

The First Domestic Dengue Fever Outbreak in Chiayi County, 2018

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Abstract

In August 2018, Sikou Township, Chiayi County, identified the first local dengue fever outbreak in the county. During this epidemic, 2 laboratory-confirmed dengue cases were reported. Chiayi County Government and Taiwan Centers for Disease Control cooperated to control the dengue cluster, assessed the effectiveness of vector control measures using the various intervention methods. This dengue cluster was under control quickly. We recommended using multiple ways of advocacy for dengue control, by providing information to the public and health care workers to improve prevention and awareness of dengue fever, and facilitate early detection of dengue cases to reduce the risk of transmission among communities. The main strategies to control dengue fever in rarely occurring dengue cities are early detection of high-risk dengue areas, cooperation with the relevant institutions, and following the Guidelines for Dengue Control to stop the spreading of dengue fever.

Keywords: Chiayi County, domestic dengue fever, outbreak

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Weekly Data of Notifiable Infectious Diseases (by week of diagnosis)

Case diagnosis year		Week 31★		Week 1–31			
Classification	Disease Diagnosed	2021	2020	2021		2020	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	0	0	17	0	18	0
	Acute Viral Hepatitis type A	1	1	44	0	50	7
	Amoebiasis	7	4	116	40	146	87
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	1	1	3	3
	Cholera	0	0	0	0	0	0
	Dengue Fever	0	12	5	5	76	62
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	8	0	8	0
	Malaria	0	0	1	1	1	1
	Measles	0	0	0	0	2	2
	Meningococcal Meningitis	0	0	2	0	5	0
	Paratyphoid Fever	0	0	2	0	0	0
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0
	Shigellosis	1	0	84	0	94	21
Typhoid fever	0	0	1	0	5	3	
West Nile Fever	0	0	0	0	0	0	
Zika virus infection	0	0	0	0	2	2	
Category III	Acute Viral Hepatitis type B	2	2	89	2	55	2
	Acute Viral Hepatitis type C	10	16	351	0	380	3
	Acute Viral Hepatitis type D	0	0	0	0	0	0
	Acute Viral Hepatitis type E	0	0	5	0	7	0
	Congenital Syphilis	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	0	0	1	0	7	0
	Haemophilus Influenza type b Infection	0	0	1	0	3	0
	Japanese Encephalitis	2	3	20	0	19	0
	Legionnaires' Disease	7	5	205	0	156	8
	Mumps	11	10	260	1	286	6
	Neonatal Tetanus	0	0	0	0	0	0
Pertussis	0	0	0	0	8	0	
Tetanus	0	0	2	0	6	0	
Category IV	Botulism	0	0	0	0	1	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	1	0	32	0	30	0
	Endemic Typhus Fever	0	1	23	0	11	0
	Herpesvirus B Infection	0	0	0	0	0	0
	Influenza Case with Severe Complications	0	0	1	0	548	6
	Invasive Pneumococcal Disease	2	0	151	0	160	0
	Leptospirosis	2	2	29	0	29	0
	Listeriosis	1	0	111	0	85	0
	Lyme Disease	0	0	0	0	0	0
	Melioidosis	0	1	10	0	9	1
	Q Fever	1	1	8	0	11	0
	Scrub Typhus	6	11	151	0	216	1
Toxoplasmosis	0	3	7	0	5	0	
Tularemia	0	0	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome	0	0	0	0	0	0
	Coronavirus Infections	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	1	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
Severe Pneumonia with Novel Pathogens	94	16	14974	591	474	419	
Yellow Fever	0	0	0	0	0	0	

- ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
- MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen's Disease and Creutzfeldt-Jakob Disease are excluded from the table.
- Numbers of mumps and tetanus cases are summed up by the week of report.
- Since 2020/1/15, "Severe Pneumonia with Novel Pathogens" was listed as a Notifiable Infectious Disease.

Suspected Clusters

- Six clusters related to tuberculosis (6) were reported during week 31.

Imported Infectious Diseases

- There were 23 imported cases from 14 countries during week 31.

Diseases \ Countries	USA	Indonesia	Malaysia	Spain	UK	Nigeria	South	Thailand	China	Cambodia	Russia	Israel	Japan	Philippines	Total
	Severe Pneumonia with Novel Pathogens	7		2	1	1	1	1	1	1	1	1	1	1	1
Amoebiasis		3													3
Total	7	3	2	1	1	1	1	1	1	1	1	1	1	1	23

- During week 1–31, there were 641 imported cases from 59 countries. The top three countries are the Philippines (167), Indonesia (143), and USA (72).
- During week 1–31, the three notifiable diseases with the highest number of imported cases are Severe Pneumonia with Novel Pathogens (591), Amoebiasis (40), and Dengue Fever (5).

Summary of Epidemic

- **Severe Pneumonia with Novel Pathogens** : The epidemic continues in the low level.
- **Japanese Encephalitis** : Taiwan is in the midst of Japanese Encephalitis season. Individuals living in all counties/cities in Taiwan are at risk of infection.

Weekly Data of Notifiable Infectious Diseases (by week of diagnosis)

Case diagnosis year		Week 32★		Week 1–32			
Classification	Disease Diagnosed	2021	2020	2021		2020	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	2	0	19	0	18	0
	Acute Viral Hepatitis type A	0	2	44	0	52	7
	Amoebiasis	3	4	119	45	150	90
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	1	1	3	3
	Cholera	0	0	0	0	0	0
	Dengue Fever	0	0	5	5	76	62
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	1	0	9	0	8	0
	Malaria	0	0	1	1	1	1
	Measles	0	0	0	0	2	2
	Meningococcal Meningitis	0	0	2	0	5	0
	Paratyphoid Fever	0	0	2	0	0	0
	Poliomyelitis	0	0	0	0	0	0
Rubella	0	0	0	0	0	0	
Shigellosis	1	2	85	0	96	21	
Typhoid fever	0	0	1	0	5	3	
West Nile Fever	0	0	0	0	0	0	
Zika virus infection	0	0	0	0	2	2	
Category III	Acute Viral Hepatitis type B	3	3	92	2	58	2
	Acute Viral Hepatitis type C	12	10	361	0	390	4
	Acute Viral Hepatitis type D	0	0	0	0	0	0
	Acute Viral Hepatitis type E	0	0	5	0	7	0
	Congenital Syphilis	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	0	0	1	0	7	0
	Haemophilus Influenza type b Infection	0	0	1	0	3	0
	Japanese Encephalitis	0	1	20	0	20	0
	Legionnaires' Disease	9	8	214	0	164	8
	Mumps	5	9	265	1	295	6
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	0	0	8	0
Tetanus	1	1	3	0	7	0	
Category IV	Botulism	0	0	0	0	1	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	1	0	33	0	30	0
	Endemic Typhus Fever	1	1	24	0	12	0
	Herpesvirus B Infection	0	0	0	0	0	0
	Influenza Case with Severe Complications	0	0	1	0	548	6
	Invasive Pneumococcal Disease	1	5	152	0	165	0
	Leptospirosis	0	3	29	0	32	0
	Listeriosis	1	5	112	0	90	0
	Lyme Disease	0	0	0	0	0	0
	Melioidosis	0	0	10	0	9	1
	Q Fever	0	1	8	0	12	0
	Scrub Typhus	10	14	161	0	230	1
Toxoplasmosis	2	0	9	0	5	0	
Tularemia	0	0	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome	0	0	0	0	0	0
	Coronavirus Infections	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	1	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
Severe Pneumonia with Novel Pathogens	72	5	15044	631	479	424	
Yellow Fever	0	0	0	0	0	0	

1. ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
2. MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen's Disease and Creutzfeldt-Jakob Disease are excluded from the table.
3. Numbers of mumps and tetanus cases are summed up by the week of report.
4. Since 2020/1/15, "Severe Pneumonia with Novel Pathogens" was listed as a Notifiable Infectious Disease.

Suspected Clusters

- Eleven clusters related to tuberculosis (8) and diarrhea (3) were reported during week 32.

Imported Infectious Diseases

- There were 40 imported cases from 20 countries during week 32.
 - **Severe Pneumonia with Novel Pathogens** : 39 (USA 11, Indonesia 3, Malaysia 3, UK 2, Russia 2, UAE 2, Cambodia 2, Vietnam 2, Poland 1, China 1, India 1, Thailand 1, Philippines 1, France 1, Netherlands 1, South Africa 1, Aruba 1, Lithuania 1, Korea 1, Switzerland 1).
 - **Amoebiasis** : 1 (Indonesia 1).
- During week 1–32, there were 686 imported cases from 62 countries. The top three countries are the Philippines (168), Indonesia (152), and USA (83).
- During week 1–32, the three notifiable diseases with the highest number of imported cases are Severe Pneumonia with Novel Pathogens (631), Amoebiasis (45), and Dengue Fever (5).

Summary of Epidemic

- **Severe Pneumonia with Novel Pathogens** : The epidemic continues in the low level.
- **Japanese Encephalitis** : Taiwan is in the midst of Japanese Encephalitis season. Individuals living in all counties/cities in Taiwan are at risk of infection.

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