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

ကျန်းမာရေးနှင့်အားကစားဝန်ကြီးဌာန

June, 2019

AFP Surveillance Indicators by State and Region, 2019*

State/Region	<15 Population	Minimum Expected Non Polio AFP Cases (2/100,000 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	1,582,899	33	12	0	8	1.46	0.97	100
Bago	1,280,053	30	26	0	19	3.91	2.86	100
Chin	190,275	3	6	0	4	6.07	4.05	83
Kachin	455,634	11	4	0	2	1.69	0.85	100
Kayah	95,512	2	1	0	0	2.02	0.00	100
Kayin	542,741	12	11	2	3	3.90	1.06	85
Magway	973,253	20	9	0	8	1.78	1.58	100
Mandalay	1,439,409	28	17	0	13	2.27	1.74	94
Naypyitaw	287,520	6	0	0	0	0.00	0.00	0
Mon	591,334	11	8	0	3	2.61	0.98	89
Rakhine	810,480	16	8	0	5	1.90	1.19	100
Sagaing	1,413,333	36	18	0	12	2.45	1.64	83
Shan East	290,791	6	6	0	5	3.97	3.31	100
Shan North	667,365	13	6	0	5	1.73	1.44	100
Shan South	666,404	16	13	0	11	3.76	3.18	100
Taninthayi	447,855	11	7	0	4	3.01	1.72	88
Yangon	1,542,376	32	8	0	8	1.00	1.00	100
Total	**13,277,234**	**286**	**160**	**2**	**110**	**2.32**	**1.60**	**95**

Acute Flaccid Paralysis (AFP)

Total no. of expected non-polio AFP cases - 286

Annualized expected Non Polio AFP Cases (as of week.27) - 202

Reported AFP cases - 160

cVDPVP1 cases - 2

Discarded as non-polio AFP cases– 110

Annualized AFP rate - 2.32

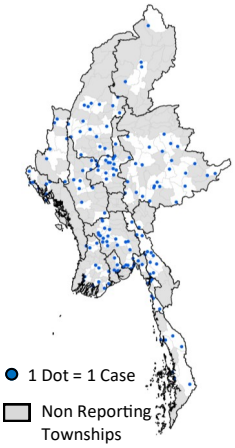
Annualized Non-polio AFP rate—1.60

Percentage of adequate stool collection - 95%

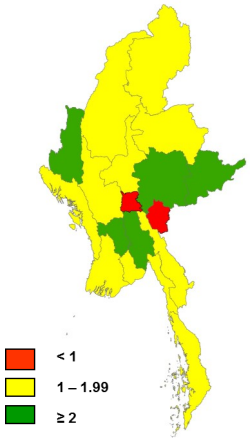
Pending for classification - 48

**Data as of 30 June 2019*

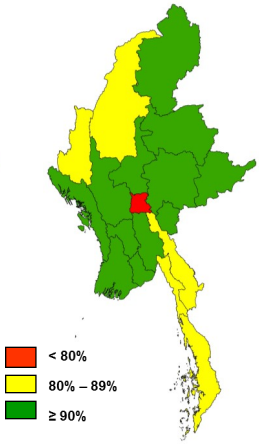
(week no. 27)



Spot Map of AFP Cases

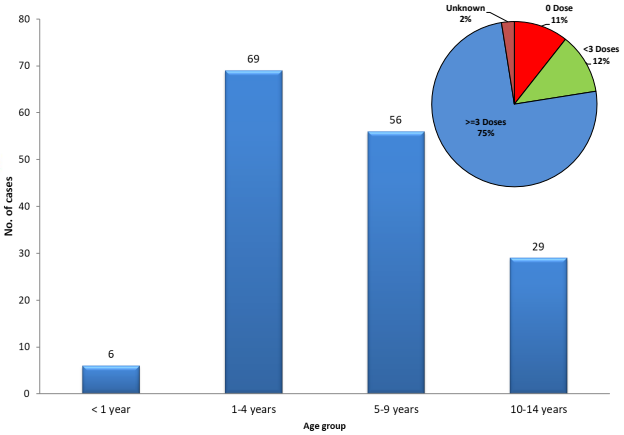


Annualized Non polio AFP rate



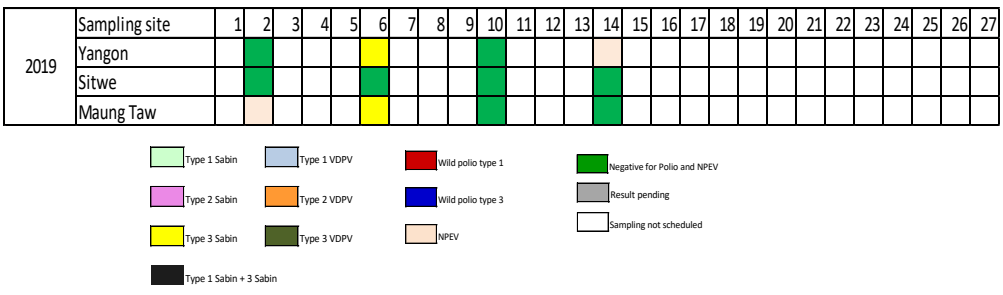
% of Adequate stool collection

Age group and vaccination status of AFP cases, 2019* (n=160)



Environmental Surveillance in Myanmar

Poliovirus and NPEV detected in Sewage samples in Myanmar, 2019*



Percentage of NPEV detected in Sewage samples – 17%

Maungdaw - 25%

Sittwe - 0%

Yangon - 25%

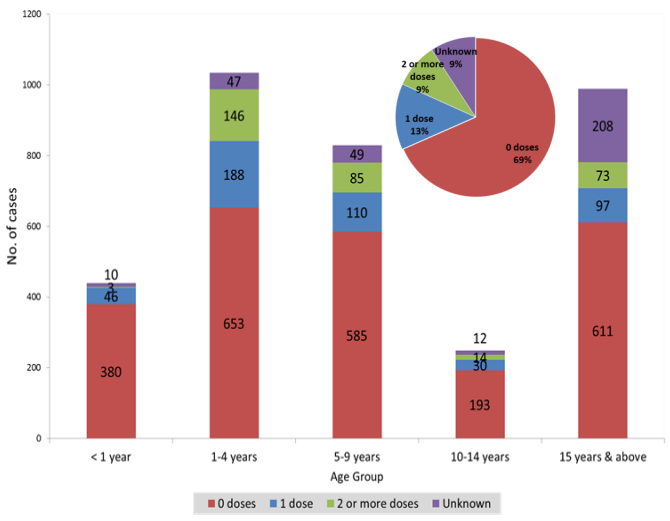
* Data as of week no. 27, 30 June 2019

Fever with Rash Surveillance, 2019*

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	6440199	129	345	150	0	10	0	27	158	24.84	0.42
Bago	5238253	105	645	289	78	15	0	56	207	72.93	1.07
Chin	546700	11	24	6	0	4	0	12	2	18.29	2.19
Kachin	1704082	34	62	25	4	1	1	25	6	17.60	1.47
Kayah	317318	6	82	37	1	4	0	9	30	132.36	2.84
Kayin	1721795	34	187	57	44	6	1	11	68	62.14	0.64
Magway	4372399	87	213	73	28	31	0	22	0	30.19	0.50
Mandalay	6284989	126	483	202	98	118	0	38	27	66.51	0.60
Mon	2344889	47	233	65	58	1	1	26	82	52.88	1.11
Nay Pyi Taw	1123682	22	95	34	3	5	0	8	44	37.38	0.71
Rakhine	2883386	58	150	70	0	4	1	18	56	25.66	0.62
Sagaing	5744297	115	288	49	41	0	0	143	55	15.67	2.49
Shan East	1054446	21	299	37	240	00	0	3	19	262.70	0.28
Shan North	2507798	50	389	105	122	56	3	10	93	112.85	0.40
Shan South	2451390	49	390	75	250	5	0	33	27	134.62	1.35
Tanintharyi	1553794	31	80	17	0	1	1	17	44	11.58	1.09
Yangon	6996954	140	1574	819	58	144	4	153	396	145.92	2.19
National	**53286370**	**1066**	**5539**	**2110**	**1025**	**405**	**12**	**611**	**1314**	**66.43**	**1.15**

Total suspected outbreaks– 89 ***Confirmed measles outbreaks— 87*** ***Non Measles/Rubella outbreaks— 2***

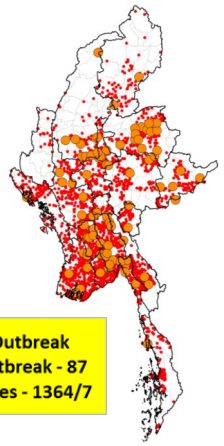
Age and Vaccination Status of Confirmed Measles cases, 2019*(n=3540)



Occurrence of Measles Outbreak

Region	Township	Region	Township
Ayeyarwady	Hinthada	Mon	Bilin
	Labutta		Mawlamyine
	Lemyethna		Thaton
	Mawlamyinegyun	Naypyitaw	Det Khi Na Thi Ri
	Pathein		Lewe
Bago (East)	Bago	Sagaing	Chaung-U
	Kyaukkyi		Hkamti
	Kyauktaga		Khin-U
	Taungoo		Myinmu
	Waw		Tabayin
	Yedashe	Shan (East)	Kengtung
Bago (West)	Letpadan		Monghsat
	Nattalin		Mongping
	Paungde		Mongton
	Pyay		Tachileik
Kachin	Shwegu	Shan (North	Hseni
	Waingmaw		Hsipaw
Kayah	Hpasawng		Kunlong
	Loikaw		Kutkai
Kayin	Hlaingbwe		Kyaukme
	Kawkareik		Lashio
	Kyainseikgyi		Tangyan
	Myawaddy	Shan (South	Hopong
Magway	Aunglan		Loilen
	Chauk		Mawkmai
	Myothit		Monghsu
	Pauk		Nansang
	Salin	Yangon	Dagon (North)
Mandalay	Amarapura		Dagon (Seikkan)
	Chanayethazan		Dagon (South)
	Chanmyathazi		Hlaingtharya
	Kyaukse		Insein
	Madaya		Mingaladon
	Mahaaungmyay		North Okkalapa
	Taungtha		Shwepyithar
	Thabeikkyin		Tamwe

Sport Map of Measles cases 2019*

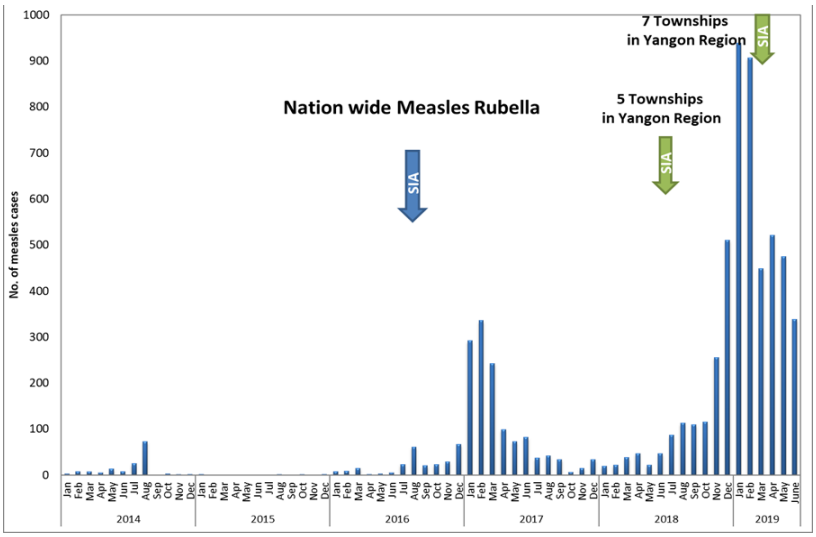


Measles Outbreak
No. of Outbreak - 87
No. of cases - 1364/7

1 dot = 1 Outbreak

1 dot = 1 case (Routine case base)

Epidemic Curve for Measles Cases 2014-2019 *



CRS Surveillance

Total no. of serum sample received - None

Total no. of serum sample tested - None

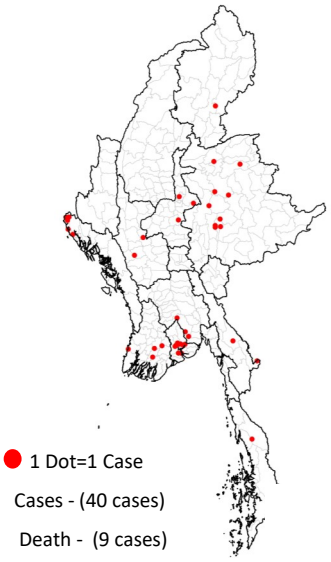
Data source: routine case based surveillance and outbreaks

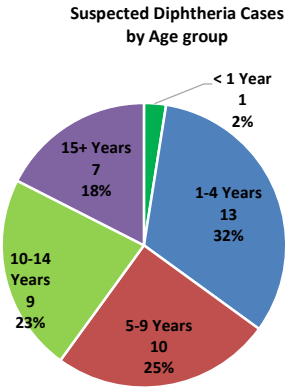
* Data as of week no.27 , 30 June 2019

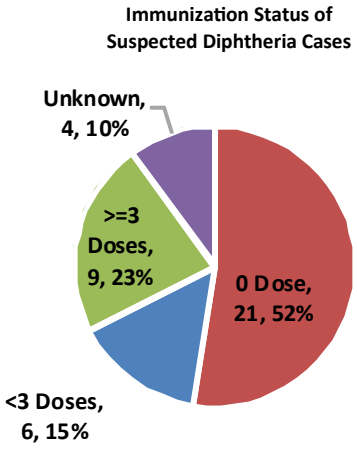
Diphtheria, 2019*

Reported Suspected Diphtheria Cases and Deaths in State and Region

State/Region	Total no. of cases	Total no. of death
Ayeyarwady	4	2
Bago	3	2
Chin	0	0
Kachin	1	0
Kayah	0	0
Kayin	2	2
Magway	2	1
Mandalay	3	1
Mon	0	0
Nay Pyi Taw	0	0
Rakhine	5	0
Sagaing	0	0
Shan East	0	0
Shan North	4	0
Shan South	5	1
Tanintharyi	1	0
Yangon	10	0
Grand Total	40	9







Pertussis (Whooping Cough),2019*

Reported Pertussis Cases and Deaths in State and Region

State/Region	Township	Cases	Deaths
Shan East	Mongping	1	0
Magway	Magway	1	0

Age group	0 Dose	<3 Doses	>=3 Doses	Total
0-11 Months	1	0	0	1
5-9 Years	1	0	0	1
Grand Total	**2**	**0**	**0**	**2**

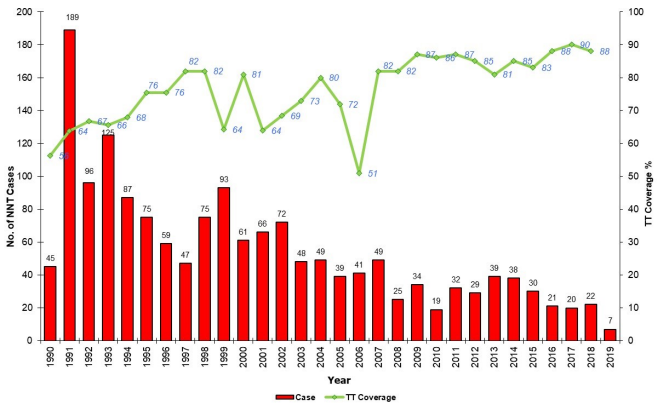
Neonatal Tetanus, 2019*

Reported NNT Cases and Deaths in State and Region

State/Region	Township	Cases	Deaths
Kachin	Tsawlaw	1	0
	Waingmaw	1	1
Kayin	Kawkareik	1	1
Rakhine	Sittwe	1	0
Shan (North)	Hopang	1	1
Shan (South)	Loilen	1	1
	Nansang	1	1
Total Reported		**7**	**5**

Place of birth among reported NNT cases		Reported NNT cases are delivered by		Vaccination stauts of mother during pregnancy	
Hospital		Doctor		0 Dose	6
Health Center		BHS			
Private Hospital		Trained TBA		1 Dose	1
Home	7	TBA	2		
Other		Other	2	>=2 Doses	
		Not Attended	2		
Unknown		Unknown	1		
Total	**7**	**Total**	**7**	**Total**	**7**

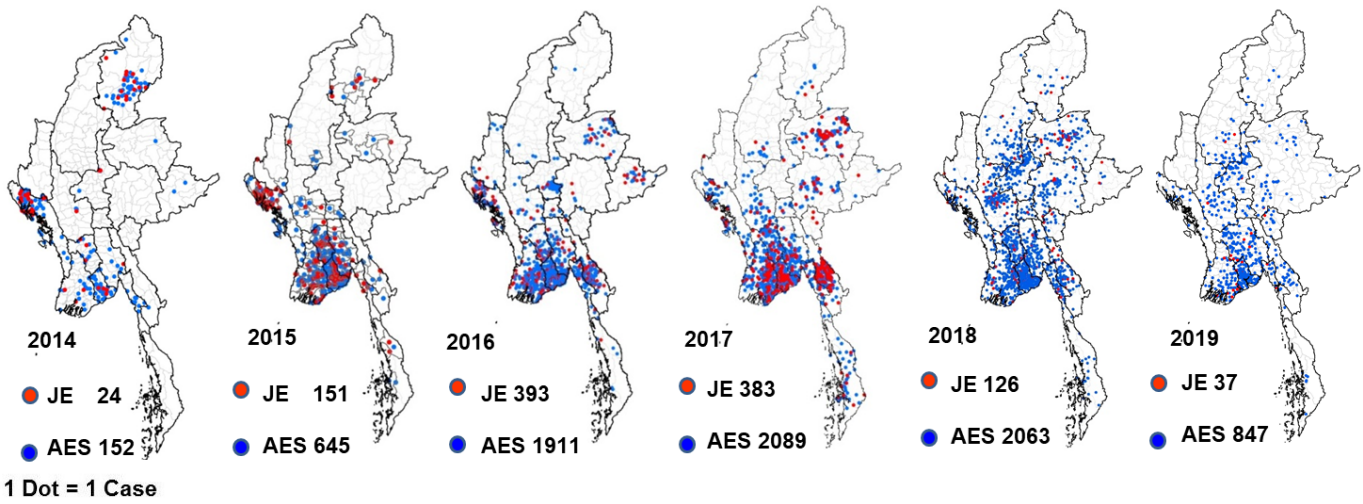
TT2 Coverage and Neonatal Tetanus Cases (1990-2019*)



* Data as of week no. 27, 30 June 2019

Acute Encephalitis Syndrome

Reported AES cases & Japanese Encephalitis Positive Cases (2014-2019*), Myanmar

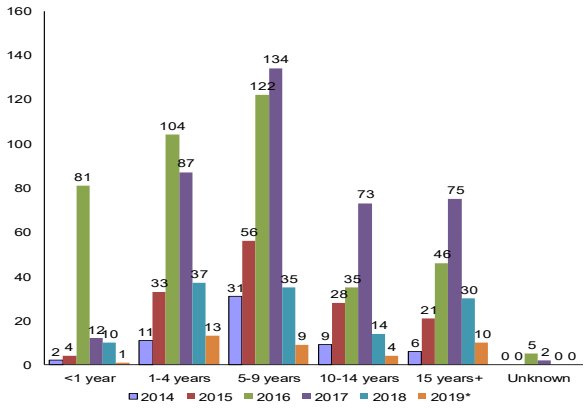


1 Dot = 1 Case

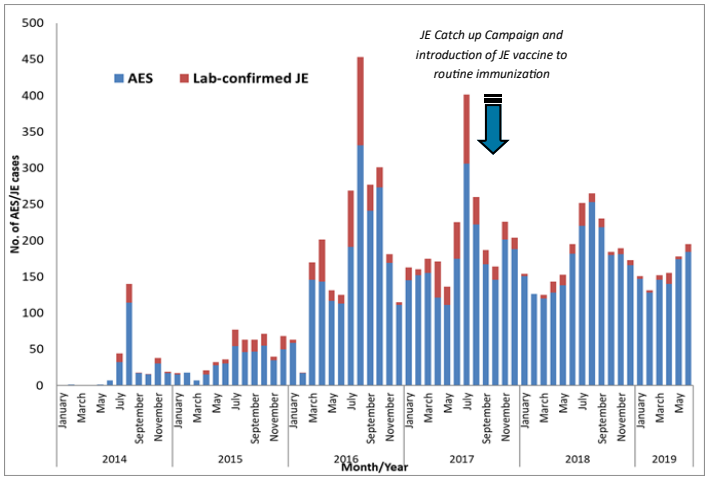
Region/State-wise Occurrences of JE 2014-2019*

Region/State	2014		2015		2016		2017		2018		2019	
	AES	JE Positive	AES	JE Positive	AES	JE Positive	AES	JE Positive	AES	JE Positive	AES	JE Positive
Ayeyawady	12	4	90	21	231	45	259	51	185	15	69	8
Bogo	16	7	86	28	213	53	256	49	200	11	93	5
Chin	0	0	1	1	11	3	2	1	4	1	0	0
Kachin	10	1	12	5	8	1	7	2	14	3	6	0
Kayah	0	0	0	0	1	1	15	6	15	3	12	1
Kayin	0	0	6	1	136	37	165	65	63	10	30	0
Magway	1	1	10	4	30	4	58	6	122	17	50	1
Mandalay	5	3	2	0	122	19	6	1	155	2	65	2
Mon	5	0	29	5	60	8	61	13	50	4	16	2
Naypyitaw	0	0	1	0	5	2	12	1	15	1	5	0
Rakhine	47	2	126	46	120	26	88	17	60	4	20	0
Sagaing	0	0	6	1	52	9	18	2	83	5	33	2
Shan East	0	0	1	0	29	8	5	2	6	2	3	0
Shan North	0	0	4	0	90	16	88	42	83	19	16	0
Shan South	0	0	0	0	14	2	60	16	82	5	23	1
Tanintharyi	1	0	6	3	18	4	45	11	19	0	6	0
Yangon	55	6	265	36	771	155	889	92	881	24	381	15
Hospital							55	6	26	0	19	0
Total	**152**	**24**	**645**	**151**	**1911**	**393**	**2089**	**383**	**2063**	**126**	**847**	**37**

JE incidence: lab confirmed cases by age groups 2014-2019*



Lab confirmed and reported AES cases by months 2014-2019*



* Data as of week no. 27, 30 June 2019

Vaccine Preventable Diseases (VPD)

	2014	2015	2016	2017	2018	2019*
Diphtheria	29	87	136	68	187	40
Measles	122	6	266	1729	1985	3540
Pertussis	5	5	2	4	28	2
Polio	0	0	0	0	0	2 (cVDPVP1)
Rubella	30	34	10	6	13	12
Neonatal tetanus	32	30	21	20	22	7
Japanese encephalitis	24	151	393	383	126	37

* Data as of week no. 27, 30 June 2019

Vaccine Preventable Diseases (VPD) by State and Region, 2019*

State/Region	Diphtheria	Pertussis	Neonatal tetanus	Japanese encephalitis
Ayeyarwady	4	0	0	8
Bago	3	0	0	5
Chin	0	0	0	0
Kachin	1	0	2	0
Kayah	0	0	0	1
Kayin	2	0	1	0
Magway	2	1	0	1
Mandalay	3	0	0	2
Mon	0	0	0	2
Nay Pyi Taw	0	0	0	0
Rakhine	5	0	1	0
Sagaing	0	0	0	2
Shan East	0	1	0	0
Shan North	4	0	1	0
Shan South	5	0	2	1
Tanintharyi	1	0	0	0
Yangon	10	0	0	15
National	**40**	**2**	**7**	**37**

* Data as of week no. 27, 30 June 2019

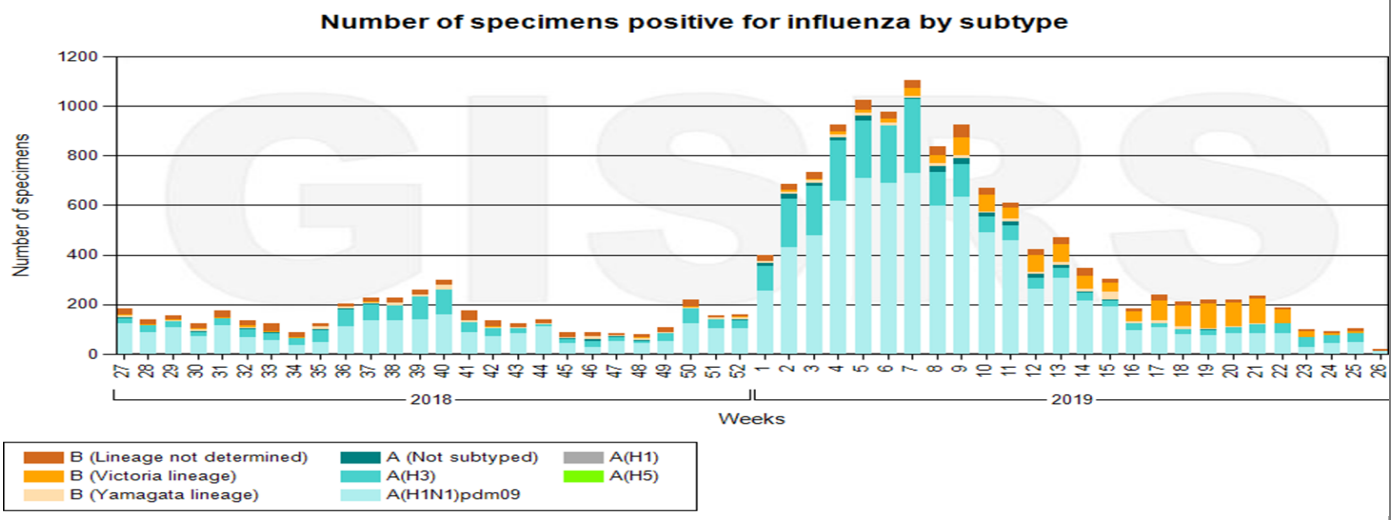
DISEASE OUTBREAK 2019*

No.	Disease	Jan-May			June		
		Events	Cases	Deaths	Events	Cases	Deaths
1.	Anthrax	3	11	0	1	4	0
2.	Chicken pox	11	311	1	0	0	0
3.	Diarrhoea	9	181	5	1	42	0
4.	Diphtheria	33	38	8	2	2	1
5.	Food Poisoning	24	960	0	11	117	7
6.	Measles	79	1080	5	8	284	2
7.	Meningitis	6	6	2	1	1	0
8.	Mumps	0	0	0	0	0	0

* Data as of week no. 27, 30 June 2019

Myanmar Influenza Surveillance Report

Number of specimens positive for influenza by Southern Hemisphere subtype

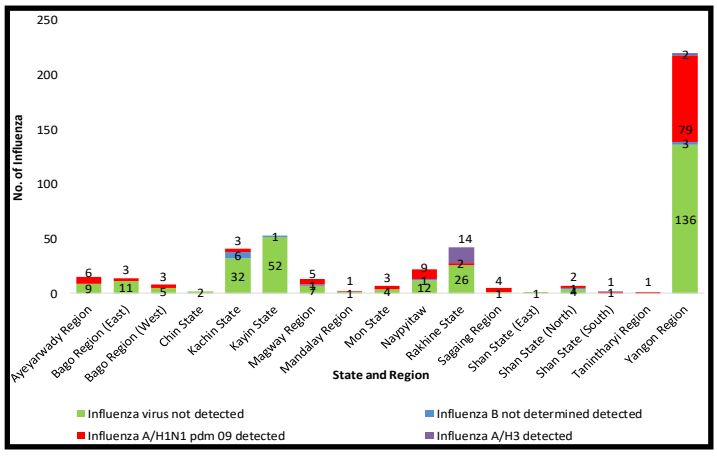


Myanmar Influenza Surveillance in July-2019* (Hospital Distribution)

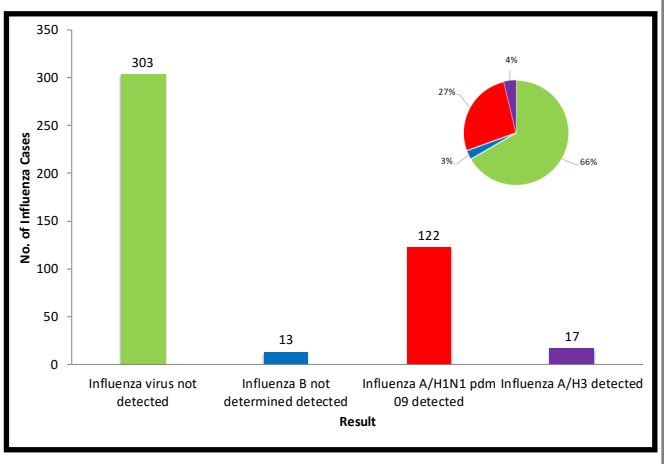
Name of Hospital	A/H1N1 pdm 09 detected	B not determined detected	Influenza A/H3 detected	virus not detected	Total
Sentinal Hospital					
1000 Bedded General Hospital, Nay Pyi Taw	3	0	0	13	16
Thingangyun Sanpya General Hospital (T.G.H)	21	1	0	46	68
Mandalay General Hospital	1	0	0	0	1
Muse Township Hospital	1	1	0	3	5
Myawaddy District Hospital	0	0	0	46	46
Myit Kyi Na General Hospital	3	6		32	41
Sittwe General Hospital	1	0	13	25	39
Yangon General Hospital (Y.G.H)	30	0	0	56	86
Other Hospital/Source	62	5	4	82	153
Total	**122**	**13**	**17**	**303**	**455**

ILI/SARI sentinel surveillance sites

Case Distribution by State/ Region, 2019*



Specimens Positives for Influenza by Subtypes 2019* (n=455)



* Data as of week no. 27, 30 June 2019

National Health Laboratory detected P1 discordant from stool sample of AFP from Hpa-pun Townhsip, Mg Saw Ta Da Dar, 2 years old boys in Sin Swel village on 14th June 2019.

On 22nd June 2019, before the confirmation from the regional reference laboratory in Mumbai, Central Level Outbreak Response Committee chaired by Union Minister on Health and Sports had a meeting for guidance on response to the event by national, state and regional level and township level and for coordination with the Kayin State government, local organizations and international partners.

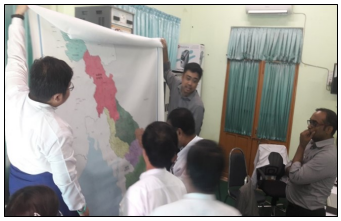
Joint assessment team led by DDG - Disease Control including the officials from EPI, CEU, NHL, Neuro Pediatric, WHO, Unicef was deployed on 24 June 2019, immediately after confirmation of the VDPV.

On 25th June 2019, the Ministry of Health and Sports, Myanmar **notified WHO** of one laboratory confirmed case of Vaccine-derived Poliovirus Type 1 (VDPV1) in Hpa-Pun township, Kayin State, Myanmar.

Briefing by H.E Union Minister for Health & Sports Dr. Myint Htwe (29 June 2019)

Coordination Meeting with implementing partners at Kayin State Public Health Department, (25-6-2019)

Meeting with local authorities and residents at Ka-tai-ti station hospital (26-6-2019)



Outbreak Investigation of ILI Cluster in TaungNiLay Monastery, Oattara Thiri Township, Nay Pyi Taw (30-6-2019)

Training on Communicable Diseases Surveillance and Response in Tanintharyi Region (28-6-2019) to (20-6-2019)

* Data as of week no. 27, 30 June 2019

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

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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