

Measles and rubella elimination country profile Czech Republic

Measles elimination status

2015 eliminated
2016 eliminated



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

National plan of action

Does the country have a national plan of action?
ND

Is it updated? ND



Source: Measles and rubella elimination Annual Status Update report, 2016
ND= Data not available


Measles and rubella immunization schedule, 2016

	Vaccine	Schedule	Year of introduction	
MCV1	MMR	15 months	MCV2	1975
MCV2	MMR	21 months	RCV	1982
Measles vaccination in school				No

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

At least two measles or rubella cases including cases with epidemiological links




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



Rubella elimination status

2015 eliminated
2016 eliminated



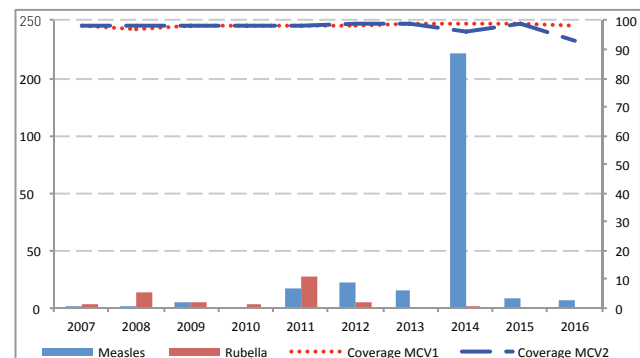
Source: European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/6thRVC

Demographic information, 2016

Total population	10 548 058
< 1 year old	106 751
< 5 years old	517 000

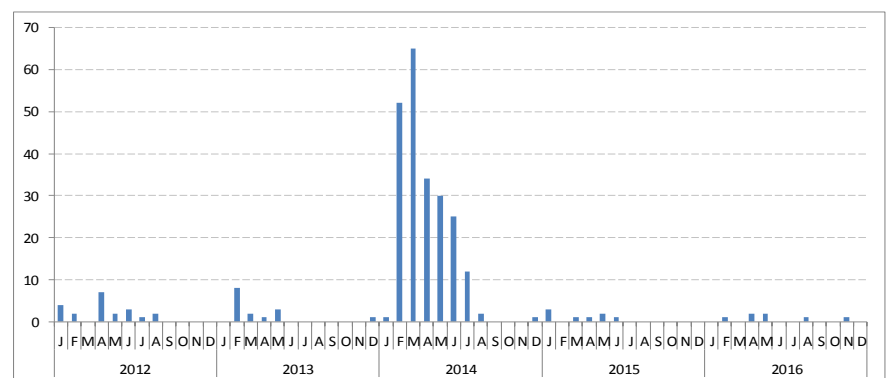
Source: World Population Prospects: The 2015 Revision, New York, United Nations

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

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Measles cases by first subnational level, 2016



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

Measles genotypes by first subnational level, 2016

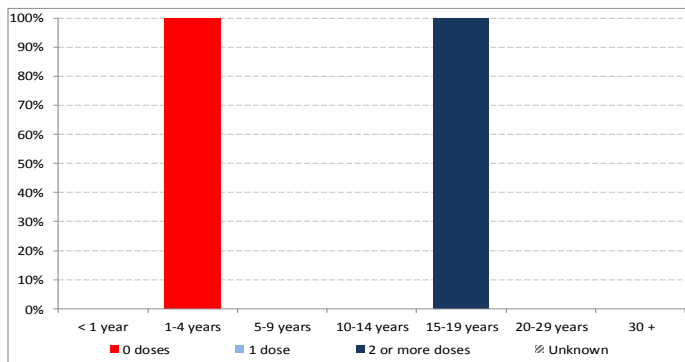


Source: MeaNS 2016
(Note: no subnational genotype information available)

Note: The dots on 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, 2016



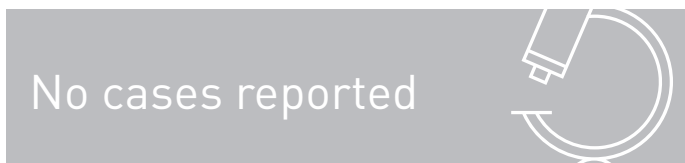
Source: Measles and rubella elimination Annual Status Update report, 2016

Sources of infection, 2016

	Measles	Rubella
Imported	5	0
Import-related	1	0
Unknown/ Not reported	0	0
Endemic	1	0

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

Information on CRS, 2016



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

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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	ND	22	4	22	22	ND	1.0	D4
2013	31	15	0	0	15	16	0.4	ND
2014	305	221	1	0	222	83	20.8	B3,D8
2015	35	9	0	0	9	9	0.6	D8
2016	2	7	0	0	7	0	0.2	B3

Source: Measles and rubella elimination Annual Status Update report, 2012-2016, and internal communication from country
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	ND	ND	100%	100%	ND	ND	ND	ND
2013	51.6	ND	100%	80%	ND	ND	ND	ND
2014	32.6	ND	100%	91%	ND	ND	35.3%	ND
2015	0.1	ND	100%	55.6%	35	25.7%	20%	100%
2016	NA	NA	100%	85.7%	22	45.5%	25%	100%

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 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	ND	7	0	0	7	ND	0.6	ND
2013	0	0	0	0	0	0	0	NA
2014	2	1	0	0	1	1	0.1	ND
2015	0	0	0	0	0	0	0	NA
2016	1	0	0	0	0	1	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 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	ND	ND	85.7%	100%	ND	ND	ND	ND
2013	NA	NA	NA	NA	ND	0%	NA	ND
2014	50%	NA	100%	100%	ND	ND	0	ND
2015	NA	NA	NA	NA	ND	0%	NA	100%
2016	ND	NA	NA	NA	1	0%	NA	100%

Source: ASU 2012-2016, RubeNS 2012-2016 and laboratory accreditation results 2012-2016
ND = Data not available; NA= Not applicable
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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 the Czech Republic in 2016 and confirmed that measles and rubella elimination has been sustained. The RVC commends the National Verification Committee (NVC), national health authorities and public health system on this achievement, but emphasizes to the NVC the need for more comprehensive data in the ASU, especially in regards to surveillance performance. The RVC also urges both the NVC and national health authorities to adjust routine procedures, in line with WHO recommendations and guidelines, to enable adequate surveillance and to improve the collection and submission in the ASU of immunization coverage data. The RVC is concerned that, based on the limited data currently available in the ASU, surveillance performance appears to be suboptimal and it is not possible to assess routine immunization coverage in 2016.

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: $\geq 80\%$