

# Measles and rubella elimination country profile

## Denmark

### Measles elimination status



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

### National plan of action



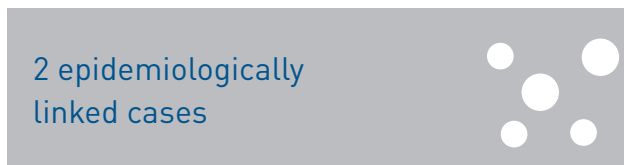
Source: Measles and rubella elimination Annual Status Update report, 2016

### Measles and rubella immunization schedule, 2016

	Vaccine	Schedule	Year of introduction	
MCV1	MMR	15 months	MCV2	1987
MCV2	MMR	4 years	RCV	1987
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/](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



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

### Rubella elimination status



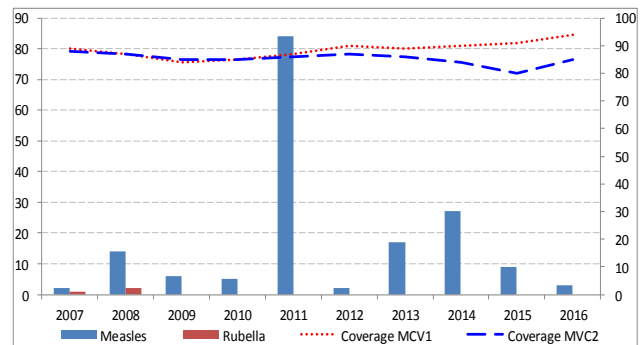
Source: European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: [www.euro.who.int/6thRVC](http://www.euro.who.int/6thRVC)

### Demographic information, 2016

Total population	5 690 750
< 1 year old	58 843
< 5 years old	284 598

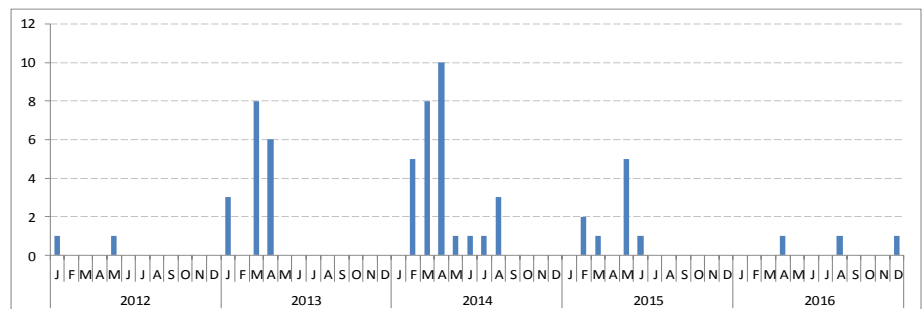
Source: World Population Prospects: The 2015 Revision, New York, United Nations

### 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/](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

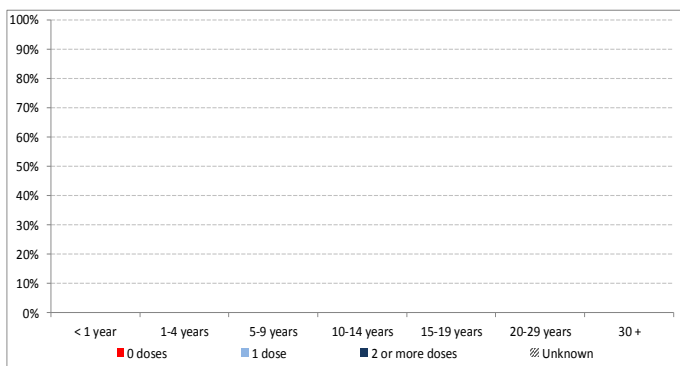


Source: MeaNS 2016

Note: 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, 2016



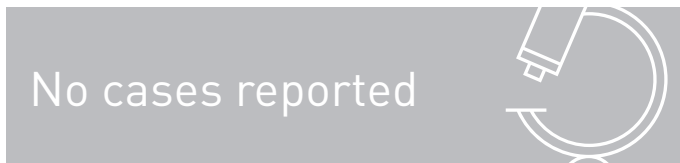
Source: Measles and rubella elimination Annual Status Update report, 2016  
(No age group and vaccination status data available)

### Sources of infection, 2016

	Measles	Rubella
Imported	3	0
Import-related	0	0
Unknown/ Not reported	0	0
Endemic	0	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	ND	ND	ND	ND	ND	0.2	ND
2013	ND	ND	ND	ND	ND	ND	2.5	D8
2014	162	25	2	0	27	138	3.6	B3
2015	186	9	0	0	9	177	1.4	D8,H1
2016	75	3	0	0	3	72	0	B3, D8

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	ND	ND	ND	ND	ND	ND	ND	ND
2013	ND	ND	ND	ND	ND	ND	ND	ND
2014	2.5	0%	100%	89%	682	3.5%	100%	ND
2015	0.5	0%	100%	55%	697	1.9%	100%	100%
2016	1.3	ND	100%	100%	75	4.2%	0%	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	ND	ND	ND	ND	ND	0	NA
2013	ND	ND	ND	ND	ND	ND	0	NA
2014	0	0	0	0	0	0	0	NA
2015	0	0	0	0	0	0	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

### 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	ND	ND	ND	ND	ND	ND
2013	ND	ND	ND	ND	ND	ND	ND	ND
2014	NA	NA	NA	NA	0	0%	0	ND
2015	NA	NA	NA	NA	ND	0%	0	100%
2016	NA	NA	NA	NA	ND	0%	0	ND

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) commends the national health authorities and public health system on sustained interruption of measles but continues to call for the implementation of WHO resolutions and guidelines recommending establishment of national rubella surveillance. The RVC is eager to learn about introduction of mandatory rubella surveillance in 2017. The RVC would appreciate if the results of a retrospective review for missed rubella cases would be included in the next ASU.

The RVC urges strengthening of immunization programme by timely delivery of MRCV, particularly MRCV2, and improving of surveillance sensitivity to the minimum standard of 2 discarded cases per 100 000 population.

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