

Measles and rubella elimination country profile

Montenegro

Measles elimination status



Source: European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/6thRVC

National plan of action



Source: Measles and rubella elimination Annual Status Update report, 2016

Measles and rubella immunization schedule, 2016

	Vaccine	Schedule	Year of introduction
MCV1	MMR	13 months	MCV2 1994
MCV2	MMR	6 years	RCV 1994
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-containing vaccine; MCV1 = first dose measles-containing vaccine; MCV2 = second dose measles-containing vaccine; RCV = rubella-containing vaccine

Definition used for an outbreak

As Montenegro is in the measles and rubella elimination phase, "classic" definition of an outbreak is not applicable, as at least two epidemiologically linked measles or rubella cases in this phase of containment of these diseases are considered as an outbreak

Source: Measles and rubella elimination Annual Status Update report, 2016



Rubella elimination status



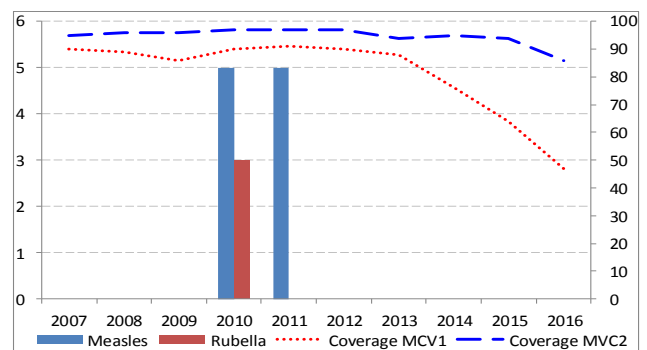
Source: European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/6thRVC

Demographic information, 2016

Total population	626 101
< 1 year old	7 130
< 5 years old	35 821

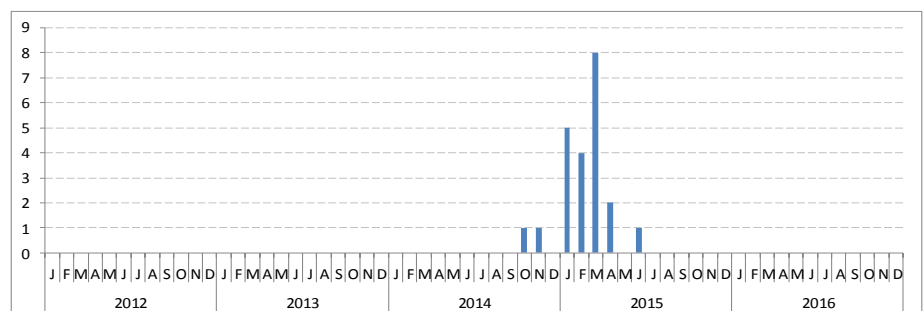
Source: World Population Prospects: The 2015 Revision, New York, United Nations

Measles and rubella cases and immunization coverage, 2007–2016



Source: Disease incidence and immunization coverage, 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

Confirmed measles cases by month of onset, 2012–2016



Source: CISID2 2016

Measles and rubella elimination country profile Montenegro

Measles incidence, epidemiologic and virologic characteristics, 2012-2016

	Suspected measles cases	Confirmed measles cases				Discarded as non-measles	Measles incidence	Genotypes detected
		Laboratory	Epi-linked	Clinically	Total			
2012	0	0	0	0	0	0	0	NA
2013	10	0	0	0	0	10	0	NA
2014	65	7	0	ND	7	60	6.5	ND
2015	19	13	2	0	15	4	16	ND
2016	3	0	0	0	0	3	0	NA

Source: Measles and rubella elimination Annual Status Update report, 2012-2016
Incidence calculated per 1 million population
ND = Data not available; NA= Not applicable

Rubella incidence, epidemiologic and virologic characteristics, 2012-2016

	Suspected rubella cases	Confirmed measles cases				Discarded as non-rubella	Rubella incidence	Genotypes detected
		Laboratory	Epi-linked	Clinically	Total			
2012	0	0	0	0	0	0	0	NA
2013	7	0	0	0	0	7	0	NA
2014	7	0	0	0	0	7	0	NA
2015	8	0	0	0	0	8	0	NA
2016	0	0	0	0	0	0	0	NA

Source: Measles and rubella elimination Annual Status Update report, 2012-2016
Incidence calculated per 1 million population
ND = Data not available; NA= Not applicable

Measles surveillance and laboratory performance indicators, 2012-2016

	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
2012	4	ND	100%	NA	ND	ND	ND	ND
2013	1.6	33.3%	100%	NA	ND	ND	NA	ND
2014	0.8	19%	91.6%	100%	7	0%	0	ND
2015	9.5	9.5%	100%	100%	19	79%	0	0%
2016	4.8	30.4%	100%	NA	30	0%	NA	0%

Source: ASU 2012-2016, MeaNS 2012-2016 and laboratory accreditation results 2012-2016
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 surveillance and laboratory performance indicators, 2012-2016

	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
2012	5.3	ND	100%	NA	ND	ND	ND	ND
2013	1.1	33.3%	100%	NA	ND	ND	NA	ND
2014	1.1	19%	100%	NA	0	0%	0	ND
2015	1.3	14.3%	100%	NA	8	0%	0	0%
2016	12.9	73.9%	100%	NA	72	0%	NA	0%

Source: ASU 2012-2016, RubeNS 2012-2016 and laboratory accreditation results 2012-2016
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

RVC comments, based on 2016 reporting

The Regional Verification Commission for Measles and Rubella Elimination (RVC) concluded that endemic transmission of both measles and rubella remained interrupted in Montenegro in 2016. Considering the RVC's conclusions about the interrupted status of measles and rubella transmission in the country in 2014 and 2015, it is pleased to declare that Montenegro has achieved elimination of measles and rubella. Efforts to reach and immunize the at-risk Roma population are recognized and endorsed. However, the RVC emphasizes that laboratory testing of specimens from suspected cases should be routinely performed at WHO-accredited laboratories or laboratories of known proficiency, and acknowledges with satisfaction that work is in progress to establish a national measles and rubella reference laboratory. The RVC is also concerned about the continuing decline in vaccination coverage resulting in a dangerously large accumulation of susceptible children across the country, which presents a high risk for re-establishing endemic transmission. The RVC urges the national health authorities and public health system to consider all additional activities, in line with WHO guidelines, to address these issues.

Source: Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report (www.euro.who.int/6thRVC)

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: \geq 80%
- % origin of infection known: \geq 80%
- Rate of viral detection: \geq 80%

Measles and rubella elimination country profile Montenegro

Supplementary immunization activities

Year	Target age	Vaccine used	% Coverage
2016	0-12 Y	MMR	30.3
2016	0-12 Y	MMR	68.4
NA			

Source: Supplementary immunization activities, WHO, Data and Statistics, Immunization Monitoring and Surveillance

NA= Not applicable; MMR = measles-mumps-rubella vaccine

Information on CRS, 2016

No cases reported



Source: Measles and rubella elimination Annual Status Update report, 2016
CRS = congenital rubella syndrome