



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Healthcare and Nutrition

231, de Saram Place, Colombo 01000, Sri Lanka

Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@sltnet.lk

Epidemiologist: +94 11 2681548, E mail: chepid@sltnet.lk

Web: <http://www.epid.gov.lk>

Vol. 36 No. 20

10th May– 16th May 2009

Preparedness for novel influenza A(H1N1) in Sri Lanka

Pandemic is defined as an epidemic (an outbreak) that becomes very widespread and affects a whole region, a continent, or the world. Influenza viruses have been capable of triggering pandemics since antiquity and in the last millennium, world experienced three major pandemics. Of these three pandemics, the one in 1918 tagged as "Spanish flu" was the most infamous as the estimated deaths due to it was in the range of 20-40 million. This pandemic was caused by influenza A (H1N1). Thirty nine years later, the world experienced the second pandemic with an estimated one million deaths due to H2N2. In 1968, the last pandemic for the last millennium caused by the influenza A (H3N2) ensued with one million deaths.

Based on the experience of the previous pandemics, the scientists anticipated that the first pandemic in the new millennium would be due to the avian influenza (AI) virus (H5N1), though it was not the unique strain capable of triggering a pandemic. Of the entire requirement for a pandemic, only efficient human to human transmission had not been established by the AI virus. However, things began to unfold in a different manner with the discovery of a novel influenza virus A (H1N1) affecting North America with cases being imported to many other countries outside North America.

This outbreak was due to a new strain of influenza A which earlier on, was referred to as swine influenza as it was demonstrated that many of the genes in this new virus was similar to influenza viruses that normally occur in pigs in North America. However, detailed studies showed that the new virus was different from that circulate normally among pigs in North America. It was an apparent reassortment of at least four genes (**quadruple reassortment**) of influenza A virus subtype H1N1, including one gene of virus endemic in humans, one endemic in birds, and two endemic in swine. These two swine genes were of influenza viruses that circulate in Asia and Europe. At this time there was

no evidence that this new strain of influenza A was circulating in pigs in North America. There is no evidence currently that the virus has markers for human virulence that have been described for the 1918 H1N1 pandemic virus and AI H5N1 viruses. Molecular sequencing of approximately 30 viruses has found nearly 100% homology for all of the viral genes

The WHO declared that this outbreak of novel influenza A(H1N1) has entered the 5th phase of pandemic phasing of the revised influenza phase descriptions of 2005. The grouping and description of pandemic phases have been revised to make them easier to understand, more precise, and based upon observable phenomena. Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short. Stepping into the Phases 4–6 clearly signals the need for response and mitigation efforts. Thus, Sri Lanka activated its plan of pandemic preparedness and response with a view to taking measures promptly to prevent and control the outbreak in Sri Lanka.

In the circumstances leading to an imminent influenza pandemic, WHO alerted the International Health Regulation (IHR) focal point of the Sri Lankan Ministry of Health about the evolving situation. Immediately, the Epidemiology Unit and the Director Quarantine along with the relevant stakeholders initiated measures to assess the country situation and ensure preparedness for prompt response at all levels. In this regard, entry points to the country were deemed important since being vigilant and strengthening proper surveillance at these points were pivotal. Having taken into consideration the importance of screening immigrants at entry points, the Ministry of Health implemented specific measures at the international air port and the harbour. Protocols were prepared in relation to screening passengers. Reporting forms were developed. Authorities and heads of the multid-

WEEKLY EPIDEMIOLOGICAL REPORT SRI LANKA - 2009

Contents	Page
1. Leading Article - Preparedness for influenza A(H1N1) in Sri Lanka	1
2. Surveillance of vaccine preventable diseases & AFP (03 rd May - 09 th May 2009)	3
3. Summary of newly introduced notifiable diseases (03 rd May - 09 th May 2009)	3
4. Laboratory surveillance of dengue fever (03 rd May - 09 th May 2009)	3
5. Summary of selected notifiable diseases reported (03 rd May - 09 th May 2009)	4

disciplinary departments staff were informed. Multi disciplinary staffs were also given training as to what should be done to mitigate the impact of the outbreak on the country and prevent contracting the disease to them individually. Surveillance is being continued to date at the two entry points to the country. On board announcement is given to passengers informing them the need for declaration at the airport health desk if they arrive from affected countries as declared officially by the WHO. The list of countries from which passengers who are arriving should be screened is updated on daily basis.

Relevant authorities in the ports and airports authority were made aware of the measures needed to ensure that essential facilities are available for the health desk at harbour and air ports to screen them effectively. For example, the malfunction of the thermal scanner was brought back to normalcy by the airport authorities with a view to scanning passengers effectively. In the screening, those fitting into the suspected cases are sent to the IDH for isolation and laboratory confirmation at the MRI. The staff at entry points were educated by a consultant Epidemiologist on the disease, the personnel risk to them and personnel hygiene and infection control measures that should be adopted by them to mitigate the personal risk and prevention of the spread of the disease.

Specific guidelines on preparedness and response were developed and disseminated to the relevant health officers in the health sector, both in the curative and preventive, to be implemented with immediate effect. The Epidemiology unit prepared a fact sheet on swine influenza and a health alert on this regard. Both these documents are accessible on line on the Epidemiology Unit website (www.epid.gov.lk). They have been disseminated to all heads of government and private health institutions, Provincial and Regional Directors of Health Services, Regional Epidemiologists and other relevant health personnel. Fact sheet is comprehensive and deals with aspects such as surveillance case definitions of a suspected, probable, confirmed case. Further, it gives a brief outline of the disease in terms of the infectious agent, transmission, symptoms, treatment and prevention. Surveillance and action plan of a suspected case once detected is also mentioned as a guide to the health staff in managing the disease.

Hospital Infectious Control Nurses have been given a special training on all aspects of infection control measures. Face masks N95 masks and Oseltamivir (antiviral drugs) have already been supplied to the IDH as well as other sentinel site hospitals. Not only supplies but also guidelines as to who, when and how they should be used have already been supplied. Circulars No: 01-19/2006 on collection and transport of specimens and 02-164/2005 on Guidelines for the preparedness and response to an Avian influenza pandemic threat have been made valid for preparedness and response to influenza A (H1N1) as well. This has been supplemented by a "Health alert on Swine Influenza" with specific instructions. Circulars are comprehensive and inclusive of surveillance, diagnosis and management of patients, specimen collection, infection control, disposal of dead bodies and clinical waste disposal. Epidemiology Unit has entered into an ongoing discussion with important stakeholders including the DDG (PHS-I), MRI, HEB, WHO, DAPH, MSD, Airport Health Office and IDH etc to review the situation and adjust the response at national level specific to the situation.

Hard work of the multidisciplinary and intersectoral pandemic preparedness team in Sri Lanka has paid dividends. Already

preparedness activities based on the National Pandemic Influenza Preparedness Plan with scientific and technical information on prevention and containment of potential pandemic influenza had been made available to the national authorities when the WHO raised the level of pandemic phasing to stage 5. It has been easier for the authorities to adjust to the situation as phase specific activities have already been determined in the plan.

A routine influenza surveillance programme is also being carried out in selected 20 sentinel hospitals under the pandemic influenza preparedness, to identify the routinely circulating influenza viruses in the country. This also functions as a potential early warning system for detecting novel viruses with pandemic potential. The benefit of the surveillance network was that capacities of the health staff in these hospitals were strengthened in terms of all important aspects of pandemic preparedness. In the event of the current outbreak, gaining foothold in the country, the available capacity can be utilized while the same can be mobilized for enhancing capacity at short notice.

MRI has been upgraded as the laboratory of the National Influenza Centre (NIC) and it collaborates with the global influenza laboratory network. Molecular and Viral laboratories of the MRI has been upgraded under the Avian/Pandemic Influenza Preparedness Project. Thus, it does not require special preparedness in the event of influenza A (H1N1) outbreak. It is already involved in determining the typing of influenza in suspected ILI patients directed from the air port and port. IDH has also been prepared under the same plan in order to isolate cases of pandemic influenza. Thus, it is apparent that gains of the preparedness for an anticipated pandemic in the country since 2005 have been enormous and helped a low resource setting like Sri Lanka in an immeasurable way. Thus, even little organized activities that can be achieved under preparedness is apparently beneficial than a myriad of activities carried out haphazardly in an unprepared setting.

Merely having a plan has no meaning unless it is tested in real conditions to see shortcomings and subsequent modifications to correct them. Simulation exercises have been cited as an important tool in this regard. Adhering to this principle, a Simulation exercise was carried out at a selected hospital in the Western Province to assess the response of the health staff on encountering a suspected influenza (H1N1) case and the level of preparedness. Two doctors went to the OPD posing as a returnee from Canada with influenza like illness and they observed the procedures followed by the health staff. The opportunity was used to highlight and encourage the correct manoeuvres taken, as well as to point out the deficiencies. With every moment of the evolution of the pandemic, national authorities will evaluate the situation in the country and activities of the NIPPP. Subsequently, they will inform the relevant health personnel and members of the multidisciplinary team members as to how the country should respond if the disease gains foothold in the country. Intense and laborious planning has ensured that there is preparedness to an impending pandemic. What matters now is efficient and collective response to control the spread of the pandemic if it affects the country.

Editor wishes to thank the pandemic preparedness team that comprises Dr.Paba Palihawadana, Dr.Samitha Ginige, Dr.Ranjan Wijesinghe, Dr.Wasu Jayasinghe and Dr.Risintha Premaratne for the guidance in preparing this article. Dr.Upekha Seneviratne, the research assistant at the Epidemiology Unit, is appreciated for compiling the article.

Table 1: Vaccine-preventable Diseases & AFP

03rd May – 09th May 2009 (19th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	01 JF=1	00	00	00	00	00	01	02	26	33	-21.2%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	00	00	00	00	00	00	00	00	01 RP=1	01	06	46	48	-4.2%
Tetanus	00	01	00	00	00	00	00	00	00	00	02	10	14	-28.6%
Whooping Cough	00	00	00	00	00	00	00	00	01 RP=1	01	00	24	14	+71.4%
Tuberculosis	36	10	07	26	30	17	04	23	38	191	142	3259	3140	+3.8%

Table 2: Newly Introduced Notifiable Disease

03rd May – 09th May 2009 (19th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	40	12	14	407	3	12	13	7	9	517	137	7050	2299	+206.6%
Meningitis	02 CB=1 KL=1	00	00	00	00	02 KR=2	01 AP=1	02 BD=2	03 KG=3	10	20	381	622	-38.7%
Mumps	02	05	04	04	00	02	03	02	02	24	84	682	962	-29.1%
Leishmaniasis	00	00	05 MT=5	00	00	00	00	00	00	05	Not available*	384	Not available*	-

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

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

Leishmaniasis is notifiable only after the General Circular No: 02/102/2008 issued on 23 September 2008.

Table 3: Laboratory Surveillance of Dengue Fever

03rd May – 09th May 2009 (19th Week)

Samples	Number tested	Number positive	Serotypes *				
			D1	D2	D3	D4	Negative
Number for current week	08	01	00	01	00	00	00
Total number to date in 2009	46	09	02	03	04	00	00

Sources: Genetic Laboratory, Asiri Surgical Hospital

* Not all positives are subjected to serotyping.
 NA= Not Available.

Table 4: Selected notifiable diseases reported by Medical Officers of Health

03rd May – 09th May 2009 (19th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Colombo	78	846	3	71	0	5	1	76	4	31	13	211	0	4	0	29	0	3	85
Gampaha	65	470	8	62	2	8	0	22	0	9	2	106	0	3	0	30	0	2	93
Kalutara	10	223	1	105	0	3	0	28	0	11	2	80	0	0	0	5	0	1	75
Kandy	46	796	2	141	0	3	0	14	0	52	3	84	1	59	0	18	0	0	84
Matale	7	260	3	43	0	2	0	16	0	5	8	194	0	2	0	6	0	2	75
Nuwara Eliya	1	31	5	163	0	0	2	77	0	22	1	20	1	29	0	25	0	0	100
Galle	5	47	1	69	0	7	0	1	0	8	3	69	0	2	0	6	0	3	84
Hambantota	27	163	0	30	0	6	0	2	0	5	1	28	0	31	0	8	0	0	45
Matara	20	224	5	137	0	2	0	4	1	8	4	72	0	62	0	7	0	0	88
Jaffna	0	8	1	48	0	3	0	82	0	22	0	0	3	97	0	17	0		25
Kilinochchi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Mannar	0	3	4	22	0	1	0	56	0	4	0	0	0	0	1	17	1	1	50
Vavuniya	0	4	136	417	0	2	0	21	0	2	0	2	0	0	146	191	0	0	50
Mullaitivu	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Batticaloa	6	261	2	71	0	10	0	5	0	39	0	6	1	1	0	4	0	1	55
Ampara	0	34	1	23	0	0	0	5	0	4	0	7	0	0	0	4	0	0	43
Trincomalee	5	153	1	34	0	1	0	2	0	0	0	3	0	5	1	5	0	1	50
50Kurunegala	20	313	4	66	0	4	0	25	0	1	2	44	0	42	2	28	0	4	84
Puttalam	5	67	0	50	0	5	2	43	0	0	0	41	0	20	0	6	0	1	44
Anuradhapura	30	197	1	33	0	3	0	3	0	2	1	67	2	25	1	7	0	0	68
Polonnaruwa	0	28	0	14	0	2	0	13	0	6	0	40	0	0	0	4	0	0	71
Badulla	3	40	4	101	0	2	0	20	0	13	0	36	5	35	1	91	1	1	87
Monaragala	4	17	1	20	0	0	0	9	0	7	1	9	0	36	4	21	0	1	82
Ratnapura	20	128	7	248	0	15	0	25	1	4	3	47	0	17	0	8	0	1	61
Kegalle	42	511	1	52	0	4	0	15	1	6	2	50	0	12	1	64	0	3	82
Kalmunai	2	85	3	54	0	1	0	3	0	1	0	2	0	1	0	7	0	0	38
SRI LANKA	396	4909	194	2076	02	89	05	570	07	262	46	1218	13	483	157	608	02	27	70

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 09 May, 2009 Total number of reporting units =311. Number of reporting units data provided for the current week: 217

A = Cases reported during the current week. B = Cumulative cases for the year.

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@sltnet.lk.

ON STATE SERVICE

Dr. P. PALIHAWADANA
 EPIDEMIOLOGIST
 EPIDEMIOLOGY UNIT
 231, DE SARAM PLACE
 COLOMBO 10