



# WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiological Unit,

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## CURRENT OUTBREAK OF LEPTOSPIROSIS

This year up to September 5, a total of 4295 leptospirosis cases have been notified from all over the country. An alarmingly increasing number of cases have been observed in several districts including Kurunegala, Gampaha and Colombo. The sentinel hospitals alone reported 119 deaths. Unusually high case fatality rate is one of the notable features observed this year. All these emphasize the need for further strengthening prevention and control activities at all levels. The activities to be taken by the health workers and the issues/ constraints encountered during this outbreak are briefed in this article.

This acute generalized illness can mimic other tropical diseases and the common symptoms include fever, chills, muscle pain, nausea, diarrhoea and conjunctival suffusion. Manifestations of severe disease can include jaundice, renal failure, widespread haemorrhage, myocarditis and meningitis. It should be noted that though the above symptoms are common, none is specific for leptospirosis. This often leads to mistaken or late diagnosis resulting in high rates of complications and fatality. It is recommended (especially during outbreaks) that fever patients with a history of exposure to contami-

nated environment should be admitted for inward management. Even without a proper history of exposure, if the patients present with symptoms/ signs strongly suggestive of leptospirosis, inward management should be considered.

If the duration of fever is more than 3 - 4 days be vigilant of signs and symptoms suggestive of possible complications such as renal failure, myocarditis and heart failure, meningitis, and widespread haemorrhage due to disseminated intravascular coagulation. Case fatality rate is reported to range from less than 5% to 30% and is mainly due to the above complications. Transferring patients to higher level institutions should be considered if there is a concern about urine output despite adequate hydration. Symptoms suggestive of cardiac involvement such as hypotension and tachycardia are some of the other indications for transferring patients.

Clinical suspicion of leptospirosis should be confirmed whenever possible by necessary laboratory tests. Confirmatory diagnosis (especially microscopic agglutination test-MAT) could be done at the Medical Research Institute, Colombo. However, serological tests do not become positive with the

Contents	Page
1. Leading Article - Current outbreak of leptospirosis	1
2. Surveillance of vaccine preventable diseases & AFP (9 <sup>th</sup> - 15 <sup>th</sup> August 2008)	3
3. Summary of newly introduced notifiable diseases (9 <sup>th</sup> - 15 <sup>th</sup> August 2008)	3
4. Laboratory surveillance of dengue fever (9 <sup>th</sup> - 15 <sup>th</sup> August 2008)	3
5. Summary of selected notifiable diseases reported (9 <sup>th</sup> - 15 <sup>th</sup> August 2008)	4

mortem blood samples obtained within one hour of death to confirm the diagnosis in clinically suspected cases.

The treating physicians should also notify details of suspected cases of leptospirosis to the Epidemiology Unit without delay. Early notification and subsequent investigation by field health staff are essential particularly to forecast/ track the outbreaks and take early interventions. In addition, sentinel surveillance is carried out in selected hospitals in high risk areas. These hospitals are expected to send special investigation forms for all confirmed cases. Getting further information on laboratory investigations conducted and the possible source of exposure is the main objective of this activity.

Since the case fatality is unusually high this year, there is a need to investigate the deaths also. All hospital deaths due to suspected/ confirmed leptospirosis should be notified to the Epidemiology Unit and the relevant Regional Epidemiologist over the phone by the hospital staff. In addition, for all reported deaths, duly filled death investigation forms should be sent from the hospitals (by the physician who treated) and from the field (by the relevant MOH of the area from where the patient hailed) to the Epidemiology Unit. The objective of the death investigation is to identify the factors contributed to the deaths and to take remedial action at both field and hospital levels. This is to identify the shortcomings in the system with a view to rectifying these in future and certainly not to find fault with any individuals.

All information collected by the above means should be rationally used to plan and evaluate prevention and control activities. It is the responsibility of the MOOH to carry out prevention and control activities at the divisional level. A variety of occupational and recreational activities have been associated with leptospirosis, including farming, gem mining, cleaning drains and canals, veterinary and abattoir work, and swimming and playing in contaminated water. The risk of acquiring leptospirosis can be greatly reduced by avoiding exposure to contaminated water and soil. However, it might not be possible

for people whose livelihoods depend on occupations mentioned above. They should be advised on the benefits of wearing footwear preferably knee-high boots and protective clothing. Wounds/ abrasions on skin should be covered with waterproof dressing. Further, awareness about the disease should be raised among risk groups, health care providers and general population, so that the disease can be recognized early and treated with the least possible delay.

Chemoprophylaxis is not advocated as a routine and leading preventive strategy and is recommended only for well recognized high risk groups. Identification of high risk localities at the divisional level (e.g. clustering of cases in a particular area) will help to identify high risk groups. Further, there should be a felt need by the high risk occupational groups of such areas for prophylaxis e.g. request for prophylaxis made by farmers' organizations. If prophylaxis is given, it should be closely monitored by the MOH and the field health staff. The recommended dose is doxycycline 200 mg weekly during the period of possible exposure. Doxycycline is a tetracycline antibiotic and should not be given to children younger than 12 years old, pregnant and lactating mothers.

Though this ongoing outbreak has been presumed due to leptospirosis, more than one pathogenic agent may be responsible. For example, hanta virus infections may be part of the current problem in Sri Lanka. Like leptospirosis, hanta virus infection is also a mainly rodent-borne zoonotic infection. It often presents in epidemic forms after abundant rainfall, and differential diagnosis with leptospirosis on clinical grounds alone is impossible to be made. Even if the rodent reservoir in Sri Lanka is same for both leptospira and hanta virus - which is far from proven - the treatment and prognosis of both human infections is totally different. Further, effective measures of prevention and control will not be possible as long as the exact mammal reservoir is not known. These facts underscore the importance of clinical observations being supported by adequate laboratory testing.

**Source**

**Table 1: Vaccine-preventable Diseases & AFP** 9<sup>th</sup> - 15<sup>th</sup> August 2008 (33<sup>rd</sup> Week)

Disease	No. of Cases by Province									Number of cases during current week in 2008	Number of cases during same week in 2007	Total number of cases to date in 2008	Total number of cases to date in 2007	Difference between the number of cases to date between 2008 & 2007
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	01 GM=1	00	00	00	01 BT=1	00	00	00	02 RP=1 KG=1	04	01	64	59	+8.53%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Measles	00	00	00	00	00	00	00	01 MO=1	02 KG=2	03	01	84	50	+68.3%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	25	23	+8.7%
Whooping Cough	00	00	00	01 JF=1	00	00	02 KR=1 PU=1	00	00	03	02	29	30	-3.3%
Tuberculosis	33	43	07	04	02	00	05	00	00	205	261	5733	6518	-12.0%

**Table 2: Newly Introduced Notifiable Diseases** 9<sup>th</sup> - 15<sup>th</sup> August 2008 (33<sup>rd</sup> Week)

Disease	No. of Cases by Province									Number of cases during current week in 2008	Number of cases during same week in 2007	Total number of cases to date in 2008	Total number of cases to date in 2007	Difference between the number of cases to date between 2008 & 2007
	W	C	S	N	E	NW	NC	U	Sab					
Chicken-pox	25	06	10	00	04	02	02	07	12	67	37	3536	2226	+58.8%
Meningitis	02 GM=2	01 KD=1	03 GL=1 MT=1 HB=1	01 JF=1	00	02 KR=1 PU=1	00	03 BD=3	03 KG=2 RP=1	15	16	903	316	+185.7%
Mumps	06	19	17	20	03	19	13	04	12	113	83	1833	1145	+60.1%

**Key to Table 1 & 2**

**Provinces:** W=Western, C=Central, S=Southern, N=North, E= East, NC=North Central, NW=North Western, U=Uva, Sab=Sabaragamuwa.  
**DPDHS Divisions:** CB=Colombo, GM=Gampaha, KL=Kalutara, KD=Kandy, ML=Matale, NE=Nuwara Eliya, GL=Galle, HB=Hambantota, MT=Matara, JF=Jaffna, KN=Killinochchi, MN=Mannar, VA=Vavuniya, MU=Mullaitivu, BT=Batticaloa, AM=Ampara, TR=Trincomalee, KM=Kalmunai, KR=Kurunegala,

**Table 3: Laboratory Surveillance of Dengue Fever** 9<sup>th</sup> - 15<sup>th</sup> August 2008 (33<sup>rd</sup> Week)

Samples	Number tested		Number positive *		Serotypes									
					D <sub>1</sub>		D <sub>2</sub>		D <sub>3</sub>		D <sub>4</sub>		Negative	
	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH
Number for current week	04	04	00	01	00	00	00	00	00	01	00	00	00	00
Total number to date in 2008	120	128	09	22	00	00	06	08	01	08	00	00	02	00

**Sources:** Genetech Molecular Diagnostics & School of Gene Technology, Colombo [GT] and Genetic Laboratory Asiri Surgical Hospital [AH]

\* Not all positives are subjected to serotyping.

NA= Not Available.

**Data Sources:**

**Weekly Return of Communicable Diseases:** Diphtheria, Measles, Tetanus, Whooping Cough, Human Rabies, Dengue Haemorrhagic Fever, Japanese Encephalitis, Chickenpox, Meningitis, Mumps.

**Special Surveillance:** Acute Flaccid Paralysis.

**National Control Program for Tuberculosis and Chest Diseases:** Tuberculosis.

**Table 4: Selected notifiable diseases reported by Medical Officers of Health  
9<sup>th</sup> - 15<sup>th</sup> August 2008 (33<sup>rd</sup> Week)**

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human-Rabies		Returns Receive %
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Colombo	32	1186	07	137	01	09	04	71	01	75	14	289	00	02	02	86	00	00	92
Gampaha	18	715	07	138	00	15	02	36	27	95	22	293	00	05	04	99	01	04	64
Kalutara	07	347	01	230	01	10	00	44	00	18	08	335	00	02	00	32	00	01	100
Kandy	08	180	06	218	00	05	01	43	00	53	05	317	04	76	01	95	00	01	76
Matale	02	82	03	153	00	02	00	35	00	04	04	611	00	01	01	23	00	00	100
Nuwara Eliya	00	21	02	181	00	02	01	197	48	158	03	39	00	35	00	87	00	01	92
Galle	02	83	03	132	00	12	00	13	00	43	05	241	00	12	00	06	00	03	88
Hambantota	02	70	02	68	00	05	00	07	00	11	03	72	01	66	03	12	00	00	100
Matara	07	202	03	136	00	10	02	28	00	06	08	239	04	147	00	11	00	01	100
Jaffna	00	52	02	99	00	02	03	221	00	11	00	00	02	150	02	32	00	00	75
Kilinochchi	00	00	00	23	00	00	00	01	00	00	00	02	00	00	00	01	00	00	00
Mannar	00	25	00	15	00	06	06	145	00	00	00	00	00	01	00	13	00	00	75
Vavuniya	00	11	02	45	00	02	01	06	00	14	00	05	00	01	01	05	00	00	100
Mullaitivu	00	00	00	06	00	00	00	12	00	12	00	00	00	01	00	08	00	00	00
Batticaloa	00	85	01	90	01	04	00	20	00	20	01	05	00	01	00	82	00	05	73
Ampara	00	26	01	219	00	00	00	07	00	01	00	17	00	00	00	07	00	00	14
Trincomalee	01	176	00	70	00	00	01	13	00	12	00	28	01	16	00	12	00	00	70
Kurunegala	03	259	04	170	01	14	02	44	00	14	40	249	00	20	00	53	00	04	89
Puttalam	01	271	02	61	00	08	03	137	00	26	02	32	00	33	00	27	00	03	89
Anuradhapur	00	109	00	60	00	09	01	10	00	06	01	223	00	10	00	12	00	02	58
Polonnaruwa	00	59	00	89	00	01	00	21	00	07	00	55	00	01	00	18	00	00	86
Badulla	02	66	05	338	00	05	00	101	00	13	00	33	01	98	05	102	00	01	93
Monaragala	00	49	02	280	00	03	00	29	00	116	01	87	00	76	05	38	00	00	91
Ratnapura	04	213	03	235	00	26	00	42	00	51	01	127	00	74	00	45	00	00	88
Kegalle	08	318	02	231	00	24	02	51	00	04	16	240	03	53	05	433	00	01	91
Kalmunai	01	33	01	201	00	02	00	09	00	15	00	00	00	02	00	21	00	00	62
<b>SRI LANKA</b>	<b>98</b>	<b>4638</b>	<b>59</b>	<b>3625</b>	<b>04</b>	<b>176</b>	<b>29</b>	<b>1343</b>	<b>76</b>	<b>785</b>	<b>134</b>	<b>3539</b>	<b>16</b>	<b>883</b>	<b>29</b>	<b>1360</b>	<b>01</b>	<b>27</b>	<b>80</b>

Source: Weekly Returns of Communicable Diseases (WRCD).

\*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.

\*\*Timely refers to returns received on or before 23 August, 2008 Total number of reporting units =238. Number of reporting units data provided for the current week:

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