Ministry of Health and Sports
Department of Public Health
Central Epidemiology Unit
Monthly Epidemiology BULLETIN
June, 2020

AFP surveillance indicators by state and region, 2020*

State/Region	<15 Population	Minimum Expected Non Polio AFP Cases	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	13	0	6	1.62	0.75	77
Bago	1,259,066	41	15	0	10	2.29	1.53	80
Chin	189,859	7	3	0	1	3.04	1.01	100
Kachin	462,650	14	2	0	2	0.83	0.83	100
Kayah	99,080	3	0	0	0	0.00	0.00	0
Kayin	545,984	15	6	0	5	2.12	1.76	100
Magway	980,108	28	9	0	8	1.77	1.57	100
Mandalay	1,438,254	44	5	0	5	0.67	0.67	100
Naypyitaw	287,686	9	0	0	0	0.00	0.00	0
Mon	592,217	17	1	0	1	0.33	0.33	100
Rakhine	800,989	22	7	0	1	1.68	0.24	86
Sagaing	1,398,805	40	5	0	1	0.69	0.14	40
Shan East	204,682	6	2	0	0	1.88	0.00	100
Shan North	662,674	21	1	0	0	0.29	0.00	100
Shan South	664,840	19	2	0	2	0.58	0.58	100
Taninthayi	445,742	12	7	0	3	3.02	1.30	100
Yangon	1,569,891	44	9	0	5	1.10	0.61	89
Total	**13,148,286**	**389**	**87**	**0**	**50**	**1.27**	**0.73**	**87**

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 - 87

cVDPV cases among AFP cases– 0

cVDPV cases - 0

Discarded as non-polio AFP cases – 50

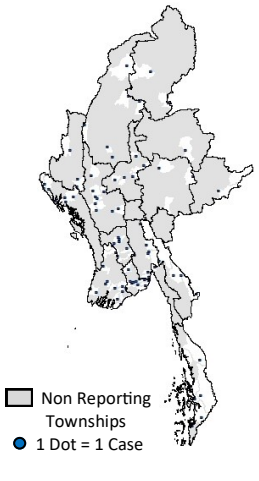
Annualized AFP rate - 1.27

Annualized non-polio AFP rate— 0.73

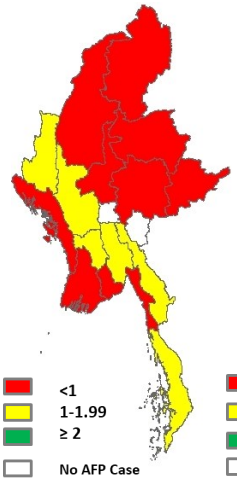
Percentage of adequate stool collection - 87%

Pending for classification - 37

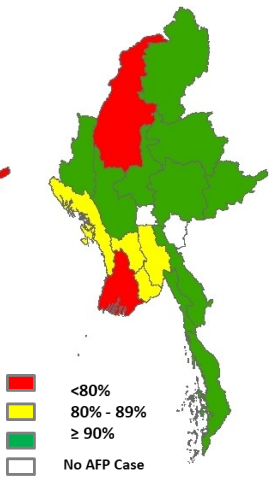
**Data as of 30 June 2020 (week no. 27)*



Spot Map of AFP Cases

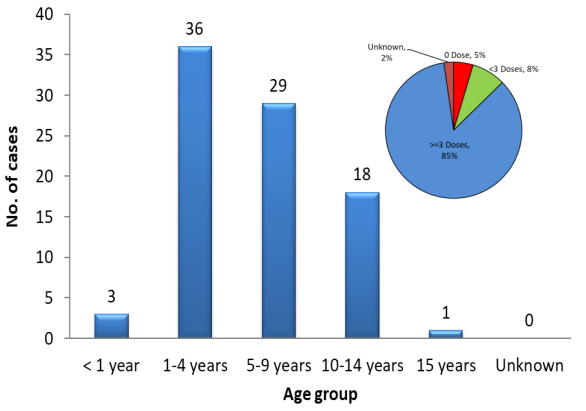


Annualized Non polio AFP rate



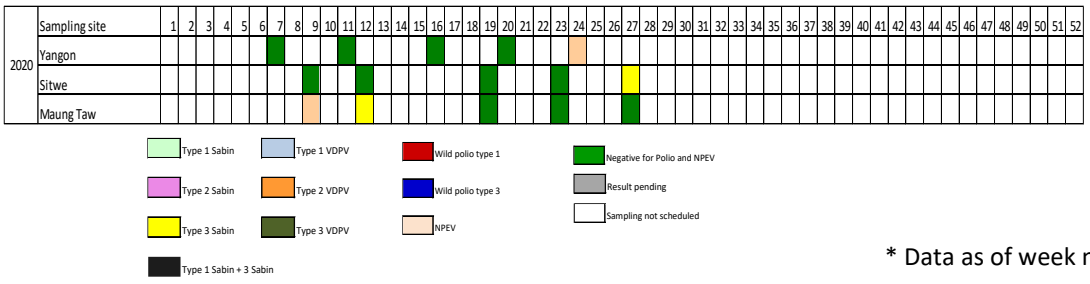
% of Adequate stool collection

Age group and vaccination status of AFP cases, 2020*(n=87)



environmental surveillance in Myanmar

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



Percentage of NPEV detected in sewage samples – 13%

Maungdaw - 20%

Sittwe - 0%

Yangon - 20%

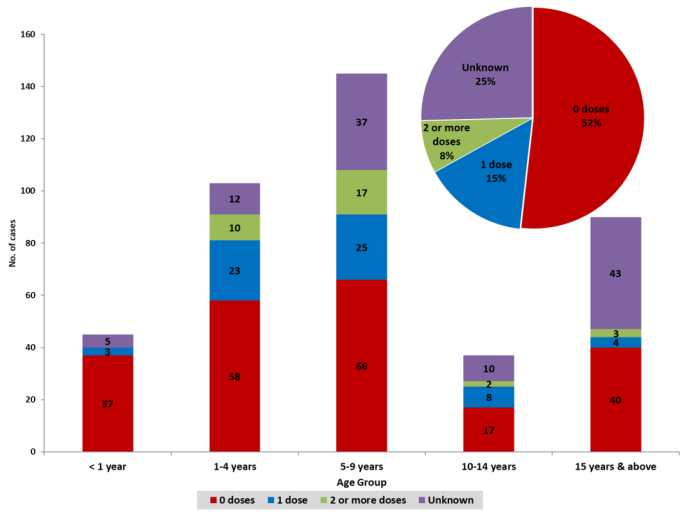
* Data as of week no.27, 30 /6/ 2020

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	6,450,505	129	42	19	4	1	1	17	0	3.72	0.26
Bago	5,292,074	106	48	17	10	1	0	20	0	5.29	0.38
Chin	553,704	11	2	0	0	2	0	0	0	3.61	0.00
Kachin	1,742,095	35	6	5	0	0	0	1	0	2.87	0.06
Kayah	326,027	7	4	3	0	0	0	1	0	9.20	0.31
Kayin	1,770,549	35	21	4	14	0	0	3	0	10.17	0.17
Magway	4,417,875	88	7	4	0	0	0	3	0	0.91	0.07
Mandalay	6,399,793	128	60	29	18	9	0	4	0	8.75	0.06
Mon	2,377,706	48	24	7	8	2	0	7	0	7.15	0.29
Nay Pyi Taw	1,150,500	23	7	4	0	1	0	2	0	4.35	0.17
Rakhine	3,033,837	61	185	48	115	1	0	13	8	54.06	0.43
Sagaing	5,839,197	117	13	7	4	1	0	1	0	2.06	0.02
Shan East	741,673	15	3	2	0	0	0	1	0	2.70	0.13
Shan North	2,505,404	50	5	4	0	0	1	0	0	1.60	0.00
Shan South	2,487,728	50	6	2	0	0	0	4	0	0.80	0.16
Tanintharyi	1,603,617	32	71	28	40	1	0	2	0	43.03	0.12
Yangon	7,350,974	147	54	5	0	1	0	48	0	0.82	0.65
National	**54,043,258**	**1081**	**558**	**188**	**213**	**20**	**2**	**127**	**8**	**7.79**	**0.23**

Total suspected outbreaks– 15 Confirmed measles outbreaks— 14 Non Measles/Rubella outbreaks— 0 Pending– 1

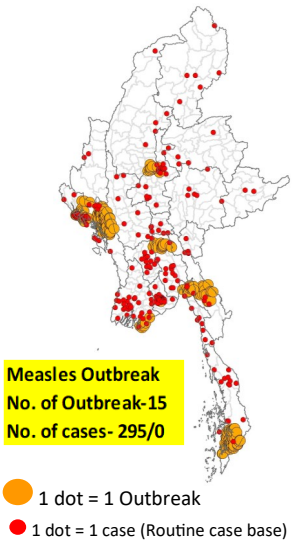
Age and vaccination Status of confirmed measles cases, 2020*(n=421)



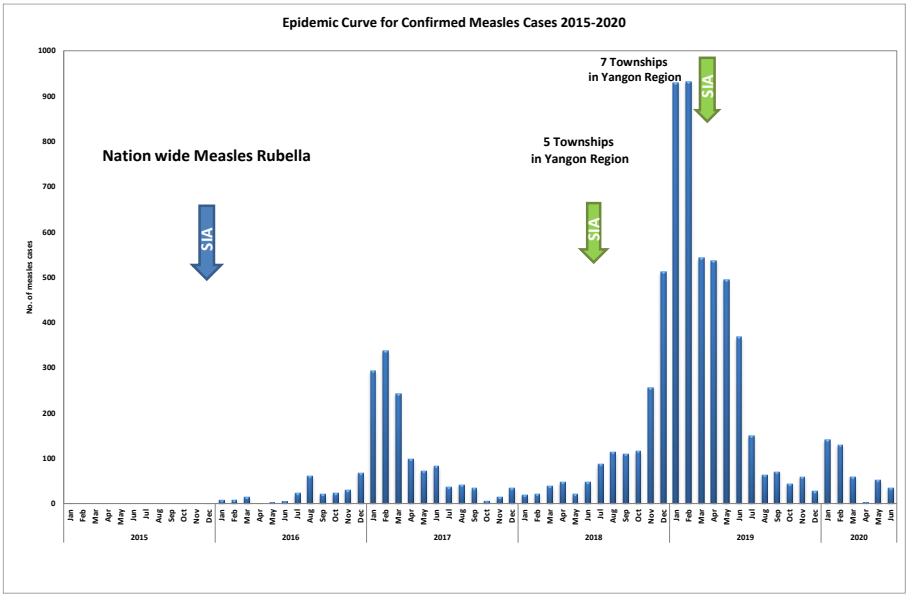
Occurrence of measles outbreak

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

Sport map of measles cases 2020*



Epidemic Curve for Confirmed Measles Cases 2015-2020



CRS Surveillance, 2020*

Total no. of serum sample received - None

Total no. of serum sample tested - None

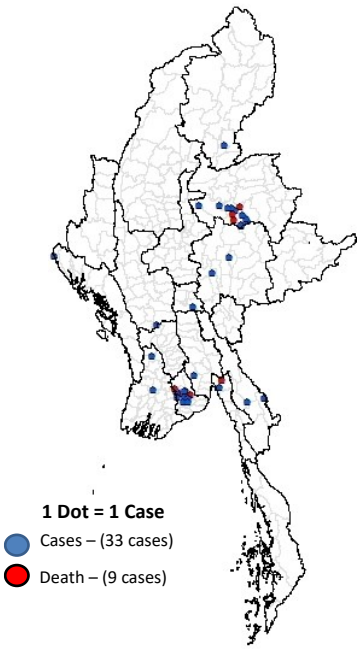
Data source: routine case based surveillance and outbreaks

* Data as of week no.27 , 30 /6/2020

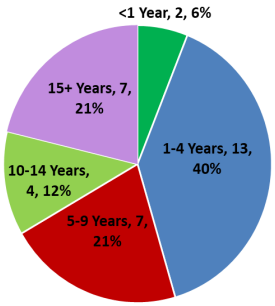
Diphtheria, 2020*

Reported suspected diphtheria cases and deaths in states and regions

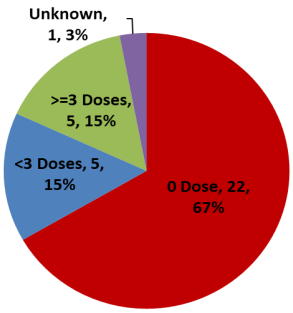
State/Region	Total no. of cases	Total no. of death
Ayeyarwaddy	2	0
Bago	2	0
Chin	0	0
Kachin	1	0
Kayah	0	0
Kayin	2	0
Magway	0	0
Mandalay	0	0
Mon	1	1
Nay Pyi Taw	1	0
Rakhine	1	0
Sagaing	0	0
Shan East	0	0
Shan North	10	3
Shan South	2	0
Tanintharyi	0	0
Yangon	11	5
Grand Total	**33**	**9**



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
Ayeyarwaddy	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	5	3	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	**10**	**3**	**0**	**13**

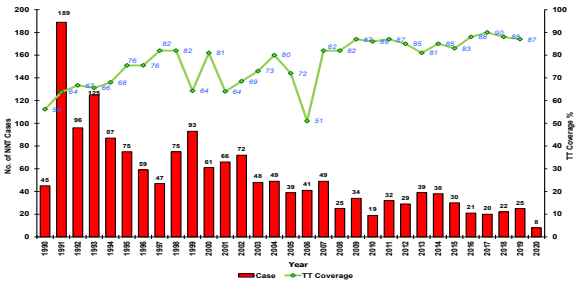
Neonatal Tetanus, 2020*

Reported NNT cases and deaths in states and regions

State/Region	Township	Cases	Deaths
Kachin State	Myitkyina	1	1
Kayin State	Myawaddy	1	1
Rakhine State	Maungdaw	1	0
Shan State (East)	Monghsat	2	2
Shan State (North)	Hsipaw	1	1
	Laukkaing	1	1
Tanintharyi	Myeik	1	0
Total Reported		**8**	**6**

Place of birth among reported NNT cases		Reported NNT cases are delivered by		Vaccination stauts of mother during	
Hospital	0	Doctor	0	0 Dose	5
Health Center	0	BHS	0		
Private Hospital	0	Trained TBA	1	1 Dose	0
Home	7	TBA	3		
Other	1	Other	1	>=2 Doses	3
Unknown	0	Not Attended	3		
		Unknown	0	Unknown	0
Total	**8**	**Total**	**8**	**Total**	**8**

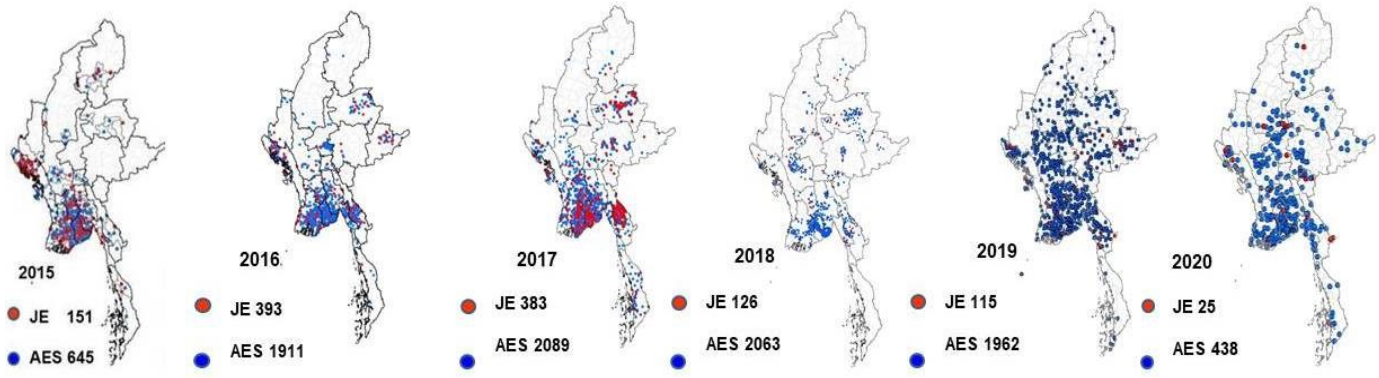
TT2 coverage and neonatal tetanus cases (1990-2020*)



* Data as of week no.27, 30 /6/ 2020

Acute Encephalitis Syndrome (AES)

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

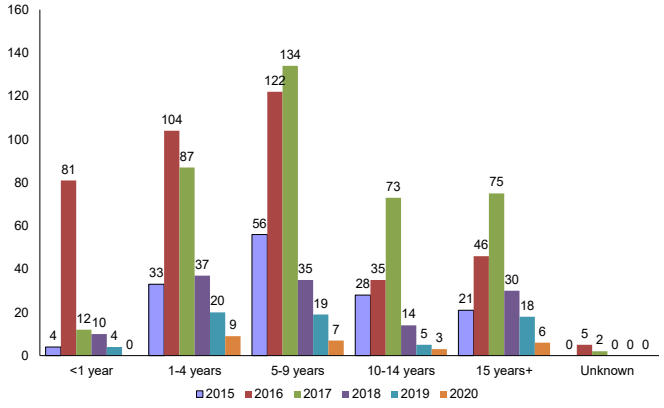


1 Dot = 1 Case

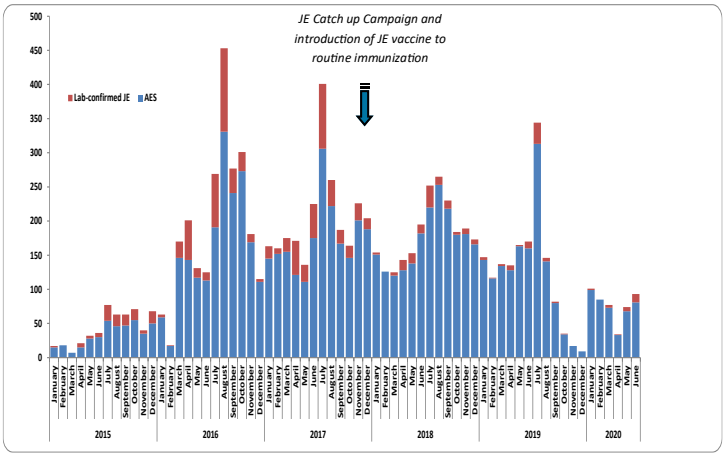
Region/State-wise occurrences of JE 2015-2020*

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	47	2
Bogo	86	28	213	53	256	49	200	11	203	11	44	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	8	1
Kayah	0	0	1	1	15	6	15	3	19	2	6	2
Kayin	6	1	136	37	165	65	63	10	75	11	13	2
Magway	10	4	30	4	58	6	122	17	128	1	27	0
Mandalay	2	0	122	19	6	1	155	2	102	7	23	4
Mon	29	5	60	8	61	13	50	4	42	5	12	1
Naypyitaw	1	0	5	2	12	1	15	1	9	0	4	0
Rakhine	126	46	120	26	88	17	60	4	68	7	20	3
Sagaing	6	1	52	9	18	2	83	5	65	5	14	2
Shan East	1	0	29	8	5	2	6	2	26	8	6	0
Shan North	4	0	90	16	88	42	83	19	37	7	14	0
Shan South	0	0	14	2	60	16	82	5	62	6	19	1
Tanintharyi	6	3	18	4	45	11	19	0	13	0	9	1
Yangon	265	36	771	155	889	92	881	24	887	31	162	4
Hospital	0	0	0	0	55	6	26	0	56	2	7	0
Total	**645**	**151**	**1911**	**393**	**2089**	**383**	**2063**	**126**	**1962**	**115**	**438**	**25**

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



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



* Data as of week no.27 , 30 /6/2020

Vaccine preventable disease cases (VPD)2015-2020*

	2015	2016	2017	2018	2019	2020*
Diphtheria	87	136	68	127	118	33
Measles	6	269	1293	1389	4247	421
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	8
Japanese encephalitis	151	393	383	126	115	25

* Data as of week no.27 , 30 /6/2020

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

State/Region	Diphtheria	Pertussis	Neonatal tetanus	Japanese encephalitis
Ayeyarwady	2	3	0	2
Bago	2	0	0	2
Chin	0	0	0	0
Kachin	1	0	1	1
Kayah	0	0	0	2
Kayin	2	0	1	2
Magway	0	1	0	0
Mandalay	0	0	0	4
Mon	1	0	0	1
Nay Pyi Taw	1	2	0	0
Rakhine	1	0	1	3
Sagaing	0	0	0	2
Shan East	0	0	2	0
Shan North	10	0	2	0
Shan South	2	0	0	0
Tanintharyi	0	4	1	1
Yangon	11	3	0	1
Hospital	0	0	0	4
National	**33**	**13**	**8**	**25**

* Data as of week no.27 , 30 /6/ 2020

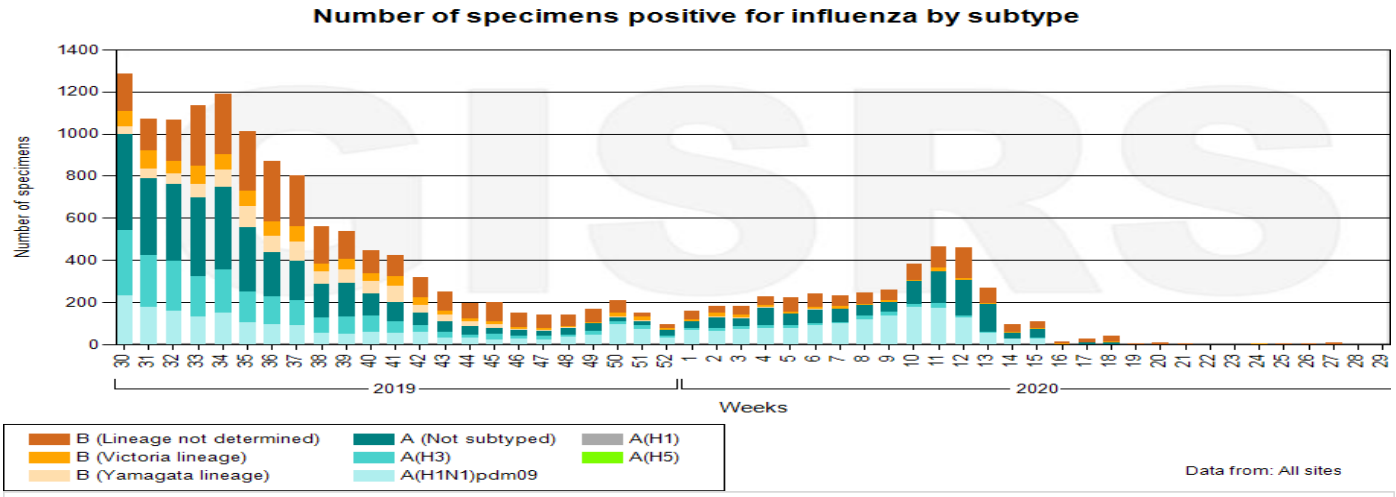
DISEASE OUTBREAK 2020*

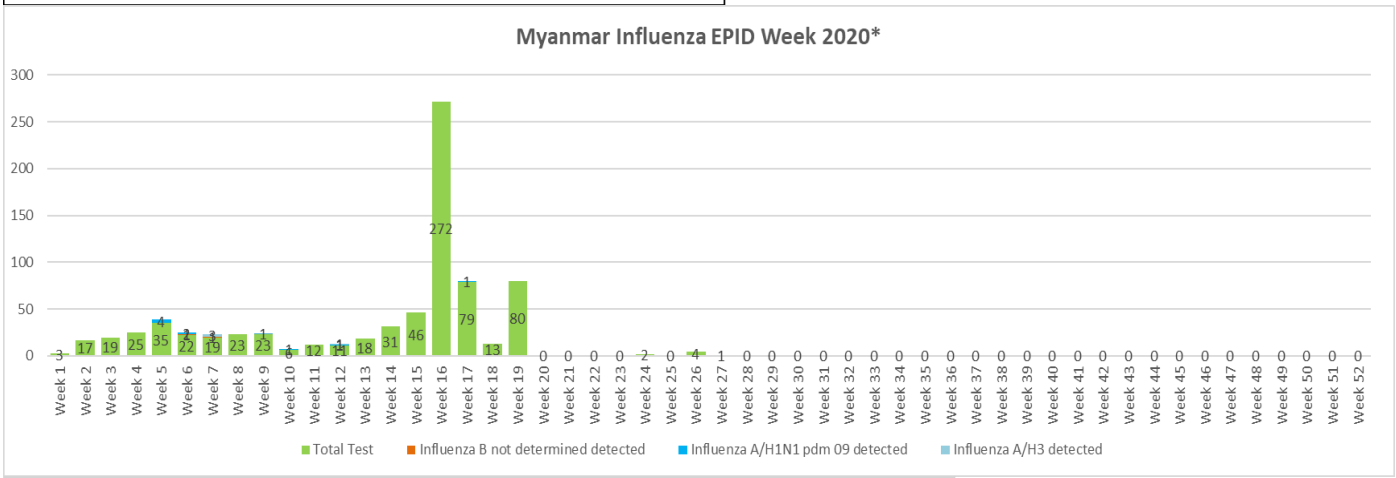
No.	Disease	Jan-May			June		
		Events	Cases	Deaths	Events	Cases	Deaths
1.	Anthrax	1	0	0	0	0	0
2.	Chicken pox	4	36	0	0	0	0
3.	Diarrhoea	4	136	4	2	41	1
4.	Diphtheria	28	28	8	5	5	1
5.	Food Poisoning	12	579	0	4	36	3
6.	Measles	14	293	0	1	14	0
7.	Meningitis	7	7	0	0	0	0
8.	Mumps	0	0	0	0	0	0

* Data as of week no.27 , 30 /6/ 2020

Influenza surveillance report

Number of specimens positive for influenza by Southern Hemisphere subtype

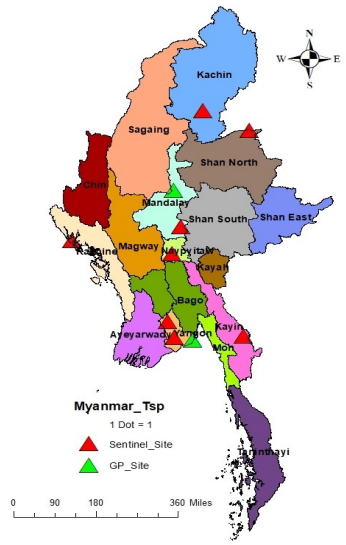




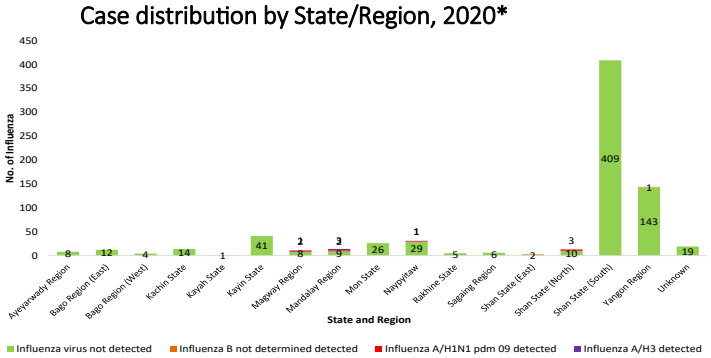
Myanmar Influenza surveillance in June-2020* (Hospital Distribution)

Name of Hospital	A/H1N1 pdm 09 detected	Influenza A/H3 detected	B not determined detected	virus not detected	Total
Sentinal Hospital					
1000 Bedded General Hospital, Nay Pyi Taw	1	0	2	48	51
Mandalay General Hospital	0	0	0	3	3
Muse Township Hospital	4	0	0	7	11
Myawaddy District Hospital	0	0	0	41	41
Myit Kyi Na General Hospital	0	0	0	14	14
Sittwe General Hospital	0	0	0	0	0
Thingangyun Sanpya General Hospital (T.G.H)	0	0	0	103	103
Yangon General Hospital (Y.G.H)	0	0	0	10	10
GP-Mandalay	0	0	0	1	1
GP-Yangon	0	0	0	15	15
Other Hospital/Source	3	2	3	504	512
Total	**8**	**2**	**5**	**746**	**761**

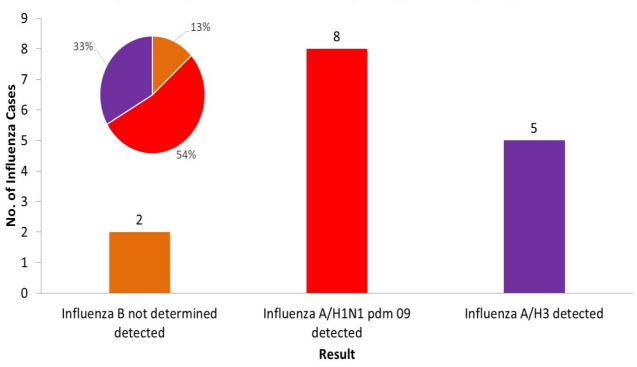
ILI/SARI sentinel surveillance sites and GP sites



Case distribution by State/Region, 2020*



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



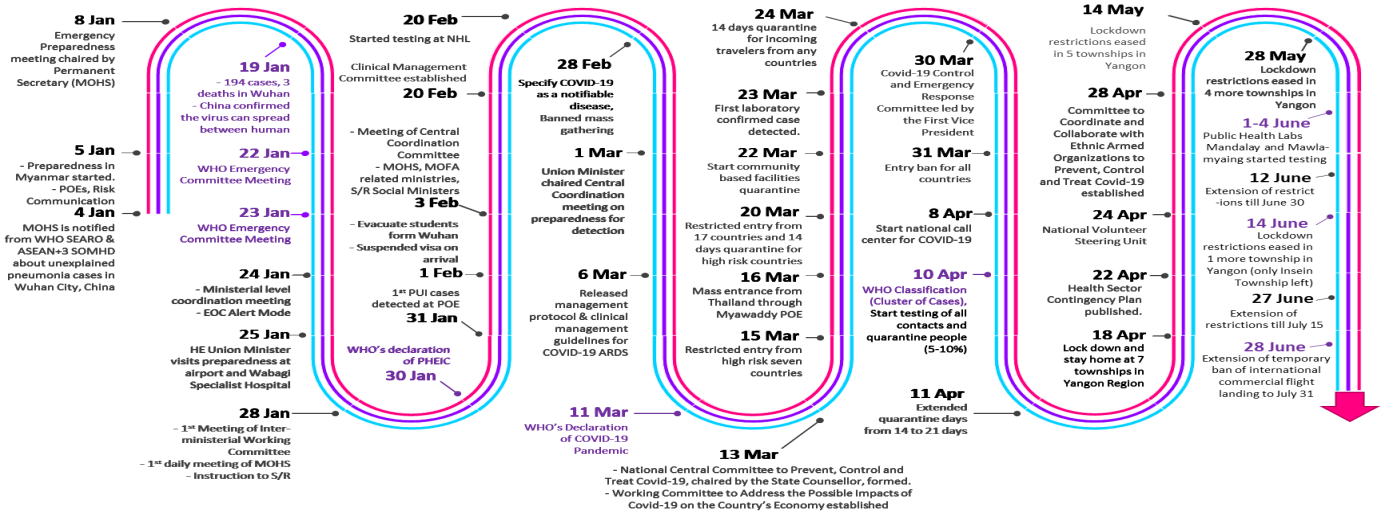
* Data as of week no. 27, 30 /6/2020

Coronavirus Disease 2019 (COVID-19) in Myanmar

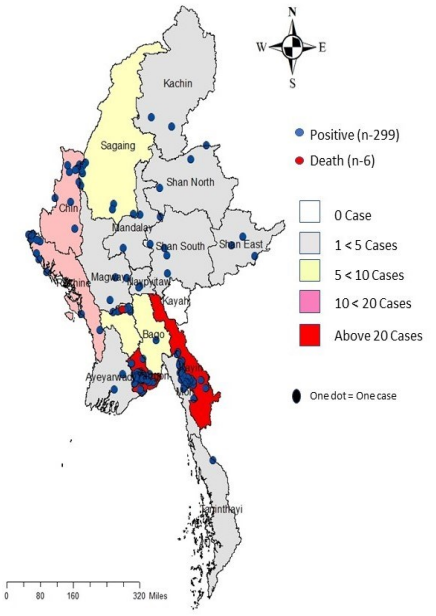
Data as reported by 30 June 2020

Total tested	Confirmed cases	Negative	Recovered	Active	Death
76,315	299	76,016	222 (74.2 % of confirmed cases)	71 (23.7% of confirmed cases)	6 (2.0% of confirmed cases)

Timeline of Preparedness and Response to COVID-19 in Myanmar (as of 29.6.2020)



Map showing COVID-19 laboratory confirmed



COVID-19 Positive confirmed cases by State/Region 29.6.2020

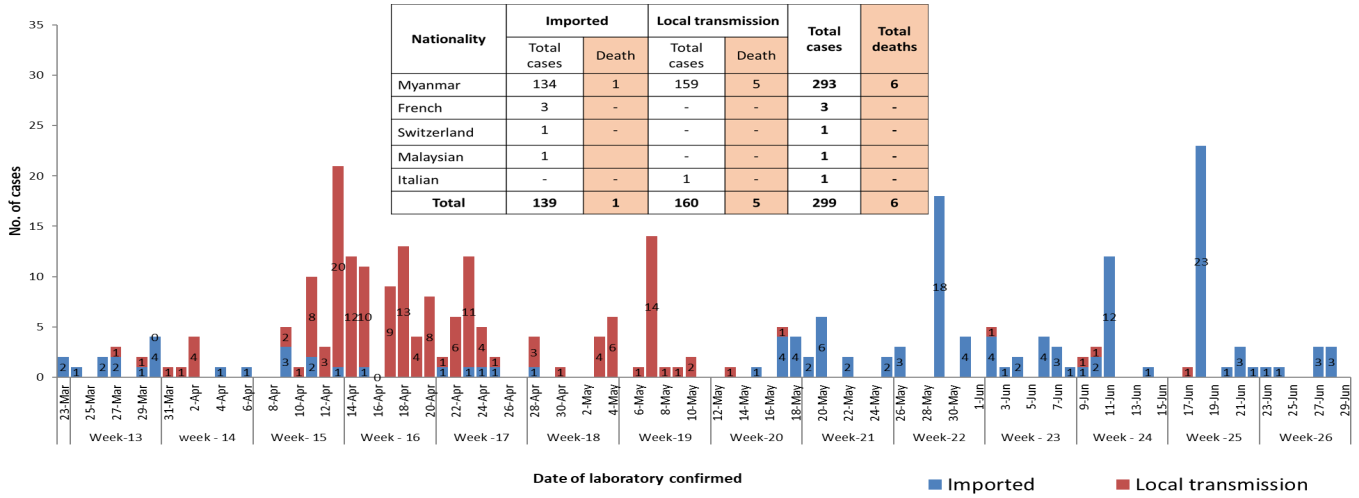
No.	State/Region	COVID-19 Confirmed case	Recovered	Deaths
1	Yangon	209	167	5
2	Kayin	26	2	-
3	Rakhine	12	4	-
4	Chin	10	9	-
5	Sagaing	9	8	-
6	Bago	8	7	1
7	Shan(South)	4	4	-
8	Mandalay	3	3	-
9	Shan(East)	3	4	-
10	Shan(North)	3	2	-
11	Magway	3	3	-
12	Naypyitaw	2	2	-
13	Ayeyarwaddy	2	2	-
14	Kachin	2	2(1 New)	-
15	Mon	2	1	-
16	Thanintharyi	1	1	-
17	Kayah	-	-	-
Total		299	222 (1 New)	6

No. of Facility Quarantine sites and Quarantined people on 29.6.2020

No.	State/Region	No. of facilities	Total no. of quaran-tine
1.	Yangon	82	3,771
2.	Magway	2,625	3,612
3.	Bago	321	3,445
4.	Kayin	675	2,940
5.	Mon	271	2,702
6.	Kachin	412	2,036
7.	Mandalay	123	1,632
8.	Sagaing	969	1,518
9	Rakhine	366	1,440
10.	Shan S	127	1,148
11.	Tanintharyi	189	1,129
12.	Ayeyarwaddy	196	883
13.	Naypyitaw	19	622
14.	Shan North	244	398
15.	Chin	26	199
16.	Kayah	18	136
17.	Shan East	11	114
Total		6,674	27,725

COVID-19 confirmed cases by types of transmissions (as of 30.6.2020, 1:00 am) n=299

Nationality	Imported		Local transmission		Total cases	Total deaths
	Total cases	Death	Total cases	Death		
Myanmar	134	1	159	5	293	6
French	3	-	-	-	3	-
Switzerland	1	-	-	-	1	-
Malaysian	1		-	-	1	-
Italian	-	-	1	-	1	-
Total	139	1	160	5	299	6



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 surveillance
Clinical 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	No. of discarded non-polio AFP cases among 15 years of age group / Total number of children < 15 years of age x 100000
2. Reported AFP cases with 2 specimens collected = 14 days since onset.	= 80%)	No of AFP cases with 2 specimens collected within 14 days of paralysis onset / Total number of children < 15 years of age x 100

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

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

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