

SURVEILLANCE REPORT

Measles and rubella monitoring

November 2012

Main developments

Measles and rubella are targeted for elimination in Europe by 2015. ECDC closely monitors progress towards interruption of endemic transmission of both diseases through enhanced surveillance and epidemic intelligence. Measles and rubella vaccinations are routinely delivered as a trivalent measles-mumps-rubella (MMR) vaccine in Europe; the first of the two recommended doses is normally given during the second year of life.

Measles

- The 29 contributing EU/EEA countries reported 5640 cases of measles between January and September 2012 and 8054 cases during the last 12-month period (October 2011 to September 2012).
- Reporting was complete for the 12-month period, with the exception of Austria, which did not report for August and September 2012, and Luxembourg and the Netherlands, which did not report for September 2012.
- France, Italy, Romania, Spain and the United Kingdom accounted for 93% of the reported cases.
- The number of reported cases in the EU is substantially lower in 2012 compared with the same period in 2011, but the notification rate for the last 12-month period continues to exceed the elimination target of less than one case per million population.
- During the last 12 months, eleven countries reported less than one case of measles per million population; the aggregated notification rate for the EU/EEA countries was 15.9 cases per million.
- Of the cases reported in the last 12-month period for which vaccination status was available, 83% were unvaccinated.
- Fourteen per cent (1080) of the cases were under one year of age; of these, 97% were reported as unvaccinated. Of 1983 cases aged 1–4 years (targeted by vaccination programmes in all EU/EEA countries), 77% were reported as unvaccinated.
- There have been no measles-related deaths during the last 12 months, but 10 cases were complicated by acute measles encephalitis.
- No new large outbreaks were detected since the previous report. Transmission continued at a low rate throughout the low transmission season in several countries which reported onset of outbreaks in 2011 and 2010.

Rubella

- 25 759 cases of rubella were reported between January and September 2012 by the 26 EU/EEA countries contributing to the enhanced surveillance for rubella.
- 30 116 cases were reported during the period October 2011 to September 2012.
- Poland and Romania accounted for 99% of all reported rubella cases in the 12-month period. Austria did not report for August and September 2012, and Luxembourg and the Netherlands did not report for September 2012.

Measles

Surveillance data

The enhanced measles surveillance data were retrieved from the European Surveillance System (TESSy) on 29 October 2012; the analysis covers the 12-month period from October 2011 to September 2012. Twenty-nine countries reported case-based data for the entire period, with the exception of Austria, which did not submit data for August and September 2012, and Luxembourg and the Netherlands, which did not report for September 2012.

The number of cases and notification rates for the past 12 months are shown in Table 1. Reported cases in 2012 are much lower than for the same period in 2011. There was no increase in cases at the European level during the peak transmission season from February to June (Figure 1). The highest notification rate was among infants under one year of age (200.1 cases per 1 000 000 population), followed by children between one and four years of age (95.1 cases per 1 000 000 population) (Figure 2).

Vaccination status was known for 7258 (90%) of the 8054 reported cases. Of the cases with known vaccination status, 83% (6 025 cases) were unvaccinated; 12% (897) had received one dose of measles vaccine; 4% (292) had received two or more doses; and 0.6% (44) had received an unknown number of doses. The proportion of unvaccinated cases was high across all age groups, including the age group of one-to-four-year olds, the age group targeted by vaccination programmes (Figure 3).

Over the last 12 months, ten cases were complicated by acute measles encephalitis, but there were no measles-related deaths reported.

Figure 1. Number of measles cases in 2011 and 2012 and number of EU/EEA countries reporting, by month, 2012

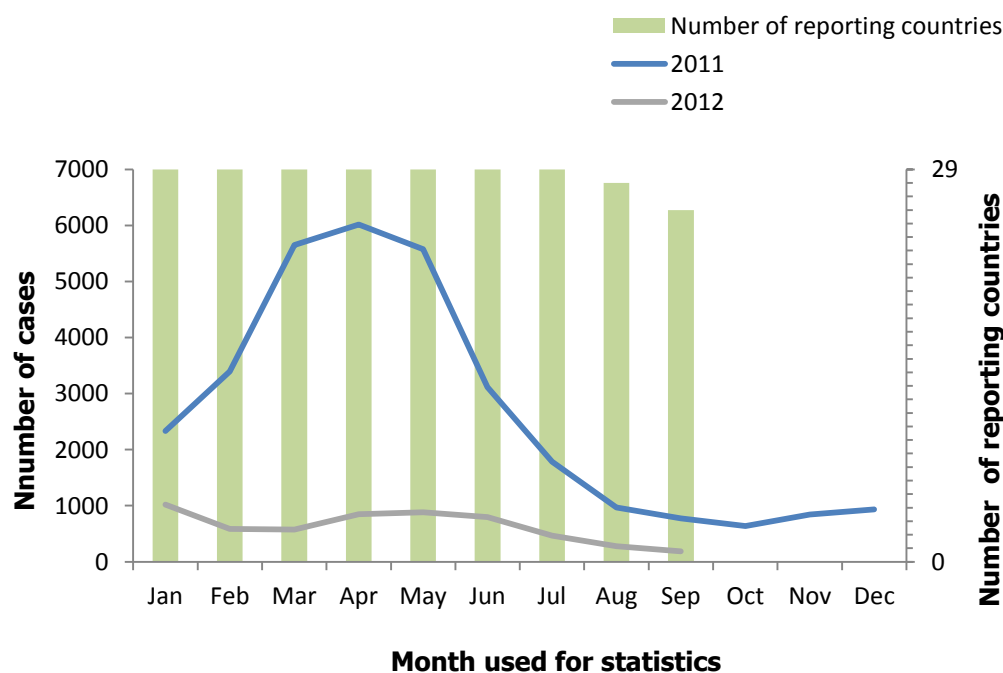


Table 1. Number of measles cases by month and notifications rates (cases per million), October 2011–September 2012, EU/EEA countries

Country	2011			2012									Total cases	Cases per million
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Austria	1	12	6	3	1	0	2	2	4	0	NR	NR	31	3.7
Belgium	3	12	2	6	6	3	9	4	9	5	0	0	59	5.4
Bulgaria	0	1	0	0	0	0	0	0	0	0	1	0	2	0.3
Cyprus	0	0	0	0	1	0	0	0	0	0	0	0	1	1.2
Czech Republic	0	0	1	3	2	0	2	7	4	1	2	1	23	2.2
Denmark	0	0	0	1	0	0	0	1	0	0	0	0	2	0.4
Estonia	0	0	0	0	0	0	2	1	0	0	0	0	3	2.2
Finland	0	0	0	1	0	0	3	0	0	0	0	1	5	0.9
France	71	100	126	106	123	140	110	103	92	75	32	10	1088	16.7
Germany	16	21	7	4	18	7	18	56	16	19	11	4	197	2.4
Greece	0	0	0	0	0	0	0	1	1	1	0	0	3	0.3
Hungary	0	0	5	0	1	0	1	0	0	0	0	0	7	0.7
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	27	15	3	3	5	5	3	53	19	4	3	9	149	33.3
Italy	61	56	54	62	122	89	100	105	58	28	6	9	750	12.4
Latvia	0	0	0	0	2	1	0	0	0	0	0	0	3	1.3
Lithuania	0	0	0	0	0	0	2	0	0	0	0	0	2	0.6
Luxembourg	0	0	0	0	0	1	0	0	1	0	0	NR	2	3.9
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	1	4	1	1	2	1	NR	10	0.6
Norway	1	0	0	0	0	0	1	0	0	0	2	1	5	1.0
Poland	1	0	0	1	1	1	13	11	9	4	6	1	48	1.3
Portugal	0	0	1	1	0	0	1	4	0	0	1	0	8	0.8
Romania	214	357	592	729	110	85	317	186	338	157	77	55	3217	149.9
Slovakia	0	0	0	0	0	0	0	0	0	0	1	0	1	0.2
Slovenia	0	0	0	1	0	1	0	0	0	0	0	0	2	1.0
Spain	168	203	108	60	69	88	64	56	53	20	3	0	892	19.3
Sweden	0	4	0	2	14	4	4	1	0	1	1	1	32	3.4
United Kingdom	73	63	29	39	111	148	191	290	193	150	128	97	1512	24.2
Total	636	844	934	1022	586	574	847	882	798	467	275	189	8054	15.9

NR: data not reported

Notification rates were calculated using the most recent population estimates available from Eurostat (2011).

Countries with a notification rate ≥ 1 per million population are highlighted in green. Elimination is defined as an incidence rate of less than one confirmed case per million population for the last 12 months, excluding cases confirmed as imported.

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 data on previous years, please refer to:

http://ecdc.europa.eu/EN/HEALTHTOPICS/MEASLES/EPIDEMIOLOGICAL_DATA/Pages/annual_epidemiological_reports.aspx

Figure 2. Measles notification rates (cases per million) by age group, October 2011–September 2012, EU/EEA countries (n=7 997 cases with known age)

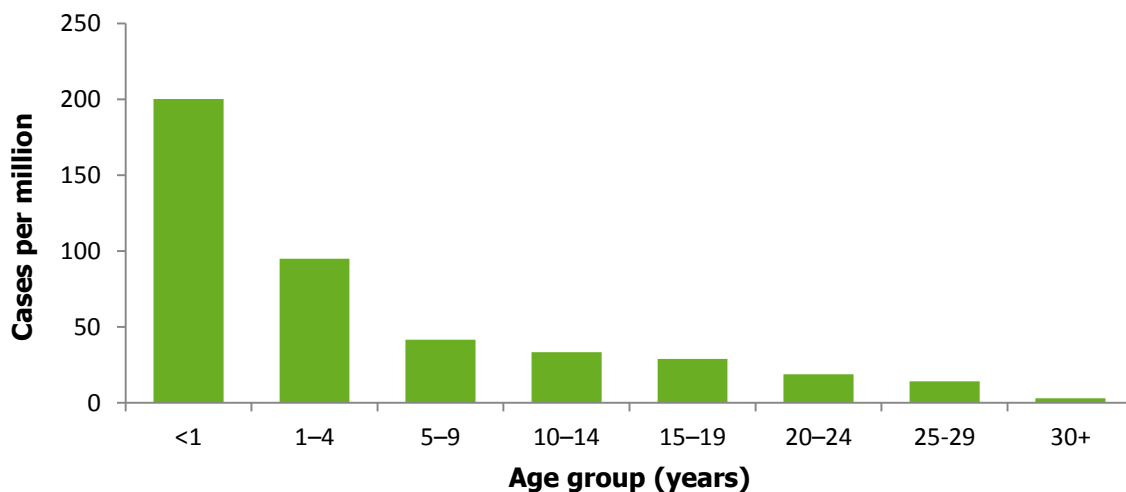


Figure 3. Proportion of vaccination status among measles cases by age group, October 2011–September 2012, EU/EEA countries (n=7 997 cases with known age)

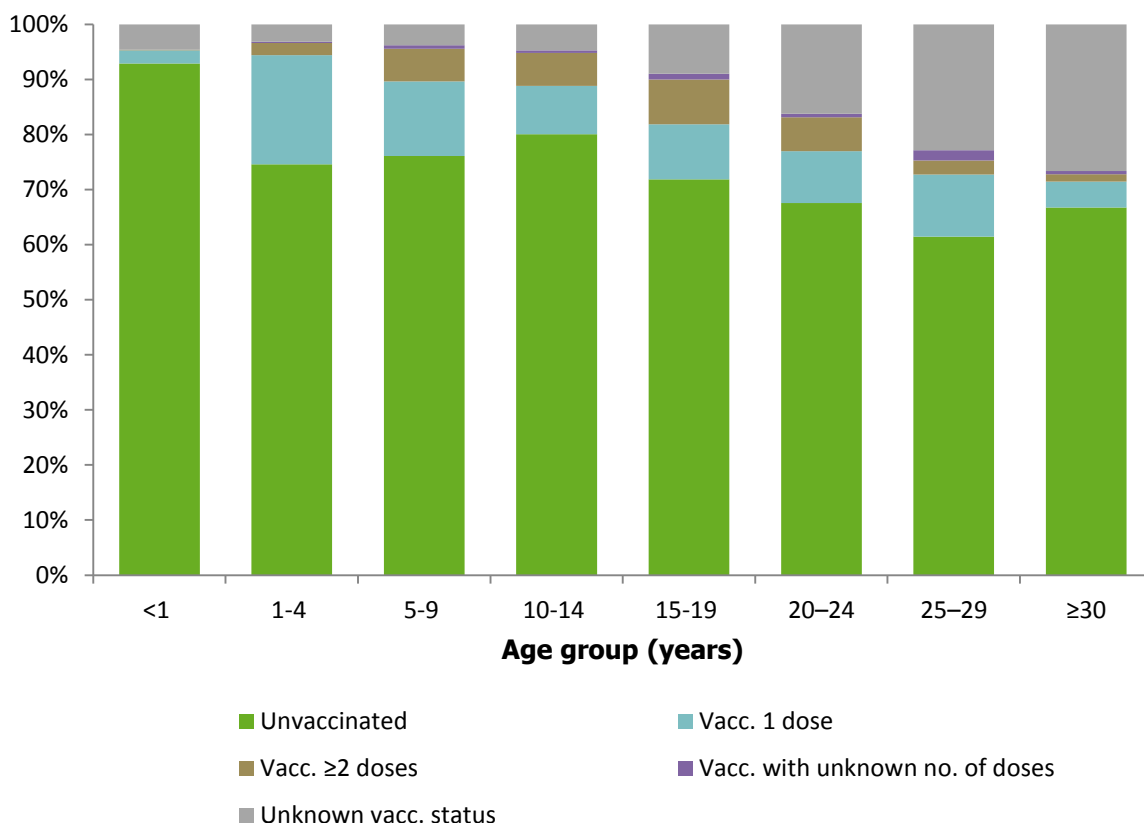


Figure 4. Number of measles cases by country, October 2011–September 2012 (n=8 054), and two-dose measles vaccine coverage* (2010 CISID), EU/EEA countries

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

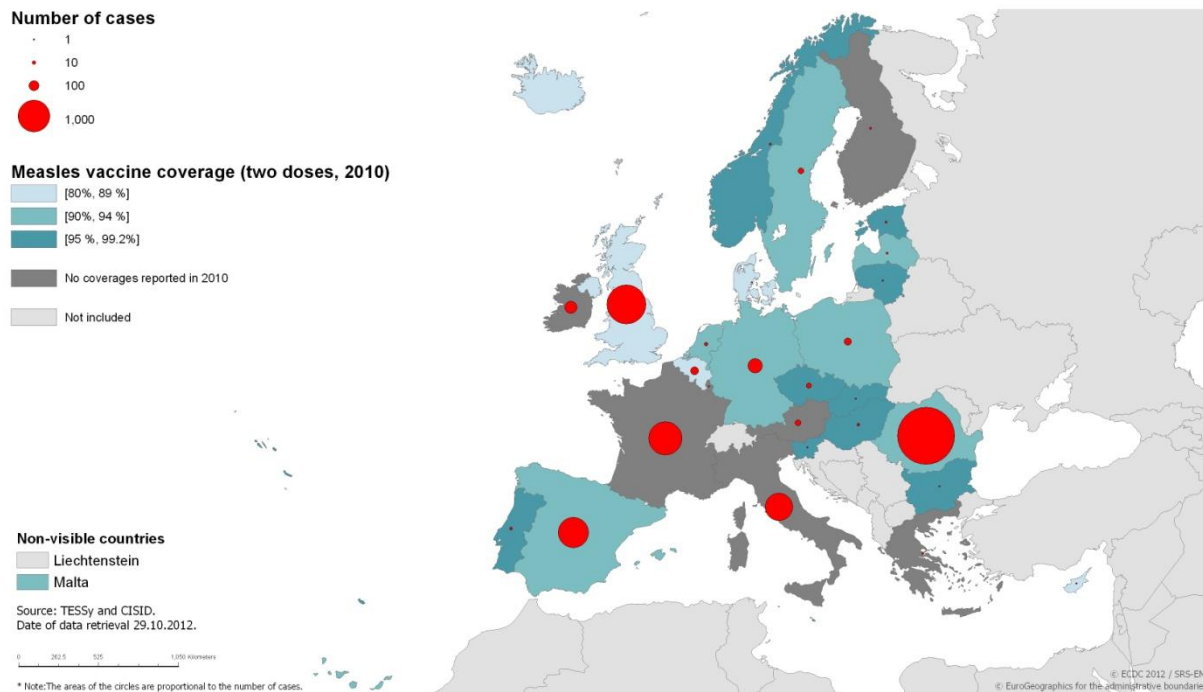
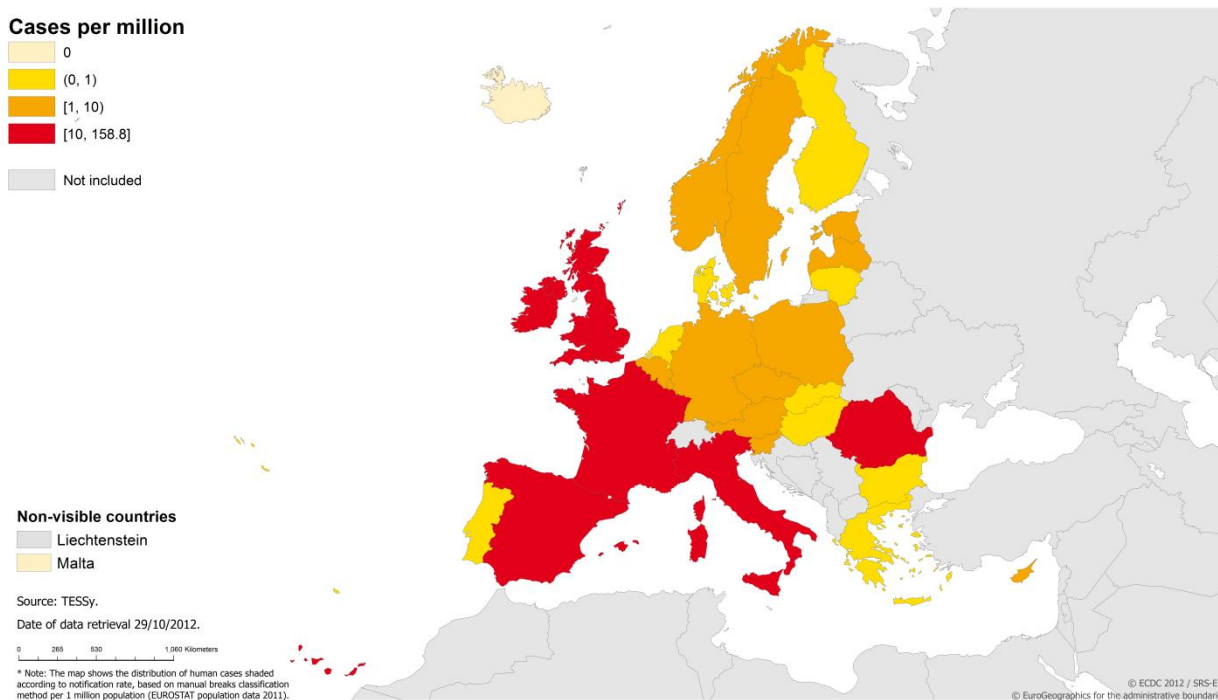


Figure 5. Measles notification rates (cases per million) by country, October 2011–September 2012, EU/EEA countries (n=8 054)



For maps relating to measles cases and notification rates in 2011, please refer to:
http://ecdc.europa.eu/en/activities/surveillance/euvac/data/Pages/measles_maps.aspx

Rubella

Enhanced surveillance data

The enhanced rubella surveillance data were retrieved from the European Surveillance System (TESSy) on 29 October 2012 and the analysis covers the 12-month period from October 2011 to September 2012. Twenty-two countries reported case-based data for the entire period. Austria did not report for August and September, and Luxembourg and the Netherlands did not report for September. Belgium, France and Germany do not have rubella surveillance systems with national coverage. An overview of the number of cases and notification rates in the past 12 months is shown in Table 2. Poland and Romania accounted for 99% of the reported cases.

Table 2. Number of rubella cases by month and notifications rates (cases per million), October 2011–September 2012, EU/EEA countries

Country	2011			2012									Total cases	Cases per million
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Austria	0	1	0	2	1	0	1	2	0	0	NR	NR	7	0.8
Belgium	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bulgaria	0	1	1	1	2	4	1	2	2	1	0	0	15	2.0
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	0	2	0	2	0	2	1	1	0	0	1	0	9	0.9
Denmark	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
Finland	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2
France	NR	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	NR
Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hungary	0	1	0	0	2	1	5	0	0	0	0	0	9	0.9
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	2	0	5	2	1	3	0	13	2.9
Italy	4	8	4	0	0	0	0	0	0	0	0	0	16	0.3
Latvia	1	0	0	0	0	0	0	3	2	0	2	1	9	4.0
Lithuania	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Luxembourg	0	0	0	0	0	1	0	0	0	0	0	NR	1	2.0
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	1	0	0	0	0	NR	1	0.1
Norway	0	0	0	0	1	0	0	0	0	0	0	0	1	0.2
Poland	160	205	186	174	279	695	1073	1032	732	405	211	169	5321	139.3
Portugal	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Romania	276	1595	1905	2806	6965	7870	1874	899	299	34	9	4	24536	1143.2
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Slovenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	1	0	2	4	12	15	13	8	2	2	0	0	59	1.3
Sweden	2	1	0	0	0	0	1	2	15	29	3	0	53	5.6
United Kingdom	0	0	0	3	19	17	9	8	5	4	0	0	65	1.0
Total	445	1814	2098	2992	7281	8607	2979	1962	1059	476	229	174	30116	86.0

NR: data not reported.

Notification rates were calculated using the most recent population estimates available from Eurostat (2011).

Countries with a notification rate ≥ 1 per million population are highlighted in green. Elimination is defined as an incidence rate of less than one confirmed case per million population for the last 12 months, excluding cases confirmed as imported.

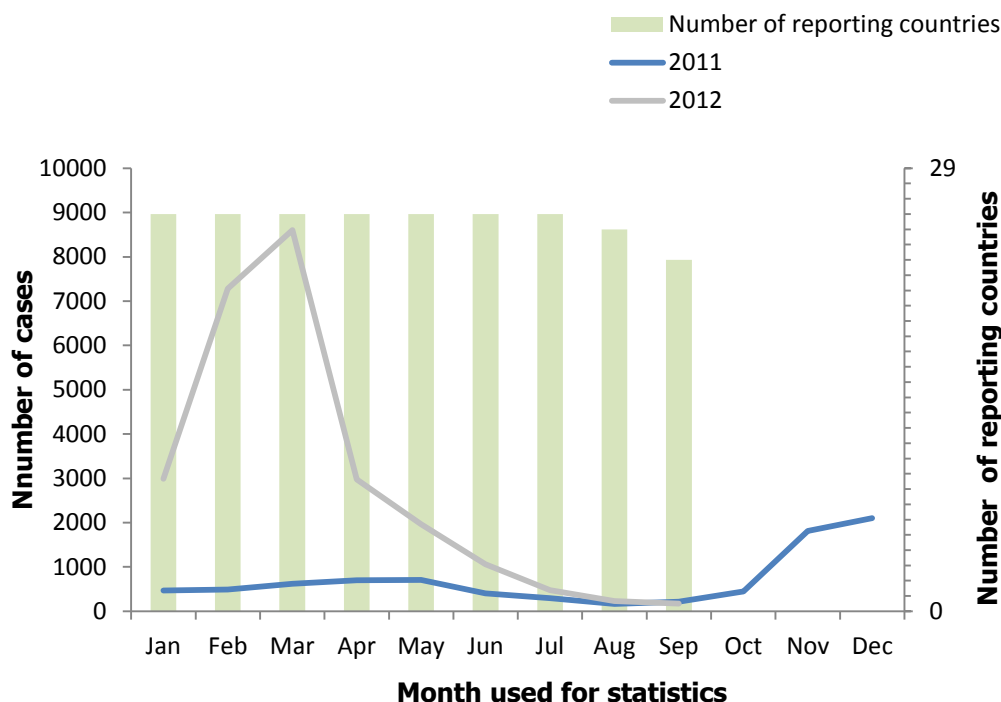
For countries that did not report data for all 12 months, notification rates might be underestimated.

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

For data on previous years, please refer to:

<http://ecdc.europa.eu/en/activities/surveillance/euvac/data/Pages/status-rubella-reporting.aspx>

Figure 6. Number of rubella cases in 2011 and 2012 and number of EU/EEA countries reporting, by month, 2012



No surveillance system in place in Belgium, France, and Germany.

Epidemic intelligence

No new outbreaks of measles or rubella were detected in the EU Member States since the previous Measles and Rubella Monitoring Report.

Measles – Ireland

Source: [Health Services Executive Ireland \(HSE\)](#)

Catch-up MMR campaign: In the 2012–2013 school year, the HSE is offering a dose of MMR vaccine to second-level students who have not completed (or are not sure they have completed) their two-dose MMR vaccination schedule to protect them from measles, mumps and rubella.

This is a one-off campaign and part of Ireland’s commitment to the World Health Organization’s European measles elimination strategy. It is also in response to large outbreaks of measles in Ireland and Europe in the past year. These outbreaks have occurred because many young people have not received the recommended two doses of MMR vaccine. The catch-up campaign will be delivered from October 2012 in second-level schools or, in some cases, at HSE clinics.

Measles – Denmark

Source: [Statens Serum Institut \(SSI\)](#)

As of 1 April 2012, Denmark offers free vaccination against measles, mumps and rubella (MMR) to young adults who have not had measles or previously been vaccinated against measles. The offer extends to persons born in 1974 or later and is open until the end of 2012.

MMR vaccination was introduced into the Danish childhood vaccination programme on 1 January 1987. A catch-up campaign with was conducted at introduction, covering persons under 13 years of age (birth cohorts 1974–86). The uptake of this catch-up programme was low; for children born in 1976, the coverage was 31% and for children born in 1986 it was 84%. Practically all people born before 1974 have had measles and are naturally immune.

Measles and rubella – Europe

[WHO Epidemiological Brief No. 27 \(October 2012\)](#) summarises measles and rubella epidemiology in Europe in 2012 and presents updated surveillance data for the WHO European Region and the world.

Useful links

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

<http://ecdc.europa.eu/en/healthtopics/measles/Pages/index.aspx>

<http://ecdc.europa.eu/EN/HEALTHTOPICS/RUBELLA/Pages/index.aspx>

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

Website for 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.

Notes

1) The European Surveillance System (TESSy) reports '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.

2) 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 29 October 2012. Later retrievals of data may result in slightly different numbers as countries have the possibility to retrospectively update data in the European Surveillance System.

3) Starting with the September 2012 issue, ECDC has begun expressing measles and rubella notification rates *per one million population*, and not as previously, per thousands population. The reason is that the WHO incidence indicator to monitor progress toward elimination is measured in 'number of confirmed cases per one million population year'. The elimination target for both measles and rubella for Europe is less than one case per million population and year. Read more about the elimination verification process in: [Surveillance Guidelines for Measles, Rubella and Congenital Rubella Syndrome in the WHO European Region](#), and [Eliminating Measles and Rubella, Framework for the Elimination Process in the WHO European Region](#)