



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiological Unit,

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Vol. 35 No. 33

9th – 15th August

Combating Emerging Infectious Diseases - Part III

Part I & II of this article was published in the last two issues of the Weekly Epidemiological Report.

International travel

International travel and trade also facilitate movement of infections. SARS has been documented to be one of the fastest moving micro-organisms in the history of mankind. The Spanish influenza travelled around the world in less than 12 months; Hong Kong (1968-69) influenza took only six months and a future pandemic is likely to spread more rapidly because of the speed and frequency of human travel. SARS was carried through international air travel by infected people to 31 countries that reported probable cases of SARS.

Socioeconomic factors

Poverty breeds ill health and ill health, in turn, breeds poverty. Poverty remains the prime killer. Today, poverty amidst plenty is the world's greatest challenge. More than 522 million people in the South-East Asia Region live in abject poverty with an income of less than a dollar a day. Poor children are particularly affected with a greater burden borne by the female child. Not only are children more heavily and frequently exposed to threats to their health but are more vulnerable to diseases.

Inadequate public health infrastructure

Having a well functioning public health infrastructure can prevent many infections, par-

ticularly those that are food-borne or water-borne. Defects in the health system can result in massive epidemics. An efficient public health system not only quickly detects and responds to the epidemic during its initial phase but is also sensitive and sophisticated enough to spot a new or hitherto unidentified infection. Achieving an effectively functioning public health infrastructure is thwarted by inadequate funding and low priority accorded by the national governments.

Existing Response Capacity

The success achieved in eradication of smallpox and guineaworm disease, and appreciable progress made towards eradication of poliomyelitis and elimination of leprosy has resulted in a perceptible national desire and political will to address problems of infectious diseases. This is evident from the support that initiatives for elimination of kala azar and lymphatic filariasis have received from various governments of the Region. Excellent progress is being made in expanding DOTS and implementing greater access to antiretroviral therapy in the Region. Malaria incidence is now static and has started showing signs of decreasing.

The commitment of national authorities has received a further boost through some international initiatives like the Millennium Development Goals (MDGs) which are the expression of global solidarity in improving quality of life. In many ways MDGs aim to directly or

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countries which usually act as trigger sites for emerging diseases.

If Asia is considered a cradle for the emergence of some new infections, it also has Centres of Excellence for training and research on emerging infectious diseases and some of the finest WHO Collaborating Centres. It has a vibrant pharmaceutical sector with significant capacity to manufacture drugs and vaccines. The countries are working towards a strategy for integrated disease surveillance and response. In addition, there are public health institutions with a capacity to investigate and control infectious disease outbreaks and provide appropriate human resource development (Field Epidemiology Training Programmes) to upgrade the skills of public health professionals.

All countries in the region have public health institutions that respond to outbreak investigations and the institution of control measures. There is a need to improve the efficacy and efficiency of the response mechanism. For that the basic infrastructure has been already created. Rapid response teams have been constituted in some countries to quickly initiate action in times of outbreaks. Surveillance activities are integral to several national health programmes mainly malaria, tuberculosis and HIV/AIDS. The need to expand these programmes to include early warning functions for emerging infections is gaining ground across the Region.

Global alert and response systems have also been created which countries from this Region are benefiting from. In 2000, WHO launched the Global Outbreak Alert and Response Network (GOARN) which links more than 100 networks, institutes and experts to provide support to countries on behalf of the international community in responding to disease outbreaks. Health Canada has instituted a Global Public Health Intelligence Network (GPHIN) which is a customized search engine that continuously scans the internet for rumors and reports. The data from GPHIN are available to WHO as well as to all countries for early detection of outbreaks and initiation of rapid response. Advanced information technology was successfully used by WHO during the SARS epidemic to create virtual networks of experts and institutions to gather and consolidate global experiences and knowledge in fighting SARS. Upgradation of skills of public health professionals has been an ongoing process. Field Epidemiology Training Programmes are being regularly conducted in India and Thailand for all the countries. Almost 40 WHO Collaborating Centers are currently operational in

Region in the area of communicable diseases.

Though the modern sophisticated laboratory and entomological support system is available to a limited extent in the public health area in most countries of the Region, their importance is widely recognized. There is also a growing realization that emerging diseases can be better fought collectively. The existing regional organizations such as SAARC and ASEAN, initiated with the central objective of economic cooperation between countries, are now being utilized to extend collaboration in public health as well.

Global efforts against SARS demonstrated that emerging infectious diseases require a similar joint response for rapid containment. Global networks of laboratories, epidemiologists and clinicians were quickly identified by WHO and concerted efforts yielded commendable results. WHO is strongly advocating strengthening of surveillance, especially institutionalization of the integrated disease surveillance programme. Integrated surveillance will consolidate surveillance activities, improve outbreak/epidemic detection, intercept early warning signals, strengthen early detection and confirmation of outbreaks as well as anticipate or predict outbreak and ensure preparedness for an early and effective response for disease prevention and control. GOARN is another example of global cooperation to combat outbreaks where national capacities fall short to contain same.

The existing public health and laboratory capacities need to be further strengthened through the networks established among centers of excellence as well as through the WHO Collaborating Centers. Links need to be developed between public health, veterinary and clinical laboratories. This is important to ensure the timeliness and quality of surveillance, research and response.

Effective risk communication and management have critical roles in ensuring that emerging infectious diseases are recognized early, promptly reported and appropriately managed. The mass media, both electronic and print, have important roles which necessitate sustained partnerships between health authorities and the media. The rapidly expanding information technology in this Region can be effectively utilized in risk communication and management activities.

Source

Combating Emerging Infectious Diseases in the

2nd-8th August 2008(32ndWeek)

Table 1: Vaccine-preventable Diseases &

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	00	00	01 MT=1	00	00	00	00	00	00	01	02	60	58	+3.4%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Measles	00	00	00	01 JF=1	04 TR=4	00	00	00	00	05	01	81	49	+65.3%
Tetanus	00	00	00	00	01 TR=1	00	00	00	00	01	02	24	23	+3.5%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	01	24	28	-14.3%
Tuberculosis	159	47	09	16	10	51	00	18	39	349	133	5528	6257	-11.6%

Table 2: Newly Introduced Notifiable Diseases

2nd-8th August 2008(32ndWeek)

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	19	08	08	01	05	08	04	15	11	79	34	3464	2174	+59.3%
Meningitis	01 GM=1	0=2 ML=2	02 GL=1 MT=1	00	01 TR=1	06 KR=4 PU=2	02 PO=1 AP=1	00	00	14	23	886	290	+205.5%
Mumps	05	20	06	05	03	09	19	00	08	75	45	1713	1049	+63.3%

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=Matare, 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.

Table 3: Laboratory Surveillance of Dengue Fever

2nd-8th August 2008

Samples	Number tested		Number positive *		Serotypes									
					D ₁		D ₂		D ₃		D ₄		Negative	
	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH
Number for current week	03	00	00	00	00	00	00	00	00	00	00	00	00	00
Total number to date in 2008	116	124	09	21	00	00	06	08	01	07	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
2nd-8th August 2008 (32ndWeek)**

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			
Colombo	25	1150	07	126	00	08	01	67	05	74	03	274	00	02	02	84	00	00	85
Gampaha	23	689	07	131	00	14	00	34	00	67	11	271	00	05	03	94	00	03	79
Kalutara	03	338	03	227	00	09	00	44	00	18	04	325	00	02	03	32	00	01	83
Kandy	07	172	09	212	00	05	00	42	00	53	10	311	03	72	00	94	00	01	76
Matale	02	80	00	150	00	02	00	35	00	04	06	606	00	01	00	22	00	00	92
Nuwara Eliya	02	21	05	179	00	02	03	196	00	110	01	36	00	35	00	87	00	01	100
Galle	06	81	05	129	00	12	00	13	00	43	04	236	00	12	00	06	00	03	94
Hambantota	02	67	00	66	00	05	00	07	00	11	00	69	00	65	00	09	00	00	91
Matara	11	195	05	132	00	10	00	26	00	06	05	231	06	143	00	11	00	01	88
Jaffna	00	52	02	97	00	02	00	218	00	10	00	00	00	148	00	30	00	00	00
Kilinochchi	00	00	00	14	00	00	00	01	00	00	00	02	00	00	00	01	00	00	00
Mannar	00	25	01	15	00	06	18	139	00	00	00	00	00	01	00	13	00	00	50
Vavuniya	00	11	03	43	00	02	00	05	01	14	00	05	00	01	00	04	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	07	89	00	03	00	20	01	20	00	04	00	01	01	82	00	05	73
Ampara	00	26	02	218	00	00	00	07	00	01	00	17	00	00	00	07	00	00	71
Trincomalee	01	175	01	70	00	00	00	12	00	12	00	28	00	15	00	12	00	00	80
Kurunegala	07	256	05	166	00	13	01	42	00	14	19	209	00	20	03	53	00	04	83
Puttalam	01	270	00	59	00	08	02	134	00	26	02	30	01	33	00	27	00	03	78
Anuradhapur	00	109	03	59	00	09	00	09	00	06	03	222	00	10	00	12	00	02	74
Polonnaruwa	01	59	05	89	00	01	00	21	00	07	01	55	00	01	00	18	00	00	100
Badulla	02	64	13	332	01	05	07	101	00	13	01	33	01	97	03	95	00	01	87
Monaragala	00	49	02	278	01	03	00	29	02	116	00	86	00	76	04	33	00	00	91
Ratnapura	05	209	10	232	00	26	00	42	00	44	03	126	00	74	01	45	00	00	63
Kegalle	06	310	03	229	02	26	00	49	01	04	10	224	00	50	13	427	00	01	91
Kalmunai	01	32	03	200	00	02	00	09	01	15	00	00	00	02	00	21	00	00	77
SRI LANKA	106	4525	101	3548	04	173	32	1314	11	700	83	3400	11	867	33	1327	00	27	78

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 16 August, 2008 Total number of reporting units =238. Number of reporting units data provided for the current week: 251

PRINTING OF THIS PUBLICATION IS FUNDED BY THE UNITED NATIONS CHILDREN'S FUND (UNICEF).

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@slt.net.lk.

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