

Introduction

The following preliminary rubella surveillance report aims to provide an overview of surveillance systems and selected epidemiological characteristics of rubella at European level for 2009.

Methods

We requested rubella epidemiological aggregated data for 2009 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 2009. 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 8,640 rubella cases was reported from 26 countries that provided epidemiological data based on mandatory notification systems covering total country population for 2009 (table 1). The incidence category of reported rubella per 100,000 inhabitants is shown in figure 1. The majority of cases (95%) were reported from two countries: Poland (88%) and Romania (7%).

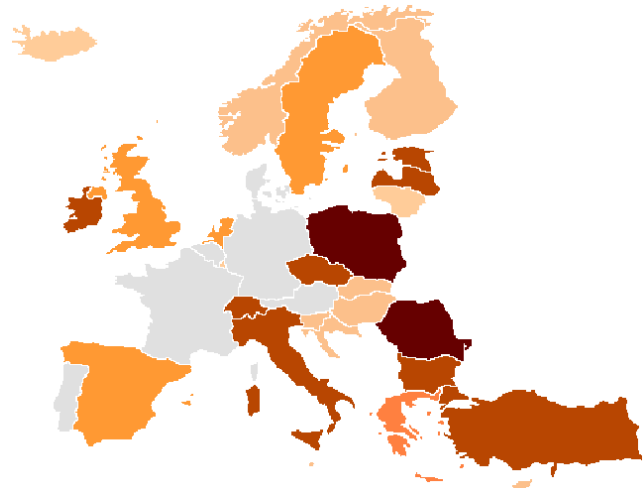
Of the total, 324 (1.7%) were laboratory-confirmed and 90 (1.0%) were epidemiologically-linked. The remaining cases were reported as clinical cases only.

Age distribution

Data on the specified age-groups was available in 8,612 cases (99.7%). These were distributed between age-groups with 697 (8%) aged <1 year, 1,624 (19%) aged 1-4 years, 2,945 (34%) aged 5-9 years, 1,418 (16%) aged 10-14 years, 1,308 (15%) aged 15-19 years and 620 (7%) older than 20 years.

Figure 1. Incidence category of reported rubella per 100,000 inhabitants, 2009

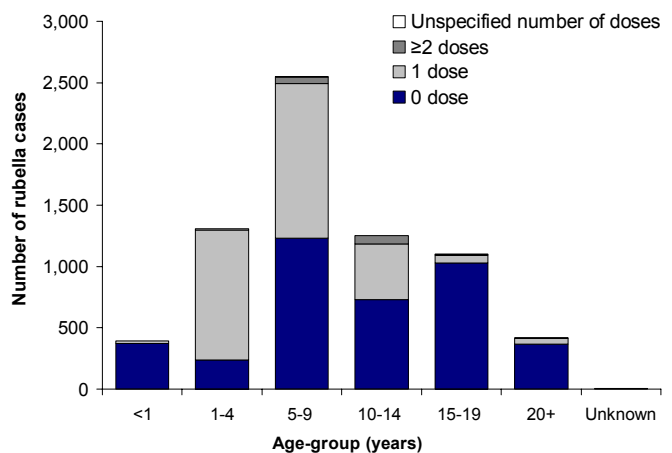
□ 0 □ < 0.1 low ■ 0.1-1 moderate ■ >1 high □ No data / Non-mandatory notification



Vaccination status

Figure 2 shows the reported cases of rubella with a known vaccination status by age group. The vaccination status was known in 7,031 (81%) of all reported rubella cases. Of these, 3,976 (57%) were unvaccinated, 2,897 (41%) were vaccinated with one dose, 125 (2%) were vaccinated with at least two doses, and 33 (0.5%) 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, 2009 (n=7,031)



Comments

Although two countries have not yet submitted data, there seems to be an overall incidence of rubella reported at European level in 2009 compared with the previous year. Most countries have reported a decrease in the number of cases particularly Poland and Romania. 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 1.7% of the total reported cases. Only a tiny fraction (0.1%) 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, 2010).

Reporter

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Issued: 29 July 2010

Updated: 11 October 2010

Table 1. Number of reported rubella in 2008 and 2009, and percentage of laboratory-confirmed and epidemiologically linked cases by country, 2009

Country	Number of cases (Crude incidence per 100,000 inhabitants)		Laboratory-confirmed	Epidemiologically linked
			cases	cases
	2008	2009	2009	2009
Austria	13 (0.2)	n.r ..	.. ..	.. ..
Bulgaria	58 (0.8)	44 (0.6)	1 2%	0 0%
Croatia	1 (0.02)	0 (0)	0 ..	0 ..
Cyprus	0 (0)	0 (0)	0 ..	0 ..
Czech Republic	14 (0.1)	6 (0.1)	0 0%	0 0%
Estonia	4 (0.3)	1 (0.1)	1 100%	0 0%
Finland	0 (0)	0 (0)	0 ..	0 ..
Greece	0 (0)	4 (0.04)	3 75%	0 0%
Hungary	0 (0)	0 (0)	0 ..	0 ..
Iceland	0 (0)	0 (0)	0 ..	0 ..
Ireland	40 (0.9)	19 (0.4)	1 5%	0 0%
Italy	5,299 (9.0)	205 (0.3)	0 ..	0 0%
Latvia	9 (0.4)	7 (0.3)	1 14%	0 0%
Lithuania	0 (0)	0 (0)	0 ..	0 ..
Luxembourg	0 (0)	0 (0)	0 ..	0 ..
Malta	3 (0.7)	0 (0)	0 ..	0 ..
Netherlands	2 (0.01)	7 (0.04)	6 86%	1 14%
Norway	1 (0.02)	0 (0)	0 ..	0 ..
Poland	13,146 (34.6)	7,586 (20)	7 0.1%	30 0.4%
Portugal	4 (0)	n.r ..	.. ..	.. ..
Romania	1,746 (8.2)	603 (2.8)	78 13%	59 10%
Slovakia	0 (0)	0 (0)	0 ..	0 ..
Slovenia	0 (0)	0 (0)	0 ..	0 ..
Spain	65 (0.1)	20 (0.04)	7 35%	0 0%
Sweden	0 (0)	1 (0.01)	1 100%	0 0%
Switzerland	13 (0.2)	32 (0.4)	32 100%	0 0%
Turkey	139 (0.2)	97 (0.1)	0 0%	0 0%
UK	35 (0.1)	8 (0.01)	8 100%	0 0%
Total	20,592 (4.8)	8,640 (2.1)[†]	146 1.7%	90 1.0%

n.r. = no reports

[†] Denominator is based on the total population for 26 countries reporting for 2009 (n= 408,653,034)

Table 2. Rubella cases by vaccination status by country, 2009

	0 doses		1 dose		≥2 doses		Unspecified number of doses		Unknown vaccination status	
Austria	..	..	..	..	..	..	..	..	..	..
Bulgaria	10	23%	23	52%	2	4.5%	0	0%	9	20.5%
Croatia	0	..	0	..	0	..	0	..	0	..
Cyprus	0	..	0	..	0	..	0	..	0	..
Czech Republic	2	33%	0	0%	4	67%	0	0%	0	0%
Estonia	1	100%	0	0%	0	0%	0	0%	0	0%
Finland	0	..	0	..	0	..	0	..	0	..
Greece	3	75%	0	0%	0	0%	1	25%	0	0%
Hungary	0	..	0	..	0	..	0	..	0	..
Iceland	0	..	0	..	0	..	0	..	0	..
Ireland	7	37%	8	42%	1	5%	0	0%	3	16%
Italy	117	57%	0	0%	0	0%	28	14%	60	29%
Latvia	5	71%	2	29%	0	0%	0	0%	0	0%
Lithuania	0	..	0	..	0	..	0	..	0	..
Luxembourg	0	..	0	..	0	..	0	..	0	..
Malta	0	..	0	..	0	..	0	..	0	..
Netherlands	7	100%	0	0%	0	0%	0	0%	0	0%
Norway	0	..	0	..	0	..	0	..	0	..
Poland	3,757	49.5%	2,827	37%	113	1.5%	0	0%	889	12%
Portugal	..	..	..	..	..	..	..	..	..	..
Romania	0	..	0	..	0	..	0	..	603	100%
Slovakia	0	..	0	..	0	..	0	..	0	..
Slovenia	0	..	0	..	0	..	0	..	0	..
Spain	10	50%	6	30%	1	5%	0	0%	3	15%
Sweden	0	0%	0	0%	0	0%	0	0%	1	100%
Switzerland	17	53%	0	0%	1	3%	1	3%	13	41%
Turkey	33	34%	30	31%	3	3%	3	3%	28	29%
UK	7	87.5%	1	12.5%	0	0%	0	0%	0	0%
Total	3,976	46.0%	2,897	33.5%	125	1.4%	33	0.4%	1,609	18.6%