



# WEEKLY EPIDEMIOLOGICAL REPORT

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## AEFI SURVEILLANCE REPORT— 2007 [Part I]

Immunization is one of the public health interventions that have had the greatest impact on the world's health since its discovery. Thanks to pioneers like Sir Edward Jenner, the first vaccine against small pox was introduced in 1798 and these vaccines, since then, have helped save many lives and dramatically reduced the burden of many diseases in all four corners of the world. Immunization is one of the most cost effective interventions and has given great credibility to the global preventive health movement.

Sri Lanka too adopted immunization as a part of its primary health care services many decades ago and a big step forward was taken with the launching of the Expanded Programme on Immunization in 1978. Since then the EPI programme in the country has been a great success story often commended by the World Health Organization as being a programme of excellence that has achieved many high standards in immunization.

Although the first vaccines invented were, in some aspects, crude, the vaccines became more safe as well as more effective with time. But, these vaccines are not entirely without risk. Effective vaccines may produce some undesirable side effects which are mostly mild and clear up quickly. These adverse effects can jeopardize the entire immunization programme and the credi-

bility achieved among the public over many years can be lost. Recognizing the importance of this critical issue, the Epidemiological Unit introduced the surveillance of Adverse Events Following Immunization in 1996 as an integral part of the programme. Furthermore, technological advances and continuously increased knowledge about vaccines have led to investigations focused on the safety of existing vaccines which have sometimes created a climate for concern.

An Adverse Events Following Immunization is a medical incident that takes place after immunization and is believed to be caused by immunization. The majority of events, though thought to be related to the administration of the vaccine, are actually not due to the vaccine itself. Many are simply coincidental events and others are due to human or programme errors that could have been prevented by observing the standard precautions in healthcare. Some reactions are solely due to the anxiety and have no association with the vaccine. The determination of AEFI is based on case investigations.

AEFI can create panic among the public leading to ultimate refusal of immunization of children. This would have drastic consequences and the diseases that were controlled greatly could re-emerge, taking back years of commitment and hard work.

### Contents

### Page

1. Leading Article - AEFI Surveillance Report - 2007 [Part I]	1
2. Surveillance of vaccine preventable diseases & AFP (6 <sup>th</sup> - 12 <sup>th</sup> September 2008)	3
3. Summary of newly introduced notifiable diseases (6 <sup>th</sup> - 12 <sup>th</sup> September 2008)	3
4. Laboratory surveillance of dengue fever (6 <sup>th</sup> - 12 <sup>th</sup> September 2008)	3
5. Summary of selected notifiable diseases reported (6 <sup>th</sup> - 12 <sup>th</sup> September 2008)	4

WEEKLY EPIDEMIOLOGICAL REPORT SRI LANKA 2008

Especially at a time when vaccine preventable diseases are hardly seen, convincing mothers to vaccinate their children against such diseases with a vaccine that could have adverse events, is a challenge. Therefore taking all necessary steps to prevent the occurrence of these AEFI and taking corrective measures can have a major impact on the continuation of the immunization programme.

Systematic collection, analysis and dissemination of data or surveillance of AEFI can greatly help in facing the challenge of maintaining public confidence in immunization. It is not possible to predict every individual who might have mild or serious reactions to a vaccine. Hence it is mandatory to keep track of every child vaccinated and report any adverse event thought to have occurred due to the vaccine.

Field health staff plays a key role in this regard and every month the Medical Officers of Health are expected to investigate every individual event and provide a return on the AEFI observed in their respective areas to the Epidemiological Unit at the central level. The Epidemiological Unit analyzes these data and makes policy decisions at the centre as and when necessary.

Since the introduction of the surveillance on AEFI in 1996, the reporting has shown impressive improvements. A marked improvement is observed in the completeness of reports received at the central level and in 2006 91% of the reports expected were received whereas in 2007 the figure has risen to 97%. The number of AEFI reported too has shown an increase by about 2000 events together with the rate of AEFI indicating stronger surveillance at the grass root level.

**Completeness of AEFI reports received and number and overall rate of AEFI reported in 2006 & 2007**

	2006	2007
Number of monthly reports received	3156	3417
Percentage of reports received	91%	97%
Number of AEFI reported	4184	6217
Overall rate of AEFI reported*	61.5	94.5

\*Per 100,000 immunizations

Even though the completeness was at a satisfactory level the timeliness was below expectations and overall only 37.1% of

the returns were received on time. Time is a vital ingredient in epidemiology. Timeliness, or the lack of it, is one of biggest obstacles in achieving high standards in AEFI reporting.

Completeness of monthly reporting and receipt of NIL returns by RDHS division - 2006 & 2007				
	Completeness %		NIL returns	
	2006	2007	2006	2007
	%	%	%	%
Colombo	96.4	98.8	17.9	12.7
Gampaha	95.6	99.4	27.3	11.2
Kalutara	85.6	96.2	27.4	34.7
Kandy	94.7	97.4	58.2	24.5
Matale	90.8	99.3	58.8	51.1
Nuwara Eliya	86.9	98.8	46.6	43.4
Galle	94.2	96.1	81.8	69.9
Hambantota	90.8	93.2	46.8	27.6
Matara	90.6	98.9	55.2	50.5
Jaffna	97.6	95.2	91.5	96.3
Kilinochchi	77.1	86.1	91.9	80.7
Mannar	100.0	83.3	93.8	87.5
Vavuniya	93.8	95.8	77.1	82.6
Mulletivu	33.3	88.3	95.0	94.3
Batticaloa	77.3	98.5	92.2	76.2
Ampara	88.1	96.4	67.6	66.7
Trincomalee	96.3	98.2	91.4	68.9
Kurunegala	95.1	99.1	53.1	36.9
Puttlam	94.4	96.3	38.2	8.7
Anuradhapura	95.6	98.3	65.1	54.9
Polonnaruwa	96.4	100.0	48.2	30.9
Badulla	95.0	99.4	70.8	40.8
Moneragala	95.8	99.2	60.0	37.8
Ratnapura	90.9	91.2	50.0	49.1
Kegalle	81.6	100	43.4	28.8
Kalmunai	93.1	99.4	88.1	80.0
<b>Sri Lanka</b>	<b>91.3</b>	<b>97.2</b>	<b>58.5</b>	<b>46.2</b>

Hence more emphasis must be laid on adhering to time to further improve the quality of AEFI surveillance by MOOH and more supervision is needed in this regard by the regional health authorities.

When the overall completeness of the reporting of AEFI is improving many districts other than Jaffna and Mannar showed a progress at the individual level from 2006 to 2007. The prevailing civil conflict in the Northern part of the country could be the reason for the lack of improvement in those two districts. In 2007 two RDHS divisions namely Kegalle and Polonnaruwa, achieved 100% completeness, while 21 RDHS divisions out of the 26 scored more than 95%. Mannar recorded the

lowest coverage as a percentage with only 83.3%.

**Source**

1. Quarterly Epidemiological Report, forth quarter 2007, Epidemiology Unit.

**This article was compiled by Dr W L S P**

**Perera , Epidemiology Unit Colombo.**

***Part II of this article will be continued in the next issue.***

6<sup>th</sup> - 12<sup>th</sup> Sep 2008 (37<sup>th</sup> Week)

Table 1: Vaccine-preventable Diseases &amp; AFP

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	00	00	01 TR=1	00	00	00	00	01	02	71	61	+14.8%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Measles	00	00	01 HA=1	00	00	00	01 PO=1	00	00	02	00	92	50	+80.0%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	27	26	+3.8%
Whooping Cough	00	01 KD=1	00	00	00	01 PU=1	00	00	00	02	01	38	32	+12.5%
Tuberculosis	67	09	25	02	45	47	07	21	35	258	296	6636	7000	-8.9%

Table 2: Newly Introduced Notifiable Diseases

6<sup>th</sup> - 12<sup>th</sup> Sep 2008 (37<sup>th</sup> Week)

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	13	15	28	02	06	06	02	10	32	114	59	3906	2378	+59.3%
Meningitis	01 KL=1	00	01 HA=1	00	01 BT=1	04 KR=4	02 PO=2	00	04 RP=1 KG=3	13	22	981	408	+136.8%
Mumps	04	15	11	02	23	08	17	01	15	96	105	2150	1346	+52.4%

Key to Table 1 &amp; 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.

Table 3: Laboratory Surveillance of Dengue Fever 6<sup>th</sup> - 12<sup>th</sup> Sep 2008 (37<sup>th</sup> Week)

Samples	Number tested		Number positive *		Serotypes									
					D <sub>1</sub>		D <sub>2</sub>		D <sub>3</sub>		D <sub>4</sub>		Negative	
	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH
Number for current week	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Total number to date in 2008	124	132	09	22	00	00	06	08	01	08	00	00	02	00

Sources: Genetech Molecular Diagnostics &amp; 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.

**Table 4: Selected notifiable diseases reported by Medical Officers of Health**  
6<sup>th</sup> - 12<sup>th</sup> Sep 2008 (37<sup>th</sup> Week)

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	A	B	
Colombo	11	1276	10	182	01	14	07	93	01	86	122	537	00	02	00	92	00	00	77
Gampaha	07	784	02	158	00	17	00	41	00	98	27	491	00	06	09	132	00	04	64
Kalutara	10	384	02	247	00	11	01	46	00	20	17	402	00	02	00	36	00	02	75
Kandy	07	210	05	235	00	07	01	49	27	81	07	341	00	81	03	102	01	02	72
Matale	06	95	05	169	01	04	02	40	00	04	05	627	00	01	00	24	00	00	92
Nuwara	00	22	03	201	01	03	02	202	00	166	01	40	00	36	01	93	00	01	77
Galle	01	87	01	139	00	12	00	15	00	43	12	282	00	12	01	08	00	03	59
Hambantota	00	79	06	82	00	05	00	07	00	11	02	81	03	75	00	14	00	01	45
Matara	05	243	04	152	00	12	02	31	00	06	19	317	09	181	00	14	00	01	59
Jaffna	00	52	06	114	00	04	02	229	01	15	00	00	00	151	00	34	00	00	88
Kilinochchi	00	00	00	35	00	00	00	01	00	04	00	02	00	00	00	01	00	00	00
Mannar	00	25	00	17	00	06	01	153	00	00	00	00	00	01	00	13	00	00	50
Vavuniya	00	11	01	52	00	02	00	11	01	16	00	05	00	01	00	05	00	00	50
Mullaitivu	00	00	00	11	00	00	00	13	00	13	00	00	00	01	00	09	00	00	00
Batticaloa	00	85	02	105	01	05	00	20	01	25	00	05	00	01	02	85	01	06	45
Ampara	00	28	02	232	00	00	00	07	00	283	00	20	00	00	00	08	00	00	43
Trincomalee	00	177	01	78	01	01	00	13	00	12	00	30	00	16	01	13	00	00	60
Kurunegala	08	282	04	182	00	14	01	50	00	16	20	503	00	26	01	58	00	06	72
Puttalam	02	274	01	68	00	08	04	145	00	26	04	46	00	35	00	28	00	04	56
Anuradhapu	04	115	04	79	00	09	00	11	02	08	03	231	00	10	00	13	01	03	53
Polonnaruw	01	62	03	106	00	01	00	21	05	17	00	59	00	01	00	18	00	00	57
Badulla	02	75	12	383	00	05	00	114	01	94	03	48	01	103	03	125	00	01	53
Monaragala	00	51	03	286	00	03	02	35	00	116	00	87	04	86	00	40	00	00	82
Ratnapura	01	231	26	287	00	28	01	43	00	63	04	135	01	77	00	46	00	00	44
Kegalle	13	347	04	249	00	25	00	56	01	07	17	295	02	58	07	452	00	01	55
Kalmunai	00	34	06	225	00	02	00	09	00	16	00	01	00	02	00	23	00	00	54
<b>SRI LANKA</b>	<b>78</b>	<b>5029</b>	<b>113</b>	<b>4074</b>	<b>05</b>	<b>198</b>	<b>26</b>	<b>1455</b>	<b>40</b>	<b>1246</b>	<b>263</b>	<b>4585</b>	<b>20</b>	<b>965</b>	<b>28</b>	<b>1486</b>	<b>03</b>	<b>35</b>	<b>61</b>

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 20 September, 2008 Total number of reporting units =238. Number of reporting units data provided for the current week: 227

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