



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health, Nutrition & Indigenous Medicine

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LEGIONELLOSIS Part III

At the national level, underdiagnosis and underreporting are recognized limitations in the surveillance of Legionella infections, mainly because:

- Many patients with pneumonia are not tested for Legionella
- Many countries do not have epidemiological follow-up of the laboratory reports through which data are collected and reported.

Management of outbreaks

Investigation of an outbreak of Legionellosis is complex and involves many people from many different agencies. Therefore, clear guidelines and terms of reference must be agreed and practised by all the players involved. By following good public health principles and best practice, the team should operate effectively and be successful in detecting and controlling the outbreak. Some important steps in outbreak investigation of Legionellosis are highlighted below.

Confirmation of an outbreak

The first step in any investigation is to confirm that an outbreak exists. Most outbreaks of Legionellosis will be detected through local or national surveillance schemes.

Appointing Outbreak control team

Most outbreaks will be managed by epidemiologists, microbiologists, environmental health spe-

cialists and hygienists from the country concerned.

Recommended composition of an outbreak control team

An outbreak control team should include at least the following members:

- public health specialists in the area in which the outbreak has occurred
- consultant epidemiologist with expertise in *Legionella*
- consultant microbiologist with expertise in *Legionella*
- environmental microbiologist with expertise in detection and control of *Legionella*
- consultant from the local microbiology laboratory
- environmental health officer or hygienist
- data manager to take responsibility for all aspects of data structure, storage, security and dissemination
- health and safety enforcement officer
- infection control nurse or national equivalent
- representative from the local department of public health medicine
- people responsible for the engineering services at the community, industrial, commercial, hospital or other premises suspected to be associated with the outbreak
- general manager at the community, industrial, commercial, hospital or other premises suspected to be associated with the outbreak
- senior media spokesperson
- other members as decided by the chairperson of the outbreak control team.

Once an outbreak is suspected or confirmed, the control team should be convened immediately. At its first meeting, the team should:

- elect a chairperson, who will be responsible for convening all future meetings and organizing secretarial support for taking and promptly distributing minutes and any other information associated with the outbreak
- establish terms of reference for the outbreak investigation
- determine which groups of public health professionals will be enforcement or legislative authorities for prevention and control of Legionella

WEBER SRI LANKA 2019

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infection

- agree on a plan for ensuring that immediate action is taken to eliminate the source of infection, once it has been identified
- review epidemiological information to decide where to focus the initial environmental investigations and control measures

Obtaining environmental isolates

In all outbreak investigations, it is important to prevent further cases and ensure that the source has been located. This can be achieved by obtaining environmental isolates, which can then be matched with those of the patients (if available). Hence, wherever possible, potential sources should be sampled before any precautionary disinfection. In many cases, equipment can be made safe simply by switching it off or not using it; for example, fountains can be switched off and showers temporarily closed until after sampling and disinfection. With nonessential pieces of equipment, it may be possible to leave the equipment out of action until microbial analyses are complete and there is confirmation either that the equipment is not contaminated or that it has been successfully decontaminated.

Target of investigations

As explained above, the outbreak control team first reviews the epidemiological information to decide where to focus on initial environmental investigations and control measures. If the patients are all associated with a particular building, the initial investigations should be targeted at all the water uses in that building. Investigations of the piped water system should include the rooms used by the patients, as well as the systems as a whole. Ideally, the water systems should be subjected to a risk assessment; however, in the initial intensive phases of an outbreak investigation, a brief, rapid assessment is often all that is possible, because doing anything more could unduly delay the collection of samples and the initiation of control measures. Thus, the initial risk assessment is often necessarily superficial, but is often followed by a more complete assessment once the initial intensive sampling phase is over.

Potential sources outside the building

Even when the initial epidemiological evidence indicates a particular building as the source, the possibility of a source outside, but close to, the building should also be considered. In the United Kingdom, investigations have usually concentrated on all potential sources within a 500-m radius of the epicentre of an outbreak, although cooling towers and evaporative condensers are inevitably the most likely targets. Such investigations are aided if the local authorities have a register of cooling towers in their area. All cooling towers should be visited as soon as possible and sampled before being given a precautionary disinfection with a high dose of chlorine (50 mg/litre for at least 1 hour) or another suitable oxidizing biocide. As further

epidemiological evidence becomes available, the epicentre of the investigations may shift and other water systems may need to be targeted. Once all potential sources within the 500-m radius have been identified and visited, the radius may be increased to 1000 m or more. Transmission is usually only considered likely up to about 2000 m, although in an outbreak in Lens in the north of France in 2003–2004, transmission up to 8 km has been suggested. It is usually easiest to investigate each water system systematically by starting at the water supply into the property and working forwards through storage tanks and any intermediate equipment, such as water heaters and softeners, to the outlets.

Compiled By : Dr. Saman Pathirana, Senior Registrar in Comm.Medicine

Sources: Legionellosis Key Facts: <https://www.who.int/en/news-room/fact-sheets/detail/legionellosis> Legionella and the prevention of legionellosis: https://www.who.int/water_sanitation_health/publications/legionella/en/

**Table 1 : Water Quality Surveillance
Number of microbiological water samples March 2019**

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	1
Gampaha	15	90	NR
Kalutara	12	72	NR
Kalutara NIHS	2	12	NR
Kandy	23	138	NR
Matale	13	78	48
Nuwara Eliya	13	78	75
Galle	20	120	NR
Matara	17	102	84
Hambantota	12	72	54
Jaffna	12	72	117
Kilinochchi	4	24	37
Manner	5	30	10
Vavuniya	4	24	NR
Mullatvu	5	30	NR
Batticaloa	14	84	84
Ampara	7	42	NR
Trincomalee	11	66	28
Kurunegala	29	174	187
Puttalam	13	78	67
Anuradhapura	19	114	3
Polonnaruwa	7	42	63
Badulla	16	96	127
Moneragala	11	66	133
Rathnapura	18	108	101
Kegalle	11	66	101
Kalmunai	13	78	72

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 13th - 19th April 2019 (16th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**	
Colombo	99	3233	0	14	0	2	0	5	0	22	1	56	0	7	0	4	0	0	1	175	0	19	0	2	49	100	
Gampaha	75	1919	0	6	0	1	2	3	0	14	1	33	0	2	0	1	0	0	4	116	0	8	0	28	55	93	
Kalutara	35	903	1	28	0	3	1	6	0	28	7	177	0	3	0	2	0	0	1	267	0	35	0	3	62	86	
Kandy	45	879	1	23	0	5	0	1	0	8	0	23	1	30	0	2	0	1	2	90	0	19	1	12	65	100	
Matale	2	186	0	11	0	2	0	0	0	1	0	21	0	4	0	3	0	1	0	28	0	3	1	101	54	99	
NuwaraEliya	1	59	2	18	0	1	1	2	0	0	1	13	1	27	0	4	0	0	1	19	0	17	0	0	25	100	
Galle	16	485	3	24	0	4	0	1	0	1	3	108	0	18	0	2	0	0	1	158	0	25	0	1	64	97	
Hambantota	10	348	0	3	0	0	0	0	0	5	1	32	3	58	0	1	0	0	4	131	0	14	9	249	74	98	
Matarra	15	521	0	4	0	4	0	1	0	2	2	91	0	15	0	8	0	0	5	120	1	4	3	198	61	100	
Jaffna	32	1739	4	53	0	5	0	7	0	3	1	21	3	247	1	2	0	0	4	115	0	6	0	0	25	93	
Kilinochchi	4	81	1	7	0	1	0	9	0	0	2	16	1	20	0	1	0	0	0	3	0	2	0	4	47	100	
Mannar	1	60	0	1	0	1	0	7	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	47	91
Vavuniya	5	151	0	6	1	4	0	15	0	3	1	34	0	4	0	0	0	0	3	40	1	8	0	1	50	100	
Mullaitivu	0	87	0	6	0	0	0	4	0	1	0	11	1	6	0	0	0	0	0	0	0	0	2	0	1	36	75
Batticaloa	19	693	0	36	0	0	0	9	0	2	0	16	0	1	0	0	0	1	0	76	0	3	0	0	53	99	
Ampara	0	86	0	11	0	0	0	0	0	4	1	15	0	1	0	6	0	0	0	58	0	3	1	4	53	98	
Trincomalee	30	480	0	5	0	0	0	0	0	4	0	3	0	3	0	1	0	0	3	83	0	4	1	1	35	84	
Kurunegala	24	594	0	23	0	5	0	3	0	4	0	76	0	8	0	13	0	0	13	252	0	21	2	289	59	99	
Puttalam	8	213	1	11	0	2	0	1	0	0	0	12	0	8	1	1	0	0	4	73	2	17	1	5	63	100	
Anuradhapura	4	186	1	9	0	5	0	3	0	1	2	73	0	22	0	12	0	1	8	223	0	35	6	182	42	95	
Polonnaruwa	4	94	0	7	0	1	0	1	0	0	0	31	0	3	0	7	0	0	4	123	0	11	2	82	59	98	
Badulla	4	242	1	16	0	1	0	4	0	55	4	73	3	41	1	11	0	0	2	93	0	60	0	9	64	99	
Monaragala	7	165	0	23	0	2	0	0	0	73	3	117	1	44	0	31	0	0	5	94	3	58	0	9	63	100	
Ratnapura	13	627	0	30	1	19	0	6	0	8	3	217	0	12	0	9	1	3	0	158	0	55	0	52	4	98	
Kegalle	13	396	0	14	0	10	0	0	0	20	2	55	0	20	1	64	0	0	1	183	0	13	1	13	63	100	
Kalmune	12	367	0	20	0	0	0	1	0	0	0	17	0	1	0	1	0	0	1	83	0	7	0	0	62	98	
SRILANKA	478	14794	15	409	2	78	4	89	0	260	35	1341	14	611	4	186	1	7	67	2761	7	449	28	1246	55	97	

Source: Weekly Returns of Communicable Diseases (WRCD).
 *T=Timeliness refers to returns received on or before 19th April, 2019 Total number of reporting units 353 Number of reporting units data provided for the current week: 301 C**-Completeness
 A = Cases reported during the current week. B = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

13th – 19th April 2019 (16th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2019	Number of cases during same week in 2018	Total number of cases to date in 2019	Total number of cases to date in 2018	Difference between the number of cases to date in 2019 & 2018
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	01	00	00	00	01	00	00	00	02	01	30	18	66.6%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	03	00	00	00	01	01	00	01	06	01	118	123	- 4.0 %
Measles	01	01	00	00	00	00	00	00	00	02	02	66	39	69.2 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	04	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	06	08	- 25 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	00	01	00	00	01	00	08	13	- 38.4%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	01	25	14	78.5 %
Tuberculosis	00	00	01	05	02	08	00	06	29	51	230	2521	2330	8.19 %

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.
RDHS 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, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources:
Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,
Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis
CRS** =Congenital Rubella Syndrome
NA = Not Available

Influenza Surveillance in Sentinel Hospitals - ILI & SARI							
Month	Human				Animal		
	No Total	No Positive	Infl A	Infl B	Pooled samples	Serum Samples	Positives
April	113	30	23	7			

Source: Medical Research Institute & Veterinary Research Institute

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ON STATE SERVICE

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