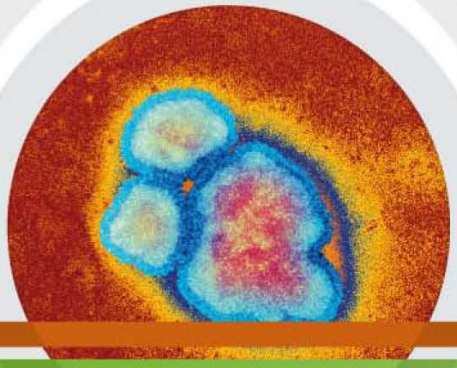


SURVEILLANCE REPORT

Volume 5

European monthly measles monitoring (EMMO)

October 2011

Main developments

- During the period January to September 2011, 27 081 cases of measles were reported to TESSy by the 29 contributing EU and EEA countries, including eight measles-related deaths and 23 cases of acute measles encephalitis. The highest incidence was among infants below one year (35.9 cases per 100 000 population). Ninety-seven percent of cases were infected in their country of residence. Of the cases with known vaccination status, 82% were unvaccinated.
- Over 1 000 new measles cases were detected through epidemic intelligence in the EU and EEA/EFTA countries since the previous measles monitoring report, bringing the number of cases for 2011 to more than 30 200.
- Two cases of subacute sclerosing panencephalitis (SSPE), one of whom died, were reported in October 2011. SSPE is a late fatal complication of measles infection.
- No new measles outbreaks were reported from EU and EEA/EFTA countries during October 2011.
- Three out of the 29 reporting countries remain measles free in 2011: Cyprus, Hungary and Iceland.
- The EUVAC.NET website was transferred to ECDC's webpage in September 2011 and is now maintained and moderated by ECDC. The EUVAC Forum has been replaced by EPIS–VPD, an ECDC-moderated platform for the rapid exchange of confidential information on vaccine-preventable diseases.
- A communication campaign was launched in France in October 2011 to address the measles outbreak; it targets health professionals, young adults aged 15 to 30 years, and mothers of young children, recommending that they check their children's immunisation cards and stressing the importance of two doses of vaccine for their children.
- At this year's World Health Summit in Berlin in October, ECDC Director Marc Sprenger emphasised in his speech that in order to achieve measles elimination in Europe, countries will need to run specific catch-up vaccination campaigns. He also pointed out the importance of effective communication to reinforce the trust of parents in vaccination.

Background

Measles is a highly infectious and potentially fatal disease which can be prevented by a safe and effective vaccine. When given in two doses, at least 98% of vaccine recipients develop life-long protective immunity against the disease. As the measles virus only infects humans, the disease could theoretically be eradicated if high enough vaccination coverage is achieved in all populations. The countries in the European Region of the World Health Organization, including the EU and EEA/EFTA countries, have committed to eliminate measles by 2015. Elimination of measles requires sustained vaccination coverage above 95% with two doses of a measles containing vaccine (MCV).

ECDC monitors measles transmission in the EU and EEA/EFTA countries and produces monthly epidemiological updates. These European Monthly Measles Monitoring (EMMO) reports are based on information from multiple sources including national websites, the EUVAC.Net database, the Early Warning and Response System (EWRS), validated media reports and personal communication from national authorities. The period covered will differ between countries and the number of cases reported in EMMO should be treated as preliminary data.

EMMO data on MCV coverage is retrieved from the official WHO Computerized Information System for Infectious Diseases (CISID) unless otherwise stated. CISID data originates from the WHO/UNICEF Joint Reporting Forms submitted annually by WHO member states. It should be noted that countries use different methodologies and definitions for assessing vaccination, and that direct comparisons of coverage between countries is not possible. The recommended age for the second dose of MCV varies considerably between countries, which further complicates the picture. Only 18 out of 27 EU countries assess MCV 2 coverage at 24 months of age.

The purpose of EMMO is to provide timely public updates on the measles situation in Europe for effective disease control measures, and in support of the common 2015 measles elimination target.

Surveillance section

Overview

In September 2011, the EUVAC.NET website migrated to ECDC and is now maintained and moderated by ECDC. In October the EUVAC Forum was replaced by EPIS–VPD, an ECDC-moderated platform for the rapid exchange of confidential information on vaccine-preventable diseases. EPIS, which stands for Epidemic Intelligence Information System, allows countries to share information and post inquiries about vaccine-preventable diseases. Access is restricted to nominated national focal points to ensure confidential and rapid communication about outbreaks.

The official reporting on vaccine-preventable diseases was also transferred from EUVAC.NET to ECDC for 29 of the 32 countries previously reporting. The routine reporting to EUVAC.NET, which was managed by Statens Serum Institut (SSI), Denmark, through a grant from ECDC is now done directly to The European Surveillance System (TESSy) database at ECDC. After validation by the contributing countries, the data is forwarded to WHO for the completion of the WHO/United Nations Children's Fund (UNICEF) joint reporting form on immunisation.

ECDC produces monthly measles monitoring reports in two sections. The first section of EMMO presents an analysis of enhanced surveillance data on measles as reported to TESSy and validated by countries. The figures in this section of the report should be considered as validated official national statistics on measles and will be included in the chapter on measles in the ECDC Annual Epidemiological Report (AER). The second section presents measles data and outbreak information generated through epidemic intelligence at ECDC. The purpose of this section is to provide timely information and background on measles transmission in the Members States in support of measles control and preventive interventions.

Surveillance data

From January to September 2011, 27 081 measles cases were reported to TESSy (Table 1). All 29 countries submitted data for the period from January to July 2011, 27 countries submitted data for the month of August, and 25 countries for the month of September. The incomplete reporting on measles data is thought to be due to the recent transition of the surveillance reporting from the EUVAC.NET hub to the TESSy system. In addition, some Member States are currently working on implementing automated systems for uploading the data, and once these are functional the timeliness of reporting is expected to improve.

All countries except Bulgaria are reporting case-based data.

The highest number of cases has been reported in France which accounts for more than half of all cases in 2011. Other large countries with high measles incidence in 2011 are Italy, Romania, Spain and Germany due to big outbreaks, now subsiding, affecting most of their regions. Also, a considerable increase in case numbers has been observed during 2011 compared with 2010 in some countries with lower populations, such as Belgium, Denmark, Norway, and Slovenia. Cyprus, Hungary, and Iceland reported no cases in 2011 (Table 1, Figure 3). Twelve of the 29 reporting countries exceeded the notification rate of one case per 100 000 population (Figure 3).

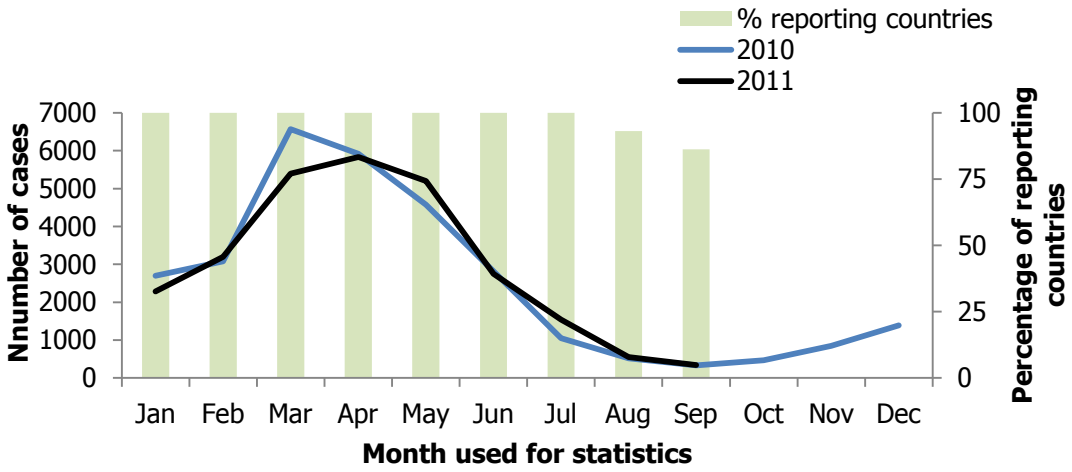
The number of measles cases reported for the first nine months of 2011 is comparable to the number reported during the same period of 2010. The reported incidence has been exceptionally high in the last two calendar years compared with 2009 (7 175 cases) and 2008 (7 817 cases). In 2010, Bulgaria reported 72% of all cases as a result of a large outbreak which is now over.

Eight measles-related deaths and 23 cases of acute measles encephalitis were reported by the 29 countries during the period January to September 2011. The fatal cases were reported from France (6), Germany (1) and Romania (1). Reporting on complications is incomplete. This information was available for only 5 512 of the reported cases (Table 2).

Of the reported cases, 41% (11 074 cases) were confirmed, 21% (5 714 cases) probable, 38% (10 161 cases) possible, and 0.5% (132 cases) unknown. The 2008 EU case definition was used by 15 (52%) of the reporting countries. The highest incidence was among infants below one year (35.9 cases per 100 000 population), followed by children between one and four years (20.1 cases per 100 000 population) (Figure 4).

Vaccinations status was known for 75% (20 317 cases) of the reported cases. Of these, 82% (16 686) were unvaccinated and 13% (2 718) had only received one dose. Importation status was available for 61% (16 499) of cases, 96% (15 898 cases) of them were infected in their country of residence, 3% (576 cases) were imported, and 0.2% (25 cases) were import-related*.

Figure 1: Distribution of measles cases in 2011 and 2010, and proportion of countries reporting measles surveillance data in 2011, by month†



Source: TESSy

Reporting countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

27/29 countries reported for August 2011, 25/29 countries for September 2011.

Table 1: Number of measles cases by month, notifications per 100 000 population, and comparison with previous reporting period in 2010; EU and EEA countries, 2011

	Number of cases in the reporting month of 2011									Jan–Sep 2011		Jan–Sep 2010	
Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Number of cases	Notification rate per 100,000	Number of cases	Notification rate per 100,000
Austria	7	5	5	9	18	33	16	4	2	99	1.2	41	0.5
Belgium	6	23	142	98	121	87	40	14	5	536	4.9	40	0.4
Bulgaria	76	28	23	6	18	1	0	0	1	153	2.0	21853	288.9
Cyprus	0	0	0	0	0	0	0	0	0	0	0	18	2.2
Czech Republic	0	0	4	4	4	0	1	3	0	16	0.2	0	0
Denmark	7	13	23	18	19	0	1	0	0	81	1.5	4	0.1
Estonia	0	0	4	1	1	1	0	0	0	7	0.5	0	0
Finland	1	1	1	6	9	0	0	nr	nr	18	0.3	5	0.1
France	1516	2293	3591	3274	2231	905	396	141	77	14424	22.2	3258	5.0
Germany	69	95	195	428	434	167	92	nr	nr	1480	1.8	621	0.8
Greece	0	2	6	17	10	2	0	3	0	40	0.4	148	1.3
Hungary	0	0	0	0	0	0	0	0	0	0	0	0	0

*An 'imported case' is defined as a case in which the source of infection was outside the country of residence, and the person in question was travelling abroad during the incubation period prior to the onset of the rash (measles: 7–18 days; rubella: 12–23 days). Classification as an imported case is also supported by epidemiological and/or virological evidence of foreign-acquired infection. An 'import-related case' is a case epidemiologically linked to an imported case, as supported by epidemiological and/or virological evidence. All import-related cases are to be considered as indigenous cases. See also: WHO. Surveillance guidelines for measles, rubella and congenital rubella syndrome in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2009.

† Date used for statistics

	Number of cases in the reporting month of 2011									Jan–Sep 2011		Jan–Sep 2010	
Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Number of cases	Notification rate per 100,000	Number of cases	Notification rate per 100,000
Iceland	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	0	5	11	17	12	30	33	65	72	245	5.5	388	8.7
Italy	329	334	568	897	1232	733	307	116	33	4549	7.5	622	1
Latvia	0	0	0	0	0	0	0	1	0	1	0.04	0	0
Lithuania	0	0	0	1	2	4	0	0	0	7	0.2	2	0.1
Luxembourg	0	0	1	0	1	2	0	0	1	5	1.0	1	0.2
Malta	0	1	0	1	0	0	0	1	1	4	1.0	0	0
Netherlands	2	1	10	16	11	5	0	1	0	46	0.3	11	0.1
Norway	4	12	7	2	3	5	1	1	2	37	0.8	3	0.1
Poland	2	2	2	8	5	5	4	5	nr	33	0.1	12	0
Portugal	0	0	1	0	0	0	0	0	0	1	0.01	5	0
Romania	131	192	402	396	514	455	377	46	59	2572	12.0	37	0.2
Slovakia	0	0	0	1	0	1	0	0	nr	2	0.04	0	0
Slovenia	0	0	0	2	1	7	12	0	0	22	1.1	2	0.1
Spain	98	159	251	448	360	172	153	89	59	1789	3.9	150	0.3
Sweden	4	1	1	8	4	1	2	1	0	22	0.2	6	0.1
United Kingdom	31	33	143	171	186	133	106	60	29	892	1.4	349	0.6
Total	**2283**	**3200**	**5391**	**5829**	**5196**	**2749**	**1541**	**551**	**341**	**27081**	**5.3**	**27576**	**5.4**

Data source: The European Surveillance System (TESSy). Notifications rates were calculated per 100000 population, using the most recent population estimates available from Eurostat (2011).

nr = no data reported

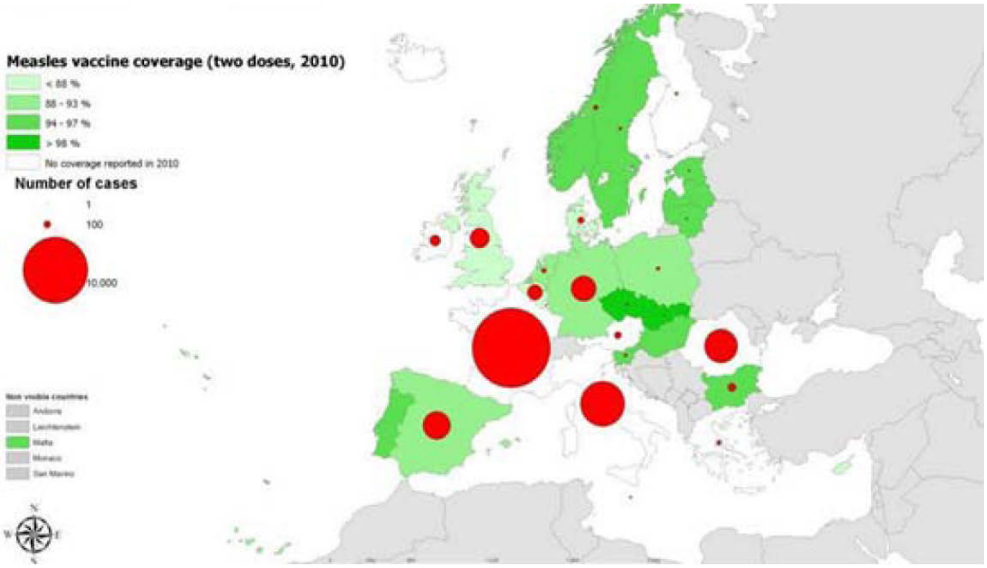
Table 2: Number of fatal measles cases and cases with complications*** by vaccination status; EU and EEA countries, January to September 2011**

	Vaccinated	Not vaccinated	Unknown vaccination status	Total	%
Deaths	1	3	4	8	0.04%
Complications					
Encephalitis	3	19	1	23	0.4%
Pneumonia	131	556	228	915	17%
Other complications	329	1437	243	2009	36%
No complications	272	1,793	500	2565	47%

*** Information on outcome status was available for 20239 cases.*

**** Information on complications was available for 5512 cases.*

Figure 2: Distribution of measles cases in EU and EEA countries reported to TESSy (January – September 2011) and two-dose measles vaccine coverage (2010 CISID*)



** Coverage figures (%) are official national figures reported via the annual WHO/UNICEF Joint Reporting Form and WHO Regional Office reports (as of 1 September 2011).*

Figure 3: Distribution of notification rate (cases per 100 000 population) by country reported through TESSy, EU and EEA countries, January to September 2011

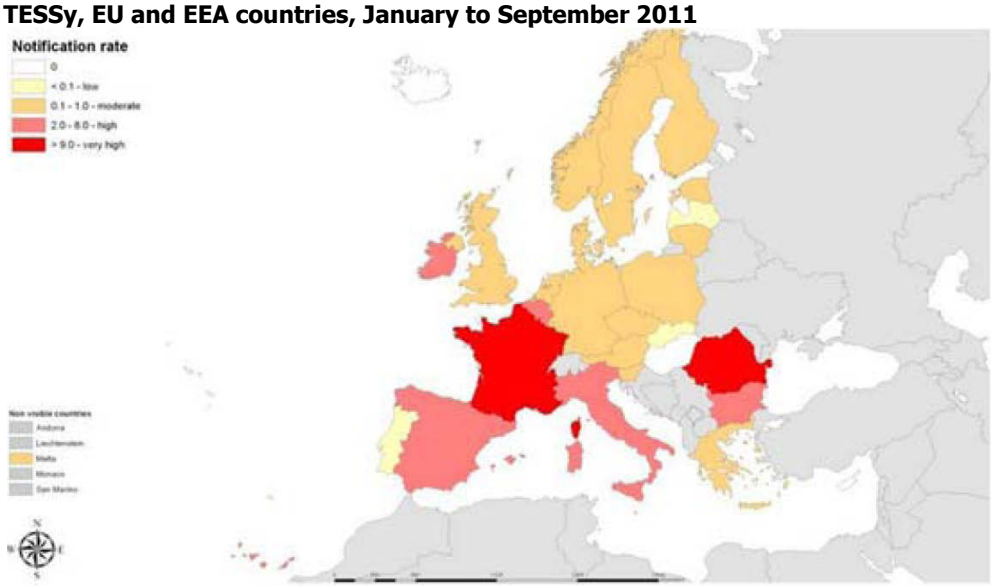
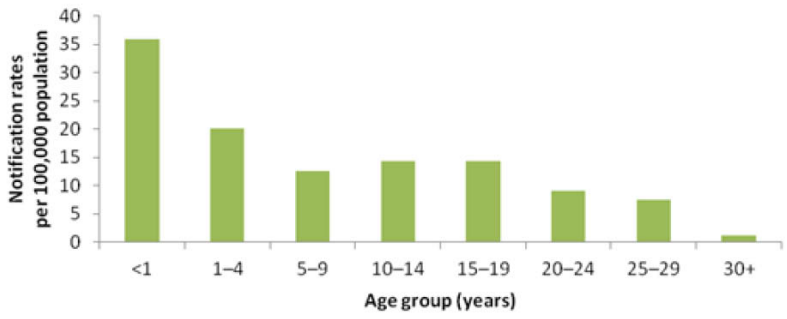


Figure 4: Distribution of notification rates per 100 000 population by age group, EU and EEA countries, January to September 2011



Note: Number of cases with known age is 26 721.

Epidemic intelligence section

Overview

Subacute sclerosing pan-encephalitis (SSPE) is a rare complication of measles, yet during October 2011 two cases, one of whom died, were reported in German media and later confirmed by the national authorities. Both patients, aged six and thirteen years, contracted measles in infancy at an age when they were still too young to receive the first dose of measles vaccine according to their national vaccination schedule. These two cases demonstrate the importance of herd protection. When parents decide not to vaccinate against measles, that decision has implications not only for their own child, who will be unprotected against a potentially dangerous disease, but also for everyone else in the community. Patients with acute measles often expose children who have not yet reached the recommended age for vaccination and people who cannot be vaccinated because of medical conditions, to an infection which can have serious consequences. Exposure often happens in schools and day care centres and in doctors' waiting rooms before it is clear that the patient has measles. Indirectly and without intent, a decision not to vaccinate a child may lead to someone else's child contracting measles and developing severe complications.

A recent study in Germany found that parents frequently underestimate the risks of vaccine-preventable diseases: one in three guardians regarded measles as not being a potentially dangerous infection. One newspaper article describes how vaccine opponents in Germany organise 'measles parties', where unvaccinated children are brought together with measles-infected children in order to transmit the virus.

Doctors, nurses and other frontline healthcare workers who are in direct contact with parents and children play a very important role for the uptake of measles vaccination, a matter discussed in a recently published editorial in Eurosurveillance. Research shows that health professionals are the most trusted source of health advice for parents. According to the German study cited above, parents prefer to receive information about vaccinations from a doctor (98 percent) or another health professional (90 percent). At the 2011 annual hearing with the European Parliament's Committee on the Environment, Public Health and Food Safety, ECDC Director Marc Sprenger pointed out that leadership in the fight against measles needs to come from Europe's health professionals – particularly from family doctors and paediatricians. Health professionals have an obligation to engage with parents who express doubts about the benefits of measles vaccination. The scientific evidence in favour of measles vaccination is undisputable, and not vaccinating a child puts him/her at unnecessary risk.

Measles elimination will be in the focus of ECDC's work in 2012. ECDC encourages healthcare providers across Europe to work with public health and community leaders, and to actively counsel parents about measles vaccination based on evidence-based information to parents. Professional ethics dictate that healthcare workers do not expose their clients to the risk of infection. Anyone who regularly meets patients and clients should make sure that they are protected against measles because a single infective healthcare worker may expose hundreds of clients before it becomes clear that he or she is suffering from measles.

Facts about subacute sclerosing pan-encephalitis (SSPE)

Sources: US-CDC, US National Library of Medicine, International Journal of Epidemiology

Cause, incidence

Subacute sclerosing panencephalitis (SSPE) is a progressive neurological disorder caused by persistent measles virus infection of the brain. Clinical manifestations often appear several years after the affected patient had measles. On average, symptoms of SSPE begin seven to 10 years after the acute measles infection, but may become manifest anytime from one month to 27 years after infection. Perinatal measles infection may result in SSPE with a short onset latency and fulminant course.

The risk of developing SSPE is inversely associated with the age at which a person contracted measles. Studies in the United Kingdom indicate that 18 out of every 100 000 people who have measles before one year of age will develop SSPE. This is compared to an incidence of 1.1 per 100 000 among those infected with measles after five years of age. SSPE has been reported in all parts of the world. Studies have shown a decreasing trend in the number of SSPE cases in Europe following the introduction of routine measles vaccination in the 1970s and the 1980s. An example is Bulgaria which on average diagnosed four patients per year with SSPE in the 1978 to 1984 period, compared with 1.7 patients per year during 1995 to 2002 after the introduction of measles vaccination.

Symptoms, prognosis, diagnosis

The first signs of SSPE are often personality changes followed by gradual mental deterioration (school problems, seizures, unsteady gait, bizarre behaviour, and dementia) and myoclonia (muscle spasms or jerks). In some cases, the cognitive decline continues for years before progressing to neuromuscular symptoms. The diagnosis is difficult and typically delayed or missed until autopsy.

The average survival after onset of symptoms is one to two years. Analyses of viral material derived from brain tissue of SSPE patients have revealed wild-type measles virus RNA sequences, but never vaccine virus. There is no evidence that measles vaccine virus can cause SSPE. Patients with SSPE who have a history of measles vaccination but no knowledge of having had measles may have had an undiagnosed rash illness or mild measles disease early in life as a result of passive partial immunity from maternal antibodies. SSPE should be considered as a differential diagnosis of encephalitis also when there is no history of measles disease.

The diagnosis of SSPE is based on the constellation of signs and symptoms, typical EEG changes, elevated anti-measles antibody (IgG) concentration in serum and cerebrospinal fluid, and typical histological findings in brain biopsy tissue.

Treatment

Treatment is palliative. There is no cure for SSPE, and the condition is fatal.

Prevention

Immunisation against measles is the only known prevention for SSPE.

Epidemic intelligence data

ECDC is closely monitoring measles transmission and outbreaks in the EU and neighbouring countries in Europe not only through enhanced surveillance but also through epidemic intelligence activities.

So far in 2011, ECDC has identified 30 287 cases of measles in the EU and EEA/EFTA countries.

Updates on ongoing outbreaks and endemic transmission

France

Source: French Ministry of Health

France has launched an information campaign including a dedicated website in response to the measles epidemic which is now in its third year. The campaign is aimed primarily at health professionals, young adults, parents of young children and adolescents, but also the general public. It provides information about the outbreak and the national recommendations on measles vaccine. The campaign objectives are tailored to the targeted groups. Special attention is given to adolescents and young adults aged 15 to 30 years, a group which has been particularly affected since the epidemic started in 2008.

Germany

Sources: Weltonline, Professional Association of Child and Adolescent Physicians in Germany press release

In the district of Aschaffenburg, Bavaria, a six-year-old girl was diagnosed with subacute sclerosing pan-encephalitis (SSPE) in October 2011. She had measles in 2006 when only seven months old and developed the first symptoms of SSPE in February 2011. She is now unable to walk and talk and is being fed via a gastric tube. Another child who also had measles in 2006, died from SSPE within a year of the acute infection. A third German child, a 13-year-old girl from Bad Salzuflen, North Rhine-Westphalia, died from SSPE in October 2011. She had measles in infancy, and it is likely that she was infected by an 11-year-old unvaccinated boy with whom she shared a doctor's waiting room. The girl's parents consulted the doctor for a common cold, and the boy presented in the clinic with fever and unspecific symptoms. Only the following day did he develop the typical measles rash. The now dead girl recovered fully from measles and she developed normally until the third grade of primary school when her first neurological symptoms presented. Her condition deteriorated (see video) and she died 12 years after the initial measles infection. The unvaccinated boy is known to have infected six children of whom three were infants, too young to have had the first dose of measles vaccine.

There is currently no SSPE surveillance at European Union level. In light of the high incidence among infants and young children in the ongoing 2010–2011 measles epidemic in Europe, the number of SSPE cases is likely to increase over the next five to seven years.

Spain

Source: Eurosurveillance

During a three-month period in spring 2011, 23 cases of measles occurred in seven independent outbreaks in the Basque region bordering France. The region has a population of about 700 000 people, and the last recorded measles outbreak was in 1997. Thanks to a high measles vaccination coverage, rapid diagnosis and good surveillance, effective containment measures could be implemented, which have so far prevented the disease from spreading. With the exception of the first outbreak, which affected 10 people, none of the other six outbreaks resulted in more than three secondary cases.

Ireland

Source: Epi-insight, a disease surveillance report of the Health Protection Surveillance Centre

The measles outbreak in Ireland, which has mainly affected the eastern part of the country, is now subsiding. Since early October there has been a gradual decline in the number of new cases. As of 22 October 2011, 265 measles cases have been reported in Ireland during 2011. Eighty-six percent (227 cases) are from the eastern part of the country. The peak of the outbreak was in August and September when 139 cases (61%) were reported. The greatest number of cases was among 5- to 9-year-old children. Almost 70% of cases were unvaccinated or incompletely vaccinated. Eleven patients required hospitalisation, of whom three were treated for seizures. A combination of factors is likely to have facilitated the spread of measles in the affected area, including suboptimal MMR uptake, social deprivation, high population density, and the absence of a school-based immunisation service.

Control measures included:

- a catch-up MMR vaccination campaign in September in all the primary schools of the affected areas;
- prompt follow-up of all reported measles cases by public health staff, including liaising with general practitioners, managing clusters of measles, arranging swabs for diagnosis, staffing vaccination clinics and advising cases on appropriate follow-up;
- informing all Dublin GPs by letter and email of the measles outbreak and requesting opportunistic MMR vaccination of all children including infants from six months of age;
- providing information on the outbreak to hospitals, pharmacists and the Department of Education; and
- releasing multiple messages via print media and local and national radio informing the public of the outbreak and the benefits of MMR vaccination.

Other news

Why measles spreads so quickly

Source: Nature, medicalnewstoday.com

Researchers have discovered why measles spreads so quickly. They found that the measles virus uses a transmembrane protein called nectin-4 in the host to infect and then leave from the strategic location of the throat. When the virus emerges in the trachea of its host, it provokes a cough that fills the air with particles ready to infect the next host. Nectin-4 is a cellular marker of several types of cancer, such as ovarian, breast and lung cancer, which has implications for ongoing measles-virus-based clinical trials of oncolysis.

Doctors' own beliefs on vaccine safety and efficacy

Source: Report on the annual meeting of the Infectious Diseases Society of America

A survey assessing a 'cohort effect' on immunisation beliefs among 551 healthcare workers in the US indicated that younger health providers were more likely to believe that immunisations 'cause more harm than good.' Compared with older graduates, recent graduates were 15% less likely to believe that vaccines are efficacious and were less likely to believe that vaccines were safe. It has often been pointed out that parents become increasingly more occupied with the perceived side-effects of vaccines as the disease becomes more and more rare. This study indicates that the same is true for physicians.

Reasons for parents' refusing or delaying recommended vaccinations

Source: Report on the annual meeting of the Infectious Diseases Society of America

An online survey in nine US states completed by paediatricians found that the vaccines most frequently deferred or refused by parents were for MMR, HPV, and influenza. The top three reasons for refusal or deferral in all states were: fear that vaccinations cause autism, that too many vaccinations are administered at the same time, overloading the immune system; and that vaccines can cause severe side effects.

Italy launches a national plan for the elimination of measles and congenital rubella infection

Source: Ministry of Health, Italy

The Italian Ministry of Health launched a national plan for the elimination of measles and congenital rubella infection in Italy in April 2011. It outlines the immunisation strategies and activities to be undertaken in a coordinated and uniform way across all regions in Italy. The objectives of the national plan include: to sustain MMR vaccination coverage above > 95 % at national level, to target risk groups, to improve surveillance of measles, rubella, rubella in pregnancy and congenital rubella, to strengthen surveillance of adverse events following immunisation (AEFI), and to improve epidemiological investigations and management of measles outbreaks.

Acknowledgements

ECDC would like to thank the Member States for reporting measles and other vaccine-preventable diseases in a timely manner to the TESSy database.

Related links

- More information about measles is available on the ECDC website: http://ecdc.europa.eu/en/healthtopics/Pages/Measles.aspx
- Information about vaccines and immunisation from the World Health Organization's Regional Office for Europe website. Available at: 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:
  EUVAC-NET

Erratum

The following corrections were made on 16 November 2011 to the September issue (Volume 4, 2011) of EMMO:

Page 4, Table 1: The table now contains the corrected figures for the year 2010.

Notes

- 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.
- Countries report on measles and other vaccine-preventable diseases to TESSy at their own convenience. This implies that the date of retrieval can influence the presentation of data. For this reason, the date of data retrieval is indicated for all EMMO issues. The date of retrieval for this issue was 30 October 2011. Inconsistencies with measles data reported in previous issues might arise as countries may update their data in TESSy retrospectively.