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Epidemiology Unit
Ministry of Health



1. POLIOMYELITIS

Eighteen (18) Acute Flaccid cases were notified to the Epidemiology Unit during the 3rd quarter 2016. This is same as the AFP cases of 17 during the 3rd quarter of 2015. Reported number of AFP cases for the quarter is below the expected number of AFP cases per quarter of the annual surveillance target of 2:100,000 under 15 - year age population. The non-polio AFP rate for the first quarter of 2016 was 1.3 :100,000 under 15 year age population.

Notification of AFP Cases from Hospitals

All hospitals where Consultant Paediatricians are available are considered as sentinel sites for AFP surveillance. A total of 71 sentinel sites are currently functioning and last updated in 2015. All sentinel sites are expected to report immediately on AFP case admissions, to the Epidemiology Unit and to the Regional Epidemiologist of the respective area of patient's residence .

Lady Ridgeway Hospital (16%) and TH Karapitiya (16%) reported highest number of cases for the quarter. Most of these government hospitals are tertiary care centers receiving referrals from other hospitals and reported majority of AFP cases. All the hospitals reported AFP cases during January to March are given in table 01.

Distribution of AFP Cases according to Provinces, Districts & MOH Areas

Gampaha, Galle, Matale, Kurunegala and Anuradapura districts reported 2 AFP cases each for the quarter. The complete list of distribution of AFP cases according to the province, district and MOH area are given below.

Seasonal Distribution of AFP Cases

Majority of AFP cases were reported during August (44%). There is no observable variation of case presentation by month compared to the compatible quarter in the previous year.

Table 01

Notification of AFP cases by sentinel hospitals
3rd Quarter 2016

Hospital	No: of cases reported
Lady Ridgeway Hospital	3
G.H.Badulla	1
T.H.Karapitiya	3
T.H.Peradeniya	1
T.H.Anuradhapura	2
G.H.Rathnapuraa	1
T.H.Kurunegala	1
G.H.Nuwara Eliya	1
SMSCH	2
G.H.Polonaruwa	1
G.H.Mannar	1
G.H.Matale	1
Total	18

Table 02 : Geographical distribution of AFP cases

Province	District	MOH Area	Number of AFP cases
Western	Gampaha	Biyagama	1
		Attanagalla	1
Southern	Galle	Akmeemana	1
		Imaduwa	1
		Matara	1
		Hambantota	1
Central	Kandy	Pujapitiya	1
		Matale	2
		Nuwara Eliya	1
Sabaragamuwa	Kegalle	Warakapola	1
		Rathnapura	1
North Central	Kurunegala	Mawathagama	1
		Galgamuwa	1
		Anuradhapura	1
Uva	Badulla	Palagala	1
		Kandaketiya	1
Northern	Mannar	Nananthan	1
Total			18

Age and Sex Distribution of AFP cases

Majority of AFP cases (55.5%) were males during the 3rd quarter 2016. During the 3rd quarter 2015 the trend was different with majority being females.

Majority (66.6%) of cases were between 1-9 years during the 3rd quarter this year and the trend was higher compared to the compatible quarter in the previous year.

The table below shows the age distribution in the 3rd quarter 2016.

Table 03. Distribution of AFP cases by Age 3rd Quarter 2016.

Age Group	Sex		Total
	Male	Female	
<1 year old	0	2	2
1-4 year old	2	4	6
5-9 year old	4	2	6
10-15 year old	4	0	4
Total	10	8	18

Final diagnoses of AFP cases

Majority (88.2%) of the reported AFP cases was Guillain Barre Syndrome (GBS) and diagnoses of all 18 cases of AFP are given in table 4.

Table 04: Final diagnoses of AFP patients reported during 3rd quarter 2016.

Final Diagnoses	Frequency
GBS	13
Transversmylitis	1
Paraspinal Tumor	1
Neuroblastoma	1
Transient Paralysis	1
Encephalitis	1
Total	18

Laboratory exclusion of poliomyelitis in AFP Cases

Two stool samples collected within 14 days of paralysis are required at the virology laboratory (Medical Research Institute, WHO regional reference laboratory) for exclusion of polio virus. According to WHO criteria these samples should be of good condition as well as timely. Being of correct quantity (8 - 10g), being sent in a leak proof container with no evidence of spillage or leakage and presence of ice in the container on receipt are the criteria to be completed to make the samples of good condition.

Out of all AFP cases 16 (88.8%) had both stool samples collected timely and sent to MRI for polio virology.

2. MEASLES

Five hundred and thirty nine (51) suspected measles patients were reported during the third quarter 2016. This number is lower than the number reported during the first quarter which was 74.

Measles outbreak situation was started during the 1st quarter 2013 and continued after reduction of the peak with supplementary immunization activity conducted for 6-11 month old infants as an outbreak control measure since major proportion of affected were belonged to 6-11 months. But transmission of measles in the country was continuing with varying intensity with overall trend of gradual reduction was seen to date. These clinical cases were field investigated by the respective Medical Officers of the patients residential areas.

Western Province reported the highest number of measles cases (25) .

Measles vaccination was introduced in 1984 in Sri Lanka at the age of 9 months and the 2nd dose of measles introduced as MR vaccine at the age of 3 years in 2001. With marked reduction of measles transmission in the country, MMR vaccine was introduced with advancing the 1st dose to the 1 year of age and 2nd dose at the age of 3 years in 2011.

Table 5: Measles case reporting according to the districts— 3rd quarter 2016

District	cases	District	cases
Colombo	16	Mannar	0
Gampaha	6	Batticaloa	0
Kalutara	3	Kalmunai	0
Kandy	2	Ampara	3
Matale	1	Trincomalee	0
Nuwara Eliya	1	Kurunegala	3
Galle	1	Puttalam	1
Hambantota	0	Anuradhapura	1
Matara	1	Polonnaruwa	1
Jaffna	2	Badulla	2
Vavuniya	0	Monaragala	0
Ratnapura	4	Kegalle	2

As with the outbreak of measles from 2013, a higher proportion of cases detected among 6-11 months aged infants. In 2014, this age category was investigated for measles serum antibody levels and detected lack of maternal antibodies for protection. This evidence leads to the decision of bringing down the age at 1st measles vaccination to 9 months of age from April 2015. Of the total affected 17%(13) were more than 35 years and 24%(18) were less than 1 year.

Of the 51 reported cases 45 were lab tested (88.2%) and out of that 5 were positive for measles.

3. LEPTOSPIROSIS

During the 3rd Quarter 2016, 819 cases and 9 deaths (CFR 1.10 %) due to Leptospirosis were notified to the Epidemiology Unit compared to 1094 cases and 13 deaths in the previous quarter and 655 cases and 8 deaths during corresponding quarter of 2015.

Age and sex distribution of patients, revealed by the special surveillance data is given in table 06.

Table 06: SELECTED CHARACTERISTICS OF LEPTOSPIROSIS PATIENTS(%)- 3rd QUARTER 2016.

Age Group	Sex	
	Male	Female
0 - 9 years	1.33	0.00
10 - 19 years	13.94	8.79
20 - 29years	13.05	4.40
30 - 39years	22.57	13.19
40 - 49years	17.92	18.68
50 - 59 years	18.36	24.18
>60years	12.83	30.77
Total	100.00	100.00

4. HUMAN RABIES

Seven cases of Human Rabies were notified to the Epidemiology Unit in the 3rd quarter 2016 compared to 01 case in the previous quarter and 5 cases in the corresponding quarter of year 2015.

All notified Human Rabies cases have been confirmed.

Animal Rabies

During this quarter, 111 dogs were reported positive for rabies, compared to 108 in the previous quarter and 118 positive in the same period in the last year.

Rabies Control Activities

Dog vaccination - A total of 452044 dogs were immunized during the Quarter under review when compared to 342318 in the previous quarter and 403986 in corresponding Quarter of the last year.

Animal Birth control

Chemical- A total of 2356 female dogs were injected with birth control injections (Progesterone) during the quarter under review. **Surgical.** 45461 female dogs were subjected to sterilization by surgical method during the quarter under review.

5. VIRAL HEPATITIS

In the 3rd Quarter 2016, a total of 230 cases of Viral Hepatitis were reported to the Epidemiology Unit. This was in comparison to the 166 cases in the previous quarter and 437 cases in the corresponding quarter of 2014. Rathnapura (56 cases) reported the highest number of cases followed by Hambantota District (54 cases).

6. ENTERIC FEVER

In the 3rd Quarter 2016, a total of 163 cases of Enteric fever were reported to the Epidemiology Unit, compared to 104 cases in the previous quarter and 147 cases in the corresponding quarter of 2015. The district of Vavuniya (31 cases) reported the highest number of cases, followed by Nuwara Eliya (18 cases).

7. DYSENTERY

In the 3rd Quarter 2016, a total of 925 cases of Dysentery were reported to the Epidemiology Unit, in comparison to 668 cases in the previous quarter and 839 cases in the corresponding quarter of 2015. Kurunegala (99 cases) and Ratnapura (92 cases) reported the highest number of cases.

8. MALARIA

There were no indigenous malaria cases reported during the 3rd quarter of 2016.

9. JAPANESE ENCEPHALITIS (JE)

During the 3rd quarter 2016, 69 cases of clinically suspected Encephalitis were reported to the Epidemiology Unit through the routine disease notification system. Out of this, 52 cases were clinically confirmed by the Public Health Inspectors during their field investigations. During the 3rd quarter of 2016, MRI has reported 5 lab confirmed JE cases. Out of these 05 confirmed JE cases, all (100%) were investigated by the MOH. Up-to 3rd quarter 2016 MRI has reported total number of 17 lab confirmed JE cases.

Among them, 05 (29%) were over 50 years of age, another 03 (18%) were between 21 -50 years, another 03 (18%) were between 11 - 20 years, another 05 (29%) were 1-10 years while 01 (06%) was less than one year.

The highest number of confirmed JE cases (06) were reported from Gampaha, district followed by (02) each from Kurunegala, Kalutara, Colombo, Kandy districts and (01) each from Puttalam Anuradhapura and Polonnaruwa districts. The majority of confirmed JE cases have not been immunized.

Table 08

SELECTED CHARACTERISTICS OF CONFIRMED CASES OF JE— up to 3rd Quarter 2016

Sex	Male	08 (47%)
	Female	09 (53%)
Age group	< 1 y	01 (06%)
	1-10 y	05 (29%)
	11- 20	03 (18%)
	21-50Y	03(18%)
	> 50 Y	05 (29%)
District	Gampaha	06 (35%)
	Kurunegala	02 (12%)
	Kalutara	02 (12%)
	Colombo	02 (12%)
	Kandy	02 (12%)
	Puttalam	01 (06%)
	Anuradhapura	01 (06%)
	Polonnaruwa	01 (06%)

Table 07

Results of Blood smear examination for malaria parasites - 3rd Quarter 2016

	3rd quarter 2015	3rd quarter 2016
No. of blood smears examined	292,095	265,229
No. of positives	0	0
No. of <i>P. vivax</i>	0	0
No. of <i>P. falciparum</i>	0	0
No. of mixed infections	0	0
No. of infant positives	0	0
Slide positivity rate (S.P.R.)	0.00	0.00
P.v. : P.f. ratio	0	0
Percentage of infant positives	0%	0

Table 09

DISTRIBUTION OF NUMBER OF BLOOD SMEARS EXAMINED BY DISTRICT RMO- 3RD QUARTER 2016

RMO	July	August	Sept.	Total
Colombo	7,314	6,193	5,748	19,255
Gampaha	4,339	5,280	5,671	15,290
Kalutara	1,303	1,544	1,953	4,800
Kandy	4,773	4,779	4,279	13,831
Matale	2,927	2,673	2,844	8,444
Nuwara Eliya	398	223	303	924
Galle	1,537	1,539	1,466	4,542
Matara	1,831	2,156	1,472	5,459
Hambantota	2,013	2,079	1,883	5,975
Jaffna	6,008	5,519	5,761	17,288
Kilinochchi	3,026	3,437	3,920	10,383
Vavuniya	3,883	1,627	1,816	7,326
Mannar	4,241	4,761	3,854	12,856
Mullaitivu	2,106	2,125	2,362	6,593
Batticaloa	3,477	3,063	3,531	10,071
Ampara	2,015	2,487	2,962	7,464
Kalmunei	3,273	4,145	3,565	10,983
Trincomalie	2,991	3,006	2,808	8,805
Kurunegala	6,213	6,309	6,115	18,637
Maho	2,764	2,464	2,462	7,690
Puttalam	2,267	3,191	3,390	8,848
Anuradhapura	6,651	6,081	5,642	18,374
Pollonnaruwa	3,289	3,425	3,632	10,346
Badulla	3,797	4,144	3,533	11,474
Monaragala	4,483	3,844	4,270	12,597
Rathnapura	4,2214	4,407	3,489	12,117
Kegalle	3,392	3,881	3,879	11,152
TOTAL	94,532	94,382	92,610	281,524

Table 10

MORBIDITY AND MORTALITY DUE TO DF/DHF - 3RD QUARTER 2016

RDHS Division	Cases	Percentage (%)	Deaths	CFR
Colombo	5608	29.20	6	0.11
Gampaha	2838	14.78	2	0.07
Kalutara	1171	6.10	3	0.26
Kandy	2071	10.78	8	0.39
Matale	616	3.21	0	0.00
N' Eliya	187	0.97	1	0.53
Galle	1008	5.25	3	0.30
Hambantota	280	1.46	1	0.36
Matara	541	2.82	0	0.00
Jaffna	495	2.58	0	0.00
Kilinochchi	19	0.10	0	0.00
Mannar	24	0.12	0	0.00
Vavuniya	62	0.32	0	0.00
Mulativu	41	0.21	0	0.00
Batticaloa	138	0.72	0	0.00
Ampara	98	0.51	0	0.00
Trincomalee	66	0.34	0	0.00
Kurunagale	950	4.59	1	0.11
Puttalam	280	1.46	0	0.00
A'pura	297	1.55	0	0.00
Polonnaruwa	175	0.91	0	0.00
Badulla	368	1.92	0	0.00
Moneragala	175	0.91	0	0.00
Ratnapura	1152	6.00	1	0.09
Kegalle	467	2.43	0	0.00
Kalmunai	77	0.40	0	0.00
Total	19204	100.0	26	0.14

Table 11

DHF STATISTICS FROM DEPARTMENT OF VIROLOGY, MRI—3RD QUARTER 2016

Month	Clinically suspected cases of DF/DHF	Serologically Confirmed Cases of DF/DHF
July	248	104(42%)
August	175	62(35.4%)
September	98	44(44.9%)
Total	521	210(40.3%)

10. DENGUE FEVER (D.F.)/ DENGUE HAEMORRHAGIC FEVER (D.H.F.)

During the 3rd quarter of 2016; 19,204 cases of DF/DHF were reported from all districts (Table 10) while 26 deaths were reported (CFR= 0.14%) when compared to 9,985 cases of DF/DHF and deaths (CFR=0.27%) was reported during the 2nd quarter of 2016. Proportion of cases notified in July ,August, and September were 55.8%, 25.4% and 18.8% respectively.

Table 10 shows the distribution of DF/DHF cases and deaths in the 3rd quarter of 2016.

Special surveillance data of confirmed cases were received and analyzed for the 3rd quarter of 2016 . Age distribution of reported cases were 4.8% <4y ears age group,5.7% in 5-9 years of age group,8.6% in 10-14 years of age, 11.9% in 15. 19 years of age, 18.5% in 20-24 years of age, 11.9% in 25-29 years of age,8.3% in 30-34 years of age, 8.5% in 35-39 years of age,5.2% in 40-44 years of age,5.4% in 45-49 years of age,3.9% in 50. 54 years of age,3.2% in 55-59 years of age and 4.0% in >60 years of age.

According to the clinical findings majority of the reported cases (85.4%) were classified as Dengue Fever while 14.6% were classified as Dengue Haemorrhagic fever.

During the 3rd quarter of 2016, 521 blood samples were tested using IgM capture ELIZA test at the Department of Virology, Medical Research Institute (MRI) and 210 (40.3%) samples were confirmed as positive (table 11).

11. RUBELLA AND CONGENITAL RUBELLA SYNDROME (CRS)

No congenital rubella cases were reported during the 3rd quarter 2016..

12. CHOLERA

No confirmed cases of cholera were reported to the Epidemiology Unit during the 3rd Quarter 2016. Last case of cholera was reported in the country in January 2003.

13. TETANUS

Two tetanus cases were reported to the Epidemiology Unit during the 3rd quarter of 2016. Yatinuwara MOH area of Kandy district and Negambo Municipal Council area of Gampaha district were the MOH areas which reported Tetanus cases.

14. SURVEILLANCE REPORT ON AEFI

Surveillance of Adverse Events Following Immunization (AEFI) effectively continued in the 3rd Quarter of 2016, has reached 99.4 % of completeness of reports, while 54.8% reports were received in time at the Epidemiology Unit indicating that compliance for the system by the MOOH yet to be improved. Except Colombo, Nuwara Eliya, Hambantota, Kurunegala and Puttalam, all the other districts were able to send all the reports. The best timeliness was reported from the Jaffna district (94.4%) followed by Vavuniya (83.3%) and Mannar (80.0%) (Table 12).

The highest percentage of nil reports were received from both Kilinochchi and Batticaloa (50.0% each) followed by Mannar district (46.7 %), which is above two fold of the Sri Lanka average (21.6%) indicating the need for more attention for surveillance reporting from both MOH staff and hospitals. Jaffna district has no Nil returnsq followed by Hambantota (2.9%) and Colombo districts (6.0%) indicating the good surveillance system in place. The highest rate (804.5 per 100,000 immunizations) of AEFI was reported from Mullativu district, while Colombo reported the highest number of 241 AEFI cases in the third quarter 2016.

For the first quarter, the highest number of AEFI (n= 1082) was reported against Pentavalent vaccine, whereas the highest rate of AEFI (1334.7/100,000 doses administered) reported against DTP vaccine (Table 13). The rate of AEFI for Pentavalent (01st, 02nd & 03rd dose) is 475.0 per 100,000 doses administered. High Fever (1015), Allergic Reaction (460), Nodule (362) are the leading AEFI reported. Highest numbers of fever cases reported were following Pentavalent (507 cases: 222.6 per 100,000 doses administered) and DPT (407 cases: 551.5 per 100,000 doses administered) vaccines. For Allergic reactions, it was largely due to MMR (157 cases: 87.7per 100,000 doses administered), and DPT (138 cases : 187.0 per 100,000 doses administered).

Table 12

COMPLETENESS AND TIMELINESS OF MONTHLY REPORTING AND RECEIPT OF “NIL” REPORTS OF AEFI BY RDHS DIVISIONS - 3RD QUARTER 2016

DPDHS	% completeness	% Timely returns	% Nil Returns	No. of AEFI	AEFI Rate (100,000 vaccine doses)
Colombo	98.0	62.0	6.0	241	173.2
Gampaha	100.0	37.8	22.2	143	110.4
Kalutara	100.0	61.9	16.7	131	167.5
Kandy	100.0	59.7	18.1	177	195.8
Matale	100.0	53.8	20.5	68	183.5
Nuwara Eliya	97.4	47.4	15.8	99	213.7
Galle	100.0	66.7	40.0	83	120.2
Hambantota	97.2	68.6	2.9	130	272.2
Matara	100.0	52.9	17.6	109	201.4
Jaffna	100.0	94.4	0.0	153	472.0
Kilinochchi	100.0	66.7	50.0	9	115.2
Mannar	100.0	80.0	46.7	18	229.1
Vavuniya	100.0	83.3	25.0	53	456.4
Mullativu	100.0	60.0	20.0	56	804.5
Batticaloa	100.0	47.6	50.0	42	107.9
Ampara	100.0	28.6	42.9	38	194.6
Trincomalee	100.0	66.7	21.2	80	229.7
Kurunegala	98.8	51.3	18.8	183	446.5
Puttalam	94.4	23.5	29.4	59	54.1
Anuradhapura	100.0	26.3	14.0	184	309.6
Polonnaruwa	100.0	19.0	42.9	46	66.1
Badulla	100.0	70.8	8.3	96	288.9
Moneragala	100.0	72.7	9.1	93	158.0
Ratnapura	100.0	57.4	29.6	128	301.8
Kegalle	100.0	72.7	6.1	133	184.5
Kalmunai	100.0	20.5	41.0	42	79.5
Sri Lanka	99.4	54.8	21.6	2594	186.6

Table 13 : Number of Selected Adverse Events by Vaccines – 1st Quarter 2015

	BCG	OPV	PVV ¹	DPT	MMR	LJE	DT	TT	aTd	Total number of AEFI reported
Total Number of AEFI Reported	8	17	1082	985	278	59	90	15	20	2554
AEFI reporting rate/1,000,000 doses administered	10.0	4.4	475.0	1334.7	155.4	69.8	99.9	21.2	35.9	
High Fever (>39°C)	1	8	507	407	44	28	17	2	1	1015
Reporting rate/1,000,000 doses administered	1.3	2.1	222.6	551.5	24.6	33.1	18.9	2.8	1.8	
Allergic reactions	1	2	101	138	157	24	27	4	6	460
Reporting rate/1,000,000 doses administered	1.3	2.1	222.6	551.5	24.6	33.1	18.9	2.8	1.8	
Severe local reactions			30	48	11		3	1	1	94
Reporting rate/1,000,000 doses administered			13.2	65.0	6.1		3.3	1.4	1.8	
Seizure (Febrile/Afebrile)		1	21	49	2	5	1			79
Reporting rate/1,000,000 doses administered		0.3	9.2	66.4	1.1	5.9	1.1			
Nodules	1	5	219	120	7		9	1		362
Reporting rate/1,000,000 doses administered	1.3	1.3	96.1	162.6	3.9		10.0	1.4		
Injection site abscess	3		39	21	2		2			67
Reporting rate/1,000,000 doses administered	3.8		17.1	28.5	1.1		2.2			
HHE			1							1
Reporting rate/1,000,000 doses administered			0.4							

1-PentaValent Vaccine

Note: Total given only for nine vaccines listed in the table

15. TUBERCULOSIS

A total of 2270 TB patients were notified to the NPTCCD by H816A (TB Notification Form). For the 4th quarter 2016, while 2249 patients were registered at chest clinics during the same quarter according to the Quarterly Report on case finding (TB 08). Out of this 2106 TB patients (93.6%) were new TB cases, 142 (6.3%) were re-treatment cases and there was only one patient identified for previous treatment history unknown category. Out of this, 2106 were new TB patients (93.6%), 142 (6.3%) were re-treatment cases and there was only 01 patient has been identified for previous treatment history unknown category. Out of new TB cases, 1012 (48.1%) were bacteriologically confirmed TB, 436 (20.7%) were clinically diagnosed (sputum negative) TB and 658 (31.2%) were new extra-pulmonary TB cases.

Table 14: TB situation in the country—3rd quarter 2016

RDHS DIVISION	New				Retreat-ment & previous treat-ment history unknown	Total
	Bacte-riologically confirmed	Clinically diagnosed	EPTB	Total		
Colombo	254	91	158	503	40	543
Gampaha	122	64	59	245	9	254
Kalutara	84	25	52	161	5	166
Kandy	36	28	44	108	13	121
Matale	18	6	18	42	2	44
Nuwara Eliya	22	17	19	58	9	67
Galle	41	25	25	91	5	96
Matara	33	10	22	65	7	72
Hambantota	8	7	9	24	4	28
Jaffna	24	18	17	59	3	62
Vavuniya	10	2	6	18	2	20
Batticaloa	30	6	8	44	0	44
Ampara	6	9	7	22	1	23
Kalmunai	20	15	4	39	1	40
Trincomalee	13	13	6	32	5	37
Kurunegala	56	24	46	126	7	133
Puttalam	28	13	18	59	3	62
Anuradhapura	42	5	16	63	1	64
Polonnaruwa	20	6	13	39	3	42
Badulla	26	7	14	47	5	52
Monaragala	9	4	9	22	3	25
Rathnapura	46	14	47	107	4	111
Kegalle	46	23	35	104	7	111
Mannar	10	0	1	11	0	11
Mulathivu	5	3	4	12	1	13
Kilinochchi	3	1	1	5	3	8
Total	1012	436	658	2106	142	2249

PTB-Pulmonary Tuberculosis EPTB, Extra Pulmonary Tuberculosis, SP + ve - Sputum Positive, SP - ve - Sputum Negative

Data from Central TB Register

Source - National TB Register

Out of this re-treatment cases, 80(3.5%) patients were relapse, 32 (5.6%) patients were treatment after failure, 25 (1.1%) patients were loss to follow up and 05 (0.22%) patients were other previously treated. A total of 2010 TB patients were screened for HIV, out of them there were none HIV positive patients and also no TB/HIV co-infection patients. Six multi drug resistant TB patients were detected during above quarter.

16. SURVEILLANCE AT SEA PORT

Details of the vaccinations carried out by the Assistant Port Health Office during the 3rd quarter 2016, is as follows;

	Total
A. Yellow fever	1155
B. Meningococcal meningitis	482
C. Oral polio	279

17. SURVEILLANCE AT AIRPORT

Surveillance activities carried out at the International Airport, Katunayake during the 3rd Quarter 2016 is given below.

Table 15: Surveillance at airport —3rd quarter 2016

Emerging and reemerging disease (Ebola/MERS CoV/ SARS... Etc)	
Ebola	
No. Of passengers screened	-
No. Of suspected cases transferred	-
Zika	
No. Of passengers screened	-
No. Of suspected cases transferred	-
Malaria	
No. of passengers visited to Health office	233
No. of passengers drug issued	15
No. of blood films done (R.D.T.)	212
Referred to I.D.H./Other unit	-
Yellow Fever	
No. of yellow fever cards inspected	31
No. Invalid/without Yellow Fever cards	01
Referred to I.D.H./Other units	--

18. LEPROSY

QUARTERLY RETURN OF LEPROSY STATISTICS - 1ST QUARTER 2015

Table 15

1. National

	At the end of the quarter			Cumulative for end of the quarter		
	3rd quarter 2016	3rd quarter 2015	Diff (%)	2016	2015	Diff (%)
New patients detected	470	348	122(35.1)	1331	1194	137(11.5)
Children	40	53	-13(24.5)	117	119	-2 (1.7)
Grade 2 Deformities	33	36	-3(8)	103	117	-14 (12)
Multi-Bacillary	292	272	20 (7.4)	796	625	17 (27.4)
Females	196	226	-30(13.3)	523	482	41 (8.5)

2. Districts

District	New patients	G2-Deformity	Children	MB	Females
Central	13	0	1	10	4
Kandy	6	0	1	5	2
Matale	5	0	0	3	2
NuwaraEliya	2	0	0	2	0
Eastern	53	3	3	41	23
Ampara	9	0	1	7	6
Batticaloa	22	2	0	15	11
Kalmunai	18	1	1	14	5
Trincomalee	4	0	1	5	1
Northern	10	1	2	9	2
Jaffna	6	1	1	6	1
Kilinochchi	1	0	0	0	1
Mannar	1	0	1	1	0
Vavuniya	12	0	0	2	0
Mullaitivu	0	0	0	0	0
North Central	43	4	5	33	15
Anuradhapura	25	3	1	21	10
Pollonnaruwa	18	1	4	12	5
North Western	35	2	1	24	23
Kurunegala	22	2	0	19	15
Puttalam	13	0	1	5	8
Sabaragamuwa	34	2	2	25	12
Kegalle	7	0	0	6	3
Rathnapura	27	2	2	19	9
Southern	76	3	9	43	36
Galle	33	2	2	17	17
Hambanthota	28	1	4	18	14
Matara	15	0	3	8	5
Uva	22	3	1	17	6
Baddulla	10	2	0	9	2
Monaragala	12	1	1	8	4
Western	184	15	15	90	75
Colombo	63	5	5	31	28
CMC	21	1	1	11	11
Gampaha	65	5	5	33	21
Kalutara	35	4	4	15	15
Sri Lanka	470	33	33	292	196

19. SEXUALLY TRANSMITTED DISEASES

Table 16

NEW EPISODES OF STD/HIV/AIDS REPORTED OR TREATED AT STD CLINICS IN SRI LANKA

3RD QUARTER 2016

Disease	New cases or new disease episodes during the quarter			Total new cases or new episodes for the calendar year up to end of the quarter **			
	Male	Female	Total	Male	Female	Total	
HIV positives ¹	50	16	66	145	48	193	
AIDS	13	3	16	36	9	45	
	Early Syphilis ²	20	11	31	73	29	102
Syphilis	Late Syphilis ³	143	72	215	363	213	576
	Congenital Syphilis ⁴	1	2	3	3	4	7
Gonorrhoea ⁵		45	11	56	172	51	223
Ophthalmia Neonatorum ⁶		2	0	2	2	1	3
Non specific cervicitis/urethritis		150	404	554	435	1144	1579
Chlamydial infection		4	6	10	4	9	13
Genital Herpes		331	426	757	1000	1295	2295
Genital Warts		329	242	571	864	704	1568
Chancroid		0	0	0	0	0	0
Trichomoniasis		0	9	9	8	47	55
Candidiasis		279	379	658	832	1123	1955
Bacterial Vaginosis		0	331	331	0	1003	1003
Other sexually transmitted diseases ⁷		66	56	122	247	150	397
Non venereal		772	423	1195	2162	1340	3502

Source: NSACP

(Includes cases diagnosed and reported to the Central STD clinic Colombo and Peripheral STD clinics of National STD/AIDS Control Programme of Sri Lanka)

** - Includes adjustments for revised diagnosis, reporting delays or any other amendments

1 - Includes AIDS cases

2 - Diagnosed within 2 years of infection and considered to be infectious

3 - Diagnosed after 2 years of infection and considered to be non-infectious

4 - Includes both early and late cases

5 - Includes presumptive Gonorrhoea

6 - Includes both gonococcal and chlamydial conjunctivitis in neonatal period

7 - Includes Lymphogranuloma venereum, Granuloma inguinale, Molluscum contagiosum, Scabies, Tinea, Hepatitis B etc.

8 - Number of STD clinic attendees who were not having sexually transmitted diseases.

**20. BACTERIOLOGY REPORT, MEDICAL RESEARCH
INSTITUTE 1st QUARTER 2015**
Table 17: Bacteriological report, MRI 3rd Quarter 2016

	JUL	AUG	SEPT
(A) CHOLERA			
No. of stool specimens Examined	53	85	91
No. of positives El. Tor <i>Cholera</i>	0	0	0
<i>Ogawa</i>	0	0	
<i>Inaba</i>	0	0	0
<i>Cholera o139</i>	0	0	0
(B) SALMONELLA			
Blood. No. Examined	0	0	0
<i>S.typhi</i>	0	0	0
<i>S.paratyphi</i>	0	0	0
Stools- No. examined	71	109	112
<i>S.typhi</i>	0	0	0
<i>S.paratyphi</i>	0	0	0
Others	3	1	3
(C) SHIGELLA			
No. of specimens examined	71	109	112
<i>Sh.flexneri I</i>	0	1	0
<i>Sh.flexneri II</i>	0	0	0
<i>Sh.flexneri III</i>	0	0	0
<i>Sh.flexneri IV</i>	0	0	0
<i>Sh.flexneri V</i>	0	0	0
<i>Sh.flexneri VI</i>	0	0	0
<i>S. sonnei</i>	1	2	0
<i>S.dysenteriae</i>	0	0	0
(D) ENTEROPATHOGENIC E.COLI			
No.Examined	2	3	3
No.+ve	1	0	0
(E) CAMPYLOBACTER			
No.Examined	18	24	21
No. Positive	0	0	1
(F) SPECIAL			
	37	38	18

**21. SURVEILLANCE OF MENINGITIS–
3rd quarter 2016**

Meningitis is a notifiable disease condition in Sri Lanka since year 2005. During the 3rd quarter 2016, 356 cases of suspected meningitis cases were reported to the Epidemiology Unit through the routine disease notification system .

Out of this 279 cases were clinically confirmed by the Public Health Inspectors during their field investigations. Highest number of meningitis cases were reported from the Badulla district (39) followed by Ratnapura(37) and Kalutara(31) districts.

Forty three percent of the clinically confirmed meningitis cases belonged to the age group less than one year, another 23% belonged to the age group 1-5 years and 18% belonged to age group 6 . 14 years. Sixty two percent of the clinically confirmed cases were males and 38% were females.

Table 18: Summary findings for special investigations carried out for clinically confirmed cases of Meningitis up to 30th September 2016

CSF Culture Report		
CSF Culture	Number	(%)
CSF results available	234	41%
No Growth	210	
Group B streptococci	05	
Coliform	03	
H.Influenza	02	
N.Meningitis	01	
TB	02	
Culture results not known	330	58%
Not done	04	01%
Total	568	100%
Final outcome of the patient		
Outcome	Number	(%)
Cured	553	97%
Died	04	01%
Information not available	11	02%
Total	568	100%
Final Diagnosis (based on clinical and lab findings)		
Diagnosis	Number	(%)
Culture confirmed	14	02%
Probable bacterial meningitis	48	08%
Probable viral meningitis	42	07%
Suspected Meningitis	464	82%
Total	568	100%

22. INFLUENZA SURVEILLANCE– 3rd quarter 2016

Human Influenza surveillance

Surveillance of human influenza is carried out under two main components; Influenza like illness (ILI) surveillance and Severe Acute Respiratory Infections (SARI) surveillance. As for the ILI surveillance, epidemiological data are collected from 19 sentinel hospitals throughout the country, out of which 13 sentinel hospitals selected for the laboratory surveillance where respiratory samples are collected. Under SARI surveillance more detailed epidemiological data and respiratory samples are collected from four sentinel hospitals. These respiratory samples are tested and analyzed at the National Influenza Center (NIC), Medical Research Institute (MRI).

Epidemiological Component

ILI Surveillance

In the 3rd quarter of year 2016, seventeen hospitals out of nineteen have reported ILI data with a reporting rate of 89.5%. A total of 34116 ILI cases were reported, accounting for 3.02% of the all OPD visits (n=1127109). The highest number of ILI cases were reported from General Hospital Vavunia (n=16640,48.77%) and the majority of the patients were in the age group 15- 49 years (n=10263,30.08%).

SARI Surveillance

A total of 282 SARI cases were reported for the 3rd quarter of 2016 from three sentinel hospitals (Teaching Hospital Ragama, General Hospital Matara and Teaching Hospital Peradeniya). Out of 29702 all hospital admissions during the 3rd quarter, 0.94% were due to SARI. The highest number of SARI cases were reported from Teaching Hospital Peradeniya (n=163, 57.8%).

Laboratory Component

ILI Surveillance

A total of 146 ILI respiratory samples were received by the MRI from sentinel hospitals during the 3rd quarter of 2016; 36 samples in July, 40 in August and 70 in September. NHSL (n=30) and General hospital Ratnapura (n=30), had sent the highest numbers of samples followed by Teaching hospital Batticaloa (n=8), IDH (n=5), General hospital Polonnaruwa (n=9), General hospital Nuwara Eliya (n=17), General hospital Badulla (n=17), Teaching Hospital Anuradhapura (n=10), Teaching Hospital Kurunegala (n=15), Teaching Hospital Kalubowila (n=1), General Hospital Chilaw (n=9). All sentinel hospitals except, Teaching Hospital Karapitiya and Teaching Hospital Jaffna had sent samples within the 3rd quarter. Influenza A and B were the predominant circulating Influenza viral strains identified.

SARI Surveillance

A total of 64 respiratory samples were sent to the MRI during the 3rd quarter of year 2016, by three SARI sentinel hospitals. General hospital Matara (n=32) had sent the highest number of samples followed by Lady Ridgeway Hospital (n=27), Teaching Hospital Ragama (n=5). (Table 02). Influenza A and B were the predominant circulating Influenza viral strain identified (Table 4).

Table 19: Monthly performance of sentinel hospitals in the laboratory component of the ILI surveillance for the 3rd quarter of the year 2016

	July	August	September	Total
NHSL	10	10	10	30
TH Kalubowila	0	1	0	1
IDH	0	0	5	5
GH Nuwara Eliya	6	6	5	17
TH Karapitiya	0	0	0	0
TH Jaffna	0	0	0	0
TH Batticaloa	3	4	1	8
TH Kurunegala	5	5	5	15
GH Chilaw	0	0	9	9
TH Anuradhapura	0	5	5	10
GH Polonnaruwa	0	0	9	9
GH Badulla	2	4	6	12
GH Ratnapura	10	5	15	30
Total	36	40	70	146

(Source: Epidemiology Unit)

Table 20: Monthly performance of sentinel hospitals in the laboratory component of the SARI surveillance for the 3rd quarter of the year 2016

	July	August	September	Total
TH Ragama	0	2	3	5
TH Peradeniya	0	0	0	0
GH Matara	3	11	18	32
LRH	10	8	9	27
Total	13	21	30	64

(Source: Epidemiology Unit)

Table 21: Types of influenza viruses isolated in ILI samples for the 3rd quarter of the year 2016

Month	Total Tested	Influenza A	A(H1N1)	A(H3N2)	Untyped A	Not typed	Influenza B
July	36	0	0	0	0	5	0
August	40	0	0	0	0	1	0
September	70	3	1	2	0	4	3
Total	146	3	1	2	0	10	3

(Source: NIC/MRI)

Bird Influenza Surveillance

Sri Lanka has been recognized as carrying a high risk for Avian Influenza (AI) making bird influenza surveillance an important component of the influenza surveillance system. This high risk is mainly due to its location in the South East Asian Region. The country's poultry industry with a significant proportion of people engaged in backyard poultry and the commercial level poultry industry add to this risk. Also the country being a hotspot for migratory birds, attracting over two hundred species of migratory birds annually in two migratory seasons, is another risk factor that makes bird influenza surveillance necessary. Bird surveillance is conducted by the Department of Animal Production and Health (DAPH) with serum samples collected from poultry farms on a monthly basis and fecal samples collected from migratory bird hotspots during the two migratory seasons, where fifteen fecal samples are collected from each bird hotspot, pooled in bottles with five samples in each and analyzed at the virology laboratory at Polgolla.

Table 22: Animal samples collected by month and district for the 3rd quarter of the year 2016

Month	Pool Samples for Embryonated Chicken Egg Passage	Districts samples were collected from	Serum Samples for ELISA	Districts samples were collected from
July	686	Colombo, Gampaha, Kandy, Kegalle, Puttalam, Kurunegala, Vavuniya	446	Gampaha, Moneragala, Kurunegala, Vavuniya
August	1085	Colombo, Gampaha, Kegalle, Puttalam, Kurunegala, Ampara, Galle, Kaluthara, Vavuniya	625	Colombo, Gampaha, Kegalle, Kandy, Nuwara Eliya, Trincomalee, Puttalam, Kurunegala, Ampara, Galle, Kaluthara, Vavuniya
September	923	Colombo, Gampaha, Anuradhapura, Vavuniya, Puttalam, Ampara	841	Colombo, Gampaha, Kandy, Kurunegala, Trincomalee, Ampara
Total	2694		1912	

Special Report

Surveillance of Food and Waterborne Diseases -2016

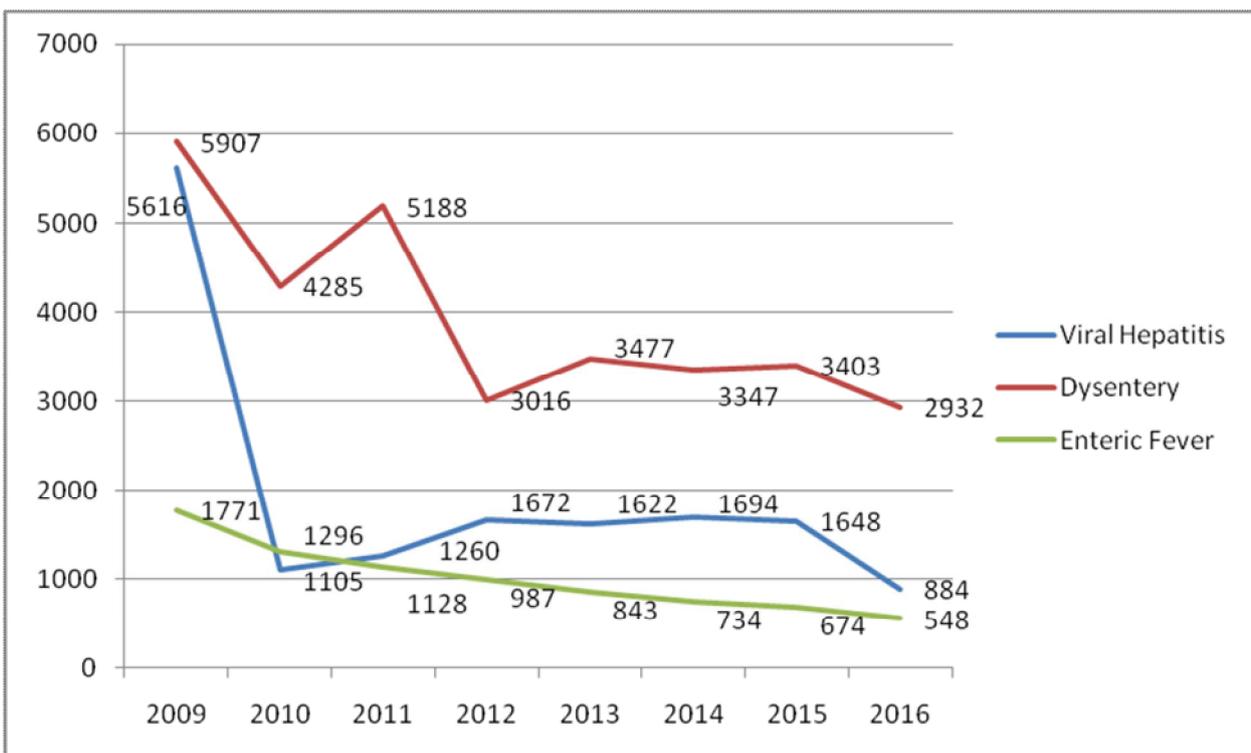
During the year 2016, 884 viral hepatitis cases have been notified to the Epidemiology Unit with an incidence of 4.2/100,000 population compared to 1672 (8.1/100,000 population) in year 2015. For the same year 2932 (14.2/100,000 population) dysentery cases have been reported compared to 3881 (16.7/100,000 population) in year 2015. The incidence of enteric fever for year 2016 was 2.6/100,000 population compared to 3.3/100,000 population in year 2015.

Graph 1 23 shows the trend of main food and waterborne diseases in Sri Lanka from 2009 to 2016.

Distribution of food and waterborne diseases

Out of all the districts, Rathnapura district reported the highest number of Hepatitis A cases (179) for the year 2016 followed by Monaragala (133 cases), Badulla(109 cases),Hambantota (84 cases) and Trincomalee (36 cases) districts. Further, Rathnapura and Monaragala districts were among the districts with highest incidence of hepatitis A throughout past few years.

Graph 1 : Trend of main food and waterborne diseases in Sri Lanka from 2009 to



Out of all the districts, Rathnapura district reported the highest number of dysentery cases for the year, followed by Kurunegala (293 cases) and Batticaloa (286 cases) districts. Similar pattern was observed in relation to dysentery during previous five years as well.

Out of all the districts, Jaffna (69 cases) and Vavuniya (69 cases) reported the highest number of enteric fever cases for the year followed by Nuwara Eliya (48 cases).

For the year 2016, Batticaloa district reported one food poisoning outbreak (93 cases), Jaffna reported three food poisoning outbreaks (82 cases) and Gampaha reported one outbreak (78 cases). Other than that Kili-nochchi and Hambantota districts also reported major outbreaks during the year.

It was observed that the districts with the highest percentage of unsatisfactory water samples and districts with the highest incidence are more or less the same and the graph 2 shows the districts with the highest percentage of unsatisfactory samples and highest incidence of waterborne diseases.

Way forward

Reduction of waterborne diseases has been a challenging task.

Water quality surveillance should be strengthened and targeted interventions needed be carried out. When sampling, priority should be given to the water sources which serve a larger population and are at higher risk of contamination. Proper mapping of water sources and incident waterborne cases in a same map would facilitate the identification of high risk water sources.

It has been identified that the majority of water sources are contaminated. Thus, a permanent solution need to be identified to ensure the safety of water sources, specially the common water sources with the collaboration of all stakeholders. Until a permanent solution is found community should be made aware to use boiled cooled water and other safety measures.

Vaccination of food handlers in selected MOOH areas has been initiated since 2016 with the aim of reduction of typhoid fever.

Graph 2: Districts with highest percentage of unsatisfactory samples and highest incidence of waterborne diseases

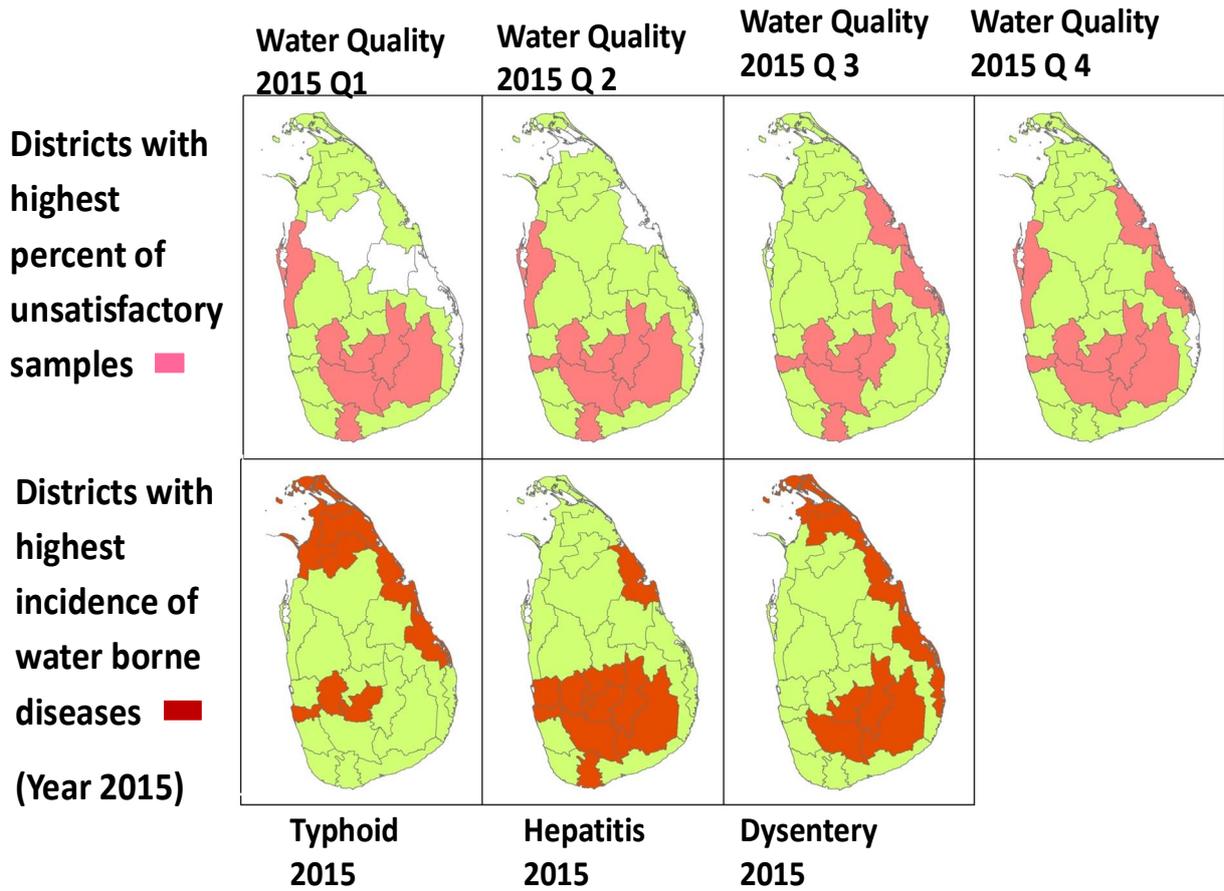


Table 31

24. SUMMARY OF NOTIFIABLE DISEASES - 4th QUARTER 2016

Health Region	Dysentery	Encephalitis	Enteric Fever	Food Poisoning	Human Rabies	Leptospirosis	Measles	Simple Con. Fever	Tetanus	Typhus Fever	Viral Hepatitis	Whooping Cough	Dengue Fever /DHF	Tuberculosis	Chickenpox	Mumps	Meningitis	Leishmaniasis
Colombo	37	7	14	33	0	93	13	0	1	3	16	0	5608	318	84	1	19	0
Gampaha	52	9	9	16	1	69	4	1	0	4	15	3	2838	262	118	4	10	3
Kalutara	27	5	13	12	1	80	2	5	0	1	7	2	1171	133	69	4	37	0
Kandy	35	3	10	5	0	31	0	0	1	28	7	2	2071	117	83	3	7	3
Matale	17	0	2	2	0	27	1	1	0	6	3	2	616	33	9	1	4	2
Nuwara-Eliya	35	2	23	21	0	25	3	0	0	19	8	1	187	88	36	2	11	0
Galle	62	0	6	5	0	59	0	6	0	44	3	0	1008	99	68	8	8	0
Hambantota	29	0	3	8	0	12	1	4	0	20	78	0	280	27	53	2	3	109
Matara	42	4	2	3	0	45	4	3	0	20	20	4	541	69	54	6	9	44
Jaffna	127	3	23	15	0	7	1	7	0	54	0	1	495	70	41	7	21	0
Kilinochchi	11	1	9	5	0	1	0	0	0	5	1	0	19	9	1	0	1	0
Mannar	26	0	6	3	0	2	0	0	0	3	0	0	24	12	0	0	2	0
Vavuniya	6	1	48	5	0	1	0	0	0	2	0	0	62	24	5	2	3	2
Mullaitivu	8	1	1	4	1	2	0	0	0	1	2	0	41	14	10	0	3	2
Batticaloa	103	3	21	10	0	10	0	1	0	2	2	2	138	41	30	7	9	0
Ampara	25	1	0	1	0	2	2	0	0	0	3	0	98	27	56	0	3	2
Trincomalee	13	1	1	0	1	8	0	0	0	6	1	0	66	40	22	2	3	8
Kurunegala	104	4	3	8	1	39	4	2	0	22	8	0	950	150	106	4	14	34
Puttalam	44	2	2	1	1	5	0	0	0	4	3	1	280	58	34	2	26	2
Anuradhapura	51	2	1	5	1	52	3	0	0	4	2	1	298	59	72	8	16	83
Polonnaruwa	20	2	3	3	0	12	1	1	0	2	1	2	175	50	46	2	6	29
Badulla	37	3	6	5	0	31	2	1	0	47	28	0	368	63	93	4	63	1
Moneragala	72	0	1	1	0	19	5	1	0	38	18	0	175	31	29	0	5	9
Ratnapura	92	8	5	2	0	147	1	1	0	12	80	1	1152	111	83	9	46	0
Kegalle	23	4	14	8	0	33	1	0	0	11	8	2	467	113	90	7	15	2
Kalmunai	42	0	1	5	0	7	0	1	0	0	1	0	77	46	25	0	12	0
Total	1140	66	227	186	7	819	48	35	2	358	315	24	19205	2064	1317	85	356	335

No polio cases. (from AFP surveillance system).

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Figures given may be subject to revision.

The editor welcomes accounts of interesting cases, outbreaks or other public health problems of current interest to health officials.

ON STATE SERVICE

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