

# WHO Epidemiological Brief

A monthly publication on vaccine-preventable diseases and immunization data and analysis



## Highlights in in the WHO European Region:

- \* **measles outbreaks**
- \* **rotavirus surveillance**
- \* **importation of wild poliovirus and response measures**

## Summary

### Measles outbreaks

For the period January – June 2011, of the 49 countries in the European Region that reported measles data, 39 countries reported a total of 24 493 cases of measles. In the first six months of 2011, 49% of all cases in the Region were reported in March and April, 2011. Due to spread from countries that are experiencing large measles outbreaks, countries measles-free for many years are now challenged with re-occurrence of the disease.

### Rotavirus surveillance

In 2010, through the WHO/Europe established sentinel surveillance network for rotavirus in six countries, 6207 children with acute diarrhoea were enrolled and tested for rotavirus. Of these, 2337 (38%) were rotavirus positive. This proportion on a country-level ranged from 27% (Azerbaijan) to 48% (Ukraine). The proportion of children who were ro-

tavirus positive increased from 24% among infants aged 0-5 months to 45% among children aged 12-59 months. Based on these data, it is evident that rotavirus accounts for a substantial proportion of diarrhoea hospitalizations in all countries within the WHO/Europe network.

### Importation of wild poliovirus and response

As part of the continued response to the wild poliovirus outbreak in 2010, seven Member States conducted synchronized supplementary immunization activities (SIAs) between February and June 2011. Fifteen rounds of SIAs with mOPV or tOPV targeted more than 18 million children. The European Regional Certification Commission for Poliomyelitis Eradication met in Copenhagen August 23-24, 2011 and decided that Region maintains its polio-free status.

**Note: Measles, rubella, polio and rotavirus surveillance data for January—June 2011 by Member**

## Measles outbreaks in the WHO European Region

### Summary

As of 1 August (data for the period January-June 2011) 49 of 53 Member States of the European Region reported 24 493 confirmed measles cases (Table 3). A quarter of the cases (5984) had date of onset in April. The monthly reported number of cases decreased to 1981 (8.1%) in June.

From January – June 2011, 57% of the measles cases were reported from France (14 025 cases, incidence 222.8 per million), Spain (2589 cases, incidence 55 per million), Romania (2142 cases, incidence 101.3 per million), Germany (1343 cases, incidence 16.2 per million) and the former Yugoslav Republic of Macedonia (721 cases, incidence 352.7 per million).

Of the 24 493 confirmed measles cases reported from January - June 2011, 64% of cases were less than 20 years of age. The distribution of measles cases by age group differs by Member State. When cases were analysed by age group, 25% were in children aged less than 5 years (8.9% in infants).

In the European Region, previously measles-free countries are experiencing sporadic outbreaks. These countries, with high level of measles control, include Belarus, Czech Republic, Estonia, Finland, Lithuania, Luxembourg, Slovakia, and Turkey. In Bulgaria, Romania, Serbia and the former Yugoslav Republic of Macedonia, measles outbreaks occurred after reintroduction of measles virus in unimmunized and under-immunized populations, mostly within Roma communities.

In countries where measles has been reported after its absence for many years (ie. 2 cases in 2010 in Lithuania, zero cases in the Czech Republic) most cases were reported in adults (>20 years). In Lithuania (7 cases in 2011) and Czech Republic (23 cases in 2011) *all* cases were in adults. Considering that routine immunization coverage in these countries has been high for a long period of time (Lithuania ranged between 96 - 98% over past 10 years, Czech Republic 92 - 99% over the past 10 years, for first dose of measles containing vaccine) we do not expect to see further spread of disease into children and adolescents. However, the unimmunized and children younger than one year are at high risk and WHO will follow up with the country surveillance systems to monitor the situation.

The predominant genotype remains D4 "Enfield"

## Rotavirus surveillance in WHO European Region

Rotavirus vaccines effectively protect against severe diarrhoea due to rotavirus. In the WHO European Region, four countries (Austria, Belgium, Finland and Luxembourg) have included rotavirus vaccine in their routine immunization schedule. Information on the burden of disease due to rotavirus diarrhoea, which is needed to make informed decisions about the use of rotavirus vaccine, is lacking in some countries in the WHO European Region. As part of a WHO global initiative, WHO/Europe has established a sentinel surveillance network for rotavirus to address these knowledge gaps and provides technical support to participating countries. Since 2006, the network has grown to include six countries (Armenia, Azerbaijan, Georgia, the Republic of Moldova, Tajikistan, and Ukraine).

In the sentinel hospitals, all children <5 years of age hospitalized with acute gastroenteritis are eligible for enrolment. Information on demographics, symptoms and history of illness are obtained using a case report form and faecal samples are tested by enzyme immunoassay (EIA) for rotavirus antigen.

variant, or derivatives thereof. Sporadically, other genotypes have also been reported in the Region through the measles sequence database MeaNS (<http://www.who-measles.org>), including B3, D8, D9, G3. The US and Canada have had importations from Europe with the same genotype profile.

Between January to June 2011, 42.9% of confirmed cases were in individual not vaccinated against measles, 7.5% in those who had received one dose of measles vaccine, while 47.3% of the reported cases were missing data on vaccination status. There is a strong need to ensure that vaccination status of cases is captured and reported by Member States, particularly as the Region begins the process to verify interruption of measles transmission in countries in 2012.

In 2010, 6207 children from six countries were enrolled and tested (Table 1) and 2337(38%) were positive for rotavirus. At a country-level, the proportion positive ranged from 27% in Azerbaijan to 48% in Ukraine. The proportion of children who were positive for rotavirus increased from 24% among infants aged 0-5 months to 45% among children aged 12-59 months. The proportion of diarrhoea due to rotavirus varied seasonally peaking during February to April.

Based on these data, rotavirus accounts for a substantial proportion of diarrhoea hospitalizations in all countries within the WHO/Europe network. As several of these countries consider the introduction of rotavirus vaccine, it will be important to maintain ongoing surveillance in order to describe the epidemiology of rotavirus in the absence of vaccination and how it changes once a vaccine has been introduced. This report summarizes data collected via the network in 2010 and it is expected that future updates will be reported via *Epidemiological Brief* on a quarterly basis.

**Table 1. Distribution of diarrhoea cases by age group and members States, 2010, WHO European Region (Data reported by regional Rotavirus sentinel surveillance network members)**

Country/ Site	Age group (months)	Number of acute diarrhoea hospitalizations in children <5 years eligible* for enrollment	Number of children meeting the case definition that were enrolled* with a case report form completed and specimen collected	Number of total eligible enrolled (with CRF and specimen collected) acute diarrhoea cases that were	Number of eligible enrolled acute diarrhoea cases that tested positive* for rotavirus among	% Positive for rotavirus
ARMENIA	All <59m	1588	1577	1577	578	37%
	0 to 5		191	191	33	17%
	6 to 11		365	365	127	35%
	12 to 23		479	479	231	48%
	24 to 59		542	542	187	35%
	Unknown		0	0	0	
MOLDOVA	All <59m	1184	1069	1069	469	44%
	0 to 5		40	40	2	5%
	6 to 11		97	97	15	15%
	12 to 23		497	497	215	43%
	24 to 59		435	435	237	54%
	Unknown		0	0	0	
AZERBAIJAN	All <59m	1244	1140	1140	305	27%
	0 to 5		0	0	0	
	6 to 11		0	0	0	
	12 to 23		0	0	0	
	24 to 59		0	0	0	
	Unknown		0	0	0	
GEORGIA	All <59m	852	665	616	197	32%
	0 to 5		37	36	13	36%
	6 to 11		131	125	49	39%
	12 to 23		211	204	67	33%
	24 to 59		286	251	68	27%
	Unknown		0	0	0	
TAJKISTAN	All <59m	2807	731	730	269	37%
	0 to 5		155	155	43	28%
	6 to 11		272	272	129	47%
	12 to 23		233	232	77	33%
	24 to 59		59	59	15	25%
	Unknown		12	12	5	42%
UKRAINE	All <59m	1517	1179	1075	519	48%
	0 to 5		104	97	31	32%
	6 to 11		217	195	93	48%
	12 to 23		377	341	179	52%
	24 to 59		474	435	213	49%
	Unknown		7	7	3	43%
TOTAL	All <59m	9192	6361	6207	2337	38%
	0 to 5		527	519	122	24%
	6 to 11		1082	1054	413	39%
	12 to 23		1797	1753	769	44%
	24 to 59		1796	1722	720	42%
	Unknown		19	19	8	42%

## Synchronized polio supplementary immunization activities in 2011

To effectively close any remaining immunity gaps and to prevent the transmission of wild poliovirus across borders in the future, coordinated supplementary immunization activities were conducted in the first half of 2011.

For the first time since Operation MECACAR (1995-2007), seven countries conducted synchronized SIAs: Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan conducted two rounds each with trivalent OPV (tOPV); Kazakhstan and the Russian Federation conducted two rounds of subnational SIAs with monovalent OPV type 1 (mOPV1) and tOPV to halt transmission of wild poliovirus in high-risk territories. Azerbaijan implemented two rounds with tOPV in districts bordering the Russian Federation.

In total, more than 18 million children were reached with polio vaccines in 15 rounds of SIAs. Final results of the synchronized SIAs conducted in 2011 are presented in Table 2.

High administrative coverage was reported and confirmed by independent monitoring uniformly conducted in Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The European Regional Certification Commission for Poliomyelitis Eradication met in Copenhagen on August 23-24, 2011. Taking into account the control and surveillance status of the Region, the Commission decide that wild poliovirus transmission has been successfully interrupted and the region will maintain its polio free status. A summary of the Commission's recommendations will be presented in the next issue of *Epidemiological Brief*.

**Table 2. Characteristics and results of synchronized supplementary immunization activities (SIAs) in five central Asian republics, Azerbaijan and the Russian Federation**

Country	Round	SIA dates (2011)	Type of campaign (NID / SNID)	Type of vaccine (mOPV, tOPV)	Target population (years)	Estimated target population	Total number of children vaccinated (reported data)	Reported Coverage (%)	Coverage by Independent Monitoring (%)*
Azerbaijan	Round 1	25-30 April	SNID	tOPV	< 6	32,033	31,164	97.3%	100.0%
	Round 2	23-29 May	SNID	tOPV	< 6	31,928	31392	98.3%	N/A
Kazakhstan	Round 1	21-25 February	SNID	mOPV	< 7	411,653	406,922	98.9%	89.5%
	Round 2	3-7 May	NID	tOPV	< 15	1,710,321	1,677,825	98.1%	N/A
	Round 3	16-20 May	SNID	mOPV	7-15	383,920	383,318	99.8%	N/A
Kyrgyzstan	Round 1	18-23 April	NID	tOPV	< 15	1,690,188	1,605,311	95.0%	96.1%
	Round 2	23-28 May	NID	tOPV	< 15	1,583,463	1,518,541	95.9%	94.2%
Tajikistan	Round 1	18-22 April	NID	tOPV	< 5	1,000,294	993,566	99.3%	96.0%
	Round 2	23-27 May	NID	tOPV	< 5	1,024,272	1,016,078	99.2%	98.1%
The Russian Federation	Round 1	4-9 April	SNID	tOPV	6m-15yrs	1,394,121	1,389,809	99.7%	N/A
	Round 2	3-7 May	SNID	tOPV	6m-15yrs	1,393,975	1,390,176	99.7%	N/A
Turkmenistan	Round 1	25-30 April	NID	tOPV	< 5	604,225	598,437	99.0%	99.4%
	Round 2	30 May-4 June	NID	tOPV	< 5	616,803	611,133	99.1%	99.2%
Uzbekistan	Round 1	18-23 April	NID	tOPV	< 5 + 1 province < 15	3,058,796	3,071,031	100.4%	96.1%
	Round 2	23-28 May	NID	tOPV	< 5 + 1 province < 15	2,987,557	2990544	100.1%	97.0%
*Post-campaign house-to-house independent monitoring results									
N/A - not available									

**Table 3. Classification of reported suspected measles cases, January—Jun 2011 (data as of 1 Aug 2011)**

Country	Total Population <sup>1</sup>	Incidence Rate per 1 million population (Jan-Jun)	Total confirmed measles	Classification				Importation <sup>3</sup>	Reporting			Surveillance Indicators (Please see page 4 for detail)		
				Lab confirmed	Epi-Link	Clinical <sup>2</sup>	Discarded		Completeness	Timeliness	Month of last report	Laboratory investigation rate	detection rate	Source of infection
Albania	3 184 761	0.0	0	0	0	0	0	0	100%	67%	Jun	-	0.00	-
Andorra	67 722	0.0	0	0	0	0	0	0	100%	33%	Jun	-	0.00	-
Armenia	3 099 249	0.0	0	0	0	0	15	0	83%	100%	Jun	100.0%	0.48	100.0%
Austria	8 407 841	5.9	69	19	5	45	0	19	83%	83%	Jun	37.5%	NA	NA
Azerbaijan	9 035 054	0.0	0	0	0	0	7	0	83%	83%	May	100.0%	0.08	100.0%
Belarus*	9 541 951	0.3	3	3	0	0	0	0	50%	50%	May	100.0%	0.00	0.0%
Belgium	10 741 473	37.9	434	251	66	117	22	27	50%	50%	Jun	69.2%	NA	NA
Bosnia and Herzegovina*	3 752 989	-	-	-	-	-	-	-	-	-	No Report	-	NA	NA
Bulgaria*	7 450 501	19.6	146	124	0	22	0	0	100%	50%	Jun	84.9%	NA	NA
Croatia	4 402 729	0.2	2	1	1	0	0	1	83%	50%	Jun	100.0%	0.00	100.0%
Cyprus	888 534	0.0	0	0	0	0	0	0	100%	100%	Jun	-	0.00	-
Czech Republic	10 442 510	2.4	29	24	0	5	0	4	100%	100%	Jun	82.8%	NA	NA
Denmark	5 491 148	14.0	78	71	7	0	0	1	100%	100%	Jun	100.0%	NA	NA
Estonia	1 338 887	1.5	7	7	0	0	0	5	100%	100%	Jun	100.0%	NA	NA
Finland	5 364 898	3.0	19	19	0	0	0	3	100%	100%	Jun	100.0%	NA	NA
France	62 916 416	222.8	14025	4532	772	8721	146	9	83%	50%	Jun	40.9%	NA	NA
Georgia*	4 184 100	6.0	25	7	3	15	0	0	100%	83%	Jun	31.8%	NA	NA
Germany	81 935 976	16.2	1343	728	509	106	1	16	67%	67%	Jun	87.2%	NA	NA
Greece	11 203 121	2.9	37	32	1	4	0	5	100%	83%	Jun	91.7%	NA	NA
Hungary	9 953 518	0.0	2	2	0	0	0	2	100%	100%	Jun	100.0%	0.00	100.0%
Iceland	335 063	0.0	0	0	0	0	0	0	100%	83%	Jun	-	0.00	-
Ireland	4 656 634	17.2	87	41	13	33	3	7	100%	100%	Jun	68.8%	NA	NA
Israel*	7 397 700	1.2	9	5	0	4	0	0	100%	100%	Jun	55.6%	NA	NA
Italy	60 280 504	2.9	174	0	0	174	0	0	33%	17%	Apr	0.0%	NA	NA
Kazakhstan*	15 868 221	1.9	30	24	0	6	0	0	50%	17%	Mar	80.0%	NA	NA
Kyrgyzstan	5 617 475	31.3	176	43	0	133	0	0	17%	0%	May	24.4%	NA	NA
Latvia	2 231 358	0.4	1	1	0	0	0	0	50%	33%	Jun	100.0%	0.00	100.0%
Lithuania	3 228 015	1.2	7	7	0	0	0	3	100%	83%	Jun	100.0%	NA	NA
Luxembourg	497 368	6.0	5	5	0	0	0	2	83%	83%	Jun	100.0%	NA	NA
Malta	411 349	4.9	2	2	0	0	0	0	100%	100%	Jun	100.0%	NA	NA
Monaco	37 785	-	-	-	-	-	-	-	-	-	No Report	-	NA	NA
Montenegro*	626 067	8.0	5	5	0	0	0	0	83%	67%	Jun	100.0%	NA	NA
Netherlands	16 710 858	1.9	46	29	16	1	0	15	50%	33%	Jun	96.7%	NA	NA
Norway	4 895 307	6.5	38	38	0	0	0	6	50%	50%	Jun	100.0%	NA	NA
Poland	37 995 500	0.5	19	13	0	6	14	1	100%	67%	Jun	75.8%	0.04	100.0%
Portugal	10 752 590	0.0	0	0	0	0	0	0	100%	50%	Jun	-	0.00	-
Republic of Moldova	3 549 163	0.0	0	0	0	0	0	0	50%	17%	Mar	-	0.00	-
Romania	21 107 516	101.3	2142	765	1316	61	133	4	33%	0%	Jun	94.8%	NA	NA
Russian Federation	139 872 928	0.9	139	136	2	1	26	19	100%	100%	Jun	100.6%	NA	49.7%
San Marino	29 332	-	-	-	-	-	-	-	-	-	No Report	-	NA	NA
Serbia*	9 855 875	35.1	346	71	13	262	0	0	100%	67%	Jun	21.3%	NA	NA
Slovakia	5 417 394	0.0	2	2	0	0	0	2	100%	100%	Jun	100.0%	0.00	100.0%
Slovenia	2 029 418	2.0	8	8	0	0	0	4	100%	100%	Jun	100.0%	NA	NA
Spain	45 724 660	55.0	2589	2018	327	244	2	75	100%	100%	Jun	90.9%	NA	NA
Sweden	9 335 463	0.5	21	21	0	0	0	16	100%	100%	Jun	100.0%	0.00	100.0%
Switzerland	7 622 415	73.2	597	385	76	136	83	39	100%	100%	Jun	76.8%	NA	NA
Tajikistan*	7 203 979	-	-	-	-	-	-	-	-	-	No Report	-	NA	NA
The former Yugoslav Republic of Macedonia*	2 044 005	352.7	721	50	241	430	0	0	100%	83%	Jun	10.4%	NA	NA
Turkey	76 582 128	1.2	99	99	0	0	0	6	100%	100%	Jun	100.0%	NA	NA
Turkmenistan	5 243 476	0.0	0	0	0	0	0	0	17%	17%	May	-	0.00	-
Ukraine*	45 167 108	0.3	12	12	0	0	0	0	83%	83%	May	100.0%	0.00	0.0%
United Kingdom	62 230 620	9.8	683	682	1	0	3	73	100%	100%	Jun	100.1%	NA	NA
Uzbekistan*	28 110 756	11.2	316	172	0	144	0	0	67%	17%	Apr	54.4%	NA	NA
<b>Total/Averages</b>	<b>896 071 408</b>	<b>26.9</b>	<b>24493</b>	<b>10454</b>	<b>3369</b>	<b>10670</b>	<b>455</b>	<b>364</b>	<b>91.7%</b>	<b>76.2%</b>		<b>54.5%</b>	<b>0.05</b>	<b>48.6%</b>

Data source: Monthly aggregate and case-based data reported by Member States to WHO/Europe and/or EUVAC.NET.

<sup>1</sup> Source: "World Population Prospects: The 2008 Revision", New York, United Nations and updates provided by Member States.

<sup>2</sup> Cases with missing classification are classified as "Clinical".

<sup>3</sup> Imported or import related measles cases included in total measles.

\* Member States reporting aggregate measles data in years 2010 and 2011.

Indicators not meeting target and countries not reporting monthly measles data are highlighted in red; NA=Not Applicable; "-" = data not available or can not be calculated due to insufficient



**Table 4. Classification of reported suspected rubella cases, January—Jun 2011 (data as of 1 Aug 2011)**

Country	Total Population <sup>1</sup>	Annualized Incidence Rate per 1 million population	Total confirmed Rubella	Classification				Importation <sup>3</sup>	Reporting			Surveillance Indicator (Please see page 4 for detail)		
				Lab confirmed	Epi-Link	Clinical <sup>2</sup>	Discarded		Completeness	Timeliness	Month of last report	Laboratory investigation rate	Detection rate	Source of infection
Albania	3 184 761	1.6	5	1	0	4	0	0	100%	67%	Jun	0.0%	-	-
Andorra	67 722	0.0	0	0	0	0	0	0	100%	33%	Jun	-	0.00	-
Armenia	3 099 249	0.0	0	0	0	0	7	0	100%	100%	Mar	93.3%	0.23	214.3%
Austria	8 407 841	0.0	1	0	0	1	0	1	83%	33%	Jun	100.0%	0.00	100.0%
Azerbaijan	9 035 054	0.0	0	0	0	0	6	0	83%	83%	May	100.0%	0.07	100.0%
Belarus	9 541 951	0.7	7	7	0	0	0	0	50%	50%	May	0.0%	0.00	0.0%
Belgium	10 741 473	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Bosnia and Herzegovina	3 752 989	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Bulgaria	7 450 501	4.4	33	1	0	32	0	0	100%	33%	Jun	0.0%	-	-
Croatia	4 402 729	0.0	0	0	0	0	0	0	50%	33%	Jun	-	0.00	-
Cyprus	888 534	0.0	0	0	0	0	0	0	100%	83%	Jun	-	0.00	-
Czech Republic	10 442 510	0.0	0	0	0	0	0	0	83%	50%	Jun	-	0.00	-
Denmark	5 491 148	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Estonia	1 338 887	0.0	0	0	0	0	0	0	100%	83%	Jun	-	0.00	-
Finland	5 364 898	0.0	1	0	0	1	0	1	100%	67%	Jun	100.0%	0.00	100.0%
France	62 916 416	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Georgia	4 184 100	10.3	43	2	0	41	0	0	100%	83%	Jun	0.0%	-	-
Germany	81 935 976	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Greece	11 203 121	0.0	0	0	0	0	0	0	67%	33%	Apr	-	0.00	-
Hungary	9 953 518	0.0	0	0	0	0	0	0	100%	50%	Jun	-	0.00	-
Iceland	335 063	0.0	0	0	0	0	0	0	100%	67%	Jun	-	0.00	-
Ireland	4 656 634	0.0	0	0	0	0	0	0	100%	50%	Jun	-	0.00	-
Israel	7 397 700	0.0	0	0	0	0	0	0	100%	33%	Jun	-	0.00	-
Italy	60 280 504	0.0	0	0	0	0	0	0	17%	0%	Jan	-	0.00	-
Kazakhstan	15 868 221	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Kyrgyzstan	5 617 475	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Latvia	2 231 358	0.0	0	0	0	0	0	0	67%	17%	Jun	-	0.00	-
Lithuania	3 228 015	0.0	0	0	0	0	0	0	83%	50%	Jun	-	0.00	-
Luxembourg	497 368	0.0	0	0	0	0	0	0	100%	50%	Jun	-	0.00	-
Malta	411 349	0.0	0	0	0	0	0	0	100%	83%	Jun	-	0.00	-
Monaco	37 785	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Montenegro	626 067	0.0	0	0	0	0	0	0	67%	50%	Apr	-	0.00	-
Netherlands	16 710 858	0.0	0	0	0	0	0	0	33%	0%	Mar	-	0.00	-
Norway	4 895 307	0.0	0	0	0	0	0	0	67%	33%	Jun	-	0.00	-
Poland	37 995 500	0.0	0	0	0	0	0	0	17%	0%	Apr	-	0.00	-
Portugal	10 752 590	0.0	0	0	0	0	2	0	83%	33%	Jun	0.0%	0.02	0.0%
Republic of Moldova	3 549 163	0.0	0	0	0	0	0	0	50%	17%	Mar	-	0.00	-
Romania	21 107 516	0.0	0	0	0	0	0	0	33%	0%	Jun	-	0.00	-
Russian Federation	139 872 928	-	-	-	-	-	-	-	-	-	No Report	100.0%	-	-
San Marino	29 332	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Serbia	9 855 875	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Slovakia	5 417 394	0.0	0	0	0	0	0	0	100%	83%	Jun	-	0.00	-
Slovenia	2 029 418	0.0	0	0	0	0	0	0	33%	0%	Mar	-	0.00	-
Spain	45 724 660	0.0	0	0	0	0	0	0	83%	50%	Jun	-	0.00	-
Sweden	9 335 463	0.0	0	0	0	0	0	0	100%	67%	Jun	-	0.00	-
Switzerland	7 622 415	0.0	0	0	0	0	13	0	100%	33%	Jun	92.3%	0.17	7.7%
Tajikistan	7 203 979	-	-	-	-	-	-	-	-	-	No Report	-	-	-
The former Yugoslav Republic of Macedonia	2 044 005	1.5	3	0	0	3	0	0	100%	67%	Jun	0.0%	-	-
Turkey	76 582 128	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Turkmenistan	5 243 476	-	-	-	-	-	-	-	-	-	No Report	-	-	-
Ukraine	45 167 108	-	-	-	-	-	-	-	-	-	No Report	-	-	-
United Kingdom	62 230 620	0.0	0	0	0	0	0	0	83%	50%	May	-	0.00	-
Uzbekistan	28 110 756	0.7	20	0	0	20	0	0	17%	0%	Mar	0.0%	0.00	0.0%
<b>Total/Averages</b>	<b>896 071 408</b>	<b>0.1</b>	<b>113</b>	<b>11</b>	<b>0</b>	<b>102</b>	<b>28</b>	<b>2</b>	<b>0.0%</b>	<b>0.0%</b>		<b>#DIV/0!</b>	<b>0.00</b>	<b>0.0%</b>

Data source: Monthly aggregate and case-based data reported by Member States to WHO/Europe and/or EUVAC.NET.

<sup>1</sup> Source: "World Population Prospects: The 2008 Revision", New York, United Nations and updates provided by Member States.

<sup>2</sup> Cases with missing classification are classified as "Clinical".

<sup>3</sup> Imported or import related rubella cases included in total rubella.

Indicators not meeting target and countries not reporting monthly rubella data are highlighted in red. "-" indicates data not available/applicable or can not be calculated due to insufficient denominator.

**Table 5. Measles and rubella laboratory test results, January–May 2011 (data as of 27 Jun 2011)**

Country	Specimen* (Serum, Oral Fluid, Swab, Urine and other)								Reporting		
	Tested for measles	Positive for measles (%)	Measles Equivocal	Negative for measles	Tested for rubella	Positive for rubella (%)	Rubella Equivocal	Negative for rubella	% Completeness	% Timeliness	Month of last report
Albania	19	0 (0.0)	0	19	5	1 (20.0)	0	4	100.0%	83.3%	Jun
Andorra											No Lab
Armenia	25	0 (0.0)	0	25	25	0 (0.0)	2	23	100.0%	100.0%	Jun
Austria	717	42 (6.0)	0	675	2979	2 (0.0)	0	2977	100.0%	100.0%	Jun
Azerbaijan	13	0 (0.0)	0	13	13	0 (0.0)	0	13	83.3%	50.0%	May
Belarus	298	44 (15.0)	10	224	222	23 (10.0)	3	196	100.0%	100.0%	Jun
Belgium	528	274 (52.0)	11	241	35	5 (14.0)	2	22	100.0%	100.0%	Jun
Bosnia and Herzegovina									0.0%	0.0%	No Report
Bulgaria	62	33 (53.0)	0	29	37	1 (3.0)	0	36	100.0%	66.7%	Jun
Croatia	2	2 (100.0)	0	0	2	0 (0.0)	0	2	100.0%	100.0%	Jun
Cyprus	0	0	0	0	0	0	0	0	100.0%	100.0%	Jun
Czech Republic	23	9 (39.0)	6	8	36	4 (11.0)	0	32	83.3%	83.3%	May
Denmark	920	179 (19.0)	20	721	348	11 (3.0)	53	284	100.0%	50.0%	Jun
Estonia	122	6 (5.0)	2	114	311	3 (1.0)	0	308	100.0%	100.0%	Jun
Finland	167	22 (13.0)	0	145	164	7 (4.0)	0	157	83.3%	83.3%	Jun
France	2610	1866 (71.0)	12	732	0	0	0	0	100.0%	83.3%	Jun
Georgia	24	4 (17.0)	0	20	26	4 (15.0)	3	19	100.0%	66.7%	Jun
Germany	898	586 (65.0)	4	308	61	4 (7.0)	3	54	100.0%	100.0%	Jun
Greece	81	22 (27.0)	0	59	132	29 (22.0)	0	103	83.3%	50.0%	May
Hungary	41	0 (0.0)	0	41	206	6 (3.0)	1	199	100.0%	100.0%	Jun
Iceland	31	0 (0.0)	0	31	35	0 (0.0)	0	35	100.0%	50.0%	Jun
Ireland	198	43 (22.0)	10	145	873	3 (0.0)	12	858	100.0%	66.7%	Jun
Israel	68	16 (24.0)	0	52	343	28 (8.0)	0	315	100.0%	83.3%	Jun
Italy									0.0%	0.0%	No Report
Kazakhstan	82	52 (63.0)	3	23	19	0 (0.0)	0	18	100.0%	83.3%	Jun
Kyrgyzstan	247	79 (32.0)	4	162	247	2 (1.0)	4	239	66.7%	66.7%	May
Latvia	98	0 (0.0)	0	98	98	1 (1.0)	0	97	83.3%	66.7%	May
Lithuania	10	6 (60.0)	1	3	9	0 (0.0)	0	9	100.0%	100.0%	Jun
Luxembourg	71	9 (13.0)	0	62	25	1 (4.0)	1	23	100.0%	100.0%	Jun
Malta	3	3 (100.0)	0	0	708	5 (1.0)	0	703	100.0%	100.0%	Jun
Monaco											No Lab
Montenegro											No Lab
Netherlands	98	42 (43.0)	0	56	96	2 (2.0)	0	94	100.0%	83.3%	Jun
Norway	192	67 (35.0)	1	124	20	1 (5.0)	1	18	100.0%	100.0%	Jun
Poland	35	14 (40.0)	2	19	26	4 (15.0)	1	21	100.0%	100.0%	Jun
Portugal	5	3 (60.0)	0	0	0	0	0	0	100.0%	100.0%	Jun
Republic of Moldova	11	0 (0.0)	0	11	11	0 (0.0)	0	11	100.0%	100.0%	Jun
Romania	1089	793 (73.0)	14	282	320	30 (9.0)	4	286	100.0%	100.0%	Jun
Russian Federation	2112	285 (13.0)	4	1823	1823	206 (11.0)	6	1611	100.0%	83.3%	Jun
San Marino											No Lab
Serbia	163	95 (58.0)	0	68	231	0 (0.0)	0	231	83.3%	16.7%	May
Slovakia	9	1 (11.0)	0	8	12	6 (50.0)	0	6	100.0%	100.0%	Jun
Slovenia	38	13 (34.0)	1	24	13	0 (0.0)	0	13	100.0%	100.0%	Jun
Spain	2801	1463 (52.0)	46	371	24	6 (25.0)	0	11	100.0%	83.3%	Jun
Sweden									0.0%	0.0%	No Report
Switzerland	456	414 (91.0)	18	24	14	14 (100.0)	0	0	100.0%	100.0%	Jun
Tajikistan	9	0 (0.0)	0	9	9	0 (0.0)	0	9	50.0%	16.7%	Mar
The former Yugoslav Republic of Macedonia	163	50 (31.0)	18	95	99	0 (0.0)	2	97	83.3%	33.3%	May
Turkey	5367	127 (2.0)	82	5158	4763	200 (4.0)	252	4311	100.0%	66.7%	Jun
Turkmenistan	5	0 (0.0)	0	5	5	0 (0.0)	0	5	83.3%	83.3%	Jun
Ukraine	442	39 (9.0)	1	402	946	593 (63.0)	10	343	100.0%	100.0%	Jun
United Kingdom	2773	761 (27.0)	0	2012	496	5 (1.0)	0	491	100.0%	66.7%	Jun
Uzbekistan	230	168 (73.0)	13	49	68	1 (1.0)	3	64	100.0%	50.0%	Jun
<b>Total / Average</b>	<b>23356</b>	<b>7632 (33%)</b>	<b>283</b>	<b>14490</b>	<b>15935</b>	<b>1208 (8%)</b>	<b>363</b>	<b>14348</b>	<b>89.5%</b>	<b>75.9%</b>	

\*Specimen based data are not population based, and should not be interpreted as indicators for epidemiological surveillance. Laboratories may have received more than 1 clinical sample or may have conducted more than 1 test for a given case reported in Table 1.

Data source: Aggregated monthly lab data provided by laboratories of the regional measles and rubella lab network.

**Table 4: Classification of AFP cases, surveillance performance and weekly reporting to WHO EURO by country, 2010-2011, WHO European Region**

Countries	2010 (1-53 weeks)											2011 (1-30 weeks)													
	AFP Cases <sup>1</sup>	AFP cases under 15 year of age	Hot AFP Cases <sup>2</sup>	Classification					Rates			AFP Cases <sup>1</sup>	AFP cases under 15 years of age	Hot AFP Cases <sup>2</sup>	Classification					Rates			Reporting		
				Polio Compatible	Pending	Discarded	Wild Polio cases	VDPV/VAPP	Non polio AFP rate <sup>3</sup>	Adequate Stool collection	Surv. Index <sup>5</sup>				Polio Compatible	Pending	Discarded	Wild Polio cases	VDPV/VAPP	Non polio AFP rate <sup>3</sup>	Adequate Stool collection	Surv. Index <sup>5</sup>	% Completeness	% Timeliness	Week of last report
Albania	13	13	0	0	0	13	0	0	1.79	100.0	1.00	1	1	0	0	0	1	0	0	0.24	100.0	0.2	80.0	36.0	29
Andorra	0	0	0	0	0	0	0	0	0.00	0.0	0.00	0	0	0	0	0	0	0	0	0.00	0.0	0.0	80.0	10.0	25
Armenia	13	13	1	0	0	13	0	0	2.08	61.5	0.62	12	12	2	0	4	8	0	0	2.14	91.7	0.9	96.0	60.0	30
Austria	3	3	0	0	0	3	0	0	0.24	0.0	0.00	1	1	0	0	1	0	0	0	0.00	0.0	0.0	96.0	30.0	30
Azerbaijan	29	29	0	0	0	29	0	0	1.36	100.0	1.00	21	21	0	0	14	7	0	0	0.55	100.0	0.5	83.0	80.0	30
Belarus	41	41	2	0	0	41	0	0	2.92	92.7	0.98	22	22	1	0	4	18	0	0	2.16	81.8	0.9	48.0	50.0	27
Belgium	3	3	0	0	0	3	0	0	0.17	0.0	0.06	1	1	0	0	0	1	0	0	0.09	0.0	0.0	70.0	43.0	29
Bosnia and Herzegovina	6	6	0	0	0	6	0	0	1.05	66.7	0.83	2	2	1	0	1	1	0	0	0.30	50.0	0.1	93.0	56.0	30
Bulgaria	13	13	2	0	0	13	0	0	1.28	92.3	0.92	5	5	0	0	3	2	0	0	0.33	80.0	0.3	16.0	13.0	30
Croatia	0	0	0	0	0	0	0	0	0.00	0.0	0.00	0	0	0	0	0	0	0	0	0.00	0.0	0.0	77.0	16.0	24
Cyprus	7	7	0	0	0	7	0	0	4.56	85.7	0.86	2	2	0	0	2	0	0	0	0.00	100.0	0.0	90.0	93.0	29
Czech Republic	2	2	0	0	0	2	0	0	0.14	100.0	0.14	4	4	0	0	1	3	0	0	0.34	100.0	0.3	74.0	73.0	29
Estonia	0	0	0	0	0	0	0	0	0.00	0.0	0.00	0	0	0	0	0	0	0	0	0.00	0.0	0.0	83.0	86.0	30
Georgia	7	7	0	0	0	7	0	0	0.99	100.0	0.99	8	8	1	0	4	4	0	0	0.96	100.0	1.0	87.0	90.0	29
Germany	11	10	0	0	0	11	0	0	0.10	10.0	0.03	0	0	0	0	0	0	0	0	0.00	0.0	0.0	0.0	0.0	0
Greece	20	20	1	0	0	20	0	0	1.26	40.0	0.60	17	17	2	0	17	0	0	0	0.00	64.7	0.0	48.0	50.0	28
Hungary	13	13	0	0	0	13	0	0	0.88	38.5	0.54	1	1	0	0	1	0	0	0	0.00	0.0	0.0	90.0	56.0	29
Ireland	2	2	0	0	0	2	0	0	0.21	50.0	0.10	4	4	0	0	1	3	0	0	0.52	0.0	0.1	96.0	30.0	30
Israel	11	11	0	0	0	11	0	0	0.55	0.0	0.15	6	6	0	0	0	6	0	0	0.50	0.0	0.1	74.0	76.0	30
Italy	53	53	0	0	0	53	0	0	0.62	58.5	0.39	37	37	1	0	24	13	0	0	0.26	54.1	0.1	6.0	6.0	28
Kazakhstan	113	112	4	0	1	111	1	0	2.95	99.1	0.99	49	49	0	0	26	23	0	0	1.01	98.0	1.0	25.0	23.0	25
Kyrgyzstan	68	64	0	0	0	68	0	0	4.22	96.9	1.00	31	29	0	0	6	25	0	0	2.59	100.0	1.0	9.0	10.0	25
Latvia	5	5	0	0	0	5	0	0	1.61	100.0	1.00	0	0	0	0	0	0	0	0	0.00	0.0	0.0	93.0	86.0	30
Lithuania	10	10	0	0	0	10	0	0	2.10	100.0	1.00	7	7	0	0	4	3	0	0	1.08	100.0	1.0	93.0	86.0	30
Malta	0	0	0	0	0	0	0	0	0.00	0.0	0.00	0	0	0	0	0	0	0	0	0.00	0.0	0.0	83.0	16.0	26
Montenegro	1	1	0	0	0	1	0	0	0.83	100.0	0.83	1	1	0	0	0	1	0	0	1.41	0.0	1.0	87.0	90.0	30
Norway	9	9	0	0	0	9	0	0	0.99	55.6	0.77	3	3	0	0	3	0	0	0	0.00	33.3	0.0	77.0	20.0	27
Poland	47	47	0	0	0	46	0	1	0.82	72.3	0.68	23	23	0	0	11	12	0	0	0.36	52.2	0.2	93.0	73.0	29
Portugal	8	8	0	0	0	8	0	0	0.49	50.0	0.31	4	4	0	0	1	3	0	0	0.31	75.0	0.3	83.0	3.0	26
Republic of Moldova	15	15	3	0	0	15	0	0	2.52	73.3	0.87	5	5	0	0	5	0	0	0	0.00	100.0	0.0	83.0	86.0	29
Romania	16	16	1	0	0	16	0	0	0.50	100.0	0.50	13	13	0	0	1	12	0	0	0.63	100.0	0.6	90.0	90.0	30
Russian Federation	397	390	68	0	0	378	14	5	1.80	94.9	0.95	211	210	15	0	75	134	0	2	1.06	93.3	1.0	74.0	76.0	28
Serbia	20	20	0	0	0	20	0	0	1.15	90.0	0.95	2	2	1	0	1	1	0	0	0.10	100.0	0.1	77.0	76.0	29
Slovakia	1	1	0	0	0	1	0	0	0.12	0.0	0.00	2	2	0	0	1	1	0	0	0.21	100.0	0.2	64.0	60.0	29
Slovenia	0	0	0	0	0	0	0	0	0.00	0.0	0.00	0	0	0	0	0	0	0	0	0.00	0.0	0.0	93.0	80.0	30
Spain	31	31	2	0	0	31	0	0	0.46	45.2	0.34	13	13	0	0	6	7	0	0	0.17	7.7	0.1	96.0	66.0	30
Switzerland	9	9	0	0	0	9	0	0	0.78	33.3	0.43	4	3	0	0	0	4	0	0	0.59	66.7	0.4	74.0	46.0	27
Tajikistan	712	585	0	61	0	193	457	1	7.50	86.7	0.88	28	25	0	0	11	17	0	0	1.10	88.0	0.9	67.0	70.0	29
The former Yugoslav Republic of	7	7	0	0	0	7	0	0	1.95	100.0	1.00	3	3	1	0	2	1	0	0	0.48	100.0	0.5	90.0	86.0	30
Turkey	217	211	6	0	0	240	0	2	1.08	74.4	0.79	119	119	2	0	36	83	0	0	0.70	82.4	0.6	83.0	86.0	30
Turkmenistan	50	50	0	0	0	46	3	1	3.06	100.0	1.00	20	20	0	0	9	11	0	0	1.23	100.0	1.0	38.0	40.0	29
Ukraine	130	125	22	0	0	129	0	1	2.04	96.0	0.98	75	75	13	0	29	46	0	0	1.22	97.3	1.0	90.0	93.0	30
Uzbekistan	146	132	4	0	0	146	0	0	1.84	97.7	0.98	117	115	4	0	61	56	0	0	1.19	94.8	0.9	67.0	63.0	30
<b>Average/Total</b>	<b>2259</b>	<b>2094</b>	<b>116</b>	<b>61</b>	<b>1</b>	<b>1736</b>	<b>475</b>	<b>11</b>	<b>1.66</b>	<b>86.00</b>	<b>0.89</b>	<b>874</b>	<b>865</b>	<b>44</b>	<b>0</b>	<b>365</b>	<b>507</b>	<b>0</b>	<b>2</b>	<b>0.67</b>	<b>0.61</b>	<b>68.0</b>	<b>73.0</b>	<b>53.0</b>	

<sup>1</sup> AFP case of all ages (Denmark, Finland, France, Iceland, Luxembourg, Monaco, Netherlands, San Marino, Sweden and United Kingdom do not report AFP cases. High quality surveillance (e.g. enterovirus and/or environmental) to detect poliovirus exists in Member States with no AFP surveillance.

<sup>2</sup> Hot cases = AFP case reported with a priority code (e.g. less than three doses of polio vaccine/Clinically polio/Recent travel to endemic country/high risk group).

<sup>3</sup> Non-polio AFP cases per 100 000 children under the age of 15 years (annualized for year 2009). Number of non-polio (discarded) AFP cases X 100000 / total population under 15 years.

<sup>4</sup> two stool samples collected with 14 days and 48 hours apart.

<sup>5</sup> Surveillance Index = non-polio AFP rate up to 1.0 x (% AFP cases with atleast 1 adequate specimens within 14 days of onset).

Countries infected in 2010