

Routine immunization profile North Macedonia

Progress towards achieving European Vaccine Action Plan goals, 2017

Goal	Indicator	Status	Goal	Indicator	Status
1	Sustain polio-free status ^a (Current risk)	Yes (Intermediate)	4	Meets vaccination coverage targets DTP3 national immunization coverage $\geq 95\%$ ^d $\geq 90\%$ DTP3 coverage achieved in $\geq 90\%$ of districts ^e	No No Yes
2	Measles elimination status ^b	Eliminated	5	Make evidence-based decisions about introduction of new vaccines* ^e NITAG made a recommendation about PCV NITAG made a recommendation about RV NITAG made a recommendation about HPV	No NN NN NN
	Rubella elimination status ^b	Eliminated			
3	Control hepatitis B infection ^c	Validation pending	6	Achieve financial sustainability of the national immunization programme** ^c	Yes

*New vaccines introduced or not introduced based on NITAG evidence-based recommendations

**Country self-sufficient for procuring routine vaccines

Demographic, income and health expenditure summary, 2017

Total Population ^f	2 083 160
Live births	23 406
Surviving infants	23 216
<5 years	118 345
<15 years	347 686
Neonatal mortality rate (per 1000 live births) ^f	10.5
Infant mortality rate (per 1000 live births) ^f	12
Number of districts ^e	31
GNI (per capita, in USD) ^g	4880
Health spending as % of total government expenditure ^g	12

Immunization schedule, 2017^e

Birth	BCG, HepB_Pediatric
2M	DTaPHibHepBIPV
3M	DTaPHibIPV
5M	DTaPHibIPV
6M	DTaPHibHepBIPV
12M	MMR
18M	DTaPHibIPV
4Y	DTwP
6Y	MMR
7Y	OPV, Td
12Y	HPV*
14Y	OPV, Td
18Y	TT

*Second dose +6M

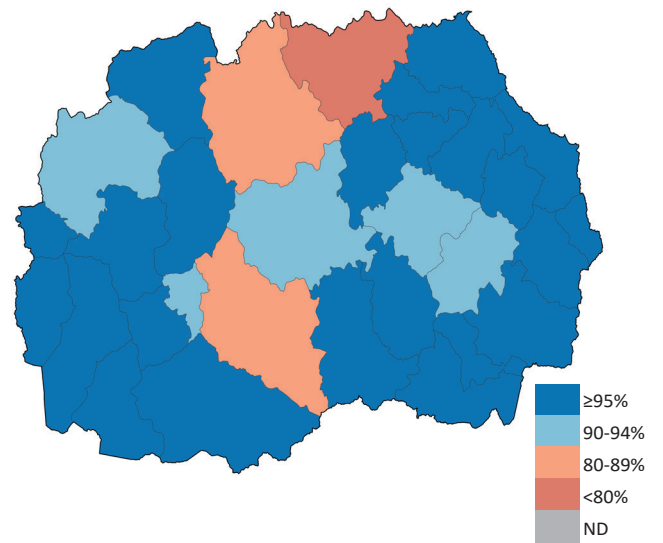


Vaccine coverage estimates, 2013-2017^d

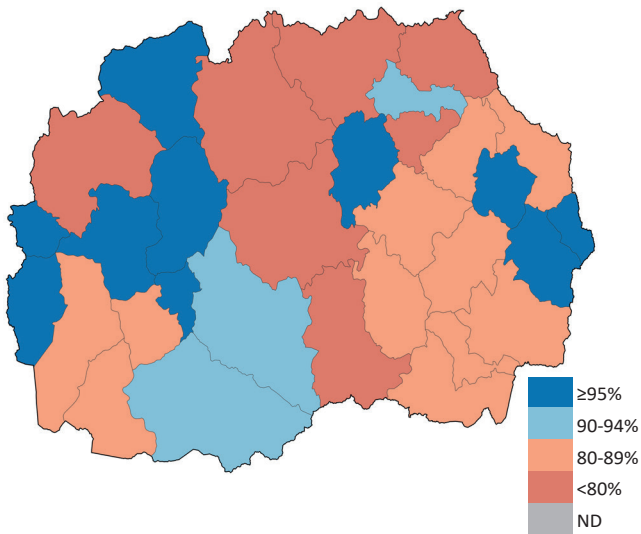
	2013	2014	2015	2016	2017
BCG	97	99	94	99	97
HepB-BD	98	99	98	98	98
DTP1	99	98	98	97	97
DTP3	98	95	91	95	91
HepB3	97	97	92	94	91
Hib3	97	94	89	94	91
Pol3	98	96	92	95	91
PCV3	NR	NR	NR	NR	NR
Rotac	NR	NR	NR	NR	NR
RCV1	96	93	89	82	83
MCV1	96	93	89	82	83
MCV2	96	96	93	93	97

100 50 0 ND NR

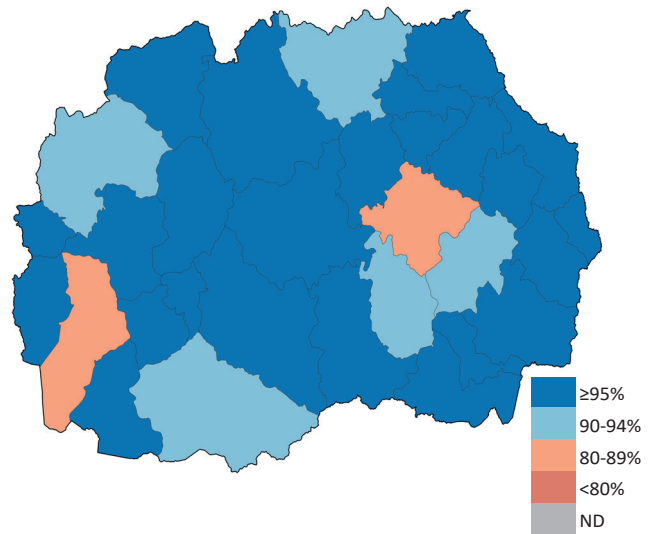
DTP3 reported coverage by subnational area[†], 2017^e



MCV1 reported coverage by subnational area[†], 2017^e



MCV2 reported coverage by subnational area[†], 2017^e



Number of reported cases of vaccine-preventable diseases, 2013-2017^e

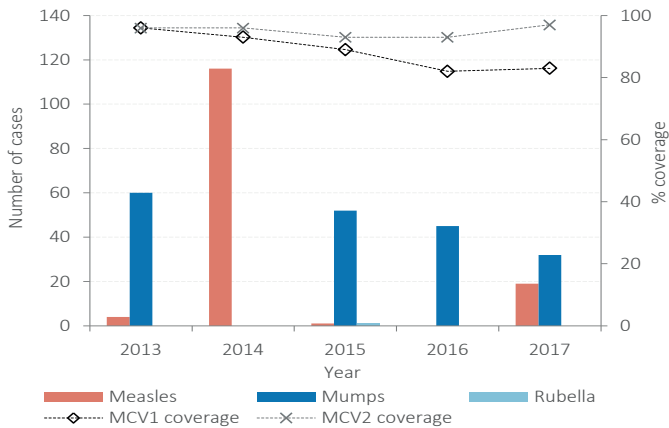
	2013	2014	2015	2016	2017
Measles	4	116	1	0	19
Mumps	60	ND	52	45	32
Rubella	0	0	1	ND	0
Congenital rubella syndrome	ND	ND	ND	ND	ND
Diphtheria	0	0	0	0	ND
Tetanus	0	0	0	ND	0
Pertussis	1	0	0	4	13
Hepatitis A	101	582	157	20	36
Varicella	8502	0	4546	10 233	8759

Surveillance with laboratory confirmation of cases, 2017^e

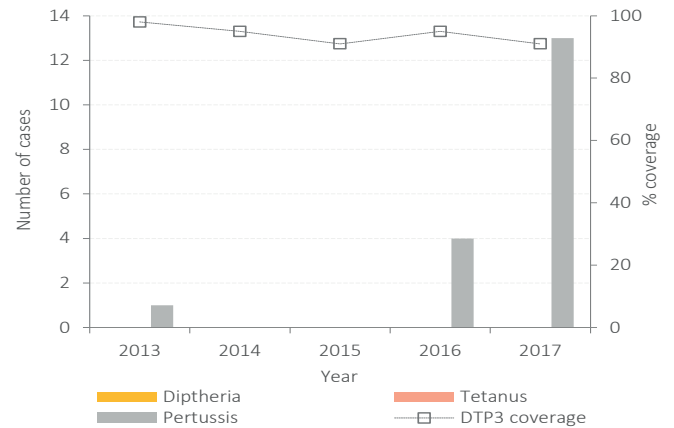
Measles	Yes
Rubella	Yes
Congenital rubella syndrome	No
Rotavirus	No
Invasive meningococcal disease	Yes
Invasive pneumococcal disease	Yes
Invasive <i>Haemophilus influenzae</i> disease	Yes

Note: Case-based surveillance (with laboratory confirmation of cases) assessed for measles, rubella, and congenital rubella syndrome. Hospital-based sentinel surveillance and/or population-based surveillance (both with laboratory confirmation of cases) assessed for rotavirus, invasive meningococcal disease, invasive pneumococcal disease, and invasive *Haemophilus influenzae* disease.

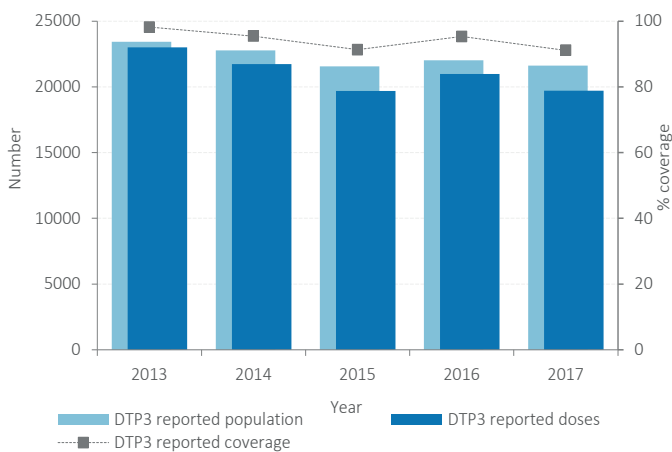
Number of reported measles, mumps and rubella cases^e and MCV coverage estimates^d, 2013-2017



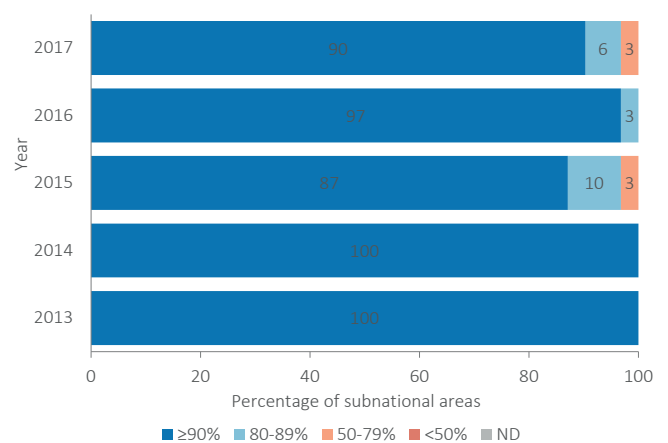
Number of reported diphtheria, tetanus and pertussis cases^e and DTP3 coverage estimates^d, 2013-2017



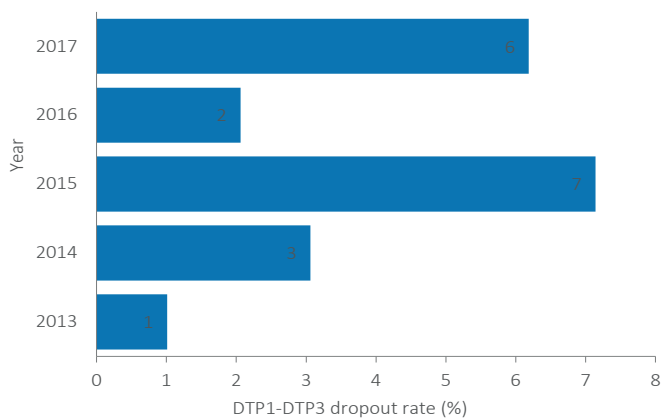
Reported target population, reported number of DTP3 doses administered and DTP3 reported coverage^e, 2013-2017



Percentage of districts by DTP3 reported coverage^e, 2013-2017



DTP1-DTP3 dropout rate, 2013-2017^d



Note: Dropout rate is calculated using WUENIC

Immunization system characteristics, 2017

Sustained access to WHO accredited polio, measles, and rubella laboratories ^h	Yes
NITAG in place that meets six WHO criteria ^e	No
National system in place to monitor AEFIs ^e	Yes
Communication plan in place to respond to vaccine safety-related events ^e	No
Vaccine hesitancy assessment performed within last 5 years ^e	No
Mandatory proof of immunization at school entry ^e	Yes

Note: The six WHO NITAG criteria are 1. legislative or administrative basis for the advisory group; 2. formal written terms of reference; 3. at least five different areas of expertise represented among core members; 4. at least one meeting per year; 5. circulation of the agenda and background documents at least one week prior to meetings; 6. mandatory disclosure of any conflict of interest

Vaccine stockouts by administrative level^a, 2013-2017

	2013	2014	2015	2016	2017
BCG	No	No	No	Both	ND
DTP	No	No	No	ND	ND
HepB	No	No	No	ND	ND
Hib	No	No	No	ND	ND
Pneumo	NR	NR	NR	NR	NR
Rota	NR	NR	NR	NR	NR
OPV	No	No	No	ND	Both
IPV	No	ND	ND	ND	ND
Measles	No	No	No	ND	ND
HPV	*	*	*	ND	ND
TT	No	No	No	ND	ND

■	No stockout
■	Subnational level stockout only
■	National level stockout only
■	Stockout at both levels
■	NR
■	ND

*Data on HPV stockouts have only been collected in JRF since 2016

Abbreviations

AEFI	Adverse event following immunization	MCV1	measles-mumps-rubella vaccine, first dose
BCG	Bacille Calmette-Guerin vaccine for tuberculosis	MCV2	measles-mumps-rubella vaccine, second dose
CRS	congenital Rubella Syndrome	MMR	measles-mumps-rubella vaccine
DT	diphtheria-tetanus-containing vaccine	ND	Data not available
DTP	diphtheria-tetanus-pertussis-containing vaccine	NITAG	National Immunization Technical Advisory Group
DTP1	diphtheria-tetanus-pertussis-containing vaccine, first dose	NN	No NITAG
DTP3	diphtheria-tetanus-pertussis-containing vaccine, third dose	NR	Not relevant as vaccine not included in immunization schedule
GNI	Gross national income	OPV	oral polio vaccine
HepB	hepatitis B	PCV	pneumococcal conjugate vaccine
HepB3	hepatitis B vaccine, third dose	PCV3	pneumococcal conjugate vaccine, third dose
HepB-BD	hepatitis B vaccine, birth dose	Pol3	polio-containing vaccine, third dose
Hib	Haemophilus influenzae type b	RCV1	rubella-containing vaccine, first dose
Hib3	Haemophilus influenzae type b vaccine, third dose	Rotac	rotavirus vaccine-complete series
HPV	human papillomavirus	Td	tetanus-diphtheria-containing vaccine
IPV	inactivated polio vaccine	TT	tetanus toxoid vaccine
MCV	measles-containing vaccine	W,M,Y	Weeks, Months, Years

Data sources

- a European Regional Commission for Certification of Poliomyelitis eradication (RCC) meeting report: www.euro.who.int/32ndRCC
- b European Regional Verification Commission for Measles and Rubella Elimination (RVC) meeting report: www.euro.who.int/7thRVC
- c European Vaccine Action Plan 2015-2020 Midterm report
- d WHO/UNICEF Estimates of National Immunization Coverage (WUENIC): (http://www.who.int/immunization/monitoring_surveillance/data/en/)
- e WHO/UNICEF Joint Reporting Form on immunization (JRF)
- f World Population Prospects: The 2017 Revision, New York, United Nations
- g World Bank, World Development Indicators
- h Polio Laboratory Network: www.euro.who.int/poliolabnetwork & Personal communication based on annual accreditation process of the European Measles and Rubella Laboratory Network

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.