

Guidelines for Enterprise Planning of Business Continuity under The COVID-19 Pandemic

Hsiu-Yun Lo^{1*}, Szu-Pei Wu¹, Su-Hua Wang¹, Pei-Chun Chan^{1,2}, Chia-Chi Lee¹

Abstract

The main purpose of a business continuity plan is to protect the operation of an enterprise, private and public institution, from the disasters and incidents, such as the COVID-19 pandemic. Since late 2019, the COVID-19 pandemic has continued to rage around the world. Due to an increasing number of infections, the operation of enterprises, private and public institutions, have been severely disrupted. However, for a business to continue operating, the most important thing is to ensure the health of the employees and the customers who interact with those employees.

The Taiwan Central Epidemic Command Center (CECC) has formulated many preventive measures and strategies against the COVID-19 pandemic immediately by consulting with experts in infectious diseases, business management and relevant administrative agencies. In addition to taking into consideration the guidelines of other countries, the Taiwan CECC finally published a guideline suitable for Taiwan's enterprises, private and public institutions.

The guidelines and recommendations for the preventive measures are adjusted and revised accordingly in response to the COVID-19 pandemic, which allow enterprises, private and public institutions, to identify and assess risks, minimizing loss to the greatest extent possible.

Keywords: Enterprise, continuous operation, COVID-19

¹ Division of Chronic Infectious Disease,
Taiwan Centers for Disease Control,
Ministry of Health and Welfare, Taiwan

² Institute of Epidemiology and Preventive
Medicine, College of Public Health,
National Taiwan University, Taipei, Taiwan

Corresponding author: Hsiu-Yun Lo^{1*}

E-mail: hss@cdc.gov.tw

Received: Jun. 22, 2022

Accepted: Jun. 22, 2022

DOI: 10.6525/TEB.202209_38(18).0001

The Operation And Response of The Communicable Disease Control Medical Network for The COVID-19 Pandemic

Chin-Mei Liu*, Peng Kuo, Kui-Li Huang, Ting-Yi Chiang,
Wei-Keng Chang, Yi-Chien Chih, Shu-Mei Chou

Abstract

The Communicable Disease Control Medical Network (CDCMN), established in 2003 after the severe acute respiratory syndrome (SARS) outbreak in Taiwan, has undergone several phases of modifications in infrastructure and activation. In December 2019, a previously unidentified coronavirus infection currently named as the Coronavirus Disease-2019 (COVID-19) resulted in a global pandemic. Taiwan discovered its first confirmed imported case on January 21, 2020. Later, the CDCMN Response hospitals began to receive and treat COVID-19 patients, gradually strengthen the hospital operation and response system, and expand designated wards in accordance with the instructions of the Central Epidemic Command Center (CECC) to increase the medical capacity for COVID-19 patients. In May 2021, there was a surge of community outbreak in the Taipei region. To properly handle the patients, the 23 response/isolation hospitals participated according to the guidance from CECC, spared and designated wards for COVID-19 patients quickly. In addition, according to the triage and admission plan for COVID-19 patients, the response hospitals re-planned and rehearsed the 4-stage clearance process and patients/critically ill patients transfer across counties and cities to increase the admission capacity for patients. Based on the experience of this outbreak, the CDCMN will continue to strengthen the transfer mechanism for joint prevention and transporting patients (including acute and severe patients) among counties and cities, to promote cross-unit cooperation, and to ensure that CDCMN plays a pivotal role in the pandemic.

Keywords: Communicable Disease Control Medical Network, response hospital, COVID-19, surge, the COVID-19 central epidemic command center

Division of Preparedness and Emerging Infectious
Diseases, Centers for Disease Control,
Ministry of Health and Welfare, Taiwan
DOI: 10.6525/TEB.202209_38(18).0002

Corresponding author: Chin-Mei Liu*
E-mail:uu0850@cdc.gov.tw
Received: Aug. 01, 2022
Accepted: Aug. 01, 2022

week 35–36 (Aug. 28–Sep. 10, 2022)

DOI: 10.6525/TEB.202209_38(18).0003

Weekly Data of Notifiable Inases (by week of diagnosis)

Case diagnosis year		Week 35★		Week 1-35			
Classification	Disease Diagnosed	2022	2021	2022		2021	
				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	22	0
	Acute Viral Hepatitis type A	3	3	112	1	49	0
	Amoebiasis	0	5	128	33	140	52
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	0	0	1	1
	Cholera	0	0	0	0	0	0
	Dengue Fever	0	0	29	27	7	7
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	1	0	2	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus syndrome	0	0	3	0	0	0
	Malaria	0	0	2	2	1	1
	Measles	1	0	1	0	0	0
	Meningococcal Meningitis	0	0	1	0	2	0
	Paratyphoid Fever	0	0	0	0	2	0
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0
	Shigellosis	3	0	54	2	91	0
	Typhoid fever	0	0	2	1	1	0
	West Nile Fever	0	0	0	0	0	0
Zika virus infection	0	0	0	0	0	0	
Monkeypox	0	-	3	3	-	-	
Category III	Acute Viral Hepatitis type B	1	0	65	0	97	2
	Acute Viral Hepatitis type C	10	12	298	1	387	0
	Acute Viral Hepatitis type D	0	0	0	0	0	0
	Acute Viral Hepatitis type E	1	0	9	0	5	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	0	0	1	0
	Haemophilus Influenza type b Infection	0	0	2	0	1	0
	Japanese Encephalitis	0	1	19	0	26	0
	Legionnaires' Disease	6	8	218	1	243	0
	Mumps	4	8	145	0	301	1
	Neonatal Tetanus	0	0	0	0	0	0
Pertussis	0	0	0	0	0	0	
Tetanus	1	0	3	0	3	0	
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	0	1	19	0	35	0
	Endemic Typhus Fever	0	1	10	0	25	0
	Herpesvirus B Infection	0	0	0	0	0	0
	Influenza Case with Severe Complications	0	0	0	0	1	0
	Invasive Pneumococcal Disease	0	3	121	0	162	0
	Leptospirosis	1	9	34	0	43	0
	Listeriosis	3	1	101	0	121	0
	Lyme Disease	0	0	1	1	0	0
	Melioidosis	1	1	11	1	13	0
	Q Fever	1	0	3	0	8	0
	Scrub Typhus	2	6	164	0	181	0
Toxoplasmosis	1	0	18	0	10	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	0	0	1	0
	Rift Valley Fever	0	0	0	0	0	0
	Severe Pneumonia with Novel Pathogens	221495	36	5425867	26493	15211	734
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 2022/6/23, " Monkeypox " was listed as a Notifiable Infectious Disease.
 5. Hantavirus syndrome was no longer classify Hemorrhagic Fever with Renal Syndrome(HFRS) and Hantavirus Pulmonary Syndrome(HPS) since 2022.

Suspected Clusters

- Eleven clusters related to diarrhea (5), tuberculosis (6) were reported during week 35.

Imported Infectious Diseases

- There were 1890 imported cases from 34 countries during week 35.
Severe Pneumonia with Novel Pathogens: 1890 cases from Vietnam (172), USA (67), Thailand (50), Malaysia (47), the Philippines (35), Japan (32), Indonesia (31), Singapore (28), Korea (19), Hong Kong (18), France (17), UAE (11), Cambodia (10), and the remaining 21 countries have less than 10 cases, 1274 unknowns.
- During week 1-35, there were 26566 imported cases from 124 countries. The top three countries are Vietnam (3313), USA (2133), Indonesia (1190).
- During week 1-35, the notifiable diseases with the highest number of imported cases are Severe Pneumonia with Novel Pathogens (26493).

Summary of Epidemic

- **Severe Pneumonia with Novel Pathogens :** The cases of COVID-19 raise in Taiwan. The new cases of the Omicron subvariants BA.5 continue to appear in community. As a new semester has started and upcoming national holiday, the COVID-19 epidemic could increase by close contacts between individuals.
- **Japanese Encephalitis:** Taiwan is in the midst of Japanese Encephalitis season, individuals living in all counties in Taiwan are at risk of infection.
- **Dengue Fever:** There have been new indigenous case in Kaohsiung city. The number of breeding sites increase because of rainfall in recent days. The risk of Dengue Fever infection raises.

Weekly Data of Notifiable Inases (by week of diagnosis)

Case diagnosis year		Week 36★		Week 1-36			
Classification	Disease Diagnosed	2022	2021	2022		2021	
				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	1	17	0	23	0
	Acute Viral Hepatitis type A	1	0	113	1	49	0
	Amoebiasis	7	1	135	33	141	52
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	0	0	1	1
	Cholera	0	0	0	0	0	0
	Dengue Fever	8	0	37	31	7	7
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	2	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus syndrome	0	0	3	0	0	0
	Malaria	0	0	2	2	1	1
	Measles	0	0	1	0	0	0
	Meningococcal Meningitis	0	0	1	0	2	0
	Paratyphoid Fever	0	0	0	0	2	0
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0
	Shigellosis	1	1	55	2	92	0
	Typhoid fever	0	0	2	1	1	0
	West Nile Fever	0	0	0	0	0	0
Zika virus infection	0	0	0	0	0	0	
Monkeypox	0	-	3	3	-	-	
Category III	Acute Viral Hepatitis type B	2	0	67	0	97	2
	Acute Viral Hepatitis type C	15	3	313	1	390	0
	Acute Viral Hepatitis type D	0	0	0	0	0	0
	Acute Viral Hepatitis type E	0	0	9	0	5	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	0	0	1	0
	Haemophilus Influenza type b Infection	0	0	2	0	1	0
	Japanese Encephalitis	0	0	19	0	26	0
	Legionnaires' Disease	5	1	223	1	244	0
	Mumps	3	10	148	0	311	1
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	0	0	0	0
Tetanus	0	0	3	0	3	0	
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	0	2	19	0	37	0
	Endemic Typhus Fever	0	1	10	0	26	0
	Herpesvirus B Infection	0	0	0	0	0	0
	Influenza Case with Severe Complications	0	0	0	0	1	0
	Invasive Pneumococcal Disease	2	2	123	0	164	0
	Leptospirosis	2	2	36	0	45	0
	Listeriosis	3	1	104	0	122	0
	Lyme Disease	0	0	1	1	0	0
	Melioidosis	2	2	13	1	15	0
	Q Fever	0	0	3	0	8	0
	Scrub Typhus	6	1	170	0	182	0
Toxoplasmosis	0	0	18	0	10	0	
Tularemia	0	1	0	0	1	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	1	0
	Novel Influenza A Virus Infections	0	0	0	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
Severe Pneumonia with Novel Pathogens	239278	69	5665000	28248	15280	770	
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 2022/6/23, " Monkeypox " was listed as a Notifiable Infectious Disease.
5. Hantavirus syndrome was no longer classify Hemorrhagic Fever with Renal Syndrome (HFRS) and Hantavirus Pulmonary Syndrome (HPS) since 2022.

Suspected Clusters

- Ten clusters related to diarrhea (4), tuberculosis (6) were reported during week 36.

Imported Infectious Diseases

- There were 1760 imported cases from 36 countries during week 36.
 - Severe Pneumonia with Novel Pathogens:** 1756 cases from Vietnam(213), USA(71), Thailand(45), Indonesia(30), Singapore(31), Malaysia(23), Hong Kong(22), Korea(22), Japan(21), the Philippines(19), Cambodia(18), Myanmar(18), Germany(15), India(12), UK(10), Canada (10) and the remaining 20 countries have less than 10 cases, 1129 unknowns.
 - Dengue Fever:** 4 cases from Vietnam (2), Indonesia (1), Honduras (1).
- During week 1-36, there were 28325 imported cases from 125 countries. The top three countries are Vietnam (3530), USA (2206), Indonesia (1221).
- During week 1-36, the notifiable diseases with the highest number of imported cases are Severe Pneumonia with Novel Pathogens (28248).

Summary of Epidemic

- **Severe Pneumonia with Novel Pathogens :** The cases of COVID-19 raise in Taiwan. The COVID-19 epidemic could increase by close contacts between individuals during national holiday.
- **Japanese Encephalitis:** Taiwan is in the midst of Japanese Encephalitis season, individuals living in all counties in Taiwan are at risk of infection.
- **Dengue Fever:** There have been new indigenous cluster in Kaohsiung City. The number of breeding sites increase because of rainfall in recent days. The risk of Dengue Fever infection raises.

The Taiwan Epidemiology Bulletin series of publications is published by Centers for Disease Control, Ministry of Health and Welfare, Taiwan (R.O.C.) since Dec. 15, 1984.

Publisher: Jih-Haw Chou

Editor-in-Chief: Yung-Ching Lin

Executive Editor: Hsueh-Ju Chen, Hsin-Lun Lee

Address: No.6, Linsen S. Rd, Jhongjheng District, Taipei City 10050, Taiwan (R.O.C.)

Telephone No: +886-2-2395-9825

Website: <https://www.cdc.gov.tw/En>

Suggested Citation:

[Author].[Article title].Taiwan Epidemiol Bull 2022;38:[inclusive page numbers]. [DOI]