



SURVEILLANCE REPORT

Measles and rubella monitoring

April 2013

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 in the form of measles-mumps-rubella (MMR) vaccine in the childhood immunisations programmes in Europe, and the first of the two recommended doses is normally given during the second year of life. The elimination of measles requires sustained uptake above 95% with two doses of MMR vaccine across all countries and population groups.

Main developments

Measles

- This issue marks the first time that the *Measles and Rubella Monitoring* has included data reported by Croatia.
- The 30 contributing countries (29 EU/EEA countries, plus Croatia) reported 8 499 cases of measles during the last 12-month period between March 2012 and February 2013.
- Luxembourg did not report for the last four months of the 12-month reporting period. Belgium did not report data for January and February 2013. The Netherlands did not report data for February 2013.
- France, Italy, Romania, Spain and the United Kingdom accounted for 94% of the cases for the last 12-month period.
- Sixteen countries met the elimination target of less than one case of measles per million population during the last 12 months.
- The overall notification rate was 16.6 cases per million population and continues to exceed the elimination target of less than one case per million that is set for the WHO European Region.
- Of the 8 096 cases for which vaccination status was available, 82% were unvaccinated. In the target group for routine childhood MMR vaccination (1–4-year-olds), 77% of the cases were unvaccinated.
- No measles-related deaths were reported during the period March 2012 to February 2013, but six cases were complicated by acute measles encephalitis.
- Epidemic intelligence reports:
 - In the United Kingdom, measles transmission is increasing across England and Wales. In 2012, the UK reported more than 2000 cases of measles, the highest number since 1994. Ongoing outbreaks are reported from North-East England and the Swansea area of Wales.
 - Denmark reported a small measles outbreak (seven cases) in March 2013, six of which were from the same school in the Silkeborg area.

Rubella

- The 26 EU/EEA countries contributing to enhanced rubella surveillance reported a total of 21 549 cases during the last 12-month period between March 2012 and February 2013.
- Luxembourg did not report for the last four months of the 12-month reporting period. Italy did not report for the entire period from March 2012 to February 2013. Greece and the Netherlands did not report data for February 2013.
- Poland and Romania accounted for 99% of all reported rubella cases in the 12-month period. Since August 2012, Poland alone has contributed over 90% of all cases, due to the decreasing trend in Romania.

Measles

Surveillance data

The enhanced measles surveillance data were retrieved from The European Surveillance System (TESSy) on 2 April 2013, and the analysis covers the 12-month period from March 2012 to February 2013. All countries reported case-based data for the period. For the first time, this report includes data from Croatia.

Luxembourg did not report for the last four months of the 12-month reporting period. Belgium did not report data for January and February 2013. The Netherlands did not report data for February 2013.

The number of cases and notification rates for the past 12 months are shown in Table 1. During the period March 2012 to February 2013, 8 499 cases of measles were reported (Figure 1). The highest notification rate was among infants under one year of age (249 cases per 1 000 000 population), followed by children aged between one and four years (108 cases per 1 000 000 population) (Figure 2).

Vaccination status was known for 8 096 (95%) of the 8 499 reported cases. Of these, 82% (6 655 cases) were unvaccinated, 13% (1 045) had received one dose of measles vaccine, 4% (355) had received two or more doses, and 0.5% (41) had received an unknown number of doses. The proportion of unvaccinated cases was high across all age groups (Figure 3). Among the 1–4-year-olds, the group targeted by routine childhood vaccination programmes, 77% of the cases were unvaccinated.

Six cases were complicated by acute measles encephalitis in the last 12 months. No measles-related deaths were reported.

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

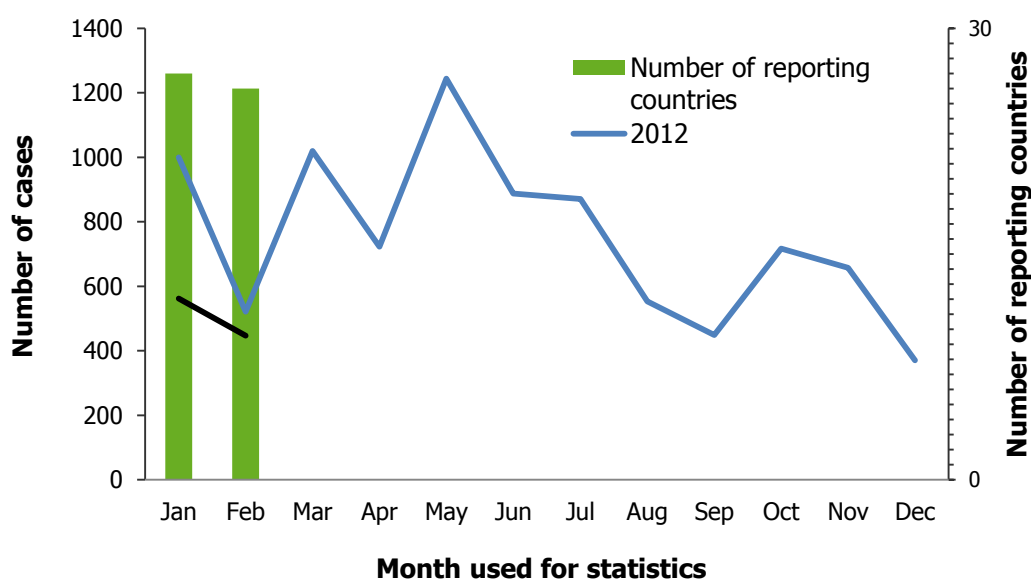


Table 1. Number of measles cases by month and notifications rates (cases per million), March 2012 – February 2013, EU/EEA countries and Croatia

Country	2012						2013						Total cases	Cases per million
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb		
Austria	0	2	2	4	1	3	1	2	0	0	4	8	27	3.2
Belgium	3	9	4	9	5	0	1	0	0	0	NR	NR	31	2.8
Bulgaria	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1
Croatia	0	1	0	1	0	0	0	0	0	0	NR	NR	2	0.5
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	0	2	7	4	1	2	1	0	0	0	0	3	20	1.9
Denmark	0	0	1	0	0	0	0	0	0	0	3	0	4	0.7
Estonia	0	2	1	0	0	0	0	0	0	1	0	0	4	3.0
Finland	0	3	0	0	0	0	1	0	0	0	0	0	4	0.7
France	140	110	103	92	75	31	10	25	27	17	26	23	679	10.4
Germany	7	18	56	17	19	11	3	3	5	6	9	8	162	2.0
Greece	0	0	1	1	1	0	0	0	0	0	2	1	6	0.5
Hungary	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	4	2	53	18	3	2	9	9	1	0	1	5	107	23.9
Italy	89	100	105	59	28	6	13	74	11	21	31	55	592	9.8
Latvia	1	0	0	0	0	0	0	0	0	0	0	0	1	0.4
Lithuania	0	2	0	0	0	0	0	0	0	0	0	0	2	0.6
Luxembourg	1	0	0	1	0	0	0	0	NR	NR	NR	NR	2	3.9
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	1	4	0	1	2	2	0	0	0	0	0	NR	10	0.6
Norway	0	1	0	0	0	2	1	0	0	0	0	0	4	0.8
Poland	1	13	11	9	4	6	1	2	4	8	4	8	71	1.9
Portugal	0	1	4	0	0	1	0	0	0	0	0	0	6	0.6
Romania	647	317	620	338	495	267	182	371	336	201	208	105	4087	190.9
Slovakia	0	0	0	0	0	1	0	0	0	0	0	0	1	0.2
Slovenia	1	0	0	0	0	0	0	0	0	0	0	0	1	0.5
Spain	89	65	59	55	30	7	4	8	0	0	5	12	334	7.2
Sweden	4	4	1	0	1	1	1	1	0	1	4	8	26	2.8
United Kingdom	31	66	216	278	206	210	221	222	273	115	265	211	2314	37
Total	1019	723	1244	887	871	553	449	717	657	370	562	447	8499	16.6

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 over the last 12 months are highlighted in green. Notification rate per million population is one of several indicators used for monitoring progress towards elimination of measles. The target is an incidence of less than one confirmed case per million population per year, 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 tables relating to the number of measles cases in previous years, see:

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

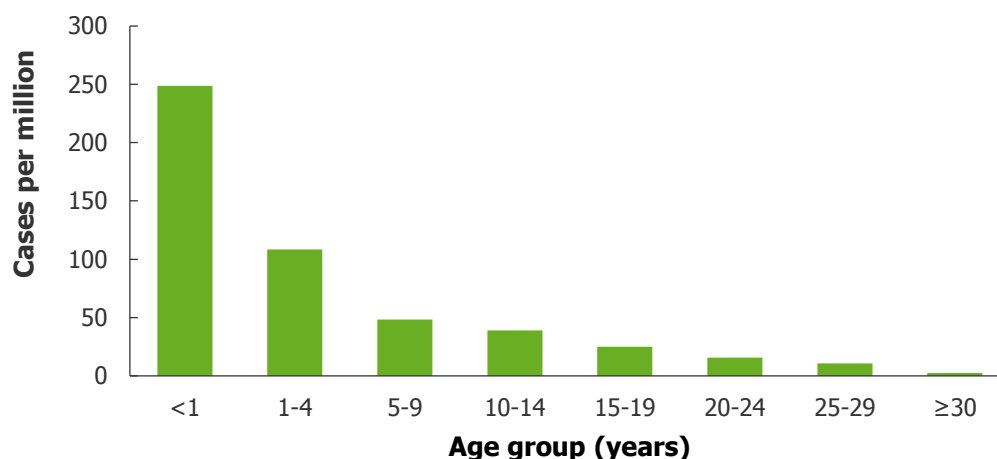
Figure 2. Measles notification rates (cases per million) by age group, March 2012 – February 2013, EU/EEA countries and Croatia (N=8 448 cases with known age)

Figure 3. Proportion of vaccination status among measles cases by age group, March 2012 – February 2013, EU/EEA countries and Croatia (N=8 096 cases with known age and vaccination status)

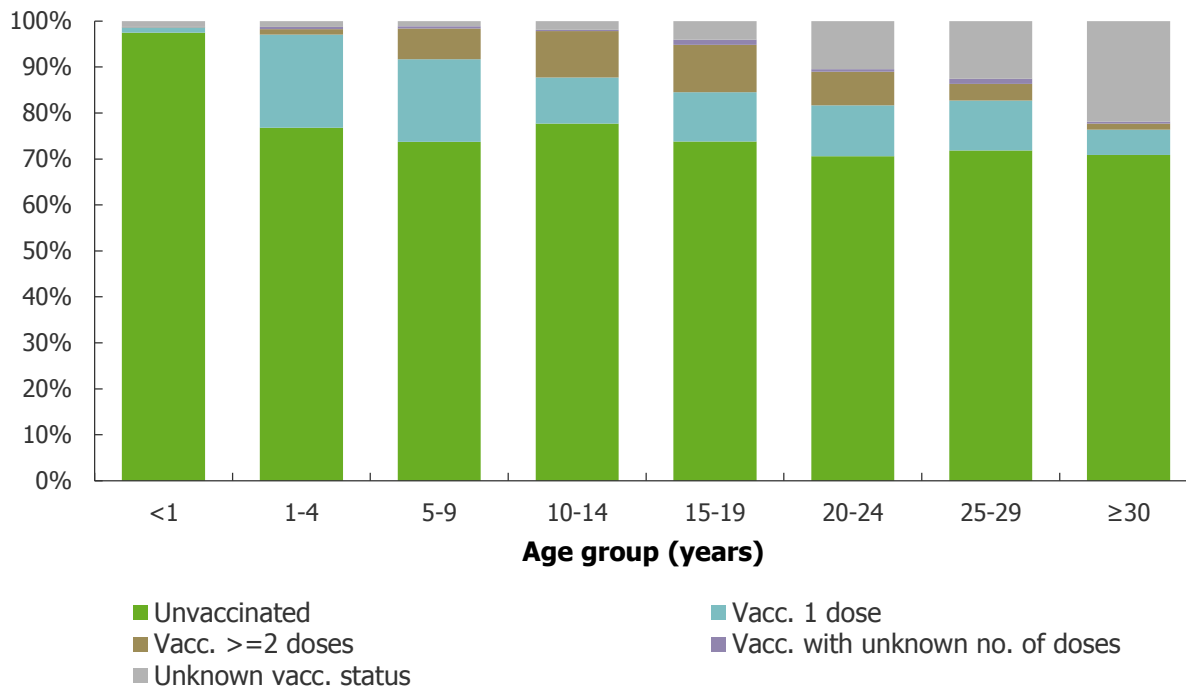
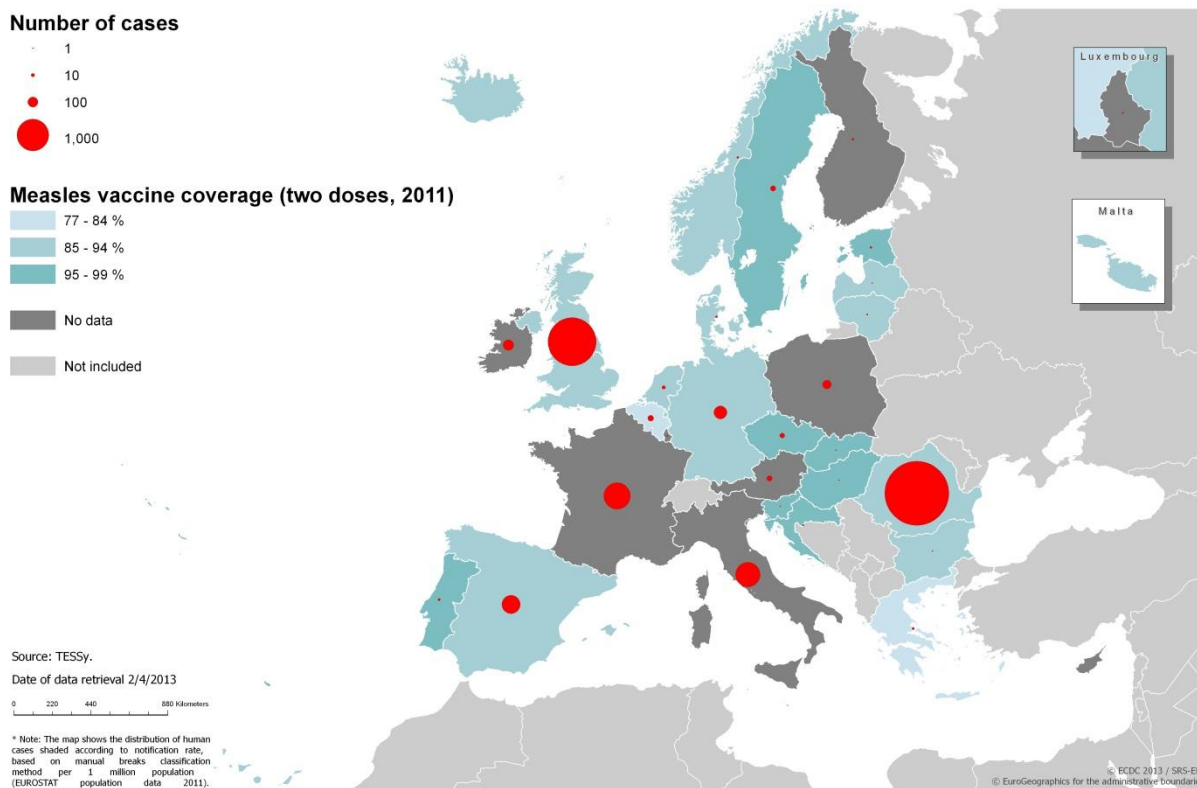
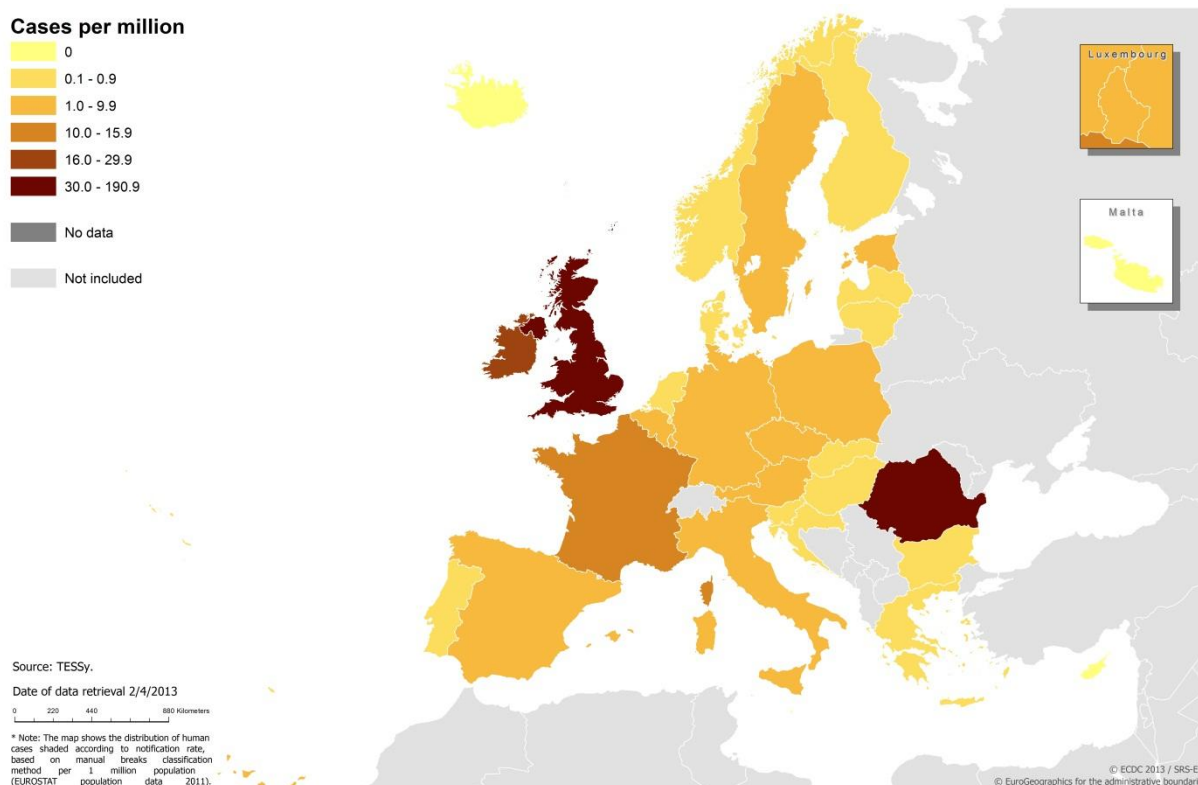


Figure 4. Number of measles cases by country, March 2012 – February 2013, EU/EEA countries (N=8 499), and two-dose measles vaccine coverage* (2011 CISID), EU/EEA countries and Croatia



* 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, March 2012 – February 2013, EU/EEA countries and Croatia (N=8 499)



For maps relating to measles cases and notification rates in 2011, see:

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 2 April 2013, and the analysis covers the 12-month period between March 2012 and February 2013.

Of the 26 contributing countries, 21 reported data for the entire period. Luxembourg did not report for the last four months of the 12-month reporting period. Italy did not report for the entire period between March 2012 and February 2013. Greece and the Netherlands did not report data for February 2013.

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

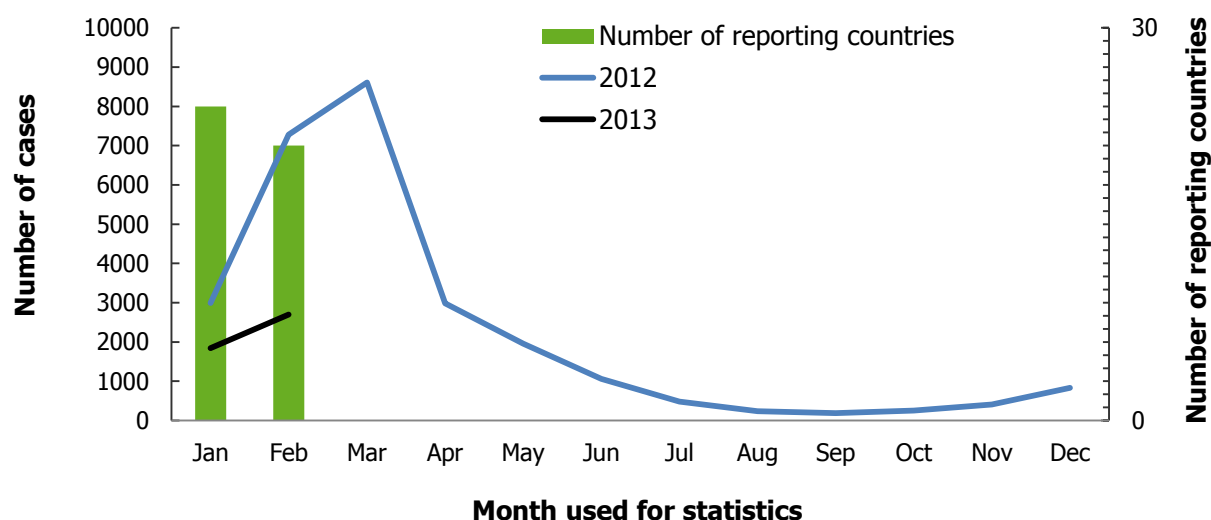
The number of cases and notification rates for the past 12 months are shown in Table 2.

During the period March 2012 to February 2013, 21 549 cases of rubella were reported. Poland and Romania accounted for 99% of the reported cases.

Romania has experienced a rise in the number of cases since October 2011. This was the start of a nationwide epidemic that affected more than 20 000 people and lasted until July 2012 [1].

Since August 2012, Poland alone has contributed over 90% of the reported cases. In January and February 2013, 4 520 cases were reported in Poland, which is a tenfold increase compared with the same period in 2012 when 453 cases were reported [2]. Poland is currently facing a nationwide epidemic which particularly affects adolescents aged 15–19 years; the numbers for adolescents are possibly reflecting cohorts that were incompletely targeted by the national rubella vaccination programme [3].

The highest notification rate (435.1 cases per 1 000 000 population) was among adolescents aged 15–19 years (Figure 7). Among the case-based reports, 41 percent of cases aged 15–44 years were females.

Figure 6. Number of rubella cases in 2012 and 2013 and number of reporting EU/EEA countries, by month, 2013

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

Table 2. Number of rubella cases by month and notifications rates (cases per million), March 2012 – February 2013, EU/EEA countries

Country	2012						2013						Total cases	Cases per million
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb		
Austria	0	1	2	0	0	3	0	0	0	0	0	0	6	0.7
Belgium	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Bulgaria	4	1	2	2	1	0	0	1	3	0	1	NR	15	2
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	2	1	1	0	0	1	0	0	0	0	0	0	5	0.5
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	0	0	0	0	0	0	0	0	0	0	0	0	0	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	NR	0	0
Hungary	1	5	0	0	0	0	0	0	0	0	0	0	6	0.6
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	2	0	4	2	0	1	0	0	2	0	0	1	12	2.7
Italy	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Latvia	0	0	3	2	0	2	1	0	0	0	0	0	8	3.6
Lithuania	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Luxembourg	1	0	0	0	0	0	0	0	NR	NR	NR	NR	1	2.0
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	0	1	0	0	0	0	0	0	0	0	0	NR	1	0.1
Norway	0	0	0	0	0	0	0	0	0	0	1	1	2	0.4
Poland	695	1076	1032	732	407	214	178	239	402	831	1833	2687	10326	270.3
Portugal	0	0	0	0	0	0	1	0	1	0	0	0	2	0.2
Romania	7870	1874	899	299	34	9	4	11	1	0	10	9	11020	514.6
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	15	13	8	3	4	2	1	0	0	1	0	0	47	1.0
Sweden	0	1	2	15	29	3	0	0	0	0	0	0	50	5.3
United Kingdom	17	10	7	5	4	0	0	0	2	2	1	0	48	0.8
Total	8607	2983	1960	1060	479	235	185	251	411	834	1846	2698	21549	74.5

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.

Progress toward elimination is monitored against a target incidence of less than one confirmed case per million population per year, 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 tables relating to the number of rubella cases in previous years, see:

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

Figure 7. Rubella notification rates (cases per million) by age group, March 2012 – February 2013, EU/EEA countries (N=11 169 cases with known age)

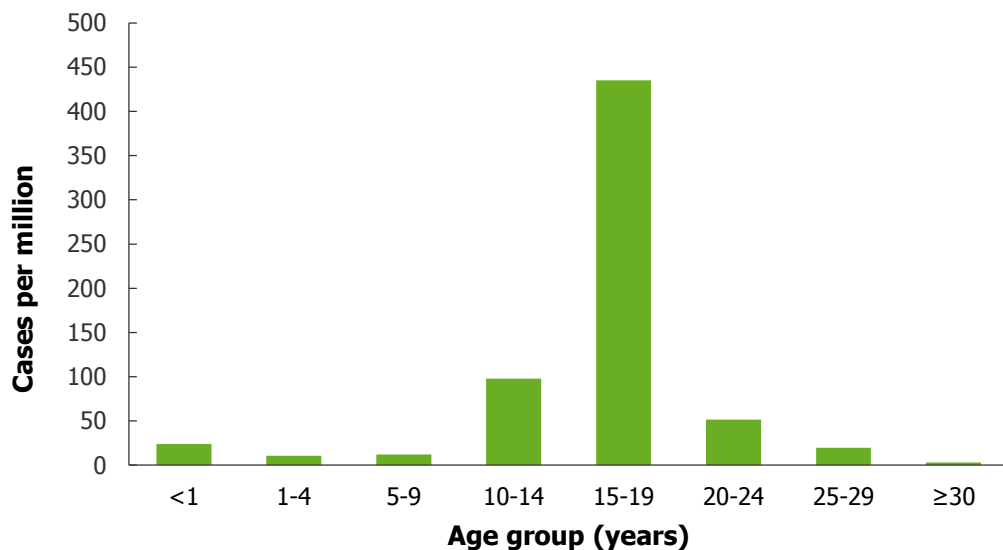
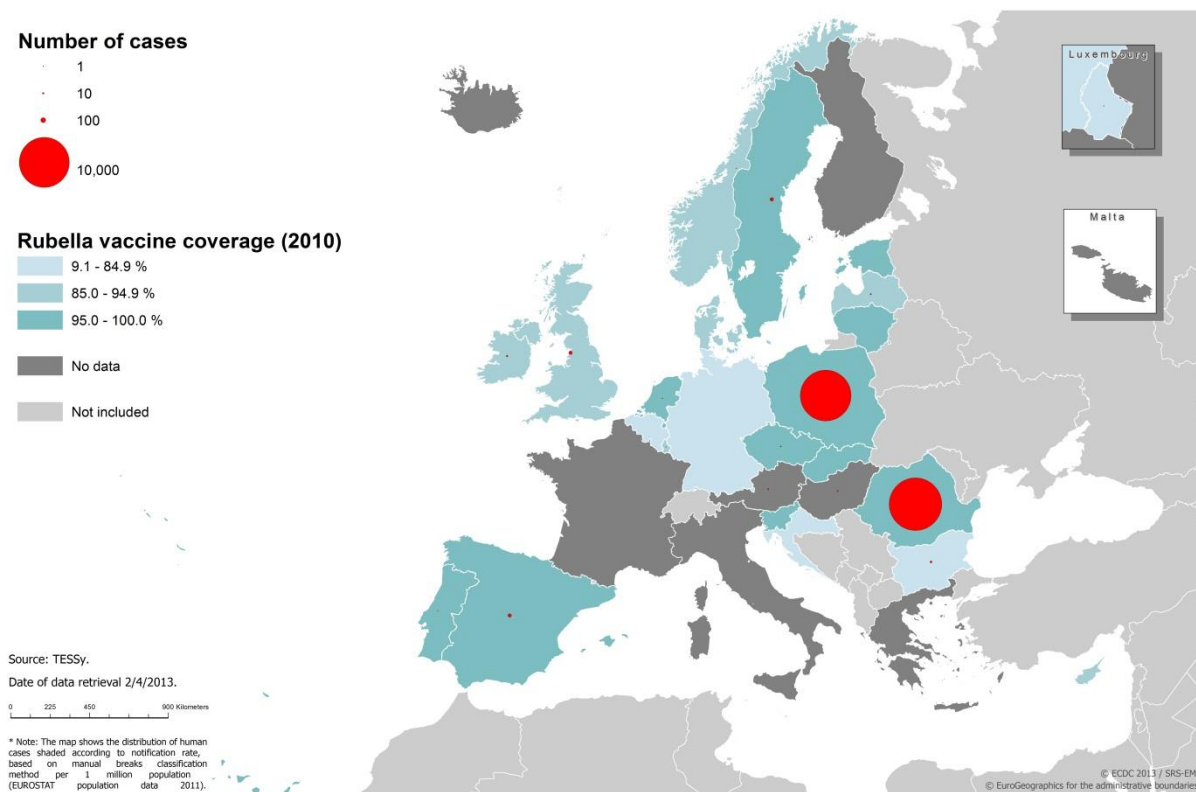
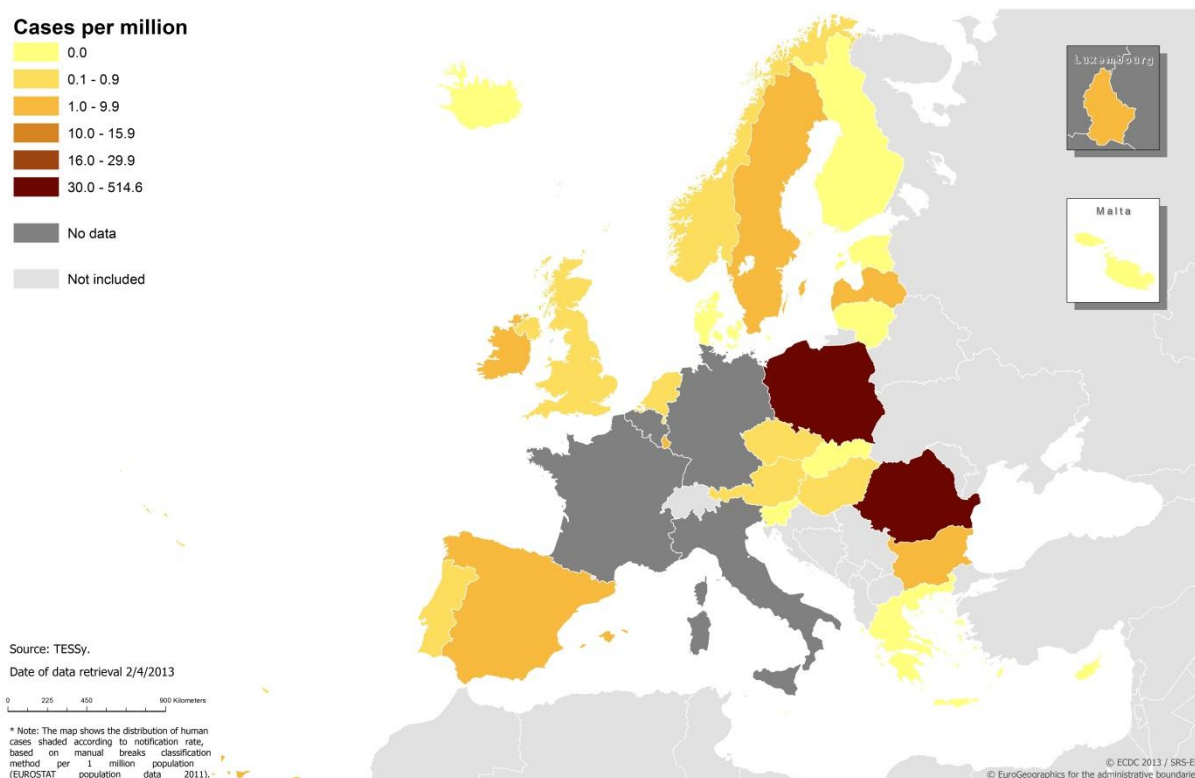


Figure 9. Number of rubella cases by country, March 2012 – February 2013, EU/EEA countries (N=21 549), and two-dose rubella vaccine coverage* (2010 CISID), EU/EEA countries



* 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 rates (cases per million) by country, March 2012 – February 2013, EU/EEA countries (N=21 549)



Epidemic intelligence

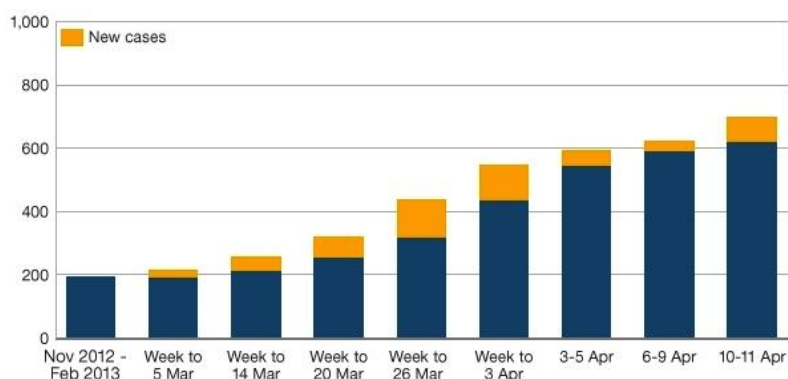
Measles

United Kingdom

During the first months of 2013, Public Health England (PHE) [4] has seen an increase in numbers of measles across England and Wales. In 2012, there were 2 016 laboratory-confirmed cases of measles (provisional data), the highest annual total since 1994.

According to the latest figures for the ongoing measles outbreak in the north-east region of England, released on 8 April 2013 by PHE, there are now 210 confirmed cases and 196 suspected cases of measles reported in the region since the beginning of September when the outbreak started. The majority of cases continue to be reported in unvaccinated school children and young adults, with 40% of all cases aged between 10 and 19 years. Seventeen per cent of the cases in this outbreak needed hospital treatment.

In Wales, as of 11 April 2013, the number of measles cases reached 693 in the Swansea area, with 73 new cases reported during the last two days. Although more than 2 000 MMR vaccines were received in the Swansea area last week – 1 726 at the special sessions and more than 900 in GP surgeries – Public Health Wales [5] is warning that this is not enough to bring the outbreak under control. At least 6 000 children remain unvaccinated in the county of Swansea and parents, carers and communities continue to be urged to ensure that all children receive the two doses of the MMR vaccine. A least 60 people have been hospitalised since the start of the outbreak. Although the epidemic’s centre is in Swansea, cases continue to be reported across Wales.

Figure 11. Cumulative number of measles cases, November 2012 – April 2013, Wales

Source: NHS

Denmark

Statens Serum Institut [6] reported an outbreak of measles in the Silkeborg area. A schoolchild who had recently been on holiday abroad was diagnosed with measles on 8 March 2013. In week 13, six additional laboratory-confirmed cases were detected, five of which attend the same school as the index patient. Three children had received one dose of MMR vaccine, while the remaining three were unvaccinated. The seventh patient is a 50-year-old man with unknown vaccination status, who was born and raised in South America.

Rubella

No new outbreaks have been detected since the last report.

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](#) webpages.

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 31 January 2013. Later retrievals of data may result in slightly different numbers as countries have the possibility to update data in the European Surveillance System retrospectively.
3. Starting with the September 2012 issue ECDC has been reporting measles and rubella notification rates per one million population and not as previously per thousand population. The reason is that the WHO incidence indicator to monitor progress toward elimination is 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* [7] and *Eliminating Measles and Rubella, Framework for the Elimination Process in the WHO European Region* [8].

References

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