

SURVEILLANCE REPORT

Measles and rubella monitoring

July 2014

Reporting on July 2013 – June 2014 surveillance data
and epidemic intelligence data to the end of July 2014

Main developments

Measles

- During the most recent 12-month period (July 2013 to June 2014) the 30 EU/EEA countries conducting measles surveillance reported 7 116 cases. Twenty-nine of the 30 contributing countries reported consistently for the 12-month period.
- Germany, Italy and the Netherlands accounted for 77.3% of the cases in this period.
- In ten countries, the measles notification rate was less than one case per million population during the last 12 months.
- Of all cases, 51.8% tested positive for measles (serology, virus detection, or isolation).
- Of all cases, 93.1% had a known vaccination status and, of these 88.1% were unvaccinated. In the target group for routine childhood MMR vaccination (1–4-year old children), 76.8% of the cases were unvaccinated.
- One measles-related death was reported during the period July 2013 to June 2014, and one case was complicated by acute measles encephalitis.
- Since the previous bulletin, the outbreak in the Netherlands (The Hague) has been declared over and new outbreaks have been reported in Sweden and Belgium.
- Significant nosocomial transmission occurred in the three recent measles outbreaks reported from the Czech Republic, Latvia and Spain, demonstrating the continued presence of susceptible healthcare workers in EU Member States.
- Several of the outbreaks both worldwide and in EU Member States have a serological and epidemiological link to the large ongoing outbreak in the Philippines with 47 000 cases.
- Outside of the EU, there have been large outbreaks reported, some of them still ongoing, in the former Yugoslav Republic of Macedonia, Russia, Syria, Pakistan, USA, New Zealand, Australia, Japan, Vietnam and the Federated States of Micronesia. Several southern and eastern African countries also report measles outbreaks.

Rubella

- Twenty-eight EU/EEA countries reported 9 443 rubella cases during the most recent 12-month period between July 2013 and June 2014. Twenty five countries reported consistently for the 12-month period.
- Rubella has recently been made a notifiable disease in Germany.
- Poland accounted for 97.5% of all reported rubella cases in the 12-month period; 63.4% of these cases were either unvaccinated or had an unknown vaccination status.
- Just over 1% of the cases tested positive for rubella.
- In 21 countries the rubella notification rate was less than one case per million population during the last 12 months.
- No outbreaks have been detected by epidemic intelligence since the last report.

Measles

Surveillance data

The enhanced measles surveillance data were retrieved from The European Surveillance System (TESSy) on 28 July 2014. The analysis covered the 12-month period from July 2013 – June 2014. Twenty-nine contributing EU/EEA countries reported case-based data for all 12 months. Lithuania did not report data for June 2014. Luxembourg reported aggregated data in January 2014 (Figure 1, Table 1).

During the 12-month period, 7 116 cases of measles were reported (Table 1), which is low compared to the epidemic years of 2010 (n=32 480), 2011 (n=32 033), as well as 2012 (n=11 316) (Figure 2). The notification rates for the past 12 months and the number of cases observed in June 2014 by country are shown in Figures 3 and 4. The measles notification rate was less than one case per million population in 10 of the 29 countries which reported consistently over the 12-month period (Table 1). The countries which reported the most cases were the Netherlands (34.4% of all cases), Italy (30.7%) and Germany (12.2%) (Table 1).

The highest notification rate was among infants under one year of age (62.3 cases per million population), followed by children aged 1–4 years (49.9) and adolescents aged 10–14 years (47.6) (Figure 5). Of all cases, 51.8% tested positive for measles (serology, virus detection or isolation) although there were large variations between countries in the proportion of laboratory-confirmed cases.

Vaccination status was known for 6 621 (93.1%) of the 7 114 cases reported with known age. Of these, 88.1% (5 832 cases) were unvaccinated, 7.9% (521) had received one dose of measles vaccine, 3.2% (212) had received two or more doses and 0.8 % (56) had received an unknown number of doses. The proportion of unvaccinated cases was high across all age groups and highest among children aged 10–14 years (92.1%). Among children under one year of age 89.8% of cases were unvaccinated. Cases in this age group are often too young to be eligible for vaccination. Among children aged 1–4 years, the age group targeted by routine childhood vaccination programmes, 76.8% of cases were unvaccinated (Figure 6). The measles vaccination coverage (two doses) for each country is presented in Figure 3.

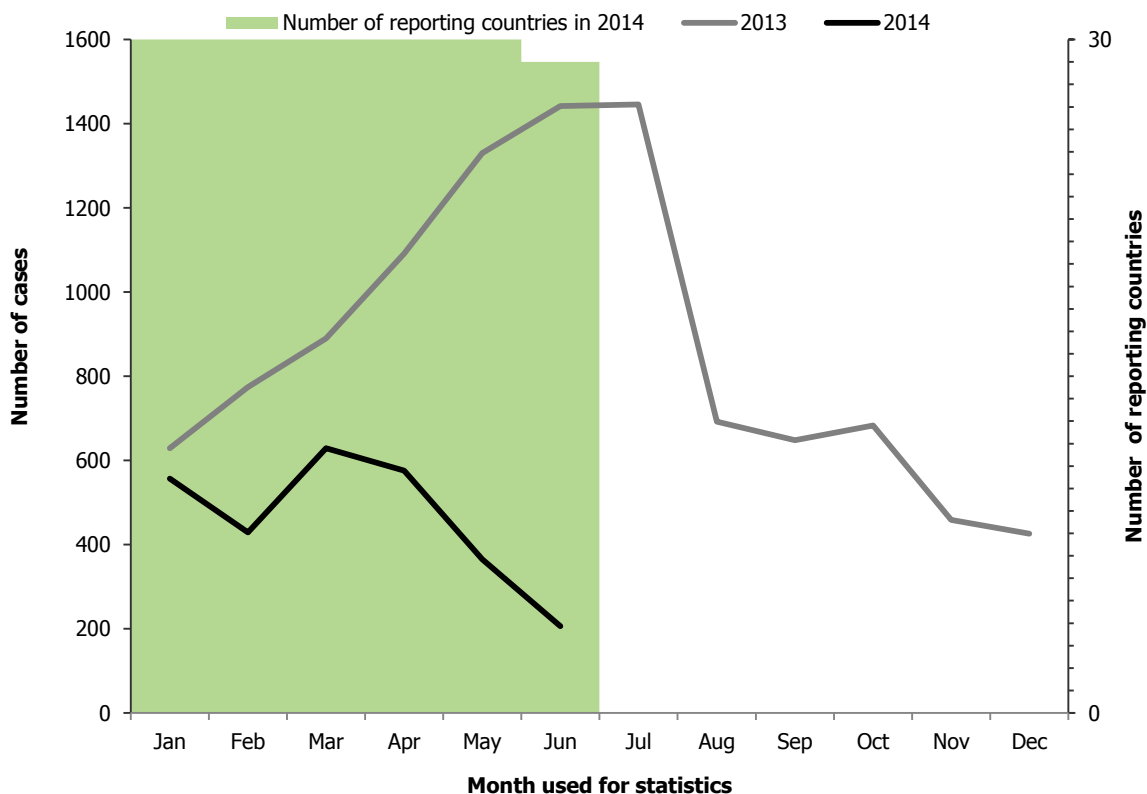
The notification rate by age group was calculated for the three countries reporting most cases (Figure 7a–c). The notification rates revealed a very heterogeneous pattern, with Italy showing higher rates among adolescents aged 15–19 years and children aged 1–4 years. Germany showed higher rates in infants below the age of one and children aged 10–14 years, while the Netherlands reported higher rates in children aged 5–14 years. In all three countries, the majority of cases were unvaccinated (Figures 7a–c).

Over the last 12 months, one case was complicated by acute measles encephalitis and there was one death.

The number of cases of measles in the European Union was low compared to recent years. This is most likely attributable to the dynamics of the transmission of infection in the population following the epidemic years in 2010 and 2011. However, the number of cases remains high, considering that measles and rubella are targeted for elimination in Europe by 2015. High population immunity and high-quality surveillance are essential to achieving this goal. To interrupt the circulation of the virus, vaccination coverage of at least 95% must be reached, with two doses of measles-containing vaccine administered through routine vaccination.* Data from 2012 show that coverage rates in 13 EU/EEA Member States are below this target, while pockets of susceptible individuals still exist throughout the EU even in countries with high vaccine coverage. Measures implemented in the Member States must be expanded and accelerated if the elimination target is to be reached.

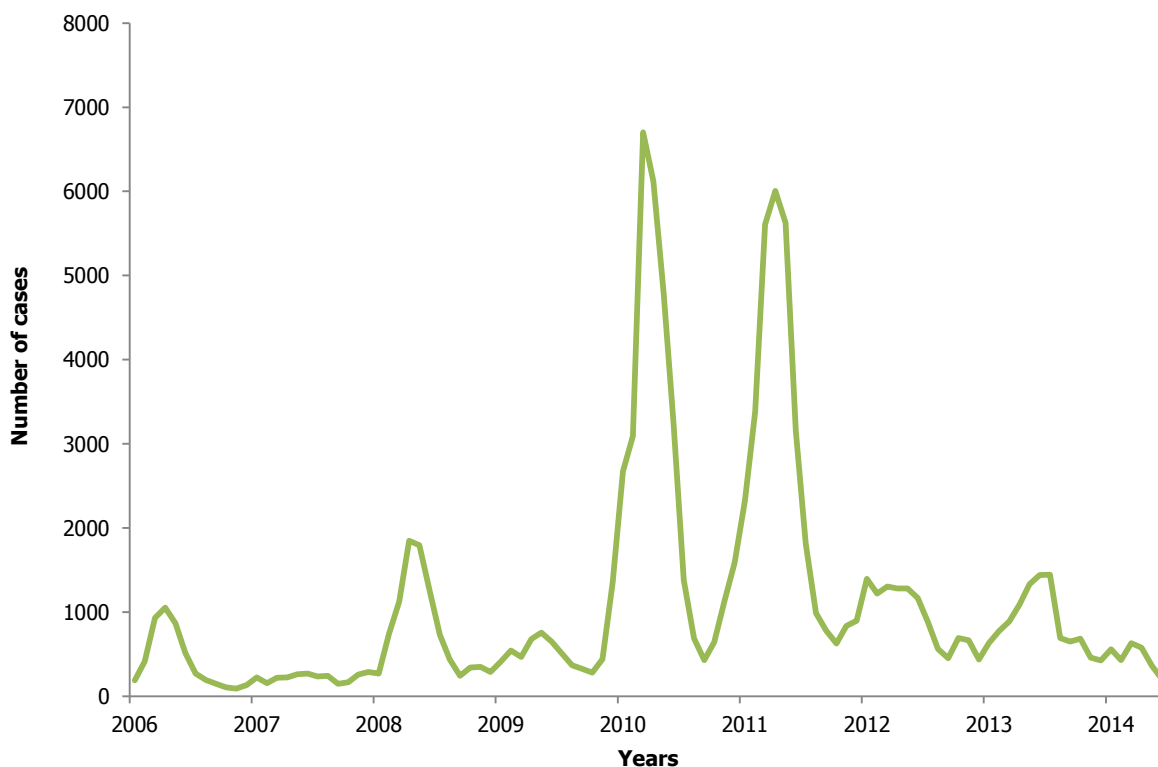
* World Health Organization, Regional Committee for Europe. Renewed commitment to elimination of measles and rubella and prevention of congenital rubella syndrome by 2015 and sustained support for polio-free status in the WHO European Region. World Health Organization, Regional Office for Europe: Copenhagen; 2012.

Figure 1. Number of measles cases in 2013 and 2014 and number of countries reporting in 2014, by month, EU/EEA



Note: All countries reported data for all months during 2013

Figure 2. Number of measles cases by month, EU/EEA countries, January 2006 – June 2014



Note: During the period 2006–2014, 29 EU/EEA countries consistently reported data on measles every month. Delays in reporting were observed only in June 2014. 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, July 2013–June 2014, EU/EEA countries

Country	2013	2013	2013	2013	2013	2013	2014	2014	2014	2014	2014	2014	Total cases	Cases per million	Total lab-positive cases
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun			
Austria	0	6	5	9	3	5	33	11	8	5	8	17	110	13.0	76
Belgium	2	1	4	3	2	1	2	8	7	29	26	0	85	7.6	53
Bulgaria	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1	1
Croatia	0	1	0	0	0	0	0	1	0	1	0	0	3	0.7	1
Cyprus	0	0	0	0	0	0	0	0	4	6	0	0	10	11.6	8
Czech Republic	0	0	0	0	0	1	0	2	34	57	25	11	130	12.4	178
Denmark	0	0	0	0	0	0	0	5	8	6	1	0	20	3.6	10
Estonia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Finland	0	0	0	0	0	0	2	0	0	0	0	1	3	0.6	0
France	25	13	13	15	11	7	41	38	26	34	44	39	306	4.7	121
Germany	306	127	108	76	47	20	22	26	37	45	22	33	869	10.6	450
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	1	0	0	0	1	3.1	1
Ireland	2	3	0	16	6	1	2	6	15	11	1	0	63	13.7	40
Italy	198	74	42	35	177	265	317	204	309	274	195	95	2185	36.6	1097
Latvia	0	0	0	0	0	0	0	0	0	25	9	0	34	16.8	33
Lithuania	0	0	1	0	0	0	0	0	2	0	2	NR	5	1.7	2
Luxembourg	0	0	0	0	0	0	1	0	0	0	1	0	2	3.7	1
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Netherlands	700	407	444	473	177	106	46	24	42	21	5	1	2446	145.8	882
Norway	0	0	0	0	0	0	0	0	0	2	0	1	3	0.6	3
Poland	10	3	1	1	1	1	15	27	27	19	7	2	114	3.0	85
Portugal	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Romania	83	27	11	23	22	12	25	17	5	1	5	0	231	11.5	172
Slovakia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Slovenia	1	0	0	0	0	0	0	0	0	0	1	0	2	1.0	2
Spain	31	8	4	4	0	3	10	26	78	27	8	1	200	4.3	182
Sweden	6	0	0	0	0	0	2	7	0	0	3	2	20	2.1	20
United Kingdom	81	22	15	28	13	4	39	27	26	13	2	3	273	4.3	270
Total	1446	692	648	683	459	426	557	429	629	576	365	206	7116	13.9	3688

NR: Data not reported. Lichtenstein does not report.

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 for monitoring 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).

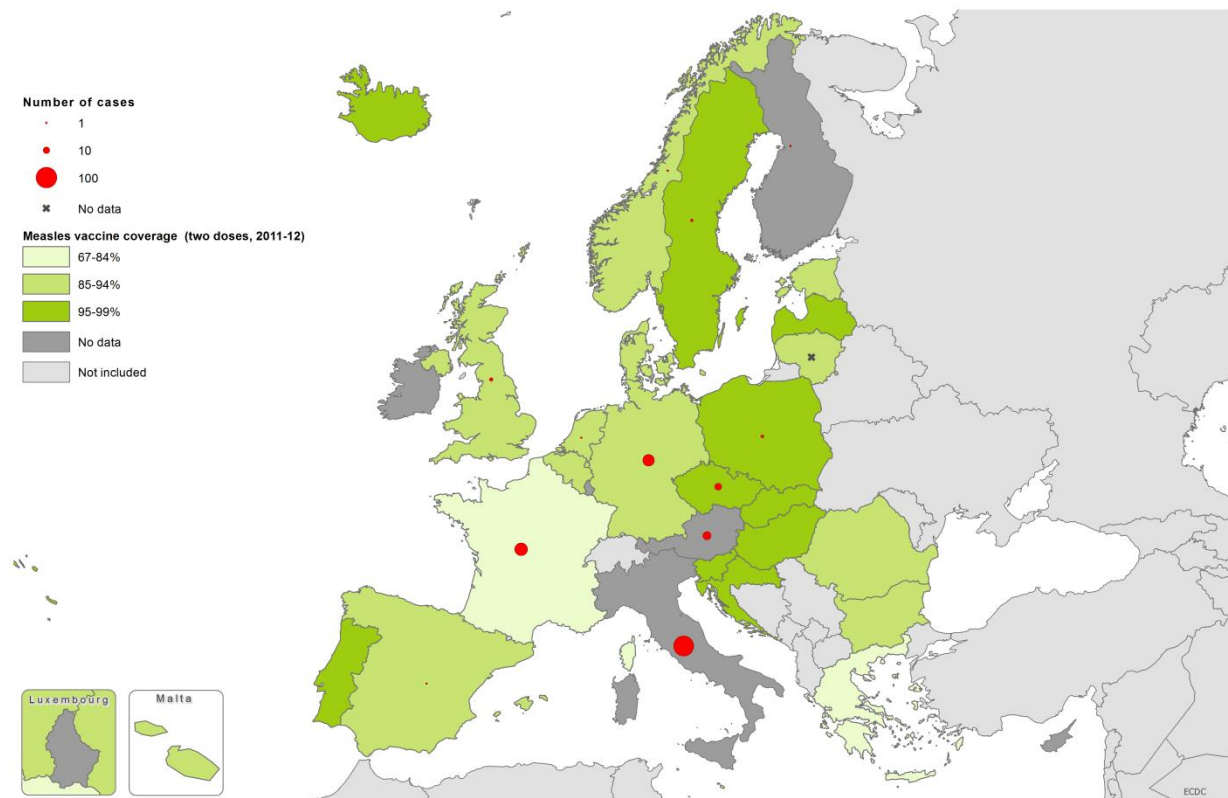
Achieving this target is consistent with progress towards elimination but does not define elimination or confirm that it has been achieved. In the table, all cases (endemic, imported, import-related) are included for the calculation of the notification rate. For the one country that did not report data 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.

Tables on measles cases in previous years are available from:

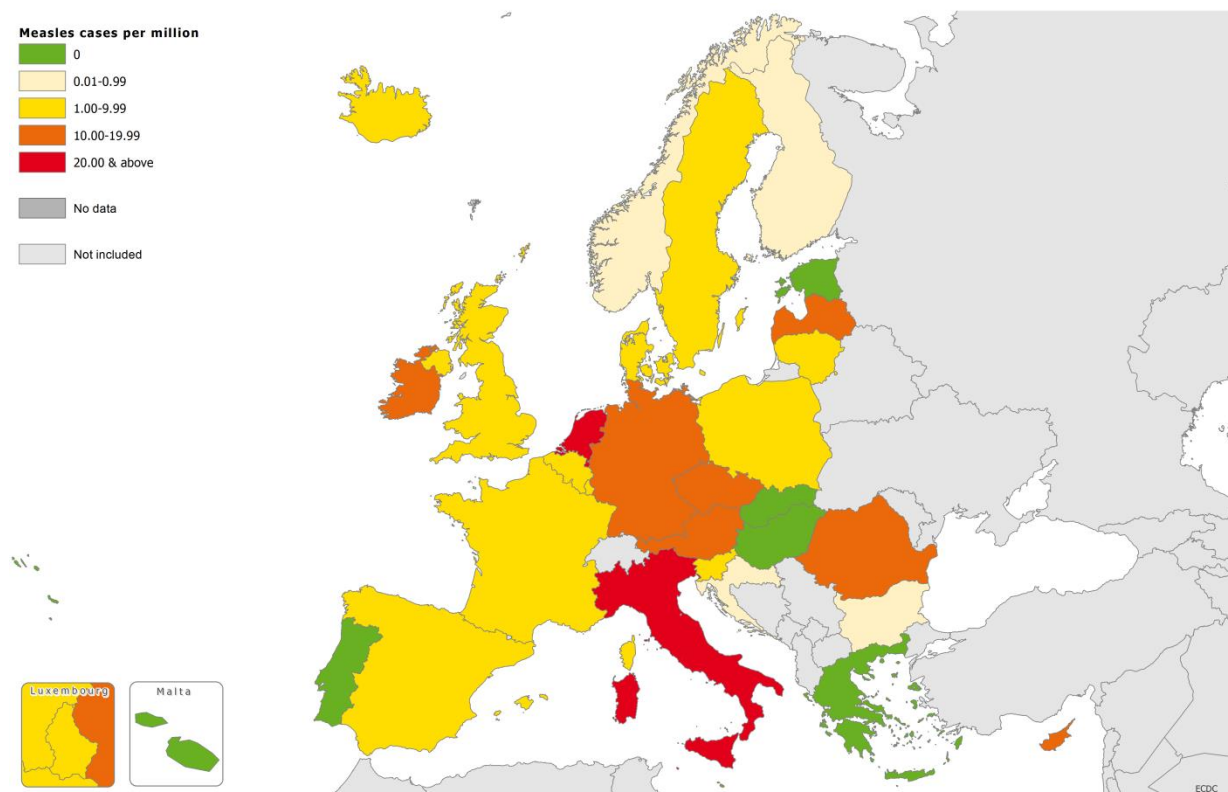
http://www.ecdc.europa.eu/en/healthtopics/measles/epidemiological_data/pages/annual_epidemiological_reports.aspx

Figure 3. Number of measles cases by country, June 2014 (N=206), and vaccine coverage (two doses, 2011–2012, WHO*), EU/EEA countries



* Coverage figures (%) are official national figures reported via the annual WHO/UNICEF Joint Reporting Form. See notes at the end of this report for further explanations.

Figure 4. Measles notification rate (cases per million) by country, July 2013 – June 2014, EU/EEA countries (n=7 116)



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

Figure 5. Measles notification rate (cases per million) by age group, July 2013 – June 2014, EU/EEA countries (n=7 114 cases with known age)

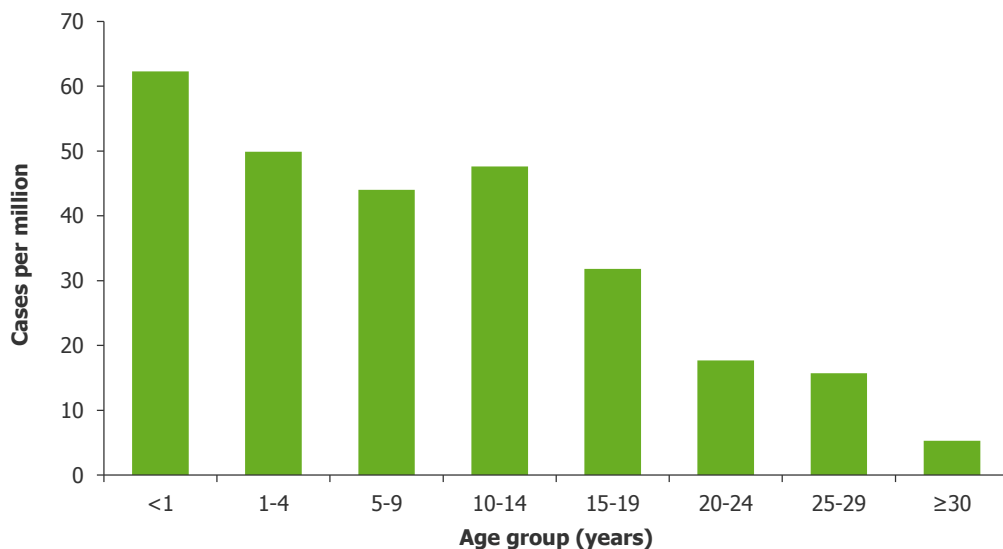


Figure 6. Percentage distribution of vaccination status among measles cases by age group, July 2013 – June 2014, EU/EEA countries (n=7 114, cases with known age)

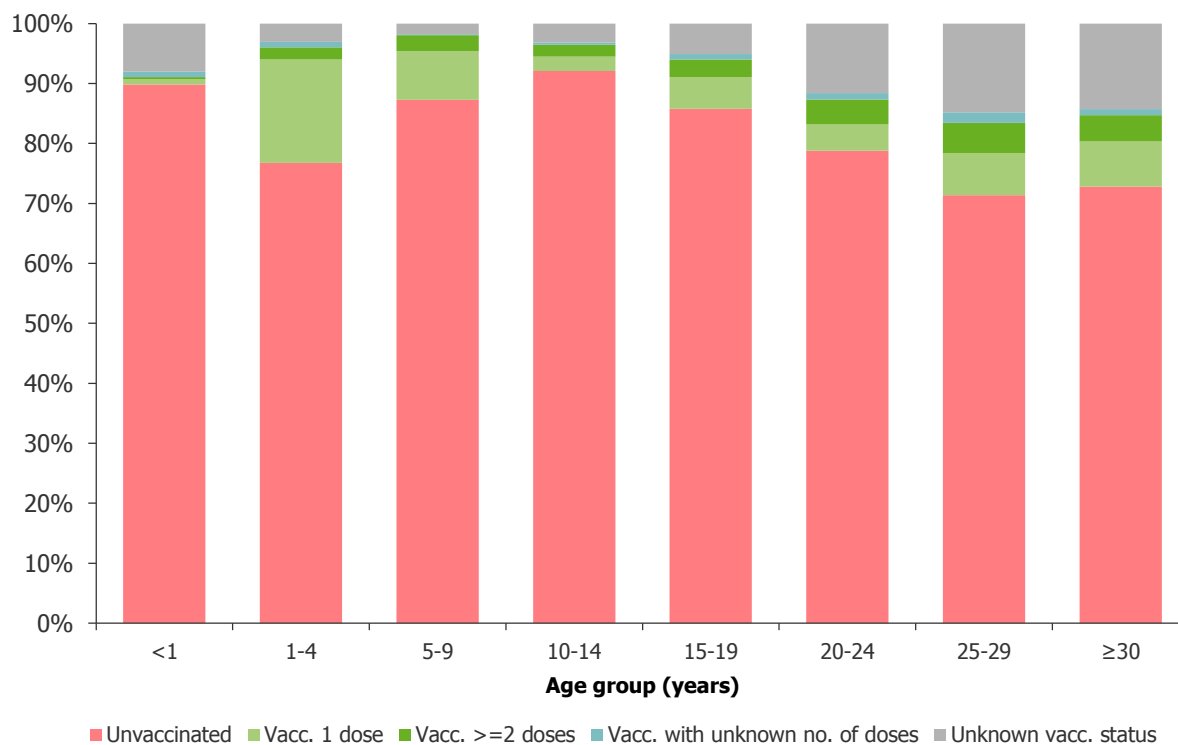


Figure 7. Notification rate of measles cases and vaccination status for the three countries with the highest proportion of cases, by age group, July 2013 – June 2014

Figure 7a. Measles notification rate (cases per million) by age group, the Netherlands, July 2013 – June 2014

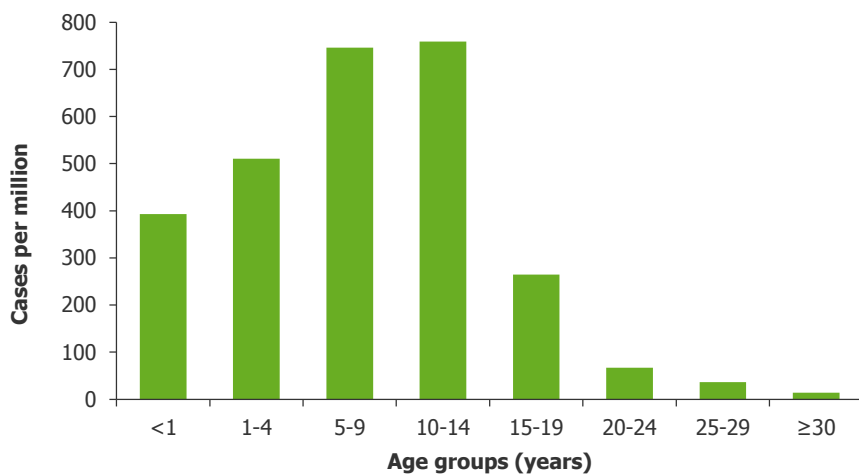


Figure 7b. Number of measles cases by age group and vaccination status, the Netherlands, July 2013 – June 2014

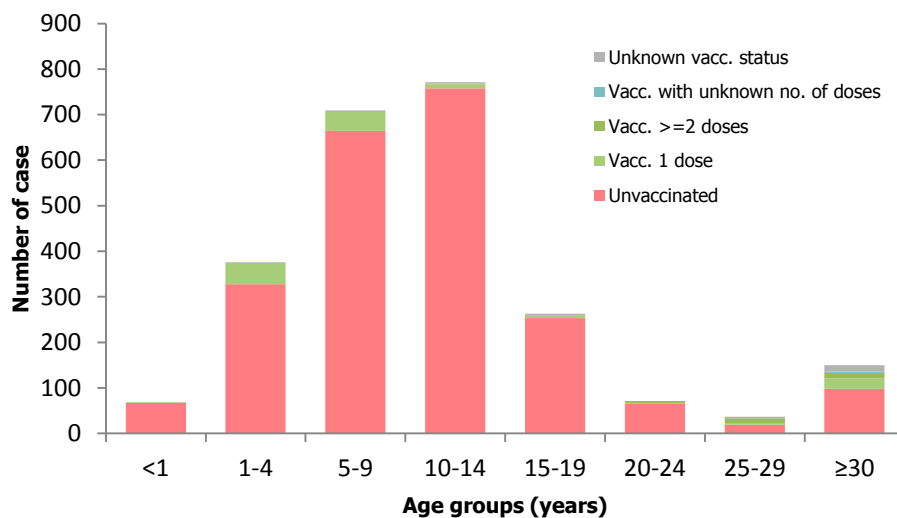


Figure 7c. Measles notification rate (cases per million) by age group, Italy, July 2013 – June 2014

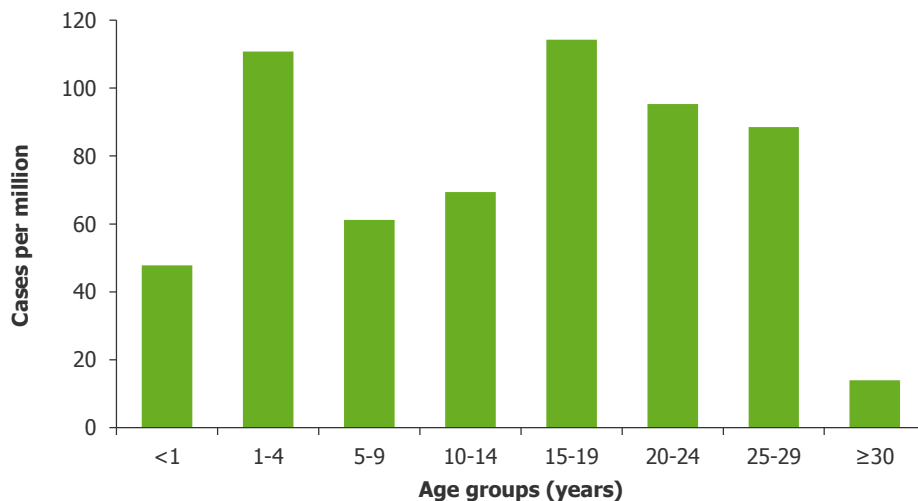


Figure 7d. Number of measles cases by age group and vaccination status, Italy, July 2013 – June 2014

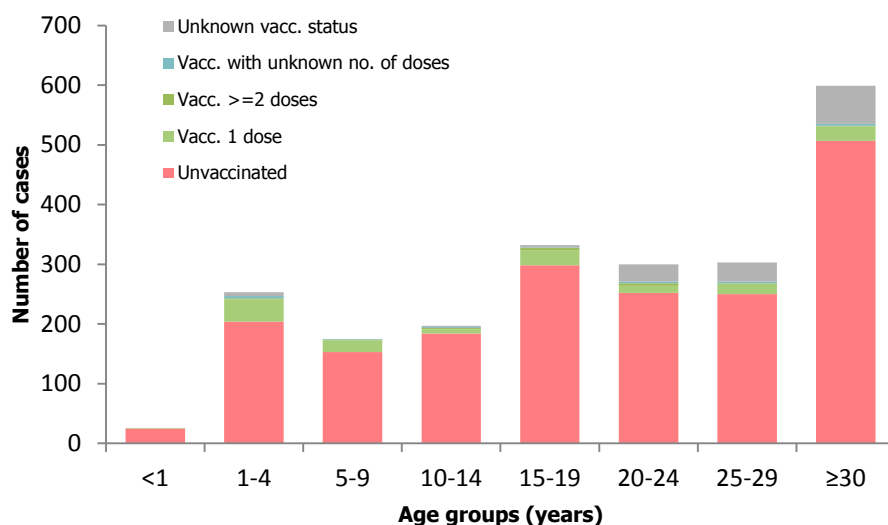


Figure 7e. Measles notification rate (cases per million) by age group, Germany, July 2013 – June 2014

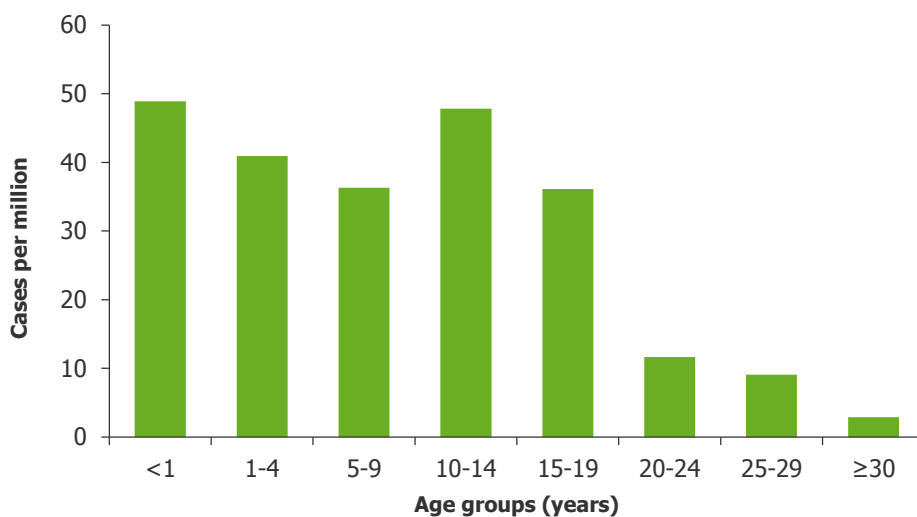
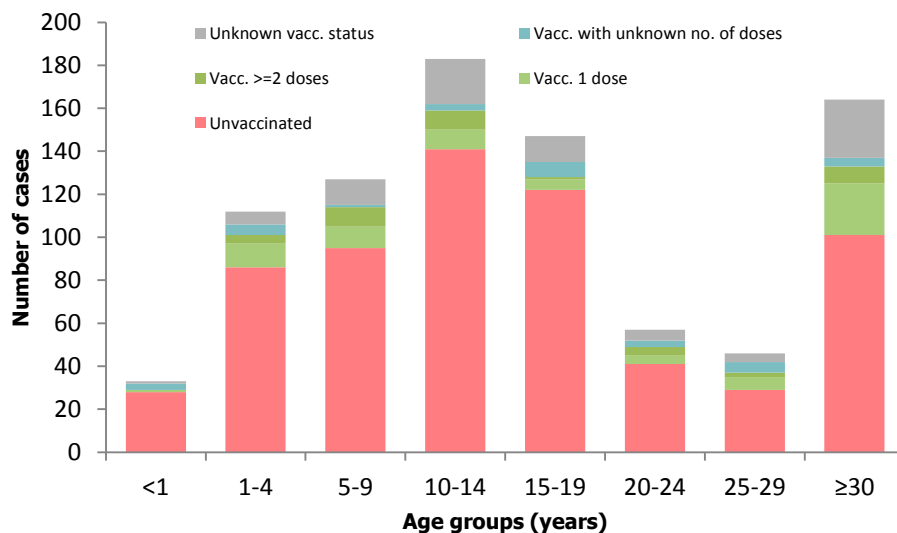


Figure 7f. Number of measles cases by age group and vaccination status, Germany, July 2013 – June 2014



Epidemic intelligence

Updates since the last report[†]

Spain – update

The outbreak in Catalonia that started in January 2014, as reported in the previous bulletin, is declared to be over. Most of the cases were unvaccinated adults aged 20–44 years and occurred in the area around Barcelona and Girona. The primary case was infected in the Philippines. Of the 126 reported cases, five were sporadic cases, unrelated to the original outbreak, but coinciding with it. Twenty-four per cent of affected persons (30 cases) were healthcare personnel including four medical doctors, 14 nurses and 12 other hospital workers. Of these, 22 cases were unvaccinated and in one case vaccination status was unknown. Moreover, eight cases resulted from nosocomial transmission, particularly in waiting rooms. Almost 30 per cent of patients were hospitalised.

Latvia – update

Latvia reported an outbreak of measles in March 2014. By 13 May 2014, 31 laboratory-confirmed cases had been reported. Eleven of the cases with known vaccination status were unvaccinated, two cases had received one measles-containing vaccine dose and three cases reported having received two vaccine doses. Among the unvaccinated cases there were five infants <12 months of age. Nosocomial transmission occurred in three hospitals and affected 13 healthcare workers, including three medical doctors, four nurses, three laboratory specialists and four other healthcare workers. Of these, five cases were unvaccinated, one case had received one dose of measles-containing vaccine, two cases reported having received two vaccine doses and in five cases vaccination status was unknown. Twenty-two cases were hospitalised. Two adults, who acquired the infection in Latvia, travelled on different international flights for meetings during the incubation and/or prodromal period. The cases were reported with measles upon their return to Latvia. Contact tracing has not identified secondary cases among passengers or aircrew or among the meeting participants. Latvia reported 16 cases of measles during the past 10 years.

The Netherlands – update

An outbreak that has been affecting The Hague region since the end of February 2014 was declared over in May. There were forty cases of measles reported, including both children and adults, with an unknown number of hospitalised patients.

The Czech Republic – update

The Czech Republic reported an outbreak of measles in a hospital from the Ustecky region (Masarykova Hospital, Usti nad Labem) in February 2014. The index case was a traveller returning from India. A large number of cases (40%) in the hospital outbreak were healthcare workers, nurses, medical doctors and other hospital employees. The outbreak has since spread to neighbouring areas. As of 21 July 2014, there had been 270 cases reported since the beginning of the outbreak.

Sweden

Media reported a measles outbreak in Kronoberg County, southern Sweden, on 9 July 2014 involving three unvaccinated members of the same family who became infected while travelling abroad. These are the first measles cases in Kronoberg county in 20 years. There have been 14 cases of measles in Sweden reported so far in 2014.

Belgium

In April 2014, an outbreak of measles occurred in a kindergarten in Antwerp (Flanders) with 84 suspected cases, 32 of which were laboratory confirmed. Twelve children have been hospitalised. The age of affected children ranged from 2–14 months and all were unvaccinated. Affected adults were in the 20–29 year age group. Genotype D8 was identified. The outbreak was declared over on 27 May 2014.

Rest of the world

The former Yugoslav Republic of Macedonia – update

An outbreak has been ongoing since January 2014 in the Skopje region. As of 18 May 2014 there were 115 suspected cases, the largest percentage occurring among those aged 30 years and above (43%). Ninety-one cases (79%) were unvaccinated, including 19 infants under the age of 12 months who were too young to be vaccinated. Of the remaining 24 cases (21%), seven cases had received one measles vaccine dose, two cases had received two vaccine doses and in 15 cases vaccination status was unknown. For the cases vaccinated with two MMR vaccine doses, no clinical specimens were provided to confirm the diagnosis using laboratory tests. To date, no measles-related deaths

[†] <http://www.ecdc.europa.eu/en/publications/Publications/measles-rubella-monitoring-april-2014.pdf>

have been reported. However, 71 cases (62%) were hospitalised. Complications were reported in 16 (14%) cases: 15 patients suffered acute pneumonia and one case, a 15-month-old child, had diarrhoea.

The Philippines – update

A total of 47 000 cases of measles (36 493 suspected cases and 10 676 confirmed cases) and 77 measles deaths were reported in the Philippines between 1 January and 20 June 2014.

Vietnam – update

So far in 2014, there have been at least 8 700 cases including 112 deaths.

USA – update

During the period 1 January–25 July 2014, there were 585 confirmed cases in the US reported to CDC's National Center for Immunization and Respiratory Diseases (NCIRD). This is the highest number of cases since measles elimination was documented in the US in 2000.

There are currently several ongoing outbreaks of measles in the country. The largest outbreak in the USA in 20 years is reported in Ohio where the number of measles cases has reached 377 including 10 hospitalisations. It started in an Amish community in March 2014 after Amish travellers returned from a visit to the Philippines. The last date of disease onset was 23 July 2014. At the same time, there has been a mumps outbreak in Ohio with 153 cases including five cases of orchitis. In addition, there is an outbreak of measles in the Kansas City area with 30 linked cases reported and another in the State of Washington within the Micronesian community that has resulted in 12 cases.

Russia

There have been several outbreaks of measles reported in Russia so far in 2014, mostly in Moscow, the Southern Federal District and the North-Caucasus Federal District. One large outbreak involved 212 members of a Baptist community. Measles cases among Roma communities have also been reported. The latest outbreak occurred in the Tyumen Oblast in June and involved 47 people.

Kyrgyzstan

An outbreak of measles has been reported with 54 suspected cases, of which 30 were laboratory confirmed.

Syria

There have been at least 7 000 cases of measles reported in Syria in 2014.

Pakistan

More than 30 000 cases of measles have been reported in 2014, including 390 deaths.

New Zealand

Between December 2013 and 18 July 2014, 260 measles cases have been reported in New Zealand. A total of 113 were in Auckland, 112 in Waikato, 18 in Bay of Plenty/Lakes, 11 in Hawke's Bay, four in Wellington, one in Nelson-Marlborough and one in Taranaki. At least 40 of the cases were hospitalised.

Japan

So far in 2014, as of 16 July, 412 cases of measles have been reported, including at least one case encephalitis. By way of comparison, there were 232 cases during the whole of 2013.

Australia

The number of measles cases in Victoria has risen to 57 since the start of the year, the highest in 15 years. An alert has been issued to general practitioners and hospital emergency departments. Several children have been hospitalised. There have already been 258 cases reported in Australia so far in 2014, compared to 151 cases for the whole of 2013.

Federated States of Micronesia (FSM)

A measles outbreak is ongoing in two of the four states of FSM: Kosrae and Pohnpei. The states together comprise more than 600 islands. As of 18 June 2014, in the state of Kosrae, there have been 158 suspected cases of measles (30 confirmed by testing). In the state of Pohnpei, there have been 47 measles cases reported (nine confirmed by testing). A vaccination campaign has been carried out in Kosrae and one is underway in Pohnpei. Pohnpei was hosting the eighth Micronesian (Micro) Games during the period 20–30 July 2014 at various sport venues around the island.

Rubella

Enhanced surveillance data

The enhanced rubella surveillance data were retrieved from The European Surveillance System (TESSy) on 28 July 2014. The analysis covers the 12-month period from July 2013 to June 2014.

Two EU countries – Belgium and France – do not operate rubella surveillance systems with national coverage and therefore do not contribute data to the EU/EEA enhanced rubella surveillance. Of the 28 contributing countries, 25 reported data for the entire 12-month period. Italy did not report for the entire period and Lithuania did not report data for June 2014. Germany reported data on rubella for the first time in December 2013[‡] (Figure 8, Table 2).

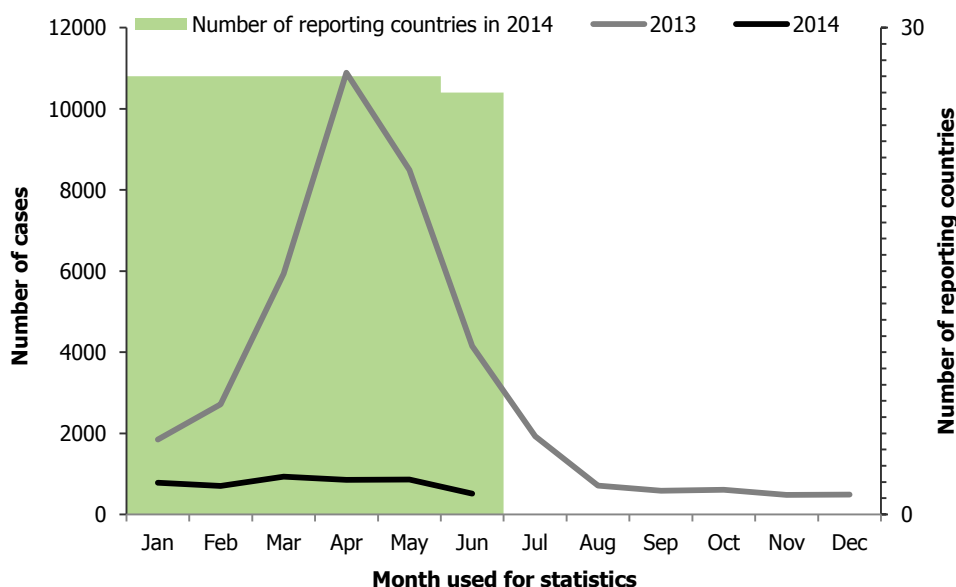
During the period July 2013 – June 2014, 9 443 cases of rubella were reported. Just over 1% of the cases were reported as laboratory confirmed (by serology, virus detection or isolation) (Table 2). The notification rates for the past 12 months and the number of cases reported by country up to June 2014 are shown in Figures 9 and 10. Twenty-one of the 25 countries that reported data for the whole 12-month period met the target of less than one case per million population (Table 2).

The highest notification rate was observed in cases aged five to nine years old (73.6 cases per million population) (Figure 11).

Poland accounted for 97.5% of all reported rubella cases in the 12-month period (n=9 209). Data were reported in an aggregated format. A total of 2 803 cases (30.4%) were unvaccinated, 2 909 (31.6%) cases were vaccinated with one dose, 462 (5.0%) cases with two or more doses, and 3 035 (33.0%) cases had an unknown vaccination status. Only eleven cases were reported with a positive laboratory test.

For all cases reported by Poland in 2013 (n=4 708), age was reported as unknown. For data reported in 2014 (n=4 501), the highest number of cases was observed in males aged 15–19 years (n=834). The ratio of males to females in this age group was greater than 18:1, and greater than 14:1 among 20–24 year olds (Table 3). The high proportion of cases observed among males aged 15–24 years compared to females reflects previous immunisation policies in Poland, where adolescent girls were selectively vaccinated between 1989 and 2004. A universal two-dose MMR vaccination programme has been in place since 2004. The one-dose coverage rate was reported to be 98% in 2012.

Figure 8. Number of rubella cases in 2013 and 2014 and number of European countries reporting in 2014, by month



Note: Belgium and France do not have rubella surveillance with national coverage. Of the countries that have rubella surveillance with national coverage, only Italy did not report data for all months in 2013. Germany reported data on rubella for the first time in December 2013.

[‡] Matysiak-Klose D. Hot spot: epidemiology of measles and rubella in Germany and the WHO European Region. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2013 Sep;56(9):1231-7

Table 2. Number of rubella cases by month and notification rate (cases per million) by country, July 2013 – June 2014, EU/EEA countries

Country	2013	2013	2013	2013	2013	2013	2014	2014	2014	2014	2014	2014	Total cases	Cases per million	Total lab-positive cases
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun			
Austria	1	0	0	0	0	1	1	1	0	0	1	3	8	0.9	7
Belgium	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	-
Bulgaria	0	0	2	0	1	0	1	5	0	0	0	1	10	1.4	2
Croatia	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	1
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Czech Republic	0	0	0	0	0	0	1	0	0	0	0	0	1	0.1	1
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	0	0	0	0	0	0	0.0	0
Finland	0	0	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	0	12	19	14	18	22	17	102	1.2	15
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	0	0	0	0	0	0	0	0	0	0	1	1	2	0.4	0
Italy	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	-	-
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	NR	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	43	0	0	0	0	0	0	1	0	0	0	0	44	2.6	11
Norway	0	0	0	0	0	0	1	2	0	0	0	0	3	0.6	2
Poland	1877	690	569	606	481	485	770	672	913	837	822	487	9209	239.0	11
Portugal	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0
Romania	7	17	9	2	1	3	0	0	0	0	13	1	53	2.6	43
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	0	0	0	0	0	0.0	0
Spain	0	0	0	0	0	0	0	1	1	0	0	0	2	0.0	1
Sweden	0	0	0	0	0	0	0	0	1	0	0	0	1	0.1	1
United Kingdom	1	1	1	1	2	0	0	0	0	0	0	1	7	0.1	7
Total**	1930	708	581	609	485	489	786	701	929	855	859	511	9443		102

NR: Data not reported. Lichtenstein does not report.

Countries with a notification rate ≥ 1 per million population are highlighted in green. The target for monitoring 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 this target is consistent with progress towards elimination but does not define 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.

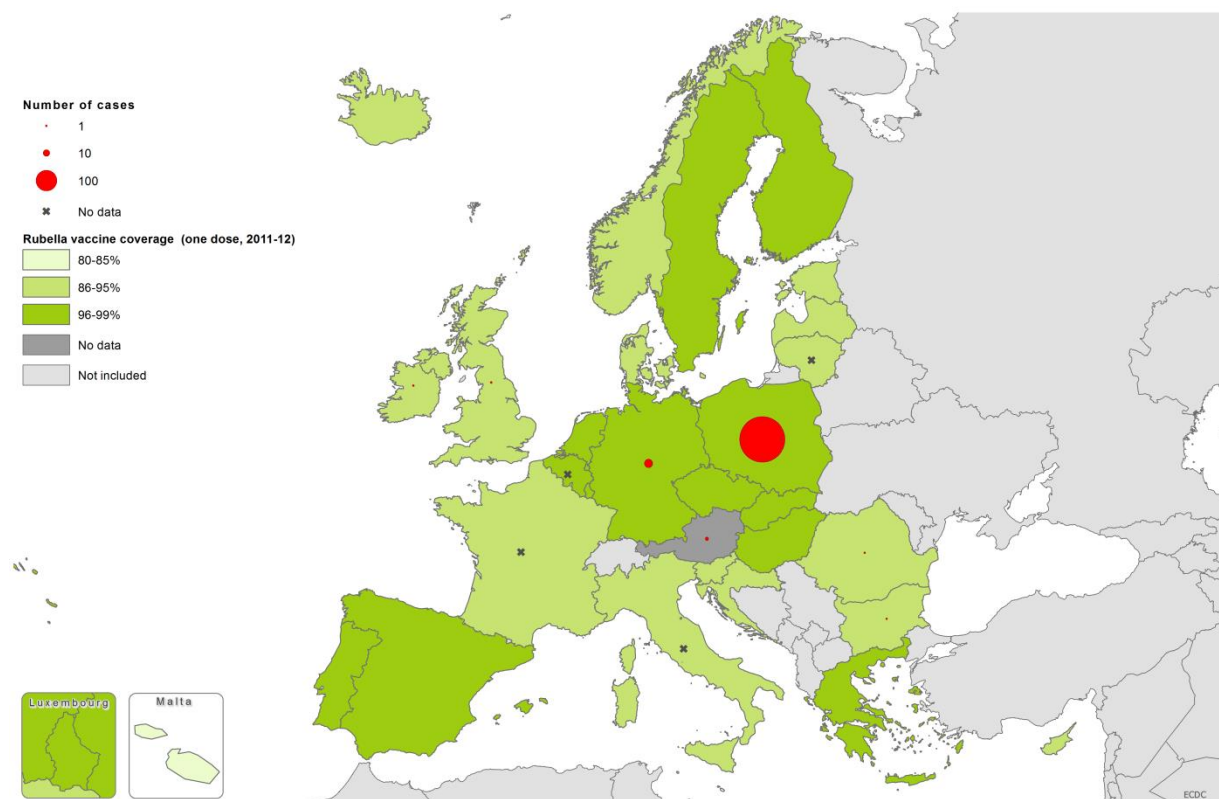
All confirmed, probable, possible or unknown cases, as defined by the EU 2008 case definition, are included.

* 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.

** Due to the high proportion of cases reported by Poland, an overall notification rate for Europe is not presented.

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 9. Number of rubella cases by country, June 2014 (n=511), and rubella vaccine coverage (one dose, 2011–12, WHO*), EU/EEA countries



* Coverage figures (%) are official national figures reported via the annual WHO/UNICEF Joint Reporting Form. See notes at the end of this report for further explanations.

Figure 10. Rubella notification rate (cases per million) by country, July 2013 – June 2014, EU/EEA countries (n=9 443)

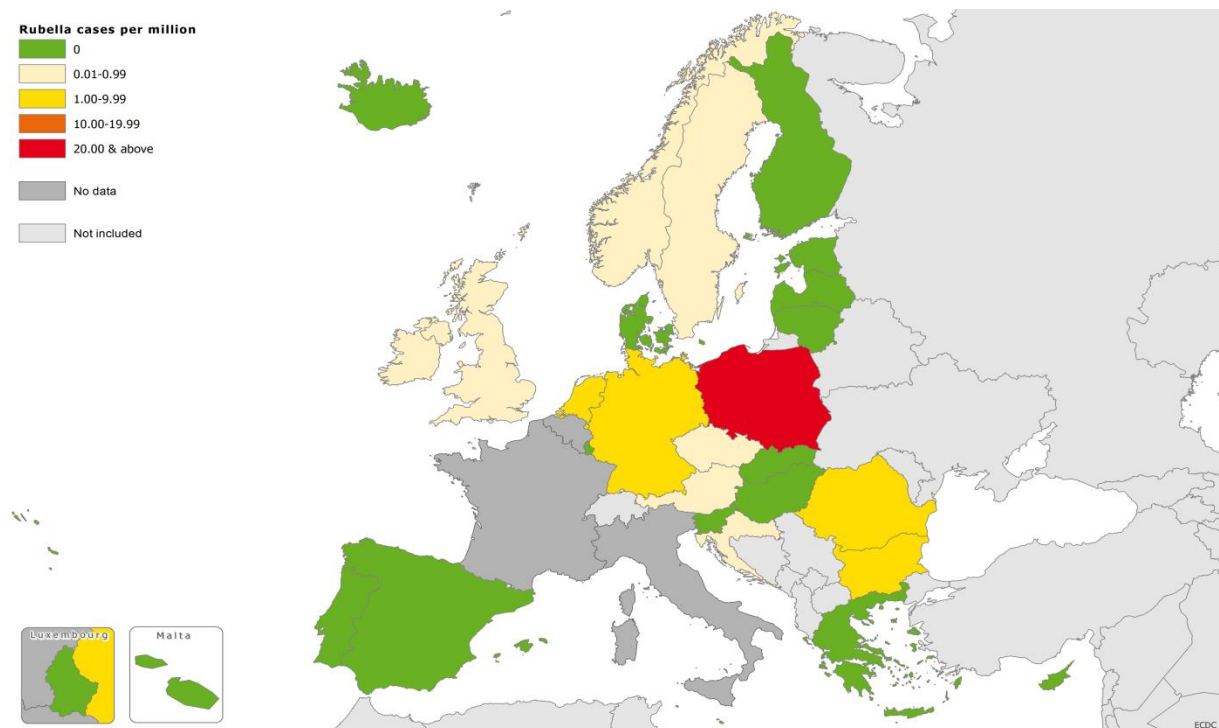
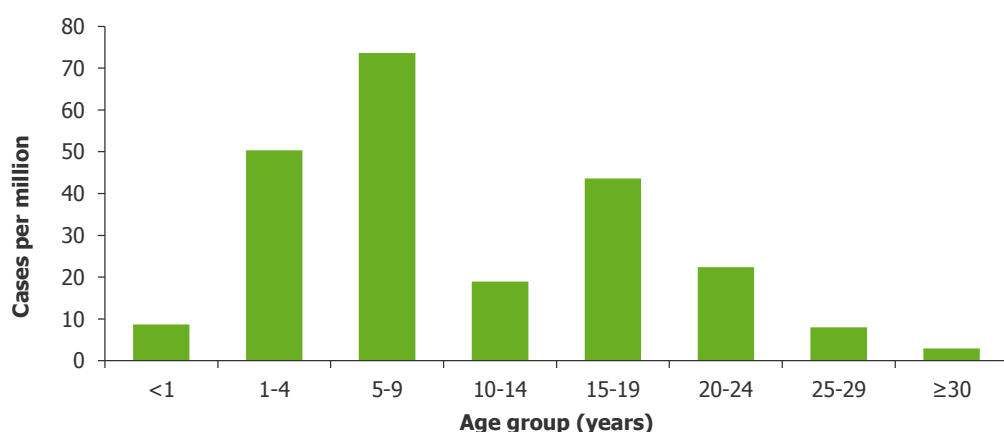


Figure 11. Rubella notification rate (cases per million) by age group, July 2013 – June 2014, EU/EEA countries (n=4 735 cases with known age)**Table 3. Number of rubella cases by age group and gender, Poland, January – June 2014***

Age group (years)	Total number of cases	Males	Females
<1	166	95	71
1-4	730	396	334
5-9	1349	707	642
10-14	345	217	128
15-19	880	834	46
20-24	521	488	33
25-29	189	145	44
≥30	321	120	201
Total	4501	3002	1499

* No data on age group was reported by Poland in 2013.

Epidemic intelligence

No rubella outbreaks have been detected by epidemic intelligence since the previous report.[§]

Useful links

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

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

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

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

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

Let's talk about protection, ECDC: <http://www.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/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, ECDC: <http://ecdc.europa.eu/en/healthtopics/immunisation/pages/index.aspx>

[§] <http://www.ecdc.europa.eu/en/publications/Publications/measles-rubella-monitoring-april-2014.pdf>

Notes

The European Surveillance System (TESSy) reports a 'date used for statistics', which is a date chosen by the country for reporting purposes. This date may indicate onset of disease, date of diagnosis, date of notification or date of laboratory confirmation, depending on 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 July 2014. Later retrievals of data relating to the same period may result in slightly different numbers as countries have the possibility to update data in TESSy retrospectively.

The vaccine coverage displayed in the maps of the report was retrieved from the WHO Global Database available from: http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tscoveragerubella1.html and http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tscoveragemcv2.html

Measles. 2012 vaccine coverage (estimate) of two doses of measles-containing vaccine was used; if estimates from 2012 were not available, estimates from 2011 were used. Some countries do not report on coverage of two doses of measles vaccine; instead they only report the coverage of one dose of measles-containing vaccine. For more information, please check the above link to the WHO Global database.

Rubella. 2012 vaccine coverage (estimate) of one dose of rubella vaccine was used; if estimates from 2012 were not available, estimates from 2011 were used.