

Measles and rubella elimination country profile

Bosnia and Herzegovina

Measles elimination status



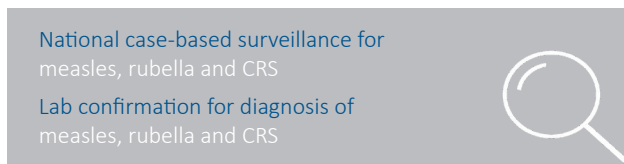
Source: European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/7thrv

Rubella elimination status



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Measles and rubella surveillance



Source: WHO/UNICEF Joint Reporting Form on Immunization, 2017

Demographic information, 2017

Total population	3 507 017
< 1 year old	29 553
< 5 years old	155 330

Source: World Population Prospects: The 2017 Revision, New York, United Nations

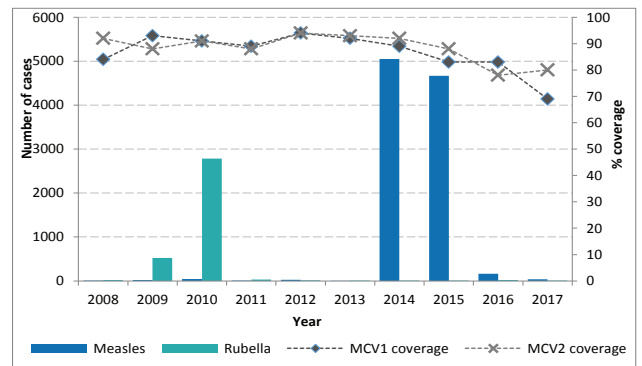
Measles and rubella immunization schedule, 2017

	Vaccine	Schedule	Year of introduction	
MCV1	MMR	12 months	MCV2	1971
MCV2	MMR	6 years	RCV	1976
Measles vaccination in school				Yes

Source: Immunization schedule, WHO, Data and Statistics, Immunization Monitoring and Surveillance (http://www.who.int/immunization/monitoring_surveillance/data/en/)

MMR = measles-mumps-rubella vaccine; MCV1 = first dose measles-containing vaccine; MCV2 = second dose measles-containing vaccine; RCV = rubella-containing vaccine

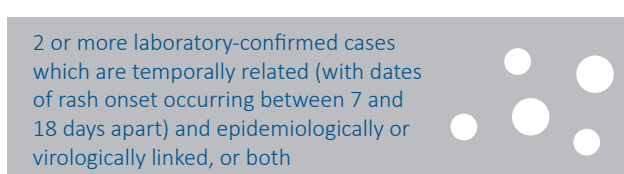
Measles and rubella cases and immunization coverage, 2008–2017



Source: Disease incidence and immunization coverage (WUENIC), WHO, Data and Statistics, Immunization Monitoring and Surveillance (http://www.who.int/immunization/monitoring_surveillance/data/en/)

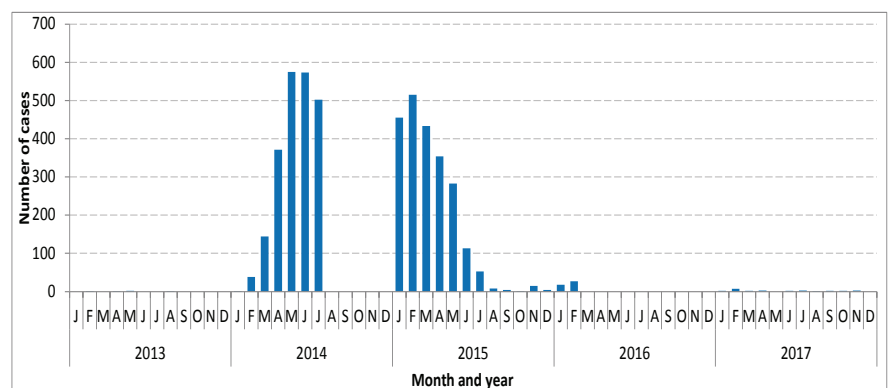
MCV1 = first dose of measles-containing vaccine
MCV2 = second dose of measles-containing vaccine

Definition used for an outbreak



Source: Measles and rubella elimination Annual Status Update report, 2017

Confirmed measles cases by month of onset, 2013-2017



Source: CISID 2017



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Measles cases by first subnational level, 2017



Source: Measles and rubella elimination Annual Status Update report, 2017

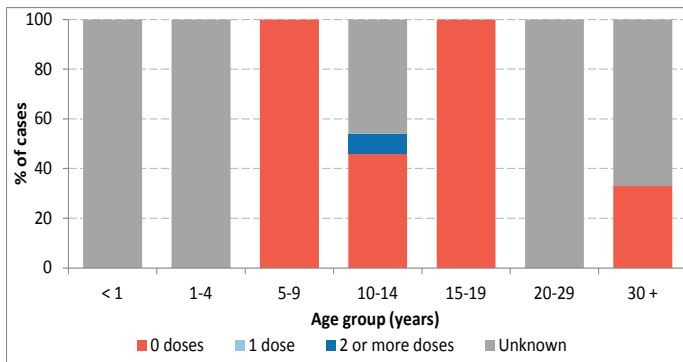
Measles genotypes by first subnational level, 2017



Source: MeaNS 2017
(Note: no subnational genotype information available)

Note: The dots in the maps are placed randomly within the administrative regions.
Map disclaimer: The boundaries and names shown and the designations used on the maps do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Measles cases by age group and vaccination status, 2017



Source: Measles and rubella elimination Annual Status Update report, 2017
Note: Excludes imported cases

Sources of infection, 2017

	Measles	Rubella
Imported	0	0
Import-related	0	0
Unknown/ Not reported	1	0
Endemic	17	4

Source: Measles and rubella elimination Annual Status Update report, 2017

Information on CRS, 2017



Source: Measles and rubella elimination Annual Status Update report, 2017
CRS = congenital rubella syndrome

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Measles incidence, epidemiologic and virologic characteristics, 2013-2017

	Suspected measles cases	Confirmed measles cases				Discarded as non-measles	Measles incidence	Genotypes detected
		Laboratory	Epi-linked	Clinically	Total			
2013	10	0	0	17	17	1	2.6	ND
2014	5048	140	ND	4880	5048	99	1281.3	ND
2015	4105	351	231	4084	4666	126	531.3	D8
2016	162	119	0	43	162	36	42.6	ND
2017	53	1	0	17	18	35	5.2	ND

Source: Measles and rubella elimination Annual Status Update report, 2013-2017
Incidence calculated per 1 million population
ND = Data not available; NA= Not applicable

Measles surveillance and laboratory performance indicators, 2013-2017

	Discarded non-measles rate	% 1st sub-national unit with ≥ 2 discarded cases	% cases with adequate laboratory investigation	% origin of infection known	# specimen tested for measles	% positive for measles	Rate of viral detection	% WHO and proficient labs
2013	20%	NA	20%	0%	ND	ND	0	ND
2014	0.4	ND	0.1	0%	254	0.7	0	ND
2015	0.0	ND	0.1	0%	640	0.7	0	100%
2016	1.0	ND	0.1	100%	36	0.4	0	47%
2017	1.0	5.9	23.1%	100%	12	8.3%	ND	34.3%

Source: ASU 2013-2017
ND = Data not available; NA= Not applicable
A proficient laboratory is WHO accredited and/or has an established quality assurance programme with oversight by a WHO accredited laboratory

Rubella incidence, epidemiologic and virologic characteristics, 2013-2017

	Suspected rubella cases	Confirmed rubella cases				Discarded as non-rubella	Rubella incidence	Genotypes detected
		Laboratory	Epi-linked	Clinically	Total			
2013	7	0	0	7	7	0	1.9	ND
2014	8	5	0	3	8	0	2.1	ND
2015	12	9	ND	3	12	3	1.9	ND
2016	22	15	0	7	22	7	5.8	ND
2017	16	1	0	3	4	12	1.2	ND

Source: Measles and rubella elimination Annual Status Update report, 2013-2017
Incidence calculated per 1 million population
ND = Data not available; NA= Not applicable

Rubella surveillance and laboratory performance indicators, 2013-2017

	Discarded non-rubella rate	% 1st sub-national unit with ≥ 2 discarded cases	% cases with adequate laboratory investigation	% origin of infection known	# specimen tested for rubella	% positive for rubella	Rate of viral detection	% WHO and proficient labs
2013	NA	NA	0%	0%	ND	ND	0	ND
2014	NA	NA	ND	0%	3451	0.0	0	ND
2015	0	ND	0%	0%	302	0.1	0	100%
2016	0.2	ND	68%	0%	30	100%	0	ND
2017	0.4	0.0	81.3%	100%	13	7.7%	ND	100%

Source: ASU 2013-2017
ND = Data not available; NA= Not applicable
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RVC comments, based on 2017 reporting

The Regional Verification Commission for Measles and Rubella Elimination (RVC) recognizes the complex circumstances in the country and commends the continued efforts to put in place strategies to improve measles and rubella coverage and surveillance. The RVC remains concerned over the size of the susceptible population in the country and urges actions to be taken to increase measles and rubella immunization coverage in all population groups in the country. If SIAs are considered they should be carefully planned and synchronized in all entities and administrative territories. Strengthened surveillance should increase detection of suspected cases and rate of laboratory investigation, including genotyping, conducted by WHO-accredited laboratories or in laboratories of known, documented proficiency.

Source: European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/7thrc

Surveillance performance indicators and targets

- Rate of discarded cases: at least 2 discarded measles or rubella cases per 100 000 population
- % cases with adequate laboratory investigation: ≥ 80%
- % origin of infection known: ≥ 80%
- Rate of viral detection: ≥ 80%