



Ministry of Health and Sports

Department of Public Health

Central Epidemiology Unit

Monthly Epidemiology BULLETIN

July, 2020

AFP surveillance indicators by state and region, 2020*

State/Region	<15 Population	Minimum Expected Non Polio AFP Cases (3/100,000 pop)	Total no. of reported AFP Case	Confirmed Polio cVDPV	Non-Polio AFP Case	Annualized AFP Rate	Annualized Non-Polio AFP Rates	% of Adequate Stool
Ayeyarwady	1,545,759	47	15	0	11	1.63	1.19	73
Bago	1,259,066	41	16	0	15	2.13	2.00	81
Chin	189,859	7	5	0	4	4.42	3.53	80
Kachin	462,650	14	4	0	4	1.45	1.45	100
Kayah	99,080	3	0	0	0	0.00	0.00	0
Kayin	545,984	15	7	0	7	2.15	2.15	100
Magway	980,108	28	11	0	11	1.88	1.88	100
Mandalay	1,438,254	44	5	0	5	0.58	0.58	100
Naypyitaw	287,686	9	1	0	1	0.58	0.58	100
Mon	592,217	17	1	0	1	0.28	0.28	100
Rakhine	800,989	22	9	0	8	1.88	1.68	89
Sagaing	1,398,805	40	7	0	5	0.84	0.60	57
Shan East	204,682	6	2	0	0	1.64	0.00	100
Shan North	662,674	21	2	0	2	0.51	0.51	100
Shan South	664,840	19	3	0	3	0.76	0.76	100
Taninthayi	445,742	12	7	0	7	2.63	2.63	100
Yangon	1,569,891	44	10	0	9	1.07	0.96	90
Total	13,148,286	389	105	0	93	1.34	1.19	88

Acute Flaccid Paralysis (AFP)

Total no. of expected non-polio AFP cases - 389

Annualized expected non polio AFP cases (as of week.52) - 389

Reported AFP cases - 105

cVDPV cases among AFP cases- 0

cVDPV cases - 0

Discarded as non-polio AFP cases - 93

Annualized AFP rate - 1.34

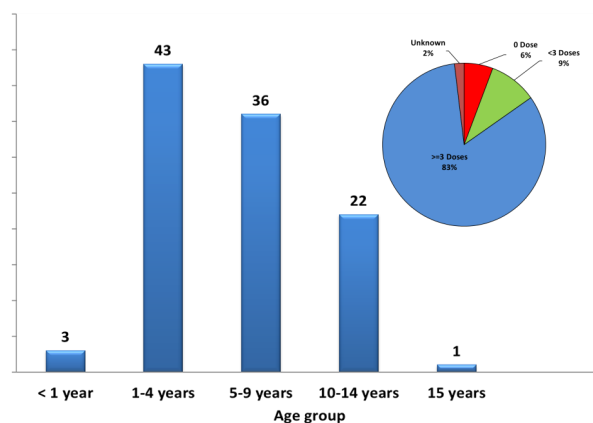
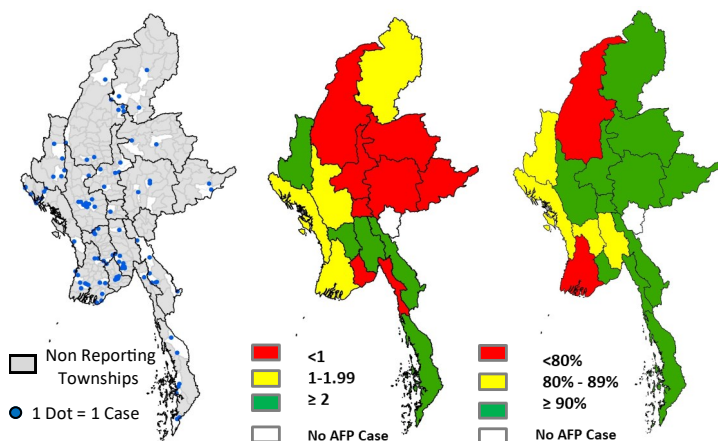
Annualized non-polio AFP rate- 1.19

Percentage of adequate stool collection - 88%

Pending for classification - 12

*Data as of 31 July 2020 (week no. 31)

Age group and vaccination status of AFP cases, 2020*(n=105)

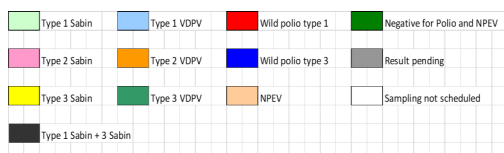


Spot Map of AFP Cases Annualized Non polio AFP rate % of Adequate stool collection

environmental surveillance in Myanmar

Poliovirus and NPEV detected in sewage samples in Myanmar by week , 2020*

	Sampling site	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2020	Yangon																																																				
	Sittwe																																																				
	Maung Taw																																																				



Percentage of NPEV detected in sewage samples - 11%

Maungdaw - 17%

Sittwe - 0%

Yangon - 17%

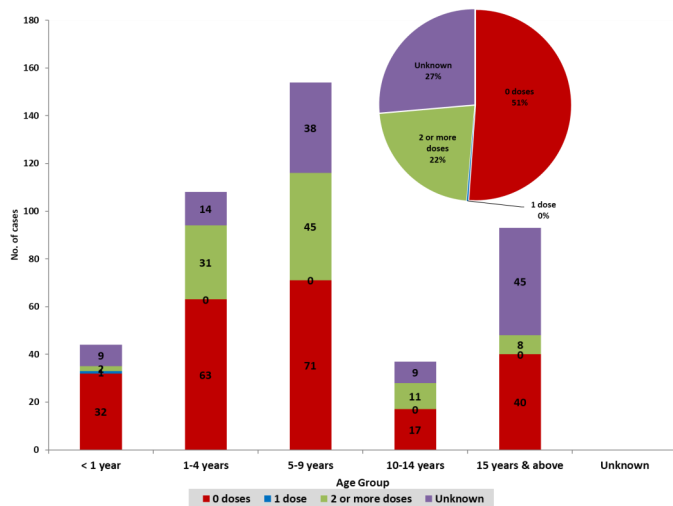
* Data as of week no.31, 31 /7/ 2020

Fever with Rash Surveillance, 2020*

State/ Region	Total Population	Expected Non- measles suspected measles Cases	Suspected cases reported	Confirmed Measles			Confirmed Rubella	Non Measles Non Rubella Cases	Pending	Annualized incidence of measles	Annualized incidence of non-measles/ non-rubella suspected measles cases
				Lab- confirmed	Epi- confirmed	Clinically confirmed					
Ayeyarwady	6450505	129	47	19	4	1	1	22	0	3.72	0.34
Bago	5292074	106	51	17	10	1	0	23	0	5.29	0.43
Chin	553704	11	2	0	0	2	0	0	0	3.61	0.00
Kachin	1742095	35	6	4	0	0	0	1	1	2.30	0.06
Kayah	326027	7	4	3	0	0	0	1	0	9.20	0.31
Kayin	1770549	35	21	4	14	0	0	3	0	10.17	0.17
Magway	4417875	88	9	5	0	0	0	4	0	1.13	0.09
Mandalay	6399793	128	61	30	20	8	0	3	0	9.06	0.05
Mon	2377706	48	25	7	8	2	0	8	0	7.15	0.34
Nay Pyi Taw	1150500	23	9	4	1	0	0	4	0	4.35	0.35
Rakhine	3033837	61	191	55	115	5	0	16	0	57.68	0.53
Sagaing	5839197	117	13	7	4	1	0	1	0	2.06	0.02
Shan East	741673	15	4	2	0	0	0	0	2	2.70	0.00
Shan North	2505404	50	7	5	0	0	1	1	0	2.00	0.04
Shan South	2487728	50	7	2	0	0	0	5	0	0.80	0.20
Tanintharyi	1603617	32	71	28	40	1	0	2	0	43.03	0.12
Yangon	7350974	147	78	7	0	0	0	71	0	0.95	0.97
National	54043258	1081	606	199	216	21	2	165	3	8.07	0.31

Total suspected outbreaks– 15 Confirmed measles outbreaks— 15 Non Measles/Rubella outbreaks— 0 Pending– 0

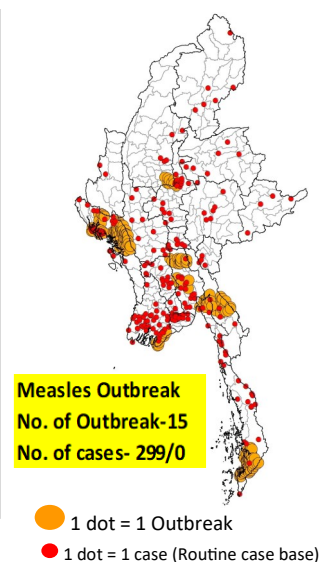
Age and vaccination Status of confirmed measles cases, 2020*(n=436)



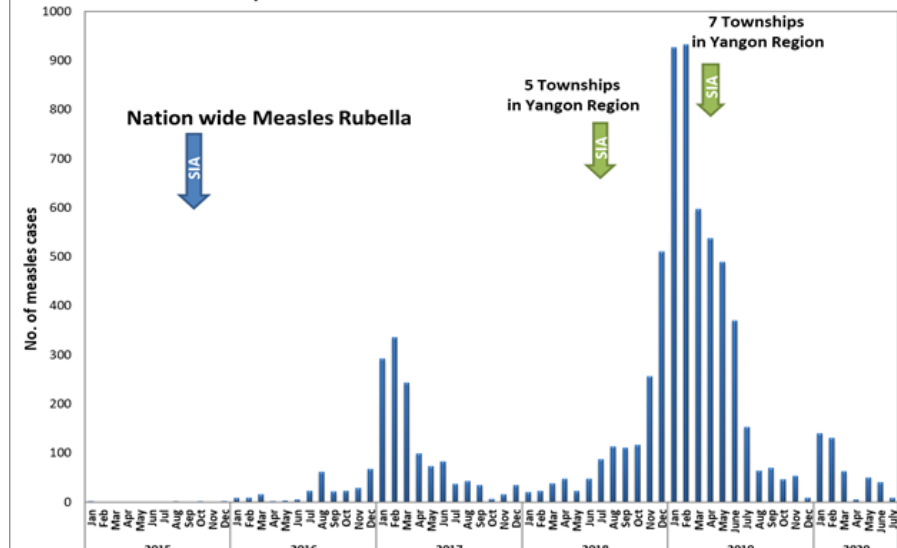
Occurrence of measles outbreak

Region	Township
Ayeyarwady	Pyapon
Bago (East)	Kyauktaga
	Taungoo
Mon	Bilin
Kayin	Hlaingbwe
Mandalay	Pyigy tagon
	Mahaangmyay
	Ann
Rakhine	Myauk Oo
	Pauktaw
	Sittway
Sagaing	Sagaing
Thanintharyi	Bokepyin

Sport map of measles cases 2020*



Epidemic curve for Measles Cases 2015-2020*



CRS Surveillance, 2020*

Total no. of serum sample
received - None

Total no. of serum sample
tested - None

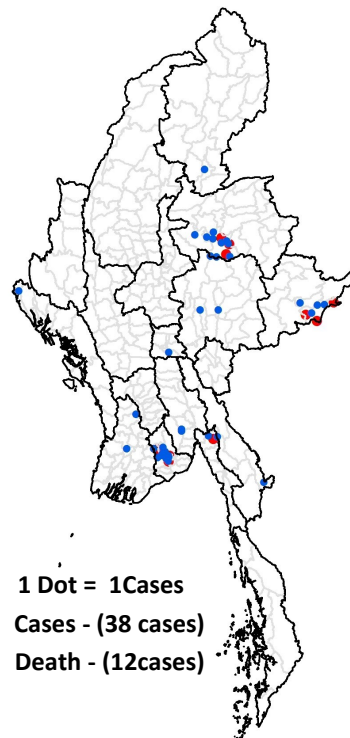
Data source: routine case based surveillance and outbreaks

* Data as of week no.31 , 31/7/2020

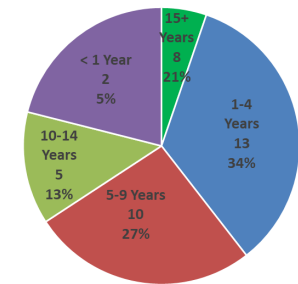
Diphtheria, 2020*

Reported suspected diphtheria cases and deaths

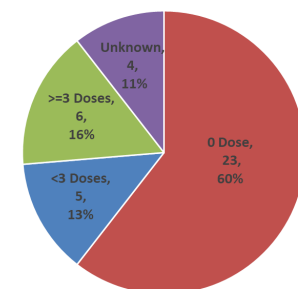
State/Region	Total no. of cases	Total no. of death
Ayeyarwady	2	0
Bago	2	0
Chin	0	0
Kachin	1	0
Kayah	0	0
Kayin	2	0
Magway	0	0
Mandalay	0	0
Mon	1	1
Nay Pyi Taw	1	0
Rakhine	1	0
Sagaing	0	0
Shan East	4	3
Shan North	10	3
Shan South	2	0
Tanintharyi	0	0
Yangon	12	5
Grand Total	38	12



Suspected diphtheria cases by age group



Immunization status of suspected diphtheria cases



Pertussis (Whooping Cough), 2020*

Reported pertussis cases and deaths in states and regions

State/Region	Cases	Deaths
Ayeyarwady	3	0
Magway	1	0
Naypyitaw	2	0
Tanintharyi	4	0
Yangon	3	0

Age distribution and vaccination status of whooping cough 2020*

Age group	0 Dose	<3 Doses	>=3 Doses	Total
0-11 Months	6	2	0	8
1-4 Years	1	0	0	1
5-9 Years	1	0	0	1
10-14 Years	0	0	0	0
15+ Years	3	0	0	3
Grand Total	11	2	0	13

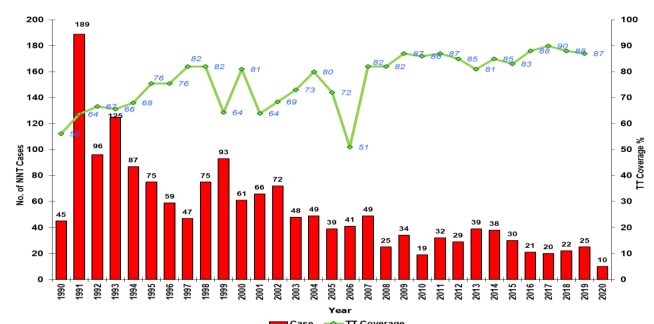
Neonatal Tetanus, 2020*

Reported NNT cases and deaths in states and regions

State/Region	Cases	Deaths
Bago (East)	1	1
Kachin	1	1
kayin	1	1
Rakhine	1	0
Shan (East)	2	2
Shan (North)	2	2
	1	1
Tanintharyi	1	0
Total Reported	10	8

Place of birth among reported NNT cases		Reported NNT cases are delivered by		Vaccination status of mother during pregnancy	
Hospital	0	Doctor	0	0 Dose	6
Health Center	0	BHS	0		
Private Hospital	0	Trained TBA	2	1 Dose	1
Home	9	TBA	4		
Other	1	Other	1	>=2 Doses	3
		Not Attended	3		
Unknown	0	Unknown	0	Unknown	0
Total	10	Total	10	Total	10

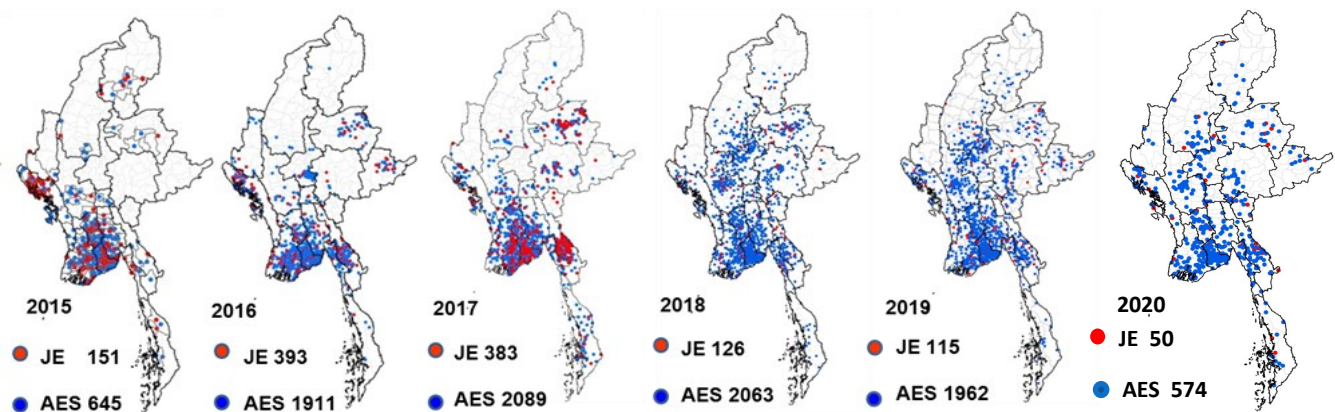
TT2 coverage and neonatal tetanus cases (1990-2020*)



* Data as of week no.31, 31 / 7 / 2020

Acute Encephalitis Syndrome (AES)

Reported AES cases & Japanese Encephalitis (JE) positive cases (2015-2020*), Myanmar

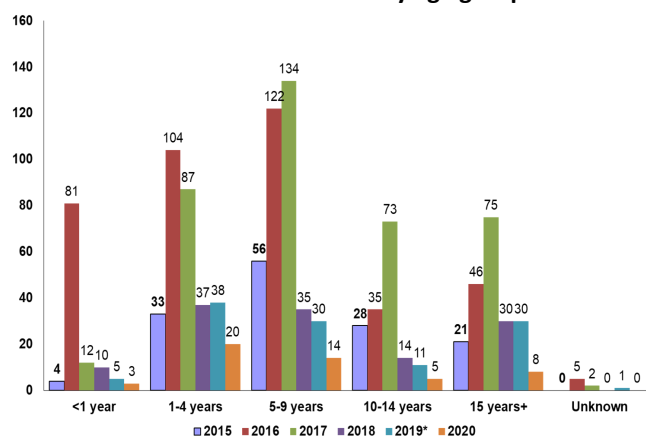


1 Dot = 1 Case

Region/State-wise occurrences of JE 2015-2020*

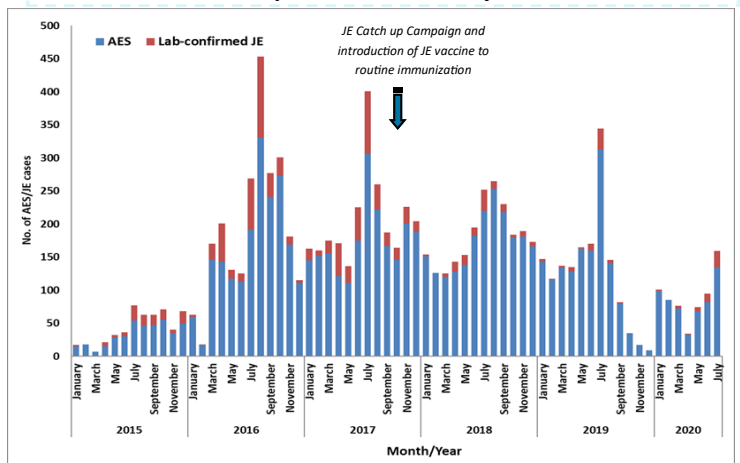
Region/State	2015		2016		2017		2018		2019		2020	
	AES	JE Positive	AES	JE Positive	AES	JE Positive	AES	JE Positive	AES	JE Positive	AES	JE Positive
Ayeyawady	90	21	231	45	259	51	185	15	151	12	58	3
Bago	86	28	213	53	256	49	200	11	203	11	49	2
Chin	1	1	11	3	2	1	4	1	1	0	3	0
Kachin	12	5	8	1	7	2	14	3	18	0	10	1
Kayah	0	0	1	1	15	6	15	3	19	2	8	3
Kayin	6	1	136	37	165	65	63	10	75	11	37	8
Magway	10	4	30	4	58	6	122	17	128	1	32	1
Mandalay	2	0	122	19	6	1	155	2	102	7	27	4
Mon	29	5	60	8	61	13	50	4	42	5	19	2
Naypyitaw	1	0	5	2	12	1	15	1	9	0	4	0
Rakhine	126	46	120	26	88	17	60	4	68	7	33	9
Sagaing	6	1	52	9	18	2	83	5	65	5	19	4
Shan East	1	0	29	8	5	2	6	2	26	8	9	1
Shan North	4	0	90	16	88	42	83	19	37	7	23	4
Shan South	0	0	14	2	60	16	82	5	62	6	23	2
Tanintharyi	6	3	18	4	45	11	19	0	13	0	12	2
Yangon	265	36	771	155	889	92	881	24	887	31	198	4
Hospital	0	0	0	0	55	6	26	0	56	2	10	0
Total	645	151	1911	393	2089	383	2063	126	1962	115	574	50

JE incidence: lab confirmed cases by age groups 2015-2020*



* Data as of week no.31 , 31/7/2020

Lab confirmed and reported AES cases by months 2015-2020*



Vaccine preventable disease cases (VPD) 2015-2020*

	2015	2016	2017	2018	2019	2020*
Diphtheria	87	136	68	127	118	38
Measles	6	269	1293	1389	4247	436
Pertussis	5	2	4	28	30	13
Polio	0	0	0	0	6 (cVDPV)	0
Rubella	34	10	6	13	24	2
Neonatal tetanus	30	21	20	22	25	10
Japanese encephalitis	151	393	383	126	115	50

* Data as of week no.31 , 31 /7/2020

Vaccine preventable disease cases (VPD) by state and region, 2020*

State/Region	Diphtheria	Pertussis	Neonatal tetanus	Japanese encephalitis
Ayeyarwady	2	3	0	3
Bago	2	0	1	2
Chin	0	0	0	0
Kachin	1	0	1	1
Kayah	0	0	0	3
Kayin	2	0	1	8
Magway	0	1	0	1
Mandalay	0	0	0	4
Mon	1	0	0	2
Nay Pyi Taw	1	2	0	0
Rakhine	1	0	1	9
Sagaing	0	0	0	4
Shan East	4	0	2	2
Shan North	10	0	3	3
Shan South	2	0	0	2
Tanintharyi	0	4	1	2
Yangon	12	3	0	4
Hospital	0	0	0	0
National	38	13	10	50

* Data as of week no.31 , 31/7/2020

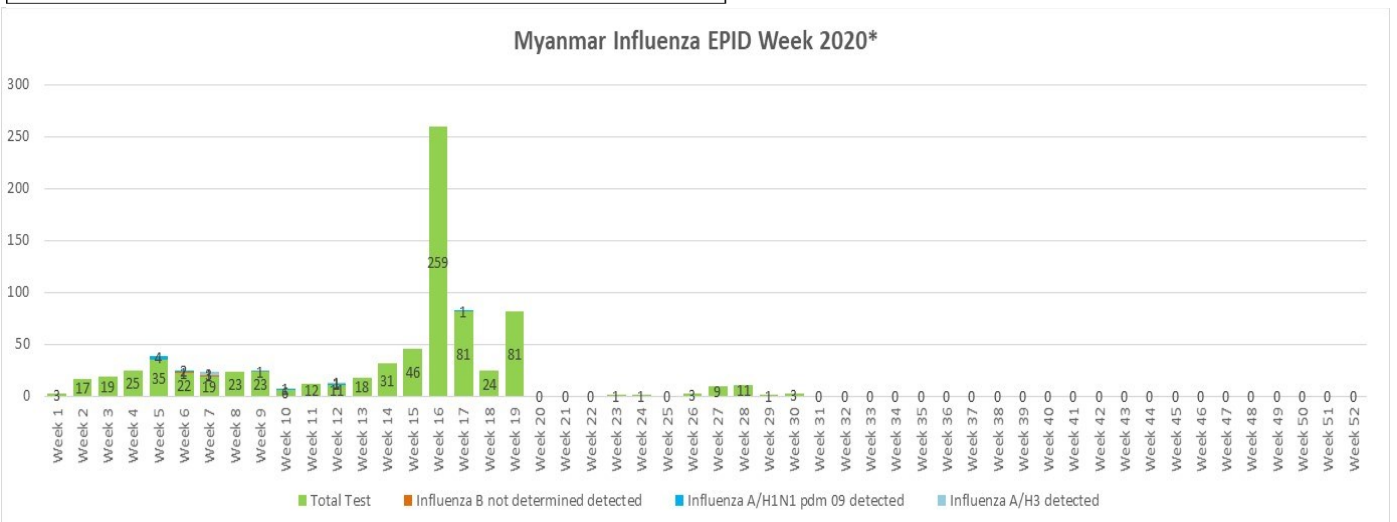
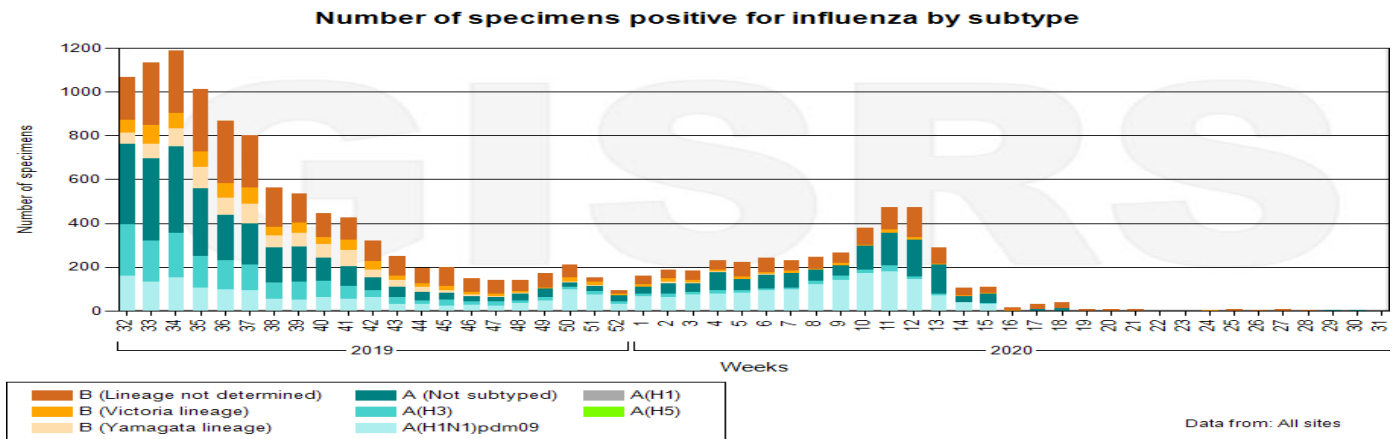
DISEASE OUTBREAK 2020*

No.	Disease	Jan-June			July		
		Events	Cases	Deaths	Events	Cases	Deaths
1.	Anthrax	1	1	0	0	0	0
2.	Chicken pox	4	36	0	0	0	0
3.	Diarrhoea	6	177	5	0	0	0
4.	Diphtheria	33	33	9	5	5	3
5.	Food Poisoning	16	615	3	4	85	0
6.	Measles	15	307	0	0	0	0
7.	Meningitis	7	7	0	0	0	0
8.	Mumps	0	0	0	0	0	0

* Data as of week no.31 , 31 /7/ 2020

Influenza surveillance report

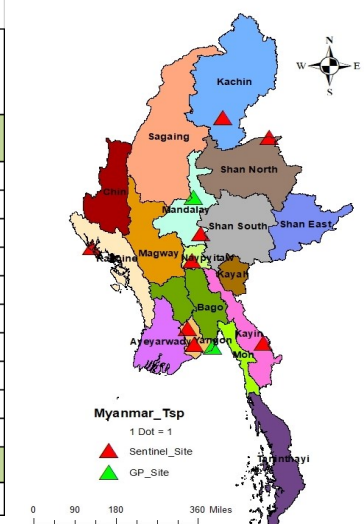
Number of specimens positive for influenza by Southern Hemisphere subtype



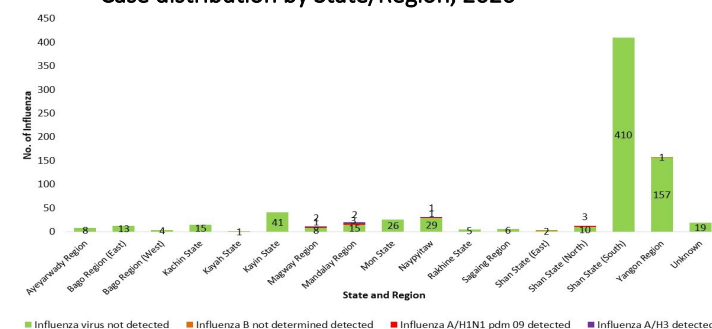
Myanmar Influenza surveillance in July-2020* (Hospital Distribution)

Name of Hospital	A/H1N1 pdm 09 detected	Influenza A/H3 detected	B not determined detected	virus not detected	Total
Sentinel Hospital					
1000 Bedded General Hospital, Nay Pyi Taw	1	2	0	48	51
Mandalay General Hospital	0	0	0	7	7
Muse Township Hospital	4	0	0	7	11
Myawaddy District Hospital	0	0	0	41	41
Myit Kyi Na General Hospital	0	0	0	15	15
Sittwe General Hospital	0	0	0	0	0
Thingangyun Sanpya General Hospital (T.G.H)	0	0	0	116	116
Yangon General Hospital (Y.G.H)	0	0	0	11	11
GP-Mandalay	0	0	0	1	1
GP-Yangon	0	0	0	15	15
Other Hospital/Source	3	3	2	508	516
Total	8	5	2	769	784

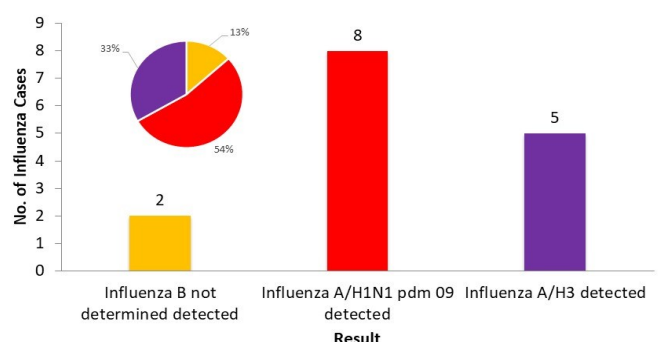
ILI/SARI sentinel surveillance sites and GP sites



Case distribution by State/Region, 2020*



Specimens Positive for influenza by subtypes 2020* (N=15)



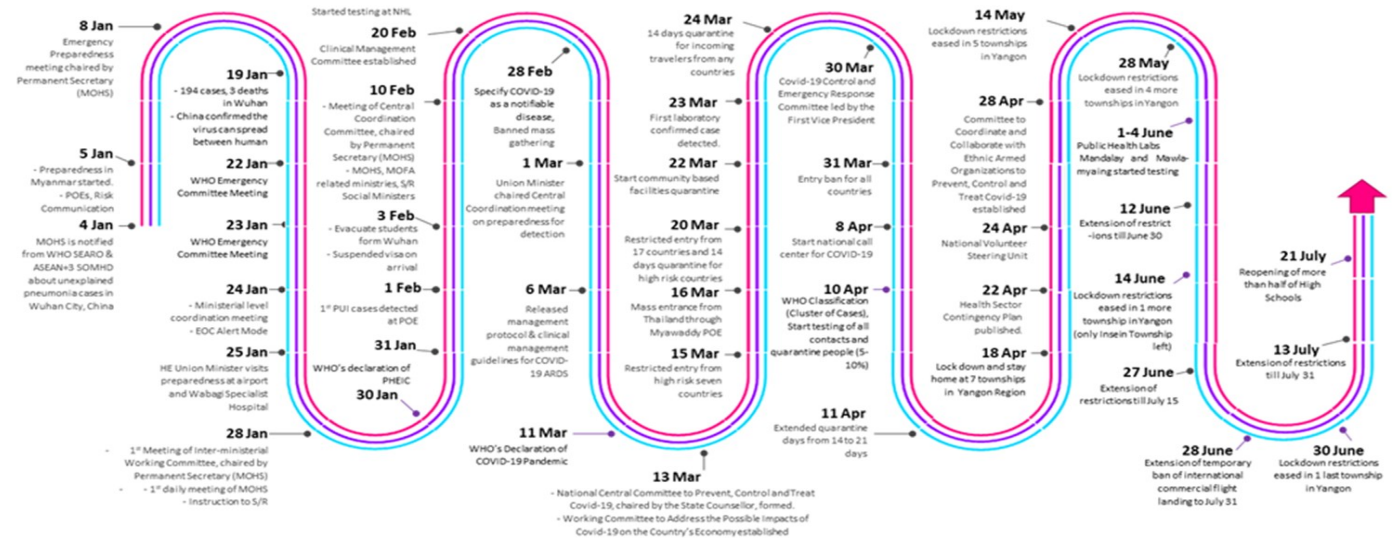
* Data as of week no. 31, 31 /7/2020

Coronavirus Disease 2019 (COVID-19) in Myanmar

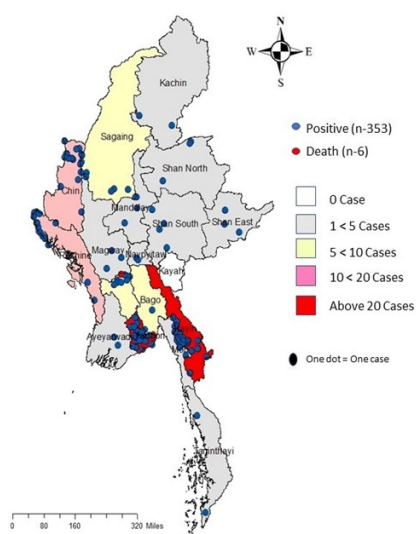
Data as reported by 31 July 2020



Timeline of Preparedness and Response to COVID-19 in Myanmar (as of 31.7.2020)



Map showing COVID-19 laboratory confirmed



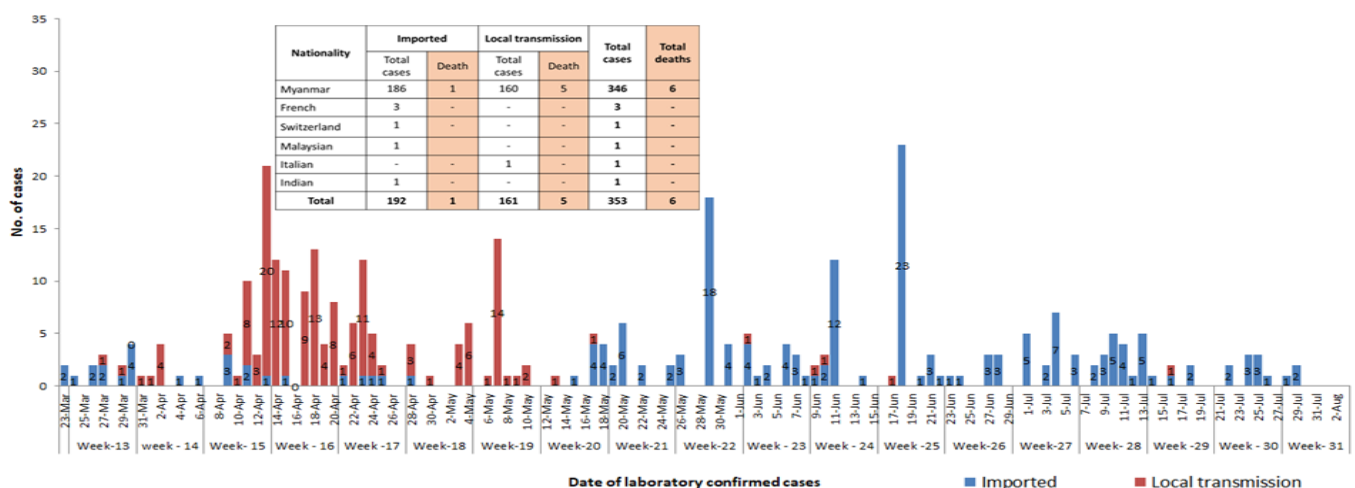
COVID-19 Positive confirmed cases by

No	State/Region	COVID-19 Confirmed case	Recovered	Deaths
1	Yangon	249	204(1 New)	5
2	Kayin	29	24	-
3	Rakhine	16	14	-
4	Chin	14	11	-
5	Sagaing	9	9	-
6	Bago	9	8	1
7	Shan (South)	4	4	-
8	Mandalay	4	4	-
9	Shan (East)	3	3	-
10	Shan (North)	3	3	-
11	Magway	3	3	-
12	Naypyitaw	2	2	-
13	Ayeyarwaddy	2	2	-
14	Kachin	2	2	-
15	Mon	2	2	-
16	Thantharyi	2	1	-
17	Kayah	-	-	-
Total		353	296(1 New)	6

No. of Facility Quarantine sites and

No.	State/Region	No. of facilities	Total no. of quarantine
1	Yangon	55	3,253
2	Mon	261	2,626
3	Bago	241	2,512
4	Kayin	365	2,326
5	Tanintharyi	189	1,708
6	Magway	304	1,638
7	Sagaing	174	996
8	Mandalay	64	922
9	Rakhine	253	792
10	Shan South	92	664
11	Ayeyarwaddy	169	656
12	Kachin	426	614
13	Naypyitaw	1	296
14	Shan North	269	201
15	Kayah	18	89
16	Chin	16	83
17	Shan East	9	56
Total		2,906	19,432

COVID-19 confirmed cases by types of transmissions (as of 31.7.2020) n=353



AFP Case Definition:

Any case of AFP in a child aged <15 years, or any case of paralytic illness in a person of any age when polio is suspected.

Acute: rapid progression of paralysis from onset to maximum paralysis

Flaccid: loss of muscle tone, "floppy" – as opposed to spastic or rigid

Paralysis: weakness, loss of voluntary movement

Any case meeting this definition undergoes a thorough investigation to determine if the paralysis is caused by polio.

Measles Case Definition: Suspected case of measles

A patient in whom a health-care worker suspects measles infection, **OR** a patient with fever and maculo-papular (non-vesicular) rash.

Laboratory confirmed measles: A suspected case of measles, that has been confirmed by a proficient laboratory

Epidemiologically linked confirmed case of measles: A suspected case of measles, that has not been confirmed by a laboratory but was geographically and temporally related, with dates of rash onset occurring 7 - 21 days apart to a laboratory confirmed case, or, in the event of a chain of transmission to another epidemiologically confirmed measles case.

Clinically compatible measles case: A case with fever and maculo-papular (non-vesicular) rash and one of cough, coryza or conjunctivitis for which no adequate clinical specimen was taken and which has not been linked epidemiologically to a laboratory confirmed case of measles or another laboratory-confirmed communicable diseases.

Congenital Rubella Syndrome CRS Surveillance**Standard Case Definitions**

Classification of cases for CRS surveillance purposes is based on clinical, epidemiological and laboratory data. The case definitions for CRS surveillance include the following categories: suspected, laboratory confirmed, clinically compatible, epidemiologically linked and discarded.

Case definition for Diphtheria surveillanceClinical description

An upper respiratory tract illness characterized by sore throat, low-grade fever, and an adherent membrane of the tonsil(s), pharynx, and/or nose.

Laboratory criteria: Isolation of *C. diphtheriae* from a clinical specimen, OR Histopathologic diagnosis of diphtheria.

Whooping Cough Case Definitions**Clinical case definition**

In the absence of a more likely diagnosis a cough illness lasting ≥2 weeks with one of the following symptoms: Paroxysms of coughing, OR Inspiratory "whoop," OR Post tussive vomiting, OR Apnea (with or without cyanosis) (FOR INFANTS AGED <1 YEAR ONLY)

Confirmed Case definition of Neonatal Tetanus:

Any neonate with normal ability to suck and cry during first two days and who during 3 to 28 days cannot suck or cry and has convulsion or spasms, by triggered by minimal stimuli such as light, noise or touch or who has signs of stiffness and rigidity, which include any of the following: trismus, clenched fists or fits, continuously pursed lips, curved back (opisthotonus).

Surveillance of AES**All cases of acute encephalitis syndrome should be reported**

Clinical case definition: A person of any age, in any geographical region, at any time of year with acute onset of fever and a change in mental status (including symptoms such as confusion, disorientation, coma, or inability to talk) AND/OR new onset of seizures (excluding simple febrile seizures).

AFP Surveillance Indicators (core indicators)

Indicator	Target	Calculation
1. Non-polio AFP rate	= 2/100,000	$\frac{\text{No. of discarded non-polio AFP cases among 15 years of age group}}{\text{Total number of children < 15 years of age}} \times 100000$
2. Reported AFP cases with 2 specimens collected = 14 days since onset.	= 80%)	$\frac{\text{No of AFP cases with 2 specimens collected within 14 days of paralysis onset}}{\text{Total number of children < 15 years of age}} \times 100$

Data source:

- Central Epidemiology Unit
- National Health Laboratory
- National Surveillance Coordinator Office (WHO)

Measles Surveillance Indicators (core indicators)

Indicator	Target	Definition
Disease incidence Annual incidence of confirmed measles cases Annual incidence of confirmed rubella cases	Absence of indigenous measles transmission	The numerator is the confirmed number of measles or rubella cases of the year denominator is the population in which the cases occurred multiplied by 1,000,000. When numerator is zero, the target incidence would be zero.
Proportion of sub-national administrative units reporting at least 2 discarded non-measles, non rubella cases per 100,000 population	>80%	The numerator is the number of sub-national units reporting at least 2 discarded non-measles non rubella cases per 100,000 and the denominator is the total number of sub-national units multiplied by 100

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