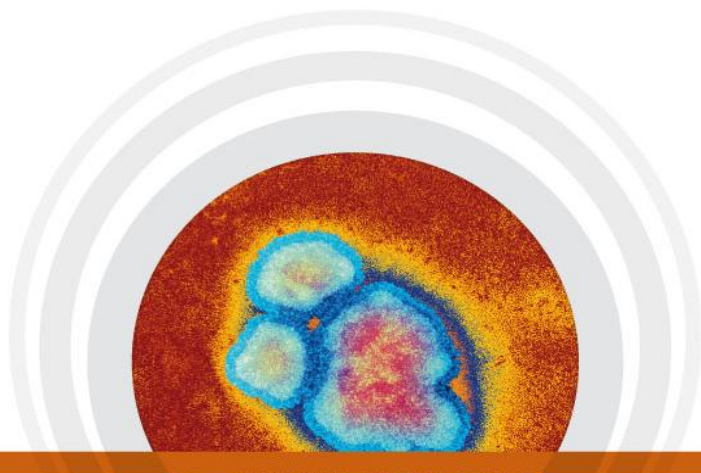




SURVEILLANCE REPORT

Measles and rubella monitoring

October 2013

Main developments

Measles

- During the most recent 12-month period (November 2012 to October 2013) the 30 EU/EEA countries conducting measles surveillance reported 10 678 cases.
- Germany, Italy, the Netherlands, Romania and the United Kingdom accounted for 94% of the cases in this period.
- In eleven countries, the measles notification rate was less than one case per million population during the last 12 months.
- Sixty-two percent of the cases had a positive result in a measles laboratory test (serology, virus detection, or isolation).
- Of the 10 129 cases for which information on vaccination status was available, 83% were unvaccinated. In the target group for routine childhood MMR vaccination (1–4-year-olds), 81% of the cases were unvaccinated.
- Three measles-related deaths were reported during the period November 2012 to October 2013, and eight cases were complicated by acute measles encephalitis.

Rubella

- The 27 EU/EEA countries reported 39 122 rubella cases during the most recent 12-month period between November 2012 and October 2013. Twenty-five countries reported consistently for the 12-month period.
- Poland accounted for 99% of all reported rubella cases in the 12-month period; 88% of these cases were either unvaccinated or had an unknown vaccination status.
- Less than 1% of the cases had a positive result in a rubella laboratory test.

Erratum

This issue of the report was modified on 5 February 2014 to accommodate updated case numbers reported by some Member States. This version of the report replaces the issue published on 7 January 2014.

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Measles

Surveillance data

The enhanced measles surveillance data were retrieved from The European Surveillance System (TESSy) on 28 January 2014. The analysis covered the 12-month period from November 2012 to October 2013. All 30 contributing EU/EEA countries reported case-based data for all 12 months, except Lithuania which reported aggregated data.

During the period the countries which reported most cases were Germany (16%), Italy (17%), the Netherlands (22%), Romania (16%) and the United Kingdom (21%).

During the period November 2012 to October 2013, 10 678 cases of measles were reported.. The number of cases and notification rate by country for the past 12 months are shown in Table 1 and Figures 5 and 6. The highest notification rate was among infants under one year of age (167.8 cases per million population), followed by children aged between one and four years (87.7 cases per million population) and adolescents between 10 and 14 years (71.5 per million population) (Figure 4).

Sixty-two percent of the cases tested positive in a measles laboratory test (serology, virus detection or isolation); there were large variations between countries in the proportion of laboratory-confirmed cases.

Vaccination status was known for 95% of the 10 675 cases reported with known age. Of these 10 129 cases, 83% (8 910 cases) were unvaccinated, 8% (826) had received one dose of measles vaccine, 0.4% (42) had received two or more doses, and 3% (351) had received an unknown number of doses. The proportion of unvaccinated cases was high across all age groups (Figure 3), and highest among children under one year of age (98%), who are often too young to be eligible for vaccination. Among the 1–4-year-olds, which is the age group targeted by routine childhood vaccination programmes, 81% of the cases were unvaccinated.

Over the last 12 months, eight cases were complicated by acute measles encephalitis and there were three deaths.

The number of cases observed in 2013 remains low compared to the epidemic years in 2010 and 2011 (Figure 2). However, the number remains unacceptably high, considering that measles and rubella are targeted for elimination in Europe by 2015. Efforts already in place by Member States must continue and be expanded and accelerated in order to eliminate measles from Europe.

Figure 1. Number of measles cases in 2012 and 2013 and number of European countries reporting, by month

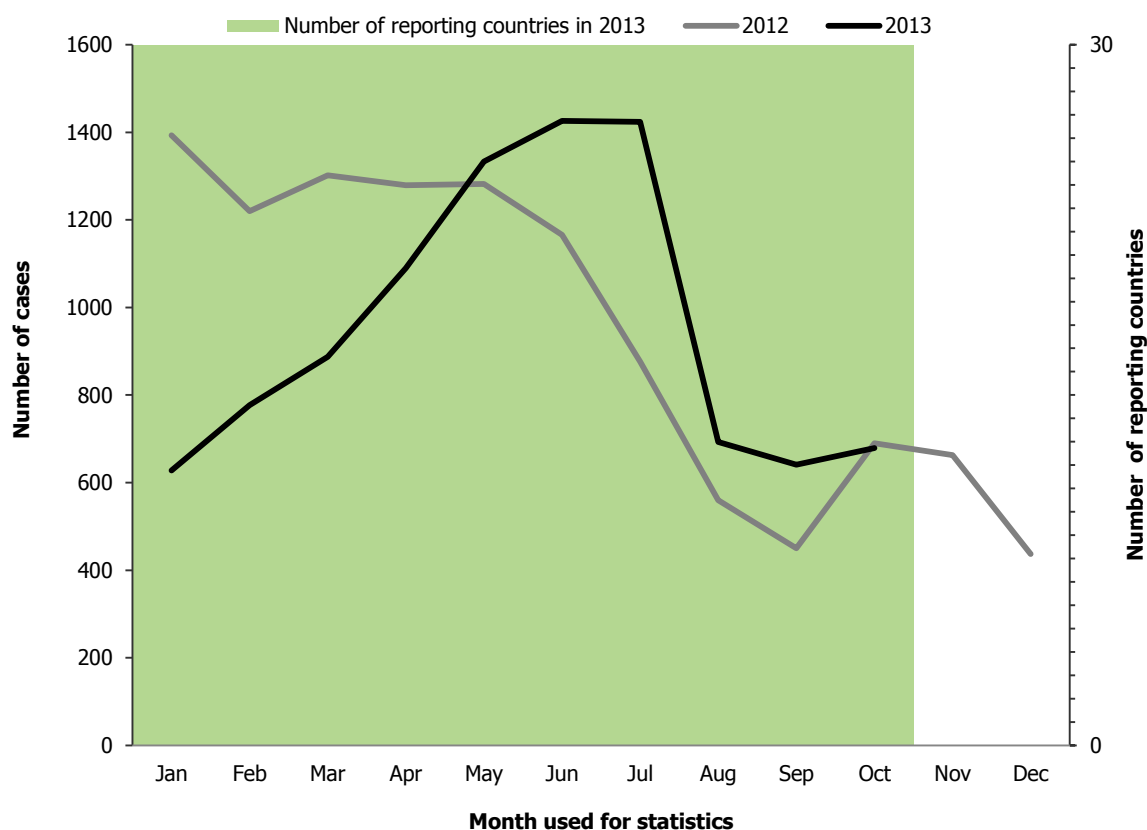
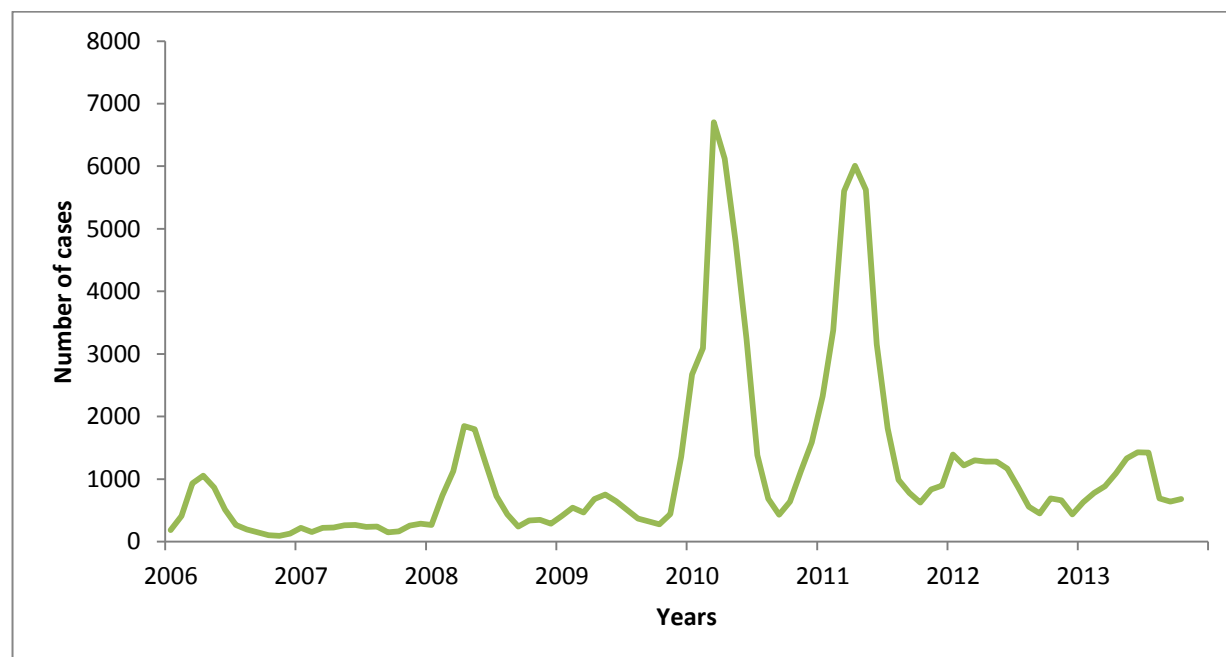


Figure 2. Number of measles cases by month, EU/EEA countries, January 2006—October 2013

Note: During the period 2006–2013, 29 EU/EEA countries consistently reported measles cases every month. All 30 countries are included in the figure; Croatia is included from 2012 onwards.

Table 1. Number of measles cases by month and notification rate (cases per million) by country, November 2012– October 2013, EU/EEA countries

Country	2012 Nov	2012 Dec	2013 Jan	2013 Feb	2013 Mar	2013 Apr	2013 May	2013 Jun	2013 Jul	2013 Aug	2013 Sep	2013 Oct	Total cases	Cases per million	Total lab-positive cases
Austria	0	0	4	8	8	11	11	5	0	6	5	9	67	7.9	40
Belgium	5	2	3	2	5	5	13	6	2	2	0	0	45	4.1	10
Bulgaria	0	0	0	0	0	0	6	7	2	0	0	1	16	2.2	13
Croatia	0	0	0	0	0	0	0	0	0	1	0	0	1	0.2	0
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Czech Republic	0	0	0	3	3	4	3	1	0	0	0	0	14	1.3	13
Denmark	0	0	3	0	8	6	0	0	0	0	0	0	17	3.0	13
Estonia	0	1	0	0	1	1	0	0	0	0	0	0	3	2.2	3
Finland	0	0	1	0	0	0	1	0	0	0	0	0	2	0.4	0
France	27	17	26	22	23	46	37	34	25	13	13	15	298	4.6	129
Germany	4	6	9	9	44	136	499	391	306	127	108	76	1715	21.0	999
Greece	0	0	2	1	0	0	0	0	0	0	0	0	3	0.3	3
Hungary	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1	1
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Ireland	1	0	1	4	0	4	10	7	2	4	2	16	51	11.1	28
Italy	6	11	83	204	213	210	360	386	199	73	42	38	1825	30.0	1034
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Lithuania	0	0	0	0	0	0	27	7	0	0	1	0	35	11.6	0
Luxembourg	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Malta	0	0	0	0	2	0	0	0	0	0	0	0	2	4.8	2
Netherlands	0	0	1	4	10	5	18	295	700	408	441	470	2352	140.6	727
Norway	0	0	0	0	1	0	0	7	0	0	0	0	8	1.6	8
Poland	8	12	4	9	7	20	12	17	10	3	1	1	104	2.7	72
Portugal	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1	1
Romania	336	269	208	219	181	146	80	105	59	26	9	22	1660	77.7	1141
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Slovenia	0	0	0	0	0	0	0	0	1	0	0	0	1	0.5	1
Spain	3	3	5	15	13	15	15	18	31	8	4	3	133	2.9	111
Sweden	0	1	4	8	9	1	8	16	6	0	0	0	53	5.6	51
United Kingdom	273	115	274	269	358	479	233	124	81	22	15	28	2271	36.7	2267
Total	663	437	628	777	887	1090	1333	1426	1424	693	641	679	10678	20.9	6667

NR: data not reported.

Notification rates were calculated using the most recent population estimates available from Eurostat (2012).

Countries with a notification rate ≥ 1 per million population are highlighted in green. The target to monitor progress towards elimination is achievement of an incidence of less than one case per million population per year (including confirmed, probable and possible cases but excluding imported cases). Achieving the target is consistent with progress towards measles elimination but does not define measles elimination or confirm that it has been achieved. In the table all cases (endemic, imported, import-related) are included for the calculation of the notification rate.

For countries that did not report data for all 12 months, notification rates might be underestimated.

All confirmed, probable, possible or unknown cases, as defined by the EU 2008 case definitions, are included.

For tables relating to number of measles cases in previous years, see:

http://www.ecdc.europa.eu/en/healthtopics/measles/epidemiological_data/pages/annual_epidemiological_reports.aspx

Figure 3. Measles notification rate (cases per million) by age group, November 2012–October 2013, EU/EEA countries (N=10 675 cases with known age)

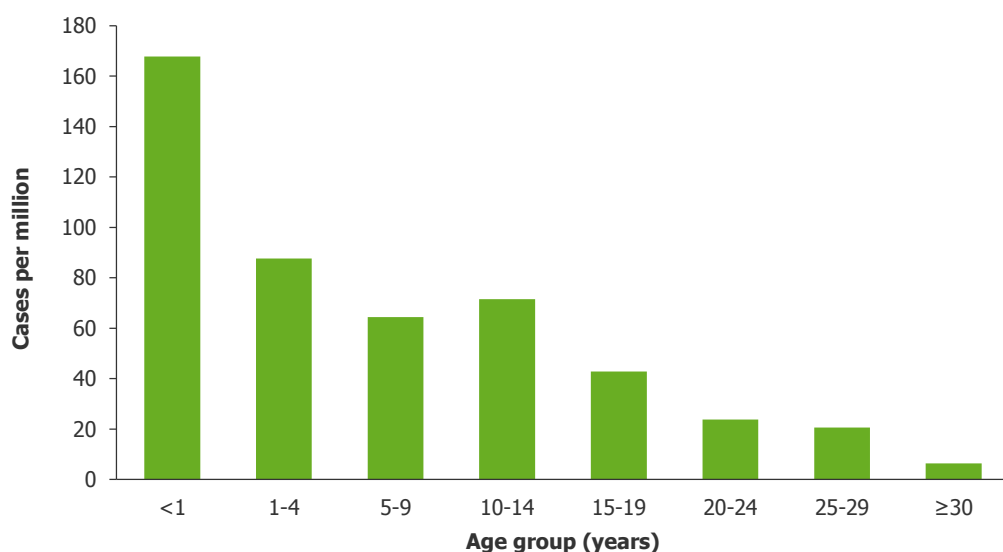


Figure 4. Proportion of vaccination status among measles cases by age group, November 2012–October 2013, EU/EEA countries (N=10 675, cases with known age)

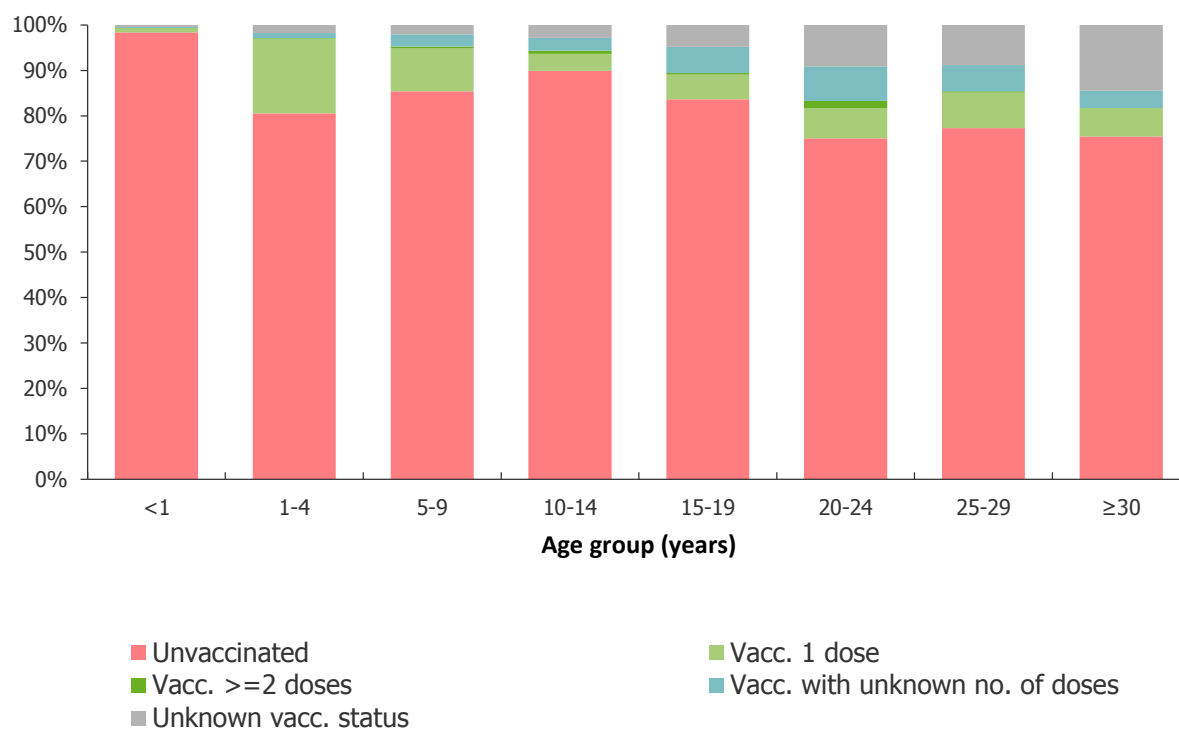
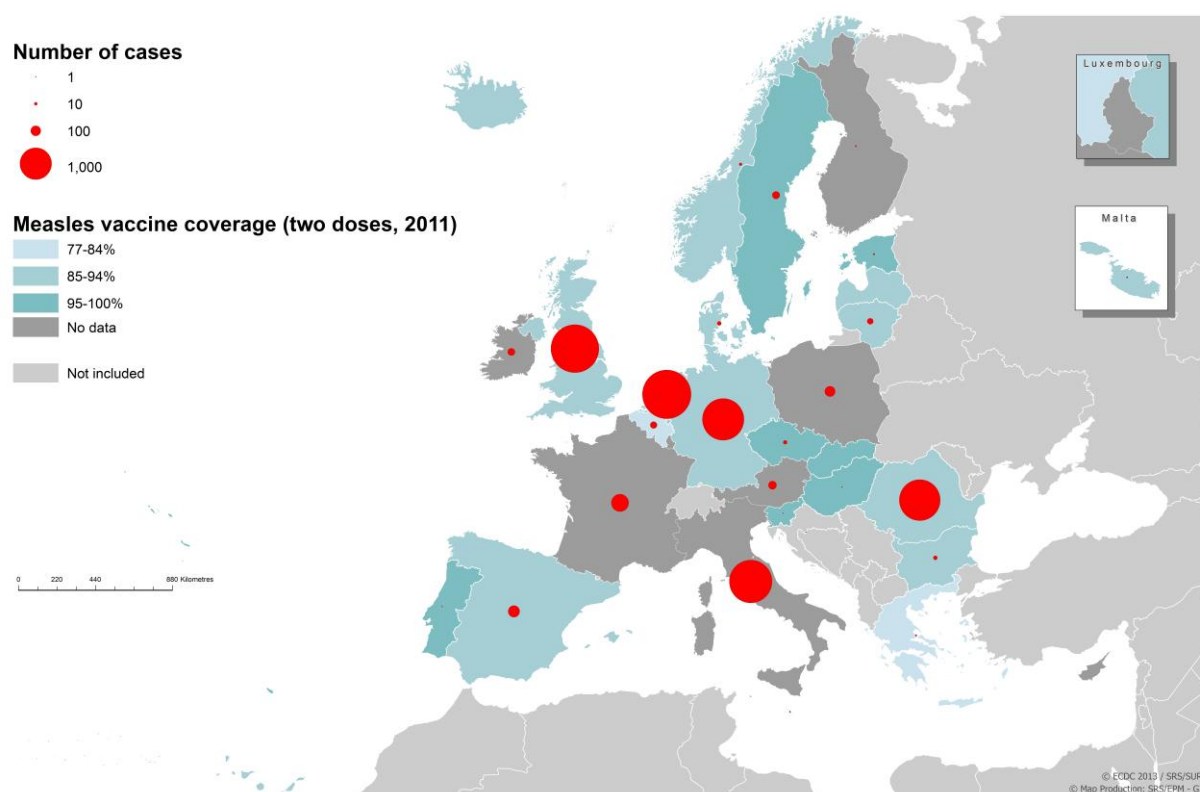
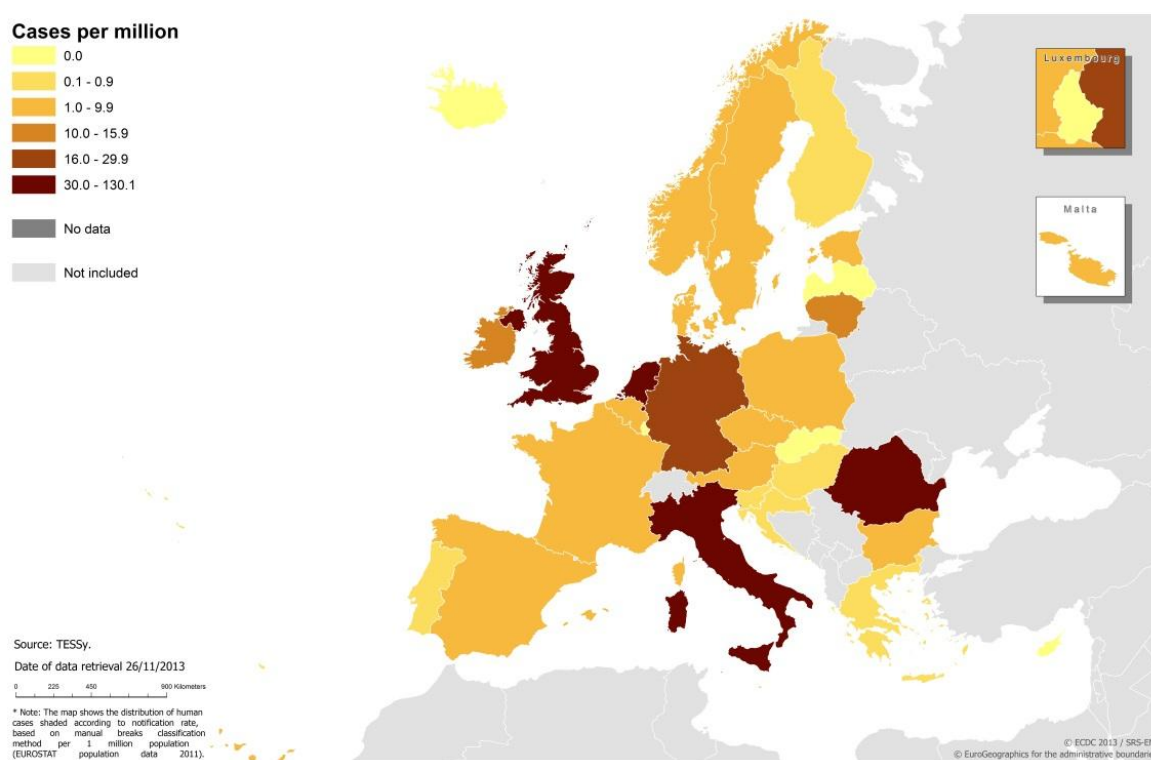


Figure 5. Number of measles cases by country, November 2012–October 2013, EU/EEA countries (N=10 678), and two doses measles vaccine coverage (2011 CISID*)



* Coverage figures (%) are official national figures reported via the annual WHO/UNICEF Joint Reporting Form and WHO Regional Office for Europe reports.

Figure 6. Measles notification rate (cases per million) by country, November 2012–October 2013, EU/EEA countries (N=10 678)



For interactive maps relating to measles see <http://emmageocase.ecdc.europa.eu/atlas/measles>

Rubella

Enhanced surveillance data

The enhanced rubella surveillance data were retrieved from The European Surveillance System (TESSy) on 28 January 2014. The analysis covers the 12-month period between November 2012 and October 2013.

Of the 27 contributing countries, 25 reported data for the entire period. Italy did not report for the entire 12-month period, and Netherlands did not report data for October 2013.

Three EU countries – Belgium, France and Germany – do not operate rubella surveillance systems with national coverage and hence do not contribute data to the EU/EEA enhanced rubella surveillance.

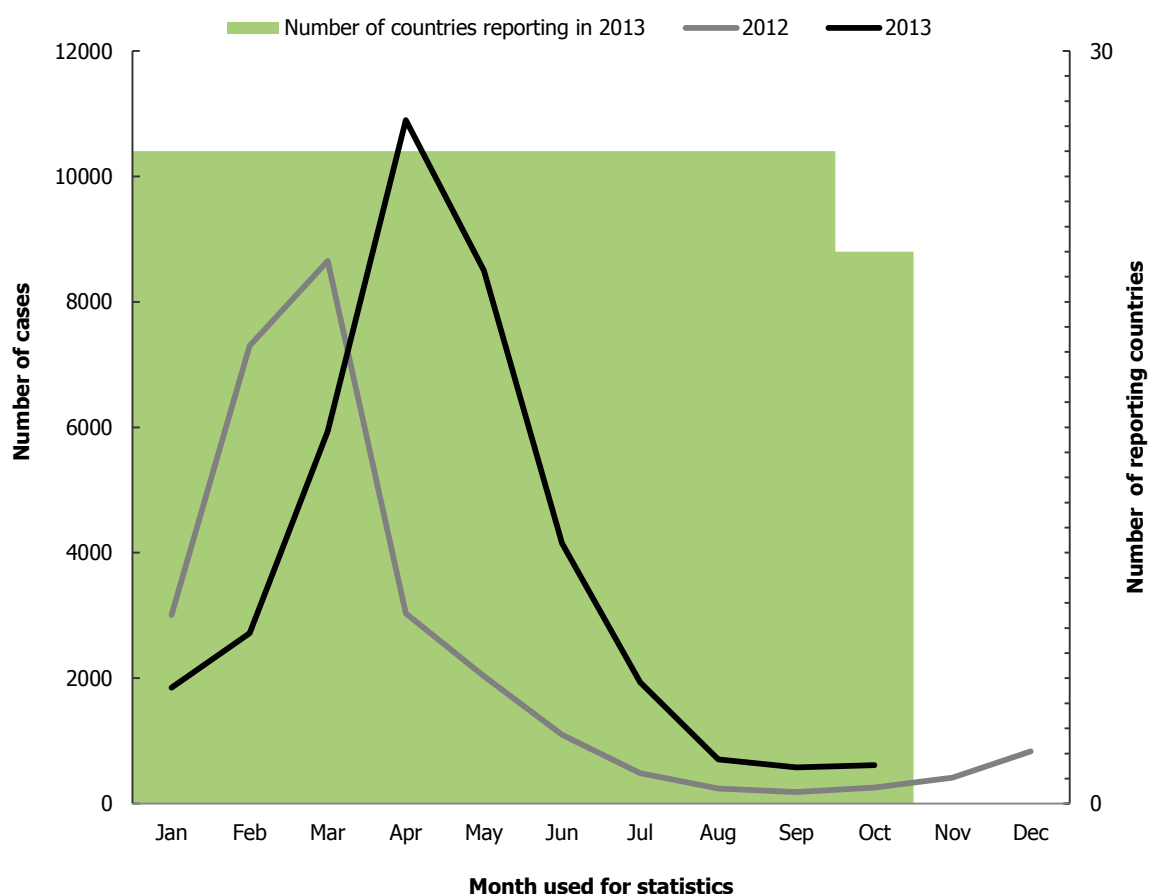
During the period November 2012 and October 2013, 39 122 cases of rubella were reported.

The number of cases and notification rate by country for the past 12 months are shown in Table 2, and Figures 9 and 10.

Poland accounted for 99% of all reported rubella cases in the 12-month period (38 851 cases), and the cases were reported in an aggregated format. None of the 38 851 cases was reported with a positive laboratory test and the cases related to 2013 were reported with unknown age group. A total of 23 813 cases (61%) were unvaccinated, 3 834 (10%) cases were vaccinated with one dose, 577 (1%) cases with two or more doses and 10 627 (27%) cases had an unknown vaccination status.

Less than 1% of the cases were reported as laboratory-confirmed (by serology, virus detection or isolation).

Figure 7. Number of rubella cases in 2012 and 2013 and number of European countries reporting, by month



Note: Belgium, France, and Germany do not have rubella surveillance with national coverage.

Table 2. Number of rubella cases by month and notification rate (cases per million) by country, November 2012–October 2013, EU/EEA countries

Country	2012	2012	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	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	1	4	4	0	1	0	0	0	10	1.2	6
Belgium	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	-
Bulgaria	3	0	1	1	1	0	3	0	0	0	2	0	11	1.5	1
Croatia	0	0	0	0	0	0	0	0	1	0	0	NR	1	0.2	1
Cyprus	0	0	0	0	0	0	0	0	0	0	0	NR	0	0.0	0
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Denmark	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Estonia	0	0	0	0	0	0	0	2	0	0	0	0	2	1.5	2
Finland	0	0	0	0	0	1	0	1	0	0	0	0	2	0.4	0
France	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	-
Germany	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	-
Greece	0	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	0
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Ireland	1	0	0	0	1	1	2	0	1	0	1	2	9	2.0	0
Italy	3	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	3	0.0	0
Latvia	0	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	0
Luxembourg	0	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	0
Netherlands	0	0	0	0	0	2	0	12	43	0	0	NR	57	3.4	15
Norway	0	0	1	1	0	0	1	0	0	0	0	0	3	0.6	3
Poland	402	831	1833	2690	5918	10856	8466	4114	1876	690	569	606	38851	1008.2	0
Portugal	1	0	0	1	0	0	0	0	0	0	0	0	2	0.2	0
Romania	1	0	15	21	13	26	18	19	11	14	7	3	148	6.9	104
Slovakia	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	0
Slovenia	0	0	0	0	0	0	0	0	0	0	0	NR	0	0.0	0
Spain	0	1	0	0	0	2	1	0	0	0	0	0	4	0.1	4
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
United Kingdom	2	2	1	0	3	3	1	2	1	1	1	1	18	0.3	15
Total	413	834	1851	2714	5937	10895	8496	4150	1934	705	580	613	39122	110.7	151

The national surveillance system for rubella in Denmark currently only captures rubella infections during pregnancy; therefore the true incidence of rubella in the Danish population will be underestimated.

NR: data not reported.

Notification rates were calculated using the most recent population estimates available from Eurostat (2012).

Countries with a notification rate ≥ 1 per million population are highlighted in green. The target to monitor progress toward elimination is achievement of an incidence of less than one case per million population per year (including confirmed, probable and possible cases but excluding imported cases). Achieving the target is consistent with progress towards rubella elimination but does not define rubella elimination or confirm that it has been achieved. In the table all cases (endemic, imported, import-related) are included for the calculation of the notification rate.

For countries that did not report data for all 12 months, notification rates might be underestimated.

All confirmed, probable, possible or unknown cases, as defined by the EU 2008 case definition, are included.

Cases were defined as laboratory-positive if at least one of the following variables was reported as positive: serological test for IgG, serological test for IgM, virus detection or isolation or IgG avidity test.

For tables relating to number of rubella cases in previous years, see:

http://www.ecdc.europa.eu/en/healthtopics/rubella/epidemiological-data/pages/epidemiological_data.aspx

Figure 8. Rubella notification rate (cases per million) by age group, November 2012–October 2013, EU/EEA countries (N=1 504 cases with known age)

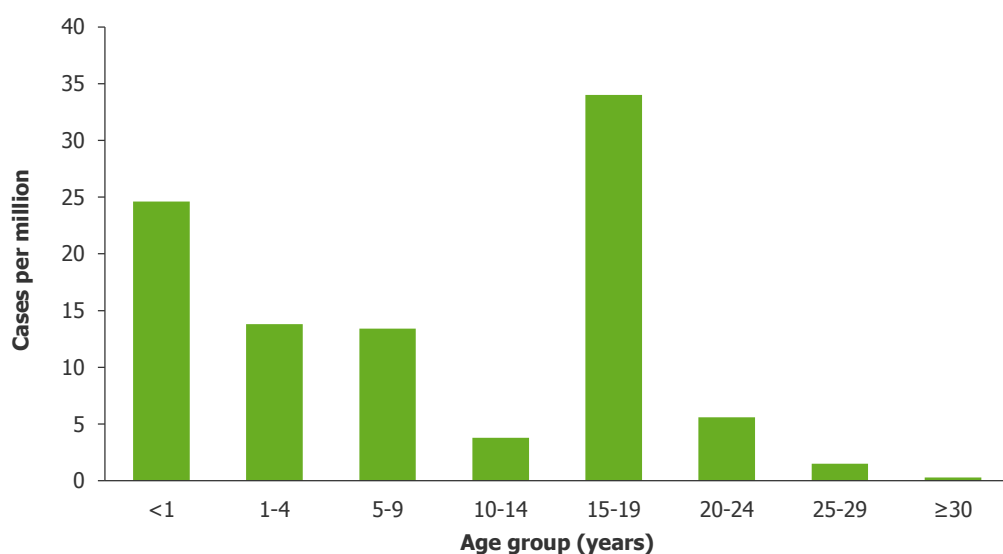
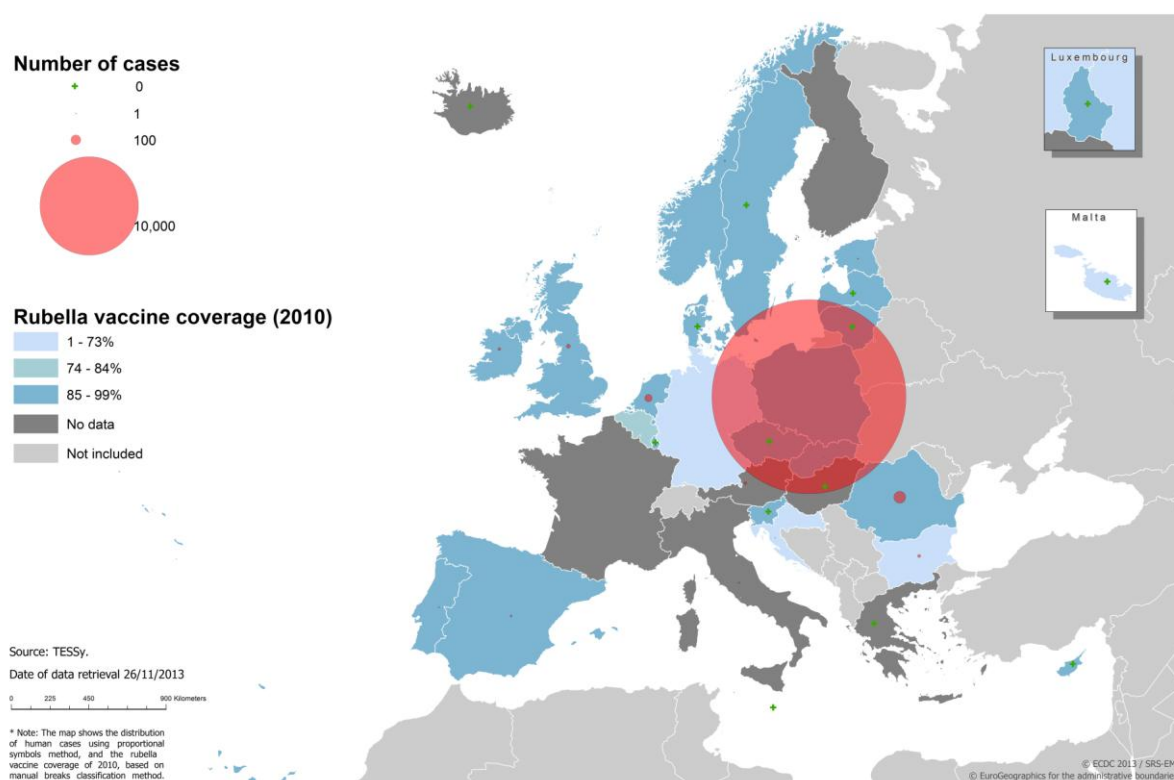
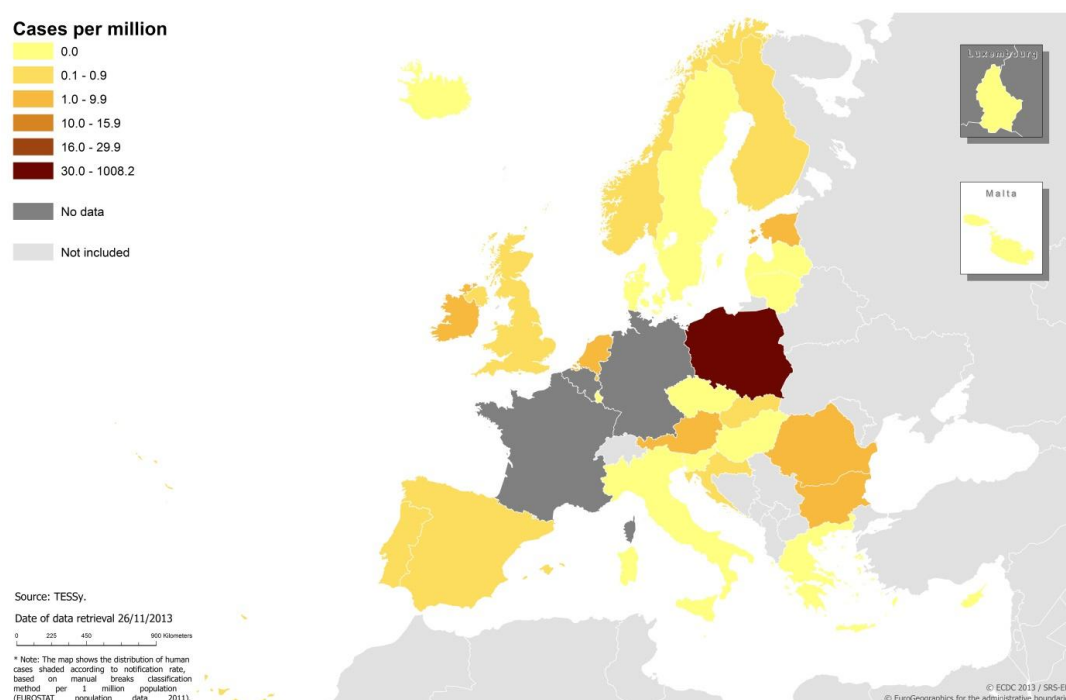


Figure 9. Number of rubella cases by country, November 2012–October 2013 (N=39 122), and two-dose rubella vaccine coverage (2010 CISID), EU/EEA countries



* Coverage figures (%) are official national figures reported via the annual WHO/UNICEF Joint Reporting Form and WHO Regional Office for Europe reports.

Figure 10. Rubella notification rate (cases per million) by country, November 2012–October 2013, EU/EEA countries (N=39 122)



Useful links

More information about measles and rubella is available on the ECDC website:

Measles health topic page <http://ecdc.europa.eu/en/healthtopics/measles/Pages/index.aspx>

Rubella health topic page <http://ecdc.europa.eu/EN/HEALTHTOPICS/RUBELLA/Pages/index.aspx>

ECDC Measles Atlas to monitor progress toward elimination: <http://emmageocase.ecdc.europa.eu/atlas/measles>

Vaccination schedules in EU/EEA countries: <http://vaccine-schedule.ecdc.europa.eu/Pages/Scheduler.aspx>

'Let's talk about protection', practical resources developed to help frontline healthcare professionals involved with immunisation services: <http://ecdc.europa.eu/EN/HEALTHTOPICS/IMMUNISATION/COMMS-AID/Pages/protection.aspx>

Information about vaccines and immunisation from the website of the World Health Organization's Regional Office for Europe: <http://www.euro.who.int/en/what-we-do/health-topics/communicable-diseases/measles-and-rubella>

Website of the WHO CISID database: <http://data.euro.who.int/cisid/>

More information on the surveillance of vaccine-preventable diseases in the European Union is available from the [EUVAC-Net](#) website.

Immunisation health topic page: <http://ecdc.europa.eu/en/healthtopics/immunisation/pages/index.aspx>

Notes

- The European Surveillance System (TESSy) reports a 'date used for statistics', which is a date chosen by the country for reporting purposes. Such date may indicate onset of disease, date of diagnosis, date of notification or date of laboratory confirmation, according to reporting practices in the respective countries.
- Countries report on measles, rubella and other vaccine-preventable diseases to the European Surveillance System at their own convenience. This means that the date of retrieval can influence the data presented in this report. For this reason, the date of data retrieval is indicated for each issue. For this issue, measles data and rubella data were retrieved on 28 January 2014. Later retrievals of data may result in slightly different numbers as countries have the possibility to update data in The European Surveillance System retrospectively.