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WEEKLY EPIDEMIOLOGICAL REPORT

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INTERNATIONAL HEALTH SECURITY

Globalization may have brought the benefits of efficient transport and trade to many people across the world. But it has also allowed the rapid spread of diseases that otherwise may have been contained by geographical boundaries, or that in another era may have travelled slowly enough to be brought quickly under control.

In today's world, health security needs to be provided through coordinated action and cooperation between and within governments, the corporate sector, civil society, media and individuals. It has been realized that no single country has all the capacities needed to respond to international public health emergencies caused by epidemics, natural disasters or environmental emergencies, or by new and emerging infectious diseases. By detecting and reporting problems at the onset, the most appropriate experts and resources can be deployed to prevent or halt the international spread of disease.

The theme of the World Health Day 2007 is "International Health Security" – the need to reduce the vulnerability of people around the world to new, acute or rapidly spreading risks to health, particularly those that threaten to cross international borders.

In today's world, health issues present new challenges that go far beyond national borders and have an impact on the collective security of people around the world. Increased collaboration among developed and developing countries will enable the international community to be better prepared to strengthen national capacities to detect and respond to disease outbreaks. This will provide a global safety net to deal with key cross-border public health issues and in turn help to make the world more secure. This article introduces a few public health concerns that affect international health security in order to provoke debate and discussion on how best to protect people from new and acute threats to their health.

Emerging diseases

Intensified surveillance detected a cluster of young children with severe respiratory disease at a paediatric hospital in Hanoi, Vietnam in January, 2004. Many of them had died. That event marked the first human cases of H5N1 avian influenza outside China, Hong Kong Special Administrative Region. Since then, the world has been on constant alert for an influenza pandemic. Highly contagious, a pandemic of influenza could extend the devastating consequences that had been seen with SARS to every corner of the world within a matter of weeks or months.

Since new diseases partly arise from fundamental changes in the way humanity inhabits the planet, the emergence of new diseases is likely to continue, if not escalate. In the last decades of the 20th century, new diseases began emerging at the unprecedented rate of one or more per year. From 1973 to 2000, 39 infectious agents capable of causing human disease were newly identified. Even more worryingly, the rate of drug failure due to the development of microbial resistance outpaced scientific discovery of replacement drugs. The danger that new

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diseases to which there is universal vulnerability will cause international harm means that countries can no longer manage certain types of outbreaks as though they were strictly domestic affairs. These challenge the sovereignty of vulnerable nations, and highlight the need for collective defence against the emerging disease threat. The potential inability of affected countries to engage fully in surveillance and sustain an emergency response system over months, if not years in the case of a severe pandemic, is the single most important obstacle to international health security.

International crises and humanitarian emergencies

Humanitarian emergencies arise from the effects of crises such as natural disasters, food and water shortages, and armed conflict. Just as they destroy individuals, they can paralyse stressed health systems of these countries. Some indirect effects of such crises include the threat of infectious disease, malnutrition, population displacement, mental illness and the exacerbation of chronic disease. All of these require strong health systems. In 2006, 134.6 million people were affected, and 21,342 were killed by natural disasters worldwide.

The underlying causes of emergencies following natural disasters often lay in poor land management, weak infrastructure and unplanned development policies. Disaster preparedness strategies and humanitarian response operations together can create a balanced approach to alleviating the negative impact of natural disasters. Both rely on planning, collaboration and coordination of roles of the various sectors involved.

Chemical, radioactive and biological terror threats

For much of the world, 21st century life has become greatly dependent on chemical processing and nuclear power. Public health security in turn relies on the safety of these facilities and the appropriate use of their products. The threat of chemical spills, leaks and dumping, nuclear melt-downs, and chemical weaponry invokes the notion of surprise attack or accidents, innocent victims and malicious or negligent perpetrators and causes fears that may be disproportionate to the real risk.

Most countries subscribe to international conventions banning biological and chemical weapons. However, incidents such as anthrax-tainted letters being sent through the United States postal system in 2001 and the release of the nerve gas Sarin on the Tokyo subway in 1995 remind us that although chemical and biological attacks are rare, there are individuals and groups who are ready to use this brand of terrorism.

Experts are concerned about what prompts such chemical and radioactive incidents. The word 'accident' implies lack of responsibility, yet on investigation policy, protocol or infrastructure weaknesses are frequently revealed. Attacks are premeditated. It does not mean that they are not preventable.

Environmental change

The earth's climate is constantly changing. Temperatures are rising; tropical storms are increasing in frequency and intensity; polar ice caps and permafrost regions are melting. People are dying – upwards of 60 000 in recent years in climate-related natural disasters, mainly in developing countries. Malaria outbreaks following El Niño weather events are more consistently being recorded in the highlands of Africa. Intensifying heat waves cause persistent droughts that threaten food and cash crops, livestock herds and nomadic lifestyles. They can also lead to escalating violence. Floods can lead to contaminated water supplies, force people out of their homes and homelands, and create new breeding grounds for disease-carrying vectors. Warmer temperatures influence the migratory patterns of wild birds and hence the potential for more unpredictable spread of viruses, like H5N1, that they carry.

The scientific community has concluded that human activity is part of the problem. The acute impact of climate change-related events may be local, but the cause is global. When floods contaminate international waters, when people migrate across borders to find food and shelter, when disease patterns change due to an altered climate, the impact is felt internationally. Solutions to the impact of global warming and changes in the environment can only emerge from collaboration and commitment between governments, corporations, foundations and non-governmental organizations. Combating these changes will require policy decisions that will change the way people and corporations live and work.

HIV/AIDS

With rates of infection of 15–49 year olds approaching or exceeding 30% of the population in some sub-Saharan African countries at the time, and no end to the epidemic in sight, HIV/AIDS could push fragile states to the brink of collapse. The severe social and economic consequences of HIV/AIDS have led to concerns about the personal security implications both in countries whose health care systems are struggling to meet this along with other acute and chronic health needs, and in those in which HIV/AIDS has become a manageable illness.

In January 2000, the United Nations security council devoted a day-long session to HIV/AIDS in Africa. The fact that the security council held such a discussion demonstrates that there is deep political concern that a virus wreaking havoc and causing untold human suffering could threaten international security. This discussion also opened the door for health in general to be looked at through a new lens. Public health was no longer seen as irrelevant to security or as its by-product. It had become an essential ingredient.

Part II of this article on 'Building health security' will be continued in the next issue.

Table 1: Vaccine-preventable diseases & AFP

24th - 30th March 2007 (13th Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Number of cases during same week in 2006	Total number of cases to date in 2007	Total number of cases to date in 2006	Difference between the number of cases to date between 2007 & 2006
	W	C	S	NE	NW	NC	U	Sab					
Acute Flaccid Paralysis	01 KL=1	00	00	00	00	00	00	00	01	01	20	41	-51.2%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Measles	01 KL=1	01 KD=1	01 MT=1	00	00	00	00	00	03	00	16	06	+166.7%
Tetanus	00	00	00	00	00	00	00	00	00	00	09	11	-18.2%
Whooping Cough	01 GM=1	01 KD=1	00	00	00	00	00	00	02	01	15	21	-28.6%
Tuberculosis	130	14	11	03	00	00	00	00	158	123	2377	2690	-11.6%

Table 2: Diseases under Special Surveillance

24th - 30th March 2007 (13th Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Number of cases during same week in 2006	Total number of cases to date in 2007	Total number of cases to date in 2006	Difference between the number of cases to date between 2007 & 2006
	W	C	S	NE	NW	NC	U	Sab					
DF/DHF*	06	02	05	01	06	00	00	02	22	97	1477	2754	-46.4%
Encephalitis	00	01 KD=1	02 HB=2	00	00	00	00	00	03	00	66	31	+112.9%
Human Rabies	00	01 KD=1	00	00	00	00	00	00	01	00	21	18	+16.7%

Table 3: Newly introduced Notifiable Diseases

24th - 30th March 2007 (13th Week)

Disease	No. of Cases by Province								Number of cases during current week in 2007	Total number of cases to date in 2007
	W	C	S	NE	NW	NC	U	Sab		
Chickenpox	24	05	06	05	05	03	03	03	54	817
Meningitis	00	00	00	00	00	00	00	01 RP=1	01	49
Mumps	09	02	04	27	04	00	00	00	46	250

*DF / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.
NA= Not Available.

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.

Details by districts are given in Table 5.

Provinces: W=Western, C=Central, S=Southern, NE=North & 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, PU=Puttalam, AP=Anuradhapura, PO=Polonnaruwa, BD=Badulla, MO=Moneragala, RP=Ratnapura, KG=Kegalle.

Table 4: Laboratory Surveillance of Dengue Fever

24th - 30th March 2007 (13th Week)

Samples	Number tested	Number positive *	Serotypes				
			D_1	D_2	D_3	D_4	Negative
Number for current week	09	01	00	01	00	00	00
Total number to date in 2007	230	11	00	03	02	00	05

Source: Genetech Molecular Diagnostics & School of Gene Technology, Colombo. * Not all positives are subjected to serotyping.

Table 5: Selected notifiable diseases reported by Medical Officers of Health
24th - 30th March 2007 (13th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptos-pirosis		Typhus Fever		Viral Hepatitis		Returns Re-ceived Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	03	429	08	63	00	03	00	26	02	39	04	37	00	01	00	10	**92**
Gampaha	01	164	01	53	00	08	00	21	00	27	05	73	00	06	00	32	**43**
Kalutara	02	110	02	69	00	01	00	16	00	11	06	37	00	01	03	27	**82**
Kandy	02	182	01	45	01	03	00	21	00	05	04	33	03	25	07	89	**64**
Matale	00	50	01	55	00	03	00	05	00	03	00	13	00	03	03	52	**33**
Nuwara Eliya	00	18	02	42	00	00	00	24	00	366	00	06	00	18	00	73	**43**
Galle	01	43	03	37	00	05	00	04	00	03	00	19	00	16	01	08	**81**
Hambantota	01	20	06	22	02	02	01	08	00	04	00	15	01	16	00	07	**91**
Matara	03	47	10	69	00	02	02	16	00	04	07	52	05	94	00	10	**94**
Jaffna	00	07	00	32	00	02	00	229	00	00	00	00	00	76	00	07	**00**
Kilinochchi	00	00	00	00	00	00	00	02	00	00	00	00	00	02	00	02	**00**
Mannar	00	07	00	11	00	00	00	31	00	00	00	00	00	00	00	04	**50**
Vavuniya	00	10	00	11	00	02	00	08	00	06	00	02	00	00	00	03	**50**
Mullaitivu	00	00	00	05	00	03	00	10	00	00	00	00	00	00	00	00	**40**
Batticaloa	01	09	11	57	00	03	00	12	00	02	00	00	00	00	04	121	**27**
Ampara	00	01	00	25	00	00	00	03	00	00	00	00	00	00	00	08	**00**
Trincomalee	00	26	02	27	00	01	00	09	00	17	00	01	00	01	00	17	**56**
Kurunegala	06	120	05	67	00	00	01	19	00	04	01	10	00	23	00	09	**39**
Puttalam	00	60	01	24	00	09	00	22	00	00	00	05	00	00	00	36	**33**
Anuradhapura	00	17	01	24	00	07	00	14	01	03	00	09	00	12	01	19	**37**
Polonnaruwa	00	20	00	41	00	02	00	03	00	00	00	12	00	00	00	03	**57**
Badulla	00	13	06	111	00	00	02	25	00	08	01	16	02	32	01	69	**67**
Monaragala	00	06	00	53	00	00	01	13	00	00	01	16	00	18	00	06	**80**
Ratnapura	00	55	04	177	00	07	00	25	00	06	00	18	00	05	01	25	**38**
Kegalle	02	61	03	47	00	03	02	15	00	03	02	31	00	09	00	19	**27**
Kalmunai	00	02	00	31	00	00	00	05	00	00	00	00	02	02	03	63	**38**
SRI LANKA	**22**	**1477**	**67**	**1198**	**03**	**66**	**09**	**586**	**03**	**511**	**31**	**405**	**13**	**360**	**24**	**719**	**53**

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 7 Apr. 2007. Total number of reporting units = 290. Number of reporting units data provided for the current week: 154.
A = Cases reported during the current week. **B** = Cumulative cases for the year.

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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.

ON STATE SERVICE

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