

SURVEILLANCE REPORT

Monthly measles and rubella monitoring report

March 2018

ECDC reports on measles and rubella surveillance data submitted by 30 EU/EEA countries on a monthly basis. This report is based on data reported to the European Surveillance System (TESSy) for 1 February 2017 to 31 January 2018. ECDC also monitors European measles outbreaks through epidemic intelligence and publishes the most recent updates monthly in the [Communicable Disease Threats Report \(CDTR\)](#).

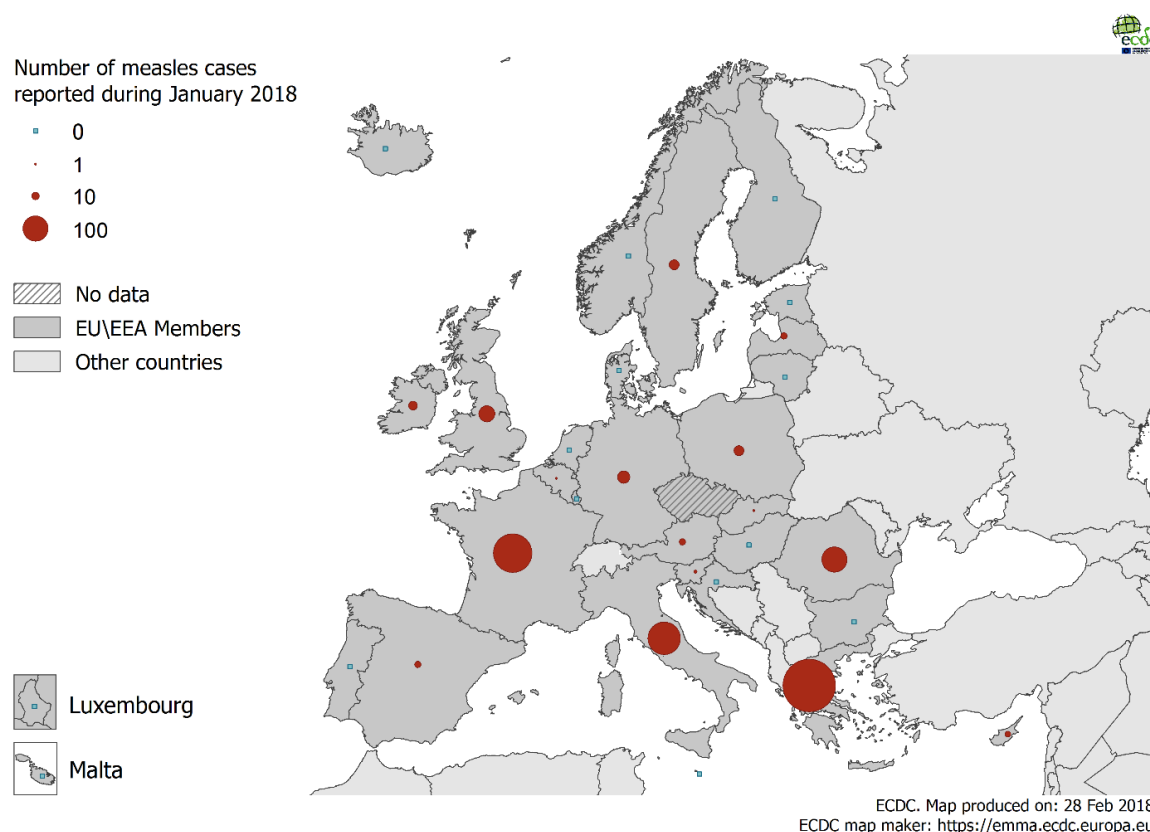
Measles

January 2018

Fifteen EU/EEA countries reported 1 073 cases of measles for January 2018 (Source: TESSy). Greece and France in particular, reported an increased number of cases. The Czech Republic did not report data for January 2018. The distribution of cases by country for January 2018 is presented in Figure 1.

Greece reported 431 cases in January 2018 compared with 342 in December 2017 and 250 cases (including one death) in November 2017. 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 9 March 2018.

France reported 231 cases (including one death) for January 2018, an increase from 65 cases in December 2017 and 11 in November 2017. For more information on this outbreak in the Aquitaine region, see the most recent updates from the [Regional Public Health Agency \(L'ARS Nouvelle-Aquitaine\)](#) and the [CDTR](#) of 9 March 2018. Measles outbreaks are also ongoing in other EU/EEA countries ([CDTR](#)).

Figure 1. Distribution of measles cases by country, January 2018 (n =1 073), EU/EEA countries

February 2017–January 2018

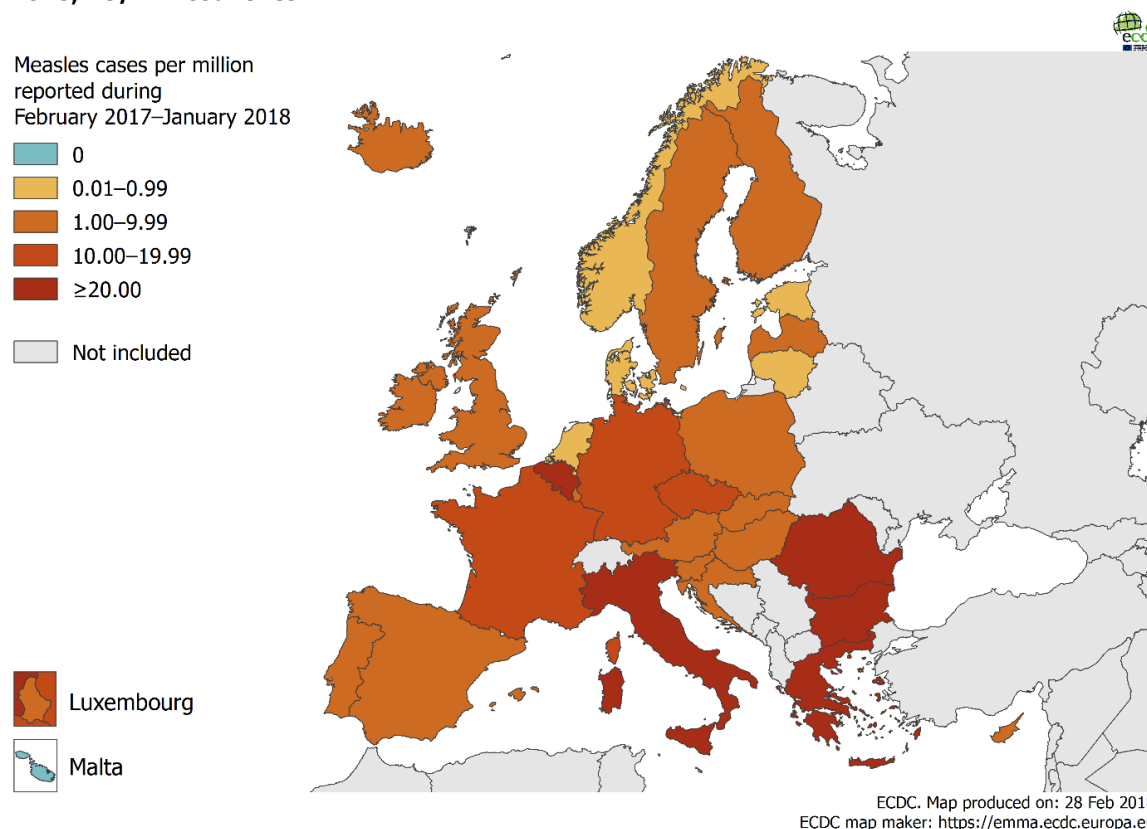
Between 1 February 2017 and 31 January 2018, EU/EEA Member States reported 14 732 cases of measles (Source: TESSy). All EU/EEA countries (except Malta) reported measles cases for the 12-month period. The number of measles cases reported to TESSy may be an underestimation, in particular for Romania. The 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 \(INSP\)](#). ECDC published a [Rapid Risk Assessment](#) on the outbreak in Romania.

During the period 1 February 2017 to 31 January 2018, most cases were reported by Romania (5 224), Italy (4 978), Greece (1 398) and Germany (906), accounting for 35%, 34%, 9% and 6%, 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 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 February 2017–31 January 2018, EU/EEA countries

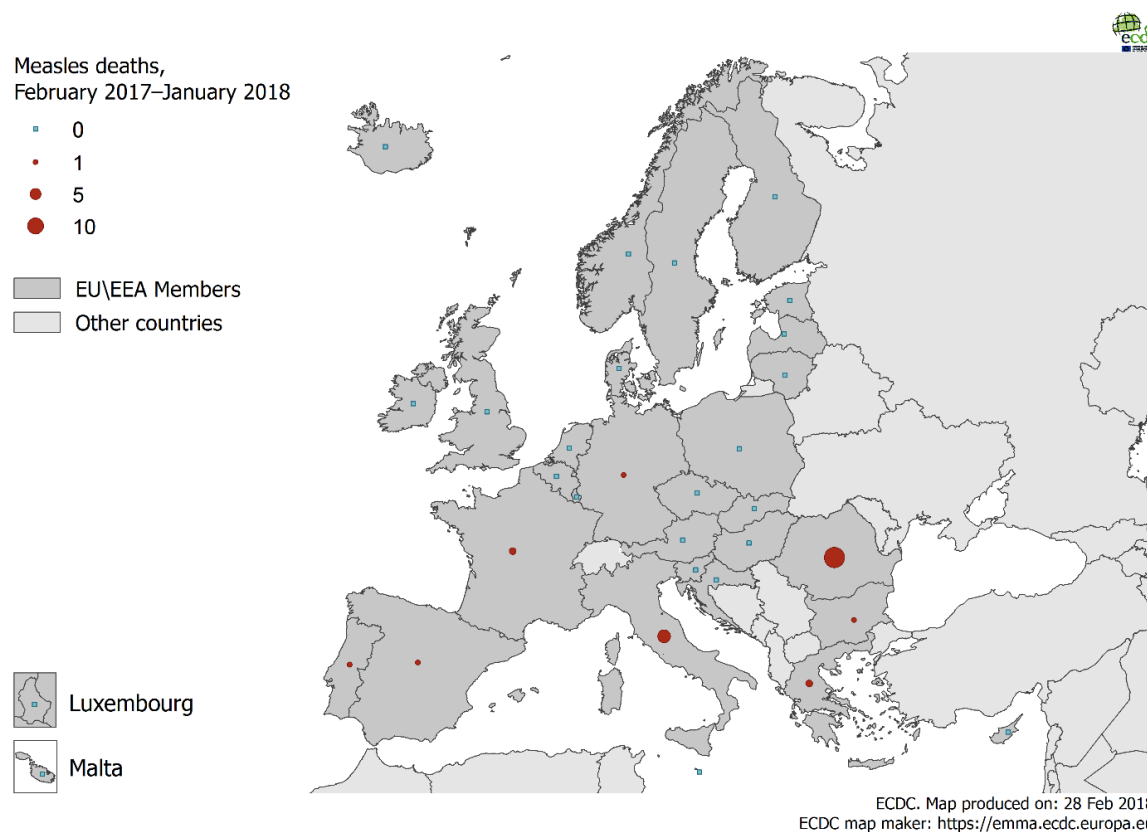
| Country | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2018 | Total cases | Cases per million | Total lab-positive cases |
|----------------|-------|-------|-------|-------|------|------|------|------|------|------|------|-------|-------------|-------------------|--------------------------|
| | Feb | Mar | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec | Jan | | | |
| Austria | 34 | 8 | 2 | 6 | 1 | 2 | 2 | 1 | 2 | 8 | 1 | 7 | 74 | 8.52 | 59 |
| Belgium | 79 | 150 | 35 | 21 | 34 | 16 | 0 | 2 | 0 | 3 | 1 | 1 | 342 | 30.24 | 219 |
| Bulgaria | 0 | 19 | 41 | 57 | 44 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 166 | 23.2 | 86 |
| Croatia | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1.19 | 5 |
| Cyprus | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 8 | 9.43 | 8 |
| Czech Republic | 0 | 21 | 64 | 43 | 7 | 1 | 0 | 0 | 0 | 6 | 4 | NR | 146 | 13.83 | 140 |
| Denmark | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 4 | 0.7 | 4 |
| Estonia | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.76 | 1 |
| Finland | 0 | 0 | 0 | 0 | 1 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 10 | 1.82 | 10 |
| France | 54 | 49 | 62 | 114 | 43 | 39 | 15 | 19 | 13 | 11 | 65 | 231 | 715 | 10.71 | 452 |
| Germany | 157 | 212 | 178 | 137 | 77 | 23 | 50 | 16 | 9 | 9 | 14 | 24 | 906 | 11.03 | 632 |
| Greece | 0 | 0 | 0 | 3 | 1 | 7 | 71 | 126 | 167 | 250 | 342 | 431 | 1 398 | 129.64 | 827 |
| Hungary | 11 | 3 | 0 | 0 | 0 | 9 | 10 | 1 | 1 | 0 | 0 | 0 | 35 | 3.56 | 35 |
| Iceland | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 9.02 | 3 |
| Ireland | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 9 | 5 | 13 | 38 | 8.04 | 32 |
| Italy | 471 | 943 | 816 | 744 | 602 | 543 | 236 | 160 | 126 | 65 | 104 | 168 | 4 978 | 82.06 | 3 925 |
| Latvia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 3.56 | 7 |
| Lithuania | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.69 | 2 |
| Luxembourg | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 6.94 | 4 |
| Malta | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Netherlands | 0 | 0 | 2 | 6 | 2 | 1 | 1 | 1 | 3 | 0 | 0 | 0 | 16 | 0.94 | 15 |
| Norway | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.19 | 1 |
| Poland | 6 | 5 | 4 | 2 | 4 | 6 | 1 | 12 | 13 | 3 | 1 | 17 | 74 | 1.95 | 50 |
| Portugal | 2 | 10 | 18 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 3.29 | 29 |
| Romania | 843 | 1 338 | 1 220 | 1 029 | 100 | 100 | 100 | 91 | 101 | 102 | 100 | 100 | 5 224 | 264.37 | 1 969 |
| Slovakia | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 7 | 1.29 | 7 |
| Slovenia | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 7 | 3.39 | 7 |
| Spain | 30 | 22 | 10 | 38 | 19 | 9 | 10 | 2 | 0 | 1 | 11 | 7 | 159 | 3.42 | 149 |
| Sweden | 8 | 7 | 3 | 4 | 0 | 0 | 2 | 2 | 2 | 0 | 11 | 17 | 56 | 5.68 | 56 |
| United Kingdom | 1 | 8 | 17 | 34 | 25 | 22 | 12 | 18 | 22 | 65 | 46 | 42 | 312 | 4.77 | 312 |
| Total | 1 705 | 2 802 | 2 474 | 2 244 | 962 | 789 | 518 | 451 | 469 | 534 | 711 | 1 073 | 14 732 | 28.6 | 9 046 |

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



Thirty-one deaths due to measles were reported to TESSy during the 12-month period; with 16 in Romania, seven in Italy, two each in France and Greece, and one each in Bulgaria, Germany, Portugal and Spain (Figure 3).

Figure 3. Distribution of measles deaths by country, 1 February 2017–31 January 2018 (n=31), EU/EEA countries



Importation status was known for 13 798 cases (94%) and was reported by 28 countries. Among cases with known importation status, 11 815 (86%) were reported to be endemic, 1 597 (12%) import-related and 386 (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 14 732 cases with known age, 5 284 (36%) were children less than five years of age, while 6 656 (45%) were aged 15 years or older. The highest incidence was reported in children below one year of age (359.8 cases per million) and children from 1 to 4 years of age (162.8 cases per million). These data are also published in the [ECDC Surveillance Atlas of Infectious Diseases](#).

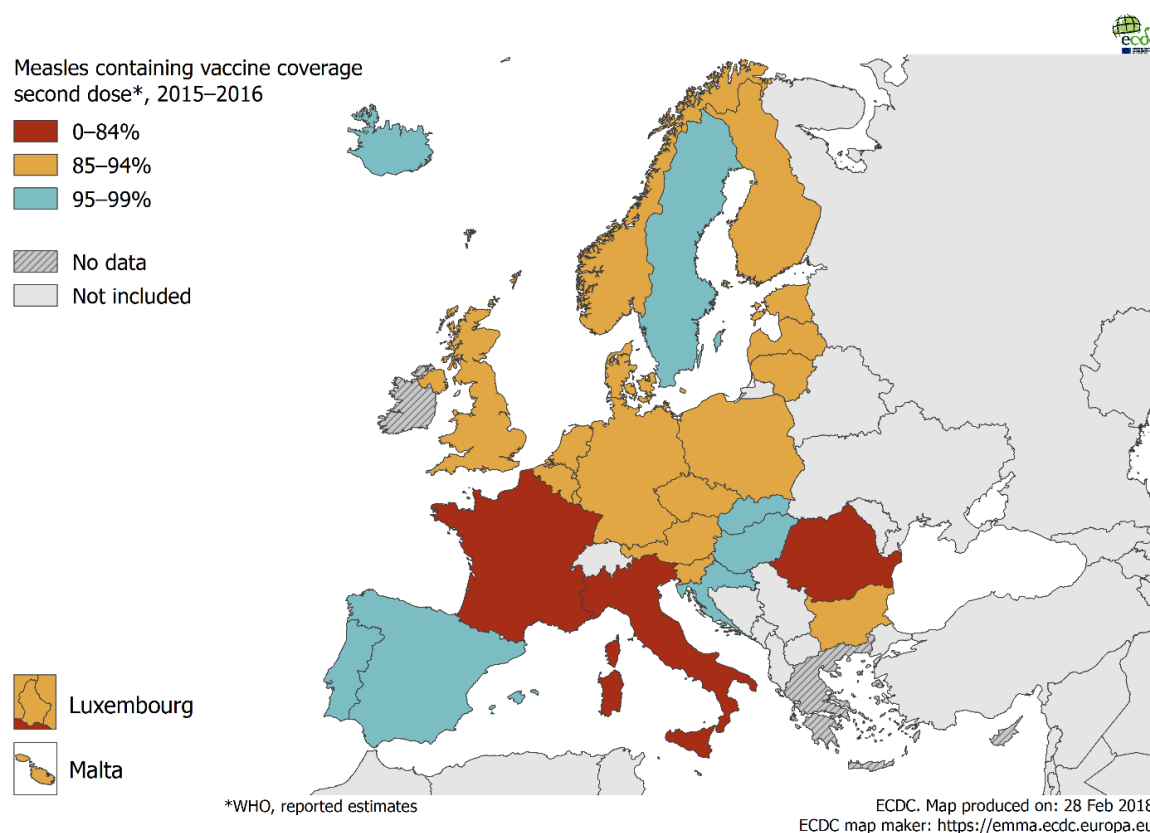
Of 13 783 cases with known vaccination status, 87% were unvaccinated, 8% were vaccinated with one dose of measles-containing vaccine, 3% were vaccinated with two or more doses, and 2% were vaccinated with an unknown number of doses. Of all cases, 6% had an unknown vaccination status. The proportion of cases with unknown vaccination status was highest in adults aged 25–29 years, reaching 14%.

Among the cases aged one to four, 86% were unvaccinated, 11% were vaccinated with one dose of measles-containing vaccine, 0% with two doses or more, 1% with an unknown number of doses and 2% had an unknown vaccination status.

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%.

Measles continues to spread across Europe as the vaccination coverage in many EU/EEA countries is suboptimal. Latest data (from 2015–2016) on vaccination coverage for the second dose of measles-containing vaccine shows coverage was below 95% in 20 of 27 EU/EEA countries with data (Figure 4). If the elimination goal is to be reached, vaccination coverage needs to increase in a number of countries as 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

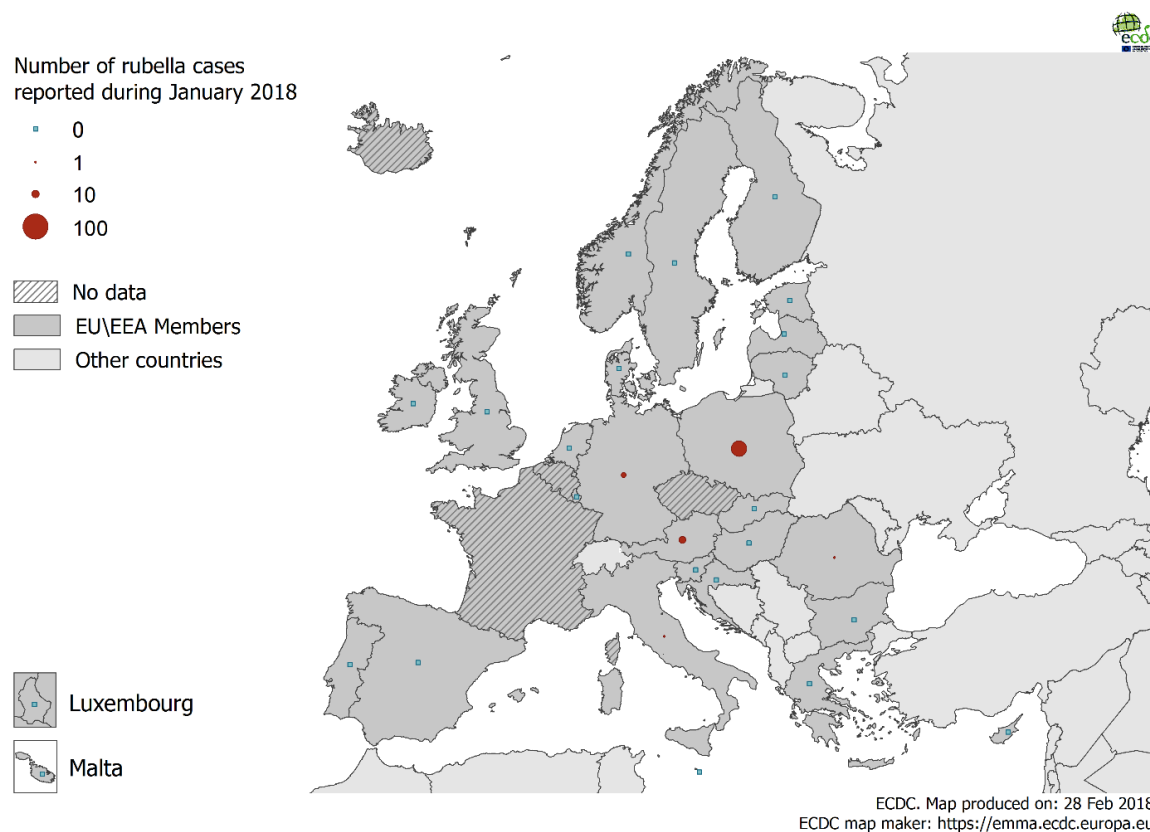
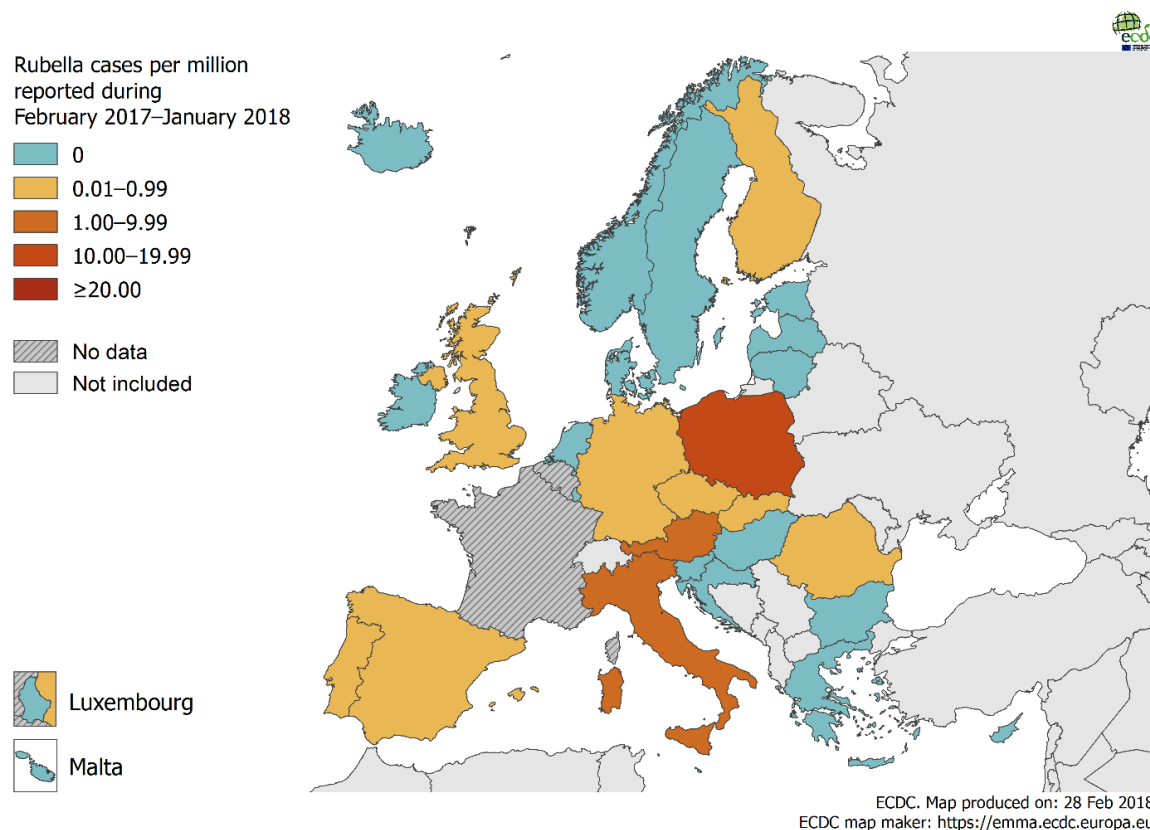
Between 1 February 2017 and 31 January 2018, EU/EEA Member States reported 691 cases of rubella (Source: TESSy). Belgium and France do not report rubella cases to TESSy. The Czech Republic and Iceland did not report data for January 2018.

In this 12-month period, the highest number of cases were reported by Poland (486), Germany (72), Italy (65) and Austria (47) accounting for 70%, 10%, 9% and 7% of reported cases, respectively. In January 2018, five EU/EEA countries reported 53 cases, of which 39 were reported by Poland.

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 January 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, 1 February 2017–31 January 2018, EU/EEA countries

| Country | 2017 Feb | 2017 Mar | 2017 Apr | 2017 May | 2017 June | 2017 July | 2017 Aug | 2017 Sep | 2017 Oct | 2017 Nov | 2017 Dec | 2018 Jan | Total cases | Cases per million | Total lab- positive cases |
|----------------|-------------|-------------|-------------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------------------------|---------------------------------|
| Austria | 0 | 24 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 7 | 5 | 8 | 47 | 5.41 | 44 |
| Bulgaria | 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 |
| Cyprus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Czech Republic | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 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 | 1 | 0 | 0 | 0 | 1 | 0.18 | 1 |
| Germany | 5 | 8 | 7 | 9 | 9 | 6 | 4 | 4 | 9 | 4 | 3 | 4 | 72 | 0.88 | 9 |
| 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 | NR | 0 | 0 | 0 |
| Ireland | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Italy | 8 | 15 | 11 | 12 | 6 | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 65 | 1.07 | 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 | 39 | 44 | 43 | 57 | 45 | 44 | 37 | 31 | 40 | 34 | 33 | 39 | 486 | 12.8 | 4 |
| Portugal | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0.39 | 0 |
| Romania | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 9 | 0.46 | 6 |
| Slovakia | 0 | 0 | 1 | 0 | 0 | 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 | 1 | 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 | 0 |
| United Kingdom | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 0.05 | 3 |
| Total | 54 | 92 | 66 | 82 | 60 | 54 | 44 | 40 | 54 | 49 | 43 | 53 | 691 | 1.6 | 99 |

Figure 5. Distribution of rubella cases by country, January 2018 (n =53), EU/EEA countries**Figure 6. Rubella notification rate per million population by country, 1 February 2017–31 January 2018, EU/EEA countries**

Data from Poland were reported in an aggregated format and should be interpreted with caution, as only four cases were confirmed through laboratory testing during the 12-month period. The highest number of cases in

Poland was observed in children, with 50% of cases in children less than five years of age and 28% 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

