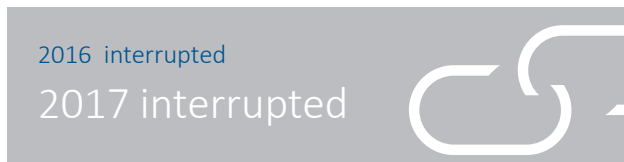


Measles and rubella elimination country profile

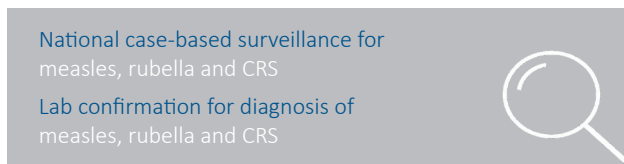
Switzerland

Measles elimination status



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

Measles and rubella surveillance



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

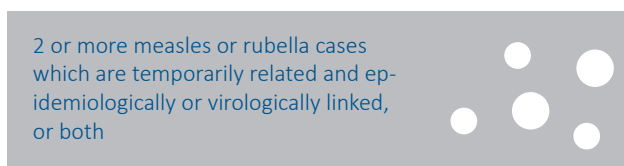
Measles and rubella immunization schedule, 2017

	Vaccine	Schedule	Year of introduction
MCV1	MMR	12 months	MCV2 1996
MCV2	MMR	15-24 months	RCV 1973
Measles vaccination in school			ND

Source: Immunization schedule, WHO, Data and Statistics, Immunization Monitoring and Surveillance (http://www.who.int/immunization/monitoring_surveillance/data/en/)

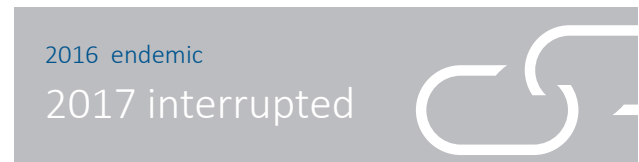
MMR = measles-mumps-rubella vaccine; MCV1 = first dose measles-containing vaccine; MCV2 = second dose measles-containing vaccine; RCV = rubella-containing vaccine
ND = Data not available

Definition used for an outbreak



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

Rubella elimination status



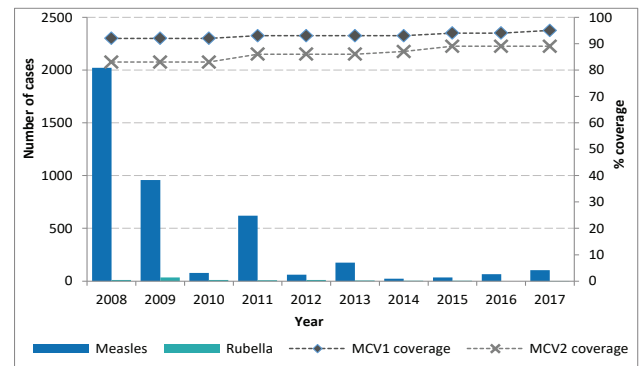
Source: European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/7thrv

Demographic information, 2017

Total population	8 476 005
< 1 year old	89 575
< 5 years old	440 445

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

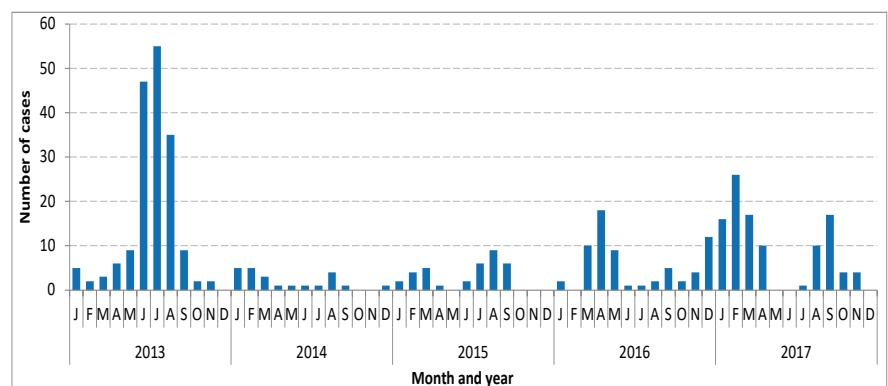
Measles and rubella cases and immunization coverage, 2008–2017



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



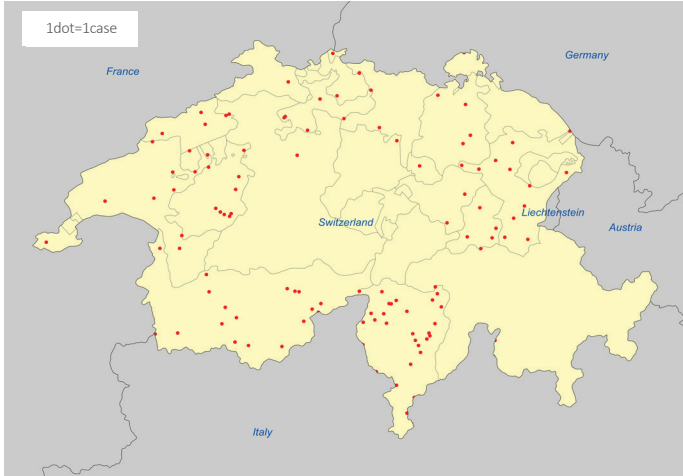
Source: CISID 2017



Measles and rubella elimination country profile

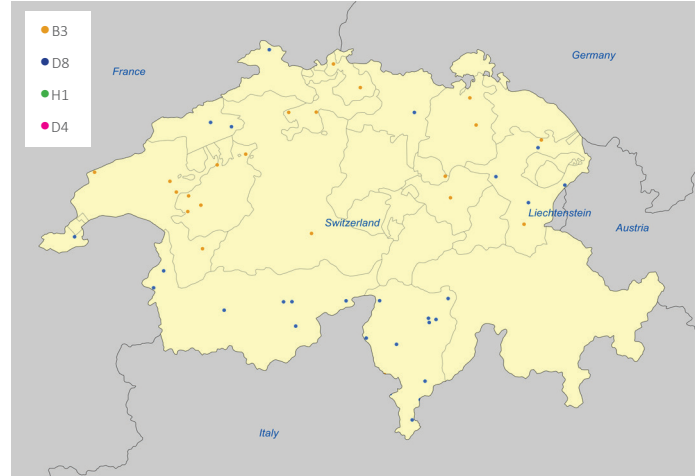
Switzerland

Measles cases by first subnational level, 2017



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

Measles genotypes by first subnational level, 2017

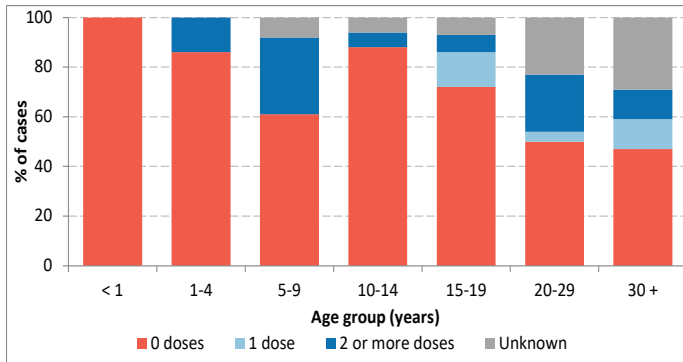


Source: MeaNS 2017

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

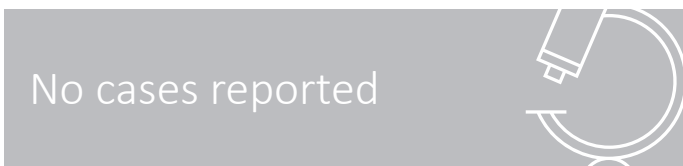
Note: Excludes imported cases

Sources of infection, 2017

	Measles	Rubella
Imported	7	0
Import-related	7	0
Unknown/ Not reported	7	1
Endemic	84	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

Measles and rubella elimination country profile Switzerland

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	212	113	21	42	176	33	19.7	D8
2014	68	14	2	7	23	45	1.7	B3,D8,H1
2015	65	27	5	3	35	30	3.5	B3,D8,H1
2016	101	52	9	4	65	36	6.4	B3,D8
2017	244	78	20	7	105	139	11.6	B3, D8

Source: Measles and rubella elimination Annual Status Update report, 2013-2017 and communication with the country
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	0.3	0%	78.9%	92%	ND	ND	25%	ND
2014	0.2	0%	86.4%	91.2%	57	66.7%	80%	ND
2015	0.1	0%	91.8%	82.9%	56	76.8%	33.3%	100%
2016	0.8	11.5%	94.6%	95.4%	88	73.9%	50%	100%
2017	1.7	30.8%	88.5%	93.3%	216	36.1%	100%	0%

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	41	6	0	0	6	35	0.6	ND
2014	39	4	0	0	4	35	0.5	ND
2015	26	3	0	0	3	23	0.4	ND
2016	0	0	0	0	0	2	0	NA
2017	ND	1	0	0	1	ND	0.1	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

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	NA	82.9%	50%	ND	ND	ND	ND
2014	NA	NA	92.3%	75%	36	100%	ND	ND
2015	NA	NA	88.5%	66.7%	23	95.7%	ND	100%
2016	NA	NA	NA	NA	28	92.9%	NA	100%
2017	NA	NA	NA	0%	1	100%	NA	0%

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

RVC comments, based on 2017 reporting

The Regional Verification Commission for Measles and Rubella Elimination (RVC) commends the national verification committee for measles and rubella elimination (NVC), national health authorities and public health system on achieving interruption of endemic rubella transmission and sustaining interruption of endemic measles transmission, and welcomes accreditation of the National Measles and Rubella Reference Laboratory. A low MRCV2 coverage in many cantons is of concern. The RVC would appreciate if more comprehensive data on routine immunization coverage are included in the next ASU and commented on by the NVC. The wide age range of measles cases suggests immunity gaps across all age groups. Health authorities may consider whether would be feasible and beneficial to conduct serosurveys to identify population immunity gaps, followed by immunization of susceptible individuals through SIAs.

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%