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# EPIDEMIOLOGICAL BULLETIN

## SRI LANKA

*Fourth Quarter*  
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## EPIDEMIOLOGY UNIT

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## 1. POLIOMYELITIS

Sixteen (16) Acute Flaccid Paralysis cases were notified to the Epidemiology Unit during the 4<sup>th</sup> quarter 2011. This is similar to case presentation in 2010 and 2009, 4<sup>th</sup> quarters with numbers of 15 and 20 AFP cases respectively. The number reported was below the WHO expected surveillance criteria which was 2 per 100,000 under 15-year child population and only 1 per 100,000 was achieved for the quarter.

### Notification of AFP Cases from Hospitals

Currently 67 hospitals are functioning as sentinel sites for AFP surveillance and sentinel sites for AFP are defined as hospitals with availability of Consultant Pediatricians' services. Three cases each were reported from hospitals of Lady Ridgeway Children's Hospital (LRH) and TH Kandy during the quarter. All cases reported are given in the table 1 below

Table 01

### Notification of AFP cases by sentinel Hospital 4th Quarter 2011

Hospital	Number of Cases Reported
LRH	3
TH Kandy	3
G.H.Badulla	2
TH Karapitiya	1
GH Matara	1
GH Anuradhapura	1
TH Peradeniya	1
SBMCH	1
TH Kurunegala	1
BH Galgamuwa	1
TH Baticaloa	1
<b>Total</b>	<b>16</b>

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

The Central province reported the highest number of cases [6, (38%)] with contribution from districts of Kandy (3), Matale (1) and Nuwara Eliya (2). The North Western province from the Kurunegala district reported 4 cases and Western province (districts of Colombo & Gampaha), Southern province (districts of Hambantota & Galle), Eastern and Uva provinces reported cases are shown in the table 2 below. The provinces of Northern, Eastern and North Central have not reported cases for the relevant quarter.

Table 02.

### Distribution of AFP cases by district & MOH area, 4th quarter 2011

Province	District	MOH Area	Number of AFP cases		
Western	Colombo	Kolonnawa	1		
		Gampaha	1		
Southern	Hambanato-ta	Ambalanatota	1		
		Galle	Lunugamvehera	1	
Central	Kandy	Poojapitiya	1		
		Hasalaka	1		
		Nawalapitiya	1		
		Matale	Laggala	1	
	Nuwara Eliya	Kothmale	1		
		Ragala	1		
		North Western	Kurunegala	Rideegama	1
				Giribawa	2
		Bingiriya	1		
		Eastern	Kalmunai	Kamunai	1
Uva	Badulla	Uva Paranagama	1		
<b>Total</b>			<b>16</b>		

### Age and Sex Distribution of AFP Cases

More than half of all AFP cases [12 (75%)] reported in the 4<sup>th</sup> quarter this year were above 5 years of age.

The table below shows the age and sex distribution of AFP cases in 4<sup>th</sup> quarter 2011.

Table 03. **Distribution of AFP cases by Age & Sex, 4th Quarter 2011**

Age Group	Sex		Total
	Male	Female	
<1 year old	0	0	0
1-4 year old	3	1	4
5-9 year old	4	2	6
10-15 year old	4	2	6
<b>Total</b>	<b>11</b>	<b>5</b>	<b>16</b>

### Laboratory Surveillance of AFP Cases

Two stool samples collected within 14 days of onset of paralysis are required at the Medical Research Institute for polio virology. 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 make the samples of 'good condition'. All 16 AFP cases (100%) reported in the 4<sup>th</sup> quarter 2011 had two timely stool samples sent to MRI for polio virology.

All reported cases for the quarter were investigated and were found to be non polio cases.

## 2. CHOLERA

No confirmed cases of cholera were reported to the Epidemiology Unit during the 4th Quarter 2011. Last case of cholera was reported in the country in January 2003.

## 3. TETANUS

During the 4th Quarter 2011, 06 suspected Tetanus cases were notified to the Epidemiology Unit. This is in comparison to 08 cases in the previous quarter.

## 4. MEASLES

Twenty three Measles cases were reported during the 4<sup>th</sup> quarter 2011 and out of them 15 were field investigated by the relevant MOH staff and identified as clinically possible cases. This is in contrast with the 12 suspected cases and 11 clinically possible cases during the 4<sup>th</sup> quarter 2010. Majority (6) of them were between 20-29 years and majority were males.

Five of these field investigated cases were compatible with the surveillance case definition of measles which is "fever and rash with one of the signs of cough, coryza or conjunctivitis".

These clinically confirmed cases were reported from the districts of Kalutara (Matugama), Kandy (Hasalaka), Nuwara Eliya (Nawathispane), Anuradhapura (Thirappane) and Polonnaruwa (Dimbulagala). Age groups and vaccination status of field investigated suspected measles cases which are compatible with case definition are given in table 04.

Fever and rash patients suspected of Rubella/ Measles admitted to any hospital, or treated as an out-patient in OPD or presented to General Practitioners or if primary health personnel identified in the community are requested to be investigated with IgM for Measles/ Rubella, ideally a blood sample collected within 3<sup>rd</sup> to 28 day of the onset of rash. Importance of laboratory confirmation is highlighted and requested to send 3ml blood/serum sample to the virology laboratory at the Medical Research Institute (MRI). Twenty three (23) of such patients were tested at the laboratory during the 4<sup>th</sup> quarter 2011 and only one patient was positive for Measles IgM antibodies. Outbreaks of measles were not reported during the quarter.

Table 04

**SELECTED CHARACTERISTICS OF CONFIRMED CASES (WITH SPECIAL INVESTIGATIONS) OF MEASLES – 4th QUARTER 2011**

Sex	Male	2
	Female	3
Age group	<9years	3
	10-19 years	1
	20-29 years	1
Immunization status	Non immunized	2
	Immunized	1
	Unknown	2

**5. LEPTOSPIROSIS**

During the 4th Quarter 2011, 1148 cases and 17 deaths (CFR 1.5%) due to Leptospirosis were notified to the Epidemiology Unit compared to 1174 cases and 19 deaths in the previous quarter and 1574 cases and 35 deaths during corresponding quarter of 2010.

Age and sex distribution of patients, revealed by the special surveillance data is given in table 05

Table 05

**SELECTED CHARACTERISTICS OF LEPTOSPIROSIS PATIENTS(%) - 4th QUARTER 2011**

Age Group	Sex	
	Male	Female
0-10 years	6.4	0.9
11-20 years	6.2	0.5
21-30 years	13.7	1.7
31-40 years	17.8	1.7
41-50 years	19.2	1.9
51-60 years	16.8	2.6
>60years	9.2	1.4
Total	89.3	10.7

**6. HUMAN RABIES**

Twelve cases of Human Rabies were notified to the Epidemiology unit in the 4th quarter 2011. Compared to 10 cases in the previous quarter and 19 cases in the corresponding quarter year 2010.

Among the notified cases all the cases (12) were investigated and confirmed as human rabies, 10(83.3%) were males and 2 (16.7%) were females.

Batticaloa district reported the highest number of cases(3) accounting for 25% of total case load followed by Killinochchi (2cases,16.7%), Monaragala (2 cases,16.7%).

**Animal Rabies**

During this quarter 134 dogs were reported positive for rabies, compared to 150 in the previous quarter and 148 positive in the same period in the last year. In addition the following animals were also reported positive;

Cats –15, Domestic Ruminants -01,  
Wild Animals – 03

**Rabies Control Activities**

**Dog vaccination** - A total of 240855 dogs were immunized during the 4th Quarter 2011, when compared to 333148 in the previous quarter and 171875 in the corresponding quarter of last year.

**Animal Birth Control**

**Chemical** - 13728 female dogs were injected with birth control injections (Progesterone) during the quarter under review.

**Surgical** - 21383 female dogs were subjected to sterilization by surgical method during the quarter under review.

\*Source – Director/PHVS

**7. ENTERIC FEVER**

In the 4th Quarter 2011, a total of 607 cases of Enteric fever were reported to the Epidemiology Unit, compared to 469 cases in the previous quarter and 567 cases in the corresponding quarter of 2010. The district of Jaffna (163) reported the highest number of cases followed by Colombo(155)

**8. VIRAL HEPATITIS**

In the 4th quarter 2011, a total of 687 cases of Viral Hepatitis were reported to the Epidemiology Unit. This was in comparison to the 541 cases in the previous quarter and 389 cases in the corresponding quarter of 2010. Gampaha (224 cases)& Kegalle Districts(190 cases) reported the highest number of cases followed by Rathnapura (51) and Kurunegala (44) .

**9. DYSENTERY**

In the 4th Quarter 2011, a total of 1639 cases of Dysentery were reported to the Epidemiology Unit, in comparison to 1673 cases in the previous quarter and 1518 cases in the corresponding quarter of 2010. Jaffna (204 cases), Kalmunai (189 cases) and Ampara (138 cases) reported the highest number of cases.

**10. MALARIA**

The number of microscopically confirmed cases of malaria detected during the 4th quarter of the year 2011 shows very marked reduction (98%) in comparison to the number of cases detected during the corresponding quarter of 2010. ( Table 07 )

## 11. JAPANESE ENCEPHALITIS (JE)

During the 4th quarter 2011, 38 cases of Encephalitis were reported to the Epidemiology Unit through the Weekly Return of Communicable Diseases (WRCD). The number of cases that were subject to case– based investigation during the 4th quarter were ten. Among these reported cases 10 (26.3%) were investigated and 09 were found to be clinically confirmed as JE. All 09 confirmed cases were investigated and reports were sent by the MOH. Among them one was under 10 years of age, four were in the age group 11-30 years, three were in the age group 31-50 years and one was in the age group 71-80 years. No death have been reported due to JE during the quarter.

This is in comparison to 40 cases of encephalitis, five confirmed JE and no deaths reported in the corresponding quarter of 2010.

Table 06

### SELECTED CHARACTERISTICS OF CONFIRMED CASES OF JE – 4th QUARTER 2011

Sex	Male	03	
	Female	06	
Age group	10<Y	1	
	11-20Y	2	
	21-30Y	2	
	31-40Y	1	
	41-50Y	2	
	71-80Y	1	
District	Colombo	02	
	Gampaha	02	
	Puttalam	01	
	Kurunegala	02	
	Vavuniya	01	
	MOH Areas	Nugegoda	01
		Vavuniya	01
		Mahara	01
		Marawila	01
Nikaweratiya		01	
Alawwa		01	
Piliyandala		01	
Divulapitiya		01	
No Data		01	
Immunization	Immunized	00	
	Non immunized	01	
	Unknown	07	
	No Data	01	

Table 07

### Results of Blood smear examination for malaria parasites - 4th Quarter 2011

	4th Quarter 2010	4th Quarter 2011
No. of blood smears examined	268,676	249,352
No. of positives	134	2
No. of <i>P. vivax</i>	131	1
No. of <i>P. falciparum</i>	1	0
No. of mixed infections	2	1
No. of infant positives	-	-
Slide positivity rate (S.P.R.)	0.05%	0.00%
P.v. : P.f. ratio	44 : 1	1:1
Percentage of infant positives	0%	0%

Table 08

**DISTRIBUTION OF MALARIA CASES BY RMO  
DIVISION - 4TH QUARTER 2011**

RMO	Blood smears	Positives	P.v.	P.f.	Mixed
Colombo	17646	0	0	0	0
Gampaha	10269	0	0	0	0
Kalutara	3300	0	0	0	0
Kandy	10861	0	0	0	0
Matale	5811	0	0	0	0
Nuwara Eliya	1255	0	0	0	0
Galle	4029	0	0	0	0
Matara	5576	0	0	0	0
Hambantota	7698	1	0	0	1
Jaffna	18515	0	0	0	0
Kilinochchi	9910	0	0	0	0
Vavuniya	10046	0	0	0	0
Mannar	4414	0	0	0	0
Mullaitivu	8582	0	0	0	0
Batticaloa	21041	0	0	0	0
Ampara	7182	0	0	0	0
Kalmune	11557	0	0	0	0
Tricomalie	16829	0	0	0	0
Kurunegala	15525	0	0	0	0
Maho	3415	0	0	0	0
Puttalam	4264	0	0	0	0
Anuradhapura	19085	0	0	0	0
Pollonnaruwa	11735	0	0	0	0
Badulla	6194	0	0	0	0
Monaragala	6895	1	1	0	0
Rathnapura	5791	0	0	0	0
Kegalle	1925	0	0	0	0
<b>TOTAL</b>	<b>249352</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>

P.v.– *Plasmodium vivax*P.f. - *Plasmodium falciparum*

Table 09

**MORBIDITY AND MORTALITY DUE TO DF/DHF -  
4TH QUARTER 2011**

RDHS Division	Cases	Percentage (%)	Deaths
Colombo	2474	28.14	13
Gampaha	1336	15.19	15
Kalutara	405	4.61	4
Kandy	785	8.93	3
Matale	94	1.07	0
N' Eliya	85	0.97	0
Galle	192	2.18	1
Hambantota	72	0.82	0
Matara	392	4.46	1
Jaffna	124	1.41	0
Kilinochchi	14	0.16	0
Mannar	74	0.84	1
Vavuniya	14	0.16	0
Mulativu	4	0.05	1
Batticaloa	970	11.03	2
Ampara	62	0.71	0
Trincomalee	35	0.40	0
Kurunagale	288	3.28	1
Puttalam	169	1.92	0
A'pura	69	0.78	0
Polonnaruwa	54	0.61	0
Badulla	141	1.60	1
Moneragala	106	1.21	1
Ratnapura	359	4.08	1
Kegalle	416	4.73	1
Kalmunai	59	0.67	0
<b>Total</b>	<b>8793</b>	<b>100.00</b>	<b>46</b>

Table 10

**RESULTS OF LARVAL SURVEY CARRIED OUT BY DEPARTMENT OF ENTOMOLOGY, MRI  
4TH QUARTER 2011**

Area	October 2011		November 2011		December 2011	
	Breteau index		Breteau index		Breteau index	
	Ae. aegypti	Ae. albopictus	Ae. aegypti	Ae. albopictus	Ae. aegypti	Ae. albopictus
Moratuwa	2.3	2.8	5.5	4.0	4.8	9.6
Kaduwela	0.0	8.7	0.0	16.0	00	9.7
Nugegoda	2.8	4.6	2.0	6.5	1.2	3.0
Piliyandala	0.0	15.5	0.5	14.0	--	--
Dehiwala	4.0	2.0	1.0	5.0	--	--
Ragama	2.6	8.5	1.0	9.0	00	18.3
Ja Ela	3.3	5.3	4.5	11.5	4.7	8.7
Kelaniya	0.5	2.5	1.0	7.5	1.6	5.5
Mahara	0.6	7.8	0.0	3.3	00	11.5
Wattala	6.5	6.5	0.0	1.0	0.5	5.9
Minuwangoda	--	--	0.0	15.5	00	13.9

Table 11

**DHF STATISTICS FROM DEPARTMENT OF VIROLOGY, MRI 4TH QUARTER 2011**

Month	Clinically suspected cases of DF/DHF	Serologically Confirmed Cases of DF/DHF
October	422	245
November	343	170
December	414	266
Total	1179	681

**12. DENGUE FEVER (D.F.)/ DENGUE  
HAEMORRHAGIC FEVER (D.H.F.)**

During the 4<sup>th</sup> Quarter 2011, 8793 cases of DF/DHF and 46 deaths were reported (0.52% CFR) when compared to 9368 cases of DF/DHF and 58 deaths (CFR 0.62%) reported during the 3<sup>rd</sup> Quarter 2011. Proportion of cases notified in October, November, December was 24.19 %, 25.05%, and 50.76% respectively.

Table 09 shows the distribution of DF/DHF cases and deaths in the RDHS divisions during the 4<sup>th</sup> quarter 2011.

Special surveillance data on 2494 confirmed cases were received and analyzed for the 4<sup>th</sup> quarter 2011. Age distribution of reported cases were <4 years of age in 505 (20.20%), 5- 9 years of age in 449 (18.00%), 10 - 14 years of age in 301 (12.10%) 15 – 19 years of age in 195 (7.80%), 20 - 24 years of age in 235 (9.40%), 25 - 29 years of age in 189 (7.60%), 30 - 34 years of age in 150 (6.0%), 35 - 39 years of age in 98 (3.90%), 40 - 44 years of age in 100 (4.00%), 45 - 49 years of age in 75 (3.00%), 50 – 54 years of age in 65 (2.60%), 55 - 59 years of age in 36 (1.40%), >60 years of age in 65 (2.60%)

According to the clinical findings majority of the reported cases (84.80%) were classified as dengue fever. 15.00% were classified as DHF with 10.00 %, 2.00%, 1.20%, 1.80% falling into DHF I, DHF II, DHF III, DHF IV categories respectively.

Results of entomological surveillance carried out in the Western Province by the Department of Entomology, MRI during the current quarter is given in Table 10.

During the 4<sup>th</sup> Quarter 2011, 1179 blood samples were tested using IgM capture ELISA test and Haem Agglutination Inhibition test (HAI) at the Department of Virology, MRI. From the total 681 (57.76%) samples were confirmed as positive (Table 11).

### 13. RUBELLA

During the whole quarter 6 suspected cases were reported and 4 of them were compatible with surveillance case definition during field investigations carried out by the Medical Officer of Health. Comparing the compatible quarter of the previous year (2010), 58 suspected Rubella cases were reported and 57 of them were compatible with the surveillance case definition. Rubella disease outbreaks were not reported during the quarter. Of the suspected, four cases were investigated at field level and were identified as adult males of above 18 years.

Laboratory investigations of fever and rash patients suspected of Measles/Rubella (23) were tested for Rubella IgM, by sending 3ml blood samples, collected within 3<sup>rd</sup> to 28<sup>th</sup> day of the onset of rash to Virology Laboratory at Medical Research Institute (MRI) and 15 cases were identified positive for Rubella IgM antibodies. No Congenital Rubella syndrome cases were reported during the fourth quarter .

### 14. SURVEILLANCE REPORT ON AEFI 4TH QUARTER 2011

Surveillance of Adverse Events Following Immunization (AEFI) has effectively continued in the 4<sup>th</sup> Quarter of 2011 and has reached 97.3% of completeness of monthly reports by MOOH, while 50.7% of monthly reports were received in time at the Epidemiology Unit. Gampaha, Hambantota, Jaffna, Kilinochchi, Mannar, Vavuniya, Mullativu, Batticaloa, Kurunegala, Puttalam, Polonnaruwa, Badulla, Monaragala and, Kegalle were able to send all the monthly MOH reports, giving an average of 97.3% for the country. The completeness for Anuradhapura (98.2%), Rathnapura (98.1%), Matara (98%), Kalmunai (97.4%), Matale (97.2%), Galle (96.5%), Colombo (95.2), Nuwara Eliya (94.9), Kalutara (94.4), Ampara (90.5),

Kandy (90.3) and Trincomalee (87.9%) need to be improved further. Best timeliness of MOH monthly reports was observed from Hambantota and Vavuniya districts (83.3%) followed by Kegalle (78.8%). (Table 12)

Highest percentage of nil reports were received from Kilinochchi (100%) followed by Batticaloa district (90.5%) which is much higher than the Sri Lanka average (43.9%) indicating the need for more attention on surveillance. The lowest percentage (12.1%) of such returns was received from the Kegalle district followed by Hambantota (16.7) and Colombo districts (17.5%).

Highest rate (942.9 per 100,000 immunizations) of AEFI was reported from Mullativu district with the number of 70 AEFI. The highest number (433) and rate of AEFI (539.3 per 100,000 doses administered) were reported against DPT vaccine followed by Pentavalent vaccine (199.7 per 100,000 doses administered). High Fever (463), Allergic Reaction (340), Nodule (166) are the leading AEFI reported. Highest numbers of fever cases were reported following Pentavalent (215 cases: 80.9 per 100,000 doses administered) and DPT (125 cases: 155.7 per 100,000 doses administered) vaccines. For Allergic Reactions, it was largely due to JE (77 cases: 42.8 per 100,000 doses administered), Pentavalent (71 cases: 26.7 per 100,000 doses administered) and MMR (69 cases: 70.4 per 100,000 doses administered) .

Table 12

**COMPLETENESS AND TIMELINESS OF MONTHLY REPORTING AND RECEIPT OF "NIL" REPORTS OF AEFI BY RDHS DIVISIONS - 4TH QUARTER 2011**

DPDHS	% completeness	% Timely returns	% Nil Returns	No. of AEFI	AEFI Rate (100,000 vaccine
Colombo	95.2	45.0	17.5	108	92.2
Gampaha	100.0	73.3	26.7	118	90.0
Kalutara	94.4	26.5	52.9	48	57.1
Kandy	90.3	47.7	44.6	75	86.8
Matale	97.2	71.4	45.7	31	83.6
Nuwara Eliya	94.9	56.8	70.3	18	37.3
Galle	96.5	30.9	58.2	34	47.3
Hambantota	100.0	83.3	16.7	98	202.5
Matara	98.0	66.0	38.0	56	100.1
Jaffna	100.0	72.7	48.5	132	355.6
Kilinochchi	100.0	41.7	100.0	0	0.0
Mannar	100.0	40.0	73.3	5	57.8
Vavuniya	100.0	83.3	58.3	32	231.2
Mullativu	100.0	13.0	25.0	70	942.9
Batticaloa	100.0	31.0	90.5	18	42.2
Ampara	90.5	47.4	63.2	14	68.8
Trincomalee	87.9	41.4	62.1	14	40.7
Kurunegala	100.0	44.9	29.0	129	116.3
Puttalam	100.0	33.3	21.2	62	106.1
Anuradhapura	98.2	44.6	35.7	79	108.6
Polonnaruwa	100.0	52.4	47.6	23	69.1
Badulla	100.0	75.0	33.3	71	122.7
Moneragala	100.0	66.7	36.4	59	151.9
Ratnapura	98.1	26.4	47.2	43	62.0
Kegalle	100.0	78.8	12.1	101	186.4
Kalmunai	97.4	28.9	60.5	23	66.3
<b>Sri Lanka</b>	<b>97.3</b>	<b>50.7</b>	<b>43.9</b>	<b>1461</b>	<b>105.6</b>

Table 13

**NUMBER AND RATE OF SELECTED AEFI REPORTED BY VACCINE AND BY TYPE OF AEFI , 4th Quarter 2011**

Vaccine	Seizure	Allergic Reaction	Injection Site Abscess	Severe Local Reactions	High Fever	HHE	Nodule	Arthralgia	Encephalopathy	Encephalitis	Anaphylactic Shock	Persistent	Others	Total	Rate/ 100,000 dosed
BCG	0	1	3	0	0	0	0	0	0	0	0	0	0	4	4.4
DPT	29	56	25	28	125	0	68	4	0	0	0	4	94	433	539.3
Penta 1st	5	44	7	7	112	2	30	0	0	0	1	11	29	248	274.8
Penta 2nd	15	20	10	11	48	3	30	0	0	1	0	5	21	164	185.4
Penta 3rd	7	7	6	6	55	0	23	0	0	0	0	1	14	119	136.5
OPV	0	0	0	0	3	0	0	0	0	0	0	1	1	5	1.1
Measels	0	5	0	0	13	0	0	0	0	0	0	0	1	19	106.9
DT	0	28	3	7	15	0	11	0	0	0	0	0	12	76	85.9
TT	0	5	0	0	0	0	1	0	0	0	0	0	3	9	11.7
JE	8	77	2	2	60	0	2	0	1	0	0	0	13	165	91.8
aTd	0	7	0	0	1	0	1	1	0	0	0	0	20	30	50.6
MR	0	20	0	1	1	0	0	0	0	0	0	0	2	24	349.1
MMR	2	69	0	3	29	0	0	0	0	0	0	1	55	159	162.1
Hexava-	0	0	0	0	0	0	0	0	0	0	0	0	1	1	-
Rubella	0	0	0	0	1	0	0	0	0	0	0	0	1	2	-
Typhoid	0	1	1	0	0	0	0	0	0	0	0	0	0	2	-
<b>Total</b>	<b>66</b>	<b>340</b>	<b>57</b>	<b>65</b>	<b>463</b>	<b>5</b>	<b>166</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>23</b>	<b>267</b>	<b>1460</b>	<b>105.6</b>

## 15. TUBERCULOSIS

A total of 2394 Tuberculosis patients were registered for 4th Quarter 2011 by the National Programme for Tuberculosis Control and Chest Diseases. Of this total 1579 patients had pulmonary TB and 632 patients were with extra pulmonary TB. Of these patients, 1057 were sputum smear positive. The distribution of tuberculosis patients by RDHS division is given in Table 14

Table 14

**TUBERCULOSIS PATIENTS BY RDHS DIVISIONS - 4th Quarter 2011**

RDHS DIVISION	New				Retreatment & other	Total
	PTB sp+ve	PTB sp-ve	EPTB	Total		
Colombo	233	69	114	416	62	478
Gampaha	144	55	73	272	22	294
Kalutara	81	20	33	134	21	155
Kandy	72	67	49	188	11	199
Matale	13	12	08	33	04	37
Nuwara Eliya	22	13	17	52	01	53
Galle	50	30	20	100	05	105
Matara	21	08	21	50	02	52
Hambantota	16	02	08	26	00	26
Jaffna	19	26	29	74	06	80
Vavuniya	10	00	05	15	02	17
Batticaloa	30	04	18	52	04	56
Ampara	09	15	03	27	00	27
Kalmunai	19	18	03	40	04	44
Trincomalee	15	66	21	102	02	104
Kurunegala	59	38	36	133	16	149
Puttalam	33	03	18	54	02	56
Anuradhapura	30	11	16	57	00	57
Polonnaruwa	15	07	12	34	02	36
Badulla	29	07	27	63	09	72
Moneragala	08	14	07	29	00	29
Rathnapura	77	09	51	137	04	141
Kegalle	42	23	34	99	04	103
Mannar	06	01	04	11	00	11
Mulathiv	00	03	04	07	00	07
Kilinochchi	04	01	06	21	00	06
<b>Total</b>	<b>1057</b>	<b>522</b>	<b>632</b>	<b>2211</b>	<b>183</b>	<b>2394</b>

PTB-Pulmonary Tuberculosis

EPTB- Extra Pulmonary Tuberculosis

SP + ve - Sputum Positive

SP - ve - Sputum Negative

Data from Central TB Register

Source - National TB Register

## 16. SURVEILLANCE AT SEA PORT

Details of the vaccinations carried out by the Assistant Port Health Office during the 4th quarter 2011, is as follows;

	Total
<b>A. Yellow fever</b>	<b>1257</b>
<b>B. Meningococcal meningitis</b>	<b>389</b>

## 17. SURVEILLANCE AT AIRPORT

Surveillance activities carried out at the International Airport, Katunayake during the 4th Quarter 2011 is given below.

### 1. Yellow Fever Surveillance

a. No. with valid certificate	-	14
b. No. without valid certificate & Deported	-	00
c. No. without valid certificate & Isolated	-	00

### 2. Airport Sanitation

a. No. of sanitary inspections carried out including food establishments	-	14
b. No. of food sample taken under food act	-	01
c. No. found defective	-	00
d. No. of court cases/prosecuted/warned	-	00

### 3 Release of Human Remains

a No. of Human Remains released	-	96
b No .of released to J.M.O. for post mortem	-	05
c No. of alleged suicide	-	03

### 4 Other Health activities

<sup>a</sup> Polio Vaccination No of doses given	-	00
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**18. LEPROSY****QUARTERLY RETURN OF LEPROSY STATISTICS - 4TH QUARTER 2011**

Table 15

**1. National**

	At the end of the quarter			Cumulative for end of the quarter		
	4thQTR, 2011	4th QTR, 2010	Diff. (%)	2011	2010	Diff. (%)
New patients detected	487	506	-3.75	2226	2092	6.40
Children	70	48	45.83	238	202	17.82
Grade 2 Deformities	29	43	-32.55	148	147	0.68
Multi-Bacillary	226	235	-3.82	1073	968	10.84
Females	204	208	-1.92	936	904	3.53

**2. Districts**

District	New patients	Deformities	Children	MB	Females
<b>Central</b>	<b>10</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>3</b>
Kandy	9	1	3	3	2
Matale	0	0	0	0	0
NuwaraEliya	1	0	1	0	1
<b>Eastern</b>	<b>42</b>	<b>3</b>	<b>4</b>	<b>21</b>	<b>16</b>
Ampara	18	2	3	9	8
Batticaloa	0	0	0	0	0
Kalmunai	11	0	0	4	5
Trincomalee	13	1	1	8	3
<b>Northern</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>4</b>
Jaffna	8	0	1	4	4
Vavuniya	0	0	0	0	0
Mannar	0	0	0	0	0
Killinochchi	0	0	0	0	0
Mulathivu	0	0	0	0	0
<b>North Central</b>	<b>42</b>	<b>4</b>	<b>3</b>	<b>22</b>	<b>10</b>
Anuradhapura	15	1	1	7	6
Pollonnaruwa	27	3	2	15	4
<b>North Western</b>	<b>83</b>	<b>5</b>	<b>18</b>	<b>29</b>	<b>43</b>
Kurunegala	33	2	1	15	16
Puttalam	50	3	17	14	27
<b>Sabaragamuwa</b>	<b>21</b>	<b>1</b>	<b>2</b>	<b>13</b>	<b>7</b>
Kegalle	8	0	1	4	2
Rathnapura	13	1	1	9	5
<b>Southern</b>	<b>33</b>	<b>4</b>	<b>1</b>	<b>23</b>	<b>17</b>
Galle	1	0	0	1	1
Hambanthota	11	0	0	6	7
Matara	21	4	1	16	9
<b>Uva</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>1</b>
Baddulla	7	1	0	7	1
Monaragala	1	1	0	1	0
<b>Western</b>	<b>240</b>	<b>9</b>	<b>37</b>	<b>103</b>	<b>103</b>
Colombo	118	3	28	47	47
Gampaha	64	1	5	28	24
kaluthara	58	5	4	28	32
<b>Sri Lanka</b>	<b>487</b>	<b>29</b>	<b>70</b>	<b>226</b>	<b>204</b>

Source : Anti Leprosy Campaign

## 19. SEXUALLY TRANSMITTED DISEASES

Table 16

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

#### 4TH QUARTER 2011

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 <sup>1</sup>	23	11	34	82	64	146	
AIDS	07	05	12	23	11	34	
	Early Syphilis <sup>2</sup>	65	18	83	179	62	241
Syphilis	Late Syphilis <sup>3</sup>	97	60	157	319	135	554
	Congenital Syphilis <sup>4</sup>	1	1	2	8	2	10
Gonorrhoea <sup>5</sup>	55	16	71	184	88	272	
Ophthalmia Neonatorum <sup>6</sup>	0	2	2	2	3	5	
Non specific cervicitis/urethritis	175	327	502	619	1177	1796	
Genital Herpes	302	387	689	1222	1512	2734	
Genital Warts	225	166	391	947	656	1603	
Chancroid	0	0	0	0	1	1	
Trichomoniasis	0	22	22	11	88	99	
Candidiasis	202	387	589	959	1564	2523	
Bacterial Vaginosis	0	256	256	0	1024	1024	
Other sexually transmitted diseases <sup>7</sup>	84	76	160	480	287	767	
Non –venere <sup>8</sup>	702	552	1254	2846	2271	5117	

\* - 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 Lympho granuloma venerium, Granuloma inguinale, Molluscum contagiosum, Scabies, Tinea, Hepatitis B etc.

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

**20. BACTERIOLOGY REPORT,  
MEDICAL RESEARCH INSTITUTE  
4th QUARTER 2011**

Table 17

	OCT	NOV	DEC
<b>(A) CHOLERA</b>			
No. of stool specimens Examined	154	154	29
No. of positives	-	-	-
<b>(B) SALMONELLA</b>			
Blood– No. Examined	64	44	41
S.typhi	-	-	2
S.paratyphi A	-	1	1
Stools—No. examined	177	166	45
S.typhi	-	-	-
S.paratyphi A	-	-	-
Others	2	2	-
<b>(C) SHIGELLA</b>			
No. Examined	177	166	45
Sh.flexneri 1	-	-	-
Sh.flexneri 2	-	-	-
Sh.flexneri 3	-	-	-
Sh.flexneri 4	-	-	-
Sh.flexneri 5	-	-	-
Sh.flexneri 6	-	-	-
Sh. sonnei	-	1	-
<b>(D) ENTEROPATHOGEN- IC E.COLI</b>			
No.Examined	4	7	2
No.+ve	-	-	-
<b>(E) CAMPYLOBACTER</b>			
No.Examined	23	20	16
No. Positive	-	2	-
<b>(F) ISOLATES</b>			
	46	33	31
Clinical	44	29	24
S. Typhi	2	1	7
S. Paratyphi A	33	7	5
Other Salmonella	1	2	2
Shigella spp	-	-	-

**21. SURVEILLANCE OF MENINGITIS–  
4th quarter 2011**

Meningitis is a notifiable disease condition in Sri Lanka since year 2005. During the 4<sup>th</sup> quarter 2011, 226 suspected meningitis cases were reported to the Epidemiology Unit through the routine disease notification system .

Out of this 179 cases were clinically confirmed by the Public Health Inspectors during their field investigations. Highest number of meningitis cases were reported from the Anuradhapura district (34), followed by Gampaha (30) and Kurunegala (30) districts.

Forty four percent of the clinically confirmed meningitis cases belonged to the age group less than one year, another 17% belonged to the age group 1-5 years and 14% belonged to age group 6 – 15 years. Sixty percent of the clinically confirmed cases were males and 40% were females.

Table 18

**Summary findings for special investigations carried out for clinically confirmed cases of Meningitis for year 2011**

<b>CSF Culture Report</b>		
CSF Culture	Number	(%)
CSF results available	160	45%
• No Growth	(137)	
• Group B streptococci	(14)	
• Haemophilus influenza	(04)	
• Meningococcal	(03)	
• Streptococcus pneumonia	(02)	
• TB	(02)	
Culture results not known	192	54%
Not done	03	01%
Total	355	100%
<b>Final outcome of the patient</b>		
Outcome	Number	(%)
Cured	322	91%
Died	08	02%
Information not available	25	07%
Total	355	100%
<b>Final Diagnosis(based on clinical and lab findings)</b>		
Diagnosis	Number	(%)
Culture confirmed	25	06%
Probable bacterial meningitis	33	09%
Probable viral meningitis	25	08%
Suspected Meningitis	272	77%
Total	297	100%

## 22 INFLUENZA SURVEILLANCE

Pandemic/Avian Influenza preparedness activities began in the country in 2005 following global Avian/Pandemic preparedness programme. As part of these activities, influenza surveillance in animals and humans were initiated by the Department of Animal Production and Health (DAPH) of Ministry of Livestock Development and Epidemiology Unit of Ministry of Health respectively. These activities are supervised by the National Technical Committee for Avian/Pandemic Influenza Preparedness. This report summarizes progress of influenza surveillance activities for the 4<sup>th</sup> quarter 2011, October to December.

### Human Influenza surveillance

#### ILI Surveillance –Laboratory Component

Under ILI laboratory surveillance a total of 700 samples were received from hospitals identified as sentinel surveillance sites for Avian/Pandemic Influenza for the said quarter. There were 223 samples in October, 243 in November and 234 in December. Lady Ridgeway Children's Hospital (LRH) sent in the highest number of samples (69) with Teaching Hospital Kurunegala and General Hospital (GH) Polonnaruwa each sending in 67 samples. GH Ratnapura sent 61 samples. All sentinel hospitals except Sri Jayawardanapura General Hospital (SJGH) sent in samples within the quarter. Incidentally the National Technical Committee on Avian/Pandemic Influenza Preparedness which closely supervises the programme had earlier decided to remove this hospital from the list of sentinel hospitals considering its consistent poor performance. There were 26 samples from GH Vavuniya, 48 from TH Batticaloa and 3 from TH Jaffna. Table 19 shows the performance of sentinel hospitals in the laboratory component of the surveillance programme for this quarter.

These samples were processed in the Medical Research Institute (MRI) which is the National Influenza Centre (NIC) for the country. Influenza A (H3N2) remained as the predominant influenza viral strain during the quarter with 9, 33 and 46 cases being positive in the months of October, November and December. Forty cases of Influenza B were also recorded.

Both Influenza B and Influenza A (H3N2) were being reported as seasonal influenza strains globally during this time which was reflected in the local circulating viral pattern. Since the second wave of the H1N1 pandemic has subsided by end of the 1<sup>st</sup> quarter, no Influenza A (H1N1) cases were reported in this quarter.

#### ILI Surveillance – Epidemiological Component

In the sentinel hospitals ILI patients are diagnosed by the medical officers of the Out Patients' Departments (OPD) on the surveillance case definitions adopted. ICNO would collect information on the number of total OPD attendees and the number with ILI at the end of each day and would consolidate this information into a weekly return that is sent to the Epidemiology Unit.

In October 2011 there were 4362 ILI cases visiting OPD of sentinel hospitals and 5470 in November and 4043 in December.

The following graph in figure 1 shows the distribution of ILI attendance in OPD by month 2008-2011. In 2009 the country suffered from the Influenza A H1N1 pandemic and in 2010 its second wave was reported which ended by the beginning of 2011. Both 2008 and 2011 were non-pandemic years. Although ILI data may be underestimated as only some of the sentinel hospitals had sent in these data, the trend of disease activity can be clearly observed over the years.

The trend for 2008 shows the two influenza peaks within a year with very low influenza activity in between. The first peak occurs in the warmer months from April to June and the second peak occurs towards the end of the year during the colder months of November – January. This trend was seen distorted in 2009 where only a large first peak was seen. ILI surveillance was totally disrupted during the pandemic period which began in October and therefore the second larger peak was not evident. In 2010 special measures were taken to sustain the OPD ILI surveillance during the second pandemic wave and a second much higher peak was seen in addition to the smaller first peak. The trend in 2011 corresponded with the expected flu' pattern in the country showing clearly the two peaks within the year.

**Severe Acute Respiratory Infections (SARI) Surveillance**

SARI surveillance was initially established in 3 hospitals in the country; Lady Ridgeway Children’s Hospital (LRH), Colombo South Teaching Hospital (CSTH) and Teaching Hospital Peradeniya. By end of the 1<sup>st</sup> quarter, GH Matara replaced CSTH as a SARI surveillance site. These hospitals are expected to send in up to 20 respiratory samples per month from inward patients admitted with severe acute respiratory tract infections. For the epidemiology component of this activity ICNO with the help of surveillance officers of the programme stationed within these hospitals, would collect the information on the number of total inward patients in relevant wards and the number with SARI, daily and consolidate this information into a weekly return that is sent to the Epidemiology Unit.

**SARI Surveillance – Lab surveillance**

There were a total of 163 samples from SARI patients in above 3 hospitals received by the MRI for the 4<sup>th</sup> quarter 2011. All 3 months of the quarter had recorded around 50 samples each. November had the highest number of samples (57). In October and December there were 55 and 51 samples respectively. For the whole quarter LRH had sent in the highest number of samples (71) with 50 from GH Matara and 42 from TH Peradeniya. Table 21 below shows the performance of 3 SARI sentinel hospitals in the laboratory component of the SARI surveillance for this quarter. Along with ILI samples, these SARI samples are processed at the NIC, MRI. Similar to the pattern seen in ILI results, Influenza A H3N2 also featured as one of the predominantly seen viral strains among inward SARI patients along with Influenza B. Presence of Pandemic Influenza A(H1N1) was not observed throughout the quarter. These results show that 25% of SARI patients tested within this quarter as having an influenza viral strain. It shows that a higher positivity rate is gained from the SARI samples when compared to the ILI samples (19%). Also the positivity rate for the SARI sample in this quarter is higher than that recorded for the previous quarter (19%).

**SARI Surveillance – Epidemiological surveillance**

There were total of 678 patients treated inward for severe respiratory tract infections in the said 3 hospitals within the 4<sup>th</sup> quarter. The highest number (429) was reported from TH Peradeniya. LRH had treated 189 and GH Matara, 60 patients. The highest number of patients was reported in December (272), October and November had 173 and 233 cases respectively. Table 23 below shows the distribution of SARI patients in the 3 hospitals by month in the 4<sup>th</sup> quarter 2011.

**Animal Influenza Surveillance**

This is carried out by the Department of Animal Production and Health (DAPH) of the Ministry of Livestock Development who is the partner of the Ministry of Health in Avian/Pandemic Preparedness activities. Under routine animal influenza surveillance, pooled and serum samples are collected randomly from backyard farms, industrial farms and hot spots for migratory birds. These also include identified special targets such as wet markets, processing plants, parent stocks, pet birds and ducks. Any unusual bird deaths or disease outbreaks are also investigated. Sampling is mainly carried out by the Veterinary Investigation Officers (VIO). These samples are tested for Highly Pathogenic Avian Influenza (HPAI) viral strains at their laboratory, Veterinary Research Laboratory (VRI).

In the 4<sup>th</sup> quarter 2011 there were 1539 pooled samples and 3087 serum samples collected and tested at the VRI for HPAI. None of the samples had yielded HPAI. The following table 24 shows the number of samples collected by month and the districts they were collected from.

**Figure 1: Distribution of OPD ILI visits by month – 2008 - 2011**

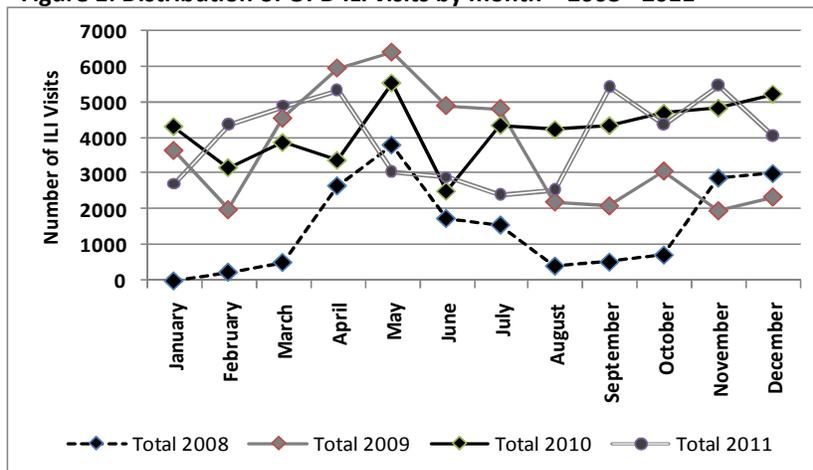


Table 19 performance of sentinel hospitals in the laboratory component of the surveillance programme - 4th Quarter 2011

Institution	October	November	December	Total
LRH	16	28	25	69
NHSL	0	11	30	41
CSTH	0	24	33	57
IDH	6	1	2	9
SJGH	0	0	0	0
NCTH	17	11	0	28
TH Peradeniya	16	22	6	44
GH Nuwara Eliya	11	13	13	37
TH Karapitiya	3	8	2	13
GH Matara	5	7	11	23
TH Jaffna	0	1	2	3
GH Vavuniya	14	7	5	26
GH Ampara	7	7	9	23
TH Batticaloa	16	27	5	48
TH Kurunegala	29	8	30	67
GH Chilaw	6	0	0	6
TH Anuradhapura	23	16	18	57
GH Polonnaruwa	23	17	27	67
GH Badulla	10	9	2	21
GH Ratnapura	21	26	14	61
<b>Total</b>	<b>223</b>	<b>243</b>	<b>234</b>	<b>700</b>

Table 20 : Types of Respiratory Viruses Isolated in ILI samples – 4th Quarter 2011

MONTH	TOTAL	INFLU B	PA(H1N1)	H3N2	A UNTPED
Oct	223	15	0	9	0
Nov	243	14	0	33	3
Dec	234	11	0	46	3
<b>Total</b>	<b>700</b>	<b>40</b>	<b>0</b>	<b>88</b>	<b>6</b>

Table 21: performance of sentinel hospitals in the laboratory component of the SARI surveillance - 4th Quarter 2011

Institution	October	November	December	Total
LRH	14	31	26	71
GH Matara	16	15	19	50
TH Peradeniya	25	11	6	42
<b>Total</b>	<b>71</b>	<b>50</b>	<b>42</b>	<b>163</b>

Table 22: Types of Respiratory Viruses Isolated in SARI Samples - 4th Quarter 2011

MONTH	TOTAL	INFLU B	PA(H1N1)	H3N2
Oct	55	6	0	5
Nov	57	8	0	13
Dec	51	6	0	3
<b>Total</b>	<b>163</b>	<b>20</b>	<b>0</b>	<b>21</b>

Table 23: Distribution of SARI patients by month – 4th Quarter 2011

Institution	October	November	December	Total
LRH	30	79	80	189
GH Matara	27	33	0	60
TH Peradeniya	116	121	192	429
<b>Total</b>	<b>173</b>	<b>233</b>	<b>272</b>	<b>678</b>

Table 24: Animal samples collected by month and district – 4th Quarter 2011

Month	No. of samples		Districts samples were collected from
	Pooled	Serum	
October	471	1038	Gampaha, Colombo, Puttalam, Hambantota, Anuradhapura, Ratnapura, Badulla, Trincomalee, Kegalle
November	532	1164	Gampaha, Colombo, Puttalam, Hambantota, Jaffna, Polonnaruwa, Ratnapura, Ampara, Vavuniya, Kurunegala, Matale, Kegalle
December	536	885	Colombo, Puttalam, Hambantota, Jaffna, Polonnaruwa, Ratnapura, Ampara, Vavuniya, Trincomalee
<b>Total</b>	<b>1539</b>	<b>3087</b>	

## AFP Surveillance – 2010

### Introduction

Poliomyelitis is a highly infectious acute viral disease, affecting mainly young children with irreversible paralysis or death. It is an enteroviral infection that transmits mainly through faeco-oral route in which personnel hygienic measures and socio-economic status in the country would play a major role in probability of spread of the virus in a country. During the 19<sup>th</sup> and 20<sup>th</sup> centuries, poliomyelitis was an epidemic, more frequently observed, reaching its peak in the mid 1950s globally. The worldwide prevalence of this infection has decreased significantly since then because of aggressive immunization programmes. Global Polio Eradication Initiative started in 1988 with eradication strategies and at the end of the year 2010 only 4 endemic countries were identified globally; i.e. Neigeria, Afganistan, Pakistan and India.

### History of Poliomyelitis surveillance and control activities –Sri Lanka

Poliomyelitis was made a notifiable disease in Sri Lanka in 1944. The largest outbreak in the country was reported in 1962 with 1810 cases and 180 deaths. Introduction of OPV to Colombo and suburbs for children aged 3 months -15 years was done in 1962. But the island wide mass immunization with OPV was initiated in 1964. Since then OPV coverage in Sri Lanka gradually increased and since 1995 the national OPV 3 coverage was maintained >90%.

Acute Flaccid Paralysis was gazetted as a notifiable disease in 1990 and individual case based investigation of all AFP cases started in 1991. In 1993 a total of 15 cases were identified with 10 of clinically confirmed and 5 of laboratory confirmed cases. The case definition of an AFP case cited a case as any child < 15 years of age presenting with acute onset of flaccid paralysis or a person of any age highly suspected of poliomyelitis.

The last case of Poliomyelitis was detected in a female child aged 2 years in the district of Moneragala, in Kataragama area in November 1993. It was found that the child had been immunized with only 2 doses of OPV. The wild polio virus isolated from this last virologically confirmed case was type 1. The type 2 Polio virus was also last detected in 1993 while type 3 was last detected in 1985.

Epidemiology Unit is the central coordinating agency for the National AFP Surveillance programme under the Poliomyelitis Eradication Initiative, receiving information about AFP cases from clinicians in curative institutions (sentinel site hospitals) where the patients seek treatment and also weekly reporting received from Medical Officers of Health (MOOH). In addition, 58 sentinel surveillance sites have been set up since 1996 in major hospitals in every Regional Director of Health Services [RDHS] Division where Consultant Paediatricians are in place. Regional Epidemiologists are expected to visit their respective sentinel site hospitals in the regions at least once a week. However, the premier children hospital in Colombo (Lady Ridgeway Children Hospital) is under the direct purview of the Epidemiology Unit. A monthly report of cases of AFP including a 'nil' report is received from the Regional Epidemiologists at the Epidemiology Unit in Colombo.

National Committee for Certification of Polio Eradication (NCCPE) was established in 1999. All relevant decisions and issues in the Poliomyelitis Eradication Initiative are discussed at quarterly meetings.

National Immunization days were conducted in the country from 1995 to 1999. Sub-National Immunization Days were conducted from 2000-2003 in the Northern and Eastern Provinces. Mopping up Immunization Programmes were conducted in 1993 in the Puttalam District, 1994 in the Trincomalee District and from 2001-2003 in districts in the Northern and Eastern Provinces. The criteria in identifying districts to conduct such supplementary immunization activities were based on factors identified as relatively low immunization coverage, population in transit, difficult to reach communities due to existing civil conflict situation in the country, and high population density in urban areas.

### Present polio eradication strategies in Sri Lanka- Routine Immunization of OPV

Uniform high OPV immunization coverage is maintained in all districts with 5 doses of OPV given at 2, 4, 6, months of age and boosters at 18 months and 5 years. Special attention and close supervision were done in maintaining high OPV coverage in areas of Northern and Eastern districts where civil conflicts existed and resettlements started.

### Supplementary OPV immunization for returnees & travelers

In addressing the potential for importation of Poliomyelitis to the country special supplementary OPV immunization strategy is being carrying out in Sri Lanka since 2004. In districts in northern and eastern provinces, Puttalam district and Nuwara Eliya district, carry out immunization of children less than 15 years of age who return to Sri Lanka from South India and other countries, with 2 doses of OPV vaccination; 1<sup>st</sup> dose as early as possible and the 2<sup>nd</sup> dose one month later, irrespective of their age appropriate polio vaccination status. This measure was expected to counteract the threat posed from the neighboring countries that report polio cases. A monthly return summarizing the number of children < 15 years of age among the returnees and their OPV immunization coverage is being sent to the relevant Regional Epidemiologist who consolidate data monthly to a district report to be sent to the Epidemiological Unit.

Also, since November 2007 all pilgrims departing for pilgrimages to India and especially to Buddhagaya should receive a dose of OPV at least 2 weeks prior to their travel date. This immunization activity is being carried out at all MOH offices and also at the Port Health Office in Colombo.

All children under 15 years of age among the Internally Displaced Persons (IDP) in the North are being immunized with 2 doses of OPV, 4-6 weeks apart irrespective of their immunization status. This is to cover any under immunized pockets among these victims of conflict. In this post conflict period much attention is being given to strengthening capacity and infrastructure building with regard to EPI and OPV immunization in the resettlement areas.

## AFP surveillance

### Geographical Distribution of AFP cases 2010

A total of 81 AFP cases were reported for the year 2010 (Fig.2). This yielded a non polio AFP rate of 1.3 per 100,000 under the 15 year old population. This is according to the population estimates for 2010 in the country. The highest number of cases, 11 (14%) was reported from the Kandy district. Batticaloa, and Kalmunai districts in Eastern province and Mullaitive, Kilinochchi and Mannar districts in the Northern province did not report any cases for the year. Countries in the endemic regions expected to report 2 of non polio AFP cases per 100,000 under 15 year population per year and Sri Lanka needs more reported cases of AFP to achieve this surveillance target

### Sentinel site notification of AFP -2010

The main sentinel site for AFP, out of the 58 sentinel sites in the country, Lady Ridgeway Children Hospital (LRH), Colombo which is a tertiary paediatric care center receiving referrals from other hospitals all over the country had reported over one third of the total case load (33%, 27 cases) in 2010. Teaching Hospital Kandy, another referral centre which covers a vast area in the country has reported 15 cases (17%) during the year.

Sentinel site hospitals are expected to notify AFP cases admitted to their institutions as early as possible to the Epidemiology Unit, Regional Epidemiologist and the relevant Medical Officer of Health of the patients' residence for necessary outbreak response activities and for completion of patient investigation and surveillance activities. Completion of the patient investigation form (Form 1 or the Pink form) and dispatching it to Epidemiology Unit is the responsibility of clinicians who are treating AFP patients at sentinel site hospitals.

All cases of AFP reported should have two stool samples collected within 14 days of onset of paralysis. Timely stool collection is defined as both stool sample collected within 14 days of the onset of paralysis with minimum of 24 hours apart in each samples. Timely stool samples collected in adequate amount which is specified as 6-8g collected to a screw capped, clean, dry containers provided at the sentinel sites are expected to be dispatched to Virology laboratory at MRI in the cold box provided for specimen transport. Stool specimens collected are required to be received at the MRI within 72 hours of collection, in ice with a proper request form. Laboratory investigation procedure in Polio virus isolation is carried out in the Virology Laboratory at the MRI and this is a WHO accredited regional reference Polio Laboratory serving Sri Lanka and Maldives. The timely stool collection rate satisfying the above criteria in 2010 was 81%.

### Age and Sex Distribution of AFP Cases 2010

The majority of AFP cases reported during the year was males. Out of the total of 81 cases, 52 (64%) were males and 27 (36%) were females. This is similar to the trend observed during last year where there were 47 (60%) males out of the 78 total AFP cases reported. Figure 3 shows the sex distribution of reported AFP cases.

Majority of the reported cases were between ages of 1-9 years (81%, 66 cases) as shown in figure 4 and this trend of presentation was compatible with the presentation of AFP cases for the previous year which was 73% (57 cases) of cases between 1-9 years of age.

### Final Classification of AFP Cases 2010

All cases reported finally had a final diagnosis and classification of final diagnoses is given in table 25. Majority (72%) of cases were Guillain Barre syndrome (GBS) and in comparison to 2009 same pattern observed as per 60 reported AFP cases, finally diagnosed as GBS, out of the total 78 AFP cases.

### Community based outbreak response activities

Subsequent to notification of AFP cases, relevant Medical Officers of Health are informed and the public health team working at the field level is expected to carry out outbreak response activities at the community. This includes stools samples to be collected from 3-5 contacts (a single sample as early as possible) specified as siblings or playmates of the relevant index patient and send to MRI in reverse cold chain within 72 hours of the collection with adequate information. Further additional OPV vaccination dose will be given to children below 15 years without considering their age appropriate vaccination status. The contact stool sampling was satisfactory during the previous year and samples of stools were collected from contacts of 72 (90%) AFP cases reported in 2010 and this figure for 2009 was 85%.

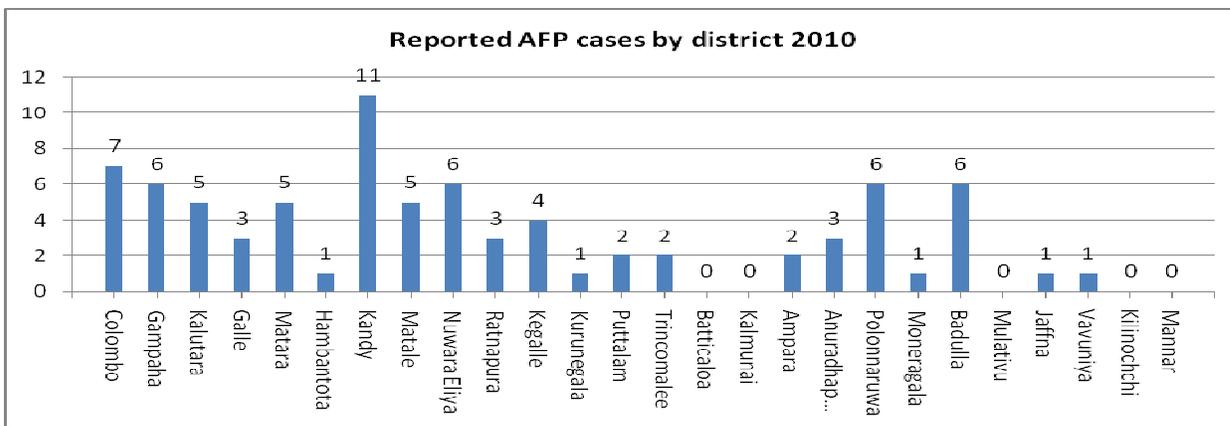
### Feedback Information on AFP Cases

All reported cases compiled according to geographical location and reported institutions were discussed at the Regional Epidemiologists' Quarterly review and they are expected to discuss the progress and strengthen notifications at respective sentinel site hospitals. In addition weekly reported cases are given at the Weekly Epidemiological Report (WER) and this publication is made available to all health institutions. The Epidemiology Unit has been publishing the WER since 1973 with the objective of providing a quick feedback in the form of a weekly statement on the notifiable diseases reported on the Weekly Return on Communicable Diseases from the Medical Officer of Health (MOH) areas. Further, Quarterly Epidemiological Bulletin published by the Epidemiological Unit provides summary information on AFP surveillance activities for each quarter and year.

### Indicators of AFP Surveillance and Laboratory performance 2010

Performance of an AFP surveillance programme is considered to be of adequate standards if a number of performance criteria are to be achieved. These criteria are stipulated by the Global Poliomyelitis Eradication Initiative of the World Health Organization. Firstly it is expected to detect 2 cases of non-polio AFP for every 100,000 population of children < 15 years of age in countries of the endemic region. Secondly two adequate diagnostic stool specimens (2 stools specimens collected at least 24 – 48 hours apart within 14 days of onset of paralysis and received in good condition at the laboratory) should be collected from at least 80% of AFP cases reported. The other criteria are based on the performance of the laboratory processing the specimens, monitoring mechanisms in place to streamline the reporting system and the clinical investigation procedures involved. The expected performance indicators and performance achieved during 2009 and 2010 are given in the table 26.

**Fig. 2 :Geographical distribution of AFP cases - Year 2010**



**Fig 3: Sex distribution of AFP cases -2010**

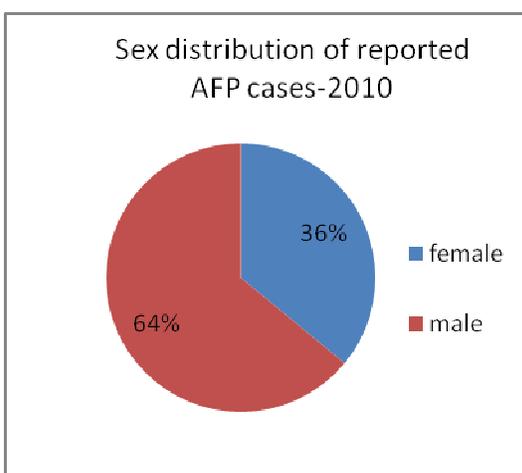


Table 25:

**Distribution of Final Classification of AFP cases -2010**

Diagnosis	Number	Percentage (%)
Guillan Barre Syndrome	72	88.89
Transverse Myelitis	1	1.23
Meningo Encephalitis	1	1.23
Acute Transient paralysis	1	1.23
Miller Fisher Syndrome	1	1.23
L/Common Peroneal Nerve Palsy	1	1.23
Ewing's Sacoma	1	1.23
Cerebellitis	1	1.23
Limb Gardle Muscular Dystrophy	1	1.23
Spinal TB	1	1.23

**Fig 4: Reported AFP cases by age category-2010**

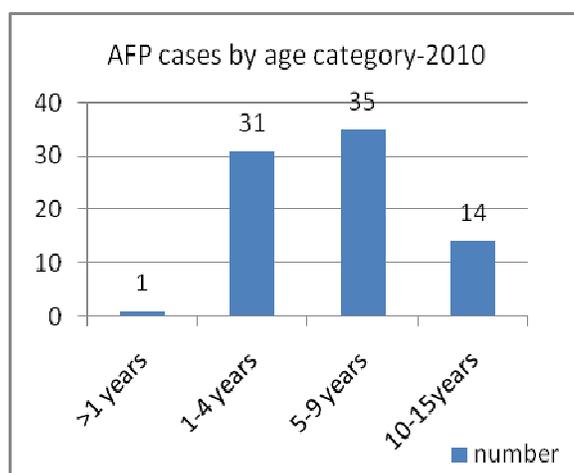


Table 26:

**AFP surveillance performance indicators- 2010**

Indicator	Expected	2010	2009
Non Polio AFP Rate ( <15 years )	2:100,000	1.3	1.3
Two timely stools Rate	>80%	81%	77%
Investigation within 60 Day Follow up Rate by the Regional Epidemiologist	>80%	100%	100%
Detection of Non Polio Enterovirus Rate % in the Laboratory	>10%	5.1%	10.2%
Timeliness of weekly reporting from sentinel site hospitals including "nil" returns	>80%	73%	74%
Timeliness of monthly reporting by Regional Epidemiologists at district level	>80%	54%	53%
Reporting time of laboratory results within 28 days	>80%	100%	100%

Table 27

**SUMMARY OF NOTIFIABLE DISEASES - 4th QUARTER 2011**

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	Rubella	Chickenpox	Mumps	Meningitis	Leishmaniasis
Colombo	27	2	155	12	1	160	3	4	0	1	14	2	2474	1	90	57	8	0
Gampaha	32	4	36	15	1	115	1	0	0	5	224	0	1336	1	41	22	30	0
Kalutara	31	4	32	5	0	112	0	2	0	2	18	0	405	1	39	45	20	1
Kandy	75	0	19	2	0	46	1	7	1	8	13	1	785	0	33	26	6	1
Matale	68	0	11	8	0	21	1	0	0	3	4	0	94	0	6	18	10	4
Nuwara-Eliya	28	0	10	68	0	9	1	2	0	9	8	0	85	0	42	19	2	0
Galle	27	2	12	22	0	67	0	1	0	10	1	0	192	0	62	55	12	0
Hambantota	31	0	1	7	1	44	0	6	0	13	5	0	72	0	12	19	2	102
Matara	30	1	12	6	0	88	4	12	1	30	16	2	392	0	55	32	4	11
Jaffna	204	1	163	8	0	1	0	1	0	115	11	0	124	0	11	29	6	0
Kilinochchi	12	0	11	2	2	0	0	0	0	4	0	0	14	0	1	3	1	0
Mannar	28	0	10	1	0	3	0	0	1	9	0	0	74	0	6	1	3	0
Vavuniya	24	8	6	13	0	10	1	2	0	0	2	1	14	0	3	1	1	0
Mullaitivu	24	0	3	0	0	5	0	1	0	1	1	0	4	0	0	0	1	0
Batticaloa	74	0	2	7	3	2	0	1	0	0	0	2	970	0	2	14	2	0
Ampara	138	0	4	8	0	15	1	2	0	1	4	0	62	0	52	57	5	0
Trincomalee	118	1	5	1	1	16	0	1	0	2	2	0	35	1	12	16	3	4
Kurunegala	100	4	25	20	0	123	2	0	0	11	44	0	288	0	67	51	30	13
Puttalam	41	3	10	42	0	11	1	1	0	5	5	0	169	1	11	8	3	1
Anuradhapura	55	0	4	3	0	26	2	0	2	1	18	2	69	1	55	51	34	112
Polonnaruwa	22	0	6	0	0	6	2	0	0	2	10	1	54	0	40	46	2	61
Badulla	105	1	10	15	0	11	0	0	1	15	14	1	141	0	70	28	7	0
Moneragala	50	1	18	1	2	20	0	14	0	14	29	3	106	0	24	36	4	1
Ratnapura	83	2	16	24	0	158	1	24	0	5	51	0	359	0	36	39	17	10
Kegalle	23	2	21	2	0	78	1	1	0	8	190	0	416	0	76	163	12	0
Kalmunai	189	2	5	42	1	1	1	6	0	0	3	0	59	0	69	135	1	1
<b>Total</b>	<b>1639</b>	<b>38</b>	<b>607</b>	<b>334</b>	<b>12</b>	<b>1148</b>	<b>23</b>	<b>88</b>	<b>6</b>	<b>274</b>	<b>687</b>	<b>15</b>	<b>8793</b>	<b>6</b>	<b>915</b>	<b>971</b>	<b>226</b>	<b>322</b>

No polio cases. (from AFP surveillance system).

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This document is available on the internet [www.epid.gov.lk](http://www.epid.gov.lk).

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. Such reports should be addressed to:

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