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. 18 — 26th April– 02nd May 2009

SRI LANKA - 2009

WER

Novel Influenza A/H1N1 formerly known as Swine Influenza

The current epidemic of the novel influenza A (H1N1) was caused by a new strain of influenza virus A that was clinically identified in April 2009 in the United States. These cases were reported in Southern California and Guadalupe County, Texas. Mexico and Canada also reported human cases. Though the new virus strain was identified first in the USA, the outbreak was first detected in the Mexico City, where surveillance began picking up a surge in cases of Influenza–like illness (ILI) starting from March 18. The surge was assumed by Mexican health authorities to be a "late-season flu" (which usually coincides with a mild strain of influenza B) until April 21, when an alert of the U.S. Centers for Diseases Control (CDC) concerning two isolated cases of a novel influenza A (H1N1) was reported in the media. Consequent to this media report, some samples of Mexican patients were sent to the U.S based CDC on April 18 and these Mexican cases were subsequently confirmed by the CDC and the World Health Organization to be a new strain of influenza A (H1N1) Within days, hundreds of more suspected cases were discovered in Mexico, with more cases also been shown up in the U.S. and several other countries. By 2 May 658 cases had been reported from 17 countries while the number of deaths was reported to be. Based on number of cases reported from various countries and pattern of spread of the disease, WHO raised the alert level to " phase 5" of the pandemic influenza phasing.

The reported 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 the 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 avian influenza H5N1 viruses. Molecular sequencing of approximately 30 viruses has found nearly 100% homology for all of the viral genes

Influenza A viruses which cause infections in humans and animals, are capable of outbreaks of respiratory tract infections in pigs referred to as **Swine influenza** (also known as **swine flu**, **pig influenza**, **hog flu**, and **pig flu).** Swine influenza is common in pigs in the mid-western United States (and occasionally in other states), Mexico, Canada, South America, Europe (including the United Kingdom, Sweden, and Italy), Kenya, Mainland China, Taiwan, Japan and other parts of eastern Asia. Outbreaks of swine flu happen regularly in pigs. People do not normally get swine influenza, though infections do sometimes occur. Transmission of swine influenza virus from pigs to humans is not common. However most human cases of swine influenza have been reported in people such as farmers who were in close contact with pigs. Virus is capable of spreading back and forth between humans and animals. Recently, there was a suspected spread of the current influenza A (H1N1) from humans to pigs in Alberta, Canada. Contrary to the existing belief among general public, consumption of properly-cooked pork poses no risk of infection as the virus is destroyed when exposed to a temperature exceeding 70^0C.

The spread of the novel influenza A (H1N1) virus

Contents	*Page*

occurs in the same way that the seasonal influenza does. The virus is transmitted sufficiently easily from person-to-person to sustain institutional and community outbreaks and to spread regionally. Virus spreads from human to human through coughing and sneezing of infected individuals. The other way of people being infected is when they touch a surface contaminated with influenza virus and then touch the nose, mouth and eyes,. The ability of the virus to survive on surfaces for 2-8 hours eases the spread of the disease through this method. The incubation period is in the range of 2 to 7 days with a secondary attack rate of 22% estimated based on preliminary data. A higher attack rate has been reported in school related outbreaks. A patient is infectious to others from one day before to seven days after manifestation of symptoms. In children, this period may be prolonged and presumed to be in the range of 21 days based on the experience of seasonal influenza.

Symptoms of the novel influenza virus A (H1N1) in humans are similar to that of seasonal influenza. Those include fever, cough, sore throat, body aches, headache, chills and fatigue. A prominent feature in this particular outbreak was that a significant proportion of patients manifested diarrhoea and vomiting. The clinical course of this outbreak in majority was mild and self limiting requiring no hospitalization. However, in a minority, the course was severe and fatal. Fatal and severe outcomes were reported in previously healthy young adults with underlying medical conditions such as chronic lung and cardio vascular diseases, diabetes, immune deficiencies and obesity. Pregnant women were also at high risk of severe clinical course of the disease.

Since symptoms of novel influenza are indistinguishable from seasonal influenza, suspicion of the disease in a country where the disease has not yet been established is based on epidemiological factors such as travelling to and from an endemic country, close contact with or touching infectious materials of a confirmed or probable patient of novel influenza A (H1N1). The disease is laboratory confirmed by real time RT PCR, , viral culture or demonstration of four fold rise in novel influenza A (H1N1) virus specific neutralizing antibodies.

Antiviral drugs may reduce the symptoms and duration of illness, just as they do for seasonal influenza. They also may contribute to preventing severe disease and death. Of the available anti viral treatments for influenza, the WHO stated that the viruses obtained from the human cases with novel influenza A (H1N1) in the United States were sensitive to neuraminidase inhibitors namely ***Oseltamivir*** (**Tamiflu** [R]) and ***Zanamivir*** (**Relenza** [R]). They were found to be resistant to M2 inhibitors (Adamantanes) ***Amantadine*** and ***Rimantadine***. WHO recommends that antiviral drugs should be used according to the pre determined guidelines spelt out in national pandemic influenza preparedness plans. Public health authorities in some countries have recommended Oseltamivir and Zanamivir to be used for prophylaxis of the influenza A caused by the new strain H1N1. Where antiviral drugs are available for treatment, clinicians should make decisions regarding the use of anti virals based on assessment of the individual patient's risk. Risks versus benefits should also be evaluated on a case by case basis. People are advised against self medicating with neuraminidase inhibitors.

Recommendations to prevent and control influenza A (H1N1) consist of hand washing, respiratory etiquette and infection control. At personal level, by adopting several strategies, one may be able to stay away from influenza. Staying in good general health by having regularly good sleep, ensuring good nutrition, being physically active and minimizing stress is pivotal to be free of influenza. It is essential to wash hands with soap and water after touching surfaces potentially contaminated with influenza virus, having cared for influenza patients or touching linen of patients. It is advisable not to touch nose, mouth, eyes without washing hands. When caring for patients wearing a mask, reducing frequency and duration of caring for patients with influenza and minimising stay in crowded settings during outbreaks enable staying free of influenza.

A patient also can help prevent the spread of the disease to others. In this regard, it is his duty to keep away from his work place and crowded setting by staying at home for seven days or 24 hours after symptoms disappear. Opening doors and windows to ventilate the room well and let the sunlight in will minimise the risk of infection for susceptible individuals. Wiping surfaces contaminated with patient's infectious materials with disinfectants, washing his linens with soap and trashing tissues used to wipe off nasal secretions are essential to prevent the spread of the disease from patients to others. Wearing a mask or using a handkerchief/tissue when sneezing and coughing will prevent the dispersion of viruses in the environment where the patient has been placed.

Since the clinical course of the influenza A (H1N1) is mild in the majority in the current outbreak, patients have been treated in the out patient departments and sent home. on such an occasion, patient needs to be separated from healthy individuals at home. The patient needs to comply with measures aimed at minimising spread to others as discussed in the previous paragraph. It is apt to use available household cleaning agents to keep the environment clean.

No effective vaccine against the new influenza A (H1N1) virus is readily available. The best current scientific evidence suggests that seasonal influenza vaccines will offer little or no protection against influenza A (H1N1). But work is already underway to develop such a vaccine. However, according to the WHO making a completely new influenza vaccine can take five to six months.

As far as international travel is concerned, the WHO has not imposed travel restrictions on par with the international health regulations (2005). Individuals who are ill have been advised to delay their travel plans while those returning travellers who fall ill with ILI should seek appropriate medical care according to public health regulations in individual countries.

Sources :

- **World Health Organization**
- **Centers for Diseases Control (CDC), USA**

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

18th April – 25th April 2009 (17th 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	00	00	00	01 AP=1	00	00	01	04	24	29	-17.20%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	00	00	00	00	00	00	00	00	00	00	00	44	40	+10.0%
Tetanus	00	01	00	00	00	00	00	00	00	01	00	10	12	-16.7%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	01	22	13	+69.2%
Tuberculosis	122	50	15	25	41	21	03	12	60	349	89	2756	2852	-3.4%

Table 2: Newly Introduced Notifiable Disease

18th April – 25th April 2009 (17th 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	26	28	25	372	2	10	13	9	25	508	128	5946	2038	+191.7%
Meningitis	03 CB=2 GM=1	03 KD=2 MT=1	05 GL=3 MT=1 HB=1	00	02 BT=2	02 KR=2	00	01 BD=1	07 KG=3 RP=4	23	35	352	580	-39.3%
Mumps	01	01	04	04	00	04	00	01	08	21	54	587	821	-28.5%
Leishmaniasis	00	00	08 HB=5 MT=3	00	00	00	01 AP=1	00	00	09	Not available*	362	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

18th April – 25th April 2009 (17th Week)

Samples	Number tested	Number positive	Serotypes *				
			D1	D2	D3	D4	Negative
Number for current week	00	00	00	00	00	00	00
Total number to date in 2009	32	04	01	00	03	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

18th April – 25th April 2009 (17th 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	57	689	6	61	0	5	3	70	0	27	16	177	1	3	1	29	0	3	**100**
Gampaha	17	348	1	47	0	6	0	21	0	9	0	96	0	3	0	28	0	2	**43**
Kalutara	15	191	5	101	0	3	1	27	0	11	10	68	0	0	0	4	0	1	**83**
Kandy	73	683	7	129	0	1	1	14	0	52	10	79	8	52	0	15	0	0	**80**
Matale	18	237	5	35	1	1	0	15	0	5	7	167	0	2	2	4	0	2	**75**
Nuwara Eliya	5	28	9	141	0	0	2	73	0	20	1	18	4	26	2	24	0	0	**100**
Galle	2	39	5	67	0	7	1	1	1	6	2	62	0	2	0	6	0	3	**95**
Hambantota	28	74	1	29	0	6	0	2	0	5	5	25	0	29	0	7	0	0	**73**
Matara	5	185	13	126	0	2	0	4	0	4	2	66	0	57	0	6	0	0	**94**
Jaffna	0	8	4	45	0	3	1	79	0	20	0	0	0	88	0	12	0	2	**38**
Kilinochchi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Mannar	0	3	0	13	0	1	0	56	0	4	0	0	0	0	0	14	0	0	**0**
Vavuniya	0	4	9	96	0	1	0	7	0	2	0	2	0	0	0	0	0	0	**50**
Mullaitivu	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**0**
Batticaloa	2	239	2	50	0	10	0	5	32	37	0	4	0	0	0	3	0	1	**73**
Ampara	7	34	2	14	0	0	0	5	00	4	0	6	0	0	0	4	0	0	**29**
Trincomalee	12	137	0	31	0	1	0	2	0	0	0	1	0	5	0	4	0	0	**30**
Kurunegala	25	272	2	58	0	4	1	24	0	1	2	40	0	42	2	24	0	5	**84**
Puttalam	2	58	1	49	0	5	1	37	0	0	0	40	0	20	0	6	0	1	**56**
Anuradhapura	12	155	1	29	0	3	0	3	0	2	0	64	0	22	2	6	0	0	**74**
Polonnaruwa	3	25	0	13	0	2	0	11	0	6	0	38	0	0	0	4	0	0	**71**
Badulla	2	31	7	87	0	2	0	19	0	13	3	36	1	29	1	87	0	0	**93**
Monaragala	1	11	3	19	0	0	1	9	0	7	1	7	3	33	3	17	0	0	**91**
Ratnapura	2	88	3	223	0	14	0	25	0	2	1	37	0	16	1	7	0	1	**56**
Kegalle	44	385	4	47	0	4	1	15	0	5	4	44	2	12	5	62	1	3	**82**
Kalmunai	2	76	1	50	0	1	0	5	0	1	0	2	0	1	0	5	0	0	**38**
SRI LANKA	**334**	**4000**	**91**	**1562**	**1**	**82**	**13**	**530**	**33**	**243**	**64**	**1079**	**19**	**442**	**19**	**378**	**1**	**24**	**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 25 April, 2009 Total number of reporting units =311. Number of reporting units data provided for the current week: 219
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