Myanmar 2017

Expanded Programme on Immunization (EPI) FACT SHEET





Acronyms

AEFIAdverse events following immunizationMCV2Second dose measles containing vaccineAFPAcute flaccid paralysisMICSMultiple indicator cluster surveyBCGBacillus Calmette-Guérin vaccineMMRMeasles mumps rubella vaccineCESCoverage evaluation surveyMNTMaternal and neonatal tetanusCMYPComprehensive multi-year planMRMeasles rubella vaccineCRSCongenital rubella syndromeNCIPNational committee on immunization practicesDHSDemographic health surveyNIDNational immunization dayDTPDiphtheria tetanus toxoid, pediatricNTAGINon-polio enterovirusDTP-Hib-HepBPatavalent vaccineNPEVNon-polio enterovirusDTP-Hib-HepBVadose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationBOPVBivalent OPVGDPGross domestic productDPVPrivalent OPVHCWHealth care workerPCVPrivalent OPVHCWHeaptilis B vaccineSIAGSupplementary immunization adayHBVHamophilus influenza type bSIAGSupplementary immunization dayIgMInnunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIpLIpLevAtedJapaese encephaltisT12+2 or more doses TTJELLive attenated vaccineVPDVVaccine drived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine drived poliovirusLBLive birth <th>AD</th> <th>Auto disable</th> <th>MCV1</th> <th>First dose measles containing vaccine</th>	AD	Auto disable	MCV1	First dose measles containing vaccine
BCGBacillus Calmette-Guérin vaccineMMRMeasles mumps rubella vaccineCESCoverage evaluation surveyMNTMaternal and neonatal tetanuscMYPComprehensive multi-year planMRMeasles rubella vaccineCRSCongenital rubella syndromeNCIPNational committee on immunization practicesDHSDemographic health surveyNIDNational immunization dayDTDiptheria tetanus toxoid, pediatricNTAGINational technical advisory group on immunizationDTPDiptheria - tetanus - pertussis vaccineNPEVNon-polio enterovirusDTP-Hib-HepBPetravalent vaccineOPVOral poliovirus vaccineDTP-Hib-HepBAdose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationbOPVBivalent OPVGDPGross domestic producttOPVPrevient Coulgaget vaccineHEQBHepatitis B vaccineSEARWHO South-East Asia RegionHibMaemophilus influenzae type bSIASupplementary immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTT2+2 or more doses TTJE_Live-AtdIz watter doses TTVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine derived poliovirusJRFLive birthWCBAWomen of child bearing age	AEFI	Adverse events following immunization	MCV2	Second dose measles containing vaccine
CESCoverage evaluation surveyMNTMaternal and neonatal tetanuscMVPComprehensive multi-year planMRMeasles rubella vaccineCRSCongenital rubella syndromeNCIPNational committee on immunization practicesDHSDemographic health surveyNIDNational immunization dayDTDiphteria tetanus toxoid, pediatricNTAGINational technical advisory group on immunizationDTPDiphteria - tetanus - pertussis vaccineNPEVNon-polio enterovirusDTP-Hib-HepBPentavalent vaccineOPVOral poliovirus vaccineDTP-Hib-HepBStradose pentavalent vaccineOPVOral poliovirus vaccineCMWStradose pontavalent vaccineOPVOral poliovirus vaccineCPPStradose pontavalent vaccineOPVOral poliovirus vaccineCPPGross domestic productCOPVPreumococcal conjugate vaccineHepBHeatitis B vaccineSEARWHO Subnetion dayHibhHaemophilus influenzae type bSIASupplementary immunization dayIgMImmunoglobulin MTdTetanus diphteria toxoid, older children, adultsIPVInactivated poliovirus vaccineTT2+2 or more doses TTIgE, Live-AtdIzive attenuated vaccineVDPVVaccine derived poliovirusIRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesIBLive birthWoreanWorean of child bearing age	AFP	Acute flaccid paralysis	MICS	Multiple indicator cluster survey
CMYPComprehensive multi-yearMRMeasles rubella vaccineCRSCongenital rubella syndromeNCIPNational committee on immunization practicesDHSDemographic health surveyNIDNational immunization dayDTDiphtheria tetanus toxoid, pediatricNTAGINational technical advisory group on immunizationDTPDiphtheria - tetanus - pertussis vaccineNPEVNon-polio enterovirusDTP-Hib-HepBPentavalent vaccineOPVOral poliovirus vaccineDTP-Hib-HepB33rd dose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationbOPVBivalent OPVGOPGross domestic producttOPVPreumococcal conjugate vaccineHCWHealth care workerPCVPneumococcal conjugate vaccineHep8Hepattits B vaccineSIASupplementary immunization activitiesHPVInamoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTT2+2 or more doses TTJE_Live-AtdIzive attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive bithWoren of child bearing ageVDPNVoren of child bearing age	BCG	Bacillus Calmette-Guérin vaccine	MMR	Measles mumps rubella vaccine
CRSCongenital rubella syndromeNCIPNational committee on immunization practicesDHSDemographic health surveyNIDNational immunization dayDTDiphtheria tetanus toxoid, pediatricNTAGINational technical advisory group on immunizationDTPDiphtheria - tetanus - pertussis vaccineNPEVNon-polio enterovirusDTP-Hib-HepBPentavalent vaccineNTNeonatal tetanusDTP-Hib-HepB33rd dose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationbOPVBivalent OPVGOPGross domestic producttOPVTrivalent OPVHCWHealth care workerPCVPneumococcal conjugate vaccineHepBHepatitis B vaccineSEARWHO South-East Asia RegionHIbHaemophilus influenzae type bSIASupplementary immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTT2+2 or more doses TTJE_Live-AtdIz live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLisLive bithWeichWCBAWomen of child bearing age	CES	Coverage evaluation survey	MNT	Maternal and neonatal tetanus
DHSDemographic health surveyNIDNational immunization dayDTDiphtheria tetanus toxoid, pediatricNTAGINational technical advisory group on immunizationDTPDiphtheria - tetanus - pertussis vaccineNPEVNon-polio enterovirusDTP-Hib-HepBPentavalent vaccineNTNeonatal tetanusDTP-Hib-HepB33rd dose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationbOPVBivalent OPVGDPGross domestic producttOPVPreumococcal conjugate vaccineHCWHealth care workerPCVPneumococcal conjugate vaccineHibHeaptilis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASuplementary immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTT2+2 or more doses TTIgLive-AtdJE live attenuated vaccineVPDVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWCBAWomen of child bearing age	сМҮР	Comprehensive multi-year plan	MR	Measles rubella vaccine
DTDiphtheria tetanus toxoid, pediatricNTAGINational technical advisory group on immunizationDTPDiphtheria – tetanus – pertussis vaccineNPEVNon-polio enterovirusDTP-Hib-HepBPentavalent vaccineNTNeonatal tetanusDTP-Hib-HepB33rd dose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationbOPVBivalent OPVGDPGross domestic producttOPVTrivalent OPVHCWHealth care workerPCVPneumococcal conjugate vaccineHepBHepatitis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASupplementary immunization adyIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus toxoidJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWoren of child bearing age	CRS	Congenital rubella syndrome	NCIP	National committee on immunization practices
DTPDiphtheria – tetanus – pertussis vaccineNPEVNon-polio enterovirusDTP-Hib-HepBPentavalent vaccineNTNeonatal tetanusDTP-Hib-HepB33rd dose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationbOPVBivalent OPVGDPGross domestic producttOPVTrivalent OPVHCWHealth care workerPCVPneumococcal conjugate vaccineHepBHepatitis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASupplementary immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus toxoidJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWCBAWomen of child bearing age	DHS	Demographic health survey	NID	National immunization day
DTP-Hib-HepBPentavalent vaccineNTNeonatal tetanusDTP-Hib-HepB33rd dose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationbOPVBivalent OPVGDPGross domestic producttOPVTrivalent OPVHCWHealth care workerPCVPneumococcal conjugate vaccineHepBHepatitis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASupplementary immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTT22 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine preventable diseasesJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthLive birthWCBAWomen of child bearing age	DT	Diphtheria tetanus toxoid, pediatric	NTAGI	National technical advisory group on immunization
DTP-Hib-Hep33rd dose pentavalent vaccineOPVOral poliovirus vaccineEPIExpanded programme on immunizationbOPVBivalent OPVGDPGross domestic producttOPVTrivalent OPVHCWHealth care workerPCVPneumococcal conjugate vaccineHep8Hepatitis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASupplementary immunization activitiesHPVHuman papilloma virusSNIDSubnational immunization dayIgMInmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsJEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdEl ive attenuated vaccineVPDVaccine preventable diseasesJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWCBAWomen of child bearing age	DTP	Diphtheria – tetanus – pertussis vaccine	NPEV	Non-polio enterovirus
EPIExpanded programme on immunizationbOPVBivalent OPVGDPGross domestic producttOPVTrivalent OPVHCWHealth care workerPCVPneumococcal conjugate vaccineHepBHepatitis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASupplementary immunization activitiesHPVHuman papilloma virusSNIDSubnational immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTT2+2 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWCBAWomen of child bearing age	DTP-Hib-HepB	Pentavalent vaccine	NT	Neonatal tetanus
GDPGross domestic producttOPVTrivalent OPVHCWHealth care workerPCVPneumococcal conjugate vaccineHepBHepatitis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASupplementary immunization activitiesHPVHuman papilloma virusSNIDSubnational immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus toxoidJEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdEl live attenuated vaccineVDPVVaccine preventable diseasesJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthKerthologiaWCBAWomen of child bearing age	DTP-Hib-HepB3	3rd dose pentavalent vaccine	OPV	Oral poliovirus vaccine
HCWHealth care workerPCVPneumococcal conjugate vaccineHepBHepatitis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASupplementary immunization activitiesHPVHuman papilloma virusSNIDSubnational immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus diphtheria toxoid; older children, adultsJEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthLive birthWCBAWomen of child bearing age	EPI	Expanded programme on immunization	bOPV	Bivalent OPV
HepBHepatitis B vaccineSEARWHO South-East Asia RegionHibHaemophilus influenzae type bSIASupplementary immunization activitiesHPVHuman papilloma virusSNIDSubnational immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus toxoidJEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthKEBAWCBAWomen of child bearing age	GDP	Gross domestic product	tOPV	Trivalent OPV
HibHaemophilus influenzae type bSIASupplementary immunization activitiesHPVHuman papilloma virusSNIDSubnational immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus toxoidJEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDWcBAWomen of child bearing age	HCW	Health care worker	PCV	Pneumococcal conjugate vaccine
HPVHuman papilloma virusSNIDSubnational immunization dayIgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus toxoidJEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthLive birthWCBAWomen of child bearing age	НерВ	Hepatitis B vaccine	SEAR	WHO South-East Asia Region
IgMImmunoglobulin MTdTetanus diphtheria toxoid; older children, adultsIPVInactivated poliovirus vaccineTTTetanus toxoidJEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthKCBAWomen of child bearing age	Hib	Haemophilus influenzae type b	SIA	Supplementary immunization activities
IPVInactivated poliovirus vaccineTTTetanus toxoidJEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWCBAWomen of child bearing age	HPV	Human papilloma virus	SNID	Subnational immunization day
JEJapanese encephalitisTT2+2 or more doses TTJE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWCBAWomen of child bearing age	lgM	Immunoglobulin M	Td	Tetanus diphtheria toxoid; older children, adults
JE_Live-AtdJE live attenuated vaccineVDPVVaccine derived poliovirusJRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWCBAWomen of child bearing age	IPV	Inactivated poliovirus vaccine	TT	Tetanus toxoid
JRFWHO UNICEF joint reporting formVPDVaccine preventable diseasesLBLive birthWCBAWomen of child bearing age	JE	Japanese encephalitis	TT2+	2 or more doses TT
LB Live birth WCBA Women of child bearing age	JE_Live-Atd	JE live attenuated vaccine	VDPV	Vaccine derived poliovirus
	JRF	WHO UNICEF joint reporting form	VPD	Vaccine preventable diseases
M Measles WPV Wild poliovirus	LB	Live birth	WCBA	Women of child bearing age
	М	Measles	WPV	Wild poliovirus

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WHO South-East Asia Region

Myanmar: region and state level map



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Impact of routine immunization

EPI history

- EPI launched in 1978
- OPV and MCV introduced in 1987
- AD syringes introduced in 2002
- HepB vaccine introduced in 2003
- MCV2 introduced partially in 2008 and made available nationwide in 2012
- DTP-Hib-HepB vaccine introduced in 2012
- MR vaccine introduced in 2015
- IPV introduced in 2015
- tOPV to bOPV switched on 29 April 2016
- PCV introduced in July 2016
- DHS in 2015-2016.

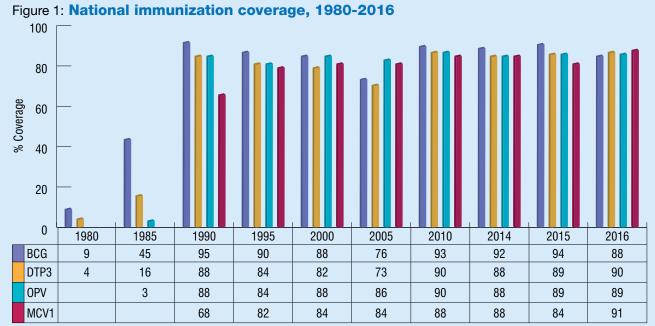
Source: cMYP 2017 -2021 and EPI/MOH

Table 1: **Basic information¹ 2016**

Total population	52,088,703	Division/Province/State/Region	17
Live births	1,009,793	Township/District	330/69
Children <1 year	945,877	City/Town	396
Children <5 years	4,626,063	Village	67,285
Children <15 years	14,493,639	Population density (per sq. km)	88
Pregnant women	1,023,301	Population living in urban areas	33%
WCBA (15-49 years)	13,535,620	Population using improved	86%
Neonatal mortality rate	26.4 (per 1,000 LB)	drinking-water sources	0070
Infant mortality rate	39.5 (per 1,000 LB)	Population using improved sanitation	77%
	33.3 (per 1,000 Lb)	Total expenditure on health as % of GDP	1.8%
Under-five mortality rate	50.0 (per 1,000 LB)		1.070
Maternal mortality ratio	178 (per 100,000 LB)	Births attended by skilled health personnel	78%
¹ SEAR annual EPI reporting form, 2016 and WHO, World Health St	tatistics 2016	Neonates protected at birth against NT	87%

Table 2: Immunization schedule, 2016

Vaccine	Age of administration				
BCG	Birth to 2 months				
DTP-Hib-HepB	2 months, 4 months and 6 months				
OPV	2 months, 4 months and 6 months				
IPV	4 months				
MR	9 months				
Measles	18 months				
TT	During pregnancy (at first contact and 4 weeks later)				
Vitamin A	6 to 59 months				
НерВ	irth				
Source: WHO/UNIC	EF JRF, 2016				



Source: WHO/UNICEF estimates of national immunization coverage, July 2017 revision

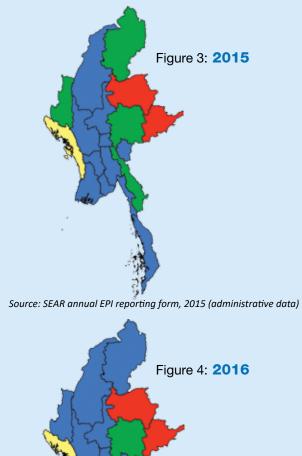
Table 3: Immunization system highlights

cMYP for immunization	2017 -2021
NTAGI	fully functional
Spending on vaccines financed by the government	6%
Spending on routine immunization programme financed by the government	24%
Updated micro-plans that include activities to improve immunization coverage	no data
National policy for health care waste management including waste from immunization activities	no
National system to monitor AEFI	in place
Most recent EPI CES	Demographic and Health Survey 2015-2016
≥80% coverage for DTP-Hib-HepB3	290 districts (88%)
≥90% coverage for MCV1	249 districts (75%)
≥10% drop-out rate for DTP-Hib-HepB1 to DTP-Hib-HepB3	34 districts (10%)
Source: WHO/UNICEF JRF, 2016	



Figure 2: DTP3 coverage¹, diphtheria and pertussis cases², 1980-2016

DTP-Hib-HepB3 coverage by province



¹WHO/UNICEF estimates of national immunization coverage, July 2017 revision ²WHO vaccine-preventable diseases: monitoring system 2016

Table 4: Reported cases of vaccine preventable diseases, 2011-2016

Year	Polio	Diphtheria	Pertussis	NT (% of all Tetanus)	Measles	Rubella	Mumps	JE	CRS
2011	0	7	5	32 (18%)	2,046	103	ND	20	ND
2012	0ª	19	2	29 (39%)	2,175	21	ND	14	ND
2013	0	38	14	39 (53%)	1,010	23	ND	3	ND
2014	0	29	5	32 (44%)	122	30	ND	50	ND
2015	0 ^b	87	5	30 (ND)	6	34	ND	113	ND
2016	0	136	2	21 (11%)	266	10	ND	393	ND
	^a Excludes one type 1 VDPV ^b Excludes two type 2 cVDPVs Source: WHO/UNICEF JRF (multiple years) ND=No data								

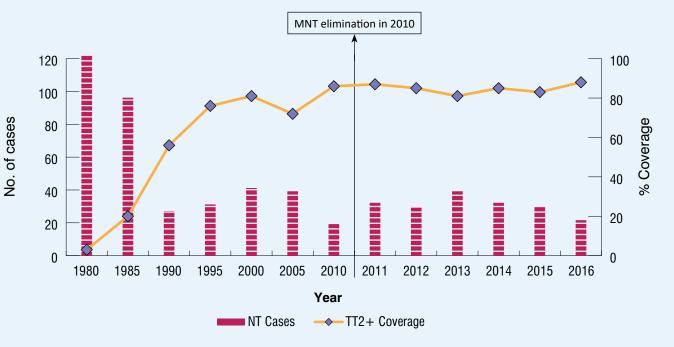
Source: SEAR annual EPI reporting form, 2016 (administrative data)

<70% 70% - 79% 80% - 89% 290%

Maternal and neonatal tetanus elimination is sustained



Figure 5: TT2+ coverage¹ and NT cases², 1980-2016



¹ WHO/UNICEF JRF, Country official estimates, 1980-2016 ²WHO vaccine-preventable diseases: monitoring system 2016

Polio-free status is maintained

Table 5: AFP surveillance performance indicators, 2011-2016

- Last polio case due to indigenous WPV reported from Rakhine province in February 2000.
- Last polio case due to imported WPV reported from Rakhine province in May 2007.

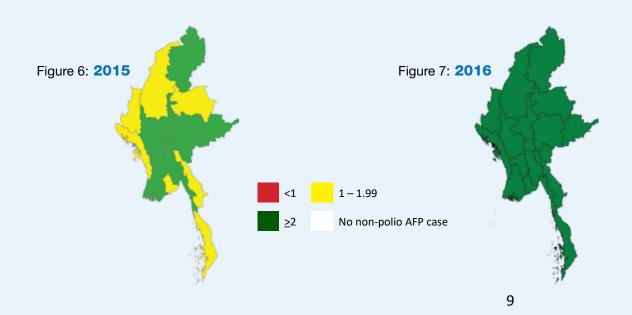
Indicator	2011	2012	2013	2014	2015	2016
AFP cases	418	457	404	389	336	466
Wild poliovirus confirmed cases	0	0	0	0	0	0
Compatible cases	0	0	0	0	0	0
Non-polio AFP rate ¹	2.02	2.21	1.91	1.82	2.34	3.38
Adequate stool specimen collection percentage ²	94%	97%	95%	96%	93%	96%
Total stool samples collected	834	916	808	772	672	932
% NPEV isolation	14	14	11	13	13	12
% Timeliness of primary result reported ³	92	93	94	94	95	96

¹Number of discarded AFP cases per 100,000 children under 15 years of age.

²Percent with 2 specimens, at least 24 hours apart and within 14 days of paralysis onset.

³*Results reported within 14 days of sample received at laboratory.*

Non-polio AFP rate by province





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Adequate stool specimen collection % by province

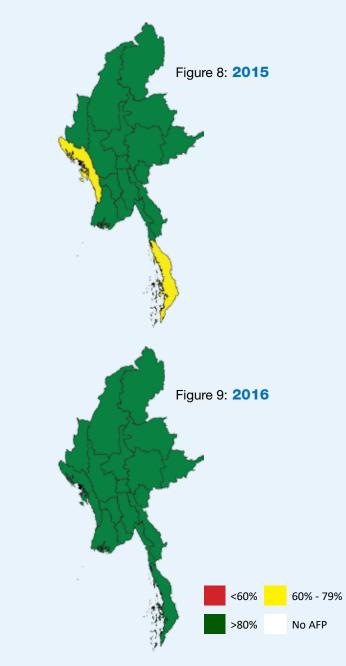


Table 6: OPV SIAs

Maran	A	Geographic	T	Target population Round 1 Round 2		Target population		Covera	ge (%)
Year	Antigen	coverage	Target age			Round 1	Round 2		
2002	OPV	NID	<5 years	6,25	1,093	97	97		
2003	OPV	SNID	<5 years	771	.,081	95	99		
2005	OPV	SNID	<5 years	321	.,850	99	100		
2006	OPV	SNID	<5 years	2,03	7,606	97	97		
2007	OPV	SNID	<5 years	2,41	6,960	102	99		
2007	OPV	NID	<5 years	7,207,399		98	98		
2008	OPV	SNID	<5 years	1,825,117		99	-		
2009	OPV	NID	<5 years	7,394,415		98	100		
2010	OPV	SNID	<5 years	2,22	9,394	98	100		
2011	OPV	SNID	<5 years	2,92	5,709	98	99		
2012	OPV	SNID	<5 years	281	.,026	99	101		
2013	OPV	SNID	<5 years	335	,860	97	97		
2015	OPV	SNID	<5 years	367,972		97	-		
2016	OPV	Mop-up SNID	<5 years	3,017,377		96	99		
2016	OPV	Mop-up NID	<5 years	x5 years 4,908,837 99 99					
Source: WHO/U	NICEF JRF, (mi	ultiple years)							

Towards measles elimination and rubella/CRS control

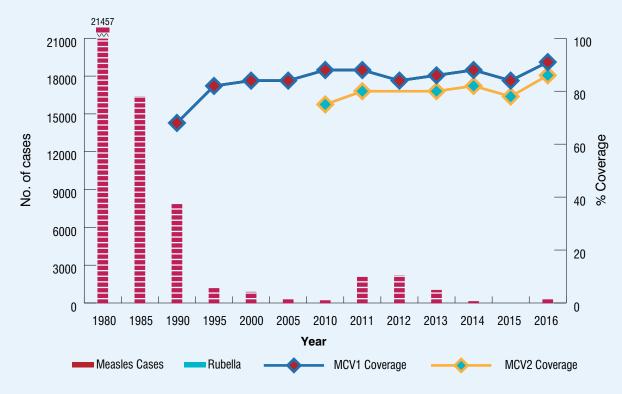


Figure 10: MCV1 and MCV2 coverage¹, measles and rubella cases², 1980-2016

Table 7: MCV SIAs

Year	Antigen	Geographic Coverage	Target group	Target	Coverage %				
2007	м	Nationwide	9 to 59 months	6,056,000	94				
2012	м	Follow-up	9 to 59 months	6,432,064	97				
2015	MR	Nationwide	9 months to 15 years	13,958,963	94				
Source	Source: JRF (multiple years)								

¹WHO/UNICEF estimates of national immunization coverage, July 2017 revision ²WHO vaccine-preventable diseases: monitoring system 2016

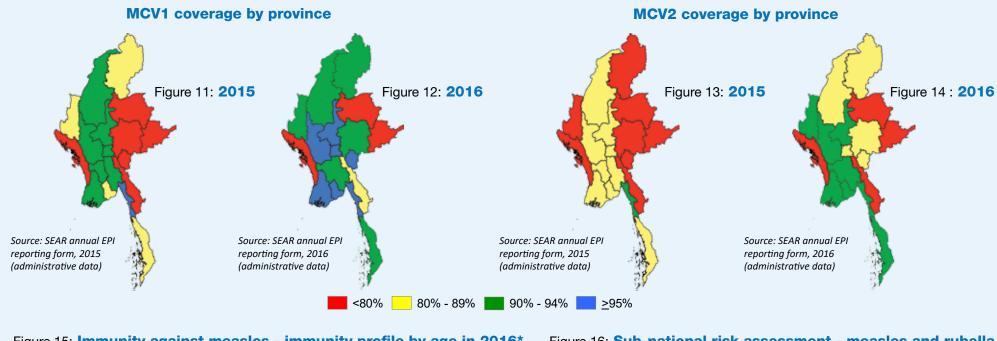


Figure 15: Immunity against measles - immunity profile by age in 2016*

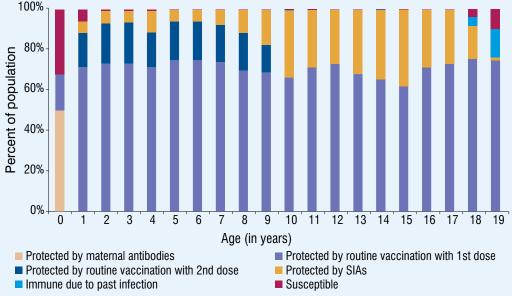


Figure 16: Sub-national risk assessment - measles and rubella



Very high risk High risk Medium risk Low risk Not available

Source: developed using WHO risk assessment tool based on JRF & ARF data base

*Modeled using MSP tool ver 2 assuming the schedule and MCV coverage remain unchanged and no SIAs in 2016

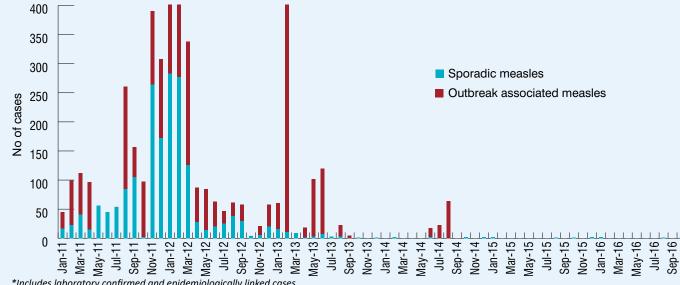
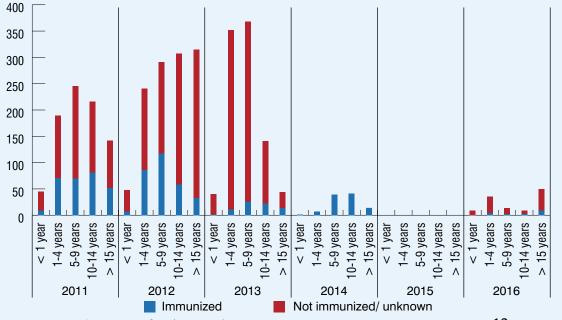


Figure 17: Sporadic and outbreak associated measles cases* by month 2011-2016

*Includes laboratory confirmed and epidemiologically linked cases Source: SEAR Monthly VPD reports

Figure 18: Immunization status of confirmed (laboratory and EPI linked) measles outbreak associated cases, by age, 2011-2016





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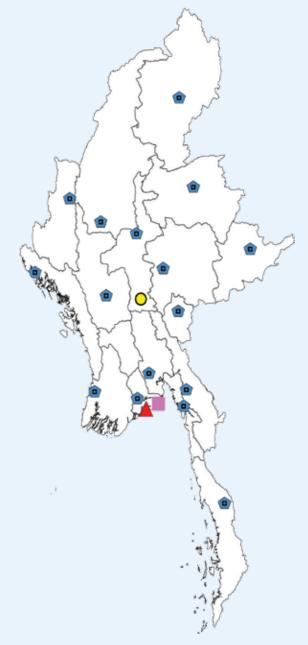
Year	No. of suspected measles	Case classification (number)						Indicators					
		Measles			Rubella			per	5	hin d			l Ig ne
		Lab-confirmed	EP1-linked	Clinically-confirmed	Lab-confirmed	EP1-linked	Discarded non-measles non-rubella cases	Annual incidence of confirmed measles cases million total population	Annual incidence of confirmed rubella cases per million total population	Proportion of all suspected measles and rubella cases that have had an adequate investigation initiated within 48 hours of notification	Discarded non-measles non-rubella incidence per 100,000 total population	Proportion of provinces reporting at least two discarded non-measles non-rubella cases per 100,000 total population	Proportion of sub-national surveillance units reporting to the national level on time
Target →							-	-	80%	2	80%	80%	
2012	2,349	1,125	908	24	20	0	170	33.37	0.34	ND	0.34	15	97
2013	1,217	111	2	8	20	3	183	16.24	0.37	ND	0.34	16	96
2014	479	25	96	0	28	3	327	1.94	0.48	46	0.57	19	92
2015	243	6	0	0	33	1	203	0.12	0.68	ND	0.42	ND	ND
2016	586	191	61	13	10	0	311	5.14	0.19	ND	0.63	0	96
Source: SEAR annual EPI reporting form (2012-2016) ND=No data													

Table 8: Surveillance performance indicators for measles and rubella, 2012-2016

Table 9: Performance of laboratory surveillance, 2012-2016

Year	Serum specimen collected from suspected measles cases	Serum specimen received in laboratory within 5 days of collection	on en s lgM		Specimen positive for rubella IgM		% Results within 4 days of receipt	% Confirmed cases tested for viral detection	Genotypes detected	
	No (%)	No (%)	No.	%	No.	%	4 0	% (tes de	Measles	Rubella
2012	1,080 (92%)	1,145 (79%)	1,182	83	20	10	NA	100	D9	ND
2013	253 (100%)	219 (65%)	110	33	23	11	NA	100	ND	ND
2014	282 (100%)	195 (69%)	24	9	29	11	52	100	ND	ND
2015	244 (100%)	186 (76%)	6	3	34	14	93	100	ND	ND
2016	553 (94%)	530 (96%)	196	35	12	2	100	8	D8, H1	
Source: SEAR annual EPI reporting form (2012-2016) ND=No data										

Figure 19: Network of WHO supported surveillance medical officers and laboratories for VPD surveillance



A National Health laboratory

- National polio laboratory
- National measles & rubella laboratory
- National Japanese encephalitis laboratory

Rotavirus laboratory

- Department of Medical Research
- National Surveillance Coordinator= 1
- Regional Surveillance Officers= 17



For contact or feedback: Director (Epidemiology)

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