



# SARAWAK STATE HEALTH DEPARTMENT

## EPIDEMIOLOGICAL NEWS

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# HAND FOOT MOUTH DISEASE OUTBREAK IN SARAWAK, 2006

### Introduction

Hand, foot and mouth disease (HFMD) is endemic in Sarawak. It gained prominence and entered the national consciousness with the 1997 outbreak when there were 2,628 cases and 29 deaths. Since then outbreaks of HFMD (due to enterovirus 71) in the State have occurred in 2000, 2003, and the most recent, in 2006.

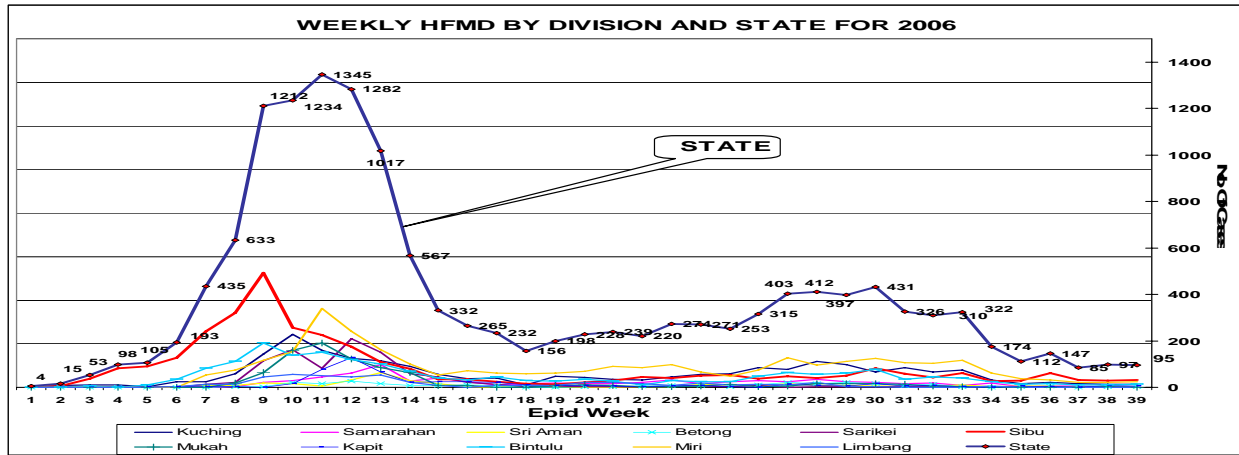
### Epidemiology

Based on data obtained from the sentinel surveillance, the number of HFMD cases was noted to be increasing from early January 2006 onwards. Health promotion activities were increased in all playschools, nurseries and kindergartens on prevention of HFMD. However, despite those activities, the number of cases continued to increase. By the end of Epid Week 9 (starting 26 February 2006) the total number of cases had increased seven-fold, with a total of 2,749 cases being reported in the State, compared to 416 cases over the same period in 2005. Intensive control measures were instituted to contain the outbreak.

The number of cases declined after reaching its peak in Epid Week 11, with 1345 cases reported that week. It continued to decline in the coming weeks and reached its nadir in Epid Week 18, with only 156 cases reported that week. This part of the outbreak is now recognized as the 1<sup>st</sup> wave of the outbreak. Subsequently, the number of cases started to increase again, corresponding to the increased population movement prior to the State election and the Gawai festival, reaching a smaller peak in Epid Week 30, with 431 cases reported that week. From then on, the number of cases started to decline reaching 95 cases in Epid Week 39, constituting the 2<sup>nd</sup> wave of the outbreak.

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By the end of the outbreak, the total cumulative number of cases reported was 14,505 with 2,917 admissions and 13 deaths.



Sibu, Miri, Kuching and Bintulu Divisions reported the most number of cases but the attack rates were highest in Sibu, Miri, Oya/Dalat, Bintulu, Sarikei and Mukah districts.

Almost all the cases were below 10 years old. There was a male preponderance in the ratio of 1.22:1 and an urban-rural preponderance in a ratio of 1.8:1.

### Clinical

Children with HFMD presented with classical signs and symptoms such as fever, mouth ulcers, rashes/blisters on the palms, soles of the feet and buttocks. However, there was a total of 46 cases that were notified as serious HFMD cases admitted to the hospitals and among them, 13 died and the remaining 33 survived. The serious cases had high temperature exceeding 38° C, inappropriate tachycardia, and tachypnea. The progression from mild disease to severe disease with complications occurred very rapidly. The case fatality rate is 0.9/1,000 cases, one of the lowest reported among the documented EV71 outbreaks.

### Virology

The causative agent of the 2006 HFMD outbreak is EV71 and the majority of virus isolated from sentinel as well as hospitalized cases has been confirmed to be EV71 by sequencing. 36.3% of all specimens sent for virology studies are positive for EV 71 as of epid week 41. 53.8% (7 out of 13) of 2006 HFMD fatality had EV71, three were positive for pan-EV by PCR and one was positive for Coxsackie A9.

### Conclusion

Given HFMD endemicity in Sarawak, and the three-year cyclical pattern of EV71 outbreaks, Sarawak will be preparing to minimize the impact of the next expected outbreak in 2009, by intensified surveillance and health education interventions in the general population as well as the child-care centres, which can act as transmission sites for the infection,

**NOTIFIABLE DISEASE IN SARAWAK  
BY DISTRICT  
DECEMBER 2006**

DISTRICTS	AIDS	Cholera	Dengue Fever	Dengue H. Fever	Dysentery	Food Poisoning	Gonorrhoea	Hand, Foot & Mouth	Leprosy	Malaria	Whooping Cough	Measles	Syphilis, Congenital	Syphilis (All Forms)	Tuberculosis (All forms)	Typhoid & Paratyphoid Fever	Typhus, Scrub	Hepatitis A	Hepatitis B	Other Hepatitis	Viral Encephalitis	TOTAL
Lundu	0	0	2	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	15
Bau	0	0	3	0	0	0	0	2	0	1	0	0	0	0	3	0	0	0	0	0	0	9
Kuching	6	0	63	1	1	4	7	19	0	1	1	1	0	4	23	0	0	0	5	0	1	137
Samarahan	0	0	5	0	1	0	2	0	0	0	0	0	0	2	6	0	0	0	0	0	0	16
Serian	0	0	0	0	1	0	0	1	0	10	0	0	0	0	3	0	0	0	0	0	0	15
Simunjan	0	0	2	0	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0	0	0	7
Sri Aman	0	0	0	0	0	0	0	1	0	0	0	0	0	2	4	0	0	0	0	0	0	7
L/ Antu	0	0	1	0	0	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	6
Betong	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	3
Saratok	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	4
Sarikei	0	0	30	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	34
Julau	0	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	8
Meradong	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	5
Daro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
Sibu	0	0	36	0	0	0	3	2	0	9	0	0	0	3	9	0	0	0	0	0	0	62
Kanowit	0	0	4	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	10
Mukah	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Dalat	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
Kapit	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	6
Song	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
Belaga	0	0	4	0	0	0	0	0	0	7	0	0	0	0	3	0	0	0	0	0	0	14
Bintulu	0	0	56	0	2	0	4	7	2	18	0	1	0	0	10	0	0	0	0	0	0	100
Tatau	0	0	3	0	0	0	1	0	0	4	0	0	0	0	2	0	0	0	0	0	0	10
Miri	0	0	5	0	0	1	3	12	0	4	0	8	0	3	16	0	0	0	0	1	0	53
Marudi	0	0	5	0	0	0	0	0	1	9	0	0	0	0	0	0	0	0	0	0	0	15
Limbang	0	0	1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	4
Lawas	0	0	3	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	6
<b>TOTAL</b>	<b>6</b>	<b>0</b>	<b>232</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>21</b>	<b>44</b>	<b>3</b>	<b>95</b>	<b>1</b>	<b>10</b>	<b>0</b>	<b>15</b>	<b>111</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>558</b>

**NOTIFIABLE DISEASE IN  
SARAWAK  
DECEMBER 2006**

ICD CODE	DISEASES	Median 2001- 2005	Month Ending		Cumulative Total	
			31/12/2005	31/12/2006	2005(Annual)	2006
B20 - B24	HIV/AIDS (Death)	4	3	6	104/50(24)	114/69(1)(20)
A57	Chancroid	0	0	0	0	0
A00.9	Cholera	0	0	0	0	0
A90	Dengue Fever	30	173	233	1394	1799
A91	Dengue Haemorrhagic Fever	3	0	1	17	22
A36.0-A36.9	Diphtheria	0	0	0	0	0
A06.0,A09	Dysentery All Types	8	16	5	143	86
A05,T61-T62	Food Poisoning	7	22	6	449	187
A54.0-A54.9	Gonococcal Infections(All Forms)	35	44	21	447	383
A54.3	Ophthalmia Neonatorum	0	0	0	0	0
A30.9	Leprosy	0	1	3	44	16
B54	Malaria	126	55	95	1545	1371
B05	Measles	8	22	10	479	182
A20	Plague	0	0	0	0	0
A80.9	Poliomyelitis, acute	0	0	0	0	0
A82	Rabies	0	0	0	0	0
A68	Relapsing Fever	0	0	0	0	0
A50	Congenital Syphilis	0	0	0	0	0
A51-A53	Syphilis(All forms)	24	29	15	375	296
A33	Tetanus Neonatorum	0	0	0	0	2
A35	Tetanus (adults)	0	0	0	3	2
A16-A19	Tuberculosis(All forms)	123	116	111	1549	1633
A01	Typhoid and Paratyphoid fevers	3	1	0	9	14
A75	Typhus, epidemic	0	0	0	0	0
A75.2	Typhus, flea-borne	0	0	0	4	8
A75.3	Typhus, scrub	0	0	0	0	0
A83,A84,A85,A86	Viral Encephalitis	1	3	0	26	35
B15.0-B15.9	Viral Hepatitis A	0	0	0	1	2
B16.0 - B 16.9	Viral Hepatitis B	2	4	6	84	34
B19.0 - B19.9	Viral Hepatitis (unspecified)	0	0	0	0	1
A37	Whooping cough	0	0	1	4	8
A95	Yellow Fever	0	0	0	0	0

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