

EPI HISTORY

- EPI launched in 1977
- 1977 - BCG for newborns, DTP for infants at 2 and 4 months
- 1982 - OPV introduction, DTP 3rd dose for infants at 6 months
- 1984 - MCV for 9-12 months infants
- 1986 - Rubella vaccine for 6th grade girls
- 1991 - DTP 4th dose for infants 1.5-2 years
- 1992 - HepB vaccine scaled up nation-wide
- 1993 - Rubella vaccine for 1st grade students
- 1996 - MCV for 1st grade students
- 1997 - MCV and rubella vaccine were substituted by MMR for students
- 2000 - JE_Inactivated vaccine introduced countrywide
- 2000 - DTP 5th dose introduced for children aged 4 years
- 2004 - Influenza vaccine introduced for HCWs
- 2008 - Influenza vaccine introduced for high risk adults
- 2008 - DTP-HepB vaccine introduced
- 2010 - MCV vaccine substituted with MMR for 9-12 months infants
- IPV introduced in 2015
- tOPV to bOPV switched on 29 April 2016
- JE live attenuated vaccine started in 2013 in 8 provinces then expanded to cover 29 Provinces in 2015 and the whole country in 2016
- HPV vaccine provided to girl students of grade 5 and 6 through a pilot project in Pranakhonsri Ayutthaya Province in 2014 and countrywide in 2017
- Age of MMR2 changed to children 2.5 years in 2014 and launched the campaign to cover the gap in the age between 2.5-7 years in 2015
- Rotavirus vaccine provided to 2, 4 and 6 months children through a pilot project in Sukhothai and Phetchabun Province
- In 2019, DTP-Hib-HepB vaccine introduced

Source: cMYP 2017-2021 and EPI/MOPH

Disclaimer: The boundaries and names shown and the designations used on all 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.

Figure 1: National immunization coverage, 1980-2019



Source: WHO and UNICEF estimates of immunization coverage, July 2020 revision

Table 1: Basic information 2019

Total population ¹	66,558,935
Live births ¹	600,267
Children <1 year ¹	561,446
Children <5 years ¹	3,185,739
Children <15 years ¹	10,947,179
Pregnant women ¹	600,267
Women of child bearing age ¹ (WCBA) (15-49 years)	16,621,149
Neonatal mortality rate ²	5.0 (per 1,000 LB)
Infant mortality rate ²	7.8 (per 1,000 LB)
Under-five mortality rate ²	9.1 (per 1,000 LB)
Maternal mortality ratio ²	37 (per 100,000 LB)
Division/Province/State/Region	77
District	928
Sub-district	7,425
Village	74,948
Population density ¹ (per sq. km)	129.43
Population living in urban areas ²	55.8%
Population using at least basic drinking-water services ²	100%
Population using at least basic sanitation services ²	100%
Total expenditure on health as % of GDP ²	3.7%
Births attended by skilled health personnel ²	99%
Neonates protected at birth NT ²	98%

¹ SEAR annual EPI reporting form, 2019

² WHO, Global Health Observatory (GHO) data <http://apps.who.int/gho/data> accessed on 06 June 2020

Table 2: Immunization schedule, 2019

Vaccine	Age of administration
BCG	Birth
HepB	Birth and 1 month (new-born from HepB carrier mother)
DTP-Hib-HepB	2 months, 4 months and 6 months
OPV	2 months, 4 months, 6 months, 1.5 years and 4 years
IPV	4 months
MMR	9 Months and 2.5 years
DTP	1.5 years and 4 years
Td	School children in grade VI (12 years) and pregnant women at 1st contact, +1 month, +6 months (depending on vaccination history)
JE_LiveAtd	1 year and 2.5 years
HPV	Grade 5 girls (2 doses – 6 months apart)
Rotavirus	2 months, 4 months and 6 months (Sukhothai and Phetchabun provinces)
Men ACWY-135 _conj	9 months to 55 years (pilgrims from Thailand is the main target group, Thai travellers need to go to epidemic area: Africa, SA and the students in dormitory such as; USA/UK)

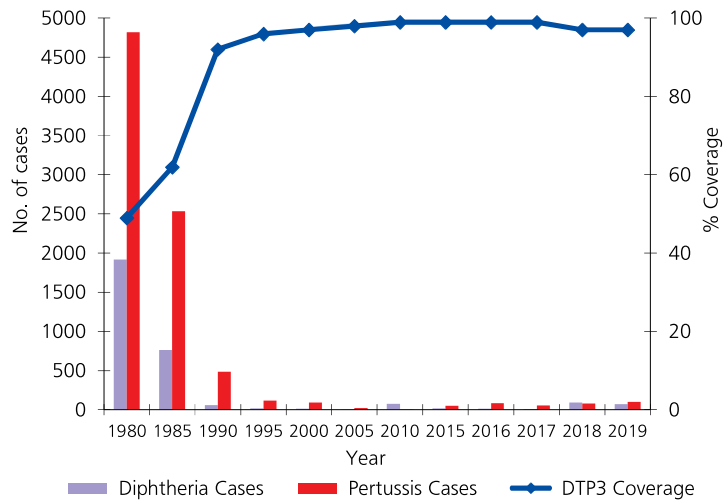
Source: WHO/UNICEF JRF 2019

Table 3: Immunization system highlights

cMYP for immunization	2017-2021
NTAGI	fully functional
Spending on vaccines financed by the government	No data
Spending on routine immunization programme financed by the government	No data
Updated micro-plans that include activities to improve immunization coverage	928 districts (100%)
National policy for health care waste management including waste from immunization activities	in place
National system to monitor AEFI	in place
Most recent EPI CES	Coverage survey for routine and school-based immunization 2018
≥80% coverage for DTP-HepB3	73 provinces (95%)
≥90% coverage for MCV1	48 provinces (62%)
≥90% coverage for MCV2	33 provinces (43%)
≥10% drop-out rate for DTP-HepB1 to DTP-HepB3	no data

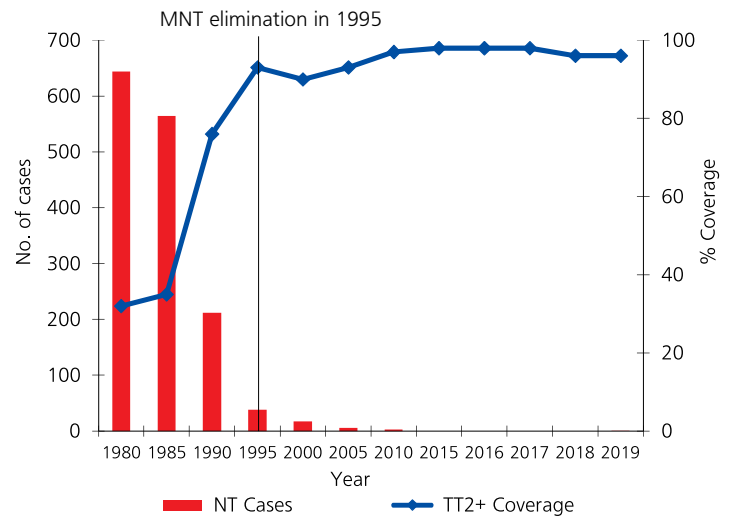
Source: WHO/UNICEF JRF 2019

Figure 2: **DTP3 coverage¹, diphtheria and pertussis cases², 1980-2019**



¹ WHO and UNICEF estimates of immunization coverage, July 2020 revision
² WHO vaccine-preventable diseases: monitoring system 2020

Figure 3: **TT2+/dT2+ coverage¹ and NT cases², 1980-2019**



¹ Country official estimates, 1980-2019
² WHO vaccine-preventable diseases: monitoring system 2020

DTP-HepB3 coverage by Province

Figure 4: **2018**

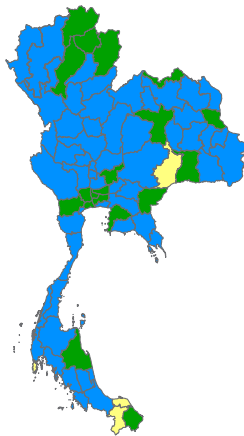
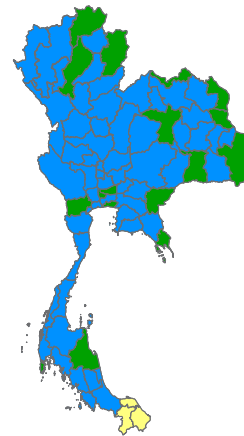


Figure 5: **2019**



Legend: <70% (red), 70% - 79% (yellow), 80% - 89% (green), ≥90% (blue)

Source: SEAR annual EPI reporting form, 2018 and 2019 (administrative data)

Table 4: **Reported cases of vaccine preventable diseases, 2014-2019**

Year	Polio	Diphtheria	Pertussis	NT (% of all Tetanus)	Measles	Rubella	Mumps	JE	CRS
2014	0	19	14	2 (2%)	146	152	3,704	31	ND
2015	0	19	51	0 (0%)	154	240	3,121	23	0
2016	0	16	84	61 (0%)	652	7	23	21	0
2017	0	5	55	68 (0%)	1,946	34	17	28	0
2018	0	90	79	65 (0%)	6,035	64	2,061	19	0
2019	0	70	99	1 (2%)	5,412	142	2,553	4	0

Source: WHO/UNICEF JRF (multiple years)

ND=No data

Table 5: AFP surveillance performance indicators, 2014-2019

The last laboratory confirmed polio case due to WPV was reported in April 1997.

Indicator	2014	2015	2016	2017	2018	2019
AFP cases	238	183	246	215	243	277
Wild poliovirus confirmed cases	0	0	0	0	0	0
Compatible cases	0	0	0	0	0	0
Non-polio AFP rate ¹	1.98	1.56	2.13	1.60	2.03	2.22
Adequate stool specimen collection percentage ²	80%	65%	76%	67%	68%	71%
Total stool samples collected	450	345	464	364	467	508
% NPEV isolation	5	3	8.4	6.6	5.2	4.7
% Timeliness of primary result reported ³	100	100	100	100	100	100

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

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

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

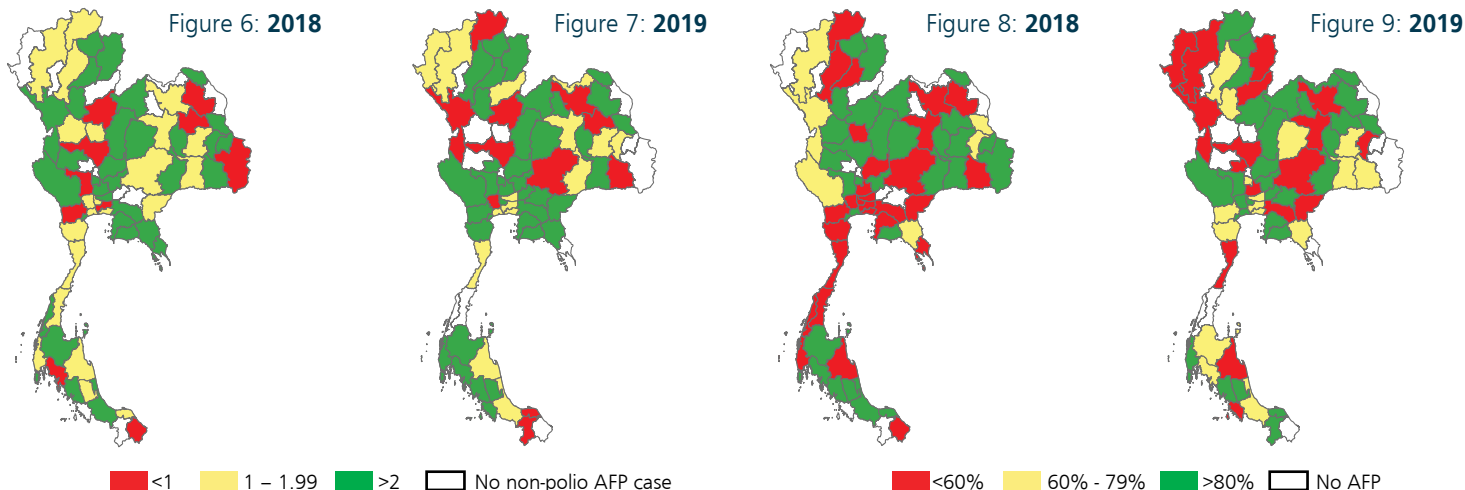
Non-polio AFP rate by province

Figure 6: 2018

Figure 7: 2019

Figure 8: 2018

Figure 9: 2019



Adequate stool specimen collection % by province

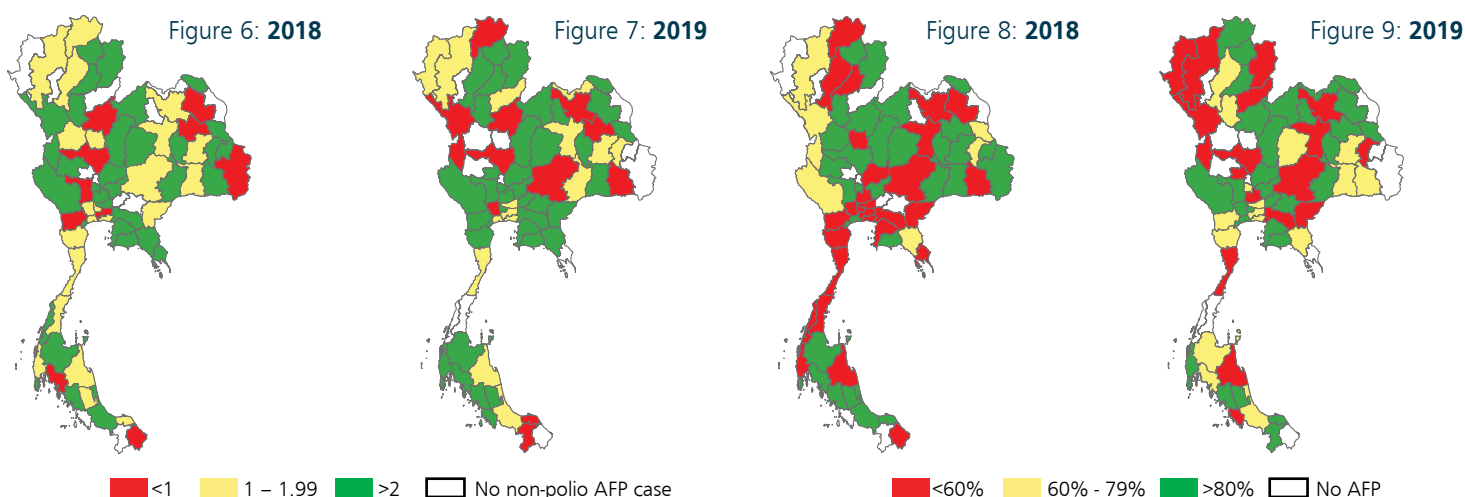


Table 6: Environmental surveillance sites for polio detection in 2018 and 2019

Year	# Provinces	# sites	# samples tested	SL1	SL3	SL1+SL3	VDPV	NPEV
2018	2	8	124	2	12	2	0	72
2019	2	20	161	11	35	1	0	63

Note: SL1: Sabin like type 1; SL3: Sabin like type 3; VDPV: Vaccine Derived Polio Virus; NPEV: Non Polio Enterovirus

Table 7: OPV SIAs

Year	Antigen	Target age	Target population		Coverage (%)	
			Round 1	Round 2	Round 1	Round 2
2000	OPV	<5 years	5,320,365	5,350,859	>95	>95
2001	OPV	<5 years	4,228,841	4,235,472	>95	>95
2002	OPV	<5 years	3,253,754	3,259,466	>95	>95
2003	OPV	<5 years	3,090,113	3,104,156	>95	>95
2004	OPV	<5 years	3,202,447	3,085,319	>95	>95
2006	OPV	<5 years	2,275,235	2,279,229	>95	>95
2007	OPV	<5 years	2,385,009	2,385,460	>93	>93
2008	OPV	<5 years	2,356,691	2,374,596	>95	>95
2009	OPV	<5 years	2,465,626	2,481,614	>95	>95
2010	OPV	<5 years	1,976,446	2,012,534	97	96
2011	OPV	<5 years	1,173,775	1,181,487	94	>95
2012	OPV	<5 years	951,795	819,037	95	95
2013	OPV	<5 years	269,903	278,345	96	97
2014*	OPV	<5 years	613,939	-	94	-
2015*	OPV	<5 years	617,027	-	87	-
2019	OPV	<5 years	168,107	171,067	96	93

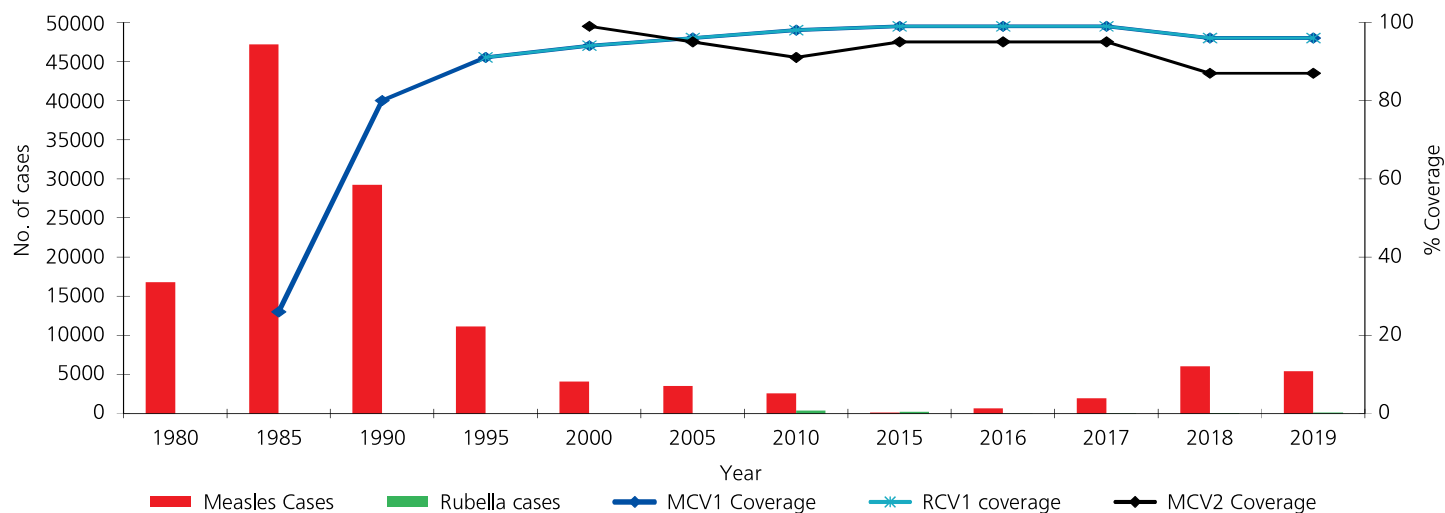
Source: NCCPE reports and WHO/UNICEF JRF (multiple years)

* Thai children <5 yrs and foreign children <15 yrs.

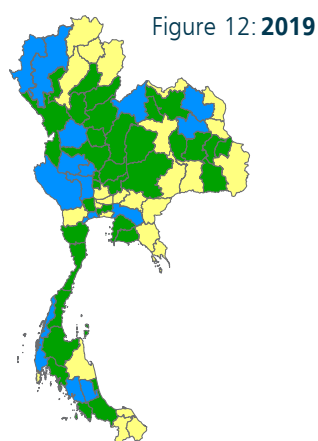
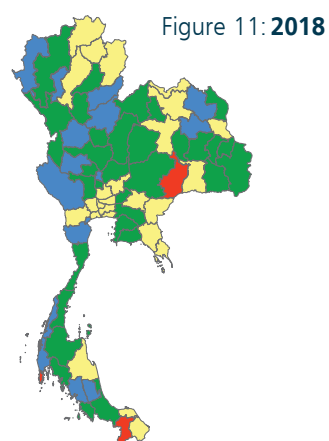
VACCINES PROTECT

SUSTAIN. ACCELERATE. INNOVATE.

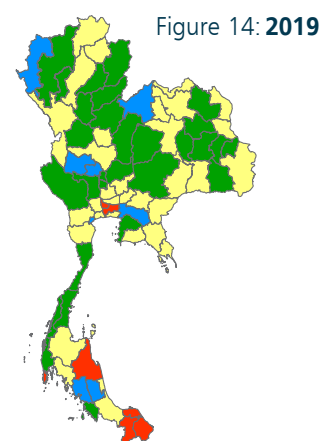
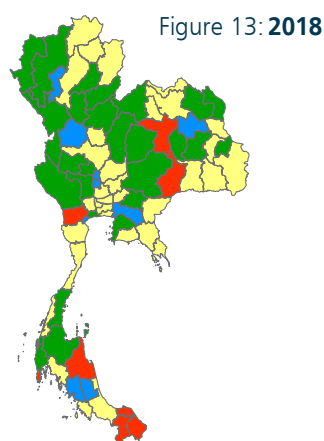
Figure 10: MCV1 & MCV2 coverage¹ and measles, rubella cases², 1980-2019



MCV1 coverage by province



MCV2 coverage by province



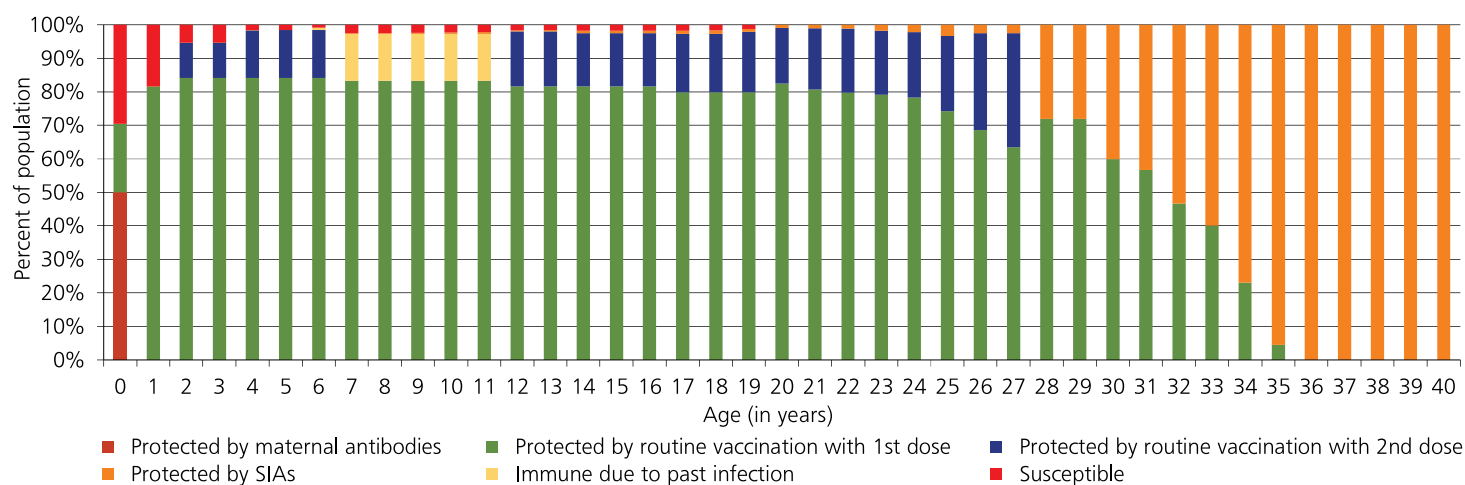
Source: SEAR annual EPI reporting for, 2018 and 2019 (administrative data)

Table 8: MCV SIAs

Year	Antigen	Geographic Coverage	Target group	Target	Coverage %
2002	M	Subnational outbreak response & campaign		ND	ND
2015	MR	nationwide	2.5 to 7 years	2,541,544	88
2018	MR	subnational	9 months to 5 years	47,562	79
2019	MMR	subnational	1-7 years	224,256	65
2019	MR	subnational	school children 7-12 years	398,028	79

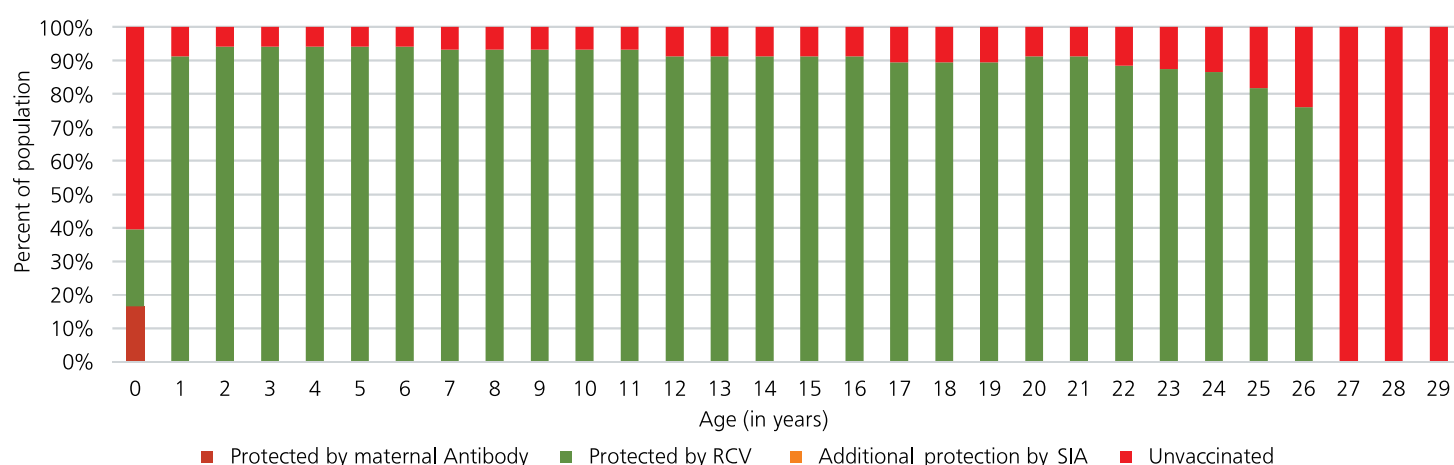
WHO/UNICEF JRF (multiple years)

Figure 15: Immunity against measles - immunity profile by age in 2019*



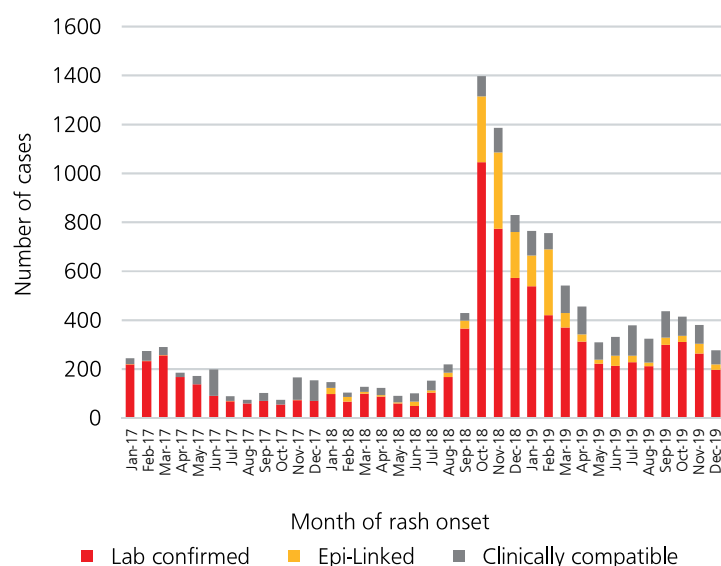
*Modeled using MSP tool ver 2

Figure 16: Immunity against rubella through vaccination - immunity profile by age in 2019*



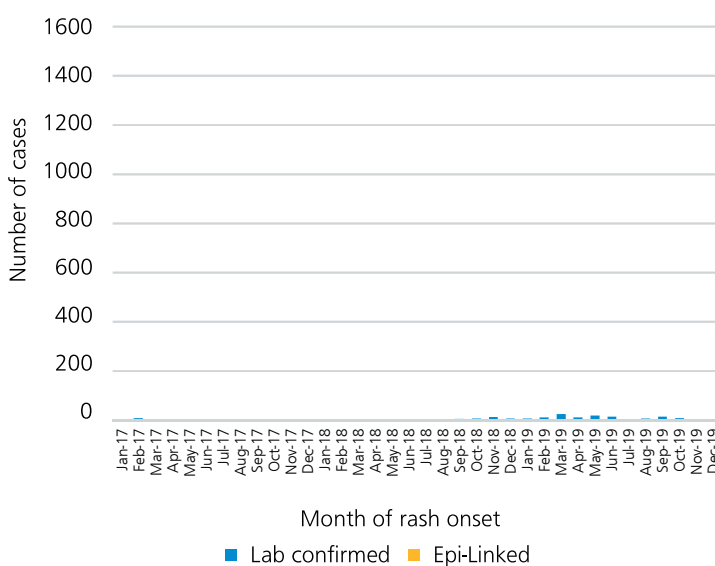
*Modeled using WHO and UNICEF estimates and JRF (multiple years) and does not include immunity due to natural infection

Figure 17: Confirmed measles cases* by month, 2017-2019



*Includes laboratory confirmed, epidemiologically linked and clinically compatible cases
Source: SEAR measles case-based data

Figure 18: Confirmed rubella cases* by month, 2017-2019

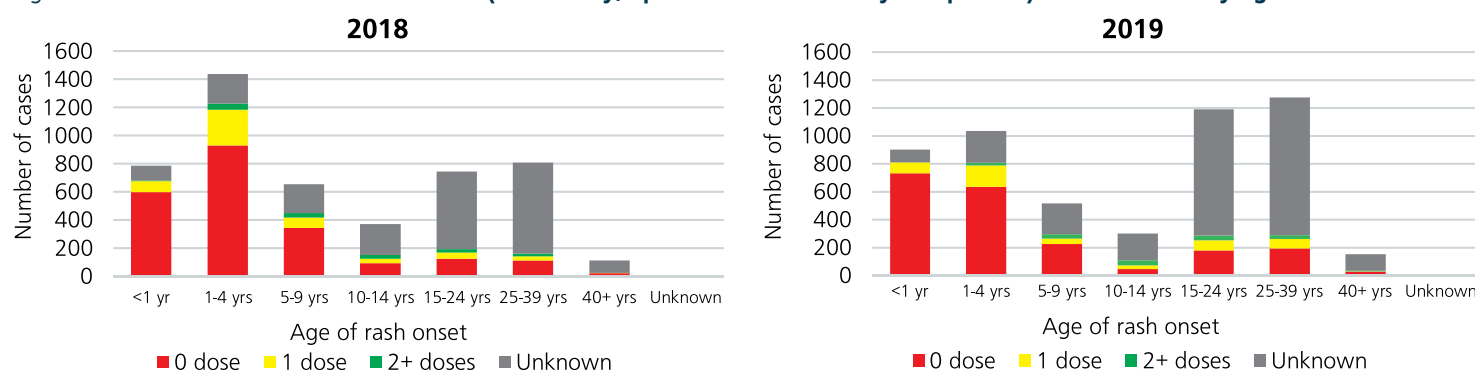


*Includes laboratory confirmed and epidemiologically linked cases
Source: SEAR measles case-based data

VACCINES PROTECT

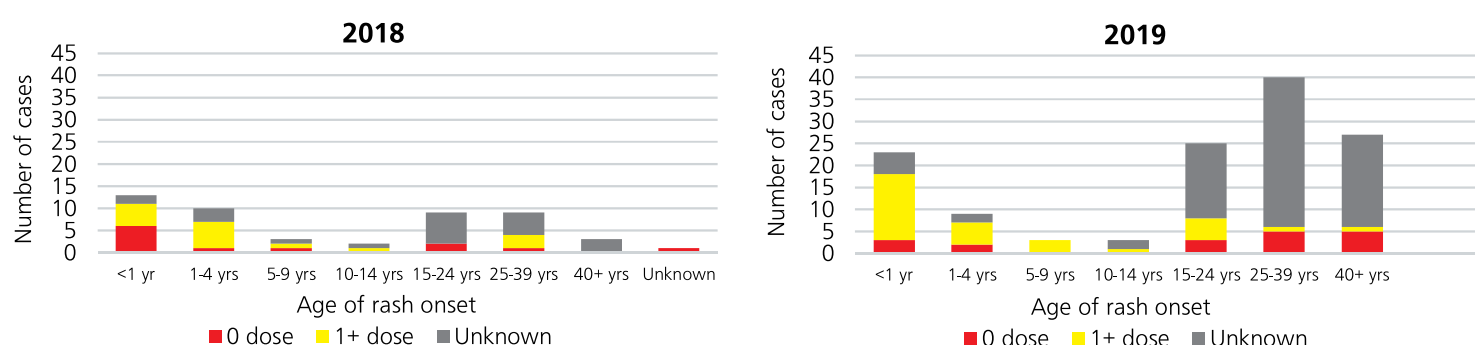
SUSTAIN. ACCELERATE. INNOVATE.

Figure 19: Vaccination status of confirmed (laboratory, Epi linked and clinically compatible) measles cases by age in 2018 and 2019



Source: SEAR measles case-based data

Figure 20: Vaccination status of confirmed (laboratory and Epi linked) rubella cases by age in 2018 and 2019



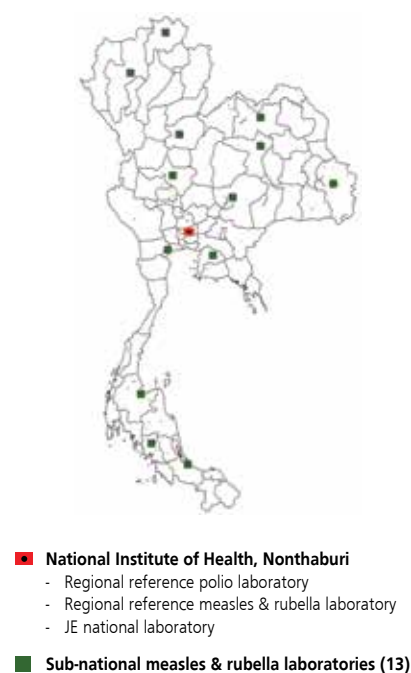
Source: SEAR measles case-based data

Table 9: Summary of measles surveillance indicators, 2017-2019

Indicator	Target	2017	2018	2019
Number of suspected measles cases		2,978	7,141	9,255
Confirmed measles cases	0	2,591	5,476	4,411
Lab confirmed	0	1,546	3,614	3,617
Epi-Linked	0	401	1,862	794
Clinically-compatible	0	644	556	1,001
Confirmed rubella cases	0	34	72	142
Lab confirmed	0	27	57	142
Epi-Linked	0	7	15	0
Discarded non-measles non-rubella cases		353	1,099	3,713
Percentage of suspected cases with adequate investigation initiated within 48 hours of notification	≥ 80%	64	79	94
Reporting rate of non-measles non-rubella cases to national level per 100,000 population	≥ 2	1.46	1.70	5.58
Percentage of second-level administrative units reporting at least 2 non-measles non-rubella cases per 100 000 population	≥ 80%	22.08	29.87	50.65
Percentage of surveillance units reporting measles and rubella data to the national level on time, even in the absence of cases	≥ 80%	ND	ND	ND
Percentage of specimens received at the laboratory within 5 days of collection	≥ 80%	66.6	66.6	71.72
Percentage of IgM results reported to the national public health authorities by the laboratory within 4 days of receipt of specimens	≥ 80%	97.9	99.3	95.7
Genotypes detected				
Measles		B3, D8, H1	B3, D8, H1	B3, D8, H1
Rubella		2B	1E	1a, 1E

Source: SEAR Annual EPI Reporting Form (multiple years) ND=No data

Figure 21: Laboratory network for vaccine preventable diseases



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