

#### Measles elimination status

2016 interrupted 2017 interrupted



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

#### Measles and rubella surveillance



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

#### Measles and rubella immunization schedule, 2017

	Vaccine	Schedule	Year of introduction				
MCV1	MMR	13-15 MCV2		1991			
MCV2	MMR	10 years	RCV	1988			
Ν	Measles vaccination in school						

Source: Immunization schedule, WHO, Data and Statistics, Immunization Monitoring and Surveillance (http://www.vho.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 ND = Data not available

#### Definition used for an outbreak



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



#### Rubella elimination status



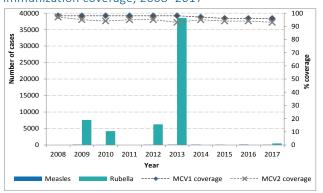
Source:European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/7thrvc

#### Demographic information, 2017

Total population	38 170 712		
< 1 year old	322 544		
< 5 years old	1 774 073		

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

# Measles and rubella cases and immunization coverage, 2008–2017



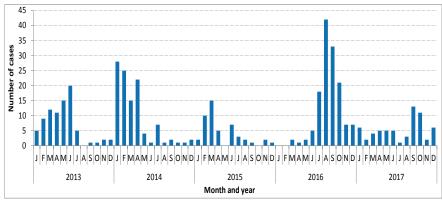
Source: Disease incidence and immunization coverage (WUENIC), WHO, Data and Statistics, Immunization Monitoring and Surveillance

(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



#### Measles cases by first subnational level, 2017



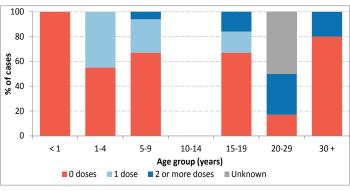
# Lithua • B3 • D8 •H1 • D4

Measles genotypes by first subnational level, 2017

Source: Measles and rubella elimination Annual Status Update report, 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

# Sources of infection, 2017

Source: MeaNS 2017

	Measles	Rubella
Imported	8	0
Import-related	39	0
Unknown/ Not reported	0	476
Endemic	16	0

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

#### Supplementary immunization activities

Year	Target age	Vaccine used	% Coverage
2016	All	MMR	ND

Source: Supplementary immunization activities, WHO, Data and Statistics, Immunization Monitoring and Surveillance (http://www.who.int/immunization/monitoring\_surveillance/data/en/) MMR = measles-mumps-rubella vaccine ND = Data not available

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

### Information on CRS, 2017



CRS = congenital rubella syndrome



# Measles incidence, epidemiologic and virologic characteristics, 2013-2017

	Suspected		Confirmed m	neasles cases	Discarded as	Measles	Genotypes	
	cases	es l	non- measles	incidence	detected			
2013	258	56	5	25	86	175	2.1	D8
2014	182	87	17	6	110	73	2.6	D8
2015	133	30	2	16	48	86	1.3	D8,H1
2016	148	76	54	3	133	15	2.9	D8
2017	262	47	16	0	63	199	1.4	B3,D8

urce: Measles and rubella elimination Annual Status Update report, 2013-2017 ncidence calculated per 1 million population

ND = Data not available: NA= Not applicable

# Rubella incidence, epidemiologic and virologic characteristics, 2013-2017

	Suspected						Rubella	Genotypes
	cases	Laboratory	Epi- linked	Clinically	Total	non- rubella	incidence	detected
2013	ND	52	107	38 387	38 546	ND	1 001.4	ND
2014	ND	34	4	5853	5891	ND	153.1	ND
2015	2027	21	5	2000	2026	2001	52.6	ND
2016	1232	8	8	1090	1106	126	28.8	ND
2017	708	6	2	468	476	232	12.9	ND

ource: 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	0.4	0%	69%	100%	ND	ND	43%	ND
2014	ND	ND	ND	ND	145	58.6%	ND	ND
2015	0.2	0%	57.1%	100%	88	35.2%	ND	ND
2016	0	ND	62.2%	100%	92	82.6%	100%	98.9%
2017	0.5	ND	72%	100%	262	17.9%	33%	100%

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 surveillance and laboratory performance indicators, 2013-2017

	Discarded non- rubella rate	% 1st sub- national unit with ≥ 2 discarded cases	% cases with adequate laboratory investigtion	% origin of infection known	# specimen tested for rubella	% positive for rubella	Rate of viral detection	% WHO and proficient labs
2013	ND	ND	ND	ND	ND	ND	ND	ND
2014	ND	ND	ND	ND	ND	ND	ND	ND
2015	ND	ND	ND	ND	16	0%	ND	ND
2016	0.3	ND	11.8%	ND	ND	ND	ND	ND
2017	0.6	ND	ND	ND	238	2.5%	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) is impressed with measles prevention efforts, noting timeliness and completeness of reporting and high vaccine coverage. As stressed at previous meeting, there is a need for further improvements in rubella surveillance, lab-confirmation and genotyping. The national health authorities are invited to consider revisions of MRCV immunization schedule, in particular the rationale for providing MRCV2 at 10 years of age in light of fact that 60% of measles cases occurred in population which is less than 10 years old. The RVC is concerned that once again the report is very light on details and the RVC request the NVC to provide more detailed ASU.

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

#### Surveillance performance indicators and targets

- a. Rate of discarded cases: at least 2 discarded measles or rubella cases per 100 000 population
- b. % cases with adequate laboratory investigation:  $\geq$  80%
- c. % origin of infection known:  $\geq 80\%$
- d. Rate of viral detection:  $\geq 80\%$