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

Monthly Epidemiology **BULLETIN**

ကျန်းမာရေးနှင့်အားကစားဝန်ကြီးဌာန

June, 2018

AFP surveillance Indicators by State and Region, 2018*

State/Region	<15 Population	Minimum Expected Non Polio AFP Cases (2/100,000 pop)	Total no. of reported AFP Case	Non-Polio AFP Case	Annualized AFP Rate	Annualized Non-Polio AFP Rates	% of Adequate Stool
Ayeyarwady	1,653,018	33	11	5	1.33	0.60	100
Bago	1,282,089	27	24	17	3.74	2.65	100
Chin	187,080	2	0	0	0.00	0.00	0
Kachin	442,109	8	2	0	0.90	0.00	100
Kayah	94,003	2	2	1	4.26	2.13	50
Kayin	521,924	11	4	2	1.53	0.77	100
Magway	985,189	19	9	7	1.83	1.42	89
Mandalay	1,442,973	28	19	15	2.63	2.08	100
Naypyitaw	288,213	5	1	1	0.69	0.69	100
Mon	591,424	11	5	3	1.69	1.01	100
Rakhine	833,457	17	14	7	3.36	1.68	93
Sagaing	1,413,760	33	9	6	1.27	0.85	100
Shan East	227,670	4	1	0	0.88	0.00	0
Shan North	722,544	12	7	4	1.94	1.11	100
Shan South	735,534	12	4	2	1.09	0.54	100
Taninthayi	454,875	11	3	1	1.32	0.44	67
Yangon	1,550,049	29	9	3	1.16	0.39	89
Total	**13,425,911**	**264**	**124**	**74**	**1.85**	**1.10**	**96**

Acute Flaccid Paralysis (AFP)

Total no. of expected non-polio AFP cases - 264

Annualized expected Non Polio AFP Cases (as of week.26) - 132

Reported AFP cases - 124

Discarded as non-polio AFP cases—74
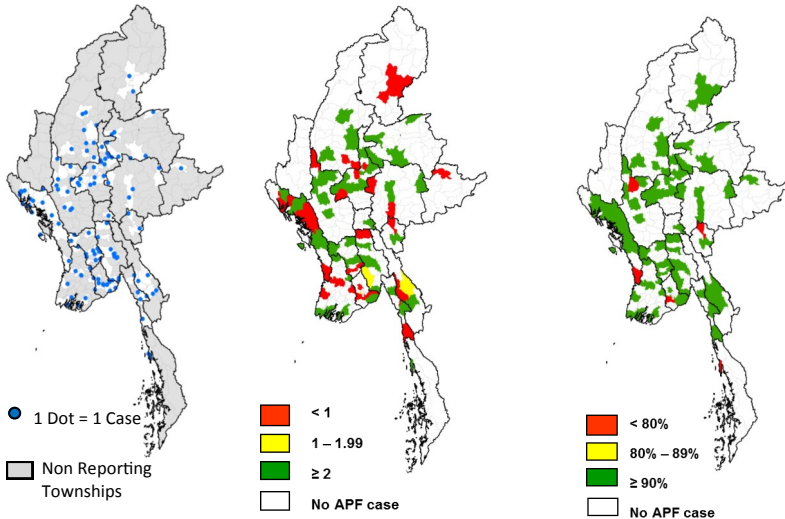
Annualized AFP rate - 1.85

Annualized Non-polio AFP rate - 1.10

Percentage of adequate stool collection - 96%
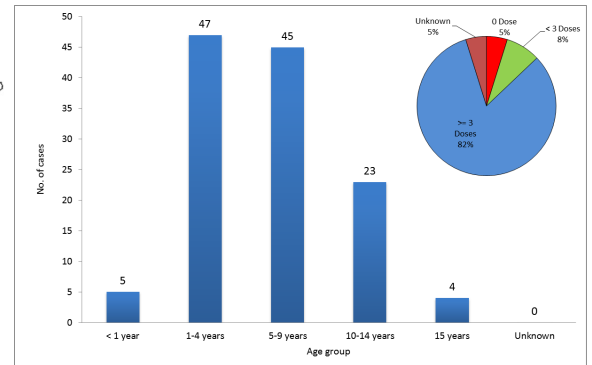
Pending for classification - 50

*Data as of 31 May 2018

(week no. 26)

Age group and vaccination status of AFP cases, 2018*

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

1 Dot = 1 Case

Non Reporting Townships

< 1
1 – 1.99
≥ 2
No APF case

< 80%
80% – 89%
≥ 90%
No APF case

Environmental Surveillance in Myanmar

Poliovirus and NPEV detected in Sewage samples in Myanmar, 2018*

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
Yangon																										
Sitwe																										
Maung Taw																										

Type 1 Sabin
Type 2 Sabin
Type 3 Sabin
Type 1 Sabin + 3 Sabin
Wild polio type 1
Wild polio type 3
NPEV
Negative for Polio and NPEV
Result pending
Sampling not scheduled
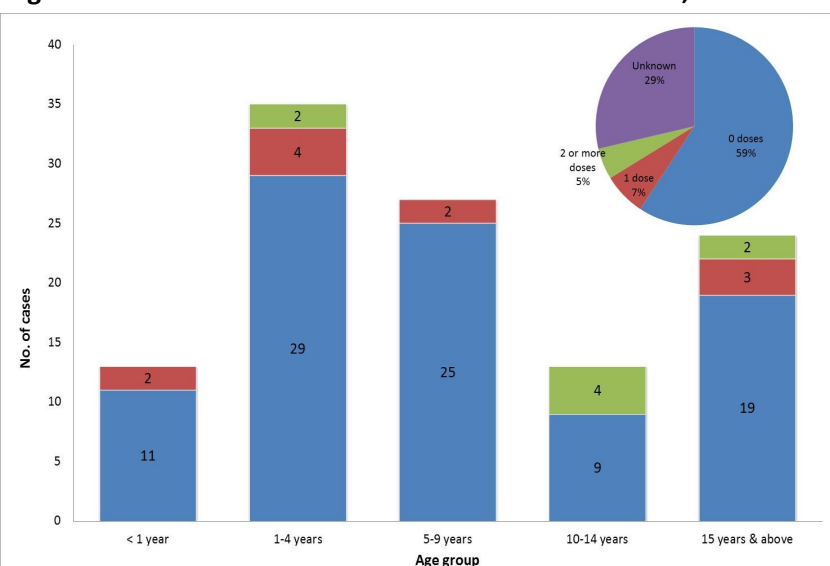
Type 1 VDPV
Type 2 VDPV
Type 3 VDPV
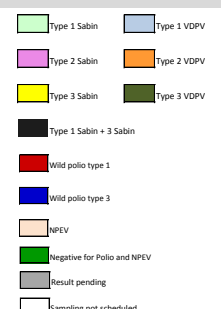
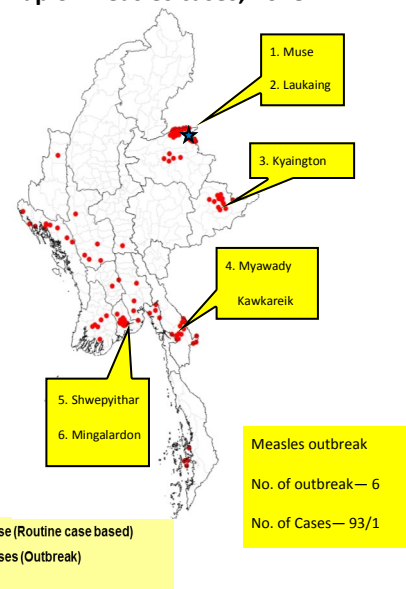* Data as of week no. 26, 30 June 2018

Fever with Rash Surveillance, 2018*

State/Region	Total Population	Expected Non-measles suspected measles Cases	Suspected cases reported	Total Serum Specimen tested in Laboratory	Confirmed Measles Lab-confirmed	Confirmed Measles Epi-confirmed	Confirmed Measles Clinically confirmed	Confirmed Rubella	Non Measles Non Rubella Cases	Pending	Annualized incidence of measles	Annualized incidence of non-measles/non-rubella suspected
Ayeyarwady	6437373	129	13	13	6	0	0	0	7	0	0.93	0.11
Bago	5177071	104	34	34	6	0	0	0	27	1	1.16	0.52
Chin	532750	11	3	3	1	0	0	0	2	0	1.88	0.38
Kachin	1625316	33	3	3	0	0	0	1	2	0	0.00	0.12
Kayah	310330	6	0		0	0	0	0	0	0	0.00	0.00
Kayin	1664092	33	28	28	11	4	0	0	9	4	9.01	0.54
Magway	4327568	87	8	8	4	0	1	0	3	0	1.16	0.07
Mandalay	6206034	124	1	1	0	0	0	0	1	0	0.00	0.02
Mon	2321587	46	5	5	2	0	1	0	2	0	1.29	0.13
Nay Pyi Taw	1111897	22	3	2	0	0	1	0	2	0	0.90	0.18
Rakhine	2846882	57	18	18	10	0	0	0	8	0	3.51	0.28
Sagaing	5646315	113	1		0	0	0	0	0	1	0.00	0.00
Shan East	845364	17	15	8	6	9	0	0	0	0	17.74	0.00
Shan North	2507456	50	41	19	13	28	0	0	0	0	16.35	0.00
Shan South	2413792	48	4	4	0	0	0	0	2	2	0.00	0.08
Tanintharyi	1528308	31	5	5	5	0	0	0	0	0	3.27	0.00
Yangon	6848946	137	106	85	30	18	1	2	55	0	7.15	0.83
National	**52351081**	**1047**	**288**	**236**	**94**	**59**	**4**	**3**	**120**	**8**	**3.00**	**0.23**

Age and Vaccination Status of confirmed Measles cases, 2018*

Spot map of measles cases, 2018*

1. Muse
2. Laukaing
3. Kyaington
4. Myawady
   Kawkareik
5. Shwepyithar
6. Mingalardon

Measles outbreak

No. of outbreak— 6

No. of Cases— 93/1

1 Dot = 1 case (Routine case based)
1 Dot = 5 cases (Outbreak)
Deaths

Epidemic curve for Measles Cases 2012-2018*

Nation wide Measles Rubella Campaign
SIA

5 Townships in Yangon Region
SIA
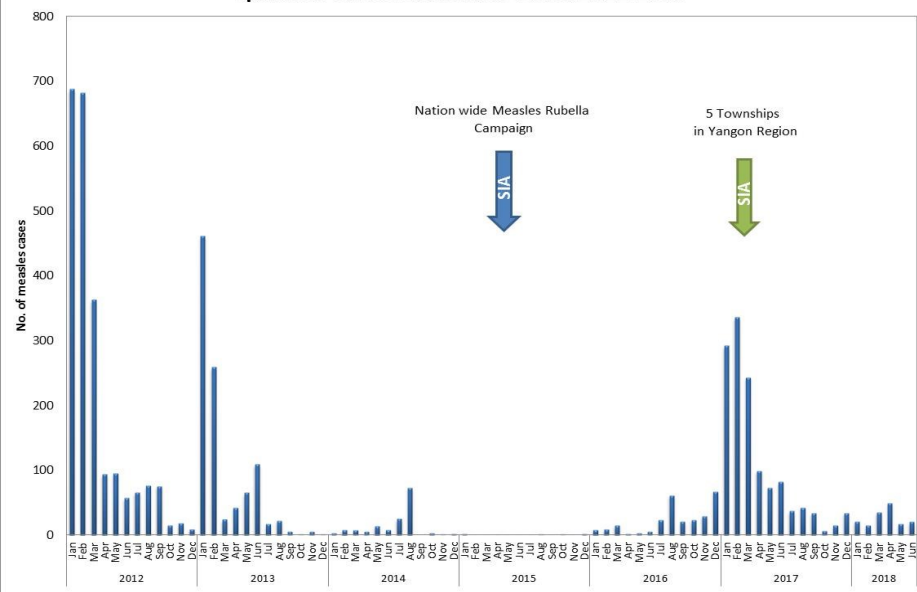
CRS Surveillance

Total no. of serum sample received - 6

Total no. of serum sample tested– 6

Laboratory Results - Negative

* Data as of week no. 26,

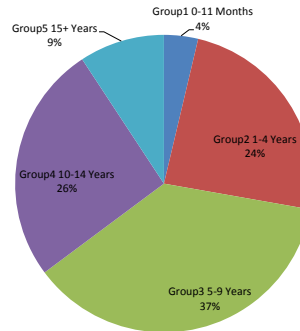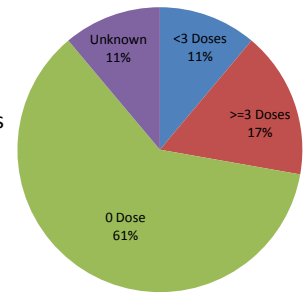30 June 2018

Diphtheria, 2018*

Reported Diphtheria cases and deaths in State and Region

State/Region	Total
Yangon	20
Shan State (South)	15
Ayeyarwady	11
Bago (East)	3
Rakhine	2
Shan State (North)	1
Mandalay	1
Kachin	1
Grand Total	**54**

● **1 Dot = 1 Case**
Case (54 cases)
Death (7 cases)

Immunization Status of Diphtheria Cases

Unknown 11%
<3 Doses 11%
>=3 Doses 17%
0 Dose 61%

Diphtheria Cases by Age group

Group1 0-11 Months 4%
Group5 15+ Years 9%
Group2 1-4 Years 24%
Group4 10-14 Years 26%
Group3 5-9 Years 37%

Pertussis (Whooping Cough), 2018*

Cases distribution of whooping cough cases in State and Region
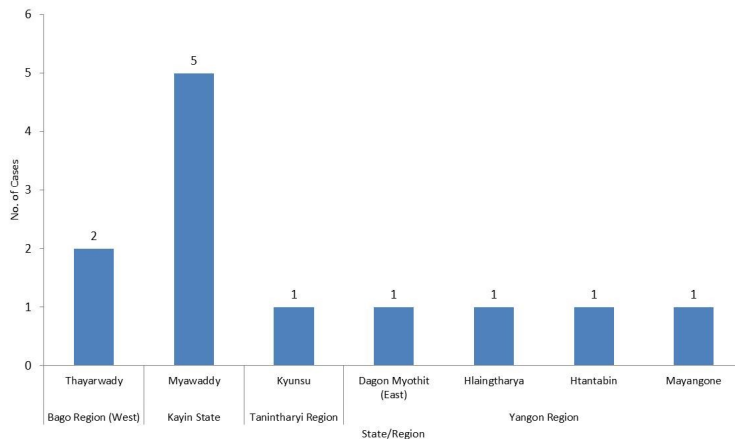
Age group	0 Dose	1 Dose	2 Doses	Total
0-11 Months	4	1	1	6
1-4 Years	1			1
5-9 Years	3			3
10-14 Years	2			2
Grand Total	**10**	**1**	**1**	**12**

# Neonatal Tetanus, 2018*

Reported NNT cases and deaths in State and Region

State/Region	Township	No. of cases	No. of deaths
Bago	Bago	1	1
Kachin	Waingmaw	1	0
Mandalay	Meiktila	1	1
Tanintharyi	Myeik	1	0
Yangon	Dagon Myothit (South)	1	1
	Hlaingtharya	2	1
Total reported		**7**	**4**

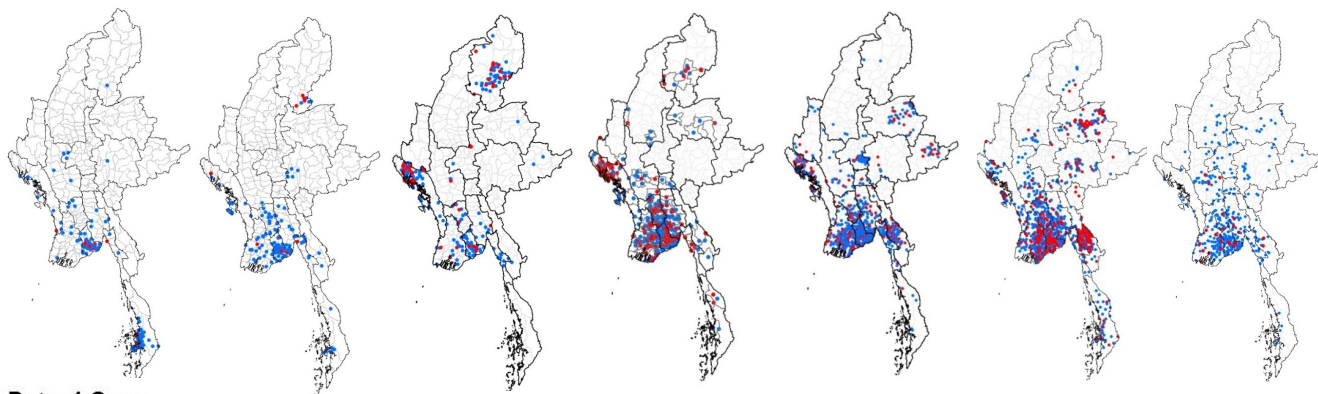| Place of birth among reported NNT cases		Reported NNT cases are delivered by		Vaccination stauts of mother during pregnancy	
Hospital	0	Doctor	0	0 Dose	5
Health Center	0	BHS	1		
Private Hospital	0	Trained TBA	0	1 Dose	1
Home	7	TBA	3		
Other	0	Other	2	>=2 Doses	1
Unknown	0	Not Attended	1		
Total	**7**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

TT2 coverage and Neonatal tetanus cases (1990-2018*)
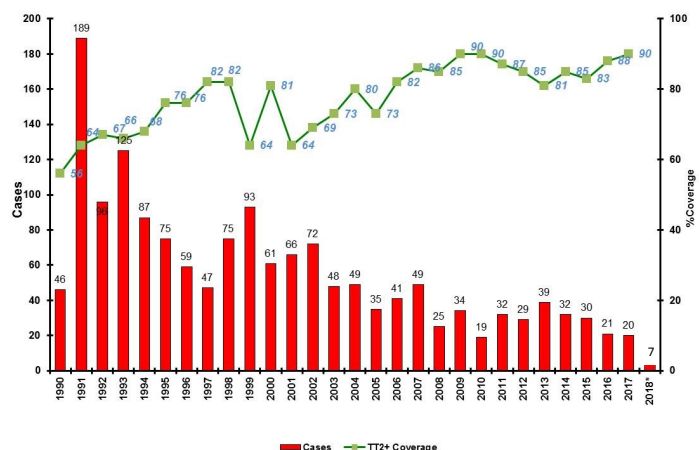
* Data as of week no. 26, 30 June 2018

Acute Encephalitis Syndrome

## Reported AES cases & JE positive cases (2012-2018*), Myanmar

1 Dot = 1 Case

2012	2013	2014	2015	2016	2017	2018
● JE 14	● JE 17	● JE 24	● JE 151	● JE 393	● JE 383	● JE 39
● AES 176	● AES 226	● AES 152	● AES 645	● AES 1911	● AES 2089	● AES 725

Region/State-wise Occurrences of JE 2012-2018*

Region/State	2012		2013		2014		2015		2016		2017		2018*	
	AES	Lab+ive JE	AES	Lab+ive JE	AES	Lab+ive JE	AES	Lab+ive JE	AES	Lab+ive JE	AES	Lab+ive JE	AES	Lab+ive JE
Ayeyawady	7	0	21	1	12	4	90	21	231	45	259	51	88	9
Bogo	9	0	23	0	16	7	86	28	213	53	256	49	88	5
Chin	0	0	0	0	0	0	1	1	11	3	2	1	2	0
Kachin	1	0	4	4	10	1	12	5	8	1	7	2	0	0
Kayah	0	0	0	0	0	0	0	0	1	1	15	6	6	1
Kayin	0	0	2	0	0	0	6	1	136	37	165	65	15	4
Magway	4	0	1	0	1	1	10	4	30	4	58	6	31	4
Mandalay	1	0	0	0	5	3	2	0	122	19	6	1	24	0
Mon	2	1	10	2	5	0	29	5	60	8	61	13	22	0
Naypyitaw	0	0	0	0	0	0	1	0	5	2	12	1	9	1
Rakhine	6	1	9	1	47	2	126	46	120	26	88	17	15	0
Sagaing	0	0	0	0	0	0	6	1	52	9	18	2	22	2
Shan East	1	0	3	0	0	0	1	0	29	8	5	2	3	0
Shan North	0	0	0	0	0	0	4	0	90	16	88	42	21	1
Shan South	0	0	0	0	0	0	0	0	14	2	60	16	37	1
Tanintharyi	61	5	8	0	1	0	6	3	18	4	45	11	6	0
Yangon	84	7	145	9	55	6	265	36	771	155	889	92	329	11
Unknown State/Region											55	6	7	0
Total	**176**	**14**	**226**	**17**	**152**	**24**	**645**	**151**	**1911**	**393**	**2089**	**383**	**725**	**39**

JE incidence: lab confirmed cases by age groups 2012-2018*
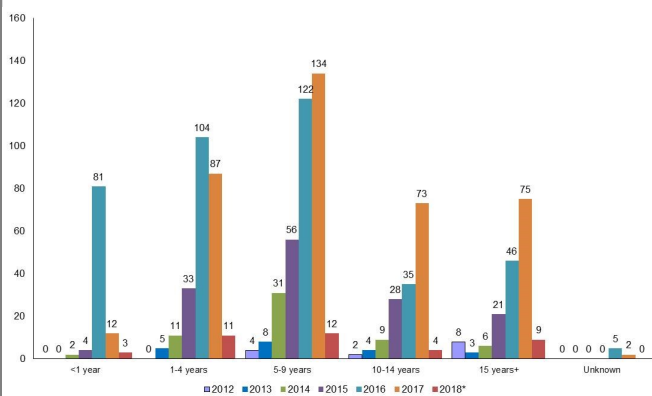
Lab confirmed and reported AES cases by months 2012-2018*

JE Catchup
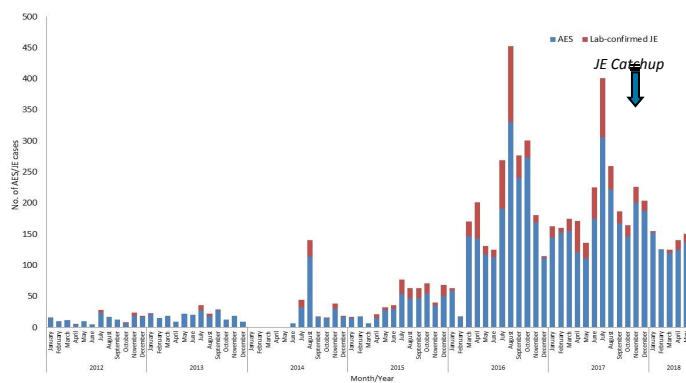
* Data as of week no. 26, 30 June 2018

Incidence of Vaccine preventable diseases (VPD)

	2013	2014	2015	2016	2017	2018*
Diphtheria	38	29	87	136	68	54
Measles	1010	122	6	266	1293	157
Pertussis	14	5	5	2	4	12
Polio*	0	0	0	0	0	0
Rubella	23	30	34	10	6	3
Neonatal tetanus	39	32	30	21	20	7
Japanese encephalitis	3	50	113	393	442	39

* Data as of week no. 26, 30 June 2018

Incidence of Vaccine preventable diseases (VPD) by State and Region, 2018*

State/Region	Diphtheria	Pertussis	Neonatal tetanus	Japanese encephalitis
Ayeyarwady	11	0	0	9
Bago	3	2	1	5
Chin	0	0	0	0
Kachin	1	0	1	0
Kayah	0	0	0	1
Kayin	0	5	0	4
Magway	0	0	0	4
Mandalay	1	0	1	0
Mon	0	0	0	0
Nay Pyi Taw	0	0	0	1
Rakhine	2	0	0	0
Sagaing	0	0	0	2
Shan East	0	0	0	0
Shan North	1	0	0	1
Shan South	15	0	0	1
Tanintharyi	0	1	1	0
Yangon	20	4	3	11
National	54	12	7	39

* Data as of week no. 26, 30 June 2018

Myanmar influenza surveillance report
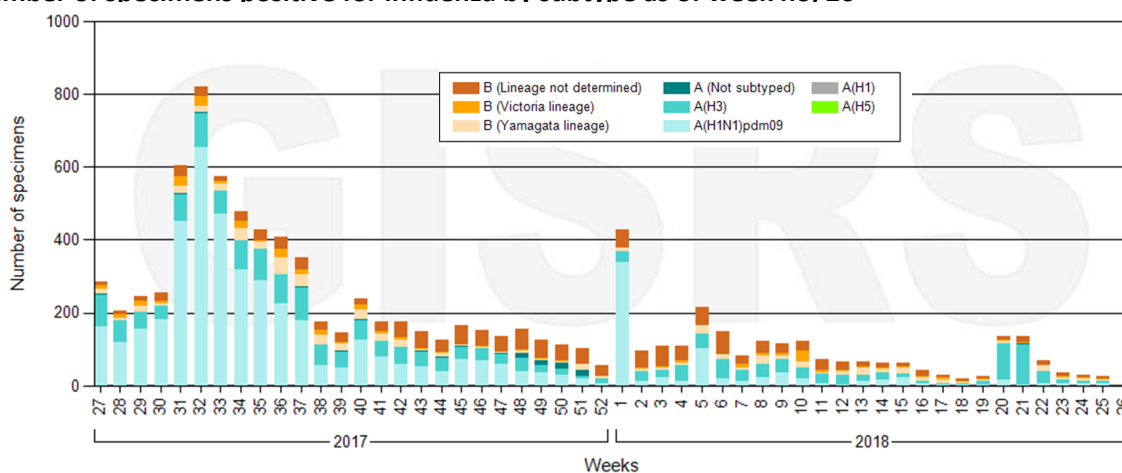
Influenza Data 2018*(Hospital Distribution)

Name of Hospitals	No. of samples receipt	No. of samples positive	Type of Influenza
Yangon general Hospital	16	2	Influenza B
NPT 1000 Bedded Hospital	1	0	
Thingangyun Sanpya General Hospital	10	1	Influenza B
Mandalay General Hospital	1	0	
Myitkyina General Hospital	38	0	
Sittwe General Hospital	0		
Myawaddy District Hospital	14	0	
Muse Township Hospital	7	1	Influenza B
North Okkalapa General and Teaching Hospital	10	0	
DoPH, Taunggyi	5	3	Influenza A (H3N2)

ILI/SARI sentinel surveillance sites

- ◆ Naypyidaw 1000 bedded hospital
- ◆ Yangon general hospital
- ◆ Yangon Thingyangyun hospital
- ◆ Mandalay general hospital
- ◆ Myitkyina general hospital
- ◆ Sittwe general hospital
- ◆ Myawaddy township hospital
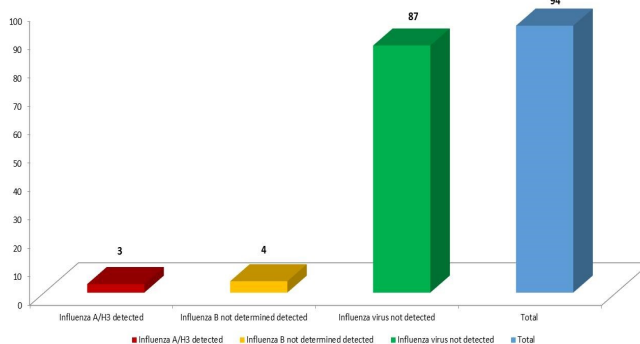- ◆ Muse township hospital

Number of specimens positive for influenza by subtype as of week no. 26

**Case distribution by State/Region, 2018***
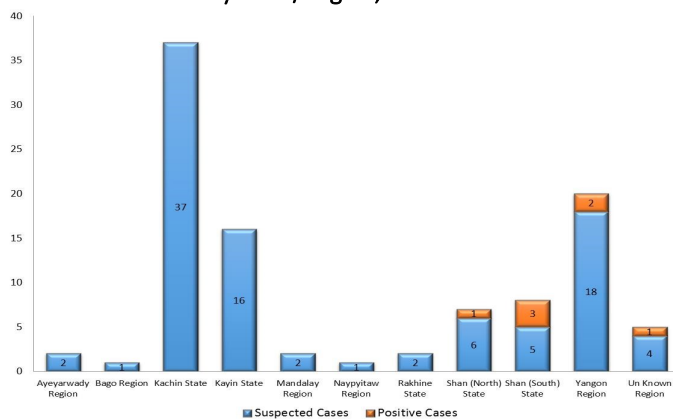
Influenza Data, 2018*

DISEASE OUTBREAK 2018*

No.	Disease	Frequency	Cases	Death
1.	Measles	58	288	1
2.	Diphtheria	32	54	7
3.	Food Poisoning	32	1103	0
4.	Diarrhoea	13	567	11
5.	Meningitis	8	8	4
6.	Chicken pox	4	22	0
7.	Anthrax	3	19	0

* Data as of week no. 26, 30 June 2018

Human Rabies Prophylaxis

Central Epidemiology Unit is the focal point for the collection of dog bite data and rabies surveillance data from all State and Region Health Departments and Hospitals and distribution of Anti-rabies vaccines and Rabies Immunoglobulin.
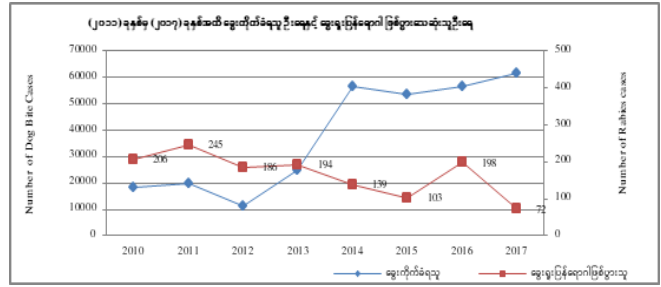

WHO guidelines for risk assessment of rabies exposure

| Category	Severity and Site of the Wound	Action
Category I No Risk	⇒ Touching or feeding of animals ⇒ Lick on intact skin	Reassurance only No vaccine needed
Category II	⇒ Nibbling of uncovered skin ⇒ Minor scratches or abrasion without bleeding	Wound management Start Vaccination Day 0*
Category III High Risk	Single or multiple wounds on head and neck ⇒ Single or multiple transdermal bites/ scratches/ laceration with bleeding ⇒ Scratches with bleeding ⇒ Licks on broken skin ⇒ Contamination of mucous membrane of eyes, mouth, nose or wounds with saliva or discharges from rabid animals	Wound management Infiltrate Rabies Immuno-globulin (RIG) into wound Start Vaccination at same time: Day 0*
Day 0* denotes day of first vaccination, not necessarily day of bite.		

POST- EXPOSURE PROPHYLAXIS (PEP) OF HUMAN RABIES

Zagreb Regimen (2-1-1) at (Day 0-7-21)
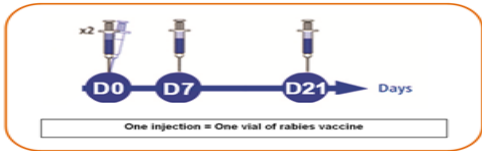
Intradermal Regimen- Thai Red Cross Schedule (2-2-2-0-
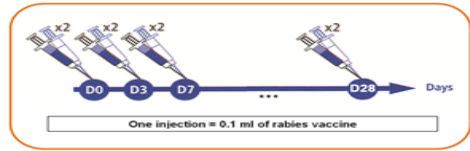
HRIG calculated as per body weight

Weight in Kg	IU	ml	No. of vials of HRIG
15	300	2	1
30	600	4	2
45	900	6	3
60	1200	8	4 (maximum)
A 2 ml vial of HRIG contains 300 IU/ml. Dose is 20 IU/kg. (maximum dose is 1200 IU or 4 vials)			

ERIG calculated as per body weight

Weight in Kg	IU	ml	No. of vials of ERIG
25	1000	5	1
50	2000	10	2
75	3000	15	3
100	4000	20	4 (maximum)
A 5 ml vial of ERIG contains 1000 IU. Dose is 40 IU/kg. (Maximum dose is 4000 IU or 4 vials)			

PRE - EXPOSURE PROPHYLAXIS (PrEP) OF HUMAN RABIES

Day	Route of Administration	
	Intramuscular	**Intradermal**
Day 0	1 vial	0.1 ml
Day 7	1 vial	0.1 ml
Day 21 or Day 28	1 vial	0.1 ml

Wound Management of Animal bite patient

Early wound washing can reduce chances of developing rabies at least by 50% as it reduces viral load.

- Thorough but gentle washing with soap or detergent and flushing the wound with running water for a minimum of 15 minutes. **Rabies virus is a fragile virus and any soap will denature the virus protein and destroy the virus.** If soap and detergent are not immediately available, wash with clean running water for at least 15 min-utes.
- If the wound is deep or in absence of running water, flush with a saline filled sy-ringe to remove dirt and saliva. After thorough washing and drying of the wound, any one of the available antiseptics should be applied.

Global Rabies Elimination by 2030

Global Activities

The United Against Rabies Collaboration

World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO), World Organization for Animal Health (OIE), the Global Alliance for Rabies Control (GARC) came together in 2015 to adopt a common strategy to achieve 'Zero human Rabies deaths by 2030' and formed The United Against Rabies Collaboration

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-ve-sicular) 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.

CRS Surveillance

Congenital Rubella Syndrome (CRS) 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)