



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

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One Health Approach For Disease Prevention

Introduction

The One Health concept recognizes that the health of humans is connected to the health of animals and the environment. The purpose of one health approach is to improve health and well-being through the prevention of risks and the mitigation of effects of crises that originate at the interface between humans, animals and their various environments. Zoonotic diseases are an example that shows how the health of people is related to the health of animals and the environment.

One Health is not a new concept, but it has become more important in recent years because many factors have changed the interactions among humans, animals, and the environment. These changes have caused the emergence and re-emergence of many diseases.

Since the 1800s, scientists have noted the similarity in disease processes among animals and humans, but human and animal medicine were practiced separately until the 20th century. In recent years, through the support of key individuals and vital events, the One Health concept has gained more recognition in the public health and animal health communities.

Cooperation and collaboration of the human health, animal health and environmental health communities is required to achieve optimal health outcomes for both people and animals.

Zoonotic Diseases

A zoonotic disease is a disease or infection that is naturally transmissible from vertebrate animals to humans and vice-versa. Zoonotic diseases can be caused by viruses, bacteria, parasites or fungi. These diseases are very common. Scientists estimate that more than 6 out of every 10 infectious diseases in humans are spread from animals. Rabies and Leptospirosis are well known zoonotic diseases which we currently

deal with.

Many people interact with animals in their daily lives. People raise animals for food as well as pets. This results in close contact of humans with animals allowing these diseases to be exchanged.

Animals also share human susceptibility to certain diseases and environmental hazards. Because of this, they can serve as early warning signs of potential human illness.

Factors which increase the prevalence of Zoonotic diseases

- Human populations are growing and expanding into new geographic areas. As a result of urbanization, globalization and terrorism, more people live in close contact with wild and domestic animals. Disruptions in environmental conditions and habitats provide new opportunities for diseases to be transmitted from animals.
- The earth has experienced changes in climate and land use, such as deforestation and intensive farming practices. For example, deforestation for agriculture can lead to the emergence of newer zoonotic diseases.
- Environmental Pollution is another factor which promotes zoonotic diseases. Pollution of land and water sources has created new threats to the health of both animals and humans.
- International travel and trade have increased and as a result, diseases can spread quickly across the globe.

Human health sector working together with environmental health sector needed to track disease outbreaks to the source, prevent chronic disease caused by chemical exposure and to create healthier living environments. Animal health sec-

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tor and environmental health sector working together needs to prevent and control disease outbreaks in animals.

One Health is the perfect unifying concept to bring together human health, animal health and environmental health professionals. By strengthening epidemiological and laboratory investigations that assess the role of environmental influences, this partnership can help to develop and apply sustainable and effective community health interventions.

Situation in Sri Lanka

Zoonotic diseases have become a significant health problem in Sri Lanka. The social and economic loss from this public health problem is significant. Therefore, the Epidemiology Unit which is the focal point in surveillance, prevention and control of Communicable diseases has taken several actions to implement one health approach in controlling zoonotic diseases. The National Symposium on One Health approach for Zoonotic Disease Prevention and the establishment of the One Health Hub-Sri Lanka are two major events conducted in this regard.

National Symposium on One Health approach for Zoonotic Disease Prevention

National symposium on one health approach for zoonotic disease prevention was organized by the College of Community Physicians of Sri Lanka in collaboration with the Epidemiology Unit of the Ministry of Health, Department of Animal Production and Health of the Ministry of Livestock and Rural Community Development and the Massey University, New Zealand. This was held at the Bandaranaike Memorial International Conference Hall, Colombo on 8th February, 2014.

Officials representing the Ministry of Health, the Ministry of Livestock and Rural Community Development, the Ministry of Agriculture, the Ministry of Wildlife Conservation, the Veterinary Faculty of the University of Peradeniya, Medical Faculty of the University of Colombo and University of Rajarata, the Medical Research Institute, Veterinary Research Institute and the Health Education Bureau participated.

There were three collaborative investigation projects that were conducted on Leptospirosis, Rabies and Brucellosis in Sri Lanka under the Regional One Health program in collaboration with the Massey University, New Zealand. The findings of these projects were presented at the symposium. This was a great opportunity for a wide discussion on areas of interest as relevant officials from several departments were present at the event and several important decisions were taken.

The Symposium ended with the launching of the entertaining and educational documentary and tele-film on 'Prevention of Leptospirosis' produced by the Ministry of Health. There was a strong media presence at the symposium and news from the event was presented on national television and in national newspapers.

The establishment of the One Health Hub-Sri Lanka, which is linked to the One Health Network-South Asia was done at the symposium. One Health project Activity Coordinator from the Massey University also attended.

One Health Network-South Asia and One Health Hub Introduction

The One Health Network-South Asia was created to enhance in-country and regional capacity in epidemiology and bio-security. This forms a foundation for collaboration, resource sharing and communication among public health, domestic animal health and wildlife health professionals. The existence of this network is facilitating the development of effective disease surveillance activities, contributing towards reducing the risk of disease incursions and enhancing the response to emerging infectious diseases in the South Asian region.

The One Health Network-South Asia is strengthened by "Hubnet", connecting country-based One Health Hubs across South Asia. It provides a resource in which members can share information, expertise and resources, both internally as well as with regional and international organizations.

The One Health Hub in Sri Lanka

The One Health Hub in Sri Lanka is a key information sharing forum within the country as well as in the South Asia region. The One Health Hub in Sri Lanka was implemented in collaboration with the Massey University with funding from the European Commission through the Avian and Human Influenza Trust Fund, administered by the World Bank.

The focal point organizations of the One Health Hub are the Epidemiology Unit of the Ministry of Health and the Animal Health Division of the Department of Animal Production & Health. Several other stakeholders such as World Health Organization, Universities, Medical Research Institute, Veterinary Research Institute, Ministry of Agriculture and Ministry of Livestock & Rural Community Development contribute to this combined effort as well.

Activities are designed to further strengthen the One Health Hub in Sri Lanka as a country-wide network involving individuals and organizations that are engaged or have an interest in One Health activities, supporting the One Health approach to zoonotic disease control in Sri Lanka and in the South Asian region.

This collaborative partnership of various related parties through One Health Network makes the events a great success by optimizing resources and efforts while respecting the autonomy of the various sectors. Further information regarding the One Health Hub including the details of membership can be obtained from the Epidemiology Unit.

Sources

One Health from Centers for Disease Control and Prevention (CDC) available from <http://www.cdc.gov/onehealth>

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Table 4: Selected notifiable diseases reported by Medical Officers of Health 15th - 21st Mar 2014 (12th 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	128	2335	1	31	2	6	1	25	0	147	2	30	0	0	1	8	0	0	7	121	4	16	0	3	75	25
Gampaha	43	1027	2	48	0	3	0	14	0	9	5	65	1	5	1	25	0	2	3	129	1	20	0	2	87	13
Kalutara	22	515	3	38	0	3	2	15	0	41	10	91	0	0	0	5	0	0	6	81	4	23	0	0	77	23
Kandy	9	160	1	34	0	1	0	4	0	1	2	10	2	20	4	32	0	0	3	64	1	10	0	1	91	9
Matale	7	79	1	20	0	1	1	7	0	1	1	13	0	2	2	32	0	0	10	0	3	0	4	77	23	
NuwaraEliya	2	44	0	51	0	1	0	8	0	6	0	0	0	20	1	10	0	0	1	34	1	6	0	0	77	23
Galle	18	214	0	24	0	5	0	0	0	3	8	50	4	22	0	0	0	0	12	114	1	17	0	2	75	25
Hambantota	2	82	0	11	0	3	0	6	0	0	3	33	5	37	0	5	0	0	0	53	0	14	3	74	67	33
OMatara	3	91	0	19	0	1	1	18	0	5	2	20	2	20	3	13	0	0	6	73	0	17	1	21	100	0
Jaffna	14	288	8	126	0	3	9	77	0	27	1	5	5	211	1	6	0	0	0	42	1	11	0	0	50	50
Kiinochi	1	20	0	48	0	1	1	9	0	0	0	0	0	11	0	0	0	0	0	2	0	3	0	4	75	25
Mannar	0	3	0	10	1	8	0	19	0	0	0	4	0	16	0	1	0	0	0	1	0	1	0	1	80	20
Vavuniya	0	21	0	14	0	0	0	2	0	3	0	4	0	3	0	0	0	0	0	4	0	2	0	0	50	50
Mullaitivu	6	42	4	16	0	0	0	6	1	8	0	6	0	5	0	0	0	0	2	4	0	3	0	4	100	0
Batticaloa	47	213	5	80	0	1	0	14	0	11	0	3	0	1	0	5	0	0	2	14	1	3	0	0	93	7
Ampara	1	43	0	20	0	0	0	0	0	4	0	8	0	7	0	1	0	1	2	31	0	2	0	3	43	57
Trincomalee	2	124	0	8	0	1	0	0	0	0	0	5	1	6	0	0	0	0	3	23	0	1	0	0	83	17
Kurunegala	22	320	3	24	0	9	0	7	0	2	1	32	2	29	2	8	0	0	16	126	1	21	3	44	74	26
Puttalam	2	150	2	13	0	0	1	4	0	9	1	39	0	16	0	1	0	0	6	37	0	1	0	1	62	38
Anuradhapura	6	130	2	40	0	0	0	0	1	3	4	33	1	21	1	2	0	0	3	74	1	18	3	90	79	21
Polonnaruwa	0	90	0	12	0	1	0	1	0	0	0	9	0	0	0	1	0	0	0	29	0	2	0	23	0	100
Badulla	9	127	0	28	1	3	1	2	0	2	4	18	3	20	1	12	0	0	1	25	1	21	0	0	76	24
Monaragala	7	65	0	21	0	1	0	2	0	27	3	33	3	34	4	45	0	0	0	27	0	6	1	6	91	9
Ratnapura	5	168	1	49	1	10	0	5	0	5	5	78	0	29	0	99	0	0	1	49	0	9	0	8	56	44
Kegalle	12	179	1	35	0	2	2	11	0	2	2	42	1	18	0	21	0	0	6	82	1	17	0	1	82	18
Kalmune	2	34	0	35	0	1	0	3	2	10	0	1	0	0	0	0	0	0	2	43	0	1	0	0	54	46
SRI LANKA	370	6564	34	855	5	65	19	259	4	326	54	632	30	553	21	332	0	3	82	1292	18	248	11	292	74	26

Source: Weekly Returns of Communicable Diseases (WRCD).
 *T=Timeliness refers to returns received on or before 2^{1st} March, 2014. Total number of reporting units 337. Number of reporting units data provided for the current week: 254. C**=Completeness

Table 1: Vaccine-Preventable Diseases & AFP

15th – 21th Mar 2014 (12th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2014	Number of cases during same week in 2013	Total number of cases to date in 2014	Total number of cases to date in 2013	Difference between the number of cases to date in 2013& 2014
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	01	00	00	00	01	00	00	00	03	01	22	14	+57.1%
Diphtheria	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Mumps	01	04	01	01	03	01	03	00	01	15	28	198	357	-44.5%
Measles	31	09	28	01	02	18	06	00	01	96	18	1134	110	+930.9%
Rubella	00	00	00	01	00	00	00	00	00	01	-	05	-	%
CRS**	00	00	00	00	00	00	00	00	00	00	-	02	-	%
Tetanus	00	00	00	00	00	00	00	01	00	01	00	06	06	0%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Japanese Encephalitis	00	00	00	00	00	01	00	00	00	01	-	17	-	%
Whooping Cough	00	00	00	00	00	00	02	00	00	02	00	15	18	-16.6%
Tuberculosis	75	48	11	13	01	11	15	03	03	180	215	2538	2124	+19.5%

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

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

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Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication

ON STATE SERVICE

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