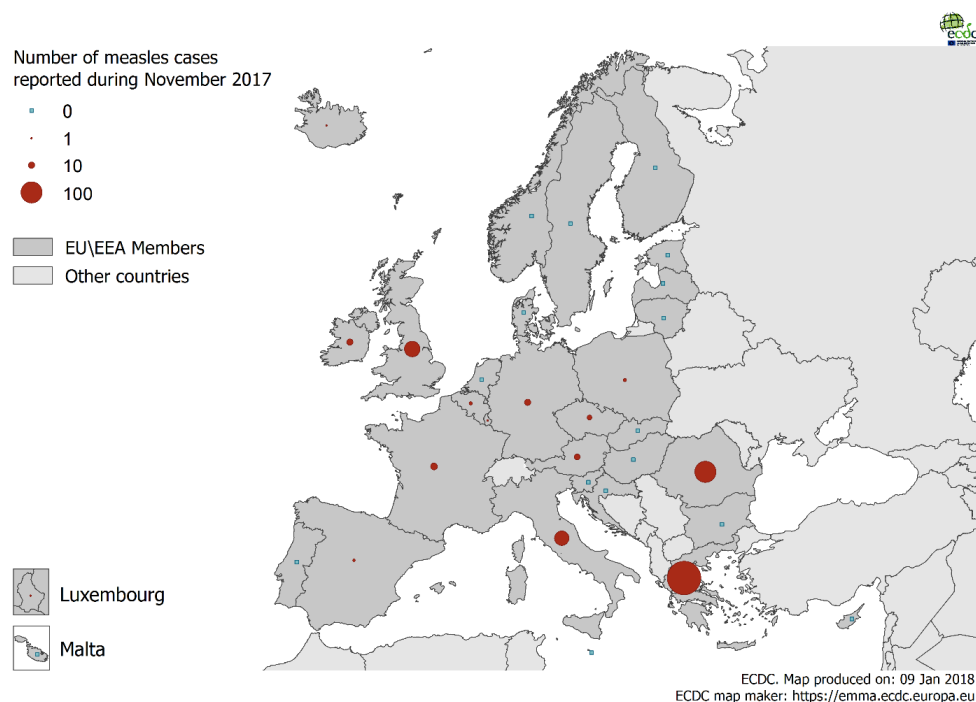
Greece is currently experiencing a measles outbreak, with 250 cases, including one death reported in November 2017. This was an increase from 167 cases (which included one death) in October and 127 cases in September. For more information on this outbreak, see the most recent updates from the [Hellenic Centre for Disease Control and Prevention \(KEELPNO\)](#) and the [CDTR](#) of 12 January 2018. Measles outbreaks are also ongoing in other EU/EEA countries ([CDTR](#)).

Between 1 December 2016 and 30 November 2017, 30 EU/EEA Member States reported 14 393 cases of measles (Source: TESSy). All 30 Member States reported consistently throughout this period. All EU/EEA countries reported measles cases in these 12 months, except Latvia and Malta. The number of measles cases reported to TESSy may be 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 published a [Rapid Risk Assessment](#) on the outbreak in Romania.

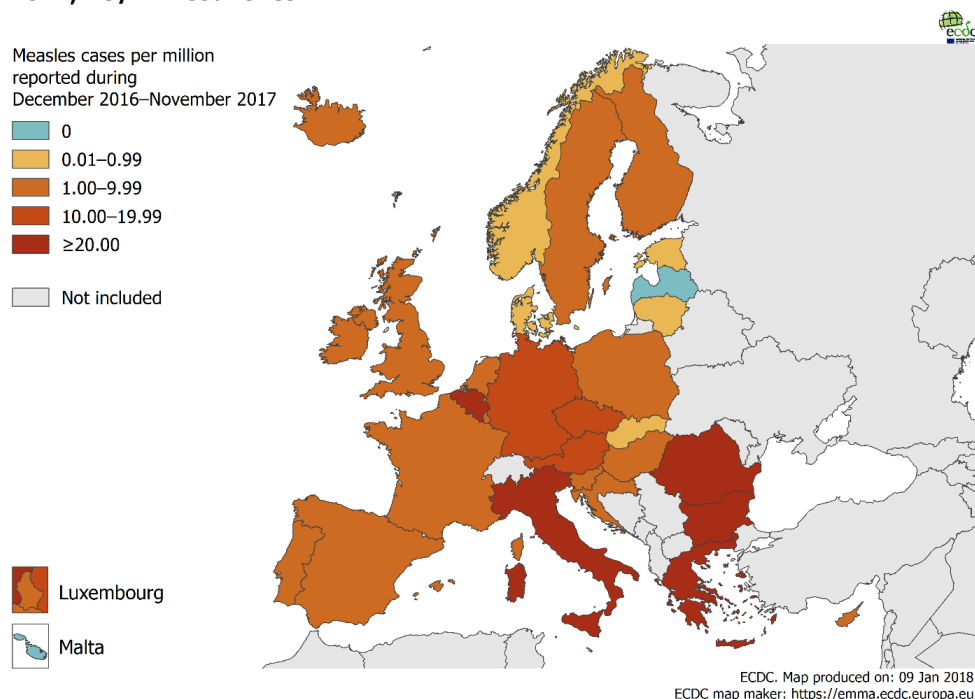
During the period from 1 December 2016 to 30 November 2017, most cases were reported by Romania (5 966), Italy (4 985), Germany (937) and Greece (625), accounting for 41%, 35%, 7% and 4%, respectively, of all cases reported by EU/EEA countries. The diagnosis of measles was confirmed by positive laboratory results (serology, virus detection or isolation) in 60% 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, 1 December 2016–30 November 2017, EU/EEA countries**

Country	2016	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	Total cases	Cases per million	Total lab-positive cases
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov			
Austria	4	28	34	8	2	6	1	2	2	1	2	8	98	11.28	86
Belgium	4	26	79	151	35	21	34	16	1	2	1	3	373	32.98	245
Bulgaria	0	0	0	19	41	57	44	5	0	0	0	0	166	23.2	86
Croatia	0	2	5	0	0	0	0	0	0	0	0	0	7	1.67	7
Cyprus	0	0	0	0	0	1	2	0	0	0	0	0	3	3.54	3
Czech Republic	0	0	0	21	64	43	7	1	0	0	0	6	142	13.45	137
Denmark	1	0	0	1	0	0	0	0	3	0	0	0	5	0.88	5
Estonia	0	0	0	0	0	1	0	0	0	0	0	0	1	0.76	1
Finland	3	0	0	0	0	0	1	4	5	0	0	0	13	2.37	13
France	4	34	54	49	62	114	43	39	15	20	14	11	459	6.88	296
Germany	22	47	157	212	178	137	77	23	50	16	9	9	937	11.4	647
Greece	0	0	0	0	0	3	1	7	71	126	167	250	625	57.96	389
Hungary	0	1	11	3	0	0	0	9	10	1	1	0	36	3.66	36
Iceland	0	0	0	2	0	0	0	0	0	0	0	1	3	9.02	3
Ireland	0	0	0	0	0	0	0	0	0	0	10	9	19	4.02	19
Italy	89	287	465	900	814	740	595	537	237	156	116	49	4 985	82.17	3 891
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lithuania	0	0	0	0	1	0	0	1	0	0	0	0	2	0.69	2
Luxembourg	0	0	0	3	0	0	0	0	0	0	0	1	4	6.94	4
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	4	0	0	0	2	6	2	1	1	1	3	0	20	1.18	18
Norway	0	0	0	0	0	0	0	1	0	0	0	0	1	0.19	1
Poland	4	6	6	5	4	2	4	6	1	12	13	3	66	1.74	43
Portugal	0	0	2	10	18	4	0	0	0	0	0	0	34	3.29	29
Romania	506	484	843	1 334	1 176	1 029	100	100	100	91	101	102	5 966	301.92	2 257
Slovakia	0	0	0	0	1	0	0	0	0	0	0	0	1	0.18	1
Slovenia	0	2	4	0	0	0	0	0	0	0	0	0	6	2.91	6
Spain	2	10	29	22	10	40	29	9	10	2	0	2	165	3.55	157
Sweden	0	2	8	7	3	4	0	0	2	2	2	0	30	3.05	30
United Kingdom	1	10	1	8	17	34	25	22	12	18	22	56	226	3.46	226
Total	644	939	1 698	2 755	2 428	2 242	965	783	520	448	461	510	14 393	27.9	8 638

**Figure 1. Distribution of measles cases by country, November 2017 (n = 510), EU/EEA countries**

**Figure 2. Measles notification rate per million population by country, 1 December 2016–30 November 2017, EU/EEA countries**



Importation status was known for 13 490 cases (94%) and was reported by 27 countries. Among cases with known importation status, 12 310 (91%) were reported to be endemic, 819 (6%) import-related and 361 (3%) 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 14 391 cases with known age, 5 365 (37%) were children less than five years of age, while 6 322 (44%) were aged 15 years or older. The highest incidence was reported in children below one year of age (367.4 cases per million) and children from one to four years of age (164.8 cases per million). These data are also published in the [ECDC Surveillance Atlas of Infectious Diseases](#).

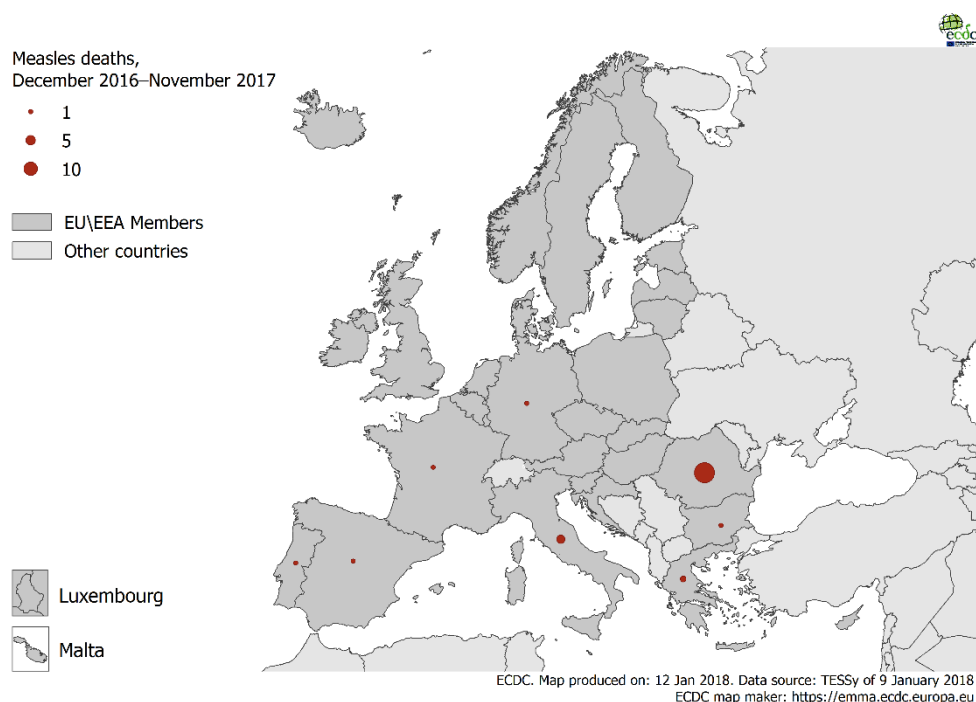
Of 13 579 cases with known vaccination status, 87% were unvaccinated, 8% were vaccinated with one dose, 3% were vaccinated with two or more doses, and 2% were vaccinated with an unknown number of doses. Of all cases, 6% had an unknown vaccination status.

The proportion of cases with unknown vaccination status was highest in adults aged 25–29 years, 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 (one to four year-olds), 87% 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 1% had an unknown vaccination status.

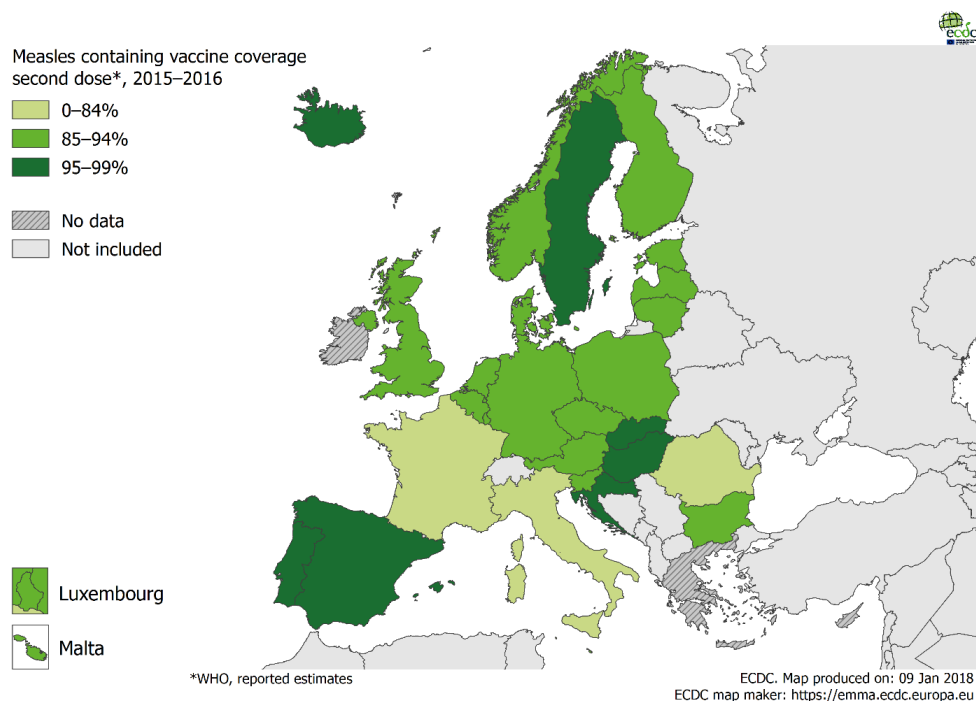
Thirty-four deaths due to measles were reported to TESSy during the 12-month period; with 23 in Romania, four in Italy, two in Greece and one each in Bulgaria, France, Germany, Portugal and Spain (Figure 3).

**Figure 3. Distribution of measles deaths by country, December 2016–November 2017 (n=34), EU/EEA countries**



Measles continues to spread across Europe as the vaccination coverage in many EU/EEA countries is suboptimal. The vaccination coverage in 2015–2016, as collected by WHO, for the second dose of measles-containing vaccine was below 95% in 20 of 27 EU/EEA countries. The latest available data on vaccination coverage for the second dose of measles-containing vaccine are presented in Figure 4. 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 4. Vaccination coverage for the second dose of measles-containing vaccine by country, 2015–2016, WHO\*, EU/EEA countries**



## Rubella

Between 1 December 2016 and 30 November 2017, 28 EU/EEA Member States reported 729 cases of rubella (Source: TESSy). Belgium and France do not report rubella cases to TESSy. All 28 countries reported consistently throughout the 12-month period.

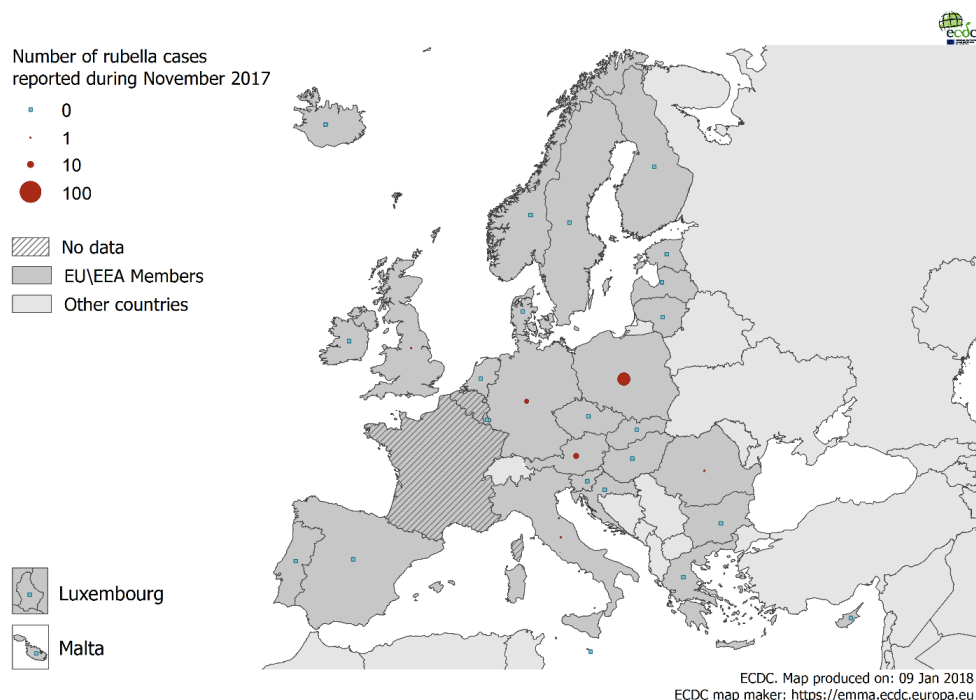
In this 12-month period, the highest number of cases were reported by Poland (533), Germany (75) and Italy (64) accounting for 73%, 10% and 9% of reported cases, respectively. In November 2017, six EU/EEA countries reported 48 cases, of which 34 were reported by Poland.

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 November 2017 is shown in Figure 5 and the notification rate per million population by country is shown in Figure 6.

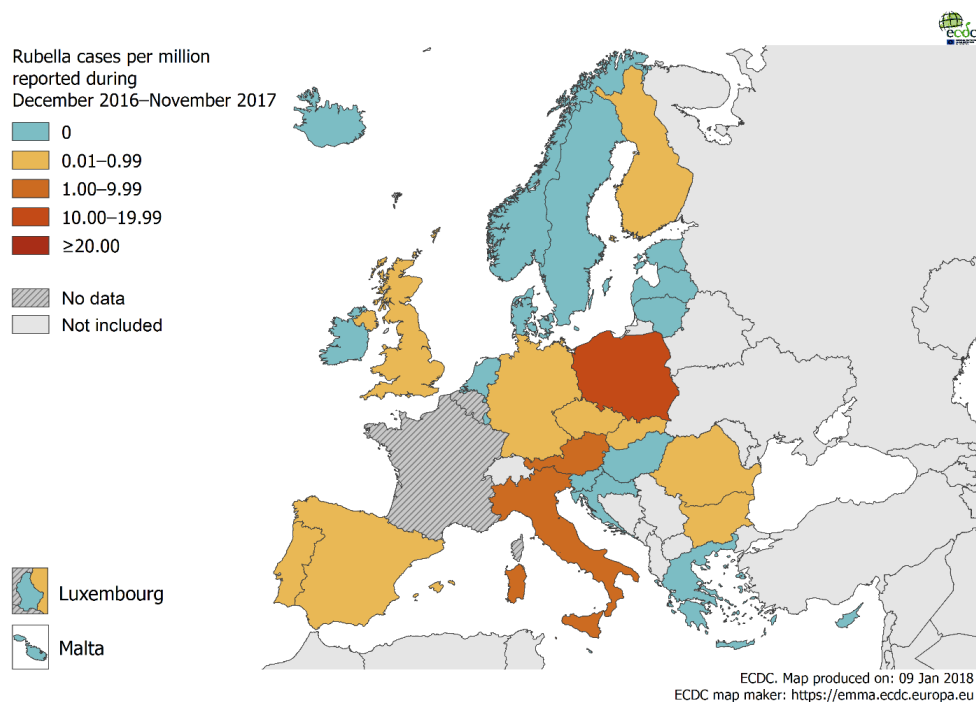
**Table 2. Number of rubella cases by month and notification rate per million population by country, 1 December 2016–30 November 2017, EU/EEA countries**

Country	2016	2017											Total cases	Cases per million	Total lab-positive cases
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov			
Austria	0	0	0	24	1	1	0	0	0	0	2	7	35	4.03	31
Bulgaria	1	0	0	0	0	0	0	0	0	0	0	0	1	0.14	0
Croatia	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
Czech Republic	0	0	0	0	1	1	0	0	0	0	0	0	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	1	0	1	0.18	1
Germany	5	5	5	8	7	9	9	6	4	4	9	4	75	0.91	14
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	2	3	8	13	12	12	6	2	1	2	2	1	64	1.05	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	0	0	0	0	0
Norway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poland	70	49	39	44	43	57	45	44	37	31	40	34	533	14.04	6
Portugal	0	0	1	1	0	0	0	0	0	2	0	0	4	0.39	0
Romania	2	0	1	1	0	2	1	1	1	0	0	1	10	0.51	7
Slovakia	0	0	0	0	1	0	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	1	0	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	0	0	0	0	1	0	0	0	0	0	0	1	2	0.03	2
Total	80	57	54	91	66	82	61	54	43	39	54	48	729	1.7	93

**Figure 5. Distribution of rubella cases by country, November 2017 (n =48), EU/EEA countries**



**Figure 6. Rubella notification rate per million population by country, 1 December 2016–30 November 2017, EU/EEA countries**



Data from Poland were reported in an aggregated format and should 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 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, 2015–2016, WHO\*, EU/EEA countries**

