

Introduction

The following rubella surveillance report aims to provide an overview of surveillance systems and selected epidemiological characteristics of rubella at European level for 2008.

Methods

We requested rubella epidemiological aggregated data for 2008 consisting of the number of cases in specified age-groups. These were categorised by number of vaccines received and diagnosis classification status i.e. clinical, laboratory-confirmed, and epidemiologically linked. Our assessment included countries' epidemiological data obtained through mandatory notification systems covering total national populations for 2008. All reported rubella cases meeting the requirements for national surveillance were analysed. Incidence was calculated with the number of reported rubella cases as the numerator and the country population obtained from the Computerized Information System for Infectious Diseases (CISID)¹ as the denominator. We expressed incidence of disease as rubella cases per 100,000 inhabitants per year.

Rubella incidence

A total of 21,475 rubella cases was reported from 28 countries that provided epidemiological data based on mandatory notification systems covering total country population for 2008 (table 1). The incidence category of reported rubella per 100,000 inhabitants is shown in figure 1.

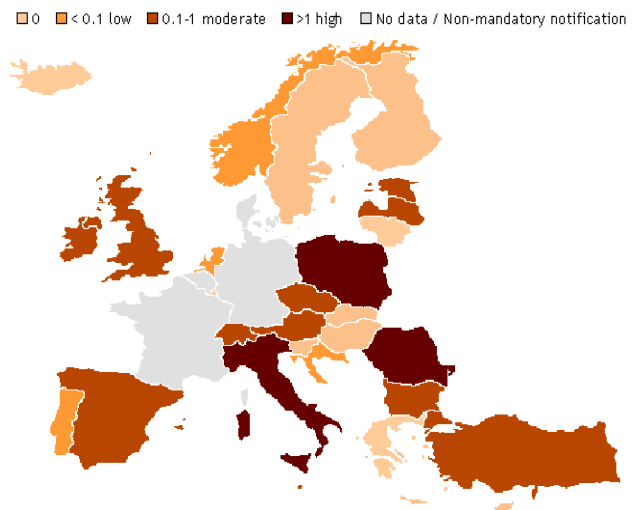
The majority of cases (98%) were reported from three countries: Poland (61%), Italy (29%) and Romania (8%).

Of the total, 317 (1.5%) were laboratory-confirmed and 243 (1.2%) were epidemiologically linked. The remaining cases were reported as clinical cases only.

Age distribution

Data on the specified age-groups was available in 21,399 cases (99.6%). These were distributed between age-groups with 1,165 (5.4%) aged <1 year, 2,036 (9.5%) aged 1-4 years, 5,050 (23.6%) aged 5-9 years, 4,429 (20.7%) aged 10-14 years, 4,832 (22.6%) aged 15-19 years and 3,877 (18.1%) older than 20 years.

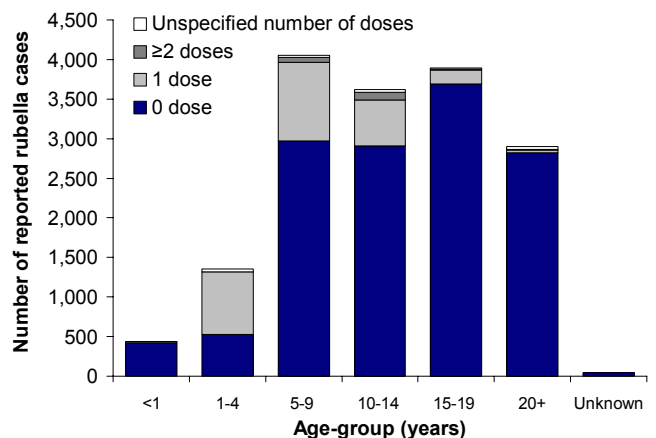
Figure 1. Incidence category of reported rubella per 100,000 inhabitants, 2008



Vaccination status

Figure 2 shows the reported cases of rubella with a known vaccination status by age group. The vaccination status was known in 16,300 (76%) of all reported rubella cases. Of these, 13,387 (82%) were unvaccinated, 2,586 (16%) were vaccinated with one dose, 168 (1%) were vaccinated with at least two doses, and 159 (1%) were vaccinated with an unspecified number of doses. Table 2 shows the number and percentage of rubella cases by vaccination status for each country.

Figure 2. Rubella cases with a known vaccination status, by age-group 2008 (n=16,300)



Comments

Overall, there was a decline of 22% in the number of reported cases in 2008 compared with 2007. This decline is mostly attributed to a marked decrease in the number of reported cases from Poland and Romania. However, these countries together with Italy contribute to the bulk of reported rubella cases.

Comparisons of numbers of rubella cases between countries should be made with caution because of dissimilar surveillance sensitivities, completeness of reporting and different reporting procedures—some countries reported only laboratory-confirmed cases whereas others reported clinical cases without laboratory confirmation.

The percentage of laboratory-confirmed cases was only 1.5% of the total reported cases. None of the cases from Italy and Romania, and only 0.01% of the cases in Poland were laboratory-confirmed. Strengthening surveillance systems for rubella by rigorous case investigation and laboratory confirmation of suspected cases is a key strategy to eliminate rubella in Europe.²

The elimination rubella and prevention congenital rubella infection ultimately depends on achieving and maintaining high rubella vaccine coverage in all European countries.

References

¹ WHO. Population Information. Computerized Information System for Infectious Diseases (CISID). <http://cisid.who.dk> (accessed May 19, 2010).

² WHO. Eliminating measles and rubella and prevention congenital rubella infection. WHO European region strategic plan 2005–2010. World Health Organization 2005. <http://www.euro.who.int/document/E87772.pdf> (accessed May 14, 2009).

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Table 1. Number of reported rubella in 2007 and 2008, and percentage of laboratory-confirmed and epidemiologically linked cases by country, 2008

Country	Number of cases (Crude incidence per 100,000 inhabitants)		Laboratory-confirmed cases	Epidemiologically linked cases
	2007	2008	2008	2008
	Austria	14 (0.2)	12 (0.1)	5 42%
Bulgaria	88 (1.2)	58 (0.8)	0 0%	0 0%
Croatia	33 (0.7)	1 (0.02)	1 100%	0 ..
Cyprus	0 (0)	0 (0)	0 ..	0 ..
Czech Republic	4 (0.04)	14 (0.1)	2 14%	0 0%
Estonia	10 (0.8)	4 (0.3)	2 50%	0 0%
Finland	0 (0)	0 (0)	0 ..	0 ..
Greece	0 (0)	0 (0)	0 ..	0 ..
Hungary	0 (0)	0 (0)	0 ..	0 ..
Iceland	0 (0)	0 (0)	0 ..	0 ..
Ireland	19 (0.4)	40 (0.9)	2 5%	1 3%
Italy	758 (1.3)	6,183 (10.5)	0 0%	0 0%
Latvia	7 (0.3)	9 (0.4)	3 33%	0 0%
Lithuania	13 (0.4)	0 (0)	0 ..	0 ..
Luxembourg	0 (0)	0 (0)	0 ..	0 ..
Malta	2 (0.5)	3 (0.7)	3 100%	0 0%
Netherlands	1 (0.01)	2 (0.01)	2 100%	0 0%
Norway	0 (0)	1 (0.02)	1 100%	0 0%
Poland	22,891 (59.5)	13,146 (34.6)	70 0.5%	235 2%
Portugal	6 (0.1)	4 (0)	1 25%	0 0%
Romania	2,958 (13.7)	1,746 (8.2)	0 0%	0 0%
Slovakia	2 (0.04)	0 (0)	0 ..	0 ..
Slovenia	1 (0.1)	0 (0)	0 ..	0 ..
Spain	69 (0.2)	65 (0.1)	38 58%	6 9%
Sweden	2 (0.02)	0 (0)	0 ..	0 ..
Switzerland	13 (0.2)	13 100%	0 0%
Turkey	644 (0.9)	139 (0.2)	139 100%	0 0%
UK	33 (0.1)	35 (0.1)	35 100%	0 0%
Total	27,555 (6.6)	21,475 (5.0)	317 1.5%	243 1.1%

Table 2. Rubella cases by vaccination status by country, 2008

	0 doses		1 dose		≥2 doses		Unspecified number of doses		Unknown vaccination status	
Austria	6	50%	1	8%	1	8%	0	0%	4	33%
Bulgaria	18	31%	32	55%	1	2%	0	0%	7	12%
Croatia	1	100%	0	..	0	..	0	..	0	..
Cyprus	0	..	0	..	0	..	0	..	0	..
Czech Republic	7	50%	0	0%	7	50%	0	0%	0	0%
Estonia	2	50%	2	50%	0	0%	0	0%	0	0%
Finland	0	..	0	..	0	..	0	..	0	..
Greece	0	..	0	..	0	..	0	..	0	..
Hungary	0	..	0	..	0	..	0	..	0	..
Iceland	0	..	0	..	0	..	0	..	0	..
Ireland	14	35%	13	33%	3	7.5%	1	3%	9	22.5%
Italy	5,059	82%	0	0%	0	0%	155	3%	969	16%
Latvia	5	56%	1	11%	0	0%	0	0%	3	33%
Lithuania	0	..	0	..	0	..	0	..	0	..
Luxembourg	0	..	0	..	0	..	0	..	0	..
Malta	1	33%	0	0%	0	0%	2	67%	0	0%
Netherlands	2	100%	0	..	0	..	0	..	0	..
Norway	1	100%	0	..	0	..	0	..	0	..
Poland	8,149	62%	2,495	19%	148	1%	0	0%	2,354	18%
Portugal	2	50%	0	0%	1	25%	1	25%	0	0%
Romania	0	0%	0	0%	0	0%	0	0%	1,746	100%
Slovakia	0	..	0	..	0	..	0	..	0	..
Slovenia	0	..	0	..	0	..	0	..	0	..
Spain	32	49%	7	11%	1	2%	0	0%	25	38%
Sweden	0	..	0	..	0	..	0	..	0	..
Switzerland	5	38%	0	0%	0	0%	0	0%	8	62%
Turkey	77	55%	33	24%	6	4%	0	0%	23	17%
UK	6	17%	2	6%	0	0%	0	0%	27	77%
Total	13,387	62%	2,586	12%	168	0.8%	159	0.7%	5,175	24%

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