


Measles and rubella elimination country profile

Croatia

Measles elimination status

2016 eliminated
2017 eliminated




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

Measles and rubella surveillance

National case-based surveillance for measles, rubella and CRS

Lab confirmation for diagnosis of measles, rubella and CRS



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

Measles and rubella immunization schedule, 2017


	Vaccine	Schedule	Year of introduction
MCV1	MMR	1 year	MCV2 1968
MCV2	MMR	6 years	RCV 1975
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

Definition used for an outbreak

One case of measles/rubella which is not imported




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



Rubella elimination status

2016 eliminated
2017 eliminated



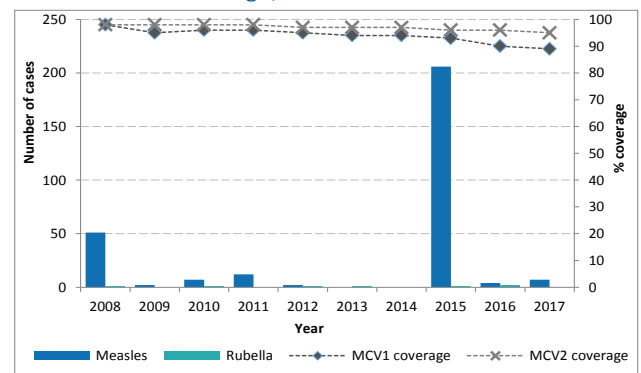
Source: European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/7thrv

Demographic information, 2017

Total population	4 189 353
< 1 year old	35 136
< 5 years old	191 606

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

Measles and rubella cases and immunization coverage, 2008–2017

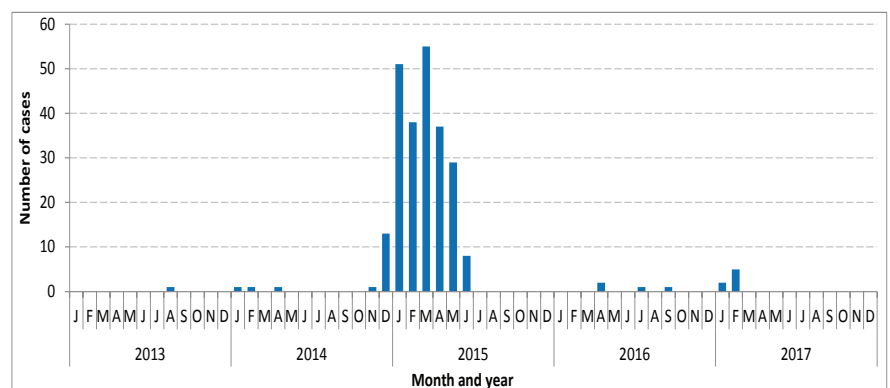


Source: Disease incidence and immunization coverage (WUENIC), WHO, Data and Statistics, Immunization Monitoring and Surveillance

(http://www.who.int/immunization/monitoring_surveillance/data/en/)

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

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

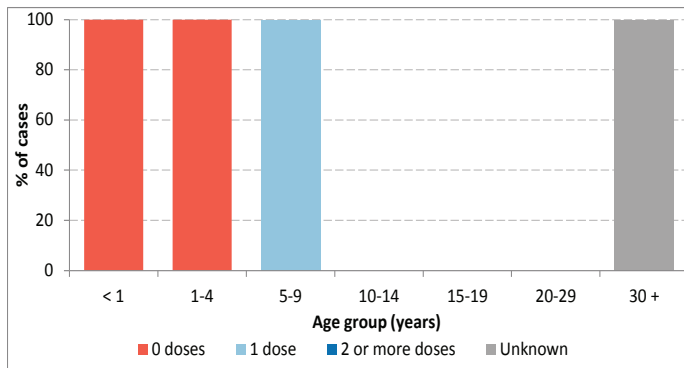
Measles genotypes by first subnational level, 2017



Source: MeaNS 2017

Note: 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



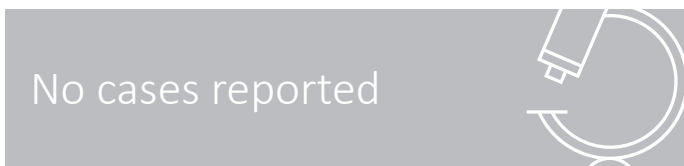
Source: Measles and rubella elimination Annual Status Update report, 2017
Note: Excludes imported cases

Sources of infection, 2017

	Measles	Rubella
Imported	0	0
Import-related	6	0
Unknown/ Not reported	1	0
Endemic	0	0

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	1	0	0	0	0	1	0	ND
2014	24	11	5	0	16	8	3.7	B3,D8
2015	230	139	60	20	219	11	47.7	D8
2016	5	4	0	0	4	1	1.2	ND
2017	10	7	0	0	7	3	1.8	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	0.0	100%	NA	NA	ND	ND	0	ND
2014	0.2	0%	80%	88%	20	55%	100%	ND
2015	0.1	100%	65%	100%	97	74.2%	92%	ND
2016	0.2	5%	100%	100%	ND	ND	0	ND
2017	0	NA	100%	85.7%	10	70%	100%	30%

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	1	1	0	0	1	0	0.2	ND
2014	0	0	0	0	0	0	0	NA
2015	0	0	0	0	0	0	0	NA
2016	2	2	0	0	2	0	0.5	ND
2017	0	0	0	0	0	0	0	NA

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	100%	100%	100%	ND	ND	ND	ND
2014	NA	0%	NA	NA	0	0%	ND	ND
2015	NA	0%	NA	NA	0	0%	ND	ND
2016	NA	0%	100%	100%	ND	ND	ND	ND
2017	0	ND	0%	NA	3	0%	0	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) concluded that endemic transmission of both measles and rubella remained interrupted in Croatia in 2017 and confirmed that measles and rubella elimination has been sustained. Nevertheless, the suboptimal MRCV1 coverage is of concern. Greater efforts are needed to increase vaccine coverage in younger age groups. Surveillance performance and sensitivity, especially for rubella, need to be strengthened and better documented, including the information on proficiency of laboratories testing for measles and rubella.

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

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%