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Epidemiological Bulletin

SRI LANKA

***First Quarter
2006***

**Epidemiology Unit
Ministry of Health**

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1. POLIOMYELITIS

Forty two (42) Acute Flaccid Paralysis cases were notified to the Epidemiology Unit during the 1st quarter 2006. This contrasts with the 35 AFP cases each reported during the 1st quarter 2005 and 2004. This number also exceeds the expected number of AFP cases per quarter which is 27 according to WHO surveillance criteria. One hundred and six AFP cases are expected for a year which makes up a non-polio AFP rate of 2 per every 100,000 under 15 year olds.

Notification of AFP cases from Hospitals

The majority of the cases [12 (29%)] were notified from the main sentinel site for AFP, the Lady Ridgeway Children's Hospital (LRH), Colombo. Lady Ridgeway Hospital as a tertiary care centre receives referrals from other hospitals in the country. Teaching Hospital, Kandy reported 9 AFP cases for the quarter and accounted for 21% of the case load for the quarter. Teaching Hospital, Karapitiya and General Hospital, Badulla reported 3 AFP cases each. Other hospitals that notified the AFP cases in the 1st quarter are shown in Table 1.

Table 1.

DISTRIBUTION OF AFP CASES BY MEDICAL INSTITUTION – 1ST QUARTER 2006

Hospital	No. of cases
G.H. Ratnapura	02
G.H. Anuradhapura	02
T.H. Kurunegala	02
G.H. Batticaloa	02
B.H. Diyatalawa	02
Colombo South Teaching Hospital	01
National Hospital Sri Lanka	01
T.H. Peradeniya	01
G.H. Kalutara	01
B.H. Nawalapitiya	01

Distribution of AFP cases according to provinces, districts and MOH areas

Matale district in the Central province had the highest number of AFP cases reported from a district. The number of cases reported from Matale was 6 (14%), Nuwara Eliya of the Central province, Badulla of Uva province and Ratnapura of the Sabaragamuwa province had 4 AFP cases (1%) reported each. No cases were reported from districts in the Northern province. However all districts in the Eastern province except Trincomalee reported AFP cases in the 1st quarter. The complete list of distribution of AFP cases according to the province, district and MOH area is shown in Table 2.

Table 2.

DISTRIBUTION OF AFP CASES – 1ST QUARTER 2006

Province	District	MOH Area	No. of AFP cases	
Western	Colombo	CMC	2	
		Gampaha	Biyagama	1
		Negombo	1	
	Kalutara	Bandaragama	1	
		Beruwala	1	
Southern	Galle	Bope Poddala	1	
		Hikkaduwa	1	
	Matara	Kotapola	1	
Central	Kandy	Kadugannawa	1	
		Gampola	1	
	Matale	Naula	1	
		Dambulla	1	
		Galewela	1	
		Pallepola	1	
		Ukuwela	1	
		Rattota	1	
	Nuwara Eliya	Walapane	Maskeliya	2
			Ginigathhena	1
	Sabaragamuwa	Ratnapura	Balangoda	2
			Kuruwita	1
		Godakawela	1	
Kegalle	Aranayake	1		
	Deraniyagala	1		
North	Kurunegala	Mawathagama	1	
Western		Wariyapola	1	
	Puttalam	Kalpitiya	1	
Eastern	Ampara	Uhana	1	
		Dehiattakandiya	1	
		Kalmunai North	1	
	Batticaloa	Wellaweli	1	
		Kaththankudi	1	
North	Anuradhapura	Galnewa	1	
Central	Polonnaruwa	Thamankaduwa	1	
Uva	Badulla	Welimada	1	
		Uva Paranagama	2	
		Haldummulla	1	
	Moneragala	Badalkumbura	1	

Seasonal Distribution of AFP cases

January recorded half of all the AFP cases reported in the 1st quarter. The number reported for the month was 21 (50%). In February and March, 12 (29%) and 9 (21%) cases were reported respectively.

Age and Sex Distribution of AFP cases

Majority of the AFP cases [22 (52%)] reported in the 1st quarter this year were between 5-9 years of age. In comparison the majority of the AFP cases [16 (47%)] reported in the 1st quarter 2005 were between 1-4 years of age. Nine (21%) children each belonged to 10-15 year and 1-4 year age groups.

Fifty five percent of the AFP cases in the 1st quarter 2006 (23) were boys. A similar trend was observed in 1st quarter 2005. Nineteen of the 34 cases (55%) reported in that quarter were also males. The majority of the AFP cases were boys in all 4 age groups considered except among 5-9 year olds. Out of the 22 cases in this age group 13 (59%) were girls. This is in contrast to 1st quarter 2005 where the majority were males in all 4 age groups considered.

The table below shows the age and sex distribution in 1st quarter 2006.

Table 3.

DISTRIBUTION OF AFP CASES BY AGE AND SEX – 1ST QUARTER 2006

Age group	Sex		Total
	Male	Female	
<1 year old	2	0	2
1-4 year old	6	3	9
5-9 year old	9	13	22
10-15 year old	6	3	9
Total	23	19	42

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 (8-10 g), 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 complete to make the samples of "good condition".

All 42 AFP cases (100%) had at least one stool sample sent to MRI for polio virology. Medical Research Institute received at least one timely stool sample from 36 cases (86%). Thirty five cases out of the 42 AFP cases (83%) reported in the 1st quarter had two timely stool samples sent to MRI for polio virology. This compares with 82% out of 34 AFP cases recorded in the respective quarter 2005.

2. CHOLERA

In the 1st quarter of 2006, no confirmed cases of cholera were reported to the Epidemiological Unit.

No confirmed cases of cholera were reported in the previous quarter or the corresponding quarter of last year.

3. TETANUS

During the 1st quarter of 2006, 11 cases of tetanus were notified to the Epidemiological Unit. Out of these cases, 4 were investigated and all were confirmed as shown in Table 4.

Table 4.

DISTRIBUTION OF TETANUS CASES BY DPDHS DIVISIONS – 1ST QUARTER 2006

DPDHS Division	No. notified	No. confirmed
Gampaha	02	-
Anuradhapura	01	-
Kandy	01	-
Kurunegala	02	01
Galle	01	-
Polonnaruwa	01	-
Puttalam	01	01
Trincomalee	01	01
Nuwara Eliya	01	01*
Total	11	04

* a case of Neo-natal tetanus

Out of the 4 confirmed cases of tetanus one was a case of neo-natal tetanus which had been fatal.

4. MEASLES

During the 1st quarter of 2006, 07 cases of measles were notified to the Epidemiological Unit when compared to 11 cases notified during the previous quarter and 19 cases notified in the corresponding quarter of last year.

During the 1st quarter 2006, 03 cases were investigated and 02 were confirmed as measles (Table 5).

Table 5.

**SELECTED CHARACTERISTICS OF
CONFIRMED CASES OF MEASLES –
1ST QUARTER 2006.**

(N = 03)

Sex	Male	2
	Female	1
Age group	<1*	1
	1-5	1
	>5	1
District	Matale	01
	Kurunegala	01
	Trincomalee	01
Immunization status	Immunized**	1
	Non immunized	2

* a baby aged 5 /12 ** 2 years 5/12 old baby

5. LEPTOSPIROSIS

In the 1st quarter of 2006, 313 leptospirosis cases were notified to the Epidemiological Unit compared to 414 cases in the previous quarter (4th quarter 2005) and cases during the corresponding quarter of the previous year. Among the reported cases 133 were confirmed as leptospirosis.

Out of the total cases reported during this quarter, majority were from the districts of Kegalle (16%) and Gampaha (14%). Ten cases each were reported from Kegalle, Mawanella and Warakapola while the MOH areas Gampaha and Wattala reported 9 cases each.

6. HUMAN RABIES

In the 1st quarter of 2006, 15 human rabies cases were notified to the Epidemiological Unit, compared to 16 cases in the previous quarter (4th quarter 2005) and 17 cases in the corresponding quarter of the last year.

Highest number of rabies cases were reported from Gampaha, Ratnapura and Kilinochchi districts (02 cases per each district).

Animal Rabies*

One hundred and seventy five (175) dogs were reported positive for rabies compared to 105 positives in the previous quarter and 105 positives in the same period in the last year.

In addition the following animals were also reported positive for rabies.

Cats – 12, Wild animals – 01, Domestic ruminants – 02

Rabies Control Activities*

Dog vaccination – A total of 208,377 dogs were immunized during the 1st quarter 2006 under review when compared to 178,708 in the previous quarter and 200,773 in the corresponding quarter of last year.

Stray dog elimination – A total of 6,786 dogs were destroyed during the 1st quarter 2006 under review when compared to 9,147 in the previous quarter and 25,591 in the corresponding quarter of last year.

Source – Director/PHVS

7. MALARIA

During the 1st quarter of 2006, there was a significant reduction in the incidence of malaria in comparison with the same period of 2005 as seen in Table 6 and 7.

However an increase in the microscopically confirmed malaria cases was observed during this quarter in the Kurunegala district when compared to the previous quarter of 2005.

Table 6.

**RESULTS OF BLOOD SMEAR EXAMINATION –
1ST QUARTER 2006**

District	B.F.	Positives	P.v.	P.f./Mixed
Colombo	9448	0	0	0
Gampaha	9319	6	6	0
Kalutara	2122	0	0	0
Kandy	6084	0	0	0
Matale	5591	6	6	0
Nuwara Eliya	33	0	0	0
Galle	153	0	0	0
Matara	2179	2	2	0
Hambantota	10051	2	2	0
Jaffna	34758	1	1	0
Kilinochchi	7597	0	0	0
Vavuniya	7725	4	4	0
Mannar	3836	1	1	0
Mullativu	6795	0	0	0
Batticaloa	29532	4	4	0
Ampara	4560	2	2	0
Kalmunai	8778	1	0	1
Trincomalee	8623	32	32	0
Kurunegala	34801	145	140	5
Puttalam	6936	9	7	2
Anuradhapura	35762	43	42	1
Polonnaruwa	14156	2	2	0
Badulla	5856	2	2	0
Moneragala	13671	1	1	0
Ratnapura	5645	3	1	2
Kegalle	988	4	4	0
Total	274999	270	259	11

Table 7

**RESULTS OF BLOOD SMEAR EXAMINATION FOR MALARIA PARASITES
1ST QUARTER 2005/2006**

	1 st Quarter 2005	1 st Quarter 2006
No. of blood smears examined	240,848	274,999
No. of positives	743	270
No. of <i>P. vivax</i>	675	259
No. of <i>P. falciparum</i>	54	7
No. of mixed infections	14	4
No. of infant positives	5	1
Slide Positivity Rate (S.P.R.)	0.30%	0.1%
<i>P.v.</i> : <i>P.f.</i> ratio	12 : 1	37 : 1
Percentage of infant positives	0.67%	0.37%

8. JAPANESE ENCEPHALITIS (J.E.)

During the 1st quarter of 2006, 32 cases of Encephalitis were reported to the Epidemiological Unit.

Among the reported cases, 08 were investigated and 03 were found to be clinically confirmed as JE. Out of which 02 cases were fatal (CFR 66.6%).

This is in comparison to 15 cases and 2 deaths reported during the previous quarter (CFR 28.5%) and 31 cases and 1 death in the corresponding quarter of the last year (CFR 7.1%).

Table 8

**DISTRIBUTION OF ENCEPHALITIS
CASES AND DEATHS BY DPDHS
DIVISIONS – 1ST QUARTER 2006**

DPDHS Division	Cases	Deaths
Gampaha	3	0
Kalutara	1	0
Kandy	2	0
Matale	1	0
Galle	1	0
Matara	5	0
Hambantota	2	0
Jaffna	1	1
Mullaitivu	1	0
Vavuniya	3	0
Trincomalee	1	0
Batticaloa	3	0
Kurunegala	1	1
Badulla	1	0
Ratnapura	5	0
Kegalle	1	0
Total	32	2

9. ENTERIC FEVER

In the 1st quarter of 2006, a total of 650 cases of enteric fever were notified to the Epidemiological Unit, compared to 506 cases in the previous quarter and 697 cases in the corresponding quarter of 2005.

The following MOH areas notified a large number of cases.

MOH Area	No. of cases
Kalpitiya	48
Murunkan	46
Telippalai	33

The distribution of notified cases of enteric fever by DPDHS divisions is given in Table 26.

10. VIRAL HEPATITIS

In the 1st quarter of 2006, 794 cases of viral hepatitis were reported to the Epidemiological Unit, compared to 691 cases in the previous quarter (4th quarter 2005) and 420 cases in the corresponding quarter of 2005. Among the reported cases, 168 were investigated and confirmed as viral hepatitis. DPDHS area Kalmunai recorded the highest number of cases (159) accounting for 24% of the case load and the following MOH areas recorded the highest number of cases.

MOH area	No. of cases
Kalmunai	159
Puttalam	69
Samanthurai	46
Kanthale	33
Kalmunai South	32
Kalpitiya	30

11. DYSENTERY

In the 1st quarter of 2006, a total number of 1523 cases of dysentery was notified to the Epidemiological Unit, compared to 3064 cases in the previous quarter and 1508 cases in the corresponding quarter of the previous year.

The following MOH areas notified a large number of cases.

MOH Area	No. of cases
Pelmadulla	45
Ratnapura	45
Gampola	35

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

During the 1st quarter 2006, 2821 cases of DF/DHF and 6 deaths were reported when compared to 1933 cases and 04 deaths (CFR 0.21%) reported during the previous quarter and 862 cases and 05 deaths (CFR 0.58%) reported during the corresponding quarter of last year.

Table 9 shows the distribution of DF/DHF cases and deaths in the DPDHS divisions during the 1st quarter 2006.

During the first quarter 2006, 79 blood samples were tested using IgM capture ELISA test and Haemagglutination Inhibition test at the Department of Virology, MRI and 50 samples were confirmed as positive (Table 10).

Table 9
**MORBIDITY AND MORTALITY DUE TO
DF/DHF - 1ST QUARTER 2006**

DPDHS Division	Cases	Deaths
Colombo	791	01
Gampaha	511	-
Kalutara	244	-
Kandy	187	01
Matale	38	-
Nuwara Eliya	6	-
Galle	115	01
Hambantota	43	-
Matara	169	01
Jaffna	26	01
Kilinochchi	01	-
Mannar	0	-
Vavuniya	02	-
Mullativu	01	-
Batticaloa	36	-
Ampara	07	-
Trincomalee	15	-
Kuruneqala	146	-
Puttalam	47	01
Anuradhapura	41	-
Polonnaruwa	26	-
Badulla	31	-
Moneraqala	11	-
Ratnapura	201	-
Kegalle	103	-
Kalmunai	23	-
TOTAL	2821	06

Table 10.
**DHF STATISTICS FROM DEPARTMENT
OF VIROLOGY, MRI - 1ST QUARTER 2006**

Month	Clinically Suspected	Serologically Confirmed
January	44	31
February	17	9
March	18	10
TOTAL	79	50

12.1. SENTINAL LABORATORY SURVEILLANCE OF DENGUE FEVER

Nested PCR test was carried out to determine the serotype of the dengue virus in 273 patients tested by Genetech Laboratory, Colombo 8. The results are shown in Table 11

Table 11.
**RESULTS OF PCR TEST AT GENETECH
LABORATORY**

	Jan	Feb	Mar
No. tested	86	94	93
No. positive	34	24	32
Serotype			
D1	0	0	0
D2	8	4	8
D3	4	0	3
D4	1	0	3
Negative	2	2	2
Total	15	6	16

Table 12.
**AEDES LARVAL DENSITIES (BRETEAU INDEX) IN COLOMBO, GAMPAHA AND KALUTARA
DISTRICTS – 1ST QUARTER 2006**

Area	January		February		March	
	(A)	(B)	(A)	(B)	(A)	(B)
Nugegoda	5.5	14.5	6.4	13.3	3.8	12.5
Maharagama	3.0	9.5	1.8	12.2	2.3	13.5
Moratuwa	7.5	7.2	5.9	4.2	5.1	6.5
Kaduwela	17.6	44.7	2.5	12.3	3.7	17.4
Kotte	0.0	20.0	6.0	10.5	3.0	13.0
Dehiwala	-	-	9.0	5.0	3.0	3.0
Piliyandala	1.0	18.0	0.0	1.0	1.0	7.0
Boralesgamuwa	10.0	5.0	4.0	2.0	6.0	5.0
Homagama	4.0	12.0	2.0	6.0	2.0	13.0
Kolonnawa	19.4	30.0	5.5	7.4	13.0	11.0
Kelaniya	8.4	8.7	12.0	14.9	4.0	18.0
Ragama	4.0	13.5	2.4	14.7	1.45	8.0
Ja-Ela	2.0	15.5	1.2	10.4	14.4	27.8
Wattala	4.6	9.4	7.4	10.4	8.57	10.4
Mahara	10.0	17.0	7.0	18.5	10.3	16.3
Gampaha	0.0	38.0	-	-	-	-
Panadura	1.0	17.0	0.0	16.0	7.0	21.0
Bandaragama	1.0	19.0	2.0	16.0	0.0	21.0
Horana	0.0	11.0	-	-	0.0	9.0

(A) = *Aedes aegypti*
(B) = *Aedes albopictus*

Number of premises examined per area = 300

12.2. ENTOMOLOGICAL SURVEILLANCE OF DENGUE VECTORS

Results of the entomological surveillance carried out by the Medical Research Institute and Entomological Unit, Western Province, in selected MOH areas of Colombo, Gampaha and Kalutara districts, for the 1st quarter 2006 are given in Table 12.

Surveillance activities were carried out in locations identified as 'high-risk' by the respective MOOH and action has been taken to eliminate the breeding sites detected.

Breteau Index
= $\frac{\text{No. of Positive containers}}{\text{No. of premises inspected}} \times 100$

13. LEPROSY

Table 13.

**QUARTERLY RETURN OF LEPROSY STATISTICS
1ST QUARTER 2006****1. National**

	At the end of the quarter			Cumulative for end of the quarter		
	1 st Quarter 2006	1 st Quarter 2005	Diff. (%)	2006	2005	Diff. (%)
New patients detected	394	460	-14.3	394	460	-14.3
Children	42	59	-28.8	42	59	-28.8
Grade 2 Deformities	22	28	-21.4	22	28	-21.4
Multi-Bacillary	154	176	-12.5	154	176	-12.5
Females	172	199	-13.5	172	199	-13.5

2. District

District	New patients	Deformities	Child	MB	Females
Colombo	89	02	13	29	43
Gampaha	73	02	08	24	34
Kalutara	38	01	09	14	13
Western	200	05	30	67	90
Galle	19	02	0	06	10
Matara	16	0	0	04	08
Hambantota	10	01	01	04	05
Southern	45	03	01	14	23
Kandy	08	02	02	03	03
Matale	09	02	01	06	06
Nuwara Eliya	02	0	0	01	0
Central	19	04	03	10	09
Anuradhapura	17	0	01	08	06
Polonnaruwa	18	0	02	05	07
North Central	35	0	03	13	13
Kurunegala	21	02	01	11	06
Puttalam	23	03	01	12	10
North Western	44	05	02	23	16
Kegalle	06	0	0	04	03
Ratnapura	24	02	01	14	08
Sabaragamuwa	30	02	01	18	11
Badulla	02	0	0	0	01
Moneragala	02	0	0	01	01
Uva	04	0	0	01	02
Trincomalee	01	0	0	01	01
Batticaloa	0	0	0	0	0
Ampara	12	02	01	06	03
Kalmunai	01	0	0	01	01
Eastern	14	02	01	08	05
Jaffna	0	0	0	0	0
Vavuniya	0	0	0	0	0
Mannar	01	0	0	0	01
Mulativu	01	0	01	0	01
Kilinochchi	01	01	0	0	01
Northern	03	01	01	0	03
Sri Lanka	394	22	42	154	172

Source: Leprosy Campaign

14. SURVEILLANCE AT SEA PORT

Surveillance activities carried out by the Port Health Office at Colombo Sea Port during the 1st quarter 2006 is given below.

1. Yellow Fever Vaccination		
Total number vaccinated	-	48
2. Granting Pratique to Vessels		
No. issued	-	1082
3. Deratting Certification		
No. issued	-	90

Vaccinations carried out by the Assistant Port Health Office, Colombo 8, during the 1st quarter 2006 is given below.

	Total
a. Yellow fever	332
b. Meningococcal Meningitis	135

15. SURVEILLANCE AT AIRPORT

Surveillance activities carried out at the International Airport, Katunayake during the 1st quarter 2006 is given below.

1. Granting Pratique to Aircrafts		
a. No. issued	-	3685
2. Airport Sanitation		
a. No. of sanitary inspections carried out including food establishments	-	17
b. No. of food samples taken under Food Act	-	Nil
c. No. found defective	-	Nil
d. No. of court cases/prosecuted	-	Nil
3. Food consignments		
a. No. of food consignments inspected	-	226
b. No. released	-	226
c. No. rejected	-	Nil

16. SEXUALLY TRANSMITTED DISEASES

Statistics (quarterly summary) related to sexually transmitted diseases including HIV/AIDS received from the National STD/AIDS Control Programme are given in Table 14.

Table 14.

**NEW EPISODES OF STD/HIV/AIDS REPORTED OR TREATED AT STD CLINICS IN SRI LANKA* -
1ST QUARTER 2006**

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	18	10	28	18	10	28
AIDS	6	0	6	6	0	6
Early Syphilis ²	26	15	41	26	15	41
Syphilis Late Syphilis ³	74	98	172	74	98	172
Congenital Syphilis ⁴	13	4	17	13	4	17
Gonorrhoea ⁵	224	82	306	224	82	306
Ophthalmia neonatorum ⁶	8	6	14	8	6	14
Non specific cervicitis/urethritis	119	251	370	119	251	370
Chlamydial Infection	20	26	46	20	26	46
Genital Herpes	215	218	433	215	218	433
Genital Warts	141	87	228	141	87	228
Chancroid	1	8	9	1	8	9
Trichomoniasis	20	52	72	20	52	72
Candidiasis	231	351	582	231	351	582
Bacterial Vaginosis	0	233	233	0	233	233
Other sexually transmitted diseases ⁷	174	63	237	174	63	237
Non-venereal ⁸	800	504	1304	800	504	1304

* 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 inguinalae, Molluscum contagiosum, Scabies, Tinea, Hepatitis B etc.

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

MEDICAL RESEARCH INSTITUTE

17. BACTERIOLOGY REPORT – 1ST QUARTER 2006

Table 15.

	January	February	March
(A) CHOLERA			
No. of stool spe. examined	-	-	-
No. of El. tor cholera	-	-	-
Ogawa	-	-	-
Inaba	-	-	-
Cholera 0139	-	-	-
(B) SALMONELLA			
Blood No. examined	43	65	66
S. typhi	-	01	01
S. paratyphi	-	-	-
Stools – No. examined	168	121	96
No. +ve S. typhi	-	-	-
S. paratyphi A	-	-	-
Others	01	02	01
(C) SHIGELLA			
No. of spec. examined	168	121	96
No. +ve Sh. flexneri 1	-	03	02
Sh. flexneri 2	09	02	01
Sh. flexneri 3	-	-	-
Sh. flexneri 4	-	-	-
Sh. flexneri 5	-	-	-
Sh. flexneri 6	-	-	-
Sh. sonnei	08	01	01
Sh. others	-	-	-
(D) ENTEROPATHOGENIC			
E. coli			
No. of spec, examined	56	53	53
No. +ve Group A	01	-	-
(E) CAMPYLOBACTOR SPECIES			
	01	02	-

18. TUBERCULOSIS

A total of 1435 tuberculosis patients were registered for the first quarter 2006 by the National Programme for Tuberculosis Control and Chest Diseases. Of this total, 1163 suffered from pulmonary disease, while the balance, 272 patients from non-pulmonary disease. 766 of these patients were bacteriologically confirmed (65.8%). The distribution of tuberculosis patients by districts is given in Table 16. 332 tuberculosis patients and 134 other patients were hospitalized during the quarter. 1967 cultures were done during this period at the Central Laboratory.

B.C.G. vaccination

A total of 79,320 B.C.G. vaccinations were carried out during the quarter with 85.5% coverage.

Table 16.
TUBERCULOSIS PATIENTS BY DPDHS DIVISIONS – 1ST QUARTER 2006

DPDHS DIVISION	PTB	OTB	Total	+ve	Pulmonary TB Direct SS +ve (%)
Colombo	156	20	176	121	77.6
Gampaha	133	1	134	120	90.2
Kalutara	145	40	185	122	84.1
Kandy	81	22	103	38	46.9
Matale	26	8	34	13	50.0
Nuwara Eliya	45	7	52	21	46.7
Galle	24	7	31	15	62.5
Hambantota	32	7	39	23	71.9
Matara	33	19	52	21	63.6
Jaffna	55	8	63	26	47.3
Vavunia	8	5	13	7	87.5
Kilinochchi	0	0	0	0	0.0
Mannar	0	0	0	0	0.0
Mullativu	4	1	5	2	50.0
Ampara	16	4	20	10	62.5
Batticaloa	11	2	13	8	72.7
Trincomalee	6	2	8	6	100.0
Kurunegala	99	30	129	30	30.3
Puttalam	14	2	16	11	78.6
Anuradhapura	69	5	74	34	49.3
Polonnaruwa	25	8	33	19	76.0
Badulla	24	21	45	15	62.5
Monaragala	14	2	16	10	71.4
Kegalle	38	12	50	18	47.4
Ratnapura	98	38	136	70	71.4
Kalmune	7	1	8	6	85.7
Total	1163	272	1435	766	65.9

PTB – Pulmonary Tuberculosis OTB – Other Tuberculosis
Data from Central TB Register

19. HUMAN RABIES SURVEILLANCE REPORT – 2004

The burden of human rabies is gradually increasing and the number of lives lost annually has increased during the last two years resulting in the increased amount of financial allocations. The total number of confirmed human rabies cases notified to the Epidemiology Unit during the year 2004 was 98 (0.5/100,000) (Table 17).

Table 17.
MORTALITY AND NOTIFICATION OF HUMAN RABIES CASES – 1991- 2004

Year	Cases Confirmed		No. of suspected cases notified ■
	Number	*Rate	
1991	136	0.79	133
1992	112	0.64	112
1993	98	0.55	104
1994	105	0.58	122
1995	124	0.68	178
1996	110	0.59	195
1997	135	0.72	150
1998	111	0.59	123
1999	110	0.58	194
2000	109	0.56	132
2001	83	0.43	105
2002	64	0.33	78
2003	76	0.39	86
2004	98	0.5	97

Source – *Rabies Control Programme

■ Epidemiology Unit (H399 & H411)

* Rate per 100,000 population.

The distribution of notification of human rabies cases by DPDHS is given in Table 18. In 2004, the highest number of 14 cases was notified in DPDHS division Jaffna. The DPDHS divisions Colombo (09), Gampaha (06), Kalutara (12), Matara (08) and Trincomalee (06) also notified a higher number of cases. The highest rate of 1.02/100,000 was reported from North-Eastern Province, whereas the lowest is Central province (0.03/100,000). Southern province also reported a high rate of 0.89/100,000.

Age and Sex Distribution

The age distribution of investigated / confirmed cases of rabies for the year 2004 is given in table 19. The highest percentage of cases (56.1%) occurred in the age group 20-59 years. The next highest percentage of 20.7%

occurred in age group 5-19 years followed by the elderly population (>60yrs) with 19.5%. Zero cases were reported in children less than 1 year of age. Similar pattern of age distribution was shown during 2000 – 2004, where the age group 20-59 years is mostly affected, but it was noted that the elderly age group (>60 years) has emerged as a vulnerable age category in 2004.

Table 19.

AGE AND SEX DISTRIBUTION OF CONFIRMED HUMAN RABIES CASES, 2004

Age group	2004			
	Male	Female	Total	%
Under 1 year	0	0	0	0
1 – 4 years.	2	1	3	3.7
5 – 19 years	11	6	17	20.7
20 – 59 years	37	9	46	56.1
60 & over	10	6	16	19.5
Total	60	22	82	100

Source – Epidemiology Unit (H411 & EPID/HR/2002)

Reported male: female ratio of 3:1 highlights the increased susceptibility of males.

Exposure Information

Around 44% human rabies cases were due to the stray dogs (Table 20). The dog (84.1%) is the main reservoir as well as the transmitter of rabies in the country (Table 21).

Table 20.

DISTRIBUTION OF HUMAN RABIES CASES BY TYPE OF BITING ANIMAL – 2004

Type of Biting Animal	N	%
Household pet	13	15.8
Neighbours pet	7	8.5
Stray	36	43.9
Unknown	26	31.7
Total	82	100.0

Source – Epidemiology Unit (H411 & EPID/HR/2002)

Table 21.

DISTRIBUTION OF HUMAN RABIES CASES BY TYPE OF BITING ANIMAL – 2004

Type of Biting Animal	N	%
Dog	69	84.1
Cat	2	2.4
Others	2	2.4
Unknown	9	11.8
Total	82	100

Source – Epidemiology Unit (H411 & EPID/HR/2002)

Since the National Rabies Control Programme (NRCP) commenced in 1975, animal vaccination and elimination activities were strengthened to a greater extent. Dog vaccination and elimination have increased significantly from 1975 to 2004 (Table 22). Though the public support for the dog vaccination is remarkable, there is a growing public resistance for dog elimination, particularly from the animal lovers. In years 2002-2004 some local government authorities have completely stopped the dog elimination activities. Dog elimination declined to around 25% in 2004 compared to the year 2002 (Table 23). As a result of this decision, the stray dog population has increased in these areas posing an increased exposure risk to the public. In 2004, around 44% reported cases were due to stray animals (Table 20).

It is equally important to maintain the dog vaccination strategy as a control measure. Around 25% of human rabies cases were due to household / neighbour animals. This shows high susceptibility and poor vaccination practices among household animals and the lack of responsibility by the dog owners. Routine dog vaccination is essential. It not only protects the animal, but also makes the public less susceptible. It also helps to arrest the transmission of virus among the animals too.

However, partial and ad hoc dog vaccination practice may even lead to an increase in the risk of rabies, particularly due to the false trust on the safety of the animal. Epidemiological investigation has revealed that in some cases post exposure treatment (PET) was not taken or not given assuming that the animal was immunized, but actually the animal has not been vaccinated completely and thereby not protected.

Rabies Control Programme

Human rabies is a notifiable disease in Sri Lanka. The number of human rabies deaths declined from 377 in 1975 to 98 in 2004 (Table 22). However, a slight increasing trend was observed during the last two years (2003-2004), which need special attention. The NRCP is to control and prevent human and animal rabies in the country. The Epidemiology Unit is the national centre for disease surveillance and carries out all surveillance activities related to human rabies in the country through its wide network at the regional and divisional levels. Strategies of rabies control in Sri Lanka are; surveillance of rabies, promotion of responsible dog ownership, immunization of domestic, community and stray dogs against rabies, birth control for dogs, destruction of stray dogs suspected of incubating the rabies virus, post-exposure treatment, training and health education, enforcement of rabies control legislation and promotion of multi-sectoral co-operation and community participation.

Ministry of Health has appointed the National Task Force for rabies elimination in 2004. This Task Force will develop a national action plan for the elimination of rabies and at present sub committees are developing and piloting the prevention and control strategies. The Task Force is focussing on the implementation of most of these activities through the local government authorities with the cooperation of the MOOH. The necessary legislations have been developed.

Most of the lives would have been saved, if they had received the PET as recommended. Public awareness on PET should be strengthened. Also the rational post exposure treatment practices at the hospital should be reviewed regularly as a part of the clinical audit for PET. This is the most expensive single item among the drug allocations of the Ministry. Exposure opportunities are to be minimized by integrated activities of control of dog population and vaccination. Periodical review of the efficacy of dog vaccination is another aspect for future research. Strengthening present regulations and creating community

responsibility, particularly in dog ownership are equally important in rabies control activity in the country.

Table 18.

NUMBER NOTIFICATION OF HUMAN RABIES CASES BY DPDHS DIVISIONS– 2004

DPDHS DIVISION	Number	%	Rate/100,000
Colombo	9	9.2	0.4
Gampaha	6	6.1	0.3
Kalutara	12	12.2	1.1
Kandy	1	1.0	0.1
Matale	0	0.0	0.0
Nuwara Eliya	0	0.0	0.0
Galle	11	11.2	1.1
Hambantota	2	2.0	0.4
Matara	8	8.2	1.0
Jaffna	14	14.3	2.4
Vavunia	3	3.1	2.0
Kilinochchi	2	2.0	1.3
Mannar	0	0.0	0.0
Mullativu	2	2.0	1.9
Ampara	0	0.0	0.0
Batticaloa	0	0.0	0.0
Trincomalee	6	6.1	1.7
Kurunegala	4	4.1	0.3
Puttalam	1	1.0	0.1
Anuradhapura	4	4.1	0.5
Polonnaruwa	2	2.0	0.5
Badulla	2	2.0	0.3
Monaragala	3	3.1	0.7
Kegalle	2	2.0	0.3
Ratnapura	4	4.1	0.4

Table 22.

RABIES CONTROL ACTIVITIES AND NUMBER OF HUMAN DEATHS FROM RABIES, 1975 – 2004

Year	Vaccination of dogs	Elimination of dogs	Heads examined at MRI		Human rabies deaths	
			Number	% Positive	Number	Rate
1975	42,252	1,610	456	64.7	377	2.7
1980	120,143	36,845	420	52.5	209	1.4
1985	268,561	58,238	344	55.5	113	0.7
1990	412,586	63,233	963	70.2	154	0.9
1995	452,828	106,862	1,217	69.7	124	0.7
2000	657,597	117,790	559	88.5	109	0.6
2001	770,375	119,761	NA	NA	83	0.4
2002	797,565	117,790	NA	NA	64	0.3
2003	664,493	84,350	NA	NA	76	0.4
2004	844,123	89,530	NA	NA	98	0.5

Source: Rabies Control Programme

Table 23.

ANIMAL CONTROL ACTIVITIES BY DISTRICTS 2002-2004

DPDHS Area	Dog Vaccination			Dog Elimination		
	2002	2003	2004	2002	2003	2004
Colombo	86,445	65,630	70,418	9,844	7,417	5,950
Gampaha	128,009	75,149	132,769	4,311	3,278	2,864
Kalutara	56,381	35,967	35,967	325	1,399	3,782
Kandy	43,497	70,414	74,887	8,375	4,836	4,980
Matale	27,442	28,423	33,305	6,847	2,421	5,406
Nuwara Eliya	45,554	32,707	32,826	6,191	12,969	7,746
Galle	6,673	17,547	37,440	3,105	675	1,508
Matara	35,607	31,452	22,350	8,708	4,774	6,199
Hambantota	15,633	25,133	23,627	6,967	8,528	6,447
Jaffna	6,565	5,354	10,998	2,966	2,191	4,402
Vavuniya	4,950	1,536	15,614	-	146	428
Batticaloa	-	-	-	-	-	-
Ampara	425	-	3,367	491	-	-
Trincomalee	-	3,580	1,178	-	724	5,864
Killinochchi	492	-	-	-	93	-
Mannar	-	-	1,630	-	-	-
Kurunegala	121,103	62,639	93,727	6,144	8,236	4,945
Puttalam	59,442	75,937	84,758	9,712	2,687	185
Anuradhapura	37,581	21,567	34,711	3,536	7,539	8,207
Polonnaruwa	14,048	11,766	22,094	4,043	1,803	3,583
Badulla	30,060	25,536	43,860	4,807	3,008	3,646
Moneragala	17,862	8,971	13,875	3,668	-	5,097
Ratnapura	24,801	21,885	13,865	2,748	9,537	6,068
Kegalle	34,995	42,300	40,857	2,700	2,359	697
Total	797,565	664,493	844,123	117,790	84,350	89,530

Source: Rabies Control Programme

20. SURVEILLANCE REPORT ON DENGUE FEVER / DENGUE HAEMORRHAGIC FEVER - 2005

Dengue Fever /Dengue Haemorrhagic Fever continues to be a major public health problem in Sri Lanka since in addition to being endemic, it has increased in incidence. Furthermore, the severe manifestations of the disease is also on the rise leading to significant mortality in the recent past (Figure 1).

Following the worst ever epidemic of DF/DHF in year 2004 in which there were 15467suspected cases and 88 deaths, there was a significant reduction in the incidence of DF/DHF (61%) in year 2005. There were 5965 suspected DF/DHF cases and 28 deaths notified to the Epidemiology Unit during this period.

The usual seasonal increase in incidence which occurs in relation to monsoon rains was not marked during this period. Although the disease incidence was low during the first half of the year it showed an increase during the second half and by the end of the year it recorded the highest ever reported number of cases for the corresponding period of the year (Figure 2 & 3).

The cases of DF/DHF were distributed in almost all the districts except some districts in the North Eastern Province. Majority of the cases were reported from the Western Province which accounted for 61 % of the total

case load. The districts of Kandy and Ratnapura also reported a high case load accounting for 10% and 7% of the total case load respectively. Distribution of cases by DPDHS divisions is given in Figure 4 and Table 24.

Some of the 'high-risk ' MOH areas identified in 2004 continued to report a significant number of cases during the current year. Colombo Municipal Council area reported 772 cases (13% of the total case load). However this high number could be partly due to improved surveillance (active case detection) by the MOH/ PHII. The following MOH areas have significantly contributed to the total case load.

DPDHS area	MOH area	No. of cases	% of the total
Colombo	CMC	772	13.0
	Moratuwa	197	3.5
	Maharagama	159	2.6
	Dehiwala	143	2.4
	Nugegoda	139	2.3
	Kolonnawa	108	1.8
Gampaha	Wattala	184	3.0
	Mahara	170	2.8
	Kelaniya	154	2.6
Kalutara	Panadura	139	2.3
	Horana	108	1.8
Ratnapura	Ratnapura	183	3.0

Figure 1: Total suspected cases and deaths due to DF/DHF - Sri Lanka 2000-2005

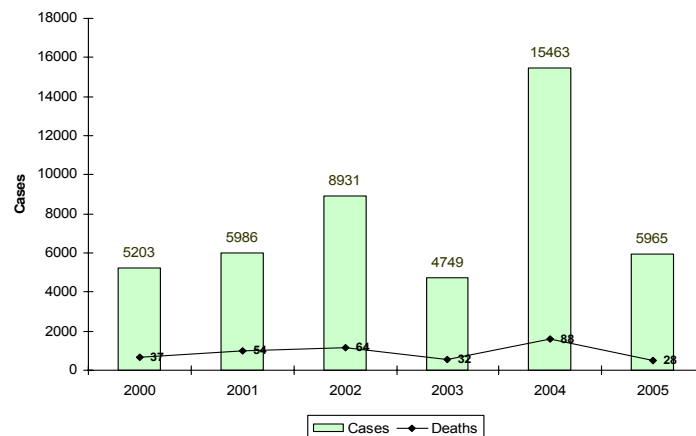


Figure 2: Distribution of suspected DF/DHF cases by month - Sri Lanka, 2004 -2005

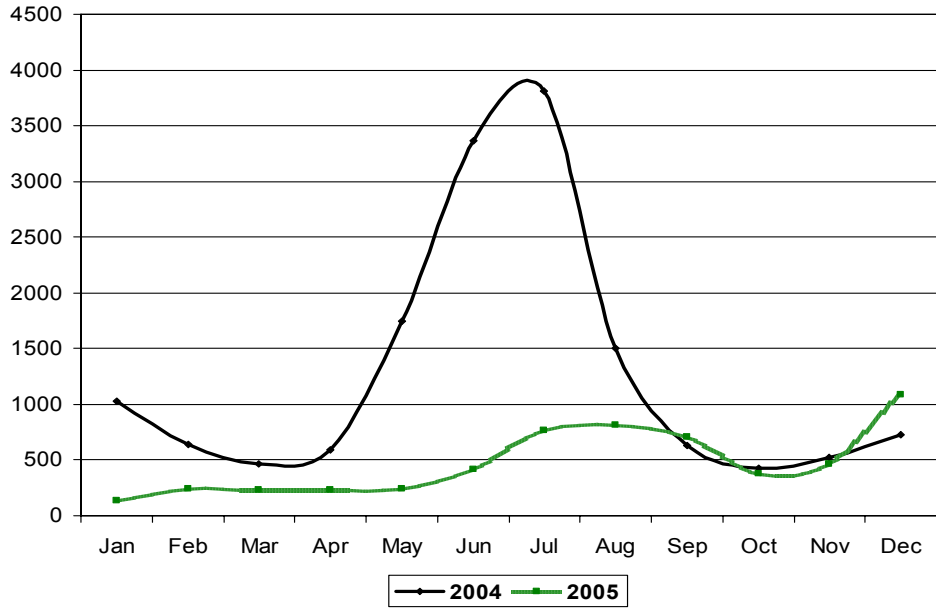


Figure 3: Distribution of suspected DF/DHF cases by week Sri Lanka 2003-2005

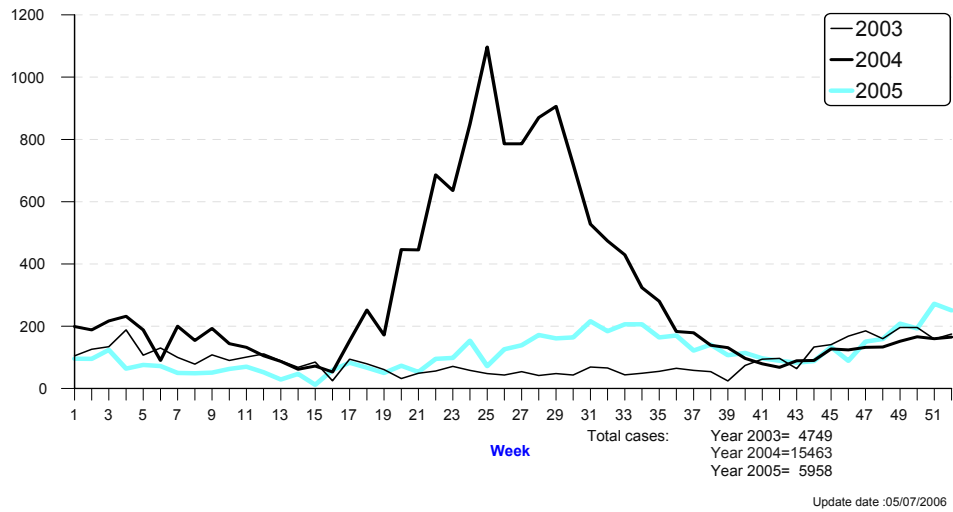
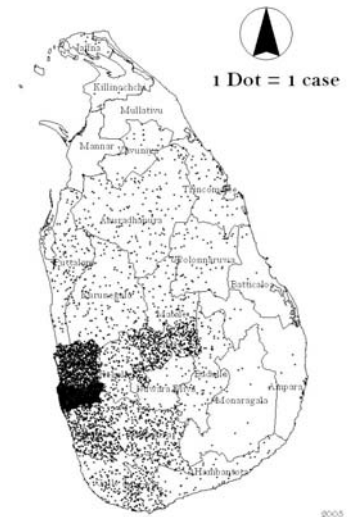


Table 24.
**DISTRIBUTION OF SUSPECTED CASES
 AND DEATHS DUE TO DF/DHF BY
 DISTRICTS – 1ST QUARTER 2006**

District	No. of cases	%	No of deaths	%
Colombo	1985	33.2	6	21.4
Gampaha	1252	21.0	10	35.7
Kalutara	442	7.4	1	3.6
Kandy	623	10.4	4	1.4
Matale	69	0.2	0	0.0
Nuwara Eliya	23	0.4	0	0.0
Galle	93	1.5	0	0.0
Matara	172	2.8	0	0.0
Hambantota	44	0.7	0	0.0
Jaffna	14	0.2	0	0.0
Kilinochchi	4	0.1	0	0.0
Mullaitivu	0	0.0	0	0.0
Vavuniya	24	0.4	0	0.0
Mannar	0	0.0	0	0.0
Trincomalee	48	0.8	1	3.6
Batticaloa	7	0.1	0	0.0
Ampara	10	0.2	0	0.0
Kalmune	5	0.1	0	0.0
Kurunegala	154	2.5	2	7.2
Puttalam	126	2.1	0	0.0
Anuradhapura	162	2.7	0	0.0
Polonnaruwa	61	1.0	0	0.0
Badulla	78	1.3	0	0.0
Moneragala	12	0.2	1	3.6
Ratnapura	425	7.1	2	7.2
Kegalle	138	2.4	1	3.6
Total	5971	100.0	28	100.0

Figure 4:

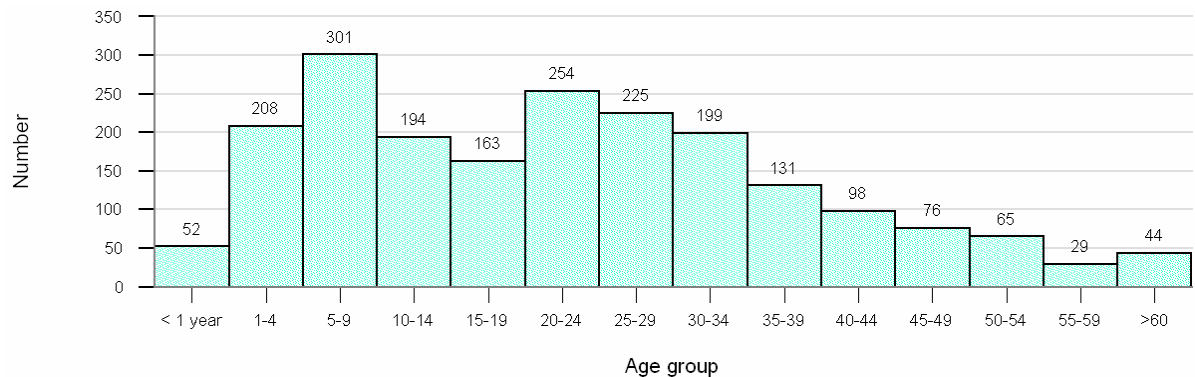
Notified DF/DHF cases by districts - 2005



Source: Epidemiological Unit (f399)

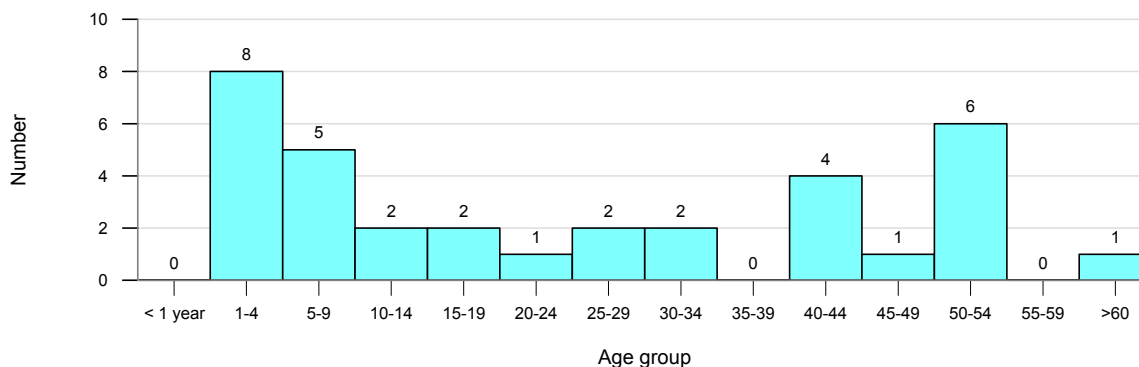
Special surveillance data were received for 2039 cases and it revealed that all age groups were affected by the disease but 12% of the cases (260 cases) were less than 5 years old whereas 32% were in the 5 to 19 year age group (658 cases) and 33% in 20-35 year age group (679 cases) (Figure 5).

Figure 5: **Distribution of confirmed DF/DHF cases by age group - 2005**



Source: Epidemiological Unit

No. of cases analysed N= 2039

Figure 6: Distribution of DF/DHF deaths by age groups - 2005

Source: Epidemiological Unit

No. of cases analysed N= 28

Deaths due to DF/DHF have occurred in all age groups but 42 percent of the deaths (12) were among those less than 10 years old (Figure 6).

Table 25.

DISTRIBUTION OF DF/DHF CASES AND DEATHS BY SEX IN 2005

Sex	Cases	%	Deaths	%
Male	1165	57	12	43
Female	874	43	16	57
Total	2039	100	28	100

Distribution OF DF/DHF cases and deaths by sex showed that there was a male preponderance among cases (57%) but a female preponderance among deaths (57%) (Table 25).

Serological confirmation of DF/DHF

173 blood samples were tested for dengue anti bodies at the Department of Virology of the Medical Research Institute and 95 (54%) were positive for Ig M antibodies.

Activities carried out during 2005 for prevention and control of DF/DHF

- National plan of Action for Prevention and Control of DF/DHF 2005-2009 was prepared based on the recommendations of the sub-committees and finalized during the current year. It contains a section on guidelines for vector control which would be useful to the MOOH.
- Guidelines on Clinical management of DF/DHF were prepared by the sub-committee on clinical management. This document would be a useful reference material for clinicians.
- Review of dengue surveillance and control activities were carried out by the Dengue Control Unit in collaboration with the Epidemiology Unit.
- With the establishment of the Dengue Control Unit under the leadership of a senior Epidemiologist, an allocation of Rs. 10 million was received for dengue prevention and control activities
- Funding of special projects on control activities of DF/DHF in high risk areas by the Dengue Control Unit.

21. SUMMARY OF NOTIFIABLE DISEASES – 1ST QUARTER (JANUARY – MARCH) 2006

Table 26.

Health Region	Cholera	*Acute Flaccid Paralysis (AFP)	Dysentery	Dengue Haemorrhagic Fever	Encephalitis	Enteric Fever	Food Poisoning	Human Rabies	Leptospirosis	Measles	Simple Contd. Fever	Tetanus	Typhus Fever	Viral Hepatitis
Colombo	0	0	84	791	0	22	7	1	21	0	4	0	2	18
Gampaha	0	0	89	511	3	15	53	2	45	0	12	2	4	36
Kalutara	0	0	88	244	1	17	12	0	24	0	10	0	5	8
Kandy	0	0	148	187	2	36	15	1	22	0	6	1	28	43
Matale	0	0	84	38	1	4	7	0	1	3	0	0	2	5
Nuwara Eliya	0	0	47	6	0	49	6	0	4	0	1	1	8	11
Galle	0	0	39	115	1	4	6	0	14	0	0	1	2	1
Hambantota	0	0	17	43	2	12	1	0	23	0	2	0	24	14
Matara	0	0	33	169	5	25	22	1	32	0	1	0	74	2
Jaffna	0	0	39	26	1	86	10	1	2	0	10	0	118	41
Kilinochchi	0	0	6	1	0	1	0	2	0	0	0	0	0	3
Mannar	0	0	2	0	0	69	0	1	1	0	3	0	0	5
Vavuniya	0	0	25	2	3	21	11	0	1	0	3	0	0	5
Mullativu	0	0	6	1	1	25	0	1	0	0	0	0	0	5
Batticaloa	0	0	20	36	3	25	0	0	2	0	0	0	0	76
Ampara	0	0	30	7	0	3	0	1	4	0	0	0	2	8
Trincomalee	0	0	21	15	1	16	1	1	0	1	0	1	3	79
Kurunegala	0	0	48	146	1	27	10	1	6	2	0	2	6	15
Puttalam	0	0	55	47	0	55	2	2	3	0	1	1	2	104
Anuradhapura	0	0	38	41	0	15	2	0	15	0	0	1	8	35
Polonnaruwa	0	0	24	26	0	2	0	0	9	0	0	1	1	12
Badulla	0	0	174	31	1	34	12	0	4	0	0	0	32	20
Moneragala	0	0	66	11	0	18	3	0	8	1	0	0	24	20
Ratnapura	0	0	237	201	5	41	18	1	19	0	5	0	23	27
Kegalle	0	0	79	103	1	9	3	2	53	0	5	0	19	44
Kalmunai	0	0	24	23	0	19	0	0	0	0	0	0	1	159
TOTAL	0	0	1523	2821	32	650	201	18	313	7	63	11	388	796

- No polio cases. (from AFP surveillance system).
- The Bulletin is compiled and distributed by the Epidemiological Unit, Ministry of Health, 231, De Saram Place, Colombo 10.
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