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Statistics of Communicable Diseases and Surveillance Report

2021

Annual
November 2022

Centers for Disease Control,
Ministry of Health and Welfare,
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Statistics of Communicable Diseases and Surveillance Report Republic of China 2021

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Contents

Explanatory Notes

1. Taiwan in this Report includes Taiwan Island, Penghu, Kinmen and Matsu.
2. The Report includes the notifiable diseases* and other relevant communicable diseases. Individual cases were reported by medical care institutions and physicians through the case reporting system for communicable diseases. Alternatively, medical care institutions and physicians also reported cases by submitting a “Report of cases of communicable and emerging infectious disease, include suspected cases” ** by post/fax to the local health authority that then completed the case reporting process online.
3. Definitions of terms used in the Report:
   (1) Notifiable diseases: Communicable diseases listed in Article 3, Communicable disease Control Act.
   (2) Reported cases: Cases of communicable disease or suspected cases detected by physicians while diagnosing and treating patients, and statistic of reported cases using the “Report of cases of communicable and emerging infectious disease, include suspected cases” form.
   (3) Confirmed cases: For most notifiable diseases, reported cases that are diagnosed or tested positive by Taiwan CDC’s laboratory or other verified institutions are determined as confirmed cases. For some notifiable diseases, confirmation of infection should meet the clinical symptoms and epidemiological criteria. For a few notifiable diseases, confirmation of infection should be determined by an expert meeting. Please refer to the “Case definition for Notifiable Communicable Diseases” to see the case definition of each disease.
   (4) Unspecified hepatitis: Cases that are non-A / non-B hepatitis and that can neither be classified as hepatitis C, D or E.
4. Analysis standards:
   (1) By locality: The actual residential locality of the confirmed case. For the tables of analysis of time intervals, the statistics is based on the reporting locality.
   (2) By age group: The actual age of the confirmed case. The ages of the syphilis, congenital syphilis, gonorrhea, HIV infection, AIDS, Hansen’s disease and Creutzfeldt-Jakob disease cases were calculated based on the day of diagnosis. The ages of the TB and MDR-TB (multi-drug resistant tuberculosis) cases were calculated based on the day the case was reported and the day the case was registered with Taiwan CDC respectively.
   (3) By month: The actual disease onset month of the confirmed case. The disease onset months of the syphilis, congenital syphilis, gonorrhea, HIV infection, AIDS, Hansen’s disease and Creutzfeldt-Jakob disease cases were calculated based on the month of diagnosis. The disease onset months of the TB and MDR-TB cases were

calculated based on the month the case was reported and the month the case was registered with Taiwan CDC respectively.

(4) By year: The actual disease onset year of the confirmed case. The disease onset years of the syphilis, congenital syphilis, gonorrhea, HIV infection, AIDS, Hansen's disease and Creutzfeldt-Jakob disease cases were calculated based on the year of diagnosis. The disease onset years of the TB and MDR-TB cases were calculated based on the year the case was reported and the year the case was registered with Taiwan CDC respectively.

(5) By week: The epidemiological week. Please refer to Appendix 3 for further details.

(6) In the 1999 annual statistics report, the tuberculosis statistics included only confirmed cases of open (active) and non-open (non-active) pulmonary tuberculosis, but not cases of pulmonary tuberculosis complicated with non-pulmonary tuberculosis. In compliance with the amendment made to the Communicable Diseases Control Act in 1999 and the intensified control of open pulmonary tuberculosis, CDC began to include and tabulate open pulmonary tuberculosis (including open pulmonary tuberculosis and open pulmonary tuberculosis with pulmonary and non-pulmonary complications) and other tuberculosis (all tuberculosis cases except the aforementioned open pulmonary tuberculosis) in the tuberculosis statistics. For international comparison, Tuberculosis has been categorized as smear positive and others in 2006. As WHO modified the definition, we have generated the statistical data without category to make consistent baseline over the years.

(7) Starting from 2002, only Taiwanese HIV infection and AIDS cases are analyzed.

(8) From 2000 to 2005, Mumps and Varicella had been reported with secondary data; and had been reported with detailed information since January 1, 2006.

(9) Mid-Year Population: The mid-year population comes from the Ministry of the Interior and which is used to calculate the incidence rate of diseases.

(10) Beginning in 2002, the historical information will not be amended. Any correction made to such information will be listed in the appendix. The analysis baseline in 2021 was based on the data before May 1, 2022.

5. Symbols: "-" for no reported cases; "…" for not under surveillance.

6. Figures may not sum up to the total due to rounding.

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* Please see Appendix 1 for classification of communicable diseases.

** Please see Appendix 2 for the form of "Report of cases of communicable and emerging infectious disease, include suspected cases".

PART I

Summary Tables and Graphs for Confirmed Cases

◎ **Abbreviations and Symbols Used in Table**

– No reported cases

… Not under surveillance

Table 1 Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Midyear population	Category I				Category II	
		Smallpox	Plague	SARS	Rabies	Diphtheria	Typhoid[1] Fever
Total	23,468,275	-	-	-	-	-	3
Taipei Area							
Taipei City	2,563,406	-	-	-	-	-	1
New Taipei City	4,019,534	-	-	-	-	-	-
Keelung City	365,777	-	-	-	-	-	-
Yilan County	451,890	-	-	-	-	-	-
Kinmen County	141,068	-	-	-	-	-	-
Lienchiang County	13,462	-	-	-	-	-	-
Northern Area							
Taoyuan City	2,270,599	-	-	-	-	-	-
Hsinchu City	452,026	-	-	-	-	-	-
Hsinchu County	573,178	-	-	-	-	-	-
Miaoli County	540,384	-	-	-	-	-	-
Central Area							
Taichung City	2,817,139	-	-	-	-	-	1
Changhua County	1,261,000	-	-	-	-	-	-
Nantou County	487,865	-	-	-	-	-	-
Southern Area							
Yunlin County	673,503	-	-	-	-	-	-
Chiayi City	265,366	-	-	-	-	-	-
Chiayi County	496,399	-	-	-	-	-	-
Tainan City	1,868,488	-	-	-	-	-	-
Kao-Ping Area							
Kaohsiung City	2,755,312	-	-	-	-	-	1
Pingtung County	808,549	-	-	-	-	-	-
Penghu County	106,146	-	-	-	-	-	-
Eastern Area							
Hualien County	322,865	-	-	-	-	-	-
Taitung County	214,324	-	-	-	-	-	-
Others	-	-	-	-	-	-	-

Note: [1]1 case of typhoid fever were imported.

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Category II						
	Dengue[1] Fever	Meningococcal Meningitis	Paratyphoid Fever	Poliomyelitis	Acute[2] Flaccid Paralysis	Shigellosis	Amoebiasis[1]
Total	12	3	1	-	28	121	188
Taipei Area							
Taipei City	2	-	-	-	2	24	23
New Taipei City	3	2	-	-	5	39	28
Keelung City	-	-	-	-	-	1	1
Yilan County	-	-	-	-	-	1	8
Kinmen County	-	-	-	-	-	-	-
Lienchiang County	-	-	-	-	-	-	-
Northern Area							
Taoyuan City	1	-	-	-	2	9	13
Hsinchu City	1	-	-	-	2	4	-
Hsinchu County	-	-	1	-	3	3	4
Miaoli County	-	-	-	-	1	2	3
Central Area							
Taichung City	1	1	-	-	1	14	31
Changhua County	-	-	-	-	1	2	15
Nantou County	-	-	-	-	-	2	5
Southern Area							
Yunlin County	-	-	-	-	1	1	-
Chiayi City	-	-	-	-	-	1	-
Chiayi County	-	-	-	-	1	-	3
Tainan City	2	-	-	-	3	11	15
Kao-Ping Area							
Kaohsiung City	2	-	-	-	5	5	25
Pingtung County	-	-	-	-	-	-	10
Penghu County	-	-	-	-	1	-	1
Eastern Area							
Hualien County	-	-	-	-	-	2	3
Taitung County	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-

Note: [1] The total case number of the following diseases includes imported cases: dengue fever (12) and amoebiasis (64).

[2] No wild poliovirus was detected since 1984. Nationwide surveillance of acute flaccid paralysis has been used for detecting cases of poliomyelitis after implementing the “Eradication Program for Measles, Congenital Rubella Syndrome, Poliomyelitis and Neonatal Tetanus” since 1992.

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Midyear population	Category II						
		Malaria[1]		Measles	Acute Hepatitis A	Enterohaemorrhagic E. coli Infection	Hantavirus Syndrome	
		Indigenous	Imported				Hemorrhagic Fever with Renal Syndrome	Hantavirus Pulmonary Syndrome
Total	23,468,275	-	2	-	74	-	10	-
Taipei Area								
Taipei City	2,563,406	-	-	-	8	-	2	-
New Taipei City	4,019,534	-	-	-	24	-	1	-
Keelung City	365,777	-	-	-	-	-	-	-
Yilan County	451,890	-	-	-	2	-	-	-
Kinmen County	141,068	-	-	-	-	-	-	-
Lienchiang	13,462	-	-	-	-	-	-	-
Northern Area								
Taoyuan City	2,270,599	-	-	-	1	-	1	-
Hsinchu City	452,026	-	-	-	3	-	-	-
Hsinchu County	573,178	-	-	-	5	-	-	-
Miaoli County	540,384	-	-	-	3	-	-	-
Central Area								
Taichung City	2,817,139	-	1	-	10	-	1	-
Changhua County	1,261,000	-	-	-	2	-	1	-
Nantou County	487,865	-	-	-	-	-	-	-
Southern Area								
Yunlin County	673,503	-	-	-	1	-	-	-
Chiayi City	265,366	-	-	-	-	-	-	-
Chiayi County	496,399	-	-	-	-	-	-	-
Tainan City	1,868,488	-	1	-	5	-	-	-
Kao-Ping Area								
Kaohsiung City	2,755,312	-	-	-	7	-	4	-
Pingtung County	808,549	-	-	-	1	-	-	-
Penghu County	106,146	-	-	-	-	-	-	-
Eastern Area								
Hualien County	322,865	-	-	-	1	-	-	-
Taitung County	214,324	-	-	-	1	-	-	-
Others	-	-	-	-	-	-	-	-

Note: [1]The total case number of the following diseases includes imported cases: malaria (2).

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Category II							
	Cholera	Rubella	MDR-TB[3]	Chikungunya[1] Fever	West Nile Fever	Epidemic Typhus Fever	Anthrax	Zika Virus Infection
Total	-	-	82	1	-	-	-	-
Taipei Area								
Taipei City	-	-	5	-	-	-	-	-
New Taipei City	-	-	13	-	-	-	-	-
Keelung City	-	-	2	-	-	-	-	-
Yilan County	-	-	2	-	-	-	-	-
Kinmen County	-	-	-	-	-	-	-	-
Lienchiang County	-	-	-	-	-	-	-	-
Northern Area								
Taoyuan City	-	-	6	-	-	-	-	-
Hsinchu City	-	-	1	-	-	-	-	-
Hsinchu County	-	-	-	-	-	-	-	-
Miaoli County	-	-	2	-	-	-	-	-
Central Area								
Taichung City	-	-	6	-	-	-	-	-
Changhua County	-	-	4	-	-	-	-	-
Nantou County	-	-	1	-	-	-	-	-
Southern Area								
Yunlin County	-	-	3	-	-	-	-	-
Chiayi City	-	-	-	-	-	-	-	-
Chiayi County	-	-	3	-	-	-	-	-
Tainan City	-	-	7	-	-	-	-	-
Kao-Ping Area								
Kaohsiung City	-	-	19	1	-	-	-	-
Pingtung County	-	-	2	-	-	-	-	-
Penghu County	-	-	-	-	-	-	-	-
Eastern Area								
Hualien County	-	-	6	-	-	-	-	-
Taitung County	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-

Note: [1]The total case number of the following diseases includes imported cases: chikungunya fever (1).

[3]The caseload of MDR-TB was calculated based on CDC's registration date.

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Midyear population	Category III					
		Pertussis	Tetanus[4]	Japanese Encephalitis	Tuberculosis[3]	Congenital Rubella Syndrome	Acute[1] Hepatitis B
Total	23,468,275	-	5	28	7,062	-	144
Taipei Area							
Taipei City	2,563,406	-	-	-	545	-	15
New Taipei City	4,019,534	-	-	-	1,060	-	20
Keelung City	365,777	-	-	1	116	-	2
Yilan County	451,890	-	-	1	158	-	4
Kinmen County	141,068	-	-	-	15	-	-
Lienchiang County	13,462	-	-	-	4	-	-
Northern Area							
Taoyuan City	2,270,599	-	2	-	453	-	23
Hsinchu City	452,026	-	-	-	87	-	5
Hsinchu County	573,178	-	-	-	157	-	7
Miaoli County	540,384	-	-	1	114	-	4
Central Area							
Taichung City	2,817,139	-	-	4	776	-	21
Changhua County	1,261,000	-	-	2	459	-	7
Nantou County	487,865	-	-	1	214	-	3
Southern Area							
Yunlin County	673,503	-	-	1	263	-	4
Chiayi City	265,366	-	-	-	55	-	1
Chiayi County	496,399	-	-	1	175	-	2
Tainan City	1,868,488	-	2	5	617	-	10
Kao-Ping Area							
Kaohsiung City	2,755,312	-	1	3	1,075	-	8
Pingtung County	808,549	-	-	7	448	-	4
Penghu County	106,146	-	-	-	18	-	-
Eastern Area							
Hualien County	322,865	-	-	1	158	-	3
Taitung County	214,324	-	-	-	95	-	1
Others	-	-	-	-	-	-	-

Note: [1]The total case number of the following diseases includes imported cases: acute hepatitis B (2).

[3]The caseload calculation of tuberculosis was based on notification date.

[4]Calculation for tetanus was based on reported cases only.

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Category III						
	Acute Hepatitis				Mumps[4]	Legionnaires'[1] Disease	Invasive Haemophilus Influenzae Type b Infection
	C	D	E	Un-specified			
Total	561	1	5	-	404	351	1
Taipei Area							
Taipei City	84	-	-	-	55	32	-
New Taipei City	119	1	-	-	35	53	-
Keelung City	3	-	-	-	9	21	-
Yilan County	13	-	-	-	13	16	-
Kinmen County	-	-	-	-	1	-	-
Lienchiang County	-	-	-	-	1	-	-
Northern Area							
Taoyuan City	79	-	-	-	42	25	-
Hsinchu City	10	-	-	-	2	-	-
Hsinchu County	11	-	1	-	6	4	-
Miaoli County	21	-	-	-	17	6	-
Central Area							
Taichung City	62	-	-	-	40	19	-
Changhua County	18	-	1	-	11	20	-
Nantou County	11	-	-	-	25	4	-
Southern Area							
Yunlin County	8	-	-	-	5	9	-
Chiayi City	4	-	-	-	2	3	-
Chiayi County	8	-	-	-	4	7	-
Tainan City	35	-	-	-	34	20	-
Kao-Ping Area							
Kaohsiung City	54	-	1	-	63	55	-
Pingtung County	10	-	2	-	6	36	-
Penghu County	-	-	-	-	12	-	-
Eastern Area							
Hualien County	6	-	-	-	13	18	1
Taitung County	5	-	-	-	8	3	-
Others	-	-	-	-	-	-	-

Note: [1]The total case number of the following diseases includes imported cases: Legionnaires' disease (1).

[4]Calculation for mumps was based on reported cases only.

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Midyear population	Category III							
		Syphilis[5]	Congenital[5] syphilis	Gonorrhea[5]	Neonatal Tetanus	Enteroviruses Infection with Severe Complications	HIV[6] Infection	AIDS[6]	Hansen's[5] Disease
Total	23,468,275	9,412	-	7,381	-	-	1,246	689	3
Taipei Area									
Taipei City	2,563,406	1,225	-	1,136	-	-	164	72	-
New Taipei City	4,019,534	1,938	-	1,745	-	-	242	135	1
Keelung City	365,777	143	-	177	-	-	15	22	-
Yilan County	451,890	204	-	118	-	-	19	15	-
Kinmen County	141,068	7	-	8	-	-	1	1	-
Lienchiang County	13,462	5	-	-	-	-	-	-	-
Northern Area									
Taoyuan City	2,270,599	1,031	-	871	-	-	146	86	-
Hsinchu City	452,026	165	-	149	-	-	27	11	-
Hsinchu County	573,178	170	-	297	-	-	31	15	1
Miaoli County	540,384	151	-	169	-	-	10	6	-
Central Area									
Taichung City	2,817,139	1,162	-	631	-	-	176	91	-
Changhua County	1,261,000	316	-	199	-	-	35	24	-
Nantou County	487,865	133	-	166	-	-	8	4	-
Southern Area									
Yunlin County	673,503	171	-	109	-	-	17	9	-
Chiayi City	265,366	89	-	52	-	-	12	9	-
Chiayi County	496,399	102	-	85	-	-	8	3	-
Tainan City	1,868,488	630	-	317	-	-	86	49	-
Kao-Ping Area									
Kaohsiung City	2,755,312	1,232	-	773	-	-	169	102	1
Pingtung County	808,549	299	-	131	-	-	38	18	-
Penghu County	106,146	20	-	8	-	-	-	-	-
Eastern Area									
Hualien County	322,865	140	-	146	-	-	23	6	-
Taitung County	214,324	79	-	94	-	-	19	11	-
Others	-	-	-	-	-	-	-	-	-

Note: [5]The caseload calculation of syphilis, congenital syphilis, gonorrhea and Hansen's disease were based on diagnosis date.

[6]The caseload calculation of HIV infection and AIDS were based on diagnosis date, and foreign nationality cases were excluded.

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Category IV								
	Herpesvirus B Infection	Leptospirosis	Melioidosis	Botulism	Invasive Pneumococcal Disease	Q Fever	Endemic Typhus Fever	Lyme[1] Disease	Tularemia
Total	-	80	21	-	228	9	30	2	1
Taipei Area									
Taipei City	-	4	-	-	20	-	-	1	-
New Taipei City	-	7	1	-	30	-	-	-	-
Keelung City	-	-	-	-	5	-	-	-	-
Yilan County	-	4	1	-	8	-	-	-	-
Kinmen County	-	-	-	-	-	-	-	-	-
Lienchiang County	-	-	-	-	-	-	-	-	-
Northern Area									
Taoyuan City	-	4	-	-	14	-	1	-	-
Hsinchu City	-	1	-	-	-	-	-	-	-
Hsinchu County	-	6	-	-	1	-	-	-	-
Miaoli County	-	1	-	-	1	-	-	-	-
Central Area									
Taichung City	-	5	3	-	16	-	2	-	-
Changhua County	-	3	-	-	16	8	3	-	-
Nantou County	-	-	-	-	6	-	-	1	-
Southern Area									
Yunlin County	-	1	-	-	14	1	1	-	-
Chiayi City	-	1	-	-	-	-	-	-	-
Chiayi County	-	2	-	-	4	-	-	-	-
Tainan City	-	2	3	-	20	-	1	-	1
Kao-Ping Area									
Kaohsiung City	-	13	9	-	20	-	12	-	-
Pingtung County	-	15	4	-	7	-	10	-	-
Penghu County	-	-	-	-	-	-	-	-	-
Eastern Area									
Hualien County	-	8	-	-	3	-	-	-	-
Taitung County	-	3	-	-	9	1	-	-	-
Others	-	-	-	-	-	-	-	-	-

Note: [1]The total case number of the following diseases includes imported cases: Lyme disease (2).

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Midyear population	Category IV							
		Scrub Typhus	Complicated Varicella	Toxoplasmosis	Influenza Case with Severe Complications	Creutzfeldt-Jakob Disease[5]	Brucellosis	Listeriosis	Severe Fever with Thrombocytopenia Syndrome[7]
Total	23,468,275	292	44	17	1	-	-	142	-
Taipei Area									
Taipei City	2,563,406	7	3	-	-	-	-	9	-
New Taipei City	4,019,534	7	9	3	-	-	-	26	-
Keelung City	365,777	2	-	-	-	-	-	-	-
Yilan County	451,890	6	4	-	-	-	-	2	-
Kinmen County	141,068	11	-	-	-	-	-	1	-
Lienchiang County	13,462	6	-	-	-	-	-	1	-
Northern Area									
Taoyuan City	2,270,599	11	7	6	-	-	-	22	-
Hsinchu City	452,026	3	-	-	-	-	-	3	-
Hsinchu County	573,178	3	2	-	-	-	-	5	-
Miaoli County	540,384	6	1	-	-	-	-	1	-
Central Area									
Taichung City	2,817,139	13	7	4	-	-	-	21	-
Changhua County	1,261,000	3	-	2	-	-	-	4	-
Nantou County	487,865	10	2	1	-	-	-	7	-
Southern Area									
Yunlin County	673,503	-	1	-	-	-	-	3	-
Chiayi City	265,366	-	-	-	-	-	-	1	-
Chiayi County	496,399	3	-	-	-	-	-	2	-
Tainan City	1,868,488	7	3	-	1	-	-	11	-
Kao-Ping Area									
Kaohsiung City	2,755,312	19	2	-	-	-	-	11	-
Pingtung County	808,549	8	2	-	-	-	-	7	-
Penghu County	106,146	35	1	-	-	-	-	-	-
Eastern Area									
Hualien County	322,865	51	-	-	-	-	-	3	-
Taitung County	214,324	81	-	-	-	-	-	2	-
Others	-	-	-	-	-	-	-	-	-

Note: [5]The caseload calculation of Creutzfeldt-Jakob disease was based on diagnosis date.

[7]Severe fever with thrombocytopenia syndrome has been included in Category IV notifiable disease since April 15, 2020.

Table 1 *(Continued)* Number of confirmed cases of notifiable diseases — by locality, 2021

Unit: Person

Area / Locality	Category V							
	Rift Valley Fever	Marburg Haemorrhagic Fever	Yellow Fever	Ebola Virus Disease	Lassa Fever	Middle East Respiratory Syndrome Coronavirus Infections	Novel Influenza A Virus Infections	Severe[1,7] Pneumonia with Novel Pathogens
Total	-	-	-	-	-	-	1	16,302
Taipei Area								
Taipei City	-	-	-	-	-	-	-	5,275
New Taipei City	-	-	-	-	-	-	-	7,196
Keelung City	-	-	-	-	-	-	-	332
Yilan County	-	-	-	-	-	-	-	116
Kinmen County	-	-	-	-	-	-	-	-
Lienchiang County	-	-	-	-	-	-	-	4
Northern Area								
Taoyuan City	-	-	-	-	-	-	-	926
Hsinchu City	-	-	-	-	-	-	-	75
Hsinchu County	-	-	-	-	-	-	-	139
Miaoli County	-	-	-	-	-	-	-	558
Central Area								
Taichung City	-	-	-	-	-	-	-	443
Changhua County	-	-	-	-	-	-	1	316
Nantou County	-	-	-	-	-	-	-	59
Southern Area								
Yunlin County	-	-	-	-	-	-	-	41
Chiayi City	-	-	-	-	-	-	-	21
Chiayi County	-	-	-	-	-	-	-	49
Tainan City	-	-	-	-	-	-	-	141
Kao-Ping Area								
Kaohsiung City	-	-	-	-	-	-	-	383
Pingtung County	-	-	-	-	-	-	-	103
Penghu County	-	-	-	-	-	-	-	8
Eastern Area								
Hualien County	-	-	-	-	-	-	-	91
Taitung County	-	-	-	-	-	-	-	26
Others	-	-	-	-	-	-	-	-

Note:[1]The total case number of the following diseases includes imported cases: severe pneumonia with novel pathogens (1,747).

[7]Severe pneumonia with novel pathogens has been included in Category V notifiable disease since January 15, 2020.

Table 2 Number of confirmed cases and incidence[8] rate of notifiable diseases — by age group, 2021

Unit: Person

Disease	＜1 yr		1-4 yrs		5-14 yrs		15-24 yrs		25-39 yrs	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category I										
Smallpox	-	-	-	-	-	-	-	-	-	-
Plague	-	-	-	-	-	-	-	-	-	-
SARS	-	-	-	-	-	-	-	-	-	-
Rabies	-	-	-	-	-	-	-	-	-	-
Category II										
Diphtheria	-	-	-	-	-	-	-	-	-	-
Typhoid Fever[1]	-	-	-	-	2	1.30	1	0.56	-	-
Dengue Fever[1]	-	-	-	-	-	-	2	1.30	4	2.61
Meningococcal Meningitis	-	-	-	-	-	-	1	0.65	1	0.65
Paratyphoid Fever	-	-	1	0.65	-	-	-	-	-	-
Poliomyelitis	-	-	-	-	-	-	-	-	-	-
Acute Flaccid Paralysis[2]	-	-	10	6.52	18	11.74	-	-	-	-
Shigellosis	1	0.65	1	0.65	2	1.30	13	8.48	73	47.62
Amoebiasis[1]	-	-	-	-	-	-	22	14.35	93	60.66
Malaria[1]										
Indigenous	-	-	-	-	-	-	-	-	-	-
Imported	-	-	-	-	-	-	-	-	2	1.30
Measles	-	-	-	-	-	-	-	-	-	-
Acute Hepatitis A	-	-	1	0.65	-	-	1	0.65	10	6.52
Enterohaemorrhagic *E. coli* Infection	-	-	-	-	-	-	-	-	-	-
Hantavirus Syndrome										
Hemorrhagic Fever with Renal Syndrome	-	-	-	-	-	-	-	-	2	1.30
Hantavirus Pulmonary Syndrome	-	-	-	-	-	-	-	-	-	-
Cholera	-	-	-	-	-	-	-	-	-	-
Rubella	-	-	-	-	-	-	-	-	-	-
MDR-TB[3]	-	-	-	-	-	-	3	0.10	5	0.10
Chikungunya Fever[1]	-	-	-	-	-	-	1	0.04	2	0.04

Note: [1]The total case number of the following diseases includes imported cases: typhoid fever (1), dengue fever (12), amoebiasis (64), malaria (2) and chikungunya fever (1).

[2]No wild poliovirus was detected since 1984. Nationwide surveillance of acute flaccid paralysis has been used for detecting cases of poliomyelitis after implementing the “Eradication Program for Measles, Congenital Rubella Syndrome, Poliomyelitis and Neonatal Tetanus” since 1992.

[3]The caseload of MDR-TB was calculated based on CDC's registration date.

[8]Incidence rate indicates the number of new confirmed cases per 100,000 population.

Table 2 *(Continued)* Number of confirmed cases and incidence[8] rate of notifiable diseases — by age group, 2021

Unit: Person

Disease	40-64 yrs		≥ 65 yrs		Age not stated		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category I								
Smallpox	-	-	-	-	-	-	-	-
Plague	-	-	-	-	-	-	-	-
SARS	-	-	-	-	-	-	-	-
Rabies	-	-	-	-	-	-	-	-
Category II								
Diphtheria	-	-	-	-	-	-	-	-
Typhoid Fever[1]	-	-	-	-	-	-	3	0.01
Dengue Fever[1]	3	0.03	3	0.08	-	-	12	0.05
Meningococcal Meningitis	-	-	1	0.03	-	-	3	0.01
Paratyphoid Fever	-	-	-	-	-	-	1	<0.01
Poliomyelitis	-	-	-	-	-	-	-	-
Acute Flaccid Paralysis[2]	-	-	-	-	-	-	28	0.12
Shigellosis	25	0.28	6	0.16	-	-	121	0.52
Amoebiasis[1]	58	0.64	15	0.39	-	-	188	0.80
Malaria[1]								
Indigenous	-	-	-	-	-	-	-	-
Imported	-	-	-	-	-	-	2	0.01
Measles	-	-	-	-	-	-	-	-
Acute Hepatitis A	29	0.32	33	0.85	-	-	74	0.32
Enterohaemorrhagic *E. coli* Infection	-	-	-	-	-	-	-	-
Hantavirus Syndrome								
Hemorrhagic Fever with Renal Syndrome	7	0.08	1	0.03	-	-	10	0.04
Hantavirus Pulmonary Syndrome	-	-	-	-	-	-	-	-
Cholera	-	-	-	-	-	-	-	-
Rubella	-	-	-	-	-	-	-	-
MDR-TB[3]	33	0.40	41	1.10	-	-	82	0.30
Chikungunya Fever[1]	-	-	-	-	-	-	1	<0.01

Note: [1] The total case number of the following diseases includes imported cases: typhoid fever (1), dengue fever (12), amoebiasis (64), malaria (2) and chikungunya fever (1).

[2]No wild poliovirus was detected since 1984. Nationwide surveillance of acute flaccid paralysis has been used for detecting cases of poliomyelitis after implementing the “Eradication Program for Measles, Congenital Rubella Syndrome, Poliomyelitis and Neonatal Tetanus” since 1992.

[3]The caseload of MDR-TB was calculated based on CDC's registration date.

[8]Incidence rate indicates the number of new confirmed cases per 100,000 population.

Table 2 *(Continued)* Number of confirmed cases and incidence[8] rate of notifiable diseases — by age group, 2021

Unit: Person

Disease	＜1 yr		1-4 yrs		5-14 yrs		15-24 yrs		25-39 yrs	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category II										
West Nile Fever	-	-	-	-	-	-	-	-	-	-
Epidemic Typhus Fever	-	-	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-	-	-
Zika Virus Infection	-	-	-	-	-	-	-	-	-	-
Category III										
Pertussis	-	-	-	-	-	-	-	-	-	-
Tetanus[4]	-	-	-	-	-	-	-	-	-	-
Japanese Encephalitis	-	-	-	-	-	-	-	-	1	0.02
Tuberculosis[3]	1	0.70	2	0.30	18	0.90	156	6.00	410	8.20
Congenital Rubella Syndrome	-	-	-	-	-	-	-	-	-	-
Acute Hepatitis										
B[1]	-	-	-	-	-	-	9	0.35	50	1.00
C	-	-	-	-	1	0.05	26	1.01	239	4.77
D	-	-	-	-	-	-	-	-	-	-
E	-	-	-	-	-	-	-	-	-	-
Unspecified	-	-	-	-	-	-	-	-	-	-
Mumps[4]	8	5.22	55	7.41	150	7.39	24	0.93	67	1.34
Legionnaires' Disease[1]	-	-	-	-	-	-	-	-	8	0.16
Invasive Haemophilus Influenzae Type b Infection	-	-	-	-	-	-	-	-	-	-
Syphilis[5]	-	-	-	-	3	0.15	1,024	39.60	4,375	87.29
Congenital Syphilis[5]	-	-	-	-	-	-	-	-	-	-
Gonorrhea[5]	-	-	2	0.27	29	1.43	2,506	96.91	3,700	73.82
Neonatal Tetanus	-	-	-	-	-	-	-	-	-	-
Enteroviruses Infection with Severe Complications	-	-	-	-	-	-	-	-	-	-
HIV Infection[6]	-	-	-	-	-	-	225	8.70	740	14.76
AIDS[6]	-	-	-	-	-	-	61	2.36	373	7.44
Hansen's Disease[5]	-	-	-	-	-	-	-	-	2	0.04

Note: [1]The total case number of the following diseases includes imported cases: acute hepatitis B (2) and Legionnaires' disease (1).
[3]The caseload calculation of tuberculosis was based on notification date.
[4]Calculation for tetanus and mumps were based on reported cases only.
[5]The caseload calculation of syphilis, congenital syphilis, gonorrhea, and Hansen's disease were based on diagnosis date.
[6]The caseload calculation of HIV infection and AIDS were based on diagnosis date, and foreign nationality cases were excluded.
[8] Incidence rate indicates the number of new confirmed cases per 100,000 population.

Table 2 *(Continued)* Number of confirmed cases and incidence[8] rate of notifiable diseases — by age group, 2021

Unit: Person

Disease	40-64 yrs		≥ 65 yrs		Age not stated		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category II								
West Nile Fever	-	-	-	-	-	-	-	-
Epidemic Typhus Fever	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-
Zika Virus Infection	-	-	-	-	-	-	-	-
Category III								
Pertussis	-	-	-	-	-	-	-	-
Tetanus[4]	3	0.03	2	0.05	-	-	5	0.02
Japanese Encephalitis	24	0.26	3	0.08	-	-	28	0.12
Tuberculosis[3]	2,177	24.00	4,298	111.30	-	-	7,062	30.10
Congenital Rubella Syndrome	-	-	-	-	-	-	-	-
Acute Hepatitis								
B[1]	63	0.69	22	0.57	-	-	144	0.61
C	175	1.93	120	3.11	-	-	561	2.39
D	-	-	1	0.03	-	-	1	<0.01
E	2	0.02	3	0.08	-	-	5	0.02
Unspecified	-	-	-	-	-	-	-	-
Mumps[4]	65	0.72	35	0.91	-	-	404	1.72
Legionnaires' Disease[1]	143	1.57	200	5.18	-	-	351	1.50
Invasive Haemophilus Influenzae Type b Infection	1	0.01	-	-	-	-	1	<0.01
Syphilis[5]	2,253	24.81	1,757	45.48	-	-	9,412	40.11
Congenital Syphilis[5]	-	-	-	-	-	-	-	-
Gonorrhea[5]	1,093	12.04	51	1.32	-	-	7,381	31.54
Neonatal Tetanus	-	-	-	-	-	-	-	-
Enteroviruses Infection with Severe Complications	-	-	-	-	-	-	-	-
HIV Infection[6]	269	2.96	12	0.31	-	-	1,246	5.31
AIDS[6]	239	2.63	16	0.41	-	-	689	2.94
Hansen's Disease[5]	-	-	1	0.03	-	-	3	0.01

Note: [1]The total case number of the following diseases includes imported cases: acute hepatitis B (2) and Legionnaires' disease (1).

[3]The caseload calculation of tuberculosis was based on notification date.

[4]Calculation for tetanus and mumps were based on reported cases only.

[5]The caseload calculation of syphilis, congenital syphilis, gonorrhea, and Hansen's disease were based on diagnosis date.

[6]The caseload calculation of HIV infection and AIDS were based on diagnosis date, and foreign nationality cases were excluded.

[8] Incidence rate indicates the number of new confirmed cases per 100,000 population.

Table 2 *(Continued)* Number of confirmed cases and incidence[8] rate of notifiable diseases — by age group, 2021

Unit: Person

Disease	＜1 yr		1-4 yrs		5-14 yrs		15-24 yrs		25-39 yrs	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category IV										
Herpesvirus B Infection	-	-	-	-	-	-	-	-	-	-
Leptospirosis	-	-	-	-	-	-	1	0.04	14	0.28
Melioidosis	-	-	-	-	-	-	2	0.08	1	0.02
Botulism	-	-	-	-	-	-	-	-	-	-
Invasive Pneumococcal Disease	1	0.65	9	1.21	3	0.15	2	0.08	13	0.26
Q Fever	-	-	-	-	-	-	1	0.04	-	-
Endemic Typhus Fever	-	-	-	-	-	-	1	0.04	3	0.06
Lyme Disease[1]	-	-	-	-	-	-	2	0.08	-	-
Tularemia	-	-	-	-	-	-	-	-	-	-
Scrub Typhus	-	-	3	0.40	4	0.20	22	0.85	55	1.10
Complicated Varicella	1	0.65	-	-	2	0.10	5	0.19	8	0.16
Toxoplasmosis	-	-	-	-	-	-	-	-	9	0.18
Influenza Case with Severe Complications	-	-	-	-	-	-	-	-	-	-
Creutzfeldt-Jakob Disease[5]	-	-	-	-	-	-	-	-	-	-
Brucellosis	-	-	-	-	-	-	-	-	-	-
Listeriosis	1	0.65	-	-	-	-	1	0.04	10	0.20
Severe Fever with Thrombocytopenia Syndrome[7]	-	-	-	-	-	-	-	-	-	-
Category V										
Rift Valley Fever	-	-	-	-	-	-	-	-	-	-
Marburg Haemorrhagic Fever	-	-	-	-	-	-	-	-	-	-
Yellow Fever	-	-	-	-	-	-	-	-	-	-
Ebola Virus Disease	-	-	-	-	-	-	-	-	-	-
Lassa Fever	-	-	-	-	-	-	-	-	-	-
Middle East Respiratory Syndrome Coronavirus Infections	-	-	-	-	-	-	-	-	-	-
Novel Influenza A Virus Infections	-	-	-	-	1	0.05	-	-	-	-
Severe Pneumonia with Novel Pathogens[1,7]	59	38.48	224	30.18	526	25.90	1,310	50.66	3,840	76.62

Note: [1]The total case number of the following diseases includes imported cases: Lyme disease (2), and severe pneumonia with novel pathogens (1,747).

[5]The caseload calculation of Creutzfeldt-Jakob disease was based on diagnosis date.

[7]Severe fever with thrombocytopenia syndrome has been included in Category IV notifiable disease since April 15, 2020. Severe pneumonia with novel pathogens has been included in Category V notifiable disease since January 15, 2020.

[8]Incidence rate indicates the number of new confirmed cases per 100,000 population.

Table 2 *(Continued)* Number of confirmed cases and incidence[8] rate of notifiable diseases — by age group, 2021

Unit: Person

Disease	40-64 yrs		≥ 65 yrs		Age not stated		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category IV								
Herpesvirus B Infection	-	-	-	-	-	-	-	-
Leptospirosis	54	0.59	11	0.28	-	-	80	0.34
Melioidosis	10	0.11	8	0.21	-	-	21	0.09
Botulism	-	-	-	-	-	-	1	<0.01
Invasive Pneumococcal Disease	76	0.84	90	2.33	-	-	194	0.83
Q Fever	7	0.08	1	0.03	-	-	9	0.04
Endemic Typhus Fever	17	0.19	9	0.23	-	-	30	0.13
Lyme Disease[1]	-	-	-	-	-	-	2	0.01
Tularemia	1	0.01	-	-	-	-	1	<0.01
Scrub Typhus	136	1.50	72	1.86	-	-	292	1.24
Complicated Varicella	17	0.19	11	0.28	-	-	44	0.19
Toxoplasmosis	6	0.07	2	0.05	-	-	17	0.07
Influenza Case with Severe Complications	-	-	1	0.03	-	-	1	<0.01
Creutzfeldt-Jakob Disease[5]	-	-	-	-	-	-	-	-
Brucellosis	-	-	-	-	-	-	-	-
Listeriosis	54	0.59	91	2.36	-	-	157	0.67
Severe Fever with Thrombocytopenia Syndrome[7]	-	-	-	-	-	-	-	-
Category V								
Rift Valley Fever	-	-	-	-	-	-	-	-
Marburg Haemorrhagic Fever	-	-	-	-	-	-	-	-
Yellow Fever	-	-	-	-	-	-	-	-
Ebola Virus Disease	-	-	-	-	-	-	-	-
Lassa Fever	-	-	-	-	-	-	-	-
Middle East Respiratory Syndrome Coronavirus Infections	-	-	-	-	-	-	-	-
Novel Influenza A Virus Infections	-	-	-	-	-	-	1	<0.01
Severe Pneumonia with Novel Pathogens[1,7]	6,843	75.36	3,500	90.60	-	-	16,302	69.46

Note: [1]The total case number of the following diseases includes imported cases: Lyme disease (2), and severe pneumonia with novel pathogens (1,747).

[5]The caseload calculation of Creutzfeldt-Jakob disease was based on diagnosis date.

[7]Severe fever with thrombocytopenia syndrome has been included in Category IV notifiable disease since April 15, 2020. Severe pneumonia with novel pathogens has been included in Category V notifiable disease since January 15, 2020.

[8]Incidence rate indicates the number of new confirmed cases per 100,000 population.

Table 3 Number of confirmed cases of notifiable diseases — by month, 2021

Unit: Person

Disease	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Category I													
Smallpox	-	-	-	-	-	-	-	-	-	-	-	-	-
Plague	-	-	-	-	-	-	-	-	-	-	-	-	-
SARS	-	-	-	-	-	-	-	-	-	-	-	-	-
Rabies	-	-	-	-	-	-	-	-	-	-	-	-	-
Category II													
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-	-
Typhoid Fever[1]	-	1	-	-	-	-	-	-	-	1	1	-	3
Dengue Fever[1]	2	1	1	1	-	-	-	2	2	-	3	-	12
Meningococcal Meningitis	-	-	-	-	2	-	-	-	1	-	-	-	3
Paratyphoid Fever	-	-	-	-	1	-	-	-	-	-	-	-	1
Poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute Flaccid Paralysis[2]	3	-	5	3	1	2	3	4	3	1	2	1	28
Shigellosis	17	11	23	16	5	3	7	7	9	10	9	4	121
Amoebiasis[1]	12	12	25	25	15	10	14	22	16	13	15	9	188
Malaria[1]													
Indigenous	-	-	-	-	-	-	-	-	-	-	-	-	-
Imported	1	-	-	-	-	-	-	-	-	-	1	-	2
Measles	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute Hepatitis A	8	5	5	9	6	4	6	5	4	9	9	4	74
Enterohaemorrhagic *E. coli* Infection	-	-	-	-	-	-	-	-	-	-	-	-	-
Hantavirus Syndrome													
Hemorrhagic Fever with Renal Syndrome	2	-	1	2	1	-	2	-	-	-	1	1	10
Hantavirus Pulmonary Syndrome	-	-	-	-	-	-	-	-	-	-	-	-	-
Cholera	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubella	-	-	-	-	-	-	-	-	-	-	-	-	-
MDR-TB[3]	3	5	7	6	8	8	7	5	12	8	8	5	82
Chikungunya Fever[1]	1	1	-	-	-	1	-	0	-	-	-	-	3

Note: [1]The total case number of the following diseases includes imported cases: typhoid fever (1), dengue fever (12), amoebiasis (64), malaria (2) and chikungunya fever (1).

[2]No wild poliovirus was detected since 1984. Nationwide surveillance of acute flaccid paralysis has been used for detecting cases of poliomyelitis after implementing the “Eradication Program for Measles, Congenital Rubella Syndrome, Poliomyelitis and Neonatal Tetanus” since 1992.

[3]The caseload of MDR-TB was calculated based on CDC's registration date.

Table 3 *(Continued)* Number of confirmed cases of notifiable diseases — by month, 2021

Unit: Person

Disease	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Category II													
West Nile Fever	-	-	-	-	-	-	-	-	-	-	-	-	-
Epidemic Typhus Fever	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-	-	-	-	-	-
Zika Virus Infection	-	-	-	-	-	-	-	-	-	-	-	-	-
Category III													
Pertussis	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetanus[4]	-	-	1	-	-	-	-	1	-	-	1	2	5
Japanese Encephalitis	-	-	-	-	4	10	6	6	-	1	1	-	28
Tuberculosis[3]	565	499	687	640	582	503	478	600	645	610	648	605	7,062
Congenital Rubella Syndrome	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute Hepatitis													
B[1]	11	6	17	19	11	12	11	10	7	16	7	17	144
C	53	43	68	43	34	39	47	48	40	42	40	64	561
D	-	-	-	-	-	-	-	1	-	-	-	-	1
E	1	2	1	-	1	-	-	-	-	-	-	-	5
Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-
Mumps[4]	39	42	39	43	31	29	27	48	28	29	27	22	404
Legionnaires' Disease[1]	35	16	23	21	21	42	28	40	34	29	23	39	351
Invasive Haemophilus Influenzae Type b Infection	-	-	-	1	-	-	-	-	-	-	-	-	1
Syphilis[5]	782	653	875	814	710	571	752	847	895	828	834	851	9,412
Congenital Syphilis[5]	-	-	-	-	-	-	-	-	-	-	-	-	-
Gonorrhea[5]	620	572	704	661	613	396	491	508	614	672	792	738	7,381
Neonatal Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-
Enteroviruses Infection with Severe Complications	-	-	-	-	-	-	-	-	-	-	-	-	-
HIV Infection[6]	108	80	157	119	93	83	95	106	106	102	109	88	1,246
AIDS[6]	58	49	68	65	46	58	56	60	58	56	56	59	689
Hansen's Disease[5]	-	-	1	-	-	-	-	-	-	-	-	2	3

Note: [1]The total case number of the following diseases includes imported cases: acute hepatitis B (2), and Legionnaires' disease (1).

[3]The caseload calculation of tuberculosis was based on notification date.

[4]Calculation for tetanus and mumps were based on reported cases only.

[5]The caseload calculation of syphilis, congenital syphilis, gonorrhea, and Hansen's disease were based on diagnosis date.

[6]The caseload calculation of HIV infection and AIDS were based on diagnosis date, and foreign nationality cases were excluded.

Table 3 *(Continued)* Number of confirmed cases of notifiable diseases — by month, 2021

Unit: Person

Disease	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Category IV													
Herpesvirus B Infection	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptospirosis	3	4	1	2	1	7	9	32	12	5	-	4	80
Melioidosis	2	3	-	1	1	1	3	3	2	3	1	1	21
Botulism	-	-	-	-	-	-	-	-	-	-	-	-	-
Invasive Pneumococcal Disease	27	36	30	15	24	12	8	10	7	7	10	8	194
Q Fever	-	-	2	3	2	-	1	-	-	-	-	1	9
Endemic Typhus Fever	2	2	3	2	9	1	3	1	3	2	1	1	30
Lyme Disease[1]	-	-	-	-	-	-	-	1	1	-	-	-	2
Tularemia	-	-	-	-	-	-	1	-	-	-	-	-	1
Scrub Typhus	26	3	4	20	38	19	33	22	49	38	23	17	292
Complicated Varicella	6	2	2	7	1	5	3	3	7	3	3	2	44
Toxoplasmosis	2	3	2	-	1	-	1	2	-	2	4	-	17
Influenza Case with Severe Complications	-	-	1	-	-	-	-	-	-	-	-	-	1
Creutzfeldt-Jakob Disease[5]	-	-	-	-	-	-	-	-	-	-	-	-	-
Brucellosis	-	-	-	-	-	-	-	-	-	-	-	-	-
Listeriosis	12	14	16	27	14	15	11	11	14	13	5	5	157
Severe Fever with Thrombocytopenia Syndrome[7]	-	-	-	-	-	-	-	-	-	-	-	-	-
Category V													
Rift Valley Fever	-	-	-	-	-	-	-	-	-	-	-	-	-
Marburg Haemorrhagic Fever	-	-	-	-	-	-	-	-	-	-	-	-	-
Yellow Fever	-	-	-	-	-	-	-	-	-	-	-	-	-
Ebola Virus Disease	-	-	-	-	-	-	-	-	-	-	-	-	-
Lassa Fever	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East Respiratory Syndrome Coronavirus Infections	-	-	-	-	-	-	-	-	-	-	-	-	-
Novel Influenza A Virus Infections	-	-	1	-	-	-	-	-	-	-	-	-	1
Severe Pneumonia with Novel Pathogens[1,7]	115	30	87	110	8,924	4,871	778	316	209	167	205	490	16,302

Note: [1]The total case number of the following diseases includes imported cases: Lyme disease (2), and severe pneumonia with novel pathogens (1,747).

[5]The caseload calculation of Creutzfeldt-Jakob disease was based on diagnosis date.

[7]Severe fever with thrombocytopenia syndrome has been included in Category IV notifiable disease since April 15, 2020. Severe pneumonia with novel pathogens has been included in Category V notifiable disease since January 15, 2020.

Table 4 Number of confirmed cases and incidence[8] rate of notifiable diseases — by sex, 2021

Unit: Person

Disease	Female		Male		Sex not stated		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category I								
Smallpox	-	-	-	-	-	-	-	-
Plague	-	-	-	-	-	-	-	-
SARS	-	-	-	-	-	-	-	-
Rabies	-	-	-	-	-	-	-	-
Category II								
Diphtheria	-	-	-	-	-	-	-	-
Typhoid Fever[1]	1	0.01	2	0.02	-	-	3	0.01
Dengue Fever[1]	2	0.02	10	0.09	-	-	12	0.05
Meningococcal Meningitis	2	0.02	1	0.01	-	-	3	0.01
Paratyphoid Fever	1	0.01	-	-	-	-	1	<0.01
Poliomyelitis	-	-	-	-	-	-	-	-
Acute Flaccid Paralysis[2]	14	0.12	14	0.12	-	-	28	0.12
Shigellosis	7	0.06	114	0.98	-	-	121	0.52
Amoebiasis[1]	74	0.62	114	0.98	-	-	188	0.80
Malaria[1]								
Indigenous	-	-	-	-	-	-	-	-
Imported	-	-	2	0.02	-	-	2	0.01
Measles	-	-	-	-	-	-	-	-
Acute Hepatitis A	39	0.33	35	0.30	-	-	74	0.32
Enterohaemorrhagic *E. coli* Infection	-	-	-	-	-	-	-	-
Hantavirus Syndrome								
Hemorrhagic Fever with Renal Syndrome	1	0.01	7	0.06	-	-	8	0.03
Hantavirus Pulmonary Syndrome	-	-	-	-	-	-	-	-
Cholera	-	-	-	-	-	-	-	-
Rubella	-	-	-	-	-	-	-	-
MDR-TB[3]	16	0.10	66	0.60	-	-	82	0.30
Chikungunya Fever[1]	2	0.02	1	0.01	-	-	3	0.01

Note: [1]The total case number of the following diseases includes imported cases: typhoid fever (1), dengue fever (12), amoebiasis (64), malaria (2) and chikungunya fever (1).

[2]No wild poliovirus was detected since 1984. Nationwide surveillance of acute flaccid paralysis has been used for detecting cases of poliomyelitis after implementing the “Eradication Program for Measles, Congenital Rubella Syndrome, Poliomyelitis and Neonatal Tetanus” since 1992.

[3]The caseload of MDR-TB was calculated based on CDC's registration date.

[8]Incidence rate indicates the number of new confirmed cases per 100,000 population.

Table 4 *(Continued)* Number of confirmed cases and incidence[8] rate of notifiable diseases — by sex, 2021

Unit: Person

Disease	Female		Male		Sex not stated		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category II								
West Nile Fever	-	-	-	-	-	-	-	-
Epidemic Typhus Fever	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-
Zika Virus Infection	-	-	-	-	-	-	-	-
Category III								
Pertussis	-	-	-	-	-	-	-	-
Tetanus[4]	2	0.02	3	0.03	-	-	5	0.02
Japanese Encephalitis	6	0.05	22	0.19	-	-	28	0.12
Tuberculosis[3]	2,153	18.20	4,909	42.20	-	-	7,062	30.10
Congenital Rubella Syndrome	-	-	-	-	-	-	-	-
Acute Hepatitis								
B[1]	58	0.49	86	0.74	-	-	144	0.61
C	109	0.92	452	3.89	-	-	561	2.39
D	-	-	1	0.01	-	-	1	<0.01
E	-	-	3	0.03	-	-	5	0.02
Unspecified	-	-	-	-	-	-	-	-
Mumps[4]	176	1.49	228	1.96	-	-	404	1.72
Legionnaires' Disease[1]	64	0.54	287	2.47	-	-	351	1.50
Invasive Haemophilus Influenzae Type b Infection	-	-	-	-	-	-	1	<0.01
Syphilis[5]	1,384	11.69	8,027	69.04	1	<0.01	9,412	40.11
Congenital Syphilis[5]	-	-	-	-	-	-	-	-
Gonorrhea[5]	734	6.20	6,645	57.16	2	0.01	7,381	31.45
Neonatal Tetanus	-	-	-	-	-	-	-	-
Enteroviruses Infection with Severe Complications	-	-	-	-	-	-	-	-
HIV Infection[6]	38	0.32	1,208	10.39	-	-	1,246	5.31
AIDS[6]	29	0.24	660	5.68	-	-	689	2.94
Hansen's Disease[5]	1	0.01	2	0.02	-	-	3	0.01

Note: [1]The total case number of the following diseases includes imported cases: acute hepatitis B (2) and Legionnaires' disease (7).

[3]The caseload calculation of tuberculosis was based on notification date.

[4]Calculation for tetanus and mumps were based on reported cases only.

[5]The caseload calculation of syphilis, congenital syphilis, gonorrhea, and Hansen's disease were based on diagnosis date.

[6]The caseload calculation of HIV infection and AIDS were based on diagnosis date, and foreign nationality cases were excluded.

[8] Incidence rate indicates the number of new confirmed cases per 100,000 population.

Table 4 *(Continued)* Number of confirmed cases and incidence[8] rate of notifiable diseases — by sex, 2021

Unit: Person

Disease	Female		Male		Sex not stated		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Category IV								
Herpesvirus B Infection	-	-	-	-	-	-	-	-
Leptospirosis	10	0.08	70	0.60	-	-	80	0.34
Melioidosis	3	0.03	18	0.15	-	-	21	0.09
Botulism	-	-	-	-	-	-	-	-
Invasive Pneumococcal Disease	68	0.57	126	1.08	-	-	194	0.83
Q Fever	1	0.01	8	0.07	-	-	9	0.04
Endemic Typhus Fever	12	0.10	18	0.15	-	-	30	0.13
Lyme Disease[1]	-	-	2	0.02	-	-	2	0.01
Tularemia	-	-	1	0.01	-	-	1	<0.01
Scrub Typhus	106	0.90	186	1.60	-	-	292	1.24
Complicated Varicella	12	0.10	32	0.28	-	-	44	0.19
Toxoplasmosis	6	0.05	11	0.09	-	-	17	0.07
Influenza Case with Severe Complications	-	-	1	0.01	-	-	1	<0.01
Creutzfeldt-Jakob Disease[5]	-	-	-	-	-	-	-	-
Brucellosis	-	-	-	-	-	-	-	-
Listeriosis	74	0.62	83	0.71	-	-	157	0.67
Severe Fever with Thrombocytopenia Syndrome[7]	-	-	-	-	-	-	-	-
Category V								
Rift Valley Fever	-	-	-	-	-	-	-	-
Marburg Haemorrhagic Fever	-	-	-	-	-	-	-	-
Yellow Fever	-	-	-	-	-	-	-	-
Ebola Virus Disease	-	-	-	-	-	-	-	-
Lassa Fever	-	-	-	-	-	-	-	-
Middle East Respiratory Syndrome Coronavirus Infections	-	-	-	-	-	-	-	-
Novel Influenza A Virus Infections	1	0.01	-	-	-	-	1	<0.01
Severe Pneumonia with Novel Pathogens[1,7]	7,873	66.48	8,429	72.50	-	-	16,302	69.46

Note: [1]The total case number of the following diseases includes imported cases: Lyme disease (2), and severe pneumonia with novel pathogens (1,747).

[5]The caseload calculation of Creutzfeldt-Jakob disease was based on diagnosis date.

[7]Severe fever with thrombocytopenia syndrome has been included in Category IV notifiable disease since April 15, 2020. Severe pneumonia with novel pathogens has been included in Category V notifiable disease since January 15, 2020.

[8]Incidence rate indicates the number of new confirmed cases per 100,000 population

Table 5 Number of confirmed cases of notifiable diseases — by year, 2012-2021

Unit: Person

Disease	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Category I										
Smallpox	-	-	-	-	-	-	-	-	-	-
Plague	-	-	-	-	-	-	-	-	-	-
SARS	-	-	-	-	-	-	-	-	-	-
Rabies	1	1	-	-	-	-	-	-	-	-
Category II										
Diphtheria	-	-	-	-	-	-	-	-	-	-
Typhoid Fever[1]	26	19	25	29	14	16	17	21	10	3
Dengue Fever[1]	1,478	860	15,732	43,784	743	343	533	640	137	12
Meningococcal Meningitis	6	6	3	3	8	12	6	8	6	3
Paratyphoid Fever	8	9	8	3	6	4	8	8	-	1
Poliomyelitis	-	-	-	-	-	-	-	-	-	-
Acute Flaccid Paralysis[2]	51	25	29	19	41	61	66	64	33	28
Shigellosis	155	155	132	186	225	162	172	147	151	121
Amoebiasis[1]	258	270	300	350	314	378	334	352	250	188
Malaria[1]										
Indigenous	-	-	-	-	-	-	-	-	-	-
Imported	12	13	19	8	13	7	7	7	2	2
Measles	9	8	26	29	14	6	40	141	-	-
Acute Hepatitis A	99	139	117	171	1133	369	88	107	74	74
Enterohaemorrhagic *E. coli* Infection	-	-	-	-	-	-	-	1	-	-
Hantavirus Syndrome										
Hemorrhagic Fever with Renal Syndrome	1	-	2	2	4	-	1	3	11	10
Hantavirus Pulmonary Syndrome	-	-	-	-	-	-	-	-	-	-
Cholera	5	7	4	10	9	2	7	-	1	-
Rubella	12	7	7	7	4	3	10	25	-	-
MDR-TB[3]	140	129	112	117	112	103	120	79	74	82
Chikungunya Fever[1]	5	29	7	4	14	11	7	116	3	1

Note: [1]The total case number of the following diseases in 2021 includes imported cases: typhoid fever (1), dengue fever (12) amoebiasis (64), malaria (2) and chikungunya fever (1).

[2]No wild poliovirus was detected since 1984. Nationwide surveillance of acute flaccid paralysis has been used for detecting cases of poliomyelitis after implementing the “Eradication Program for Measles, Congenital Rubella Syndrome, Poliomyelitis and Neonatal Tetanus” since 1992.

[3]The caseload of MDR-TB was calculated based on CDC's registration date.

Table 5 *(Continued)* Number of confirmed cases of notifiable diseases — by year, 2012-2021

Unit: Person

Disease	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Category II										
West Nile Fever	-	-	-	-	-	-	-	-	-	-
Epidemic Typhus Fever	-	-	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-	-	-
Zika Virus Infection[7]	…	…	…	…	13	4	3	4	2	-
Category III										
Pertussis	54	51	78	70	17	34	30	32	5	-
Tetanus[4]	17	24	9	12	14	11	4	6	8	5
Japanese Encephalitis	32	16	18	30	23	25	37	21	21	28
Tuberculosis[3]	12,338	11,528	11,326	10,711	10,328	9,759	9,179	8,732	7,823	7,062
Congenital Rubella Syndrome	-	-	-	-	-	1	-	-	-	-
Acute Hepatitis										
B[1]	97	97	120	125	118	151	143	111	108	144
C	34	10	205	217	207	325	510	626	602	561
D	-	-	1	2	2	-	-	-	-	1
E	9	9	9	8	16	13	10	7	7	5
Unspecified	10	5	1	2	-	-	-	-	-	-
Mumps[4]	1,061	1,170	880	773	616	636	600	594	498	404
Legionnaires' Disease[1]	88	115	135	153	114	188	211	281	326	351
Invasive Haemophilus Influenzae Type b Infection	3	10	4	3	14	6	5	3	3	1
Syphilis[5]	5,896	6,346	6,986	7,471	8,725	9,835	9,808	9,397	8,799	9,412
Congenital Syphilis[5,7]	…	…	…	…	1	-	-	-	-	-
Gonorrhea[5]	1,983	2,155	2,622	3,587	4,469	4,601	4,209	4,523	7,082	7,381
Neonatal Tetanus	-	-	-	-	-	-	-	-	-	-
Enteroviruses Infection with Severe Complications	153	12	6	6	33	24	36	69	6	-
HIV Infection[6]	2,224	2,244	2,236	2,327	2,396	2,514	1,992	1,755	1,390	1,246
AIDS[6]	1,280	1,430	1,387	1,440	1,412	1,390	1,091	1,005	800	689
Hansen's Disease[5]	13	7	9	16	10	10	7	10	7	3

Note: [1]The total case number of the following diseases in 2021 includes imported cases: acute hepatitis B (2) and Legionnaires' disease (7).

[3]The caseload calculation of tuberculosis was based on notification date.

[4]Calculation for tetanus and mumps were based on reported cases only.

[5]The caseload calculation of syphilis, congenital syphilis, gonorrhea, and Hansen's disease were based on diagnosis date.

[6]The caseload calculation of HIV infection and AIDS were based on diagnosis date, and foreign nationality cases were excluded.

[7]Zika virus infection has been included in the list of notifiable diseases since January 22, 2016. Congenital Syphilis has been included in the list of notifiable diseases since April 1, 2016.

Table 5 *(Continued)* Number of confirmed cases of notifiable diseases — by year, 2012-2021

Unit: Person

Disease	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Category IV										
Herpesvirus B Infection	-	-	-	-	-	-	-	-	-	-
Leptospirosis	91	82	98	81	130	101	96	111	86	80
Melioidosis	29	19	37	32	55	26	23	46	20	21
Botulism	-	1	-	2	6	-	-	-	1	-
Invasive Pneumococcal Disease	749	625	587	524	592	454	459	447	228	194
Q Fever	53	48	42	43	45	18	20	23	14	9
Endemic Typhus Fever	37	27	21	35	13	38	22	30	25	30
Lyme Disease[1]	1	-	2	2	2	1	3	-	1	2
Tularemia	-	-	-	-	-	-	-	-	-	1
Scrub Typhus	460	538	414	494	488	422	386	449	422	292
Complicated Varicella[8]	…	…	55	54	40	32	54	57	54	44
Toxoplasmosis	12	15	12	13	10	21	17	16	17	17
Influenza Case with Severe Complications[9]	1,595	965	1,721	857	2,084	1,359	1196	2,325	444	1
Creutzfeldt-Jakob Disease[5]	-	-	-	-	-	-	-	-	-	-
Brucellosis[10]	-	-	-	1	-	-	-	-	-	-
Listeriosis[11]	…	…	…	…	…	…	168	164	142	157
Severe Fever with Thrombocytopenia Syndrome[7]	…	…	…	…	…	…	…	…	-	-
Category V										
Rift Valley Fever	-	-	-	-	-	-	-	-	-	-
Marburg Haemorrhagic Fever	-	-	-	-	-	-	-	-	-	-
Yellow Fever	-	-	-	-	-	-	-	-	-	-
Ebola Virus Disease	-	-	-	-	-	-	-	-	-	-
Lassa Fever	-	-	-	-	-	-	-	-	-	-
Middle East Respiratory Syndrome Coronavirus Infections[12]	…	-	-	-	-	-	-	-	-	-
Novel Influenza A Virus Infections[13]	…	…	…	-	-	-	1	-	-	1
Severe Pneumonia with Novel Pathogens[1,7]	…	…	…	…	…	…	…	…	823	16,302

Note: [1]The total case number of the following diseases in 2021 includes imported cases: Lyme disease (2) and severe pneumonia with novel pathogens (1,747).

[5]The caseload calculation of Creutzfeldt-Jakob disease was based on diagnosis date.

[7]Severe fever with thrombocytopenia syndrome has been included in Category IV notifiable disease since April 15, 2020. Severe pneumonia with novel pathogens has been included in Category V notifiable disease since January 15, 2020.

[8]"Varicella" was revised the notifiable condition into "complicated varicella", and has been validated since January 1, 2014.

[9]"Severe Complicated Influenza" has changed name to "influenza case with severe complications" since November, 2019.

[10]Brucellosis has been included in the list of notifiable diseases since February 7, 2012.

[11]Listeriosis has been included in Category IV notifiable disease since January 1, 2018.

[12]"Severe acute respiratory infections associated with novel coronavirus" has been included in the list of notifiable diseases since October 3, 2012 which has been renamed as "Middle East respiratory syndrome coronavirus infections" since June 7, 2013.

[13]Novel Influenza A Virus Infections has been included in the list of notifiable diseases since July 1, 2014.

Table 6 Analysis of time intervals between diagnosis and reporting for notifiable diseases — by locality, 2021

Unit: Day

Locality	2020			2021						
	No.	Average	Median	No.	Average	Median	<=24 hours		>24 hours	
							No.	%	No.	%
Total	27,647	0.3	0	50,708	0.3	0	49,625	97.9	1,081	2.1
Taipei City	4,637	0.2	0	11,694	0.3	0	11,455	98.0	239	2.0
New Taipei City	4,816	0.3	0	17,419	0.4	0	16,780	96.3	639	3.7
Keelung City	420	0.2	0	1,481	0.1	0	1,473	99.5	8	0.5
Yilan County	395	0.3	0	1,414	0.3	0	1,406	99.4	8	0.6
Kinmen County	44	0.1	0	43	0.2	0	43	100.0	-	-
Lienchiang County	8	0.0	0	27	0.1	0	27	100.0	-	-
Taoyuan City	3,049	0.3	0	3,489	0.3	0	3,437	98.5	52	1.5
Hsinchu City	627	0.3	0	659	0.4	0	649	98.5	10	1.5
Hsinchu County	696	0.2	0	796	0.3	0	791	99.4	5	0.6
Miaoli County	377	0.3	0	1,151	0.5	0	1,091	94.8	60	5.2
Taichung City	2,314	0.4	0	2,517	0.3	0	2,504	99.5	13	0.5
Changhua County	1,338	0.3	0	1,067	0.3	0	1,061	99.4	6	0.6
Nantou County	430	0.2	0	378	0.2	0	376	99.5	2	0.5
Yunlin County	547	0.2	0	395	0.1	0	394	99.7	1	0.3
Chiayi City	246	0.3	0	234	0.1	0	234	100.0	-	-
Chiayi County	289	0.3	0	197	0.2	0	197	100.0	-	-
Tainan City	1,511	0.2	0	1,650	0.3	0	1,643	99.6	7	0.4
Kaohsiung City	4,333	0.2	0	3,989	0.2	0	3,977	99.7	12	0.3
Pingtung County	913	0.2	0	864	0.3	0	859	99.4	5	0.6
Penghu County	106	0.1	0	196	0.2	0	196	100.0	-	-
Hualien County	397	0.2	0	813	0.4	0	804	98.9	9	1.1
Taitung County	154	0.1	0	235	0.4	0	230	97.9	5	2.1

Note: Listed infectious diseases should be reported within 24 hours, which was not included MDR-TB, HIV infection and AIDS.

Table 7 Analysis of time intervals between reporting and reports received from local health bureaus for notifiable diseases — by locality, 2021

Unit: Day

Locality	2020			2021						
	No.	Average	Median	No.	Average	Median	<=24 hours		>24 hours	
							No.	%	No.	%
Total	27,647	0.0	0	50,708	0.0	0	50,645	99.9	63	0.1
Taipei City	4,637	0.0	0	11,694	0.0	0	11,678	99.9	16	0.1
New Taipei City	4,816	0.1	0	17,419	0.1	0	17,377	99.8	42	0.2
Keelung City	420	0.1	0	1,481	0.1	0	1,480	99.9	1	0.1
Yilan County	395	0.0	0	1,414	0.0	0	1,414	100.0	-	-
Kinmen County	44	0.0	0	43	0.0	0	43	100.0	-	-
Lienchiang County	8	0.0	0	27	0.0	0	27	100.0	-	-
Taoyuan City	3,049	0.0	0	3,489	0.0	0	3,485	99.9	4	0.1
Hsinchu City	627	0.1	0	659	0.1	0	659	100.0	-	-
Hsinchu County	696	0.0	0	796	0.0	0	796	100.0	-	-
Miaoli County	377	0.0	0	1,151	0.0	0	1,151	100.0	-	-
Taichung City	2,314	0.0	0	2,517	0.0	0	2,517	100.0	-	-
Changhua County	1,338	0.0	0	1,067	0.0	0	1,067	100.0	-	-
Nantou County	430	0.0	0	378	0.0	0	378	100.0	-	-
Yunlin County	547	0.0	0	395	0.0	0	395	100.0	-	-
Chiayi City	246	0.0	0	234	0.0	0	234	100.0	-	-
Chiayi County	289	0.0	0	197	0.0	0	197	100.0	-	-
Tainan City	1,511	0.0	0	1,650	0.0	0	1,650	100.0	-	-
Kaohsiung City	4,333	0.0	0	3,989	0.0	0	3,989	100.0	-	-
Pingtung County	913	0.0	0	864	0.0	0	864	100.0	-	-
Penghu County	106	0.0	0	196	0.0	0	196	100.0	-	-
Hualien County	397	0.0	0	813	0.0	0	813	100.0	-	-
Taitung County	154	0.1	0	235	0.1	0	235	100.0	-	-

Note: Listed infectious diseases should be reported within 24 hours, which was not included MDR-TB, HIV infection and AIDS.

Table 8 Analysis of time intervals between reports received from local health bureaus to Taiwan CDC for notifiable diseases — by locality, 2021

Unit: Day

Locality	2020			2021						
	No.	Average	Median	No.	Average	Median	<=24 hours		>24 hours	
							No.	%	No.	%
Total	27,647	0.0	0	50,708	0.0	0	50,632	99.9	76	0.1
Taipei City	4,637	0.0	0	11,694	0.0	0	11,672	99.8	22	0.2
New Taipei City	4,816	0.0	0	17,419	0.0	0	17,408	99.9	11	0.1
Keelung City	420	0.0	0	1,481	0.0	0	1,481	100.0	-	-
Yilan County	395	0.0	0	1,414	0.0	0	1,412	99.9	2	0.1
Kinmen County	44	0.0	0	43	0.0	0	43	100.0	-	-
Lienchiang County	8	0.0	0	27	0.0	0	27	100.0	-	-
Taoyuan City	3,049	0.0	0	3,489	0.0	0	3,483	99.8	6	0.2
Hsinchu City	627	0.0	0	659	0.0	0	658	99.8	1	0.2
Hsinchu County	696	0.0	0	796	0.0	0	796	100.0	-	-
Miaoli County	377	0.0	0	1,151	0.0	0	1,151	100.0	-	-
Taichung City	2,314	0.0	0	2,517	0.0	0	2,510	99.7	7	0.3
Changhua County	1,338	0.0	0	1,067	0.0	0	1,064	99.7	3	0.3
Nantou County	430	0.0	0	378	0.0	0	378	100.0	-	-
Yunlin County	547	0.0	0	395	0.1	0	394	99.7	1	0.3
Chiayi City	246	0.0	0	234	0.0	0	233	99.6	1	0.4
Chiayi County	289	0.0	0	197	0.0	0	196	99.5	1	0.5
Tainan City	1,511	0.0	0	1,650	0.0	0	1,646	99.8	4	0.2
Kaohsiung City	4,333	0.0	0	3,989	0.0	0	3,981	99.8	8	0.2
Pingtung County	913	0.0	0	864	0.0	0	233	99.1	2	0.9
Penghu County	106	0.0	0	196	0.0	0	195	99.5	1	0.5
Hualien County	397	0.0	0	813	0.1	0	809	99.5	4	0.5
Taitung County	154	0.0	0	235	0.1	0	233	99.1	2	0.9

Note: Listed infectious diseases should be reported within 24 hours, which was not included MDR-TB, HIV infection and AIDS.

Table 9 National Immunization coverage — by counties/cities

Unit: person, person, %

Vaccines	Hepatitis B						DTaP-Hib-IPV					
Birth cohort	2020			2020			2020			2019		
Dose	2nd dose			3rd dose			3rd dose			4th dose		
Locality	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage
Total	162,537	161,486	99.35	162,537	160,415	98.69	162,537	160,108	98.51	176,622	169,861	96.17
New Taipei City	26,403	26,160	99.08	26,403	26,048	98.66	26,403	25,996	98.46	28,928	27,682	95.69
Taipei City	17,814	17,712	99.43	17,814	17,526	98.38	17,814	17,524	98.37	19,934	19,098	95.81
Taoyuan City	19,955	19,888	99.66	19,955	19,723	98.84	19,955	19,680	98.62	21,272	20,658	97.11
Taichung City	20,794	20,679	99.45	20,794	20,554	98.85	20,794	20,518	98.67	23,451	22,606	96.40
Tainan City	11,299	11,213	99.24	11,299	11,160	98.77	11,299	11,146	98.65	12,761	12,259	96.07
Kaohsiung City	18,351	18,233	99.36	18,351	18,088	98.57	18,351	18,052	98.37	19,191	18,513	96.47
Yilan County	2,824	2,801	99.19	2,824	2,786	98.65	2,824	2,777	98.34	3,144	3,027	96.28
Hsinchu County	5,117	5,099	99.65	5,117	5,053	98.75	5,117	5,051	98.71	5,538	5,338	96.39
Miaoli County	2,972	2,955	99.43	2,972	2,914	98.05	2,972	2,905	97.75	3,323	3,160	95.09
Changhua County	10,066	10,013	99.47	10,066	9,987	99.22	10,066	9,973	99.08	10,067	9,806	97.41
Nantou County	2,936	2,914	99.25	2,936	2,893	98.54	2,936	2,885	98.26	3,010	2,923	97.11
Yunlin County	4,049	4,043	99.85	4,049	4,021	99.31	4,049	4,017	99.21	4,271	4,139	96.91
Chiayi County	2,682	2,662	99.25	2,682	2,650	98.81	2,682	2,646	98.66	2,678	2,567	95.86
Pingtung County	4,523	4,499	99.47	4,523	4,462	98.65	4,523	4,444	98.25	4,972	4,699	94.51
Taitung County	1,357	1,349	99.41	1,357	1,340	98.75	1,357	1,336	98.45	1,417	1,370	96.68
Hualien County	2,098	2,087	99.48	2,098	2,073	98.81	2,098	2,054	97.90	2,322	2,197	94.62
Penghu County	890	880	98.88	890	881	98.99	890	880	98.88	888	866	97.52
Keelung City	1,902	1,891	99.42	1,902	1,877	98.69	1,902	1,873	98.48	2,083	1,988	95.44
Hsinchu City	3,937	3,866	98.20	3,937	3,846	97.69	3,937	3,830	97.28	4,420	4,138	93.62
Chiayi City	1,567	1,549	98.85	1,567	1,538	98.15	1,567	1,531	97.70	1,865	1,786	95.76
Kinmen County	892	884	99.10	892	886	99.33	892	881	98.77	959	916	95.52
Lienchiang County	109	109	100.00	109	109	100.00	109	109	100.00	128	125	97.66

Note 1. Source: National Immunization Information System.

2. Vaccination period: Before December 2021.

3. Data was calculated in February 2022.

Table 9 *(Continued)* National Immunization coverage － by counties/cities

Unit: person, person, %

Vaccines	PCV13						BCG		
Birth cohort	2020			2019			2020		
Dose	2nd dose			3rd dose			single dose		
Locality	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage
Total	162,546	160,689	98.86	176,617	171,782	97.26	162,537	160,351	98.66
New Taipei City	26,409	26,112	98.88	28,918	28,119	97.24	26,403	26,043	98.64
Taipei City	17,811	17,571	98.65	19,936	19,290	96.76	17,814	17,439	97.89
Taoyuan City	19,954	19,736	98.91	21,267	20,779	97.71	19,955	19,743	98.94
Taichung City	20,805	20,603	99.03	23,451	22,873	97.54	20,794	20,541	98.78
Tainan City	11,300	11,175	98.89	12,763	12,370	96.92	11,299	11,162	98.79
Kaohsiung City	18,350	18,123	98.76	19,192	18,654	97.20	18,351	18,068	98.46
Yilan County	2,823	2,784	98.62	3,144	3,049	96.98	2,824	2,786	98.65
Hsinchu County	5,118	5,060	98.87	5,540	5,388	97.26	5,117	5,061	98.91
Miaoli County	2,974	2,928	98.45	3,324	3,204	96.39	2,972	2,928	98.52
Changhua County	10,058	9,993	99.35	10,065	9,888	98.24	10,066	9,974	99.09
Nantou County	2,935	2,899	98.77	3,012	2,916	96.81	2,936	2,900	98.77
Yunlin County	4,048	4,005	98.94	4,270	4,172	97.70	4,049	4,017	99.21
Chiayi County	2,682	2,654	98.96	2,679	2,628	98.10	2,682	2,654	98.96
Pingtung County	4,524	4,479	99.01	4,973	4,802	96.56	4,523	4,469	98.81
Taitung County	1,358	1,339	98.60	1,417	1,378	97.25	1,357	1,345	99.12
Hualien County	2,098	2,061	98.24	2,322	2,258	97.24	2,098	2,075	98.90
Penghu County	890	881	98.99	887	877	98.87	890	881	98.99
Keelung City	1,902	1,880	98.84	2,085	2,021	96.93	1,902	1,877	98.69
Hsinchu City	3,937	3,873	98.37	4,421	4,253	96.20	3,937	3,858	97.99
Chiayi City	1,568	1,544	98.47	1,866	1,809	96.95	1,567	1,540	98.28
Kinmen County	893	881	98.66	957	927	96.87	892	881	98.77
Lienchiang County	109	108	99.08	128	127	99.22	109	109	100.00

Note 1. Source: National Immunization Information System.

2. Vaccination period: Before December 2021.

3. Data was calculated in February 2022.

Table 9 *(Continued)* National Immunization coverage － by counties/cities

Unit: person, person, %

Vaccines	Varicella			MMR			Hepatitis A					
Birth cohort	2019			2019			2019			2019		
Dose	single dose			1st dose			1st dose			2nd dose		
Locality	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage
Total	176,622	174,178	98.62	176,622	174,506	98.80	176,622	173,398	98.17	176,622	165,963	93.97
New Taipei City	28,928	28,540	98.66	28,928	28,605	98.88	28,928	28,340	97.97	28,928	26,962	93.20
Taipei City	19,934	19,536	98.00	19,934	19,598	98.31	19,934	19,403	97.34	19,934	18,675	93.68
Taoyuan City	21,272	21,008	98.76	21,272	21,046	98.94	21,272	20,947	98.47	21,272	20,214	95.03
Taichung City	23,451	23,155	98.74	23,451	23,193	98.90	23,451	23,061	98.34	23,451	22,065	94.09
Tainan City	12,761	12,574	98.53	12,761	12,592	98.68	12,761	12,533	98.21	12,761	12,005	94.08
Kaohsiung City	19,191	18,896	98.46	19,191	18,942	98.70	19,191	18,854	98.24	19,191	18,126	94.45
Yilan County	3,144	3,100	98.60	3,144	3,106	98.79	3,144	3,097	98.51	3,144	2,959	94.12
Hsinchu County	5,538	5,484	99.02	5,538	5,485	99.04	5,538	5,451	98.43	5,538	5,191	93.73
Miaoli County	3,323	3,274	98.53	3,323	3,276	98.59	3,323	3,259	98.07	3,323	3,075	92.54
Changhua County	10,067	9,979	99.13	10,067	9,993	99.26	10,067	9,959	98.93	10,067	9,649	95.85
Nantou County	3,010	2,978	98.94	3,010	2,978	98.94	3,010	2,971	98.70	3,010	2,849	94.65
Yunlin County	4,271	4,237	99.20	4,271	4,243	99.34	4,271	4,213	98.64	4,271	4,059	95.04
Chiayi County	2,678	2,653	99.07	2,678	2,658	99.25	2,678	2,642	98.66	2,678	2,530	94.47
Pingtung County	4,972	4,901	98.57	4,972	4,912	98.79	4,972	4,872	97.99	4,972	4,589	92.30
Taitung County	1,417	1,404	99.08	1,417	1,404	99.08	1,417	1,398	98.66	1,417	1,356	95.70
Hualien County	2,322	2,294	98.79	2,322	2,301	99.10	2,322	2,282	98.28	2,322	2,103	90.57
Penghu County	888	884	99.55	888	884	99.55	888	881	99.21	888	853	96.06
Keelung City	2,083	2,047	98.27	2,083	2,049	98.37	2,083	2,035	97.70	2,083	1,940	93.13
Hsinchu City	4,420	4,324	97.83	4,420	4,322	97.78	4,420	4,305	97.40	4,420	4,014	90.81
Chiayi City	1,865	1,843	98.82	1,865	1,848	99.09	1,865	1,829	98.07	1,865	1,734	92.98
Kinmen County	959	940	98.02	959	943	98.33	959	939	97.91	959	891	92.91
Lienchiang County	128	127	99.22	128	128	100.00	128	127	99.22	128	124	96.88

Note 1. Source: National Immunization Information System.

2. Vaccination period: Before December 2021.

3. Data was calculated in February 2022.

Table 9 *(Continued)* National Immunization coverage － by counties/cities

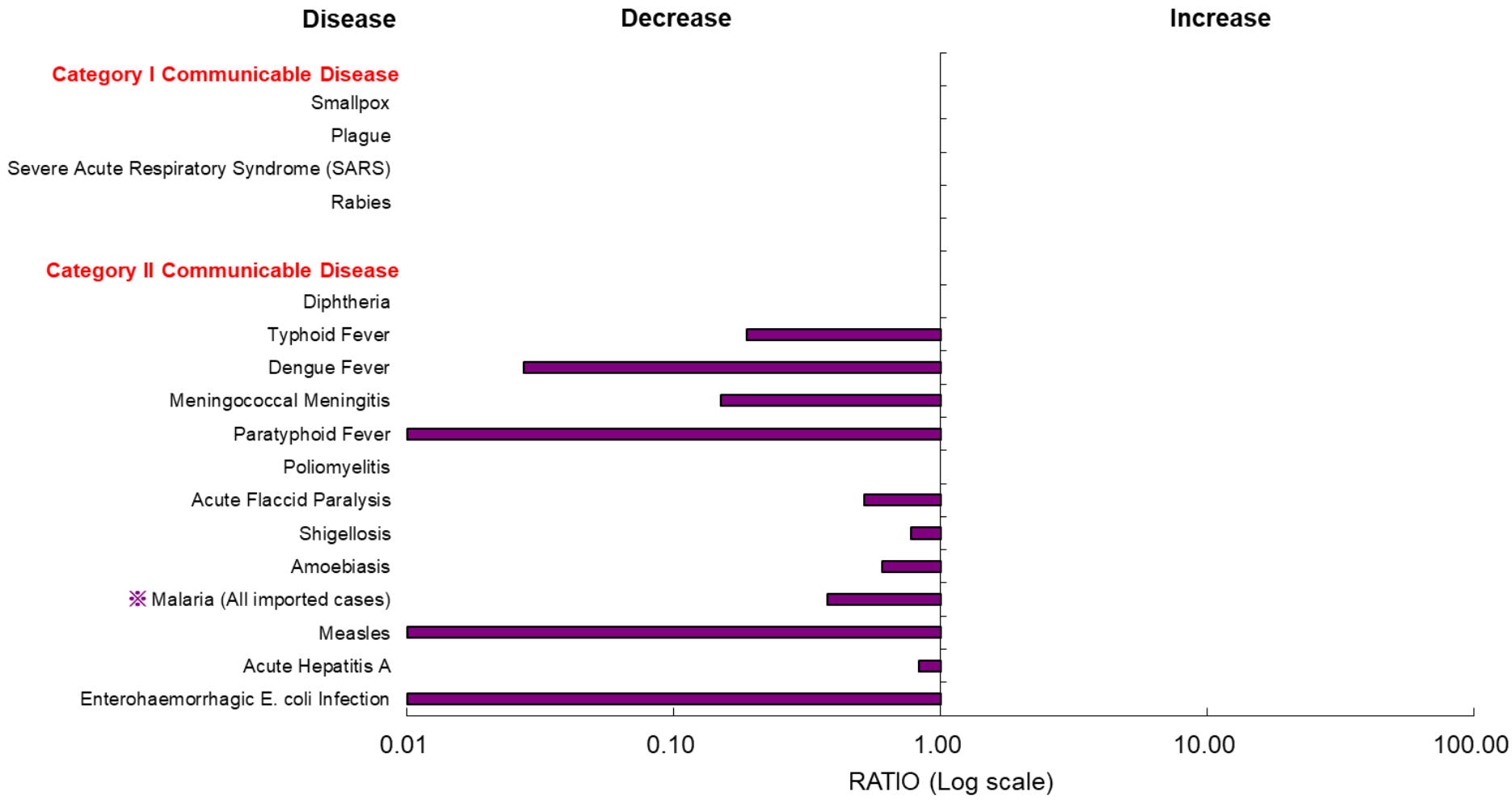
Unit: person, person, %

Vaccines	Japanese encephalitis, live chimeric						DTaP-IPV			MMR		
Birth cohort	2019			2018			First grade of elementary school					
Dose	1st dose			2nd dose			single dose			2nd dose		
Locality	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage	Target population	Vaccinated population	Vaccination coverage
Total	176,622	172,090	97.43	181,400	169,685	93.54	214,372	207,456	96.77	214,372	208,160	97.10
New Taipei City	28,928	28,137	97.27	29,268	27,040	92.39	36,229	35,019	96.66	36,229	35,168	97.07
Taipei City	19,934	19,225	96.44	21,045	19,639	93.32	23,860	23,028	96.51	23,860	23,127	96.93
Taoyuan City	21,272	20,864	98.08	21,088	20,153	95.57	23,806	23,175	97.35	23,806	23,270	97.75
Taichung City	23,451	22,905	97.67	25,057	23,517	93.85	29,206	28,478	97.51	29,206	28,501	97.59
Tainan City	12,761	12,404	97.20	13,579	12,563	92.52	16,614	15,896	95.68	16,614	15,940	95.94
Kaohsiung City	19,191	18,717	97.53	19,891	18,943	95.23	23,213	22,700	97.79	23,213	22,773	98.10
Yilan County	3,144	3,064	97.46	3,222	3,005	93.27	3,671	3,513	95.70	3,671	3,524	96.00
Hsinchu County	5,538	5,419	97.85	5,757	5,379	93.43	7,017	6,864	97.82	7,017	6,882	98.08
Miaoli County	3,323	3,221	96.93	3,650	3,337	91.42	5,193	4,975	95.80	5,193	5,018	96.63
Changhua County	10,067	9,895	98.29	9,621	9,150	95.10	10,715	10,456	97.58	10,715	10,484	97.84
Nantou County	3,010	2,952	98.07	3,035	2,879	94.86	3,768	3,711	98.49	3,768	3,708	98.41
Yunlin County	4,271	4,184	97.96	4,219	3,969	94.07	5,062	4,917	97.14	5,062	4,931	97.41
Chiayi County	2,678	2,621	97.87	2,438	2,239	91.84	2,909	2,785	95.74	2,909	2,792	95.98
Pingtung County	4,972	4,819	96.92	5,029	4,604	91.55	6,089	5,863	96.29	6,089	5,846	96.01
Taitung County	1,417	1,388	97.95	1,548	1,446	93.41	1,631	1,595	97.79	1,631	1,597	97.92
Hualien County	2,322	2,266	97.59	2,378	2,188	92.01	2,612	2,512	96.17	2,612	2,518	96.40
Penghu County	888	879	98.99	749	697	93.06	664	653	98.34	664	655	98.64
Keelung City	2,083	2,016	96.78	2,207	2,076	94.06	2,760	2,672	96.81	2,760	2,680	97.10
Hsinchu City	4,420	4,247	96.09	4,549	4,064	89.34	5,910	5,344	90.42	5,910	5,438	92.01
Chiayi City	1,865	1,811	97.10	2,071	1,850	89.33	2,559	2,447	95.62	2,559	2,447	95.62
Kinmen County	959	928	96.77	891	845	94.84	796	765	96.11	796	773	97.11
Lienchiang County	128	128	100.00	108	102	94.44	88	88	100.00	88	88	100.00

Note 1. Source: National Immunization Information System.

2. Vaccination period: Before December 2021.

3. Data was calculated in February 2022.



Note: 1. Analysis unit: confirmed cases and onset year.
2. Ratio = 2020 cases / means of 2017-2019.
3. The default value is 100 when denominator is zero and numerator is not zero. The default value is 0.01 when denominator is not zero and numerator is zero.
4. ※ The World Health Organization (WHO) has declared Taiwan as a malaria eradication region in 1965.

Figure 1. Comparison of 2021 total confirmed cases of notifiable diseases with historical data

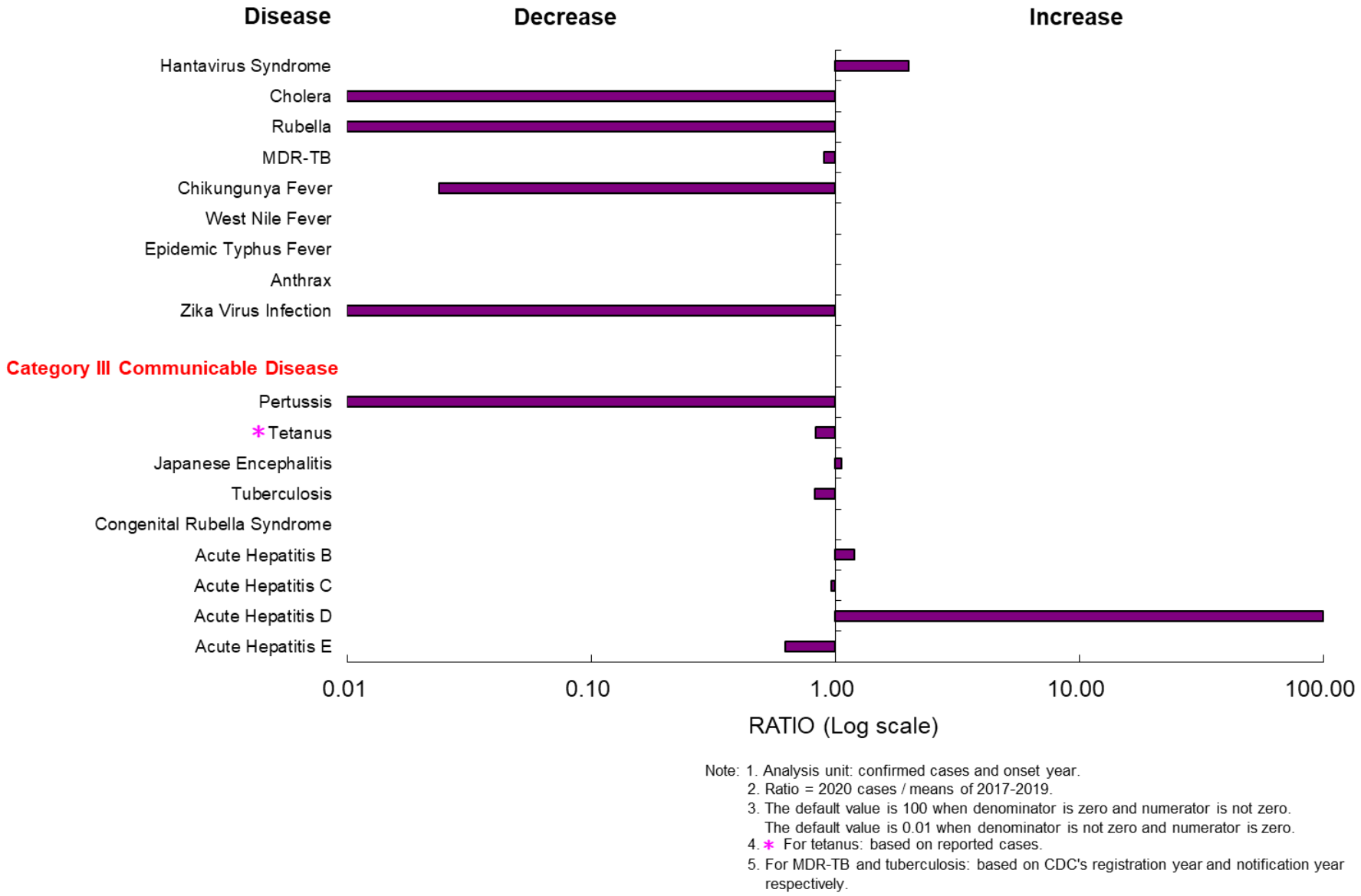
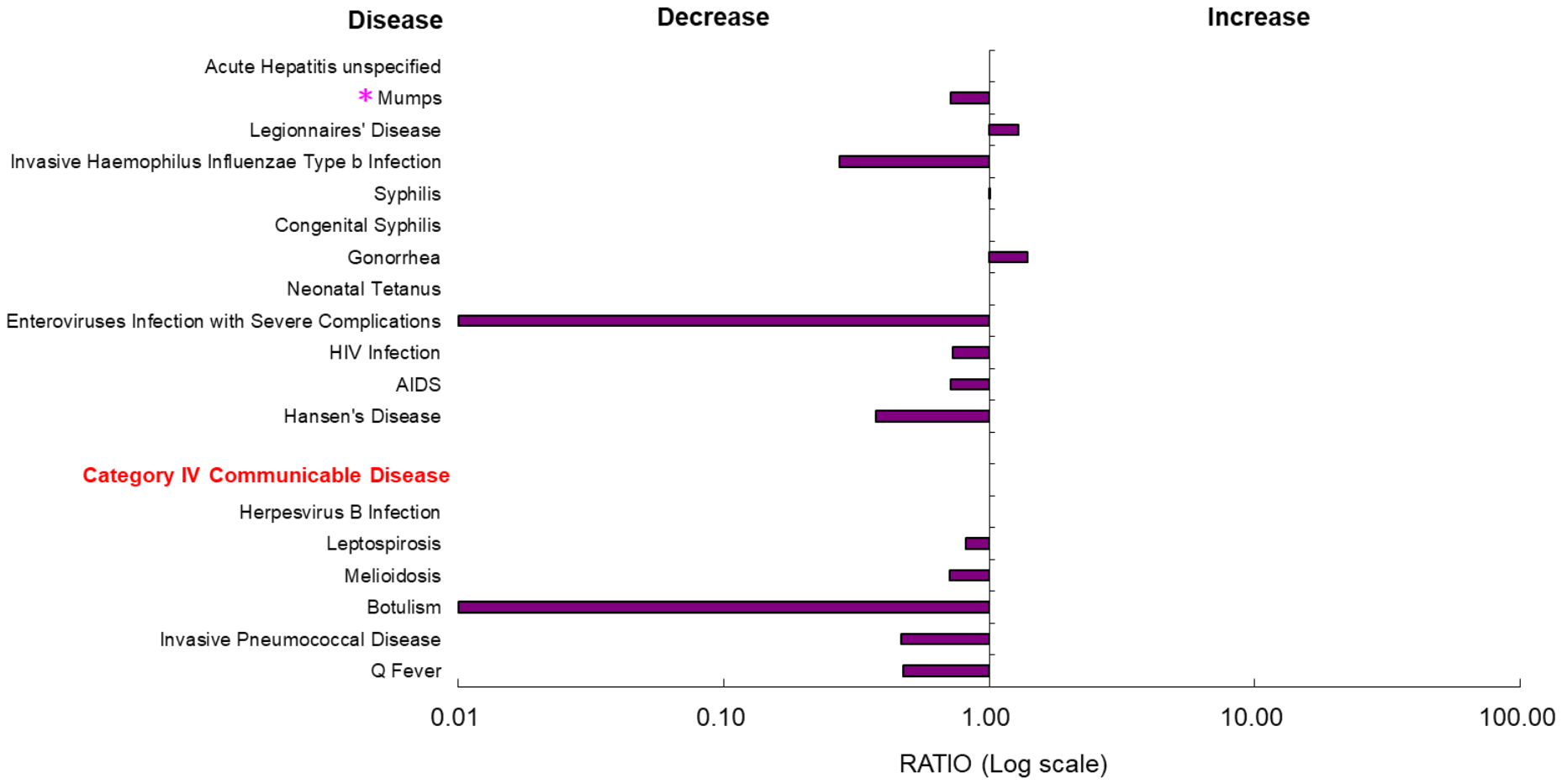
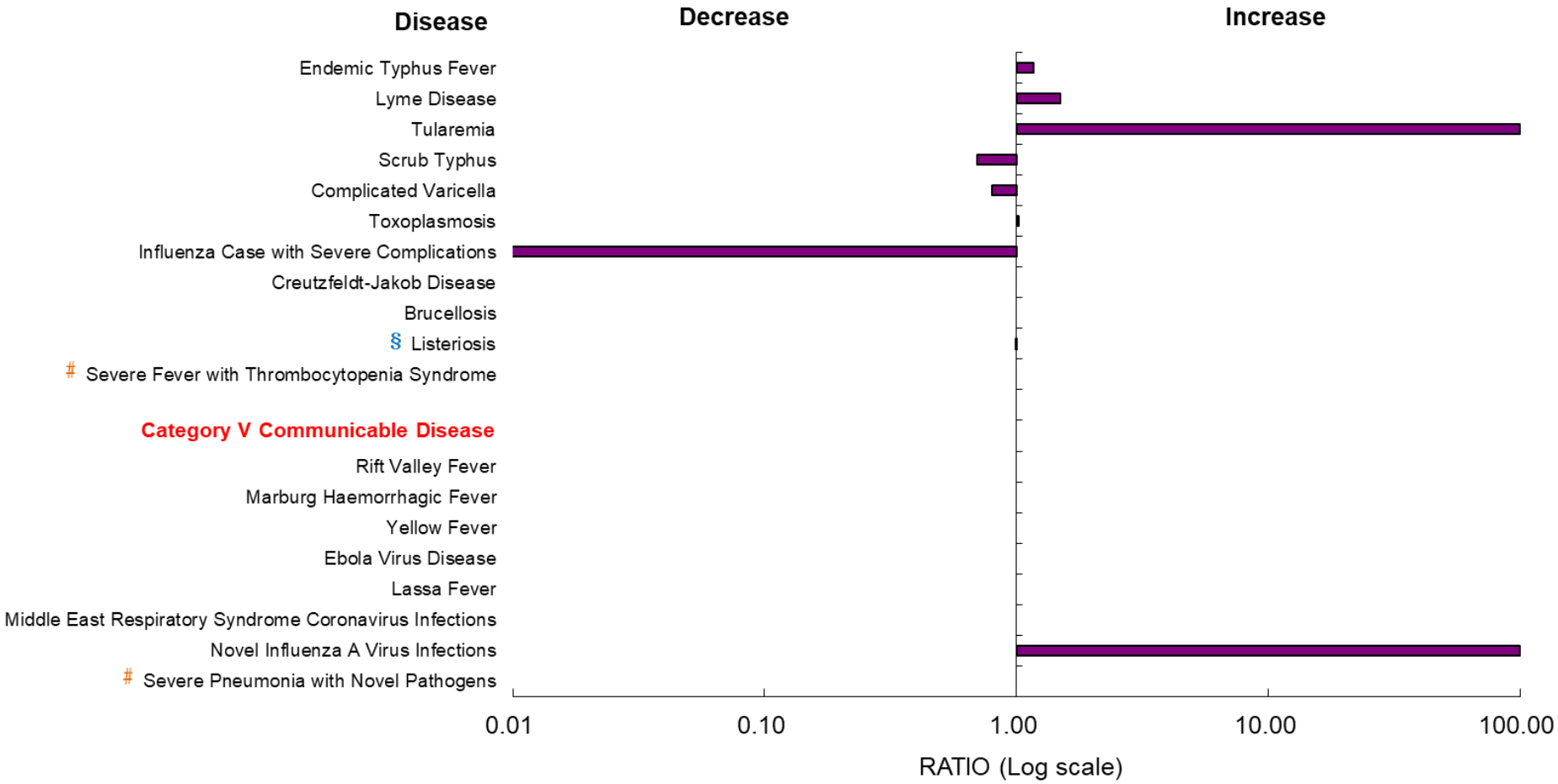


Figure 1. (*Continued*) Comparison of 2021 total confirmed cases of notifiable diseases with historical data



Note: 1. Analysis unit: confirmed cases and onset year.
2. Ratio = 2020 cases / means of 2017-2019.
3. The default value is 100 when denominator is zero and numerator is not zero.
The default value is 0.01 when denominator is not zero and numerator is zero.
4. * For mumps: based on reported cases.
5. For syphilis, congenital syphilis, gonorrhea, and Hansen's disease: based on diagnosis year.
6. The numbers of HIV infection and AIDS were calculated based on diagnosis date, and the foreign nationality cases were excluded.

Figure 1. (*Continued*) Comparison of 2021 total confirmed cases of notifiable diseases with historical data



Note: 1. Analysis unit: confirmed cases and onset year.
2. Ratio = 2020 cases / means of 2017-2019.
3. The default value is 100 when denominator is zero and numerator is not zero.The default value is 0.01 when denominator is not zero and numerator is zero.
4. For Creutzfeldt-Jakob disease: based on diagnosis date.
5. § The statistics of LIsteriosis was validated since January 1, 2018, hence the analysis results were year 2020 compared with year 2018-2019.
6. # The statistics of Severe Fever with Thrombocytopenia Syndrome and Severe Pneumonia with Novel Pathogens were validated since April 15 and January 15, 2020, respectively, hence there is no comparable number of cases in 2017-2019.

Figure 1. (*Continued*) Comparison of 2021 total confirmed cases of notifiable diseases with historical data

PART II

Specific Surveillance Systems

◎ **Abbreviations and Symbols Used in Table**

– No reported cases

… Not under surveillance

Taiwan Healthcare-associated infection and Antimicrobial resistance Surveillance System

I. Preface

The "nosocomial infection" is limited to describing infections that acquired in hospitals, while the "healthcare-associated infection" (HAI) generally refers to infections that patients acquire while receiving treatment for medical or surgical conditions. HAIs may occur in all settings of care, including hospitals, long-term care facilities, homecare facilities, or outpatient departments. In order to respond to continuous evolving in the contents of medical services and the expansion of surveillance range, "healthcare-associated infection" instead of "nosocomial infection" was commonly used internationally as well as in the definition of infection surveillance in the acute care settings that published by the US CDC in 2008. To monitor the occurrence of HAIs effectively, to evaluate the epidemiologic trend of HAIs in Taiwan, and to analyze surveillance data using well-recognized indicators, so that all the information could be made use of collectively to serve as important references for policy making, Taiwan CDC had launched the Taiwan Nosocomial Infections Surveillance System (TNIS System) in 2007 and revised to Taiwan Healthcare-associated infection and Antimicrobial resistance Surveillance System (THAS System) in 2020. Moreover, strengthening in functions and the utility of the surveillance system is continuously going on. TNIS system not only helps to gather demographic data as well as laboratory results of pathogen identified and antimicrobial susceptibility test for each HAI case, but also provides simple analytical function, so that reporting hospitals can analyze their own data on line as a reference in developing quality improvement initiatives.

II. Objectives

1. Establish the epidemiological database of HAI in Taiwan
2. Discovery of HAI trends
3. Facilitation of inter- and intra-hospital comparisons that can be used for quality improvement activities
4. Assistance for hospitals in developing the appropriate surveillance mechanism that permits timely recognition of infection control problems

III. Reporting methods, data analysis, and feedback

THAS system adopts voluntary reporting, and each hospital may provide their data either through web-based entry or convey their data electronically through interchange platform. The web-based report mechanism mainly serves for the hospitals which lack HAI surveillance system of their own. Hospital staff enters the HAI data on the THAS system website directly. The other mechanism, conveying surveillance data electronically through interchange platform or WebAPI, serves for the hospitals which had built their own HAI surveillance system. However, to enable interoperability between hospital information systems (HIS) and THAS system, infection control practitioner has to work on vocabularies mapping from local to standard codes and hospital information technology staff has to bridge the connection between the two systems and make the electronic data pack in a standard format according to the working instruction issued by Taiwan CDC. Through this mechanism, surveillance data could be routinely transferred from hospital information systems to the THAS system automatically. This can save the hospital staff a lot of time because they would not need to repeatedly enter the data to both of hospital surveillance system and THAS system. At present, more than 500 hospitals enrolled in THAS system. Hospitals may use THAS system to manage HAI cases and generate individual hospital reports. Also, Taiwan CDC periodically feedback hospitals with national report as a reference for inter- and intra-hospital comparisons, hope to facilitate hospitals to improve their quality in controlling HAIs and to safeguard the wellbeing of healthcare workers and the general public.

IV. Healthcare-associated infection surveillance data analysis content

1. Number of medical centers and regional hospitals contributing ICU HAI data in this report in 2021.
2. Distribution of HAI rates by type of location in the ICUs of medical centers and regional hospitals in 2021.
3. Distribution of device-associated infection rates in the ICUs of medical centers and regional hospitals in 2021.
4. Distribution of major sites of HAI in ICU patients from medical centers and regional hospitals in 2021.
5. Common pathogens of HAI for patients in the ICUs of medical centers in 2021.
6. Common pathogens of HAI for patients in the ICUs of regional hospitals in 2021.
7. Antimicrobial resistance proportions of selected pathogens of HAI in the ICUs of medical centers and regional hospitals in 2021.

V. Surveillance method and main results

All the analytical results in this report were derived from THAS system database with data updated to May 12, 2022. In 2021, there were 23 medical centers (191 ICU units) and 77 regional hospitals (251 ICU units) reported both HAI cases and the number of patient-days to THAS system for at least one calendar month (Table 10). The distributions of HAI rate ((number of HAIs/number of patient-days) ×1000‰) in ICUs of medical centers and regional hospitals are shown in Table 11. There were 4,679 episodes of HAI events occurred during 783,792 patient-days in the ICUs of 23 medical centers; the rate of infections was 6.0‰. However, in the ICUs of the 77 regional hospitals, there were 3,537 episodes of HAI events occurred during 779,263 patient-days; the rate of infections was 4.5‰. The HAI rates of ICUs were higher in medical centers than those in regional hospitals by corresponding types of ICU. The distributions of device-associated infection rate in ICUs ((number of device-associated infections/ number of device-days) ×1000‰) are shown in Figure 2. The pooled mean of central line-associated bloodstream infection (CLABSI) rates was 4.1‰ in medical centers and 2.8‰ in regional hospitals, and the pooled mean of catheter-associated urinary tract infection (CAUTI) rates were 3.0‰ and 2.4‰ respectively, the rate of CAUTI and the rate of CLABSI in ICUs of medical centers are higher than those in regional hospitals; the pooled mean of ventilator-associated pneumonia (VAP) rates in regional hospitals is higher than that in medical centers, which are 0.7‰ and 0.4‰ respectively.

The distribution of site-specific HAIs in ICUs is shown in Table 12, with the bloodstream infections topped the list in medical centers (45.9%), followed by urinary tract (31.4%), and other (10.8%). In regional hospitals, the bloodstream infections topped the list (38.7%), followed by urinary tract infections (36.1%), and pneumonia (13.0%). The common pathogens for HAIs in ICUs are shown in Table 13 and Table 14. The top three pathogens in the ICUs were *Klebsiella pneumoniae, Enterococcus faecium, Candida* spp. in medical centers and *Klebsiella pneumoniae*, *Escherichia coli, Candida albicans* in regional hospitals. The proportions of antimicrobial resistance among selected pathogens identified from patients in the ICUs with HAIs are shown in Figure 3. In the ICUs of medical centers, the proportion of *Acinetobacter baumannii* isolates those were resistant to carbapenem (CRAB) is 75.6%, the proportion of *K. pneumoniae* isolates those were resistant to carbapenem (CRKP) is 38.3%, the proportion of *Pseudomonas aeruginosa* isolates those were resistant to carbapenem (CRPA) is 25.5%, the proportion of *Enterococci* isolates those were resistant to vancomycin (VRE) is 51.2%, and the proportion of *Staphylococcus aureus* isolates those were resistant to oxacillin (MRSA) is 52.3%. Meanwhile, the antimicrobial resistance proportions of selected pathogens isolated from patients acquired HAIs in

the ICUs of regional hospitals were 75.8%, 43.5%, 16.2%, 46.9% and 54.3% for CRAB, CRKP, CRPA, VRE and MRSA, respectively.

VI. 2021 Data analysis of HAI in the ICUs of medical centers and regional hospitals

Table 10 Number of medical centers and regional hospitals contributing ICU HAI data in this report, 2021

Hospital level	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
	No. of hospitals	No. of HAIs	No. of hospitals	No. of HAIs	No. of hospitals	No. of HAIs	No. of hospitals	No. of HAIs
Medical center	22	1,188	23	1,207	21	1,281	21	1,291
Regional hospital	77	995	76	969	74	970	73	984

Note: Data updated to 2022/5/12

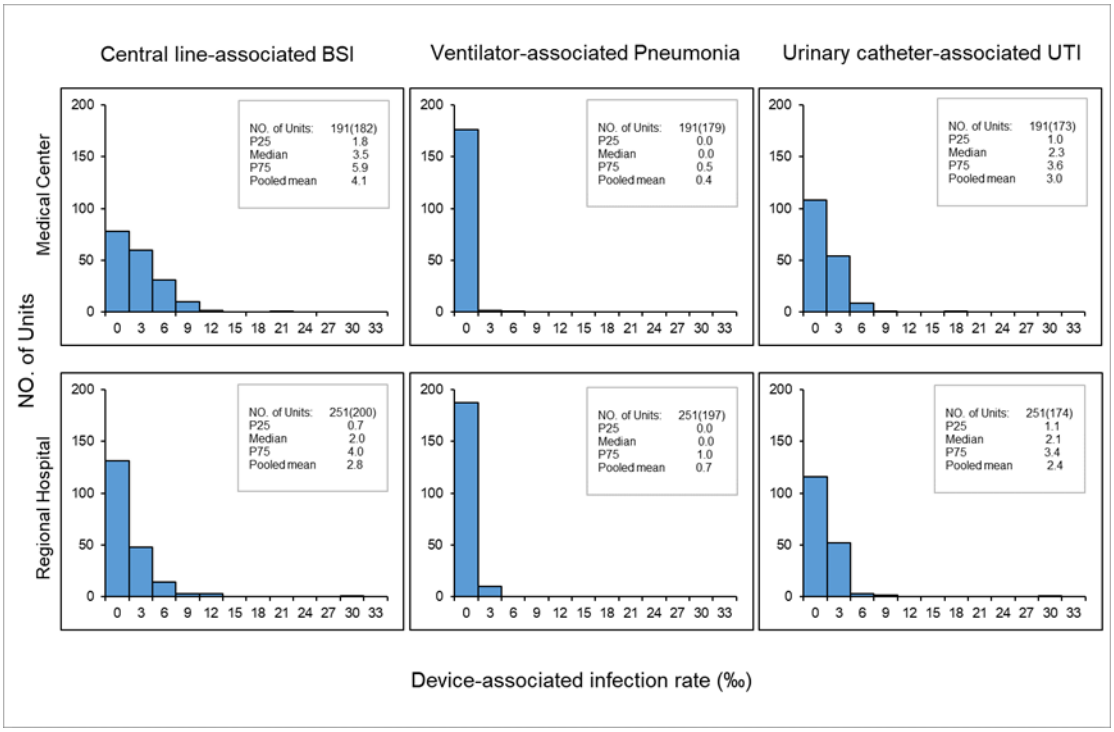
Table 11 Distribution of healthcare-associated infection rates by type of locations in the ICUs of medical centers and regional hospitals, 2021

Hospital level	Type of locations	No. of units[1]	No. of HAIs	Patient -days	HAI Rate[2] (‰)	Percentile		
						25th	50th	75th
Medical center	Medical ICU	47(46)	1,642	215,979	7.6	5.0	6.8	9.4
	Surgical ICU	64(61)	1,583	231,661	6.8	5.0	6.8	8.3
	Cardiology ICU	14(14)	433	64,389	6.7	-	6.2	-
	Pediatric ICU	43(43)	385	169,001	2.3	0.6	1.7	3.4
	Medical/surgical ICU	24(23)	636	102,762	6.2	3.3	5.0	7.8
	Total	191(186)	4,679	783,792	6.0	3.3	5.6	7.8
Regional hospital	Medical ICU	49(45)	1,070	215,119	5.0	3.1	4.2	6.1
	Surgical ICU	42(40)	816	154,622	5.3	3.6	5.2	6.3
	Cardiology ICU	12(10)	221	36,253	6.1	-	-	-
	Pediatric ICU	65(54)	101	50,738	2.0	0.0	0.0	1.6
	Medical/surgical ICU	83(77)	1,329	322,531	4.1	2.2	3.7	5.9
	Total	251(226)	3,537	779,263	4.5	1.6	3.6	5.6

Note: 1. Units with patient-days<50 are not included in percentile distribution; the number in parentheses is the number of units meeting minimum requirement for percentile distribution.

2. The number of units<20 only provide 50th percentile distribution; the number of units≤10 not provide percentile distribution.

3. Healthcare-associated infection rate= (number of HAIs/number of patient-days) ×1000‰. For every unit, monthly data was included for analysis only when the patient days and number of HAI cases were both available.



Note: 1. device-associated infection rate= (number of HAIs/number of device-days) ×1000‰;

2. BSI, bloodstream infection; UTI, urinary tract infection;

3. Units with device-days<50 are not included in percentile distribution; the number in parentheses is the number of units meeting minimum requirement for percentile distribution.

Figure 2 Distribution of device-associated infection rates in the ICUs of medical centers and regional hospitals, 2021

Table12 Distribution of major types of healthcare-associated infection in the ICU patients from medical centers and regional hospitals, 2021

Types of infection	Medical center		Regional hospital	
	No.	%	No.	%
Bloodstream	2,281	45.9	1,515	38.7
Urinary tract	357	7.2	510	13.0
Pneumonia	1,560	31.4	1,414	36.1
Surgical site	232	4.7	156	4.0
Other	537	10.8	323	8.2
Total	4,967	100	3,918	100

Note: proportion of specific infection type= (number of specific infection type /number of overall infection)×100%

Table 13 Common pathogens of healthcare-associated infections in the ICUs of medical centers, 2021

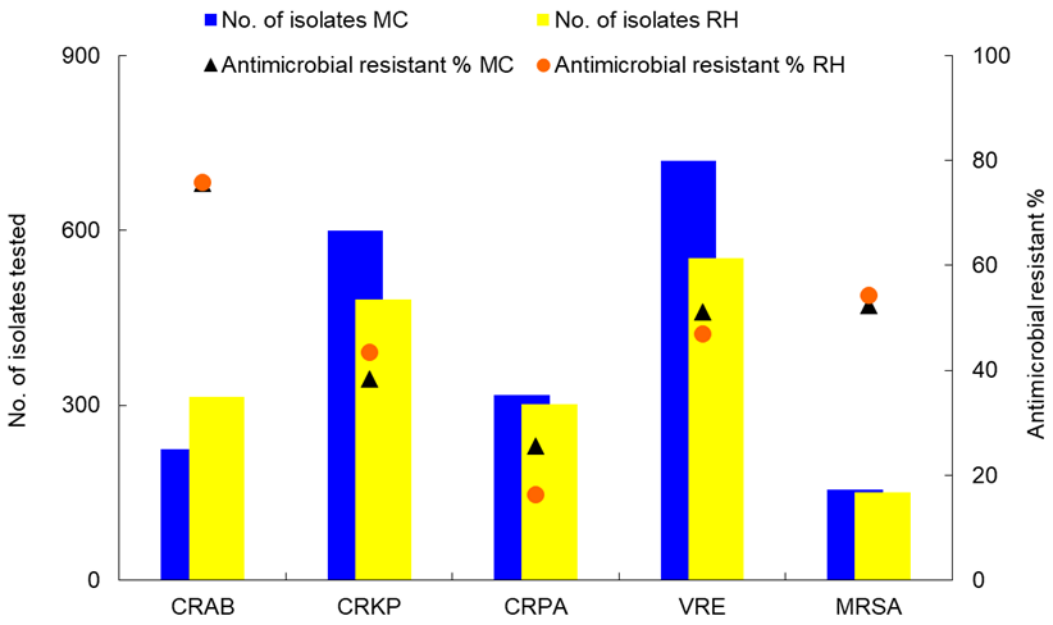
Pathogens	Total		Types of Infection									
			Bloodstream		Urinary tract		Pneumonia		Surgical site		Others	
	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.
Klebsiella pneumoniae	1	618	1	319	2	63	6	148	1	42	3	46
Enterococcus faecium	2	527	2	251	23	2	4	197	3	35	4	42
Escherichia coli	3	439	3	245	15	3	5	167	11	9	10	15
Other *Candida* spp. or NOS	4	431	8	109	6	14	1	250	3	35	7	23
Candida albicans	5	425	5	148	13	6	3	227	8	20	6	24
Yeast-like	6	335	6	124	1	69	8	81	2	41	8	20
Pseudomonas aeruginosa	7	274	22	17	23	2	2	237	20	3	10	15
Acinetobacter baumannii	8	234	4	154	4	29	11	27	11	9	10	15
Enterococcus faecalis	9	202	9	106	7	13	9	37	5	29	9	17
Enterobacter spp.		101		62		4		17		11		7
E.cloacae		101		44		9		20		18		10
Other *Enterobacter* spp. or NOS	10	194	12	70	30	1	7	85	7	23	10	15
OTHERS		1,957		1,160		177		170		157		293
Total		5,636		2,703		379		1,626		403		525

Note: 1. Isolates of the same species of bacteria, regardless of antimicrobial susceptibility pattern, are counted only once per patient per infection. That is, no duplicate isolates are included.
2. NOS: not otherwise specified.

Table 14 Common pathogens of healthcare-associated infections in the ICUs of regional hospitals, 2021

Pathogens	Total		Types of Infection									
			Bloodstream		Urinary tract		Pneumonia		Surgical site		Others	
	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.
Candida albicans	1	493	1	214	1	104	5	126	6	24	3	25
Klebsiella pneumoniae	2	437	8	86	6	25	2	284	3	28	7	14
Escherichia coli	3	424	6	90	8	14	1	294	7	19	13	7
Enterococcus faecium	4	369	3	134	12	3	3	189	4	26	6	17
Pseudomonas aeruginosa	5	332	4	124	12	3	4	184	8	12	11	9
Acinetobacter baumannii	6	325	2	161	3	71	9	47	9	9	2	37
Other *Candida* spp. or NOS	7	317	7	89	2	94	7	81	1	40	8	13
Enterobacter spp.	8	188	5	94	6	25	11	27	2	30	9	12
E.cloacae		119		64		14		16		17		8
Other *Enterobacter* spp. or NOS		69		30		11		11		13		4
Enterococcus faecalis	9	165	12	53	22	1	8	75	4	26	10	10
Staphylococcus aureus	10	157	9	84	4	31	12	20	13	3	5	19
OTHERS		1,114		591		86		259		59		119
Total		4,321		1,720		457		1,586		276		282

Note: 1. Isolates of the same species of bacteria, regardless of antimicrobial susceptibility pattern, are counted only once per patient per infection. That is, no duplicate isolates are included.
2. NOS: not otherwise specified.



Note: 1. "Antimicrobial resistant %" indicates the % of Isolates with susceptibility tested to be intermediate or resistant to the antimicrobial specified.

2. CRAB: carbapenem (imipenem or meropenem)-resistant *Acinetobacter baumannii*;
CRKP: carbapenem (imipenem, meropenem, or ertapenem)-resistant *Klebsiella pneumoniae*;
CRPA: carbapenem (imipenem or meropenem)-resistant *Pseudomonas aeruginosa*;
VRE: vancomycin-resistant *enterococci* (*Enterococcus faecalis*, *Enterococcus faecium*...etc.);
MRSA: oxacillin-resistant *Staphylococcus aureus*.

Figure 3 Antimicrobial resistances of selected pathogens of healthcare-associated infections in the ICUs of medical centers(MC) and regional hospitals(RH), 2021

School-based Surveillance System

I. Introduction

School children, who are in close contact with each other and pass infections around, are more susceptible to the communicable diseases. This is one of the main ways microorganisms circulate in campuses and communities, causing outbreaks of infectious diseases. To monitor the trends of communicable diseases in a multifaceted way, Taiwan Centers for Disease Control (Taiwan CDC) launched a pilot program for elementary schools to monitor and report symptoms and infectious diseases in February 2001. As of 2021, a total of 773 elementary schools enrolling students from kindergarten to 6th grade voluntarily participated in the system.

The school-based surveillance system is a simple, flexible, specific and sensitive communicable disease reporting system that can effectively reflect epidemic trends, detect possible outbreaks and facilitate timely adoption of control measures, in order to contain the spread of communicable diseases in elementary schools.

In addition, these data are used to analyze and estimate the scope and magnitude of diseases at the school and regional levels, which can aid the early detection of disease clusters in communities. As a result, the school-based surveillance system serves the dual purposes of safeguarding the health of school children and achieving control of communicable diseases.

II. Objectives of surveillance system

1. Understand and establish the long-term trends of communicable diseases in schools and detect aberration in surveillance data.
2. Detect early epidemic trends in communities.
3. Provide references for assessing the disease burden.

III. Diseases under surveillance

Diseases and symptoms reported under the school-based surveillance system include influenza like illness, hand-foot-and-mouth disease or herpangina, diarrhea, fevers, acute hemorrhagic conjunctivitis, varicella and other internal medicine diseases on a weekly basis.

IV. Reporting method, data analysis and data feedback

Schools participate in the surveillance system on a voluntary basis. The health care workers in public elementary schools report weekday data online by every Monday during each semester. Assigned officers at the Regional Centers of CDC observe the data completion and whether there are possible clusters of other communicable diseases. The weekly data are compiled, analyzed, and displayed as figures and periodically post on the CDC official website. In addition, the released“ Sentinel Surveillance Weekly Report” on the website of the school-based surveillance system disseminate to the reporting schools, relevant health and education facilities.

V. Selective analysis of reportable diseases

1. Influenza-like illness

■ Case definition:

Acute respiratory infection with the following symptoms:

(1) Sudden onset, with fever (ear temperature≧38°C) and respiratory infection; and

(2) Muscular soreness or headache or extreme fatigue.

■ Epidemic analysis:

According to CDC school-based surveillance system, the morbidities of influenza-like illness among schools were between 0.01% and 0.06% in 2021. Overall, it was lower than the trends in 2019 and 2020.

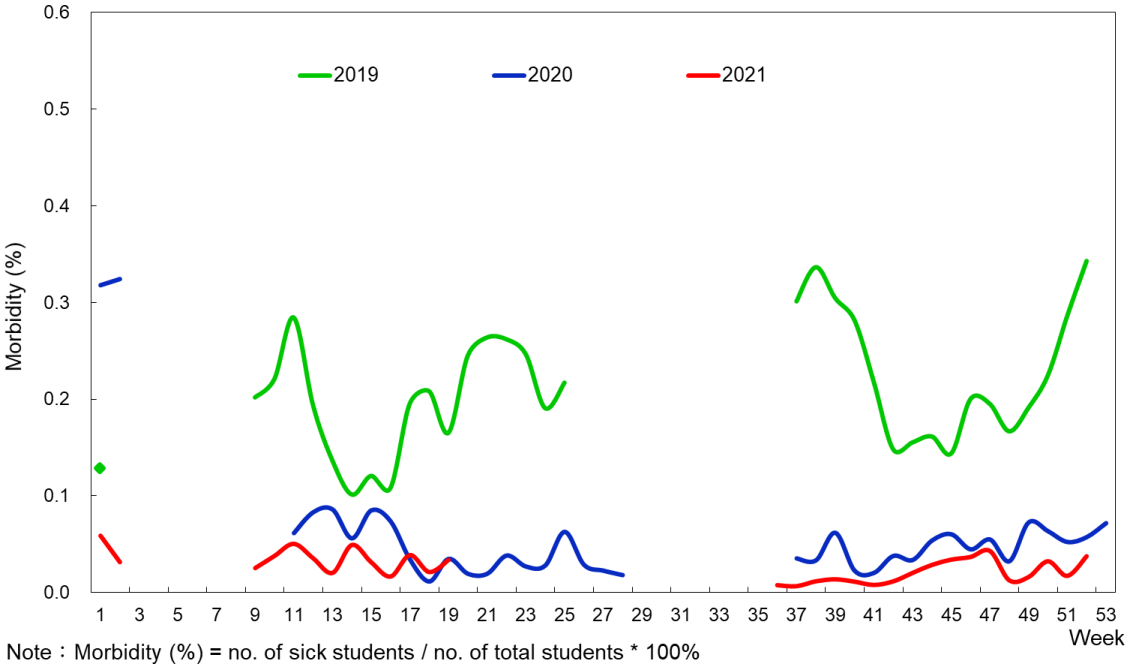


Figure 4　ILI morbidity reported by the School-based Surveillance System, 2019-2021

2. Hand-foot-and-mouth disease (HFMD) or herpangina

■ Case definition:

(1) Case definition of hand-foot-and-mouth disease: Vesicular lesions or rashes appear on mouth, palms, soles, and/or knees and buttocks.

(2) Case definition of herpangina: Fever and vesicular lesions or ulcer in pharyngeal area.

■ Epidemic analysis:

According to CDC school-based surveillance system, the morbidities of hand-foot-mouth disease or herpangina among schools were between 0.00% and 0.07% in 2021. Overall, it was lower than the trends in 2019 and 2020.

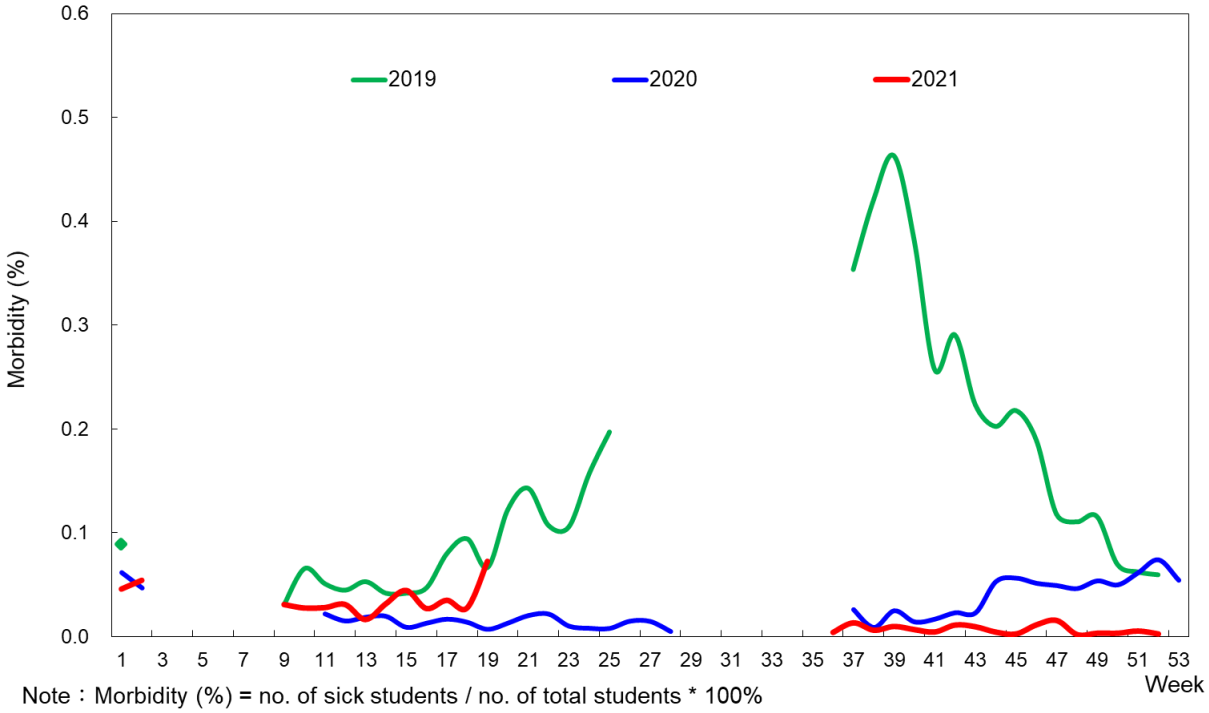


Figure 5 Hand-foot-mouth disease (HFMD) or herpangina morbidity reported by the School-based Surveillance System, 2019 - 2021

3. Diarrhea

■ Case definition:

Diarrhea three times or more per day, and accompanied by more than one of following symptoms:

(1) Vomiting

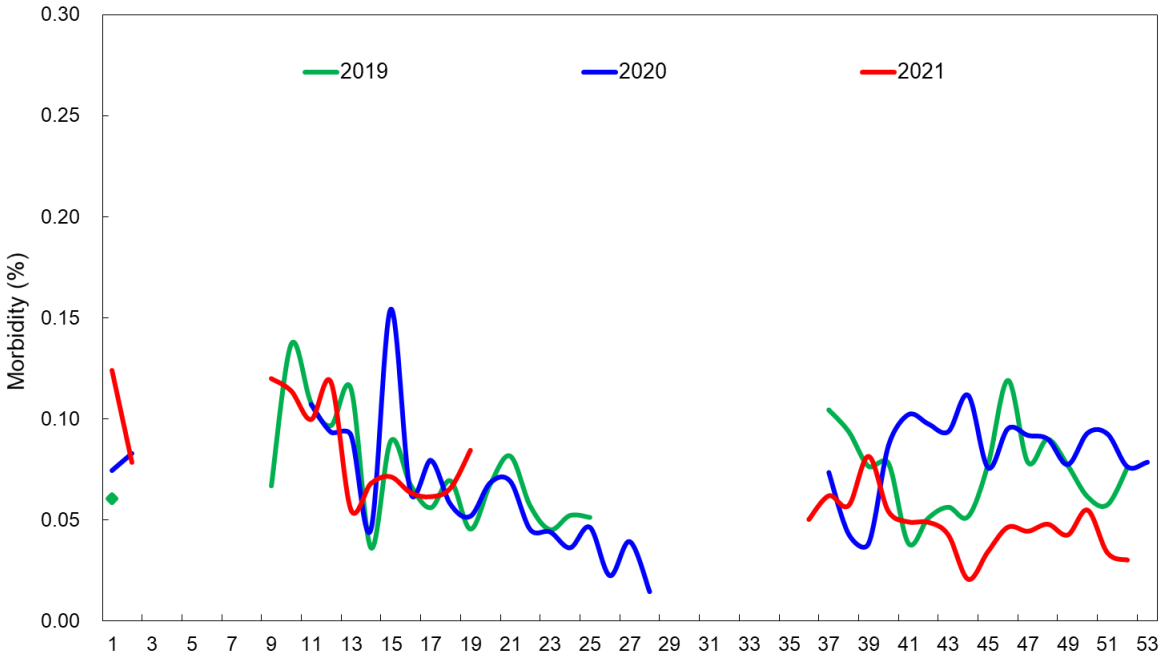
(2) Fever

(3) Mucous stool or hematochezia

(4) Watery diarrhea.

■ Epidemic analysis:

According to CDC school-based surveillance system, the morbidities of diarrhea among schools were between 0.02% and 0.12% in 2021. Overall, it was lower than the trends in 2019 and 2020.



Note：Morbidity (%) = no. of sick students / no. of total students * 100%

Figure 6 Diarrhea morbidity reported by the School-based Surveillance System, 2019-2021

4. Fever

■ Case definition:

Fever (ear temperature ≧ 38°C) but free of the illness or symptoms of influenza-like illness, diarrhea, hand-foot-mouth disease or herpangina.

■ Epidemic analysis:

According to CDC school-based surveillance system, the morbidities of fever among schools were between 0.09% and 0.35% in 2021. Overall, it was lower than the trends in 2019 and 2020.

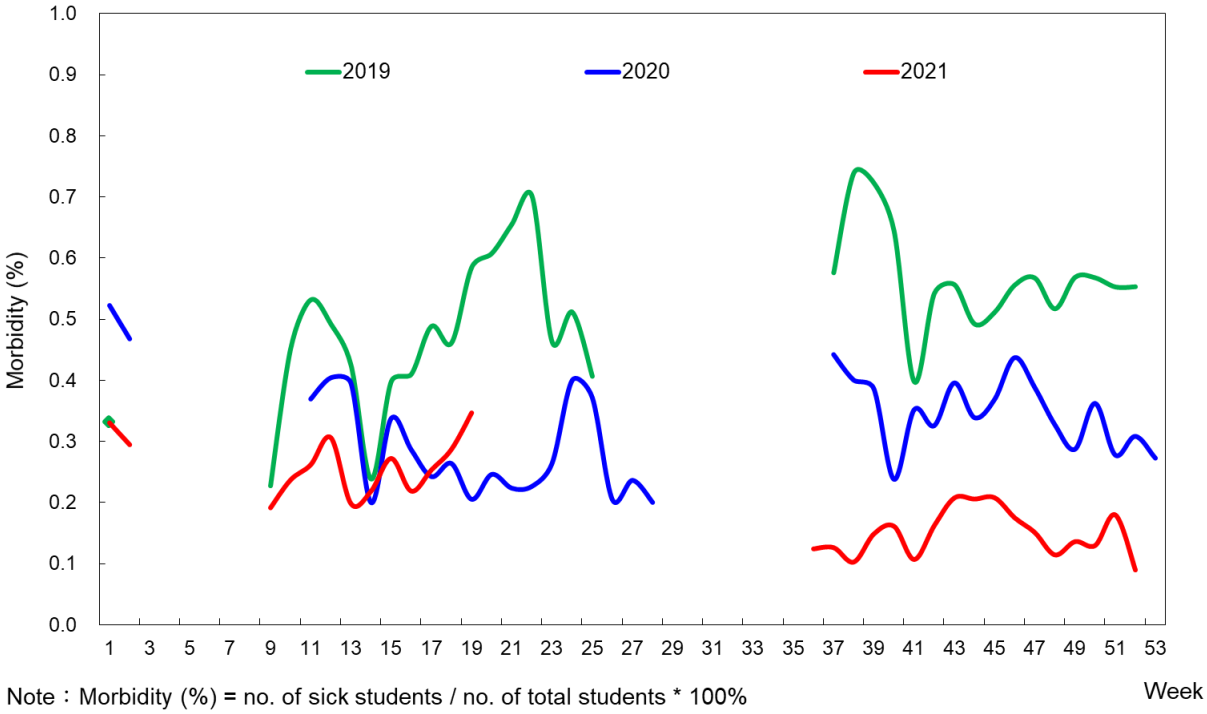


Figure 7 Fever Morbidity Reported by the School-based Surveillance System, 2019-2021

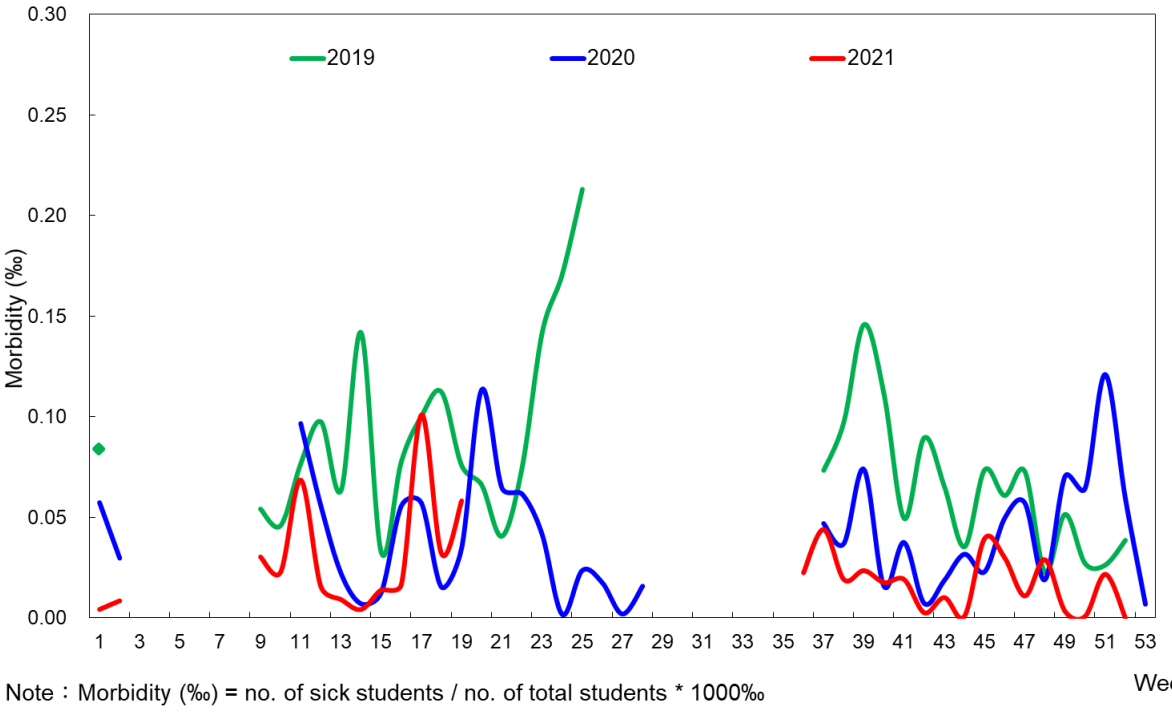
5. Acute hemorrhagic conjunctivitis (AHC)

■ Case definition:

Prickly, burning sensation of eyes, increased sensitivity to light, increased amount of tears, foreign body sensation, blurred vision; conjunctivas in bright redness, sometimes with subconjunctival hemorrhage; large amount of viscous discharge from the eyes; sometimes preauricular lymph node swelling and tenderness.

■ Epidemic analysis:

According to CDC school-based surveillance system, the morbidities of Acute hemorrhagic conjunctivitis (AHC) among schools were between 0.00‰ and 0.10‰ in 2021. Overall, it was lower than the trends in 2019 and 2020.



Note：Morbidity (‰) = no. of sick students / no. of total students * 1000‰

Figure 8 AHC morbidity reported by the School-based Surveillance System, 2019-2021

6. Varicella:

■ Case definition:

Appearance of blisters of all sizes throughout the whole body and may go along with fever as a potential clinical symptom.

■ Epidemic analysis:

According to CDC school-based surveillance system, the morbidities of varicella among schools were between 0.00% and 0.02% in 2021. Overall, the trend in 2021 was lower than that in 2019 and similar to that in 2020.

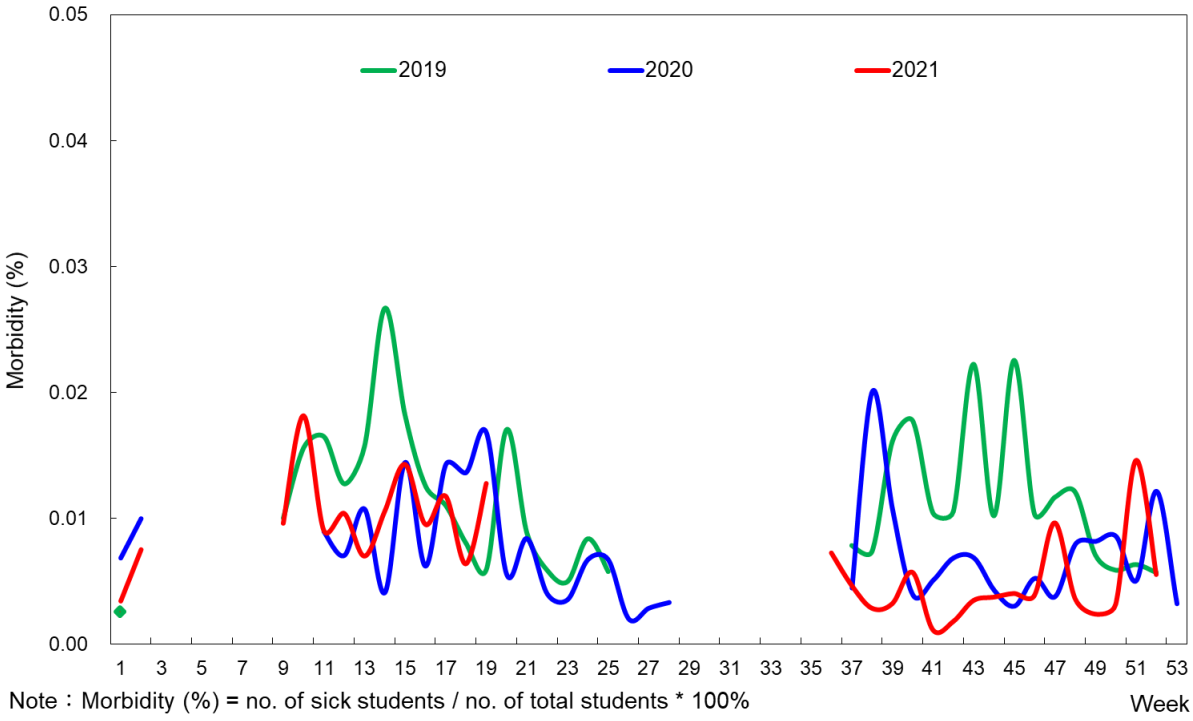


Figure 9 Varicella morbidity reported by the School-based Surveillance System, 2019-2021

Laboratory Surveillance System

I. Origin

The island-wide outbreak of enterovirus epidemic in Taiwan, 1998, exposed the inadequacy of virology laboratories in both quality and quantity. Thus the Department of Health (DOH) established contract virology laboratories all over Taiwan since March 1999. DOH endeavors to improve Taiwan's capacity for virus biological testing and training programme in this field. Currently, contract laboratories are playing an important role in the monitoring of enterovirus and influenza viruses in communities. The laboratory surveillance system main to shed light the prevalent types activities of enterovirus and influenza viruses during different seasons. Such information provides useful reference in making epidemic prevention policies. Moreover, reciving biomaterial periodly contributes to the construction of valuable native viral genome database and biomaterial database in Taiwan.

On the other hand, the exponential spread of Covid-19 casue the contract laboratories in 2020 starting to monitor the severe pneumiooniae with novel pathogens(COVID-19) for providing epidemic information in the community. This program to be contiuned in 2021.

II. Distribution and responsibility areas of contracted laboratories

In 2021, there are eight contracted laboratories for viral diseases monitoring in Taiwan. The locations and the responsibility areas are as follows: In north of Taiwan, National Taiwan University (coverage area: Taipei City, Kinmen County, and Lienchiang County), Chang Gung University (coverage area: Taoyuan City, Hsinchu County, Hsinchu City and Miaoli County), Tri-Service General Hospital (coverage area: New Taipei City, Keelung City, Yilan County, and specimens from military hospitals); in middle of Taiwan, Taichung Veterans General Hospital (coverage area: Taichung City), Changhua Christian Hospital (coverage area: Changhua County, Yunlin County and Nantou County); in south of Taiwan, National Cheng Kung University Hospital (coverage area: Chiayi County, Chiayi City and Tainan City), Kaohsiung Medical University Chung-Ho Memorial Hospital (coverage area: Kaohsiung City, Pingtung County, and Penghu County); and in east of Taiwan, Hualien Tzu Chi Hospital (coverage area: Hualien County and Taitung County).

III. Sources of specimens and testing process

Sources of specimens at the contracted laboratories come mainly from outpatients, emergency and inpatients patients at medical centers within the areas covered by the laboratories, as well as from 165 specimen collection stations nationwide. Specimens are collected from patients with suspected influenza or enteroviral infections. The former should meet the criteria for influenza-like illness (symptoms including fever above 38°C, cough, sore throat or muscular pain; patients with mild rhinitis, tonsillitis, and bronchitis are excluded). The latter should be patients with hand-foot-mouth disease or herpangina, and their specimens should be collected within three days after the onset of illness. Generally, specimen collection stations send two specimens to the regional contracted laboratories every week.

1. Collection of specimens

Specimens collected by contract laboratories in 2021 are totaled 10,725, which represents an average of 894 per month. The The contracted laboratories in northern Taiwan received the largest number of specimens with 4,026 cases, followed by southern Taiwan with 2,792 cases, central Taiwan 2,719 cases whereas laboratories in eastern Taiwan received the fewest specimens with 1,108 cases.

Specimens collected by contract laboratories with SARS-Cov-2 in 2021 are totaled 9,493 which represents an average of 786 per month. The contracted laboratories in northern Taiwan received the largest number of specimens with 3,688 cases, followed by middle of Taiwan with 2,524 cases, southern Taiwan with 2,368 cases, whereas laboratories in eastern Taiwan received the fewest specimens with 859 cases.

2. Prevalence of enterovirus

In 2021, 111 strains of enterovirus were isolated. After typing by immunofluorescence assay (IFA), it was found the dominant type was Coxsackie virus A (62 strains or 55.9%), the majority constituted type CVA6 59 strains, CVA4 3 strains and 49 isolates (44.1%) were non-polio enterovirus (NPEV). After typing of NPEV by gene sequencing, the majority of NPEV were Rhinovirus 23, followed by Rhinovirus 31, Rhinovirus 30 and Rhinovirus 49 in sequence. (See Figure 10 Strain ratios of enterovirus isolates from specimens collected by the sentinel physicians, 2021).

To sum up, the top two types of enterovirus isolated in 2021 were CVA6 (95.2%) and CVA4 (4.8%); See Figure 11 Strain ratios of enterovirus isolates from

specimens collected by the sentinel physicians, 2021.

3. Prevalence of influenza virus

In 2021, the community respiratory tract infection cases were obviously at a low level. Only in March (11th week), a type of influenza A virus that could not be typed was isolated and detected from the samples in the middle of Taiwan. It was sequenced and analyzed as influenza H1N2v (Figure 12, Isolation situations of influenza viruses from specimens collected by the sentinel physicians,2021.)

After typing of isolated virus strains by whole genome sequencing and combining with the epidemic investigation, A/Taiwan/1/2021(H1N2)v is a new type of reassortment virus. Parts of HA and NA gene fragments derived from the swine influenza A(H1N2) virus. According to the evolution analysis of the virus sequence, it belongs to the unique evolutionary group of Taiwan pigs. This gene is presumed to have been prevalent in Taiwan for decades.

In summary, influenza virus in 2021 was low in prevalence, and a new avian influenza reassortant virus strain A/Taiwan/1/2021(H1N2)v was monitored and isolated.

4. Epidemic situations of other respiratory tract viruses

Respiratory tract viruses excepted from influenza virus was isolated totaled 864 cases, including Herpes simplex virus (HSV) 410 strains (47.3%), Adenovirus 183 strains (21.1%), Parainfluenza virus 114 strains (13.1%), Respiratory syncytial virus (RSV) 63 strains (7.2%), Cytomegalovirus (CMV) 46 strains (5.3%), and human metapneumovirus(hMPV) 48 strains (5.5%) (see Figure 13 Positive isolation rates for respiratory tract viruses from specimens collected by the sentinel physicians, 2021).

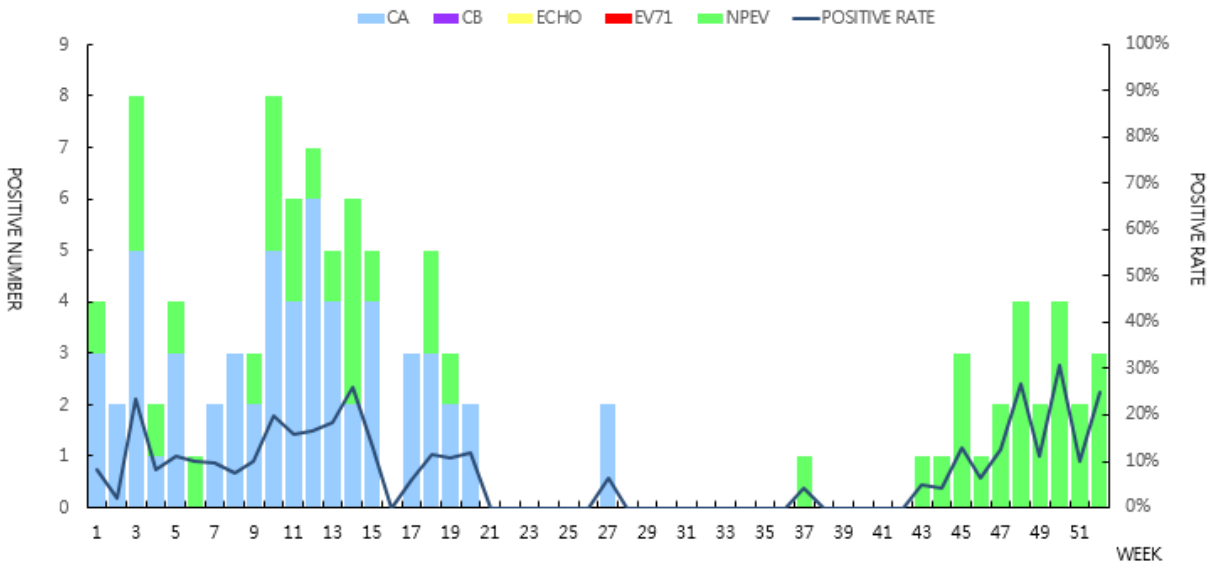


Figure 10 Enterovirus positive isolation rates in specimens collected by the sentinel physicians, 2021

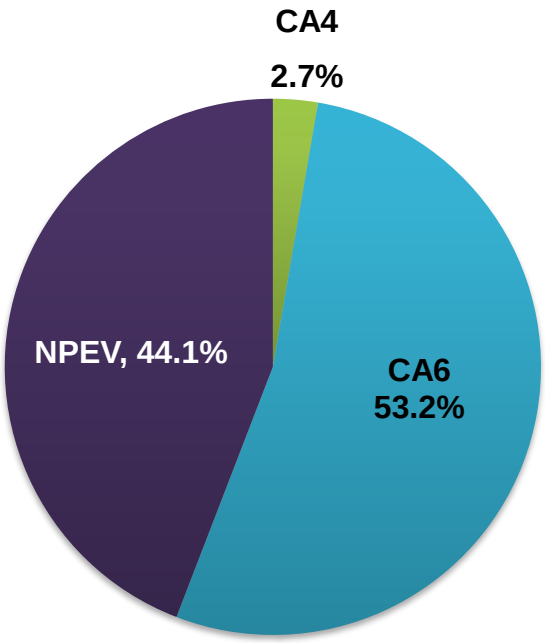


Figure 11 Strain ratios of enterovirus isolates from specimens collected by the sentinel physicians, 2021

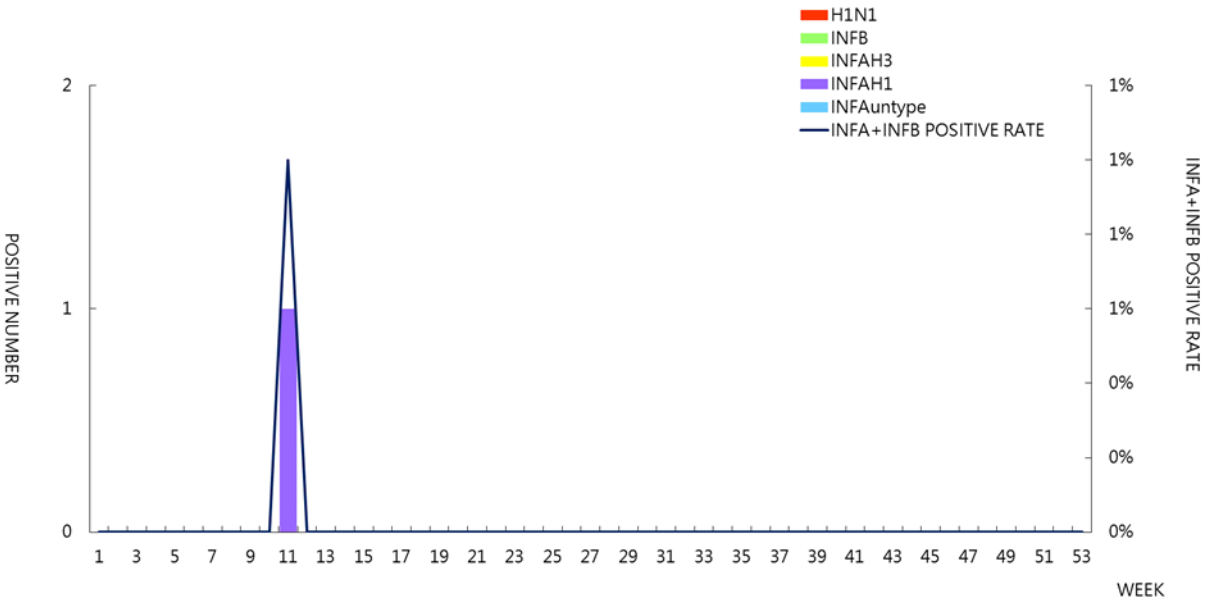


Figure 12 Isolation situations of influenza viruses from specimens collected by the sentinel physicians, 2021

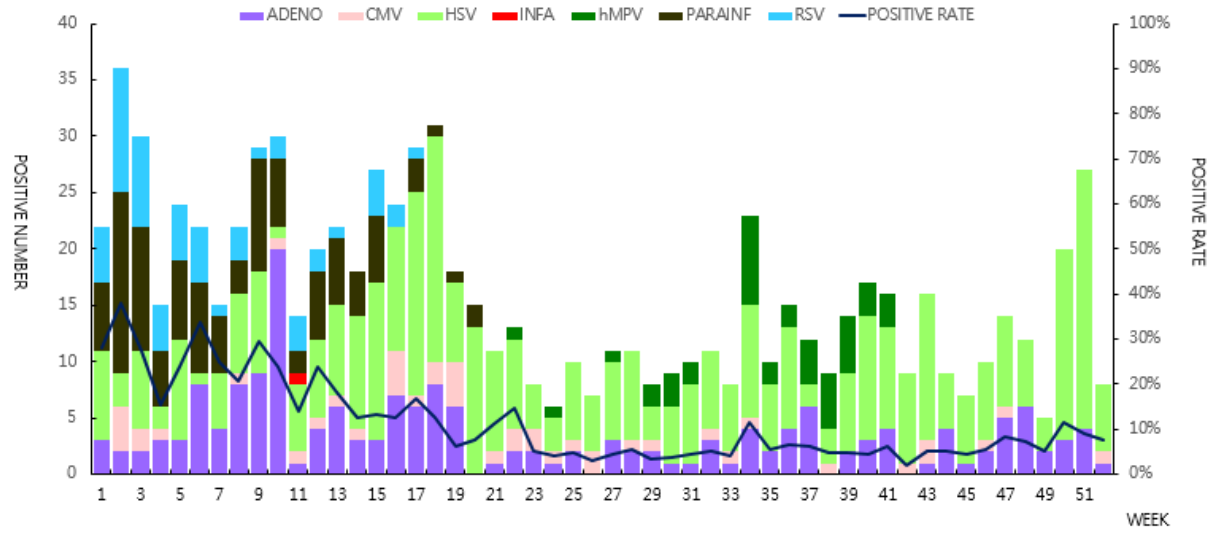


Figure 13 Positive isolation rates for respiratory tract viruses from specimens collected by the sentinel physicians, 2021

Quarantine Surveillance

I. Health examination of migrant workers

To prevent the importation of infectious diseases by migrant workers affecting the health of the population, all legally imported workers are required to submit a health certificate issued by an authorized foreign hospital before applying for an entry visa. They are also required to undergo health examination at a designated hospital within 3 working days after entry and within 30 days before or after the days of 6, 18 and 30 months of the employment permit effective date in order to ensure their health condition. The designated items of health examination for migrant workers in 2021 include chest X-ray examination for tuberculosis, examination for Hansen's disease, serological test for syphilis, stool examination for intestinal parasites, and physical examination. In addition, either proof of positive antibody or vaccination certificate for measles and rubella is required in the health examination conducted in the authorized hospitals.

To prevent the importation of typhoid fever by Indonesian workers, symptoms query of typhoid fever has been included in the health examination before entry since October 15, 2009. Besides, symptoms query and stool culture examination of typhoid fever have also been included in the health examination within 3 working days after entry in the meanwhile.

Within 641,487 person-times health examinations for migrant workers conducted in Taiwan in 2021, 2,657 person-times were failed, representing a failed rate of 0.41%. Stool examination for intestinal parasite accounted for the highest failed rate with 0.33% (2,100 person-times), followed by chest X-ray examination for tuberculosis with 0.06% (390 person-times) (Table 15).

II. Health declaration of inbound passengers

To prevent the imported infectious disease through aircrafts and ships into Taiwan, Taiwan CDC in accordance with the "Communicable Diseases Control Act" and "Regulations Governing Quarantine at Ports" implements necessary quarantine measures--in particular, the follow-up and surveillance of suspect passengers with symptoms. On December 1, 2004, new regulations took effect that all inbound passengers with suspected symptoms of communicable diseases should fill in the "Communicable Disease Survey Form." At the end of December 2019, an outbreak of pneumonia of unknown cause (later called COVID-19) occurred in Wuhan, China. Starting from January 24, 2020, Taiwan CDC required all the inbound passengers from China, Hong Kong and Macau to complete the "COVID-19 Health Declaration

Card”, which asked the passengers to provide their personal information, travel history and health status. This policy was expanded to all travelers from February 11, 2020. Besides the measure, Taiwan CDC began to require all passengers arriving in Taiwan from abroad to quarantine for 14 days in response to the measure, starting February 3, 2020, Taiwan CDC started to issue the "COVID-19 Health Declaration and Home Quarantine Notice" ("COVID-19 Health Declaration Form"), a form produced by merging the “COVID-19 Health Declaration Card" with the "Home Quarantine Notice”, to all arriving passengers and to require them to describe their health status and provide the address of their quarantine location, mobile phone number and other information. Such information allowed public health and civil affairs personnel to monitor passengers' health conditions for the next 14 days. Later, from March 19, 2020, all arriving travelers were required to fill out the COVID-19 Health Declaration Form before entry and undergo home quarantine for 14 days following arrival.

Due to the COVID-19 pandemic and variants were prevalent. Enhanced inbound passengers border quarantine from July 2, 2021. All the inbound passengers were required saliva-based PCR testing was implemented at international airports/seaports to enhance surveillance of the passengers and continued until discharge from quarantine.

From January to December of 2021, the person times of inbound passengers was 474,232 in total and 2,591 of them showing symptoms were then subject to follow-up and surveillance by local health authority. Asymptomatics individuals special testing program was 231,974 in total. The “COVID-19 Health declaration and Home Quarantine Notice”, the “Communicable Disease Survey Form” and body temperature screening measures have identified 537 cases of COVID-19, 8 cases of dengue fever, 1 cases chikungunya fever (Table 16).

Table 15 Physical examinations status of migrant workers, 2021

Unit：Number of Persons, Person Time, %

Country	Number of Persons		Failed	X-ray	Syphilis	Parasites	Hansen's disease	Mental condition	Others
Thailand	At Entry	6,164	53	1	1	51	-	-	-
			0.86%	0.02%	0.02%	0.83%	-	-	-
	Periodic	55,808	354	26	10	318	-	-	-
			0.63%	0.05%	0.02%	0.57%	-	-	-
Indonesia	At Entry	668	6	-	-	6	-	-	-
			0.90%	-	-	0.90%	-	-	-
	Periodic	215,490	735	156	67	510	2	-	-
			0.34%	0.07%	0.03%	0.24%	0.001%	-	-
Philippines	At Entry	3,129	37	3	2	32	-	-	-
			1.18%	0.10%	0.06%	1.02%	-	-	-
	Periodic	140,172	471	94	38	338	1	-	-
			0.34%	0.07%	0.03%	0.24%	0.001%	-	-
Vietnam	At Entry	21,885	189	10	7	172	-	-	-
			0.86%	0.05%	0.03%	0.79%	-	-	-
	Periodic	198,159	812	100	39	673	-	-	-
			0.41%	0.05%	0.02%	0.34%	-	-	-
Others	At Entry	3	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
	Periodic	9	-	-	-	-	-	-	-
			-	-	-	-	-	-	-
Total	At Entry	31,849	285	14	10	261	-	-	-
			0.89%	0.04%	0.03%	0.82%	-	-	-
	Periodic	609,638	2,372	376	154	1,839	3	-	-
			0.39%	0.06%	0.03%	0.30%	0.00%	-	-
Total (Person Time)		641,487	2,657	390	164	2,100	3	-	-
			0.41%	0.06%	0.03%	0.33%	0.00%	-	-

Note: The data of physical examination at entry was provided by the Ministry of Labor; the data of periodic physical examination was provided by the local health competent authorities.

Table 16 Implementation Outcomes of International Ports Entry Quaratine Measures in 2021

Unit：Number of Person Time

Month	Person time of inbound passengers[Note1]	Cases with symptom [Note2,4]		Cases sample taking (No.)		Notifiable disease	Case No.	Traveling country
		Case No.	Case percentage (%)	Blood (No.)	Swab/Saliva (No.) [Note3]			
Jan.	77,597	639	0.82	16	535	COVID-19	12	United States, Mexico, Czech Republic, Indonesia, Japan, Nigeria
						Dengue fever	2	Philippines, Cambodia
Feb.	22,953	130	0.57	9	111	COVID-19	4	United States, Myanmar, Ghana, Indonesia
						Dengue fever	1	Vietnam
Mar.	35,942	179	0.50	11	158	COVID-19	6	Philippines, Egypt, Indonesia, Ethiopia
						Chikungunya fever	1	Indonesia
Apr.	38,165	190	0.50	16	165	COVID-19	13	Philippines, Egypt, Ethiopia, United States, Malaysia
						Dengue fever	1	Indonesia
May	31,137	179	0.57	12	163	COVID-19	21	India, Thailand, Australia, Haiti, Philippines, Kyrgyzstan, Nepal, South Africa
Jun.	18,776	98	0.52	1	91	COVID-19	2	Thailand, India
Jul.	27,732	148	0.53	2	25,283	COVID-19	38	United States, Indonesia, Myanmar, United Arab Emirates, Czech Republic, Spain, Saudi arabia, Cambodia, Thailand, Mauritania, Japan
Aug.	38,766	174	0.45	4	36,854	COVID-19	61	United States, Malaysia, South Africa, Japan, Vietnam, Thailand, Pakistan, Indonesia, Cambodia, United Arab Emirates, France et al.
Sep.	41,009	200	0.49	6	37,120	COVID-19	61	United States, Philippines, United Arab Emirates, Vietnam, Cambodia, Malaysia, Kazakhstan, Japan et al.
						Dengue fever	2	Vietnam
Oct.	41,148	202	0.49	8	36,425	COVID-19	45	United States, Malaysia, Thailand, Philippines, Singapore, Vietnam, Russia, United Arab Emirates, Indonesia et al.

(Continued) Table 16 Implementation Outcomes of International Ports Entry Quaratine Measures in 2021

Unit：Number of Person Time

Month	Person time of inbound passengers[Note1]	Cases with symptom [Note2,4]		Cases sample taking (No.)		Notifiable disease	Case No.	Traveling country
		Case No.	Case percentage (%)	Blood (No.)	Swab/Saliva (No.) [Note3]			
Nov.	42,437	166	0.39	4	39,237	COVID-19	72	Vietnam, Indonesia, United States, Cambodia, Germany, Singapore, Australia, Poland, Myanmar, Italy, Lithuania, United Arab Emirates, Philippines, Thailand et al.
						Dengue fever	2	Indonesia, Philippines
Dec.	58,570	286	0.49	3	57,464	COVID-19	202	United States, Vietnam, United Kingdom, Kazakhstan, France, Turkey, Philippines, Italy, Cambodia, Canada, Spain, Korea, Laos, United Arab Emirates, Germany et al.
Total	474,232	2,591	0.55	92	233,606	COVID-19	537	
						Dengue fever	8	
						Chikungunya fever	1	

Note:1. The data of inbound passenger number was provided by Taiwan National Immigration Agency.

2. The data of cases with symptom was provided by Taiwan CDC Smart Quarantine Multifunctional System. The data of cases were provided by NIDRS system.

3. Due to the COVID-19 pandemic, saliva-based PCR testing was implemented at international airports from July 2,2021.

4.The date of statistics was analyzed based on the entry date.

Mosquito Surveillance

Taiwan is located in tropical and subtropical climate zone with hot and humid weather, and hence a fertile ground for mosquito breeding. Major mosquito vectors in Taiwan include *Aedes aegypti* and *Aedes albopictus* that can spread dengue fever and *Anopheles minimus* that can spread malaria.

I. Dengue fever vector mosquito

The dengue fever vector mosquito surveillance has been set up since the outbreak of dengue fever in the south of Taiwan in 1988. An analysis of the surveys of mosquito vectors conducted in 2021 finds the following: the health bureaus of all counties and cities conducted 32,701 wards/villages, including 21,485 wards/villages in Level 0, 9,138 wards/villages in Level I, 1,703 wards/villages in Level II, 355 wards/villages in Level III, 15 wards/villages in Level IV, 4 wards/villages in Level V, 1 wards/villages in Level VI (Table 17). The number of wards/villages above Level II in the range of 0.7~17.0% displayed one peak from July to September (Figure 14).

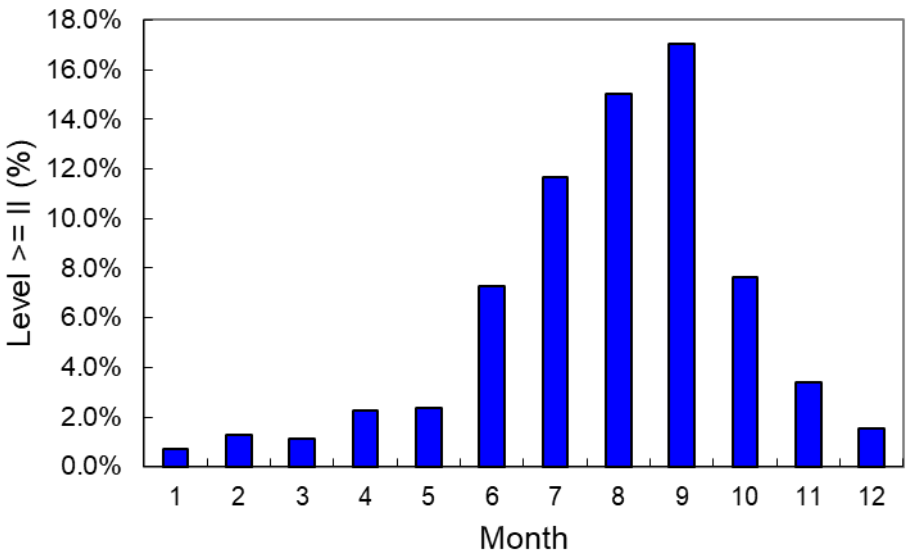


Figure 14 The percentage of wards/villages with Dengue fever vector by month in 2021.

Table 17 Distribution of Breteua index, 2021

Locality	Villages (No. of times)	Breteua Index						
		0	1	2	3	4	5	6
Taichung City	819	325	431	56	6	1	-	-
Taipei City	1,257	878	367	10	2	-	-	-
Taitung County	829	648	164	12	4	1	-	-
Tainan City	10,973	7,680	3,069	205	17	1	-	1
Yilan County	1,066	940	126	-	-	-	-	-
Hualien County	973	856	85	31	-	-	1	-
Kinmen County	45	44	1	-	-	-	-	-
Nantou County	585	218	363	3	1	-	-	-
Pingtung County	3,179	1,551	1,357	252	19	-	-	-
Miaoli County	511	189	264	58	-	-	-	-
Taoyuan County	211	37	120	45	9	-	-	-
Kaohsiung City	3,670	1,411	1,429	677	150	2	1	-
Keelung City	409	331	29	49	-	-	-	-
Yunlin County	571	448	123	-	-	-	-	-
New Taipei City	2,828	2,730	97	1	-	-	-	-
Hsinchu City	116	68	45	3	-	-	-	-
Hsinchu County	543	518	19	2	4	-	-	-
Chiayi City	1,210	223	597	252	126	10	2	-
Chiayi County	1,823	1,549	262	9	3	-	-	-
Changhua County	480	356	94	27	3	-	-	-
Penghu County	603	485	96	11	11	-	-	-
Total	32,701	21,485	9,138	1,703	355	15	4	1

II. Malaria vector mosquito

In 2021 mosquito light traps were hanged for collection of adult mosquitoes in 8 Counties, 51 townships and 154 villages, including Zuozhen Dist., Nanhua Dist., Xinhua Dist., Nanxi Dist., Longqi Dist. and Guanmiao Dist. in Tainan City; Checheng Township and Manzhou Township in Pingtung County; Sanxin Township, Datong Township, Wujie Township, Dongshan Township, Zhuangwei Township, Yilan city, Nanao Township, Yuanshan Township, Toucheng Township, Jiaoxi Township, Luodong Township and Suao Township in Yilan County; Dawu Township, Taimali Township, Taitung City, Chenggong Township, Chishang Township, Beinan Township, Yanping Township, Donghe Township, Jingfeng Township, Changbing Township, Hairui Township, Daren Township, Luyeh Township, Ludao Township, Guanshan Township and Lanyu Township in Taitung County; Zhuoxi Township and Fenglin Township in Hualien County; Dapu Township, Zhongpu Township, Liujiao Township, Puzi City, Zhuqi Township, Meishan Township, Fanlu Township, Xingang Township and Yizhu Township in Chiayi County; Jiaxian Dist. and Qishan Dist. in Kaohsiung City; Yangmei Dist. and Longtan Dist. in Taoyuan City. The survey result showed that 2 counties, 2 townships and 5 villages had collected adult *An. minimus* (Table 18 and Figure 15). The density in Longchuan Village of Longqi Dist. in Tainan City was with the record of catching 5 *An. minimus* per trap-night in September.

Table 18 The number of adult mosquitoes of *Anopheles minimus* collected in 2021

County	Township	*An. minimus* (No.)	Villages (No.)	Villages with *An. minimus*
Tainan City	Longqi	14	4	Qiding, Nankeng, Daping, Longchuan
Taitung County	Donghe	2	1	Longchang
Total	**2 townships**	**16**	**5**	

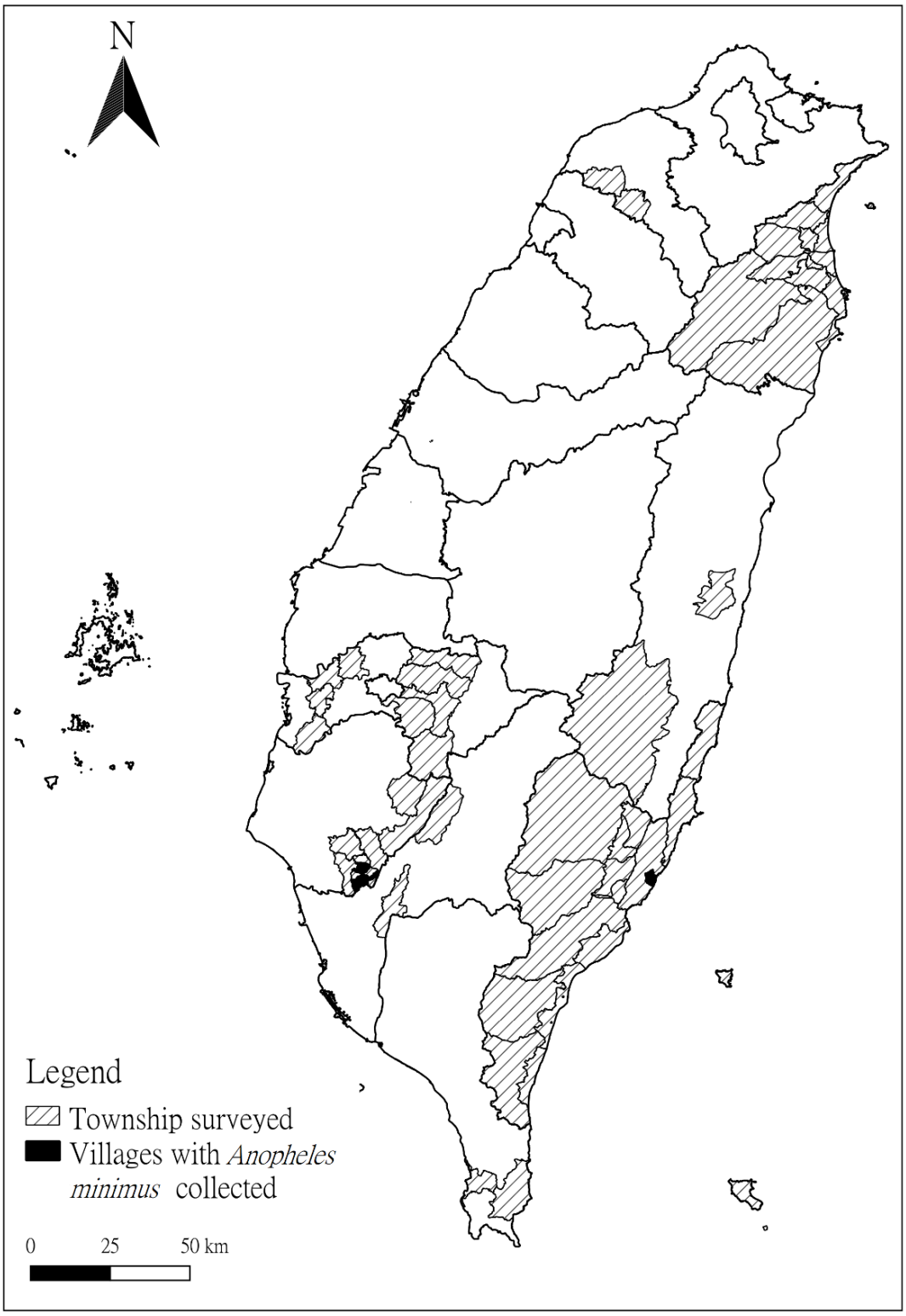


Figure 15 Distribution of *Anopheles minimus*, 2021

Symptom Surveillance and Early Warning System

I. Introduction

Severe acute respiratory syndrome (SARS), a global health alert beginning in March 2003, also affected Taiwan and caused public panic and unprecedentedly crippled the economy. In December of the same year, avian influenza had spread across Korea, Japan and Vietnam. Since then, countries around the world reported several high/low pathogenic avian influenza (HPAI/LPAI) outbreaks. Based on the concept of disease clusters with similar clinical symptoms, Centers for Disease Control implemented the Symptom Surveillance System in 2003, in order to detect the emergence or unusual trends of infectious diseases, and take control measures promptly. Health authorities report to the system while individuals of a cluster develop similar symptoms that follow the reporting criteria. In addition, the system boosted the capacity for monitoring imported diseases and report symptomatic cases by quarantine stations at ports of entry.

The occurrence of emerging outbreaks of the 2009 H1N1 influenza pandemic, human infections with novel influenza viruses such as influenza A(H7N9) and A(H5N1), and Middle East Respiratory Syndrome Coronavirus attracted worldwide concerns and caused considerable panic worldwide. On September 6th, 2021, the Symptom Surveillance System carried out the revision to cluster events function modular with NIDRS System. The followings are the symptoms of diseases to be reported currently: upper respiratory infection clustering (included influenza-like illness), fever of unknown origin clustering, diarrhea clustering, enterovirus clustering and varicella clustering.

II. Objectives of surveillance system

Effectively control suspected cluster events and activate related prevention programs in a timely manner.

III. Reporting method and data analysis

Mainly reported via internet, when public health authorities received notifications from hospitals, populous institutions, school, others (e.g. people in the local community) reported suspected cluster events it need to be invesgated for pre-judgement. If complied with cluster events, report cluster events and case reports filling in the items “cluster events” in NIDRS System (https://NIDRS.cdc.gov.tw).

Public health officers of local authorities and CDC are able to access data of

reports, specimen submission forms and test results in the system for analysis.

IV. Description of reportable diseases

■ Upper respiratory tract infection (URI) clustering (Included Influenza-like illness (ILI) clustering)

1. Case definition: Patients with symptoms of upper respiratory tract infection or influenza-like illness and includes criteria for person, time and place that are suspected as cluster infection with the concern of spreading.

※ Definition of influenza-like illness for reporting purpose: The patients should meet all the following conditions:

(1) Sudden onset, with fever (tympanic temperature≧38°C) and respiratory tract infection;

(2) Muscular soreness, headache or extreme fatigue; and

(3) Runny nose, tonsillitis and bronchitis (common cold) should be excluded.

2. Epidemic analysis of URI clusters: In 2021, a total of 39 URI cluster events were reported. Clusters that were tested positive include 19 events of other pathogens infection (the major causes were adenovirus infection and RSV). The other events were negative or had no specimens taken (Table 19 and Figure 16). Populous institutions had the highest number of URI clusters, followed by schools, hospitals, others (including cram school and business places) and military camps (Table 20).

Table 19 Test results for upper respiratory tract infection clustering incidents in 2021

No. of Clusters	Test results					
	Influenza A (H1N1) viruses	Influenza A (H3N2) viruses	Influenza viruses (RIDTs)	Others*	Negative	No specimen
39	-	-	-	19	19	1

Note: * Include 9 events of rhinovirus infection, 5 events of adenovirus infection, 3 events of RSV infection, 1 event hMPV infection and 1 event adenovirus+RSV infection.

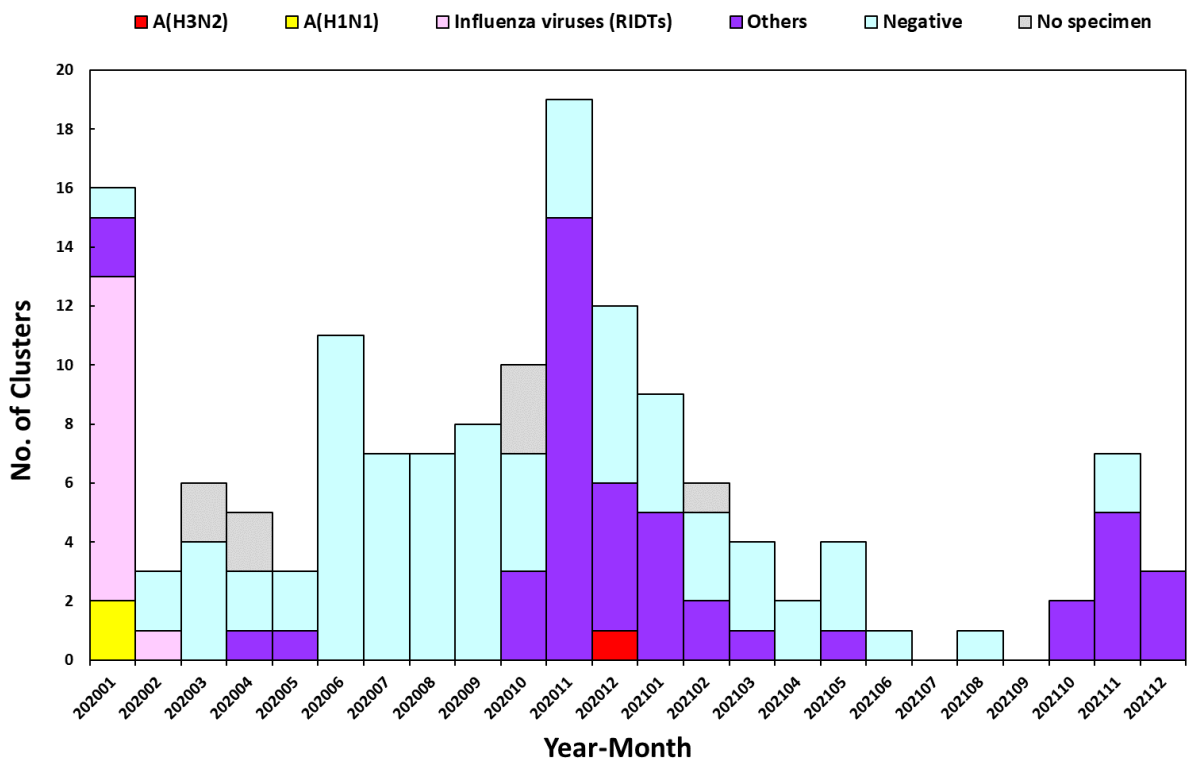


Figure 16. Evolutional trends of upper respiratory tract infection clustering incidents in 2020-2021

Table 20 Distribution of clusters of upper respiratory tract infection cases (by location) in 2021

Institution categories	No. of Clusters
populous institutions	21
schools	10
hospitals	7
others	1
Total	39

3. Epidemic analysis of ILI clusters: In 2021, had no clusters of influenza-like illness were reported. In 2020, populous institutions had the highest number of influenza-like illness clusters, followed by hospitals, schools and others (including business places, family, dormitory and cram school).

■ Fever of unknown origin (FUO) clustering

1. Case definition: Patients with fever of unknown cause (tympanic temperature ≧38°C) and includes criteria for person, time and place that are suspected as cluster infection with the concern of spreading.

2. Epidemic analysis of FUO clusters: In 2021, had no fever of unknown origin cluster events were reported. According to the previous year, populous institutions had the highest number of FUO clusters, followed by hospitals, schools and military camps.

■ Diarrhea clustering

1. Case definition: Patients with intestinal symptoms and criteria for person, time and place that are suspected as cluster infection with the concern of spreading.

※ Intestinal symptoms: Diarrhea three times or more a day, and accompanied by vomiting or fever, or mucus or blood-tinged in stools, or watery diarrhea

※ Patients of suspected food poisoning events that report to product management distribution system (PMDS) and obtained the event ID, are able to submit specimens through reporting to the Symptom Surveillance System.

※ Up to eight specimens collected from patients in the same event are accepted, unless it is an unusual event.

2. Epidemic analysis of diarrhea clusters: In 2021, a total of 486 diarrhea cluster events were reported. Clusters that were tested positive include 261 events of Norovirus infection, 6 event of Norovirus and Rotavirus coinfection, and 52 events of other pathogens infection (the major causes were *Salmonella, Staphylococcus aureus, Vibrio parahaemolyticus, Bacillus cereus and Shigella*). The other events were negative or had no specimens taken (Table 21 and Figure 17). Schools had the highest number of diarrheal clusters, followed by others (including business places, family, camp and cram school, hospitality industry), populous institutions, hospitals, military bases and tour groups (Table 22).

Table 21 Test results for diarrhea clustering incidents in 2021

No. of Clusters	Test results				
	Norovirus	Rotavirus	Others*	Negative	No specimen
486	261	6	52	148	19

Note:*Include 17 events of Salmonella infection, 22 events of Staphylococcus aureus infection, 1 Bacillus cereus, 11 events of Vibrio parahaemolyticus, 1 Shigella.

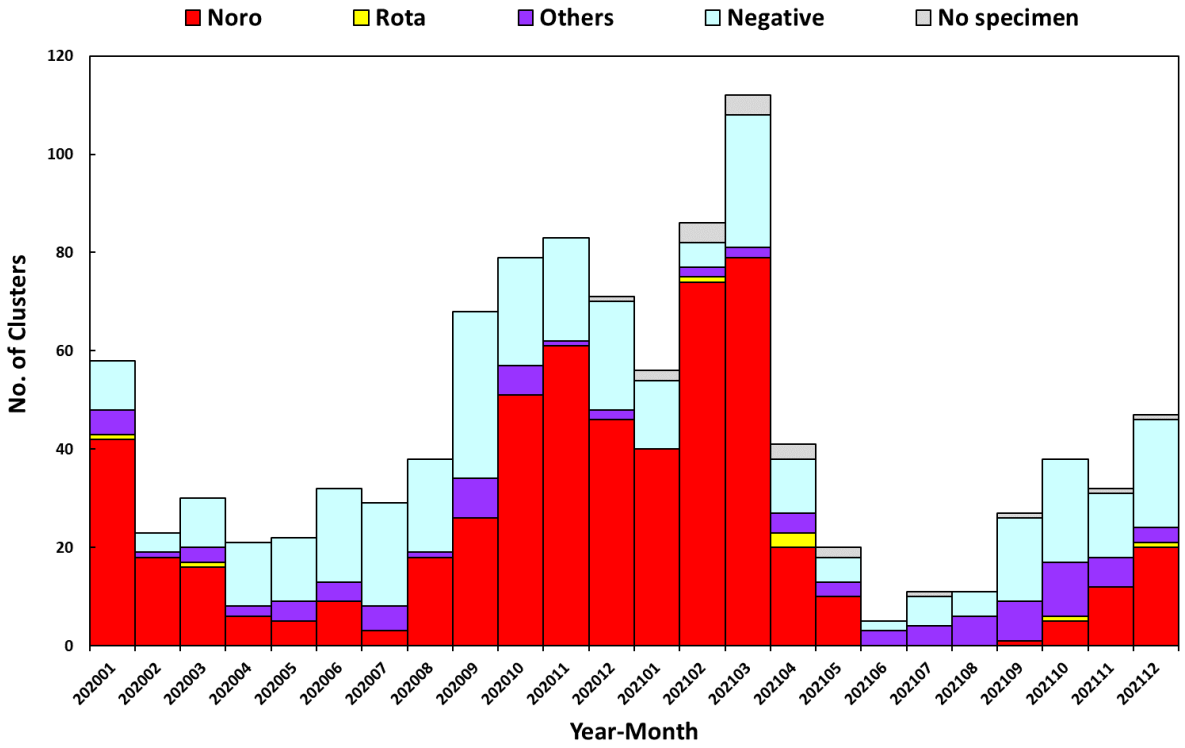


Figure 17 Evolutional trends of diarrhea clustering incidents in 2020-2021

Table 22 Distribution of clusters of diarrhea cases (by location) in 2021

Institution categories	No. of Clusters
schools	201
hospitality industry	173
others	41
populous institutions	38
hospitals	19
tour groups	8
military camps	6
Total	486

■ Enterovirus clustering

1. Case definition: Patients who are among high risk groups for enterovirus infection with severe complications, involved in a suspected cluster of enterovirus infection in places such as nurseries and neonatal wards in hospitals, baby care centers and homes of puerperal care, excepting schools. Officers at local Department of Health and Regional Center of CDC are responsible for collecting specimens from selected patients and submit to Research and Diagnostic Center, CDC.
2. Epidemic analysis of enterovirus clusters: In 2021, a total of 20 events of enterovirus clusters were reported. Cluster that was tested positive include 18 events of Coxsackie A6 infection. The other events were negative or had no specimens taken. Populous institutions had the highest number of Enterovirus clusters.

■ Varicella clustering

1. Case definition: A suspected varicella cluster of patients developing acute exacerbation of papules and blisters symptoms that occurs in populous institutions such as ships, aircraft, preschools, schools, barracks, prisons, etc. and includes criteria for person, time and place that with the concern of spreading.
2. Epidemic analysis of varicella clusters: In 2021, a total of 58 events of varicella cluster were reported. Schools had the highest number of varicella clusters, followed by others (including tutoring center and business places), populous institutions, hospitals, and military camps (Table 23).

Table 23 Distribution of clusters of varicella cases (by location) in 2021

Institution categories	No. of Clusters
schools	44
others	7
military camps	5
populous institutions	1
hospitals	1
Total	58

Real-time Outbreak and Disease Surveillance System

I. Purpose of surveillance

Taiwan CDC has constructed the "Real-time Outbreak and Disease Surveillance (RODS)" system, which integrated 180 responsible hospitals nationwide. The RODS system automatically transfers ICD-10-CM (International Classification of Diseases, Clinical Modification, Tenth Revision) coded diagnostic information of patients seen on an emergency basis to the Taiwan CDC to help early and rapid analysis of irregularities in the prevalence of diseases or syndromes.

The RODS system aims to detect the potential early outbreak of infectious diseases in the communities, track the trends and predict the prevalence of diseases. The reportable diseases under RODS included influenza-like illness, enterovirus infection, and acute diarrhea, and the system started actively monitoring those diseases in 2007, acute hemorrhagic conjunctivitis included routine surveillance since 2008.

II. Data analysis methods

The 180 responsibility healthcare facilities across the country provide daily real-time information on emergency patients via the Internet directly. The format of the report contains the fields of the patient information, the ID of reporting hospital, time of admission, chief complaint, ICD-9-CM, and ICD-10-CM codes. Taiwan CDC compiles and analyzes the RODS data weekly, determines the trends in the prevalence of diseases, produces statistical charts, and publishes that information on the website.

III. Findings

■ Enterovirus

Epidemic analysis:

In 2021, a lower prevalence of enterovirus infection was observed in Taiwan. According to the surveillance data in 2021, the rate of enterovirus medical visits throughout the year ranged from 0‰ to 3.29‰. The pace was slightly lower than the rate in 2020 (0.08‰ to 4.16‰). The overall epidemic trend in 2021 was downward than the general epidemic trend in 2020. The epidemic condition gradually declined to start in early January, and the epidemic remained at a low level after May. The epidemic's peak appeared in early February; the rise of the epidemic was

significantly lower than in 2020 (Figure 18). 【Note: per mileage of enterovirus visits= (person-time of emergency room enterovirus cases / total person-time of emergency room cases) *1000‰】

■ **Influenza-like illness**

Epidemic analysis:

In 2021, the percentage of influenza-like illness visits reported by emergence rooms ranged from 3.81% to 25.16%, and the epidemic prevalence trend was lower than that in 2020 (from 4.51% to 26.42%). The ILI epidemic trend in 2021 was downward than the overall epidemic in 2020, and the epidemic's peak was lower than in 2020. The ILI trend had increased since early May and peaked in mid-May; it declined in early June, according to the proportion of emergency department outpatients and its trend of a 7-day rolling average. The incidence had remained flat since July (Figure 19). 【Note: percentage of influenza-like illness = (person-time of emergency room influenza-like illness cases / total person-time of emergency room cases) *100%】

■ **Acute diarrhea**

Epidemic analysis:

In 2021, the percentage of acute diarrhea visits reported by emergence rooms ranged from 1.82% to 9.31%. The peak in 2021 was higher than the surveillance figures in 2020 (2.49% to 8.24%). The diarrhea epidemic typically reaches its peak prevalence during the Chinese New Year. Based on the 7-day moving average of the percentage of diarrhea visits, the surveillance trend rose gradually starting at the end of January and high peaked in mid-February. Afterward, the epidemic slowed down in June. Another small peak at the end of September revealed the descending trend (Figure 20). 【Note: percentage of acute diarrhea visits= (person-time of emergency room acute diarrhea cases / total person-time of emergency room cases) *100%】

■ **Acute Hemorrhagic Conjunctivitis**

Epidemic analysis:

In 2021, the per mileage of acute hemorrhagic conjunctivitis visits reported by emergence rooms ranged from 0.27‰ to 5.58‰. The overall trend is lower than in 2020 (per mileage of visits went from 0.35‰ to 6.15‰). Based on the 7-day moving average of the percentage of acute hemorrhagic conjunctivitis, the surveillance trend typically reaches the peak of prevalence in the Chinese New Year, which is lower than last year. After the Chinese New Year, the overall epidemic condition declined. The epidemic fell to a low point at the end of May and then showed a slow growth

trend until the end of the year (Figure 21). 【Note: per mileage of acute hemorrhagic conjunctivitis visits = (person-time of emergency room acute hemorrhagic conjunctivitis cases / total person-time of emergency room cases) *1000‰】

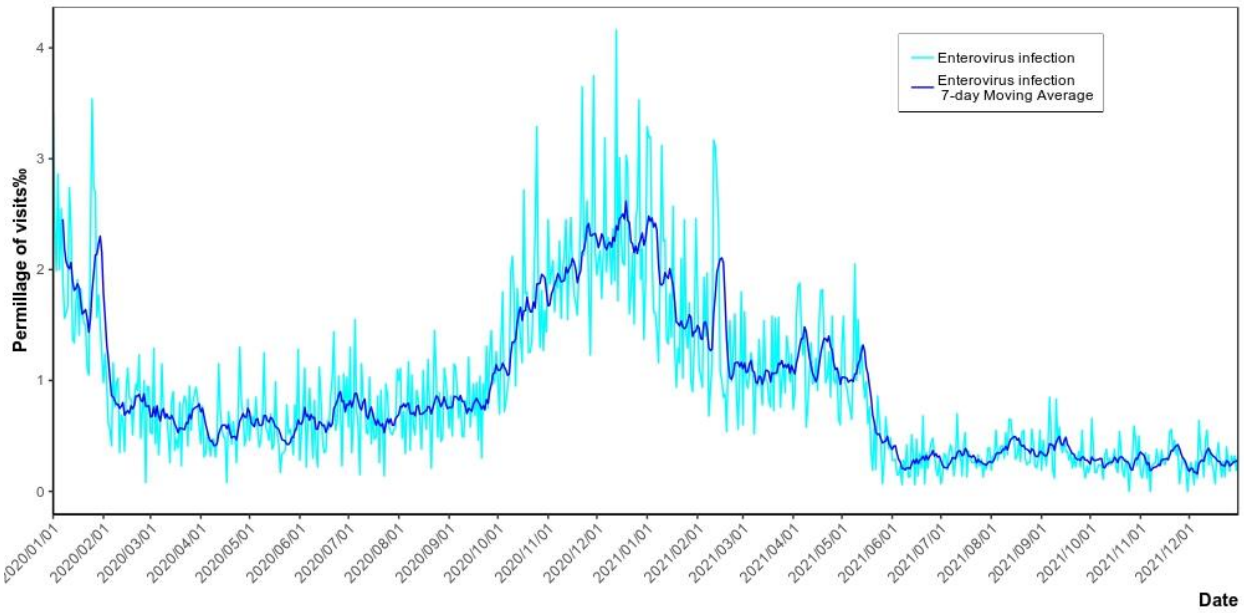


Figure 18 Daily Permillage of Emergency Department of Enterovirus Visits & 7-day Moving Average, 2020-2021

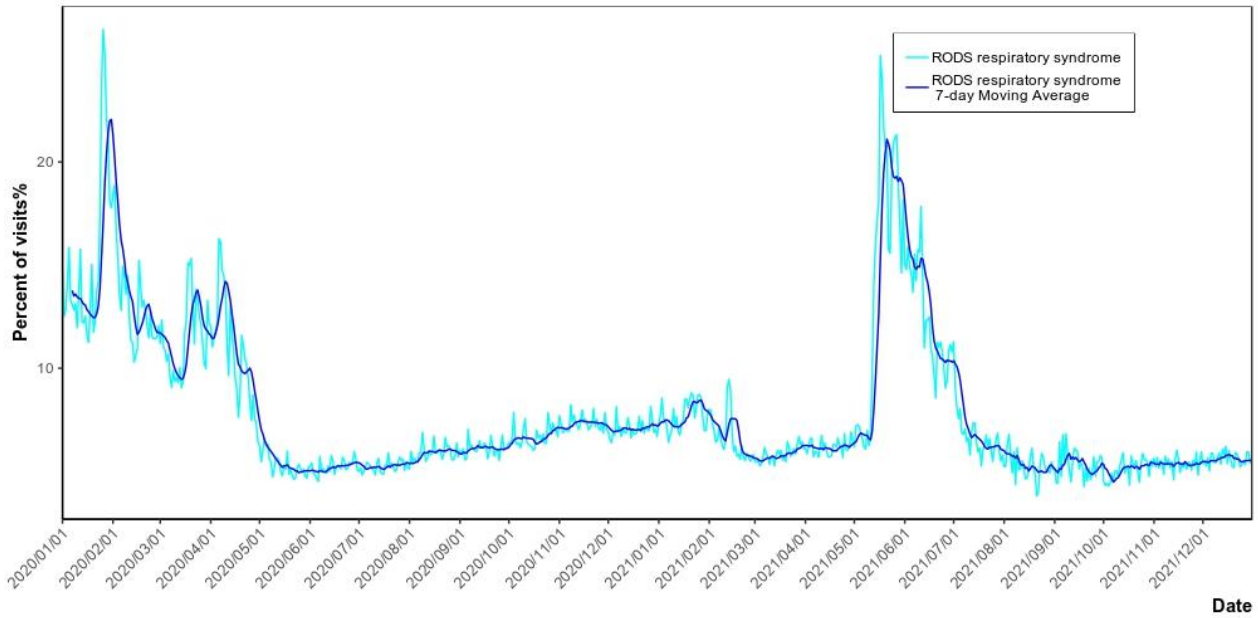


Figure 19 Daily Percentage of Emergency Department of Respiratory Visits & 7-day Moving Average, 2020-2021

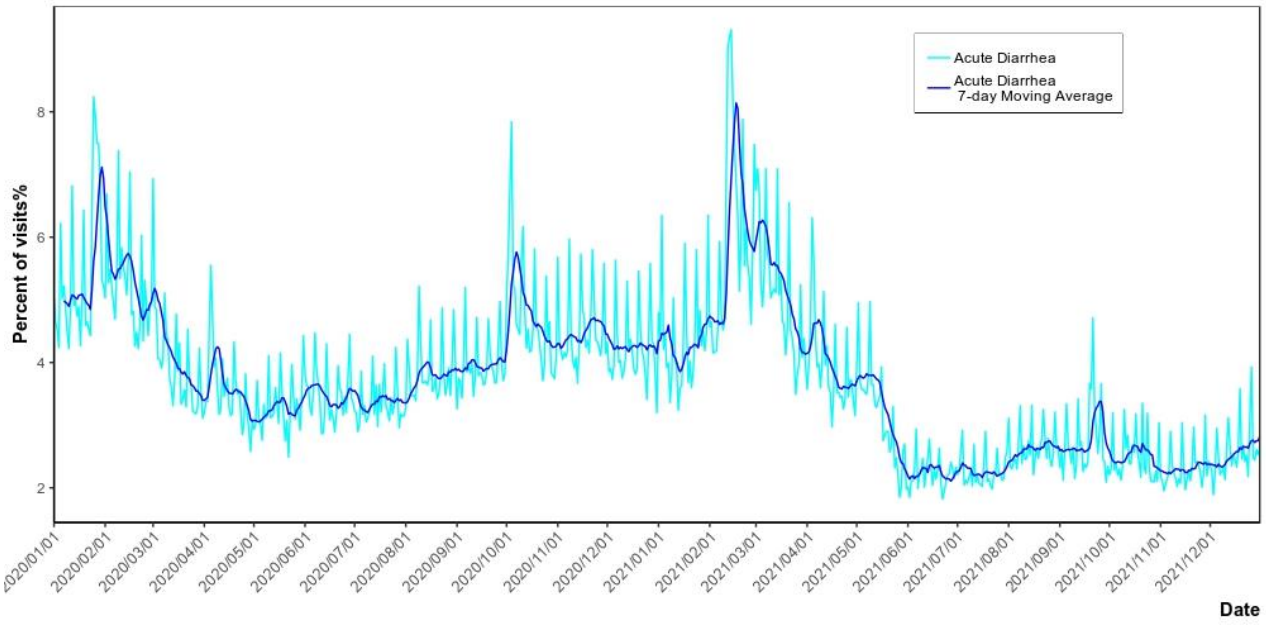


Figure 20 Daily Percentage of Emergency Department of Acute Diarrhea Visits & 7-day Moving Average, 2020-2021

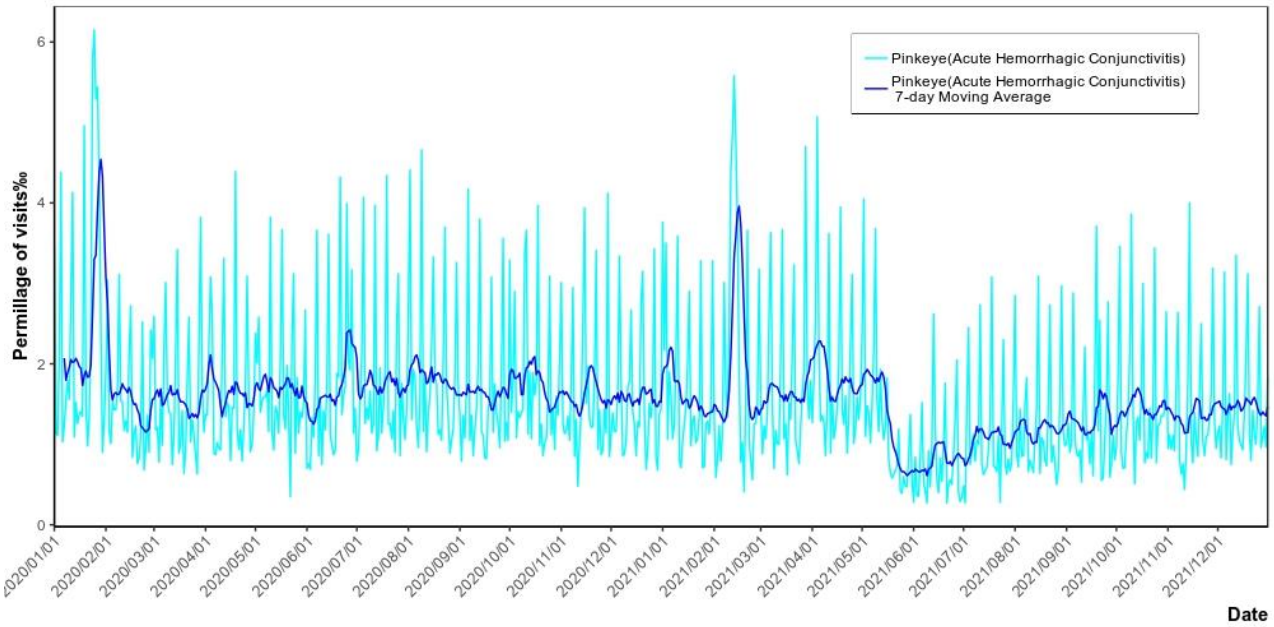


Figure 21 Daily Permillage of Emergency Department of Acute Hemorrhagic Conjunctivitis Visits & 7-day Moving Average, 2020-2021

Disease Surveillance using National Health Insurance Data

I. Introduction

Taiwan CDC and the National Health Insurance Administration (NHIA) cooperate to strengthen Taiwan's surveillance capacity for specific diseases. The NHIA compiles the outpatient, inpatient, and emergency room data uploaded by hospitals and clinics through the National Health Insurance (NHI) IC cards.

Taiwan CDC conducts daily, routine surveillance of specific diseases based on the comprehensive and highly representative secondary statistical data compiled by BNHI to assess the magnitude of an epidemic.

II. Purpose of surveillance

The NHI data routine surveillance monitors diseases that are commonly seen in Taiwan every year, including influenza and enterovirus infection. Surveillance and analysis of NHI outpatient information helps grasp readily the state of an epidemic. This routine surveillance, together with the "Real-time Outbreak and Disease Surveillance (RODS)" system, construct and play the role of “mild symptoms surveillance” of influenza-like illness and enterovirus infection to facilitate full assessment of epidemics and grasp the trends of prevalence.

III. Data analysis method

Taiwan CDC obtains the surveillance data received daily and extracts ICD-10-CM (International Classification of Diseases, Clinical Modification, Tenth Revision) coded diagnostic data, including secondary data on admission date, hospital districts, age groups, and outpatient, inpatient, and emergency department codes. Due to the more significant fluctuation seen in daily inpatient/outpatient visit data following analysis, the routine disease surveillance is carried out by calculating the 7-day moving average to obtain a relatively gentle prevalence curve.

IV. Findings

1. Influenza-like illness (ILI)

In 2021, between 79 and 6,932 person-times visited the hospitals for ILI on an outpatient basis every day. Compared with the number of outpatient visits (ranging between 527 and 22,769 person-times a day) in 2020. The overall epidemic trend in 2021 was lower than that in 2020. Observing the trends in epidemic prevalence based on the 7-day moving average curve of outpatient visits due to influenza-like illness, the overall epidemic condition of ILI peaked in January, then gradually slowed down and remained low until the epidemic rose slightly in December. The occurrence of the 2021 epidemic season has decreased significantly compared with last year, and it mainly occurred in January (Figure 22).

2. Enterovirus infections

In 2021, between 16 and 1,535 person-times visited the hospitals for enterovirus infection on an outpatient basis every day, which was lower in comparison with the number of outpatient visits in 2020 (ranging between 27 and 1,575 person-times a day). In contrast, we observed the trends in epidemic prevalence based on the 7-day moving average curve of outpatient visits due to enterovirus infection. The epidemic condition gradually decreased in January, and the epidemic trend remained flat from February to May until the epidemic progressively reduced in May and continued until the end of the year (Figure 23).

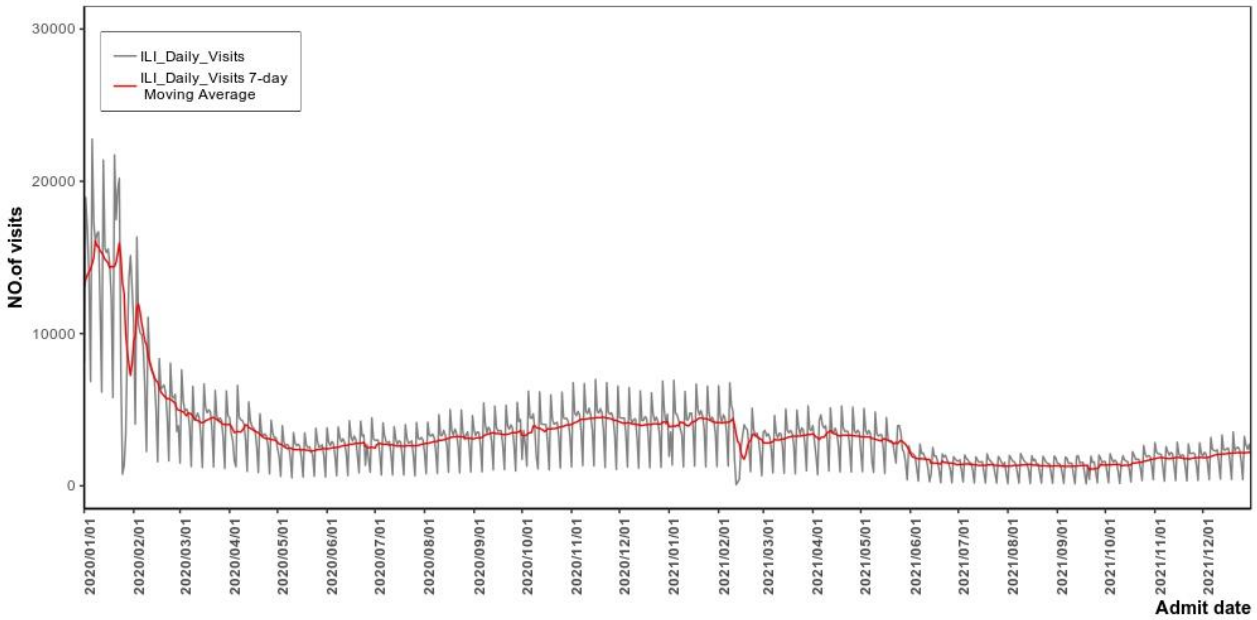


Figure 22 Daily influenza-like illness visits and the 7-day moving average trend, 2020-2021

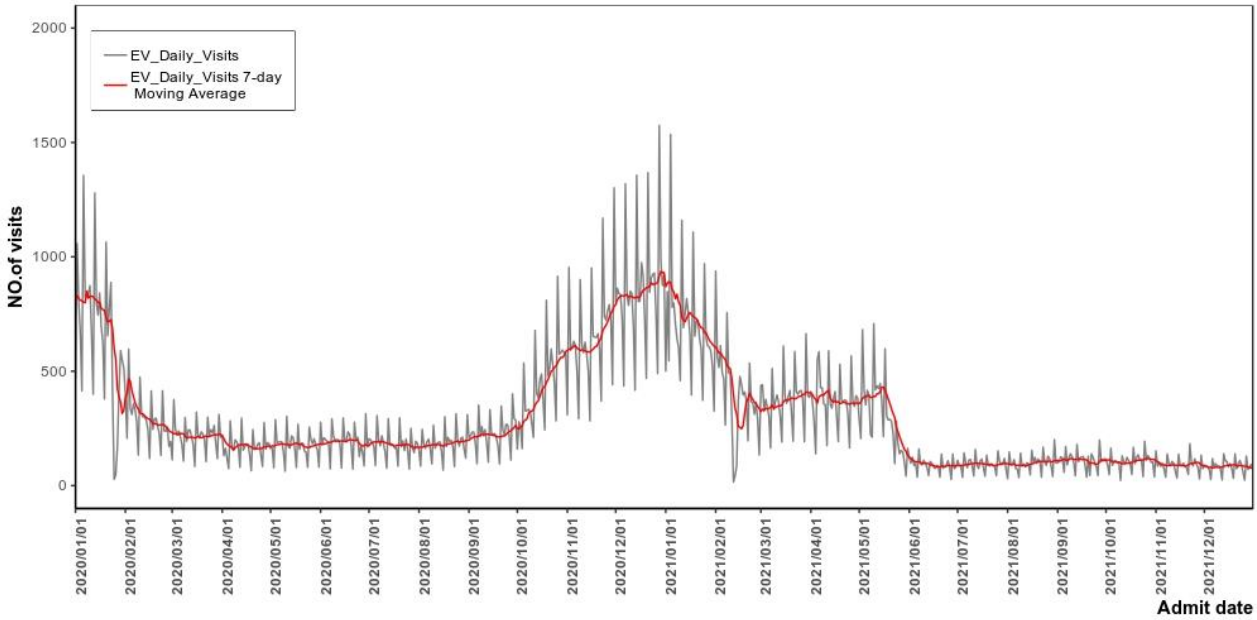


Figure 23 Daily enterovirus visits and the 7-day moving average trend, 2020-2021

Pneumonia and Influenza Mortality Surveillance

I. Introduction

Many parts of the world reported outbreaks of pandemic influenza A (H1N1) starting from April 2009. Based on the purpose of real-time surveillance and early warning for communicable diseases, Taiwan CDC embarks on inter-agency collaboration with the Department of Statistics, Ministry of Health and Welfare (MOHW). Taiwan CDC receives daily mortality data electronically from the Department of Statistics to analyze the number of deaths with underlying cause listed as pneumonia or influenza (P&I).

II. Purpose of surveillance

Pneumonia is a common complication of influenza infection. The great majority of influenza mortality is caused by secondary bacterial pneumonia or viral pneumonia. Thus, pneumonia should be included in influenza related mortality surveillance for analysis. The P&I mortality surveillance system was established in response to the H1N1 epidemic in 2009. In addition to the P&I mortality surveillance system, there are other systems including "Real-Time Outbreak and Disease Surveillance System (RODS)", "Disease surveillance using National Health Insurance data", "Contracted Laboratory Surveillance System", and "Notifiable Disease Surveillance System" in Taiwan CDC. These surveillance data all together provide information on influenza surveillance. It is expected that with routine operations, Taiwan CDC collects, compiles, and analyzes information on influenza epidemic to achieve the objectives and effects of real-time control and early warning.

III. Data analysis methods

Taiwan CDC conducts weekly surveillance of the trends in P&I mortality by searching cause of death with keywords "pneumonia, common cold or flu" in combination with cause of death determination rules. Due to the bigger fluctuation seen in weekly P&I mortality data, routine surveillance is carried out by using 4-week moving average values that include the current week and the preceding three weeks to obtain better data stability and remove wide fluctuation.

IV. Findings

Based on the P&I mortality surveillance data of Taiwan CDC, the weekly deaths in 2021 and 2020 attributed to P&I ranged from 320 to 590 and from 320 to 560, respectively. The majority of P&I deaths occurred in 65 years old and above, accounting for 89.5% of P&I deaths in both 2021 and 2020. According to the 4-week moving average curve of P&I deaths, the P&I death trend has increased since the beginning of 2020, but dramatically decreased during week 9-22, and then slightly increased. In 2021, the P&I death trend was high in week 5 and week 23, and then decreased to remained roughly flat, but slightly increased since week 49.

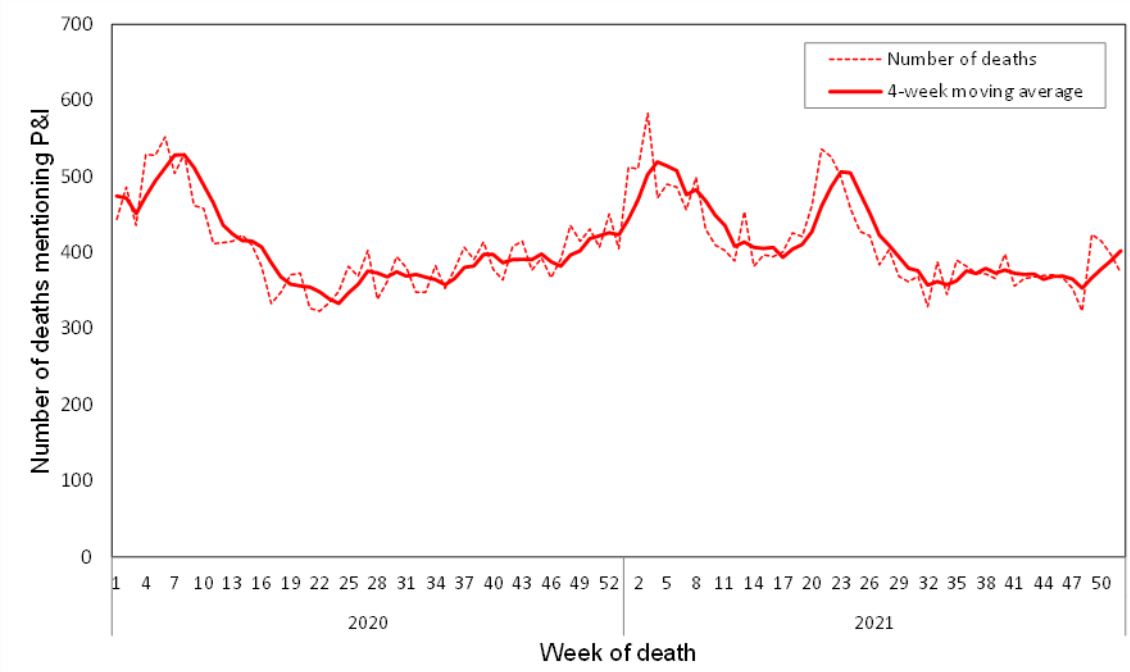


Figure 24 The surveillance trend of pneumonia and influenza mortality, 2020-2021

PART III

Surveillance Reports of Selected Diseases

◎ **Abbreviations and Symbols Used in Table**

– No reported cases

… Not under surveillance

Meningococcal Meningitis

In 2021, 3 confirmed cases of meningococcal meningitis (incidence rate: 0.01 per 100,000 population) were reported, which represented an decrease compared to 6 confirmed cases (incidence rate: 0.03 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 1 male case (33.3%) and 2 female cases (66.7%) with male to female ratio of 0.5:1.0.

(2) By age group

There were 1 case each in 65 years and over age groups, 15-24 years age group and 25-39 years age group.

(3) By month

There were 2 cases in May and 1 case in September.

(4) By residential region

Confirmed cases were reported in 2 cities and counties, including New Taipei City with 2 cases followed by Taichubg City with 1 case. The other cities and counties had no confirmed cases.

The incidence rate of confirmed cases per 100,000 population was the highest in New Taipei City (0.05), followed by Taichung City (0.04).

(5) Imported cases and countries of infection

There were no imported cases of meningococcal meningitis in 2021.

(6) By serogroup

Following laboratory confirmation, 2 confirmed cases were caused by serogroup B meningococcal infection and 1 case by serogroup Y.

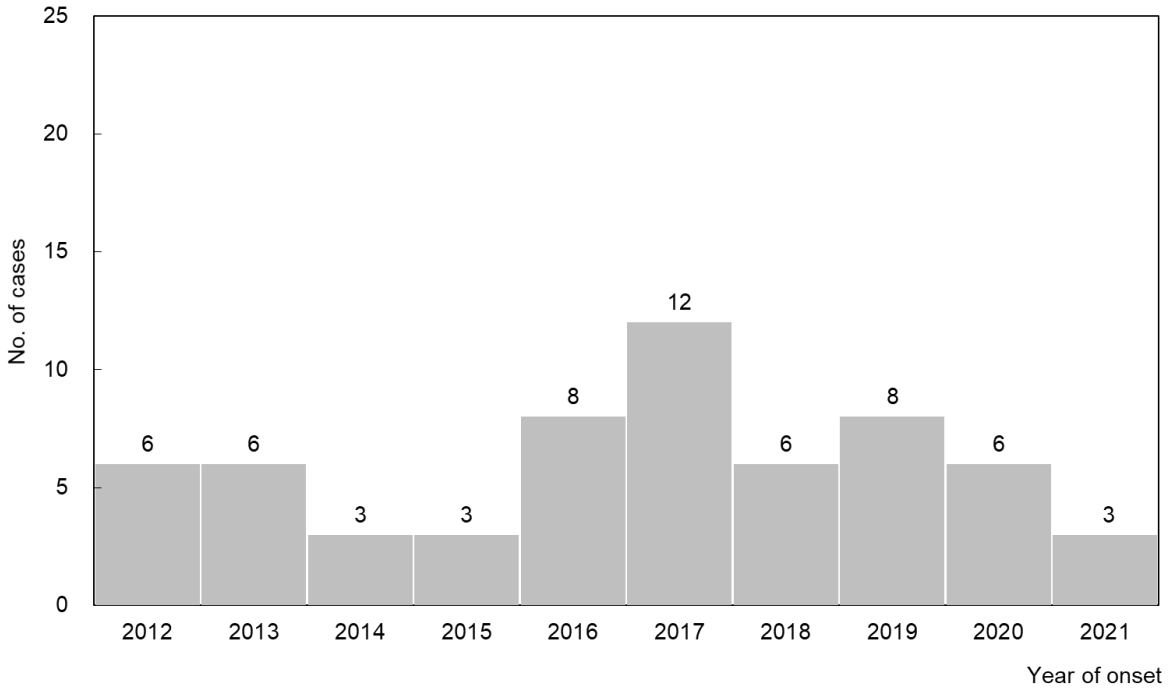


Figure 25 Number of confirmed meningococcal meningitis cases, 2012-2021

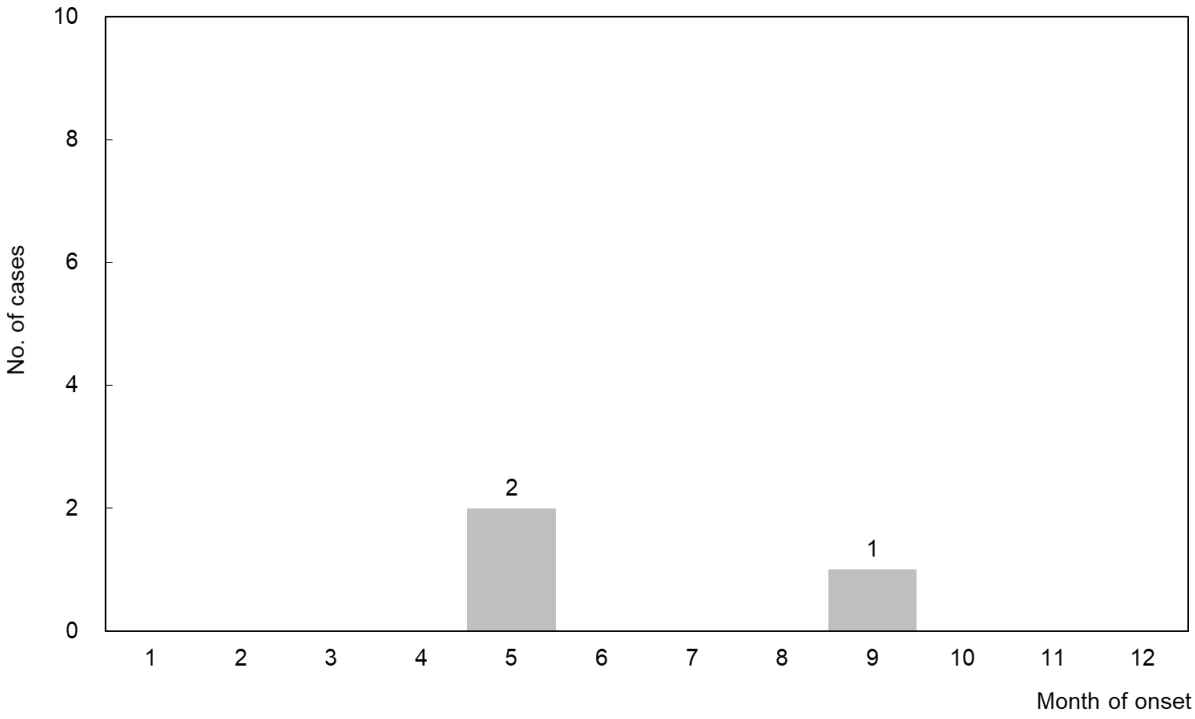


Figure 26 Number of confirmed meningococcal meningitis cases, 2021

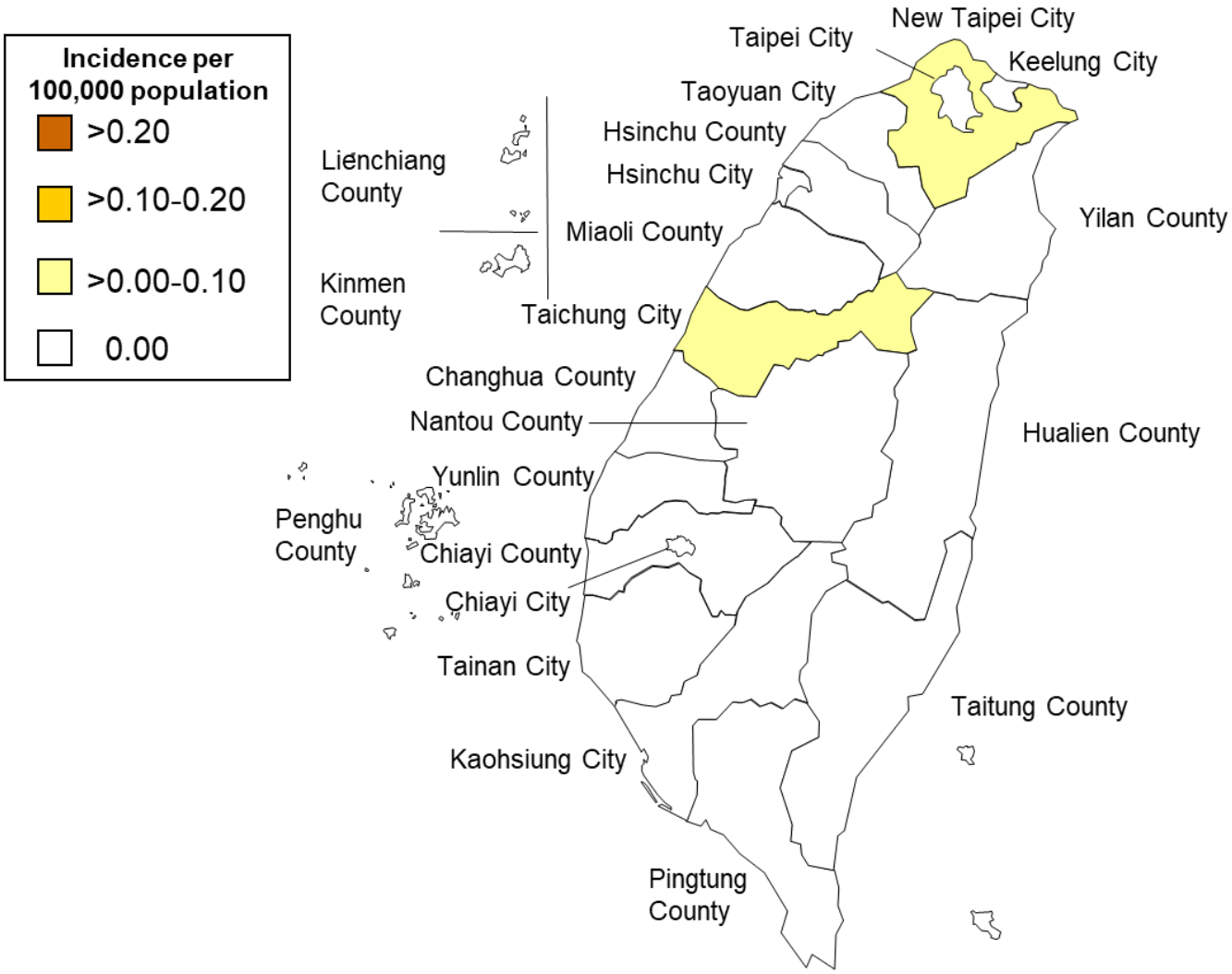


Figure 27 Geographical distribution by incidence of confirmed meningococcal meningitis cases, 2021

Japanese Encephalitis

In 2021, 28 confirmed cases of Japanese encephalitis (incidence rate: 0.12 per 100,000 population) were reported, which represented an increase compared to 21 confirmed cases (incidence rate: 0.09 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 22 male cases (78.6%) and 6 female cases (21.4%) with male to female ratio of 3.7:1.0.

(2) By age group

There were 24 cases in 40-64 years age group, 3 cases in 65 years and over age group and 1 case each in 25-39 years age group.

(3) By month

The cases occurred mostly in warm seasons, with 10 cases each in June, 6 cases each in July and August, 4 cases in May and 1 case each in October and November.

(4) By residential region

Pingtung County had the highest number of incidents with 7 confirmed cases reported, followed by Tainan City with 5 cases, Taichung City with 4 cases, Kaohsiung City with 3 cases, Changhua County with 2 cases, and Keelung City, Yilan County, Miaoli County, Nantou County, Yunlin County, Chiayi County and Hualien County each with 1 case, whereas the other cities and counties had no confirmed cases.

The incidence rate of confirmed cases per 100,000 population was the highest in Pingtung County (0.87), followed by Hualien County (0.31) and Keelung City (0.27).

(5) Imported cases and countries of infection

There were no imported cases of Japanese encephalitis in 2021.

(6) By clinical symptoms

Among the confirmed cases, 25 cases had fever, 16 cases had disorder of consciousness, 11 cases had headache, 7 cases had psychological symptoms (delirium, unconsciousness, etc.), 6 cases had vomiting, 2 cases each had muscle cramps, meningitis symptoms and aseptic meningitis or pneumonia, 1 case each had stiff necks, burnout, liver function abnormal, skin rash, chillness or soreness.

(7) Residential condition or neighboring environment

Among the confirmed cases, 23 cases lived nearby pigpens, 17 cases lived nearby paddy fields, 7 cases lived nearby pigeonries, 4 cases lived nearby duck or chicken farms, 1 case lived nearby ponds, 1 case lived nearby lotus root fields,

and 1 case lived with his/her own pet.

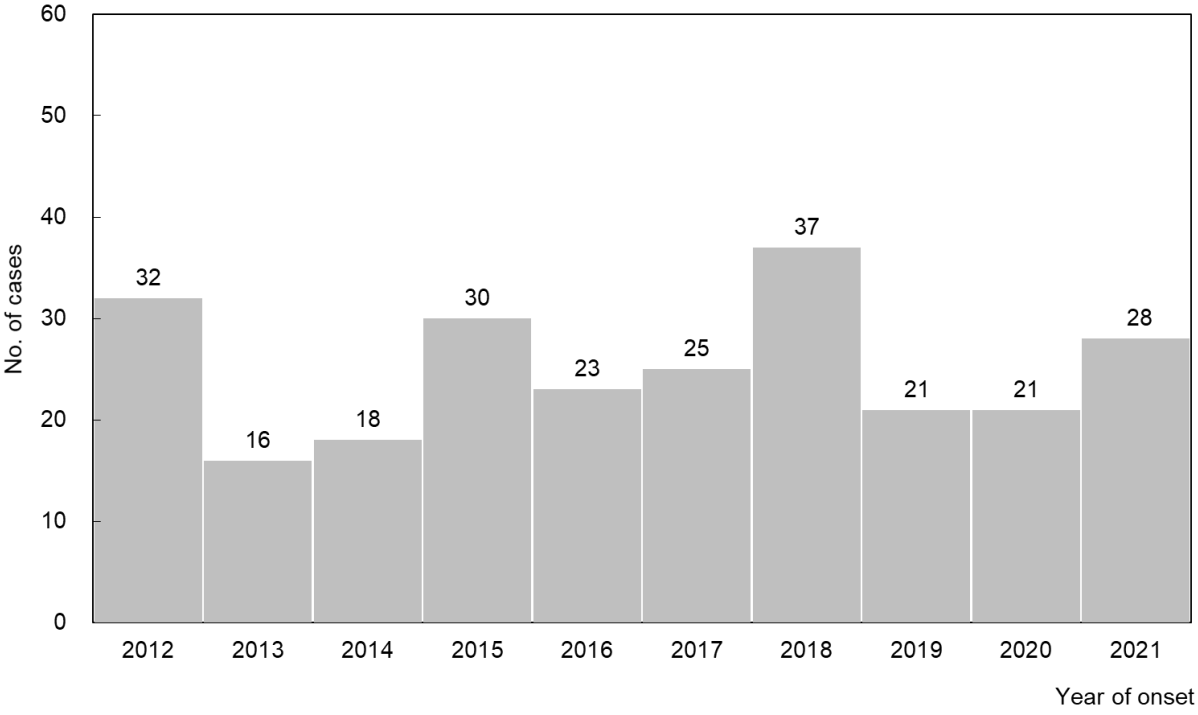


Figure 28 Number of confirmed Japanese encephalitis cases, 2012-2021

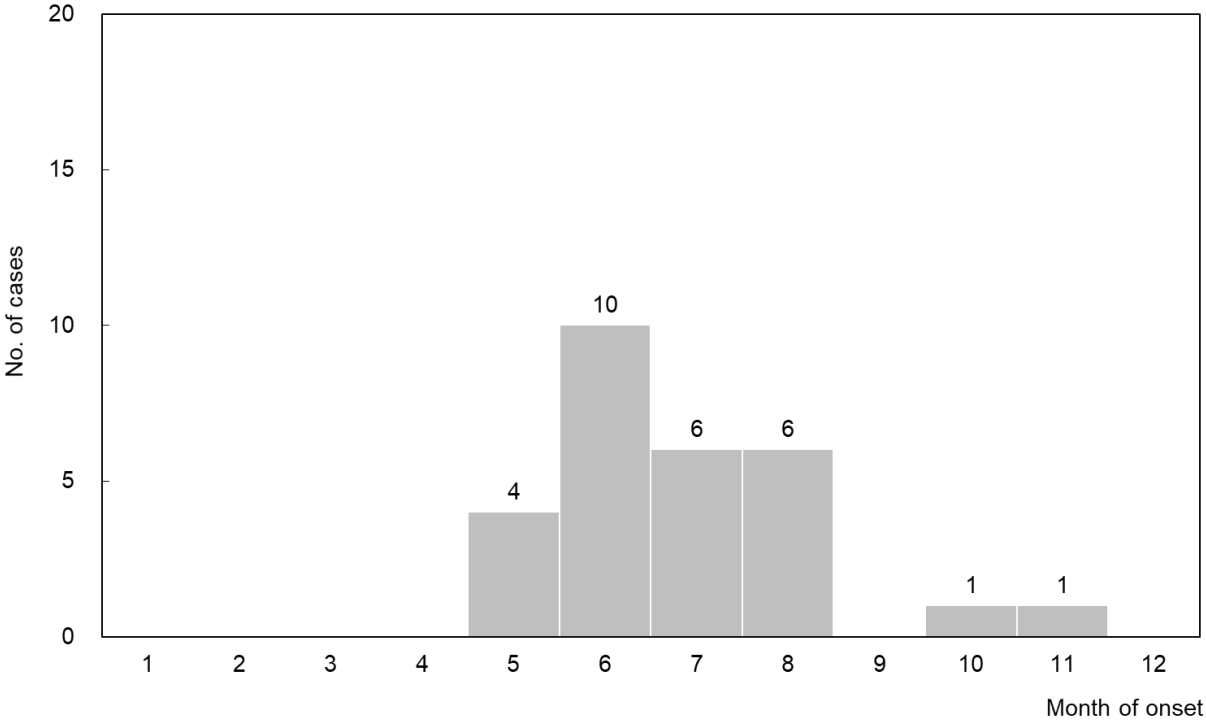


Figure 29 Number of confirmed Japanese encephalitis cases, 2021

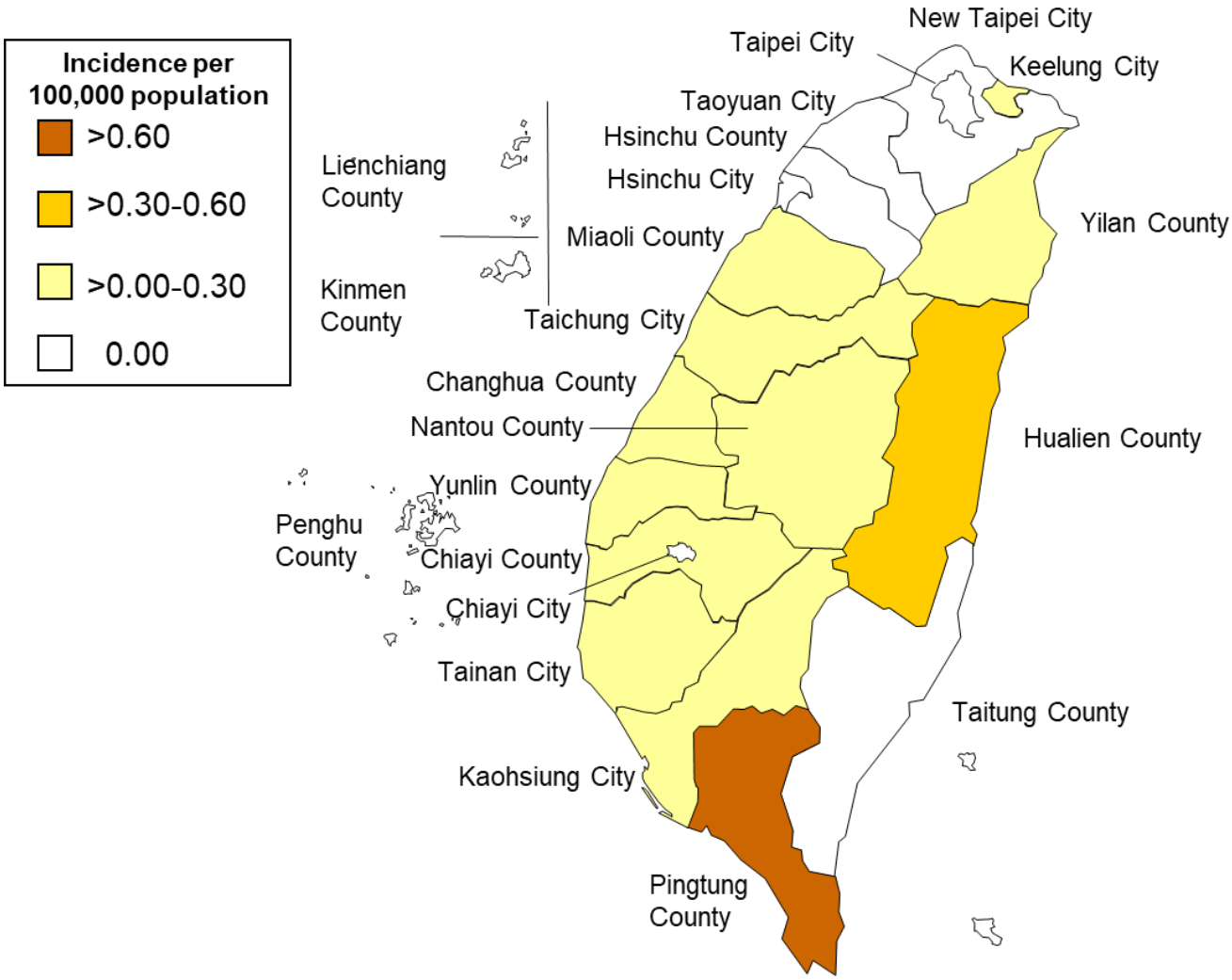


Figure 30 Geographical distribution by incidence of confirmed Japanese encephalitis cases, 2021

Acute Hepatitis A

In 2021, 74 confirmed cases of acute hepatitis A (incidence rate: 0.32 per 100,000 population) were reported, which represented the same compared to 74 confirmed cases (incidence rate: 0.31 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 35 male cases (47.3%) and 39 female cases (52.7%) with male to female ratio of 0.9:1.0.

(2) By age group

There were 33 cases in 65 years and over age group, 29 cases in 40-64 years age group, 10 cases in 25-39 years age group and 1 case each in 1-4 years age group and 15-24 years age group.

(3) By month

Acute hepatitis A cases were reported in each month of the year. The highest number of cases (9) were reported in Apirl, October and November.

Followed by 8 cases in January, 6 cases each in May and July, 5 cases each in February, March and August, 4 cases each in June, September and December.

(4) By residential region

Except Keelung City, Nantou County, Chiayi City, Chiayi County, Penghu County, Kinmen County and Lienchiang County, all cities and counties had confirmed cases in 2021. New Taipei City had the highest number of incidents with 24 cases reported, followed by Taichung City with 10 cases, Taipei City with 8 cases and Kaohsiung City with 7 cases. The other cities and counties all had less than 5 cases reported.

The incidence rate of confirmed cases per 100,000 population was the highest in Hsinchu County (0.87), followed by Hsinchu City (0.66) and New Taipei City(0.60).

(5) Imported cases and countries of infection

There were no imported cases of acute hepatitis A in 2021.

(6) By clinical symptoms

An epidemiological investigation of 74 confirmed cases showed that in cases with symptoms (multiple answers are allowed), 47.3% (35 person-times) had jaundice, 43.2% (32 person-times) had abdominal discomfort or pain, 36.5% (27 person-times) had tiredness, 33.8% (25 person-times) had fever, 29.7% (22 person-times) had poor appetite, 17.6% (13 person-times) had

vomiting, 17.6% (13 person-times) had tea-colored urine and 16.2% (12 person-times) had nausea.

(7) Source of drinking water and dietary habits

The epidemiological investigation of 74 confirmed cases showed that the major sources of drinking water (multiple answers are allowed) were tap water in 44.6% of cases (33 person-times), filtered water in 33.8% of cases (25 person-times), packaged water in 25.7% of cases (19 person-times), spring water or self-service water in 21.6% of cases (16 person-times). As for dietary habits (multiple answers allowed), eating in home were identified in the largest percentage of cases, accounting for 56.7% (42 person-times), followed by from street vendors in 13.5% of cases (10 person-times), from takeaway meal box in 12.2% of cases (9 person-times) and in restaurants in 8.1% of cases (6 person-times).

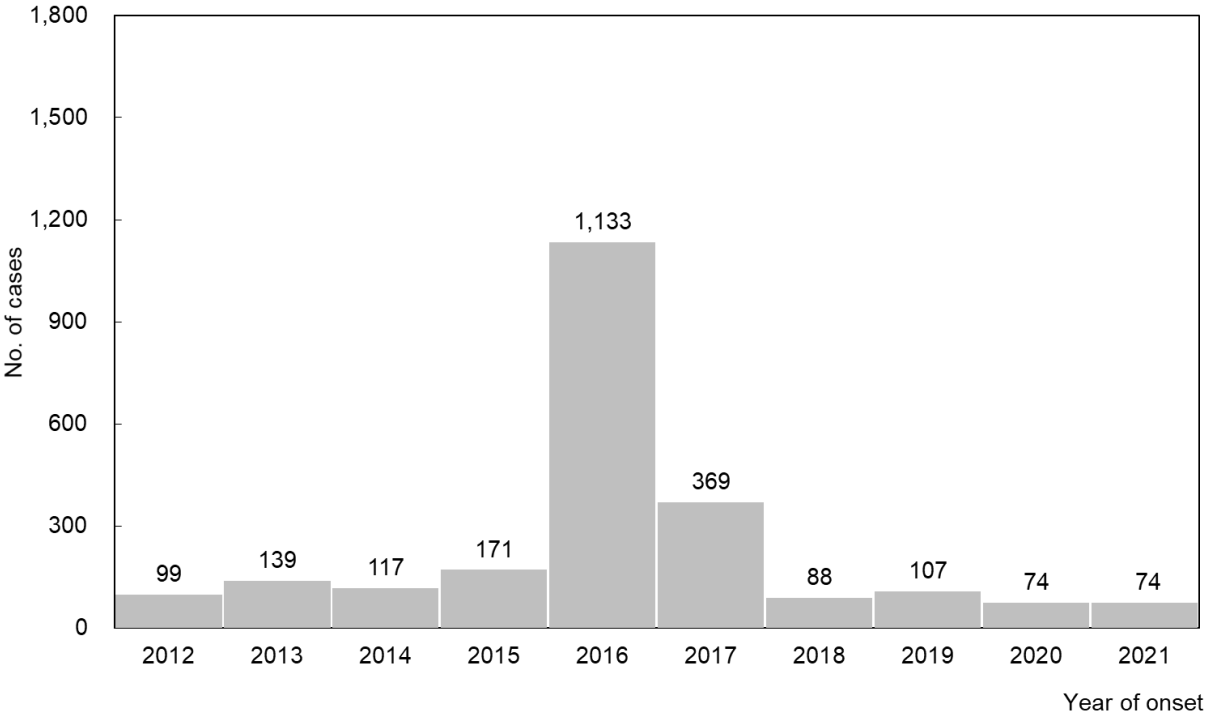


Figure 31 Number of confirmed acute hepatitis A cases, 2012-2021

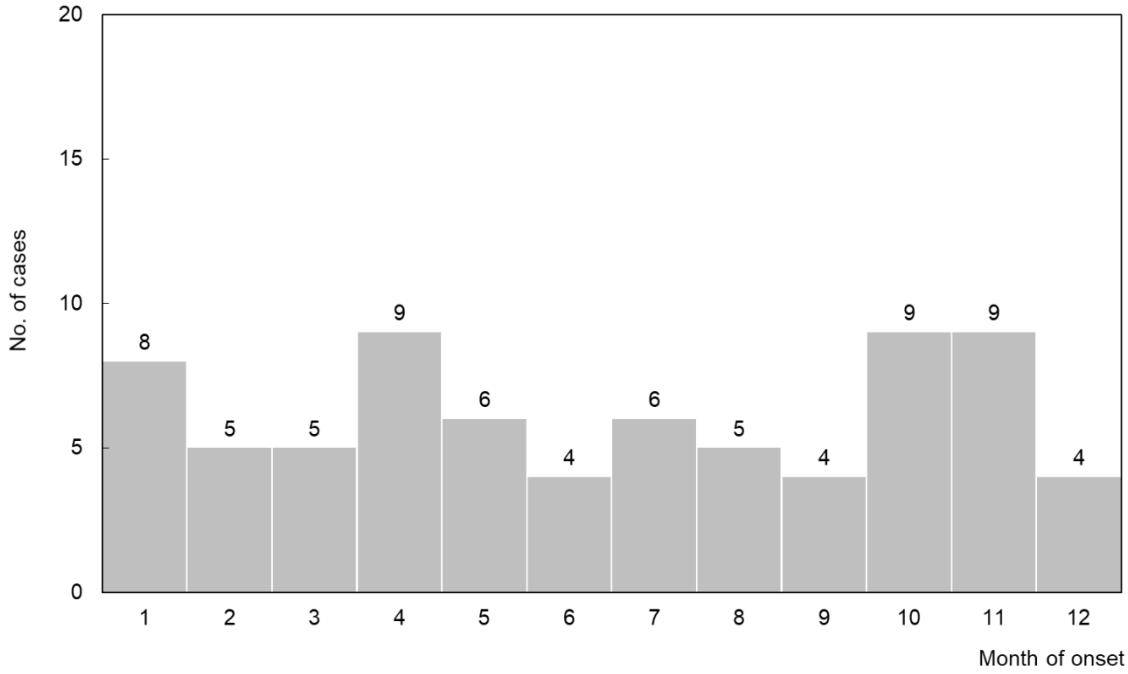


Figure 32 Number of confirmed acute hepatitis A cases, 2021

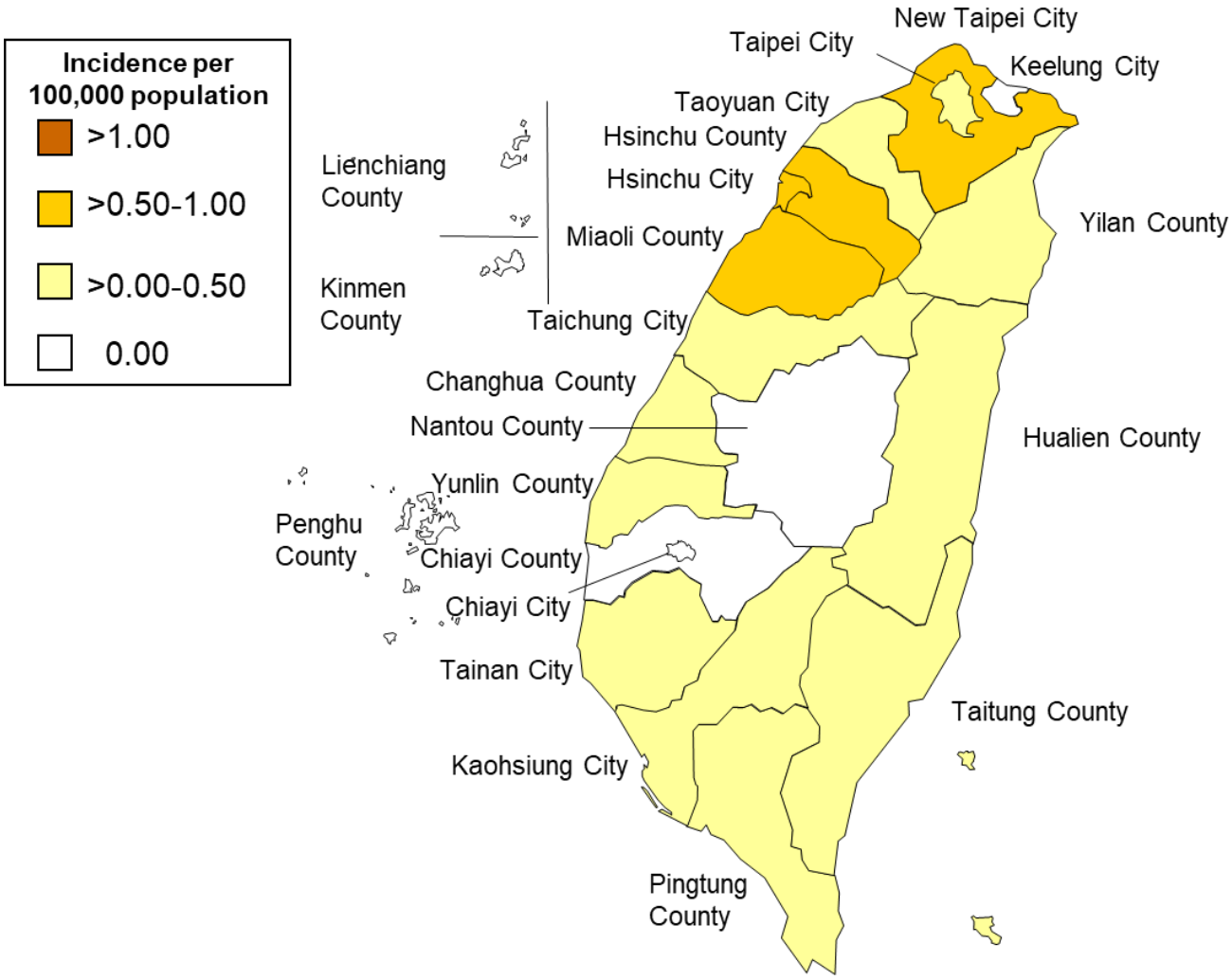


Figure 33 Geographical distribution by incidence of confirmed acute hepatitis A cases, 2021

Acute Hepatitis B

In 2021, 144 confirmed cases of acute hepatitis B (incidence rate: 0.61 per 100,000 population) were reported, which represented an increase compared to 108 confirmed cases (incidence rate: 0.46 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 86 male cases (59.7%) and 58 female cases (40.3%) with male to female ratio of 1.5:1.0.

(2) By age group

There were 63 cases in 40-64 years age group, 50 cases in 25-39 years age group, 22 cases in 65 years and over age and 9 cases in 15-24 years age group.

(3) By month

Confirmed cases were reported in each month of the year without apparent concentration in any of the months.

Apirl with 19 cases, 17 cases each in March and December , October with 16 cases, June with 12 cases, 11 cases each in January, May and July. The other months with less than 10 cases.

(4) By residential region

Taoyuan City had the highest number of incidents with 23 confirmed cases reported, followed by Taichung City with 21 cases, New Taipei City with 20 cases, Taipei City with 15 cases, Tainan City with 10 cases, Kaohsiung City with 8 cases, Hsinchu County and Changhua County each with 7 cases, Hsinchu City with 5 cases, Yilan County, Miaoli County, Yunlin County and Pingtung county each with 4 cases, Nantou County and Hualien County each with 3 cases, Keelung County and Chiayi County each with 2 cases and Chiayi City and Taitung County each with 1 case. The other cities and counties had no confirmed case.

The incidence rate of confirmed cases per 100,000 population was the highest in Hsinchu County (1.22), followed by Hsinchu City (1.11) and Taoyuan City (1.01).

(5) Imported cases and countries of infection

There were 2 imported cases of acute hepatitis B in 2021, all from Vietnam.

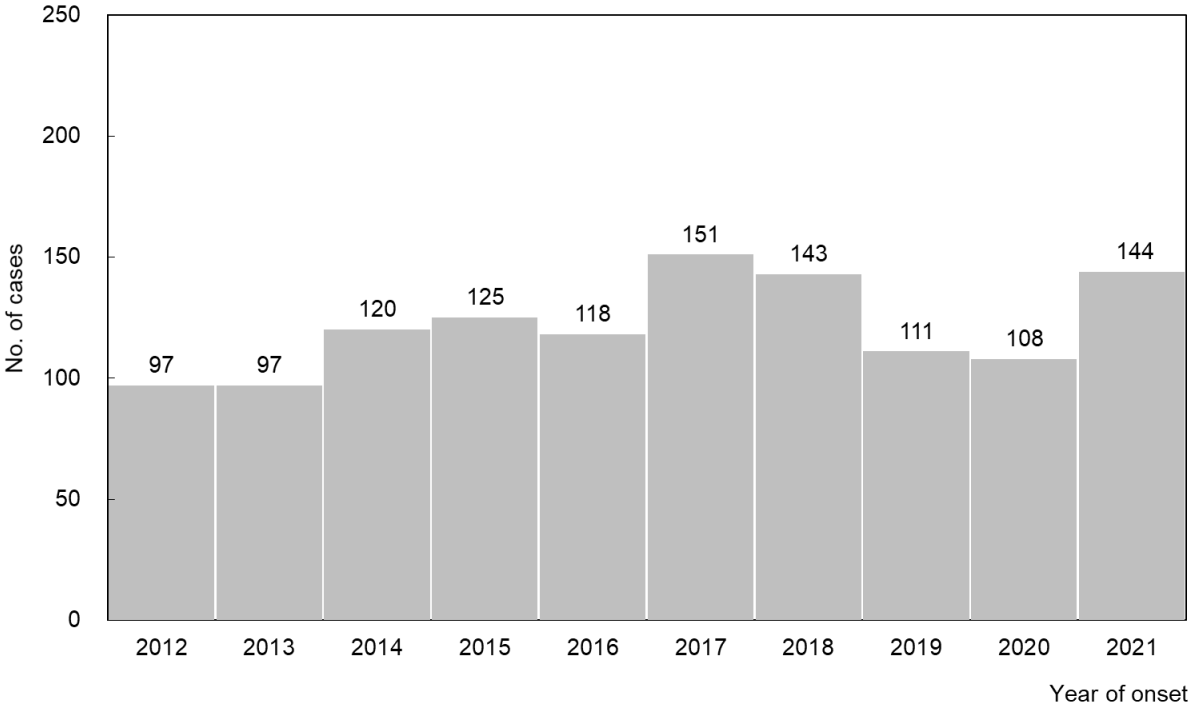


Figure 34 Number of confirmed acute hepatitis B cases, 2012-2021

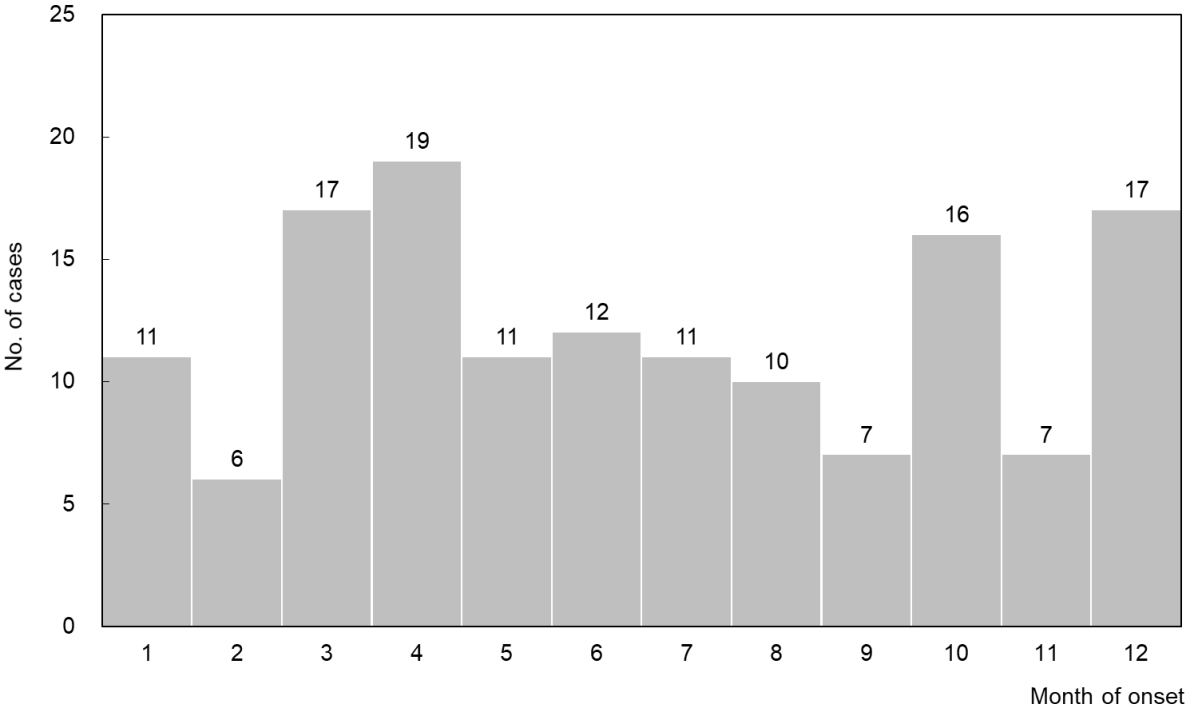


Figure 35 Number of confirmed acute hepatitis B cases, 2021

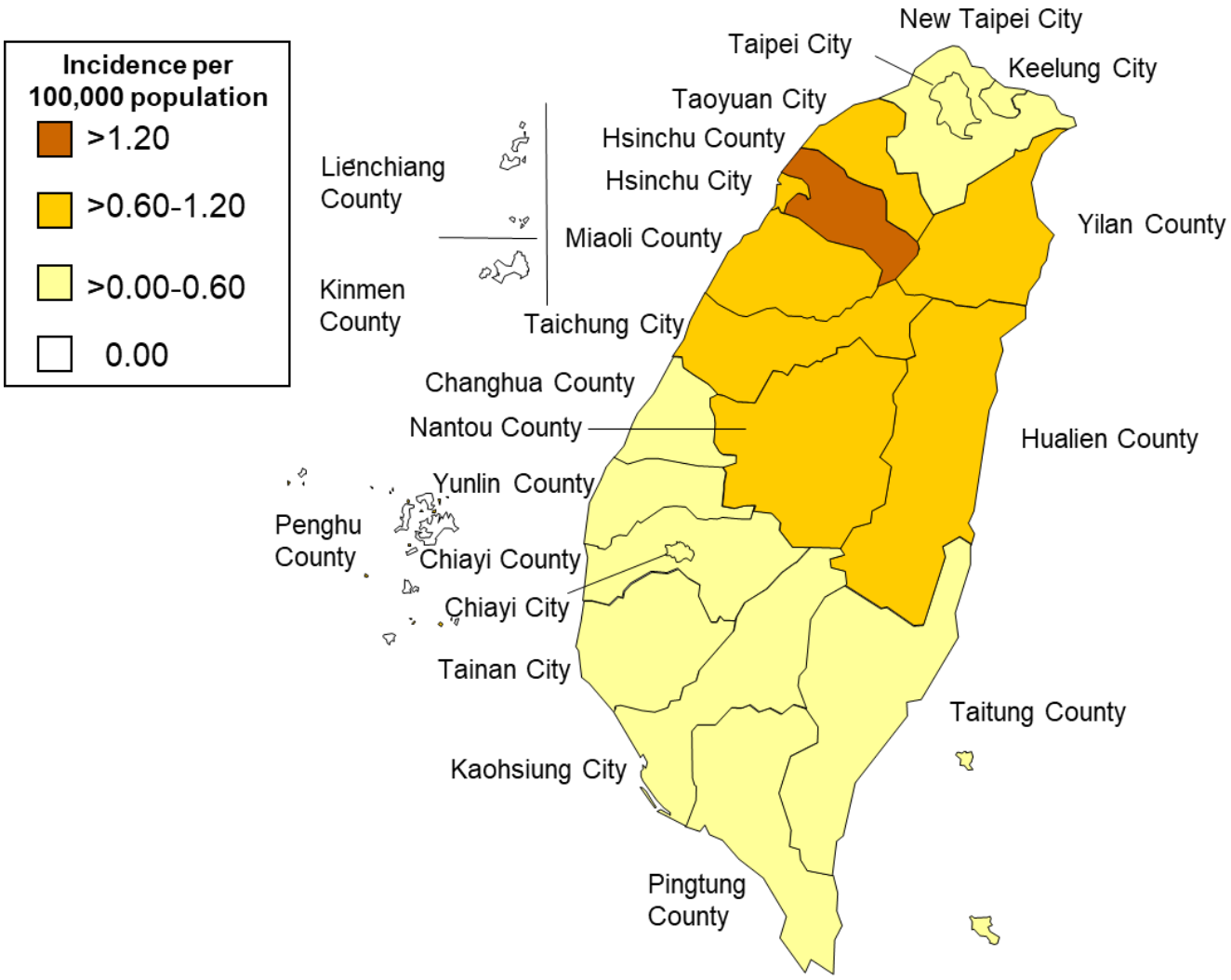


Figure 36 Geographical distribution by incidence of confirmed acute hepatitis B cases, 2021

Acute Hepatitis C

In 2021, 561 confirmed cases of acute hepatitis C (incidence rate: 2.39 per 100,000 population) were reported, which represented an decrease compared to 602 confirmed cases (incidence rate: 2.55 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 452 male cases (80.6%) and 109 female cases (19.4%) with male to female ratio of 4.1:1.0.

(2) By age group

There were 239 cases in 25-39 years age group, 175 cases in 40-64 years age group, 120 cases in 65 years and over age group, 26 cases in 15-24 years age group, and 1 case in 5-14 years age group.

(3) By month

Acute hepatitis C cases were reported in each month of the year. March had the highest number of incidents with 68 confirmed cases reported, followed by 64 cases in December, 53 cases in January, 48 cases in August, 47 cases in July, 43 cases each in Febuary and Apirl, 42 cases in October, 40 cases in September and November, 39 cases in Jane and 34 cases in May.

(4) By residential region

New Taipei City had the highest number of incidents with 119 cases reported, followed by Taipei City with 84 cases, Taoyuan City with 79 cases, Taichung City with 62 cases, Kaohsiung City with 54 cases, Tainan City with 35 cases, Miaoli County with 21 cases, Changhua County with 18 cases, Yilan County with 13 cases, Hsinchu County and Nantou County each with 11 cases, Hsinchu City and Pingtung County each with 10 cases,Yunlin County and Chiayi County each with 8 cases and Hualien County with 6 cases. The other cities and counties had less than 5 cases reported.

The incidence rate of confirmed cases per 100,000 population was the highest in Miaoli County (3.89), followed by Taoyuan City (3.48) and Taipei City (3.28).

(5) Imported cases and countries of infection

There were no imported cases of acute hepatitis C in 2021.

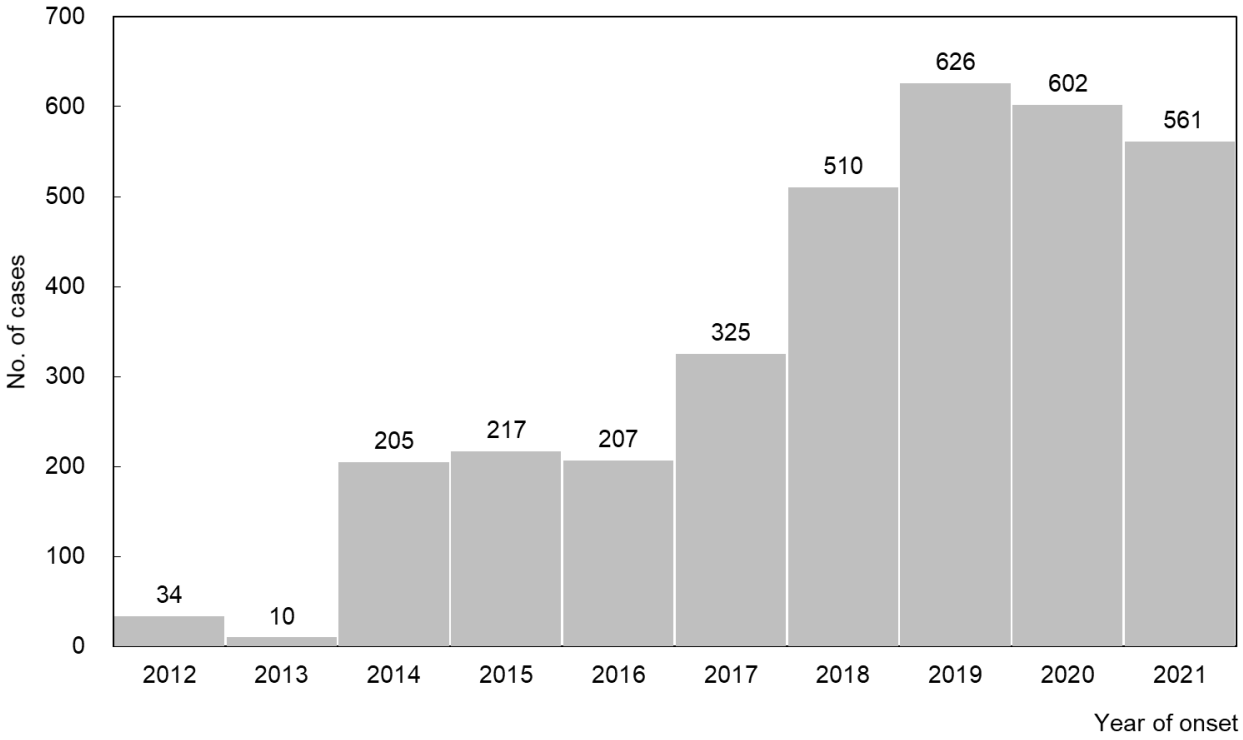


Figure 37 Number of confirmed acute hepatitis C cases, 2012-2021

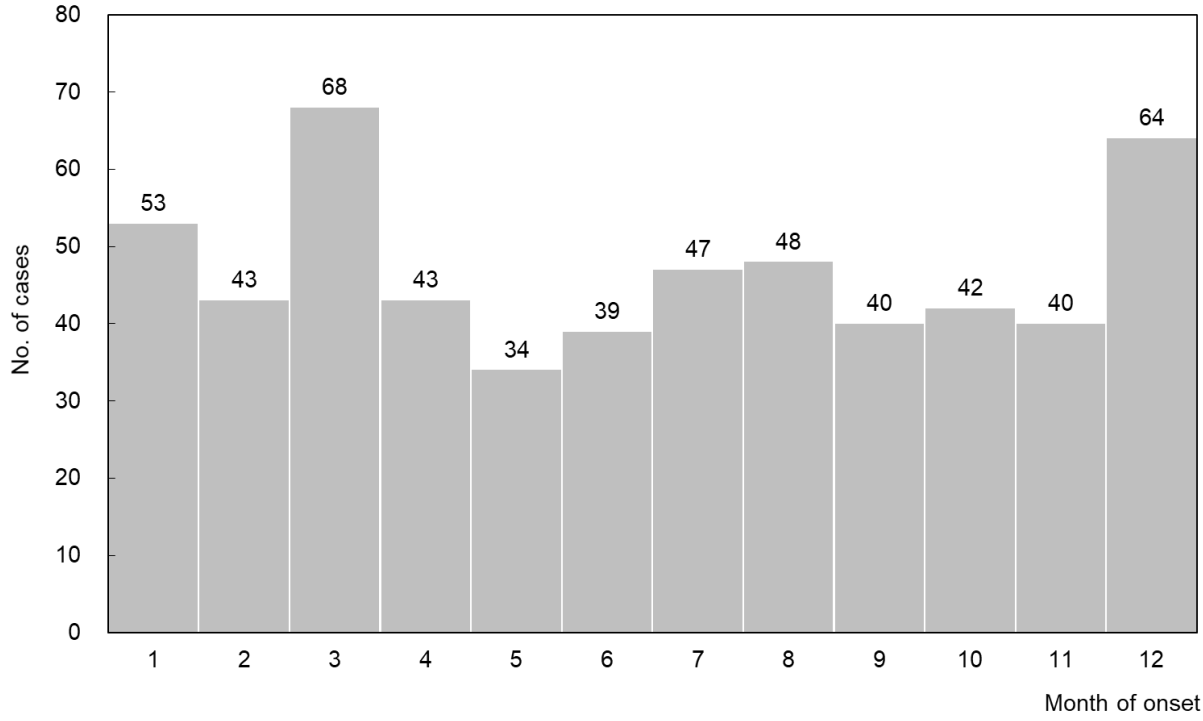


Figure 38 Number of confirmed acute hepatitis C cases, 2021

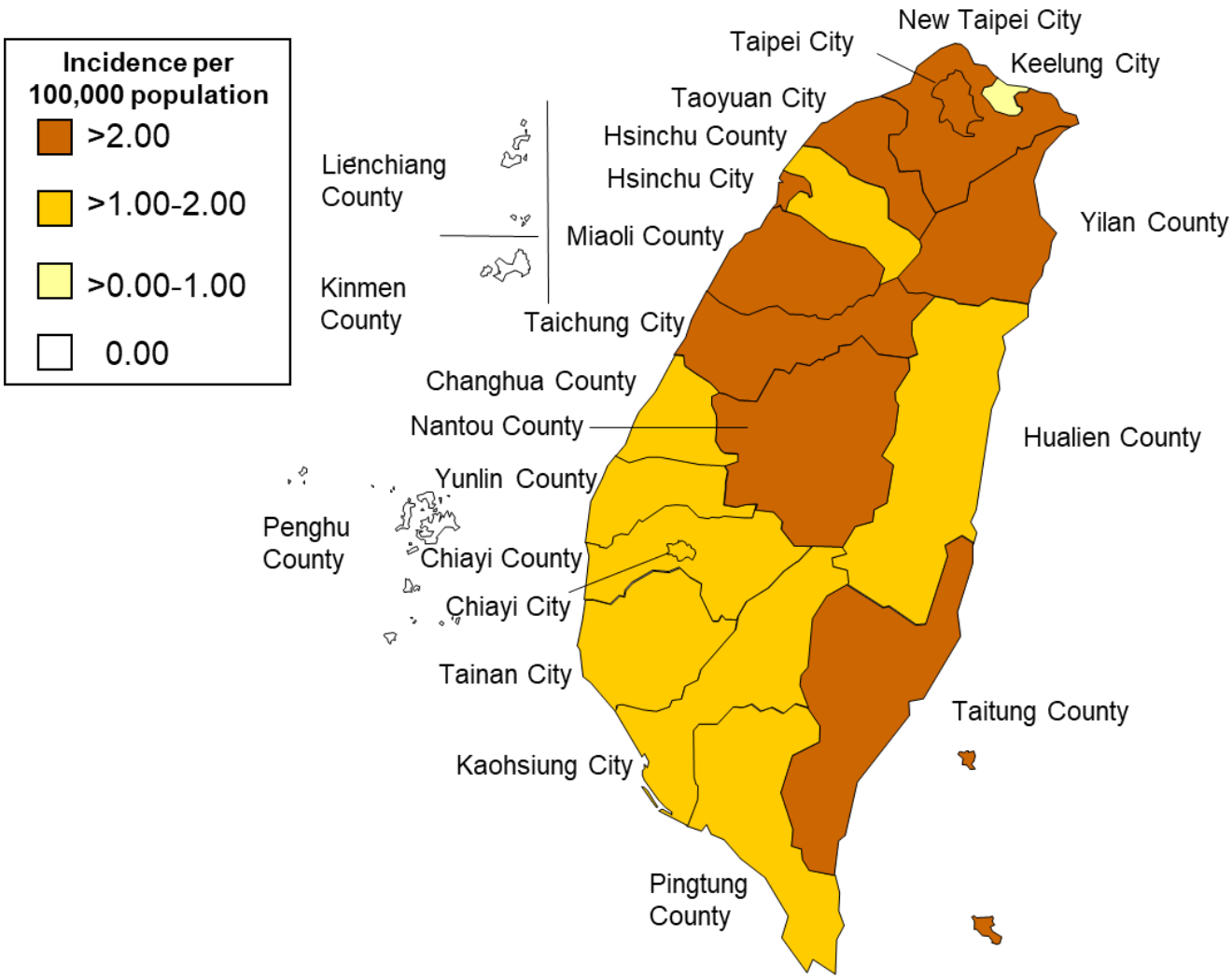


Figure 39 Geographical distribution by incidence of confirmed acute hepatitis C cases, 2021

Scrub Typhus

In 2021, 292 confirmed cases of scrub typhus (incidence rate: 1.24 per 100,000 population) were reported, which represented a decrease compared to 422 confirmed cases (incidence rate: 1.79 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 186 male cases (63.7%) and 106 female cases (36.3%) with male to female ratio of 1.8:1.0.

(2) By age group

The cases occurred predominantly in adults aged 25 years and above. In all, there were 136 cases in 40-64 years age group, 72 cases in 65 years and over age group, 55 cases in 25-39 years age group, 22 cases in 15-24 years age group, 4 cases in 5-14 years age group and 3 cases in 1-4 years age group.

(3) By month

Confirmed cases were reported in each month of the year that concentrated mainly in September, while February had the fewest number of incidents. The distribution of cases in each month of the year is as follows: 26 cases in January, 3 cases in February, 4 cases in March, 20 cases in April, 38 cases each in May and October, 19 cases in June, 33 cases in July, 22 cases in August, 49 cases in September, 23 cases in November and 17 cases in December.

(4) By residential region

Taitung County had the highest number of incidents with 81 confirmed cases reported, followed by Hualien County with 51 cases, Penghu County with 35 cases, Kaohsiung City with 19 cases, Taichung City with 13 cases, and Taoyuan City and Kinmen County each with 11 cases. The other cities and counties all had less than 10 cases reported.

The incidence rate of confirmed cases per 100,000 population was the highest in Lienchiang County (44.57), followed by Taitung County (37.79), Penghu County (32.97) and Hualien County (15.80). The other cities and counties all had an incidence rate below 10.00.

(5) Imported cases and countries of infection

There were no imported cases of scrub typhus in 2021.

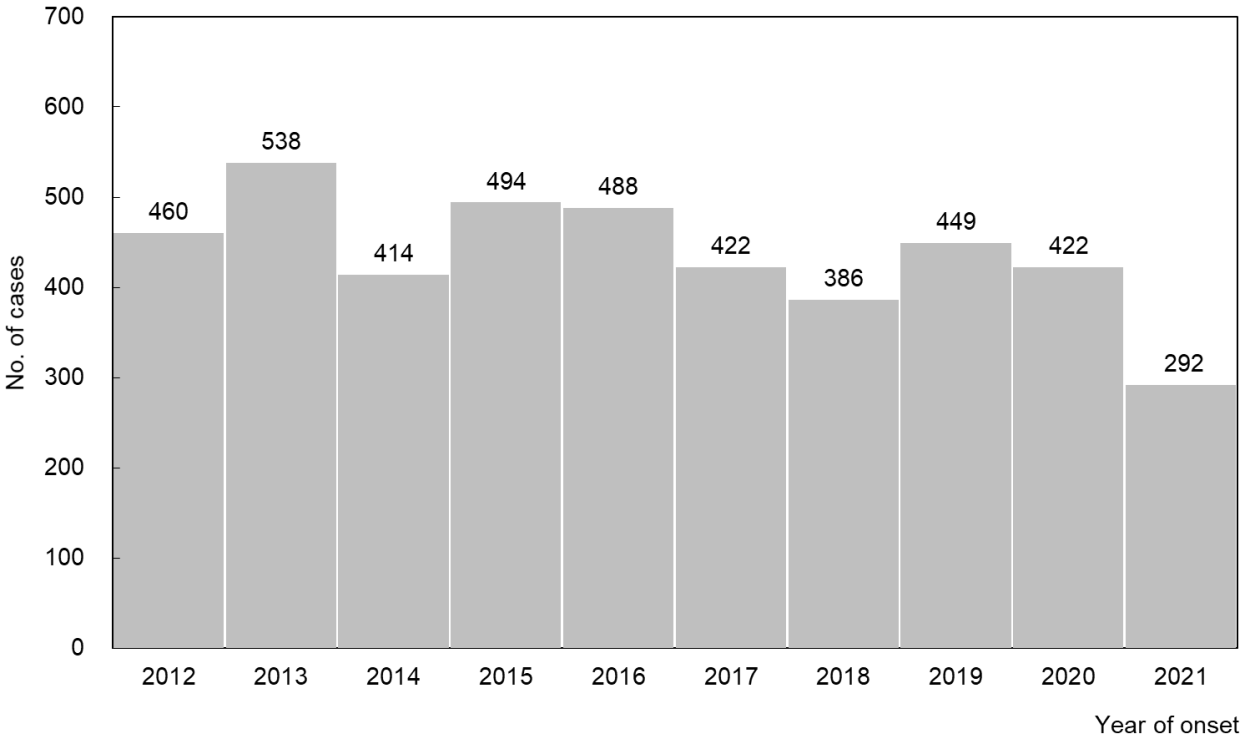


Figure 40 Number of confirmed scrub typhus cases, 2012-2021

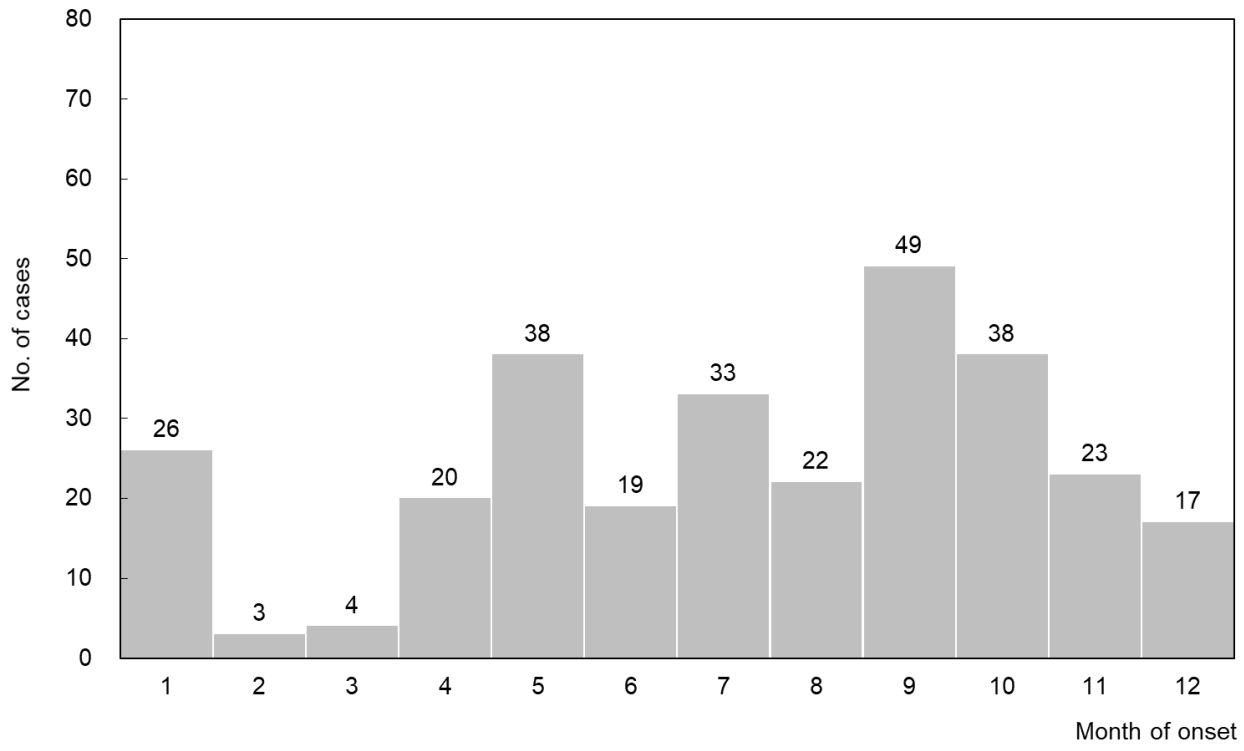


Figure 41 Number of confirmed scrub typhus cases, 2021

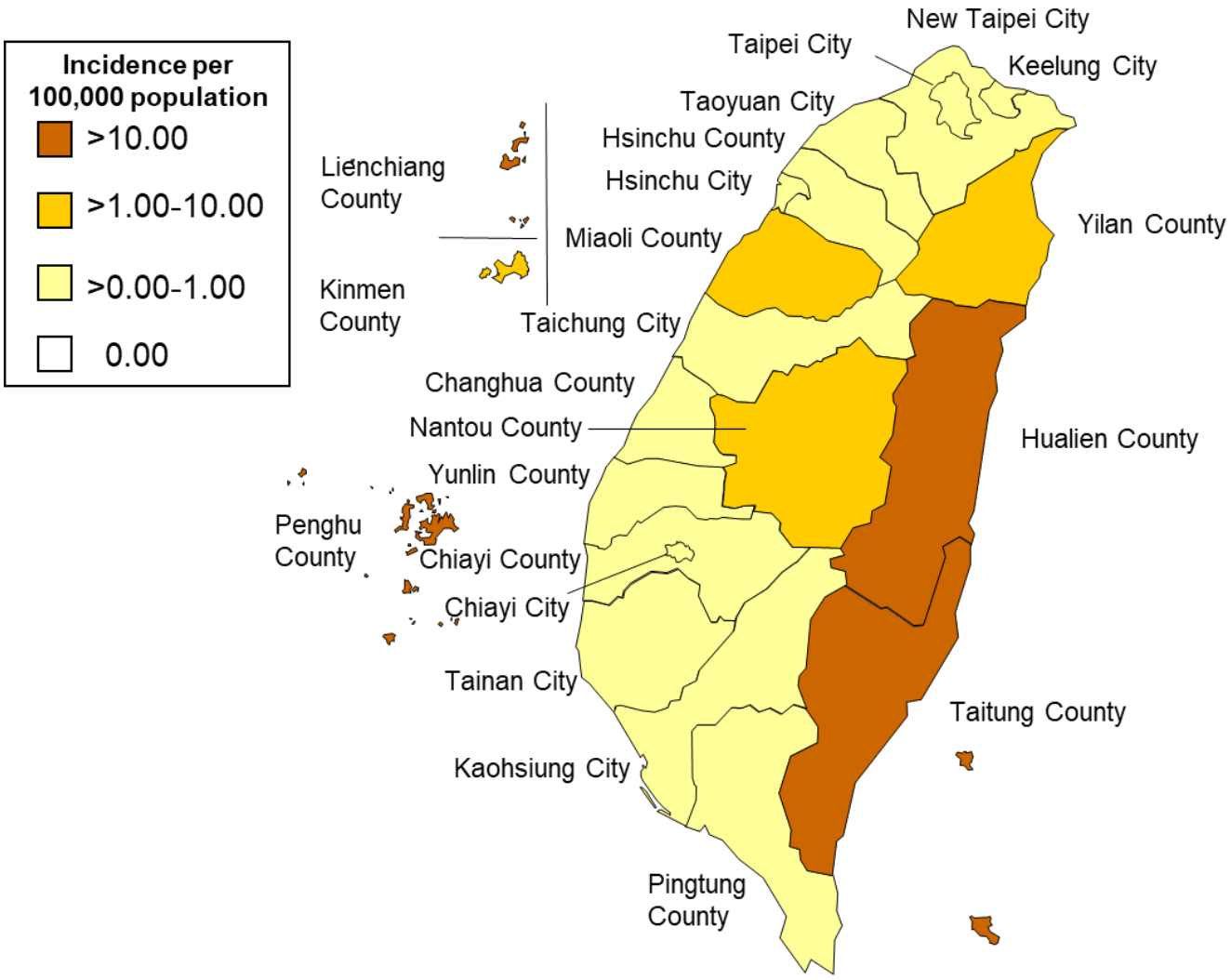


Figure 42 Geographical distribution by incidence of confirmed scrub typhus cases, 2021

Legionnaires' Disease

In 2021, 351 confirmed cases of legionnaires' disease (incidence rate: 1.50 per 100,000 population) were reported, which represented an increase compared to 326 confirmed cases (incidence rate: 1.38 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 287 male cases (81.8%) and 64 female cases (18.2%) with male to female ratio of 4.5:1.0.

(2) By age group

Most cases occurred in 65 years and over age group with 200 cases, followed by 143 cases in 40-64 years age group, and 8 cases in 25-39 years age group.

(3) By month

Confirmed cases were reported in each month of the year where June had the highest number of incidents with 42 confirmed cases reported, followed by August with 40 cases, December with 39 cases, January with 35 cases, September with 34 cases, October with 29 cases, July with 28 cases, March and November each with 23 cases, April and May each with 21 cases, and February with 16 cases.

(4) By residential region

Kaohsiung City had the highest number of incidents with 55 confirmed cases reported, followed by New Taipei City with 53 cases, Pingtung County with 36 cases, Taipei City with 32 cases, Taoyuan City with 25 cases, Keelung City with 21 cases, Tainan City and Changhua County each with 20 cases, Taichung City with 19 cases, Hualien County with 18 cases, Yilan County with 16 cases, Yulin County with 9 cases, Chiayi County with 7 cases and Miaoli County with 6 cases.The other cities and counties had less than 5 cases reported.

The incidence rate of confirmed cases per 100,000 population was the highest in Keelung City (5.74), followed by Hualien County (5.58) and Pingtung County (4.45).

(5) Imported cases and countries of infection

There was 1 imported case of legionnaires' disease in 2021,which countries of infection is unkown.

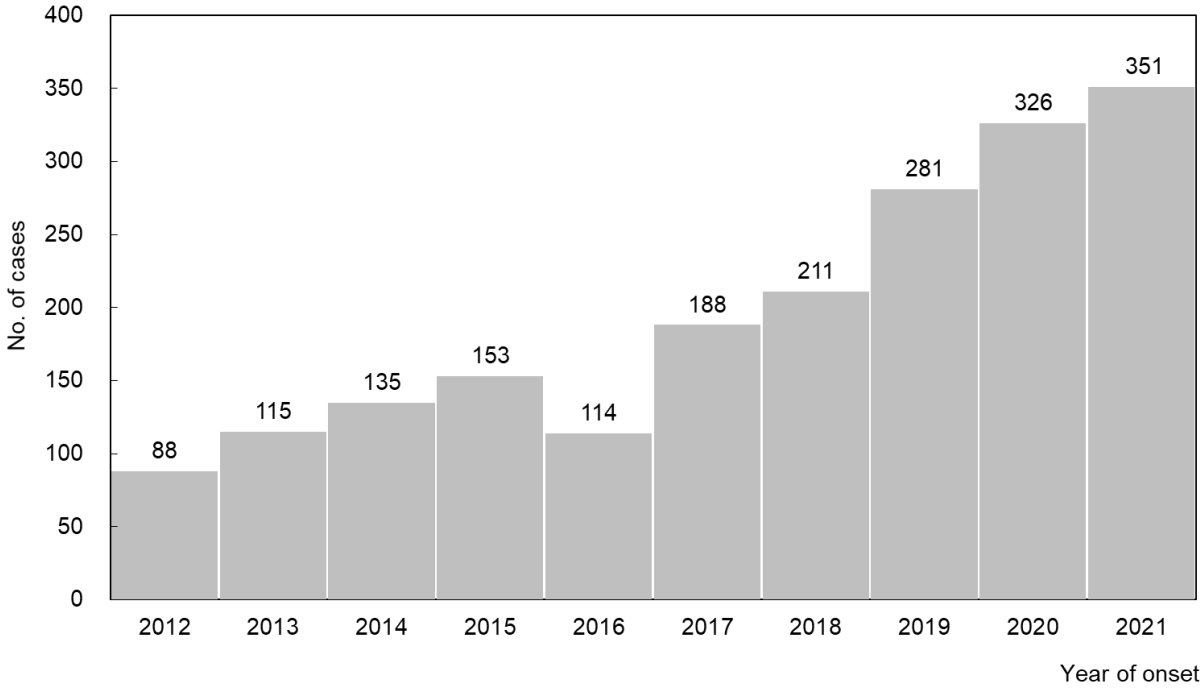


Figure 43 Number of confirmed legionnaires' disease cases, 2012-2021

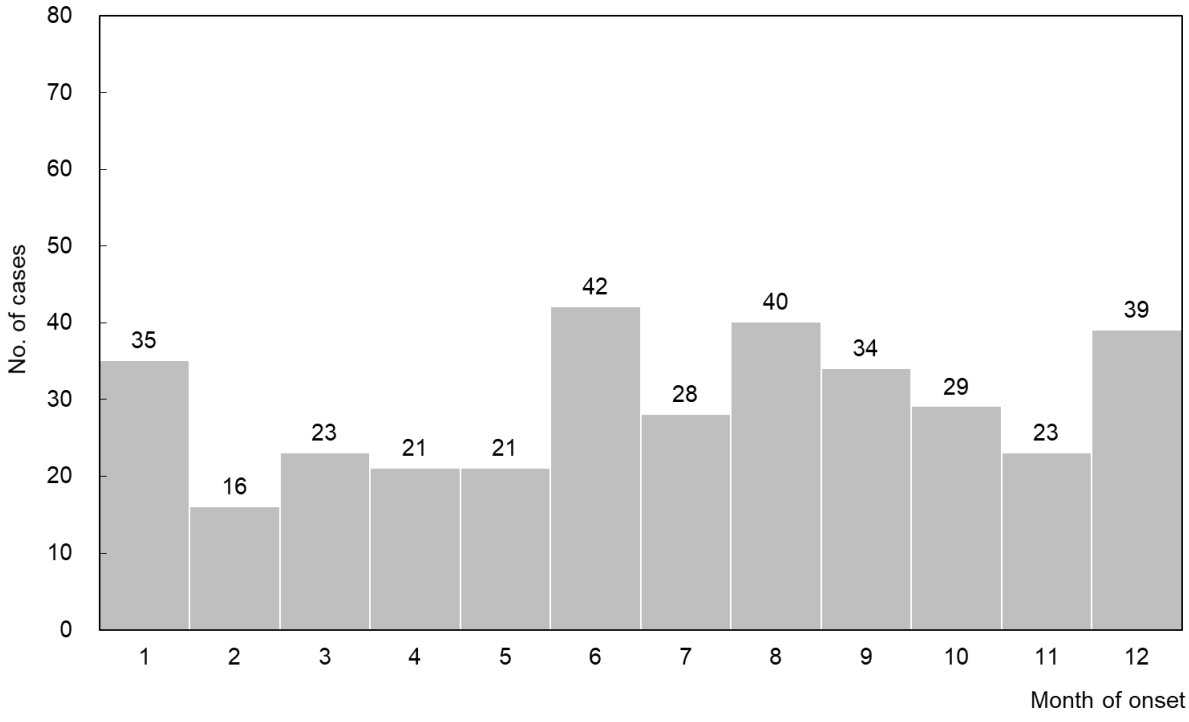


Figure 44 Number of confirmed legionnaires' disease cases, 2021

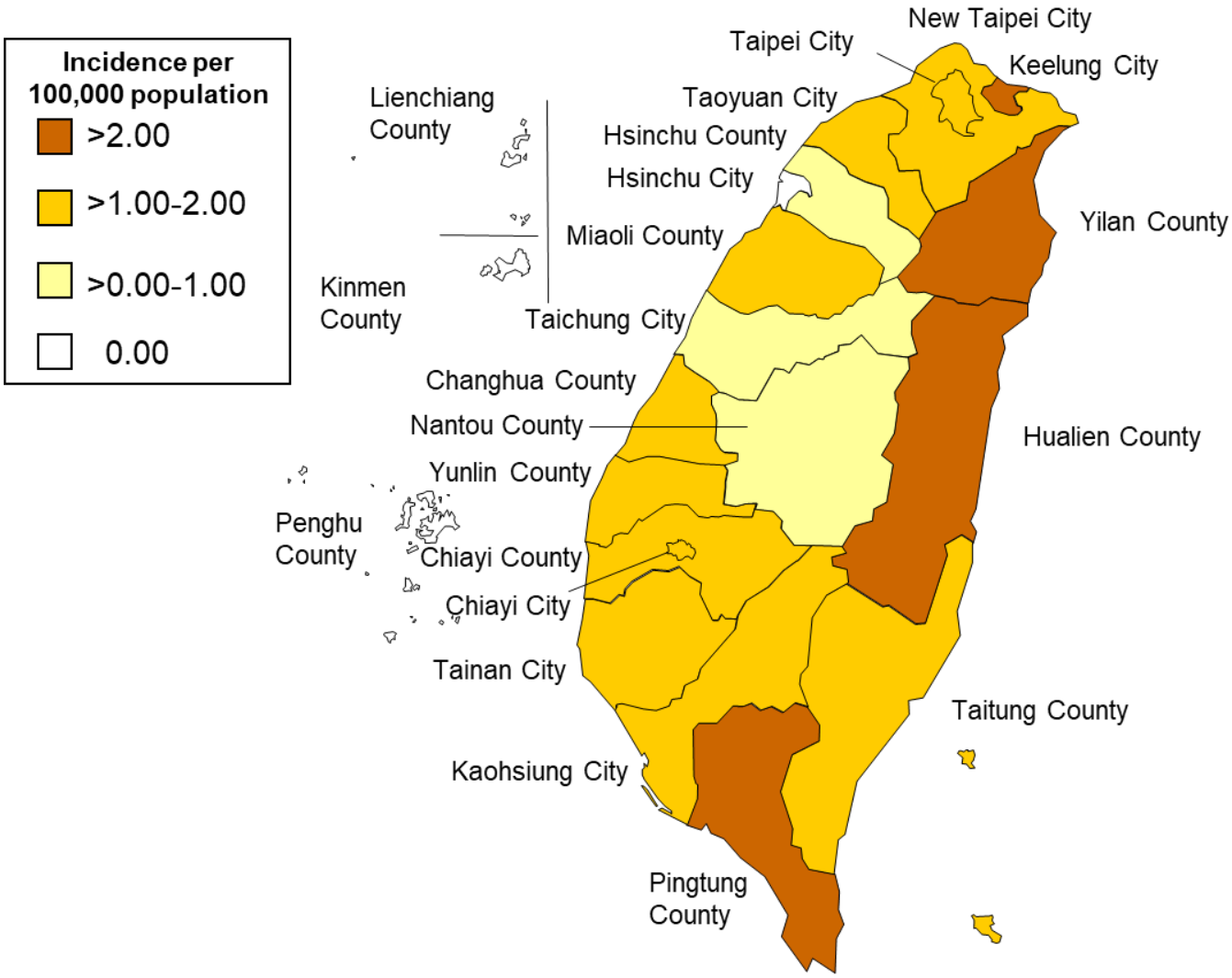


Figure 45 Geographical distribution by incidence of confirmed Lgionnaires' Disease cases, 2021

Dengue Fever

In 2021, 12 confirmed cases of dengue fever (incidence rate: 0.05 per 100,000 population), including 12 imported cases and no indigenous cases were reported, which represented a decrease compared to a total of 137 confirmed cases (incidence rate: 0.58 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

In the 12 imported cases, there were 10 male cases (83.3%) and 2 female cases (16.7%) with male to female ratio of 5.0:1.0.

(2) By age group

In the 12 imported case, 2 cases (16.7%) in 15-24 years age group, 4 cases (33.3%) in 25-39 years age group, 3 cases (25.0%) in 40-64 years age group, and 3 cases (25.0%) in 65 years and over age group.

(3) By month

In the 12 imported cases, there were no confirmed cases in May, June, July, October and December. In all, November had the highest number of incidents with 3 cases reported, followed by 2 cases each in January, August and September and 1 case each in Febuary, March and Apirl.

(4) By residential region

In the 12 imported cases, the number of incidents was the highest in New Taipei City with 3 cases reported, followed by 2 cases each in Taipei City,Tainan City and Kaohsiung City, and 1 case each in Taoyuan City, Taichung City and Hsinchu City.

Overall, the incidence rate of confirmed cases per 100,000 population was the highest in Hsinchu City (0.22), followed by Tainan City (0.11) and Taipei City (0.08).

(5) Imported cases and countries of infection

In the 12 imported cases, there were 5 cases (41.7%) from Vietnam, 4 cases (33.3%) from Philippines, 2 cases (16.7%) from Indonesia, 1 case (8.3%) from Cambodia.

(6) By virus type

In the 12 cases, 1 case was caused by dengue virus type 1, 4 cases by type 2, and 1 case by type 4. The other 6 cases were undetermined.

Table 24 Virus type and infection source of confirmed dengue fever cases, 2021

Infection source	Virus type					Total
	DEN-1	DEN-2	DEN-3	DEN-4	Undetermined	
Indonesia	1	-	-	1	-	2
Philippines	-	2	-	-	2	4
Vietnam	-	1	-	-	4	5
Canbodia	-	1	-	-	-	1
Total	1	4	-	1	6	12

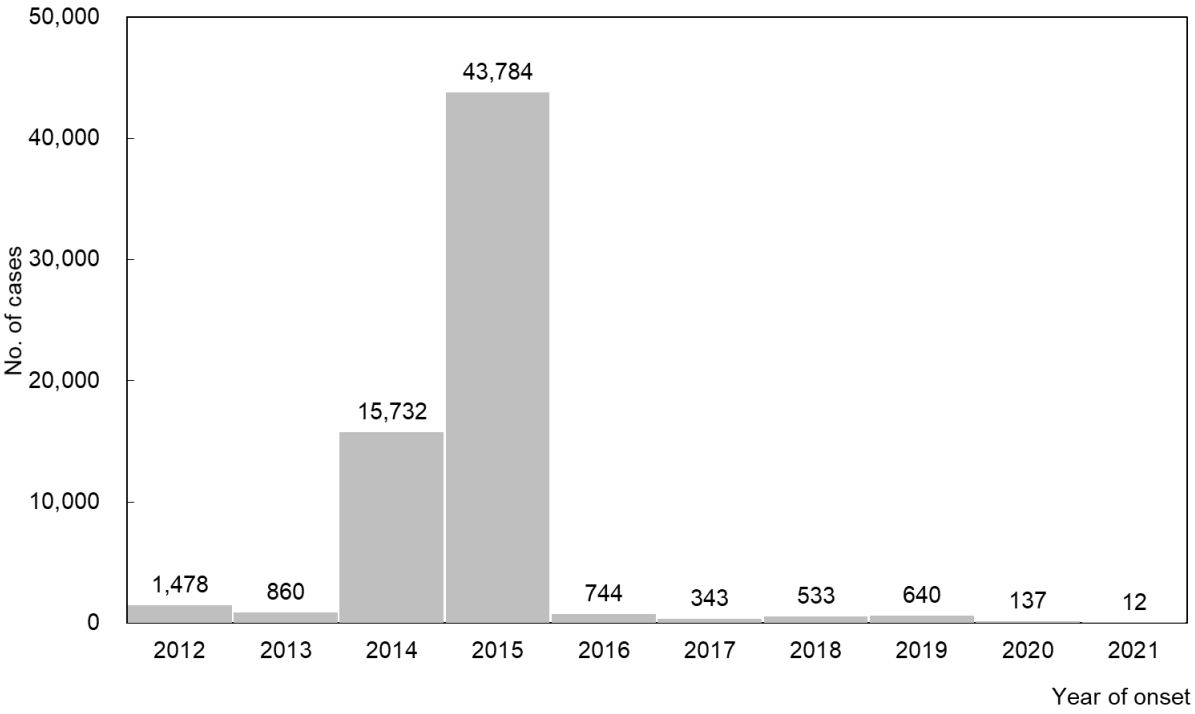


Figure 46 Number of confirmed dengue fever cases, 2012-2021

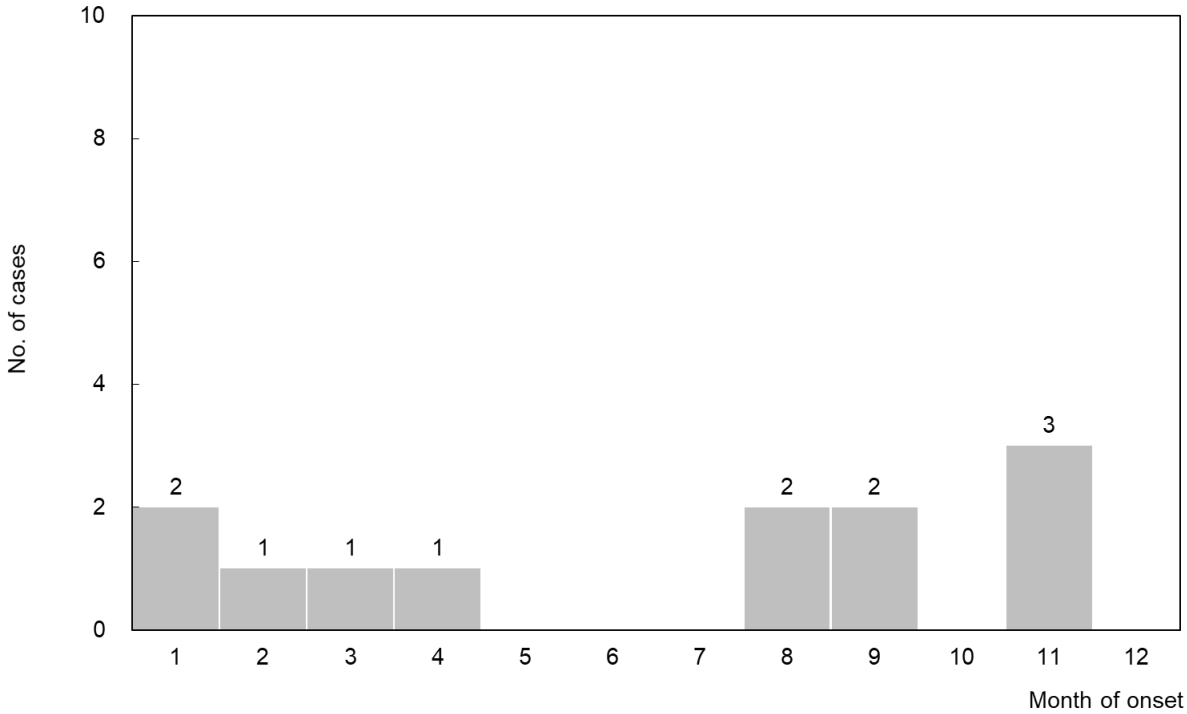


Figure 47 Number of confirmed dengue fever cases, 2021

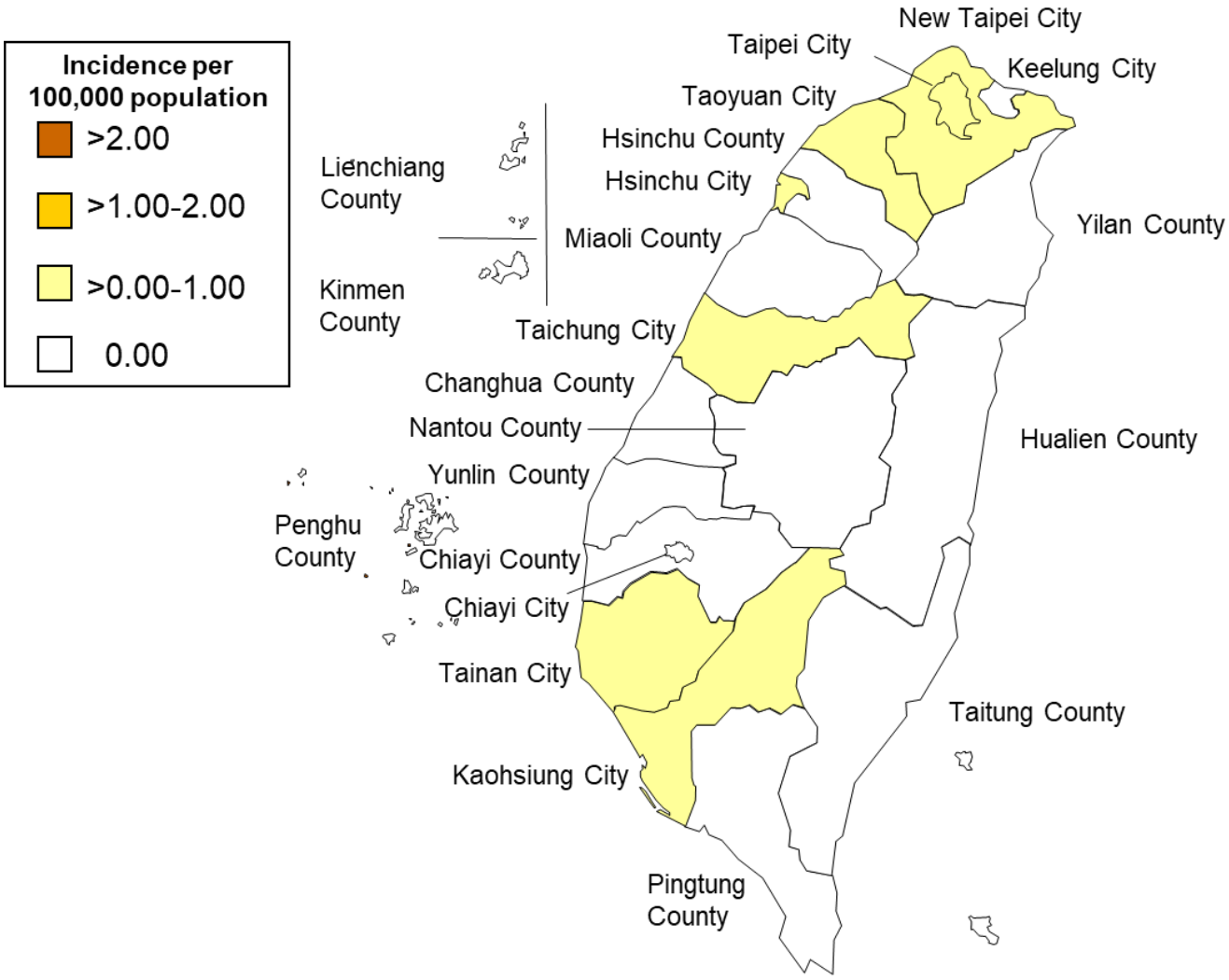


Figure 48 Geographical distribution by incidence of confirmed dengue fever cases, 2021

Malaria

In 2021, 2 confirmed cases of malaria (incidence rate: 0.02 per 100,000 population) were reported, which represented same compared to 2 confirmed cases (incidence rate: 0.01 per 100,000 population) in 2020. All cases in 2021 were imported. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 2 male cases (100.0%).

(2) By age group

There was 1 case each in 25-39 years age group and 65 years and over age group.

(3) By month

There was 1 case each in January and December.

(4) By residential region

Taichung City and Tainan City each had 1 case reported. The other cities and counties did not have confirmed cases.

The incidence rate of confirmed cases per 100,000 population was the highest in Tainan City (0.05), followed by Taichung City (0.04).

(5) Imported cases and countries of infection

In the 2 imported cases, 1 case (50.0% repectively) each from Asia and Africa, specifically 1 case each from Cambodia and Nigeria.

(6) Types of protozoan parasites

By the types of protozoan parasites, there was 1 case each of *Plasmodium falciparum* and *Plasmodium vivax.*

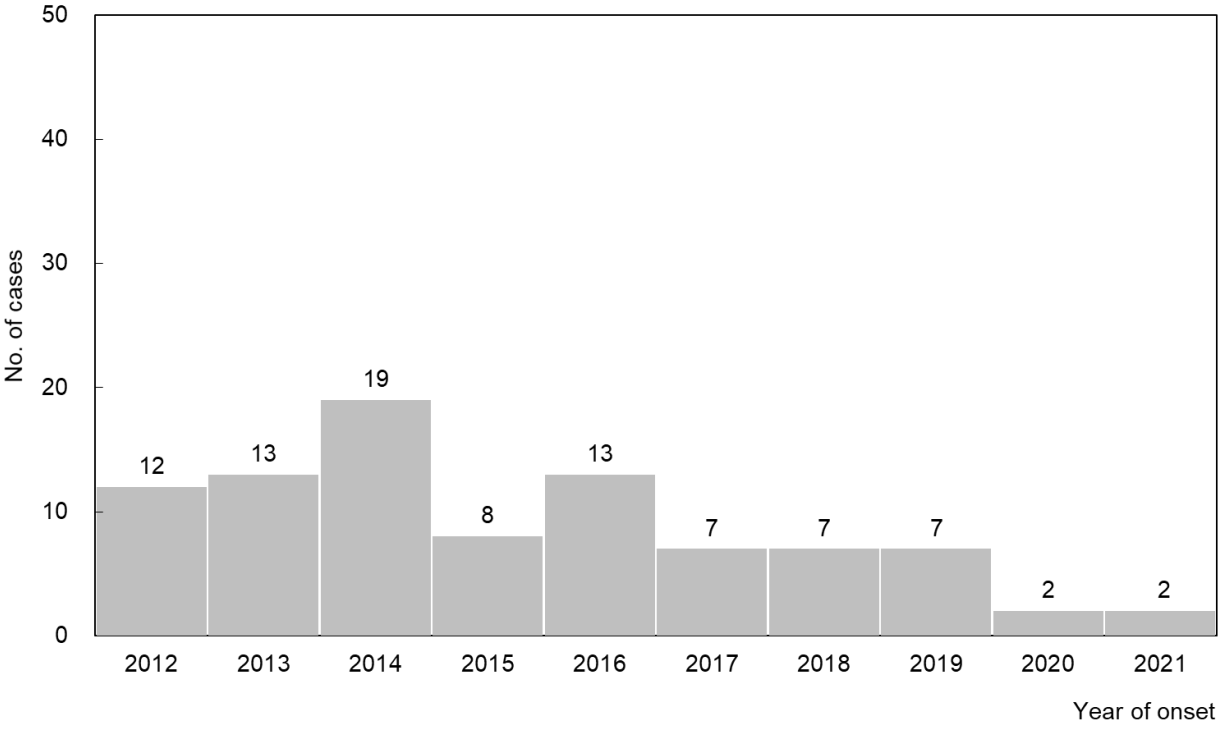


Figure 49 Number of confirmed imported malaria cases, 2012-2021

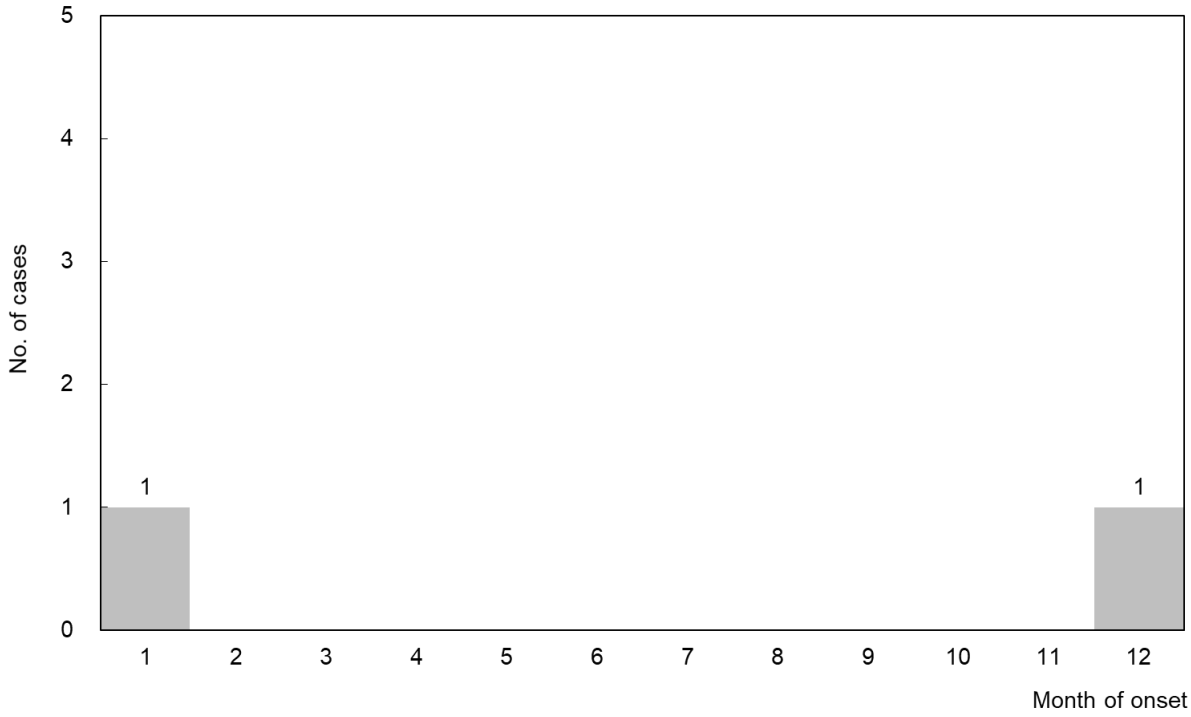


Figure 50 Number of confirmed imported malaria cases, 2021

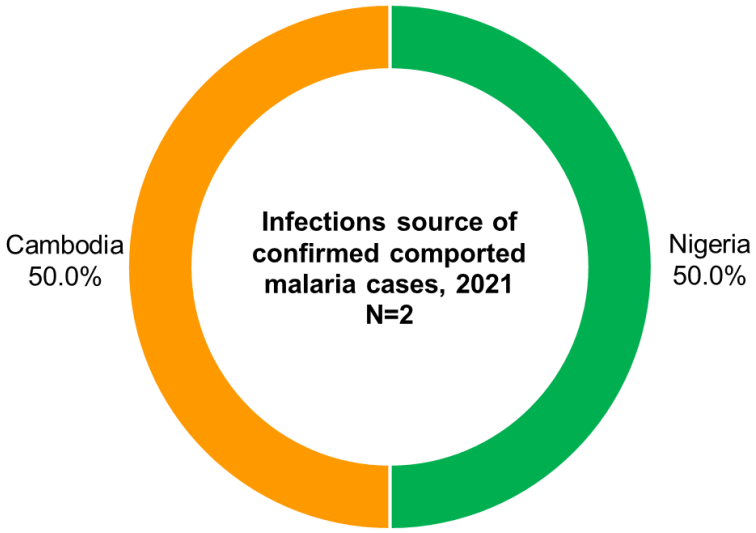


Figure 51 Infections source of confirmed imported malaria cases, 2021

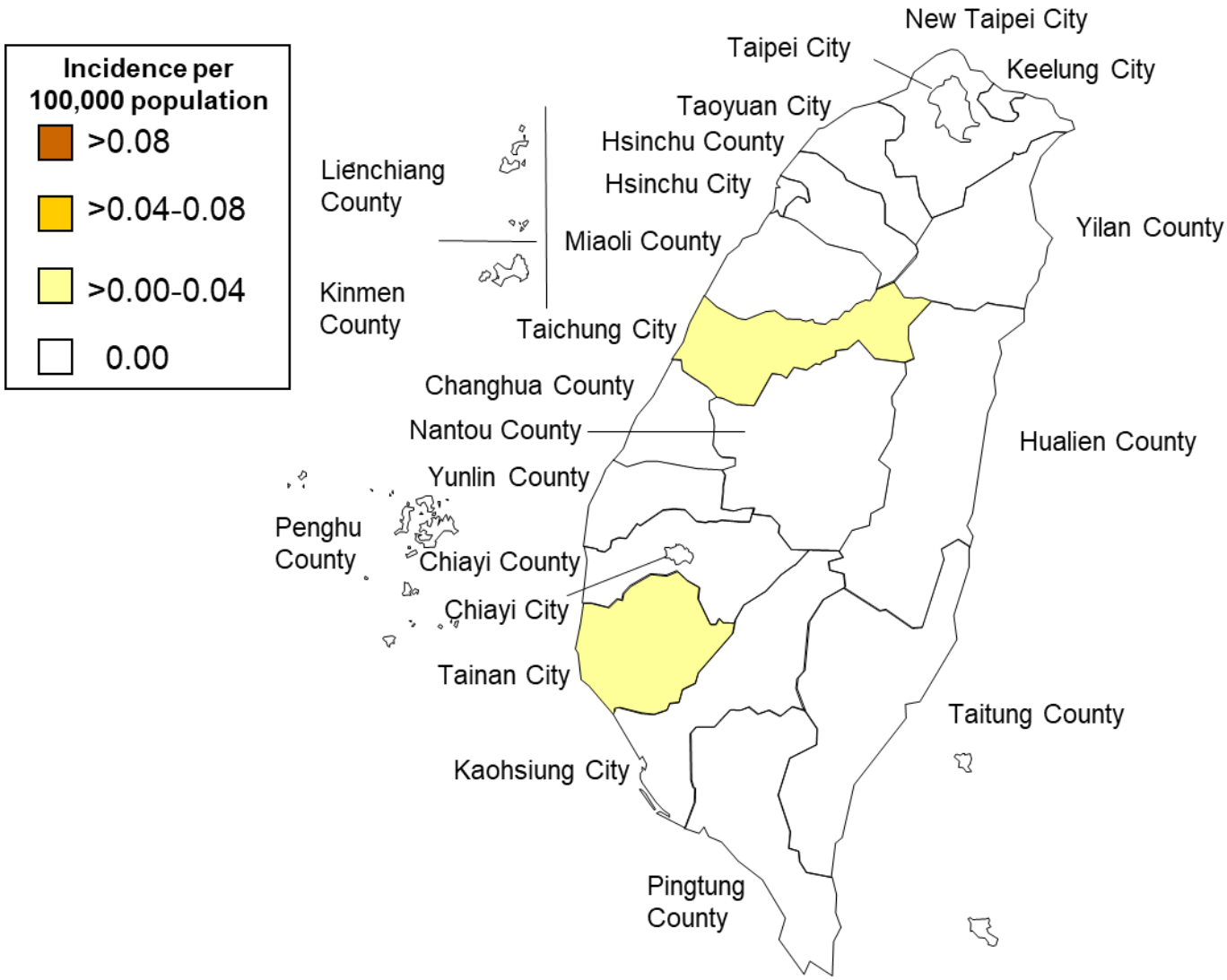


Figure 52 Geographical distribution by incidence of confirmed imported malaria cases, 2021

Shigellosis

In 2021, 121 confirmed cases of shigellosis (incidence rate: 0.52 per 100,000 population) were reported, which represented a increase compared to 151 confirmed cases (incidence rate: 0.64 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

In the 121 indigenous cases, there were 114 male cases (94.2%) and 7 female cases (5.8%) with male to female ratio of 16.3:1.0.

(2) By age group

In the 121 indigenous cases, there were 73 cases in 25-39 years age group, 25 cases in 40-64 years age group, 13 cases in 15-24 years age group, 6 cases in 65 years and over age group, 1 case in each 5-14 years age group and under 1 year age group.

(3) By month

In the 121 indigenous cases, confirmed cases were reported in each month of the year where March had the highest number of incidents with 23 confirmed cases reported, followed by 17 cases in January, 16 cases each in Apirl, 11 cases in February, 10 cases in October, 9 cases each in September and November, 7 cases each in July and August, 5 cases in May, 4 cases in December and 3 cases in June.

(4) By residential region

In the 121 indigenous cases, New Taipei City had the highest number of incidents with 39 confirmed cases reported, followed by Taipei City with 24 cases, Tainan City with 11 cases, Taoyuan City with 9 cases, Kaohsiung City with 5 cases, Hsinchu City with 4 cases, Hsinchu County with 3 cases, Miaoli County, Nantou County, Changhua County and Hualien County each with 2 cases and Keelung City, Yilan County, Yunlin County and Chiayi County each with 1 case. There were no cases reported in other cities and counties.

In all, the incidence rate of confirmed cases per 100,000 population was the highest in New Taipei City (0.97). Taipei City ranked in the second place with incidence rate of 0.94, and Hsinchu City ranked in the third place with 0.88.

(5) Imported cases and countries of infection

There were no imported cases of scrub typhus in 2021.

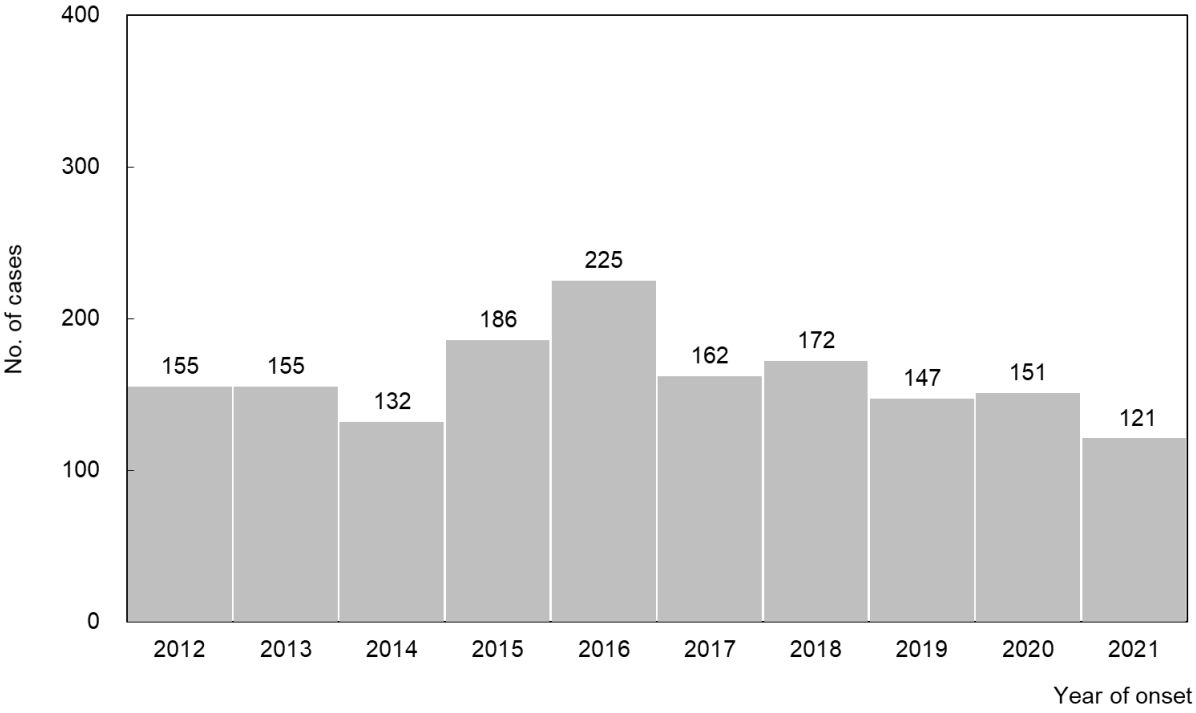


Figure 53 Number of confirmed shigellosis cases, 2012-2021

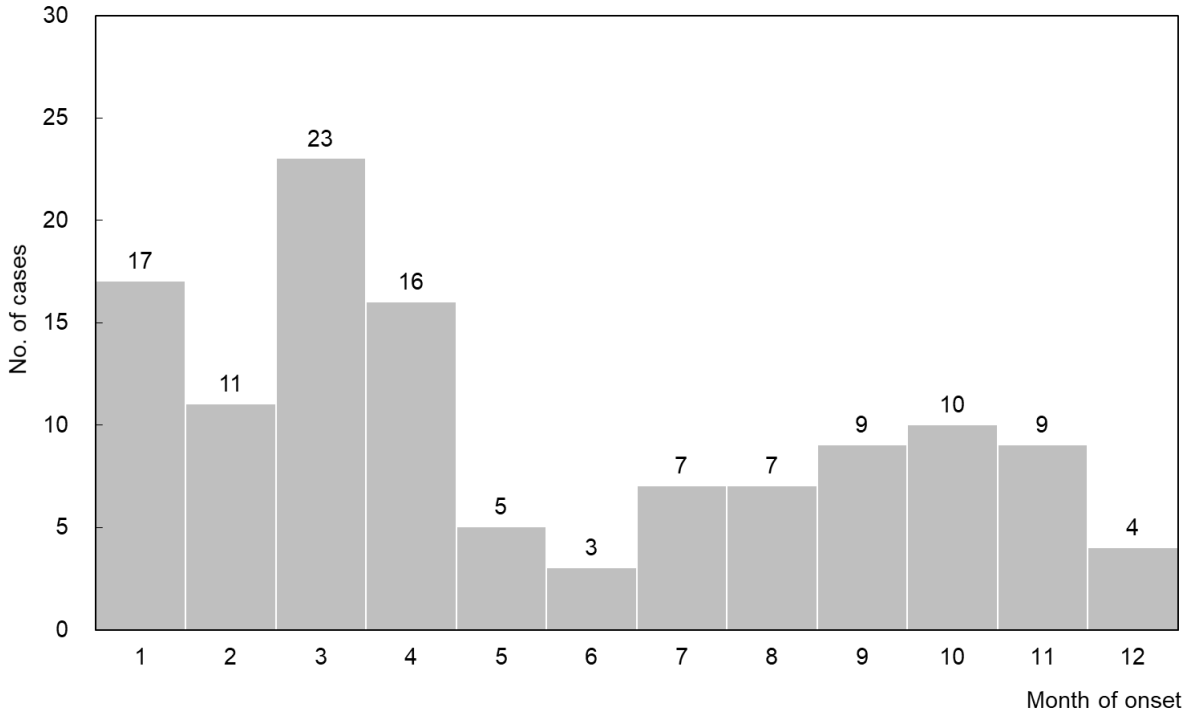


Figure 54 Number of confirmed shigellosis cases, 2021

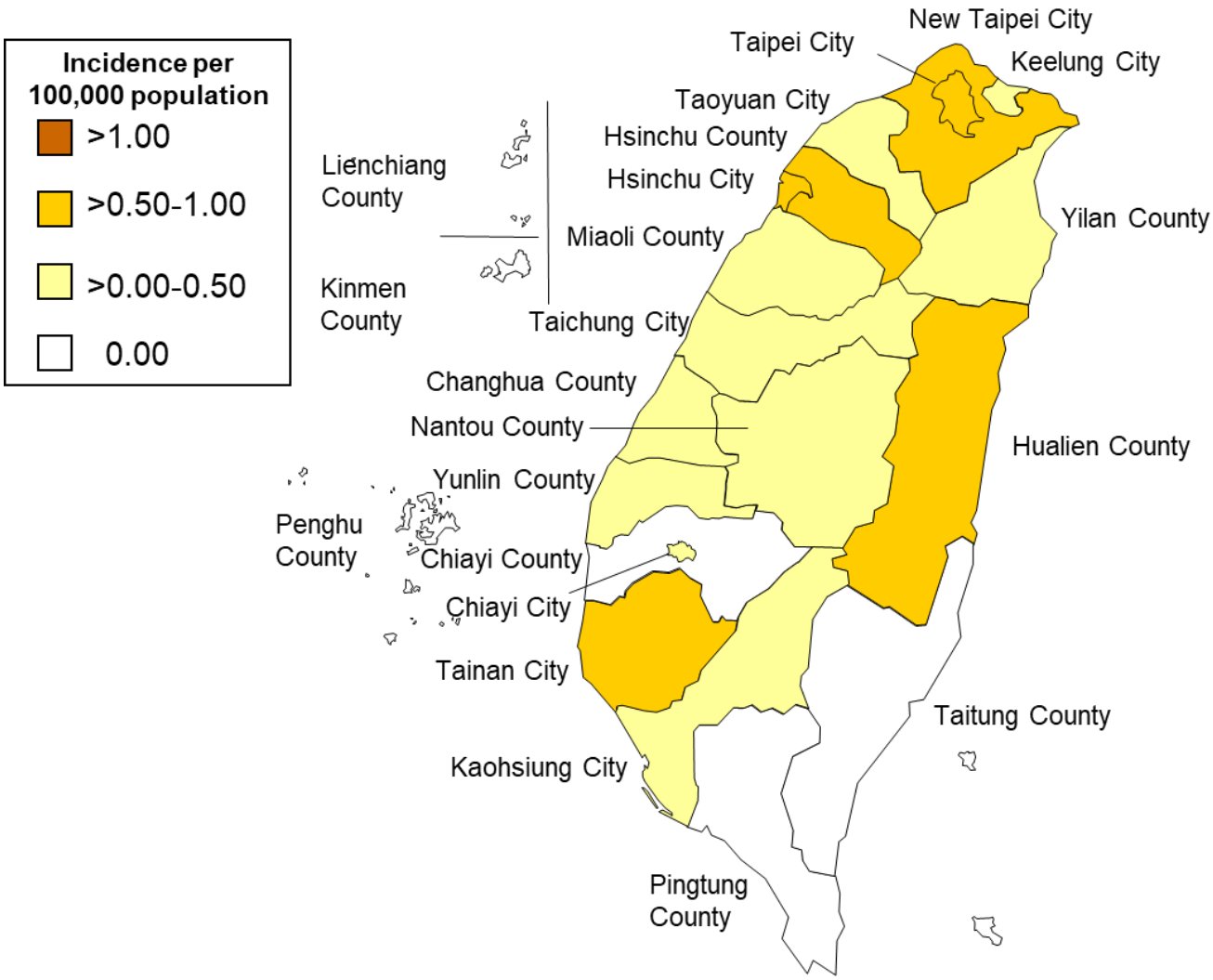


Figure 55 Geographical distribution by incidence of confirmed shigellosis cases, 2021

Influenza Case with Severe Complications

In 2021, 1 confirmed case of influenza case with severe complications (incidence rate: 0.004 per 100,000 population) were reported, which represented a decrease compared to 444 confirmed cases (incidence rate: 1.18 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There was 1 male case.(100.0%)

(2) By age group

There was 1 case in 65 years and over age group.

(3) By month

March with 1 case.

(4) By residential region

Tainan City with 1 case.

The incidence rate of confirmed cases per 100,000 population in Tainan City with 0.05.

(5) Imported cases and countries of infection

There were no imported case of influenza case with serve complications in 2021.

(6) By virus type

By virus type, there was 1 case associated with influenza A viruses (1 case was untyped).

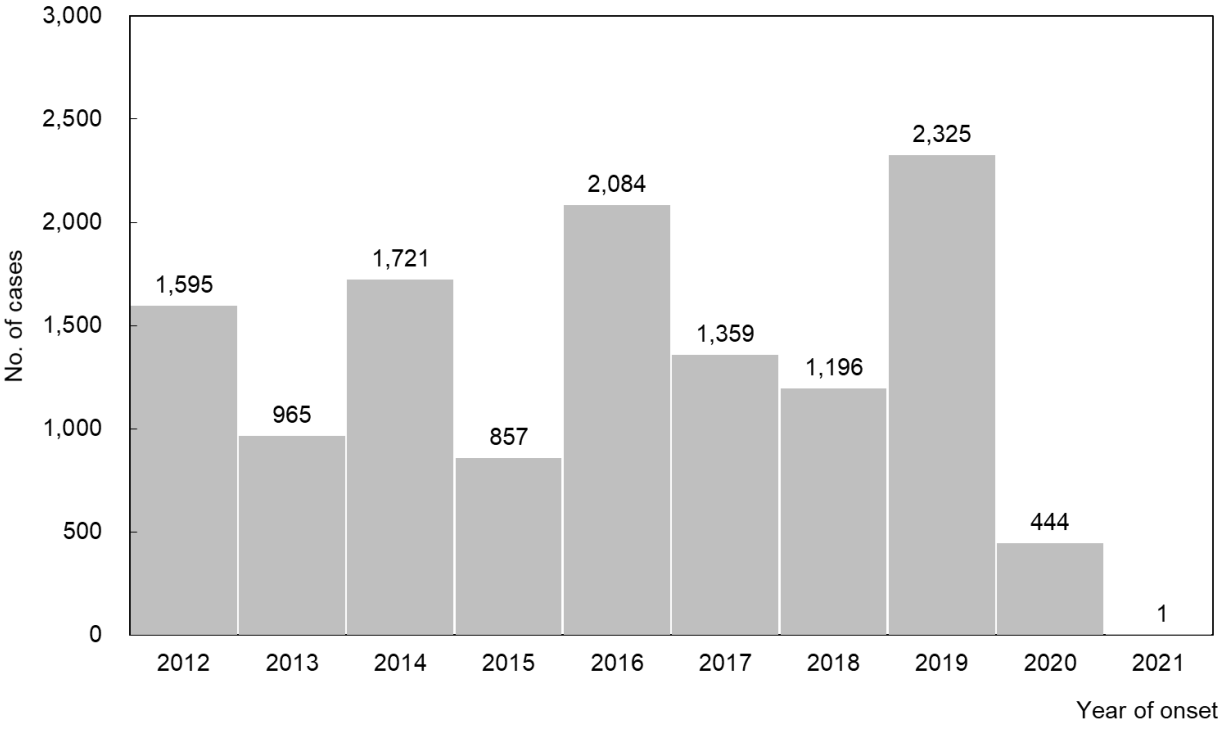


Figure 56 Number of confirmed influenza case with severe complications cases, 2012-2021

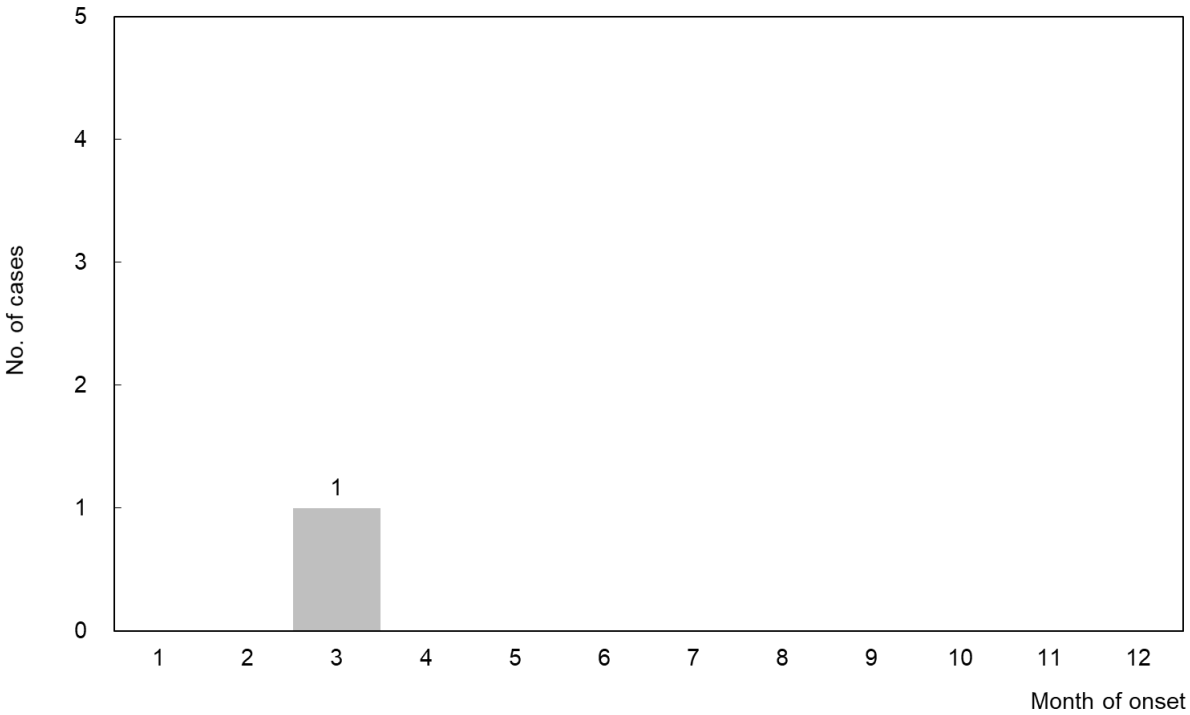


Figure 57 Number of confirmed influenza case with severe complications cases, 2021

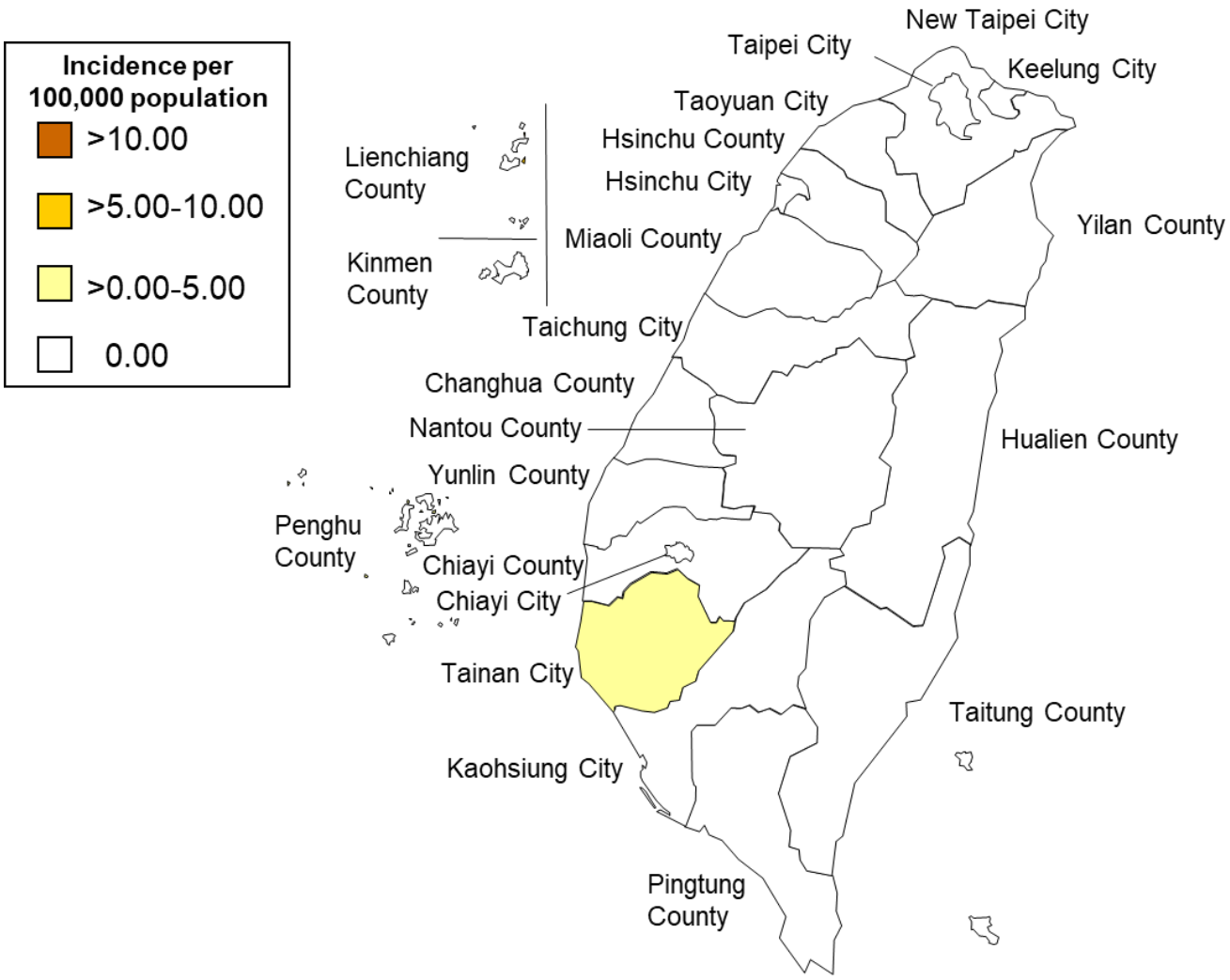


Figure 58 Geographical distributions by incidence of confirmed influenza case with severe complications cases, 2021

Government-funded influenza vaccination coverage rate

In the government-funded influenza vaccination program for influenza season 2020-2021, as recommended by Joint Meeting of Ministry of Health and Welfare Infectious Disease Control and Prevention Advisory Committee on Immunization Practices and Influenza Prevention, quadrivalent inactivated influenza vaccines (QIV) were used in eleven high-risk groups, including the elders aged more than 65 years, adults aged 50 to 64 years, pre-school children aged 6 months through 6 years, students aged 7 years through 18 years, residents and staff in nursing homes and other long-term care facilities, healthcare and public health personnel, poultry or livestock farmers and animal health inspectors, people with catastrophic illness and 19-49 years of age who have underlying medical conditions, pregnant women and parents of infants less than 6 months of age, and kindergarten caretakers and child-care professionals. The national government-funded influenza vaccination program was implemented from October 5, 2020. Due to the COVID-19 pandemic, people's prevention and awareness is raising, adults aged 50 to 64 years got vaccination enthusiastically in the beginning. In order to reserve vaccines for high risk target groups, adults aged 50 to 64 years was suspended during October 17 to November 30. On January 30, government-funded influenza vaccine is available for all residents aged over 6 months until the supply is depleted. The influenza vaccine uptake rates obtained via the Influenza Vaccine Information System (IVIS) in this influenza season, were described below:

(1) Coverage rates among high-risk groups (See Table 25 for more details)

The vaccination doses and coverage rates for each group were as follows: the elders aged more than 65 years: 1,908,783 people/51.3%; adults aged 50 to 64 years: 1,018,139 people/19.2%; pre-school children aged 6 months through 6 years vaccinated at least one dose: 586,545 people/50.7%; students aged 7 years through 18 years: 1,840,090 people/ 75.3%; staff in nursing homes and other long-term care facilities: 49,290 people/100.0%; people with catastrophic illness: 57,423 people; registered healthcare workers: 245,196 people/ 73.2%; public health personnel: 26,573 people/ 75.7%; poultry or livestock farmers and animal health inspectors: 10,202 people/100.0%; 19-49 years of age who have underlying medical conditions: 79,678 people; pregnant women and parents of infants less than 6 months of age: 79,194 people; kindergarten caretakers and child-care professionals: 19,328 people/30.6%.

(2) Utilization rates by months (See Figure 59)

The government-funded influenza vaccination program started from October 5, 2020. Most of the recipients received the vaccines during the period of October 5 to November 30. Up to 95% of influenza vaccines were administered by end of November, then the utilization rate began to decline slowly after November, and by the end of December, the vaccine utilization rate reached 97%. In late January 2021, the cumulative utilization rate was kept at 98%.

(3) Coverage by cities/counties (See Table 26 for more details)

The average coverage rate of government-funded influenza vaccine was 44.46%. Southern Taiwan had the highest coverage rate of 47.5%, followed by 46.9% in Central Taiwan. The coverage rate in Chiayi City was 55.1%, which was the highest among all cities and counties. Cities/counties where the coverage rates were higher than the national average were Lienchiang County, Yilan County, Changhua County , Taichung City, Nantou County, Hualien County, Hsinchu City, Chiayi County, Taoyuan City, Kaohsiung City, Hsinchu County, Keelung City, and Yunlin County.

Table 25 Government-funded influenza vaccination coverage rates among high-risk groups, 2020-2021 influenza season

High-risk groups	No. of recipients vaccinated	Coverage rates
Elders aged more than 65 years*	1,908,783	51.3%
Adults aged 50 to 64 years	1,018,139	19.2%
Pre-school children aged 6 months through 6 years vaccinated at least one dose	586,545	50.7%
Students aged 7 years through 18 years	1,840,090	75.3%
People with catastrophic illness	57,423	-
Staff in nursing homes and other long-term care facilities	49,290	100.0%
Related Healthcare workers	360,941	79.3%
Registered health care workers	*245,196*	*73.2%*
Others workers in hospitals	*115,745*	*96.6%*
Public health personnel	26,573	75.7%
Infection control workers	*11,921*	*100.0%*
Emergency medical technicians	*6,945*	*63.3%*
Airborne service corps	122	*26.4%*
Coast guards	*4,210*	*86.2%*
Border control workers	*3,375*	*49.2%*
Poultry or livestock farmers and animal health inspectors	10,202	100.0%
19-49 years of age who have underlying medical conditions	79,678	-
Pregnant women and parents of infants less than 6 months of age	79,194	-
Kindergarten caretakers and child-care professionals	19,328	30.6%
Expansion group**	101,199	-
Total	6,137,385	

*including residents in long term care facilities

**All people aged more than 6 months are eligible since January 30, 2021.

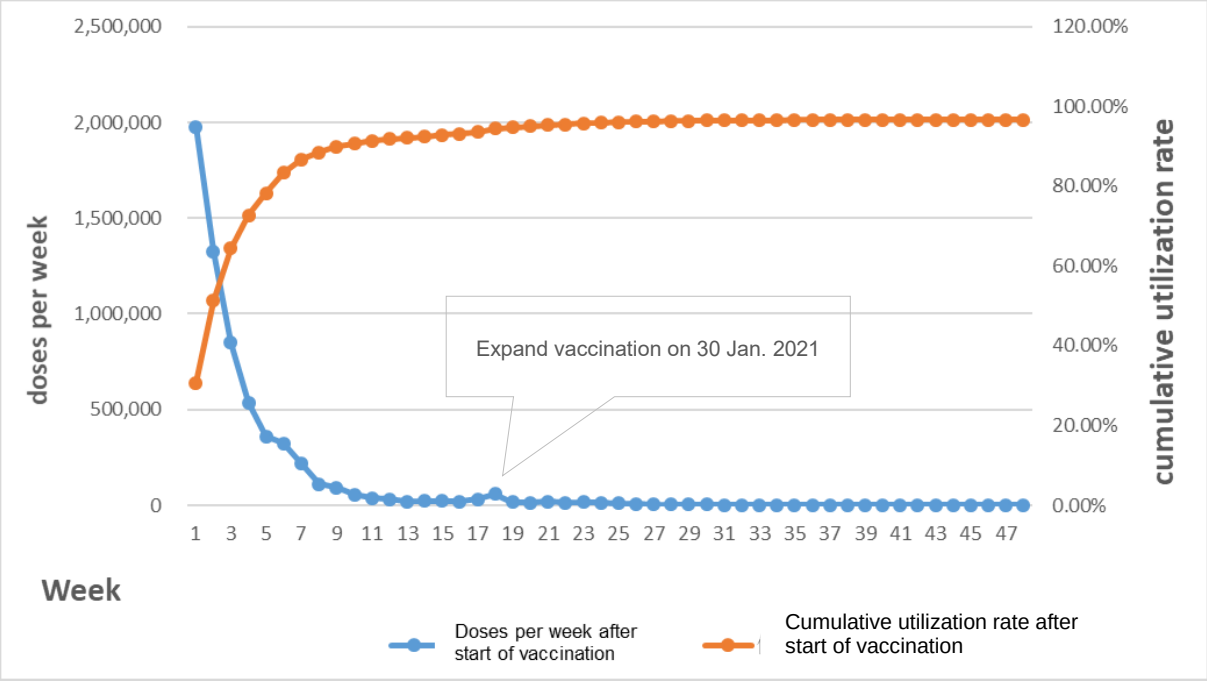


Figure 59 Immunization progress with influenza vaccine shots, 2020-2021 influenza season

Table 26 Government-funded influenza vaccination coverage rates by cities/counties, 2020-2021 influenza season

Locality	Target population	Vaccinated population	Coverage rate
Taipei City	1,594,775	676,699	42.43%
New Taipei City	2,185,805	869,589	39.78%
Keelung City	211,769	95,148	44.93%
Yilan County	257,519	125,457	48.72%
Kinmen County	72,820	16,444	22.58%
Lienchiang County	7,348	3,625	49.33%
Taoyuan City	1,193,342	544,497	45.63%
Hsinchu City	253,491	115,448	45.54%
Hsinchu County	296,843	133,768	45.06%
Miaoli County	306,846	132,320	43.12%
Taichung City	1,539,035	713,193	46.34%
Changhua County	693,892	333,525	48.07%
Nantou County	286,161	132,495	46.30%
Yunlin County	386,560	172,887	44.72%
Chiayi City	164,271	90,555	55.13%
Chiayi County	283,583	129,013	45.49%
Tainan City	1,066,487	471,277	44.19%
Kaohsiung City	1,562,809	706,586	45.21%
Pingtung County	455,702	191,346	41.99%
Penghu County	54,938	23,730	43.19%
Hualien County	191,366	88,515	46.25%
Taitung County	124,131	53,774	43.32%
Total	13,189,493	5,819,891	44.42%

Note: 1. Data source: Influenza Vaccine Information System (IVIS), from October 5th, 2020 to September 30th, 2021.

2. The coverage rates were calculated by reports from the cities and counties.

3. People who were not eligible for the government-funded influenza vaccination program and the 2nd dose for children under 6 years old were not calculated.

4. Patients with rare disease, patients with catastrophic illness, people with medical conditions, pregnant women and parents of infants less than 6 months of age and all residents aged over 6 months available on January 30 were not calculated because the target population could not be estimated by cities/counties.

Severe Pneumonia with Novel Pathogens

In 2021, 16,302 confirmed cases of severe pneumonia with novel pathogens (incidence rate: 69.46 per 100,000 population), including 1,747 imported cases and 14,555 indigenous cases were reported, which represented a increase compared to a total of 823 confirmed cases (incidence rate: 3.49 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

In the 1,747 imported cases, there were 1,091 male cases (62.4%) and 656 female cases (37.6%) with male to female ratio of 1.7:1.0.

In the 14,555 indigenous cases, there were 7,388 male cases (50.4%) and 7,217 female cases (49.6%) with male to female ratio of 1.0:1.0.

(2) By age group

In the 1,747 imported cases, there were 754 cases (43.2%) in 15-24 years age group, 453 cases (25.9%) in 25-39 years age group, 440 cases (25.2%) in 5-14 years age group, 48 cases (2.7%) in 40-64 years age group, 42 cases in 65 years and over age group, and 10 cases (0.6%) in 1-4 years age group.

In the 14,555 indigenous cases, there were 6,745 cases (46.7%) in 40-64 years age group, 3,458 cases (23.8%) in 65 years and over age group, 3,387 cases (23.3%) in 25-39 years age group, 556 cases (3.8%) in 15-24 years group, 214 cases (1.5%) in 1-4 years group, 86 cases(0.6%) in 5-14 years group and 59 cases (0.4%) in 0-1 year group.

(3) By month

In the 1,747 imported cases, confirmed cases were reported in each month of the year. In all, December had the highest number of incidents with 472 cases reported, followed by 204 cases in November, 168 cases in September, 167 cases in August, 158 cases in October, 136 cases in May, 109 cases in July, 96 cases in January, 87 cases in March, 82 cases in Apirl, and 40 cases in June.

In the 14,555 indigenous cases, confirmed cases were reported in each month of the year. In all, May had the highest number of incidents with 8,788 confirmed cases reported, followed by 4,831 cases in June, 669 cases in July, 149 cases in August, 41 case in September, 28 cases in Apirl, 19 cases in January, 18 cases in December, 9 cases in October, 2 cases in Febuary and 1 case in November. There were no cases in March.

(4) By residential region

In the 1,747 imported cases, the number of incidents was the highest in Taipei City with 409 cases reported, followed by 288 cases in Kaohsiung City,

277 cases in New Taipei City, 241 cases each in Taichung City, 136 cases in Taoyuan City, 92 cases in Tainan City, 55 cases in Pingtung County, 46 cases in Changhua County, 35 cases in Hsinchu City, 29 cases in Hsinchu County, 23 cases in Hualien County, 22 cases in Nantou County, 19 cases in Yunlin County, 17 cases each in Chiayi County and Yilan County, 14 cases in Keelung City, 11 cases in Chiayi City, 9 cases in Miaoli County, 4 case in Taitung County and 3 cases in Penghu County, in which other cities and counties did not have confirmed imported cases.

In the 14,555 indigenous cases, New Taipei City had the highest number of incidents with 6,919 cases reported, followed by 4,866 cases in Taipei City, 790 cases in Taoyuan City, 549 cases in Miaoli County, 318 cases in Keelung City, 270 cases in Changhua County, 202 cases in Taichung City, 110 case in Hsinchu County, 99 cases in Yilan County, 95 cases in Kaohsiung City, 68 cases in Hualien County, 49 cases in Tainan City, 48 cases in Pingtung County, 40 cases in Hsinchu City, 37 cases in Nantou County, 22 cases each in Yunlin and Taitung County, 10 cases in Chiayi City, 5 cases in Penghu County, 4 cases in Lienchiang County. Kinmen County did not have confirmed indigenous cases.

Overall, the incidence rate of confirmed cases per 100,000 population was the highest in Taipei City (205.78), followed by New Taipei City (179.03) and Miaoli County (103.26).

(5) Imported cases and countries of infection

In the 1,747 imported cases, there were 359 cases (20.5%) from United States, 274 cases (15.7%) from Indonesia, 227 cases (13.0%) from Philippines, 115 cases (6.6%) from Vietnam, 70 cases (4.0%) from United Kingdom, 67 cases (3.8%) from India, 62 cases (3.5%) from Myanmar, 48 cases (2.7%) from Cambodia, 41 cases (2.3%) from Japan, 34 cases (1.9%) from Malaysia, 32 cases (1.8%) from United Arab Emirates, 25 cases (1.4%) from Thailand, 22 cases (1.3%) from South Africa, 21 cases (1.2%) from France, 20 cases from Singapore, 17 cases from Kazakhstan, 14 cases (0.8%) from Russia, 13 cases each from Germany and Egypt (0.7% respectively), 12 cases from Poland (0.7%), 11 cases each from Canada, Mongolia and Netherlands(0.6% respectively), 9 cases from Italy and mainland China (0.5% respectively), 8 cases each from Lithuania, Nigeria, Ethiopia and Spain(0.5% respectively), 7 cases each from Ukraine and Denmark(0.4% respectively), 6 cases each from Bengal, Brazil and Paraguay(0.3% respectively), 5 cases each from Korea, Laos, Switzerland, Turkey, Australia, Pakistan and Czech Republic(0.3% respectively), 4 cases each from Ireland, Nicaragua, Eswatini, Honduras and

Argentina(0.2% respectively), 3 cases each from Kenya, Hungary, Ghana, Embassy of Saint Christopher and Nevis, Cameroon, Belize and Belgium(0.2% respectively), 2 cases each from Dominican Republic, Nepal, Saudi arabia, Haiti, Romania, Kyrgyzstan, Hongkong, Armenia, Austria, Uzbekistan, Mexico and Peru(0.1% respectively) and 1 case each from Burkina Faso, Syria, Maldives, Aruba, Saint Lucia, Slovakia, Iran, Israel, Cyprus, Mauritania, Uganda, Serbia, Gambia, Finland, Oman, Colombia, Afghanistan, Iceland, Lesotho, Guatemala, Albania, Sweden, Greece and Bulgaria (0.1% respectively). There were 22 cases (1.3%) of unknown countries of infection.

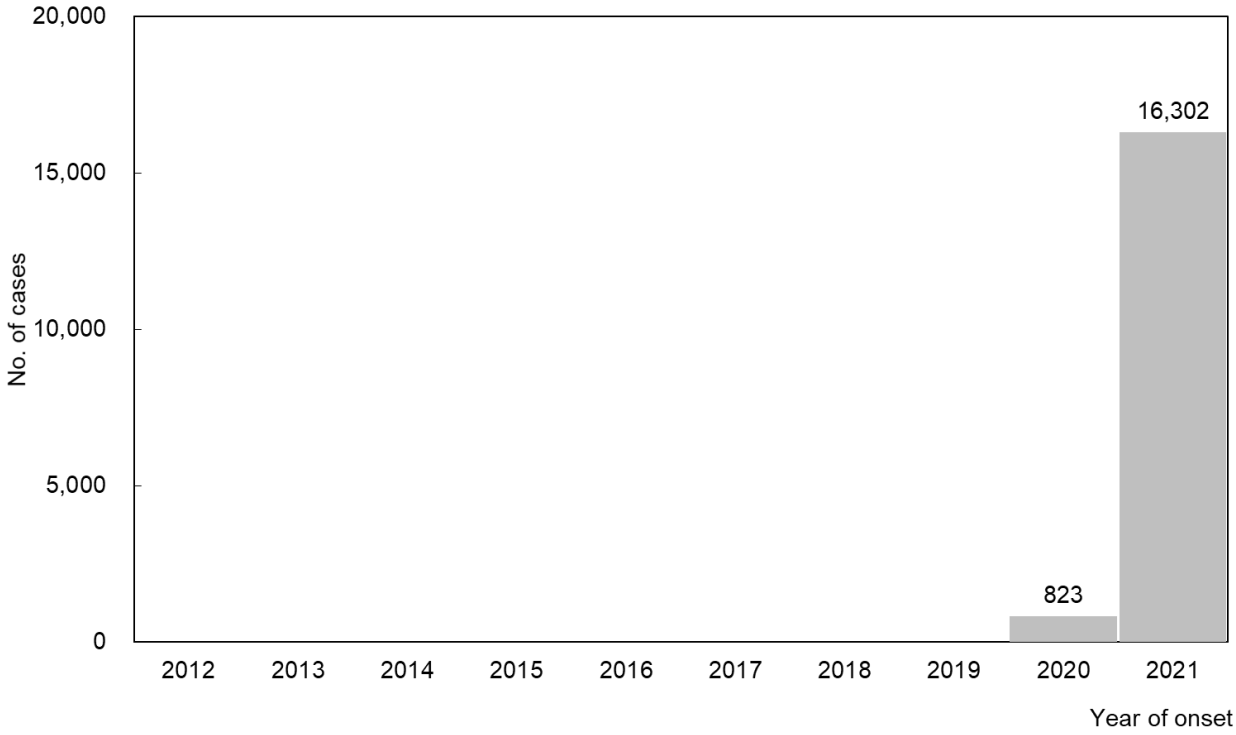


Figure 60 Number of confirmed severe pneumonia with novel pathogens cases, 2012-2021

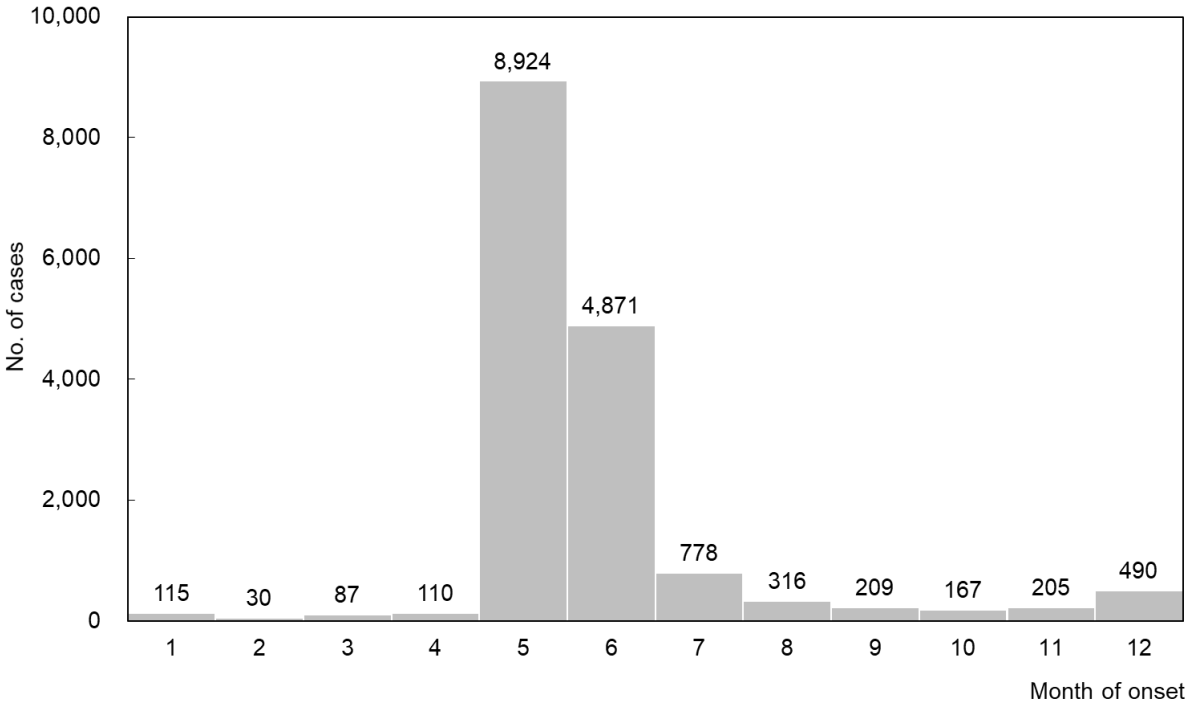


Figure 61 Number of confirmed severe pneumonia with novel pathogens cases, 2021

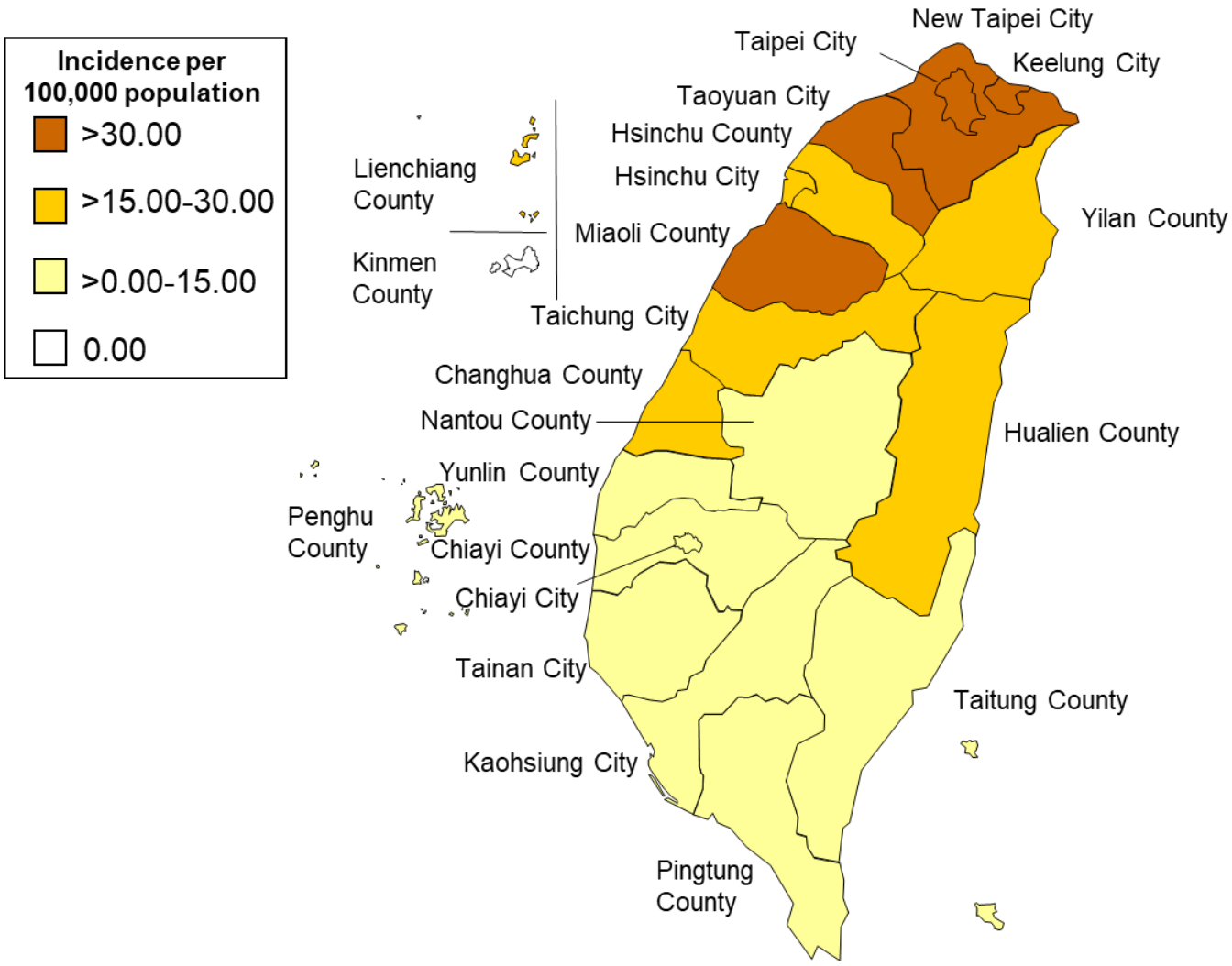


Figure 62 Geographical distributions by incidence of confirmed severe pneumonia with novel pathogens cases, 2021

Syphilis

In 2021, 9,412 confirmed cases of syphilis (incidence rate: 40.11 per 100,000 population) were reported, which represented an increase compared to 8,799 confirmed cases (incidence rate: 37.31 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 8,027 male cases (85.3%), 1,384 female cases (14.7%) and unkown gender with 1 case (less than 0.1%). With male to female ratio of 5.8 : 1.0.

(2) By age group (by age of diagnosis)

The cases occurred mostly in 25-39 years age group with 4,375 cases (46.5%) reported, followed by 40-64 years age group with 2,253 cases (23.9%), 65 years and over age group with 1,757 cases (18.7%), 15-24 years age group with 1,024 cases (10.9%), 5-14 years age group with 3 cases (less than 0.1%).

(3) By month (by date of diagnosis)

There were no specific prevalent months or seasons for syphilis in 2021, and there were confirmed cases reported in each month of the year.

(4) By residential region

All cities and counties had confirmed cases of syphilis reported in 2021. New Taipei City had the highest number of incidents with 1,938 cases (20.6%) reported, followed by Kaohsiung City with 1,232 cases (13.1%), Taipei City with 1,225 cases (13.0%), Taichung City with 1,162 cases (12.3%), Taoyuan City with 1,031 cases (11.0%), Tainan City with 630 cases (6.7%), Changhua County with 316 cases (3.4%), Pingtung County with 299 cases (3.2%), Yilan County with 204 cases (2.2%), Yunlin County with 171 cases (1.8%), Hsinchu County with 170 cases (1.8%), Hsinchu City with 165 cases (1.8%), Miaoli County with 151 cases (1.6%), Keelung City with 143 cases (1.5%), Hualien County with 140 cases (1.5%), Nantou County with 133 cases (1.4%), and Chiayi County with 102 cases (1.1%). The other cities and counties had less than 100 confirmed cases.

The incidence rate of confirmed cases per 100,000 population was the highest in New Taipei City (48.21), followed by Taipei City (47.79), and Taoyuan City (45.41).

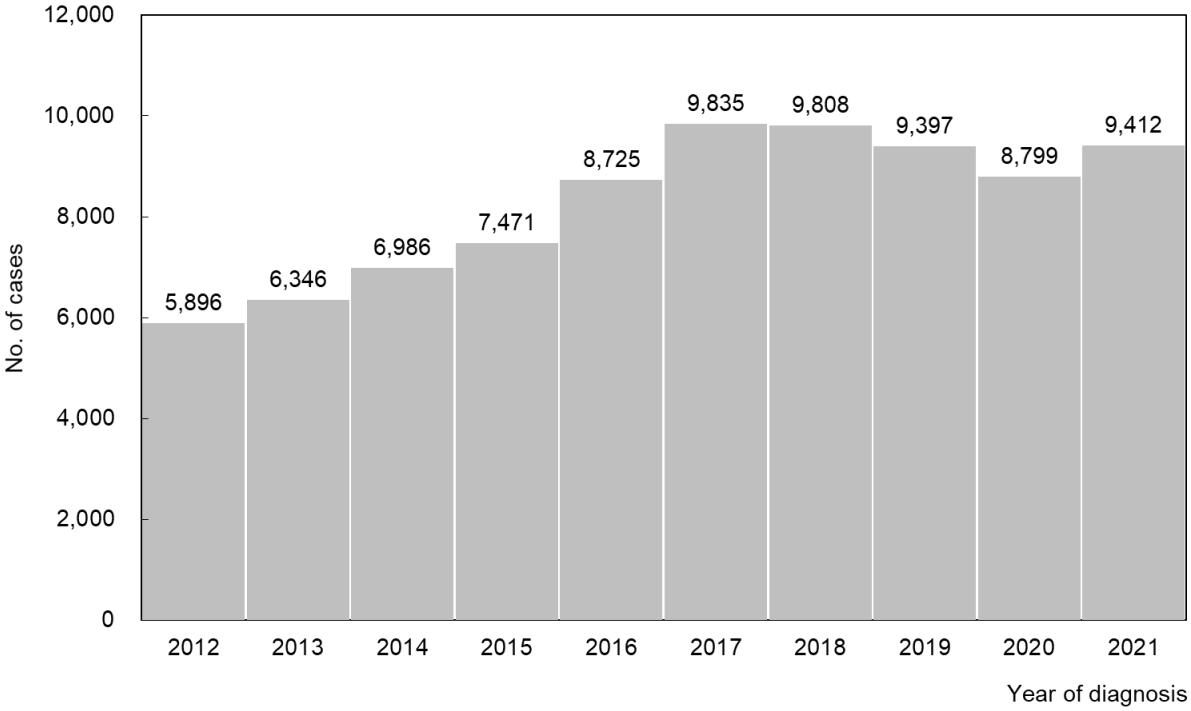


Figure 63 Number of confirmed syphilis cases, 2012-2021

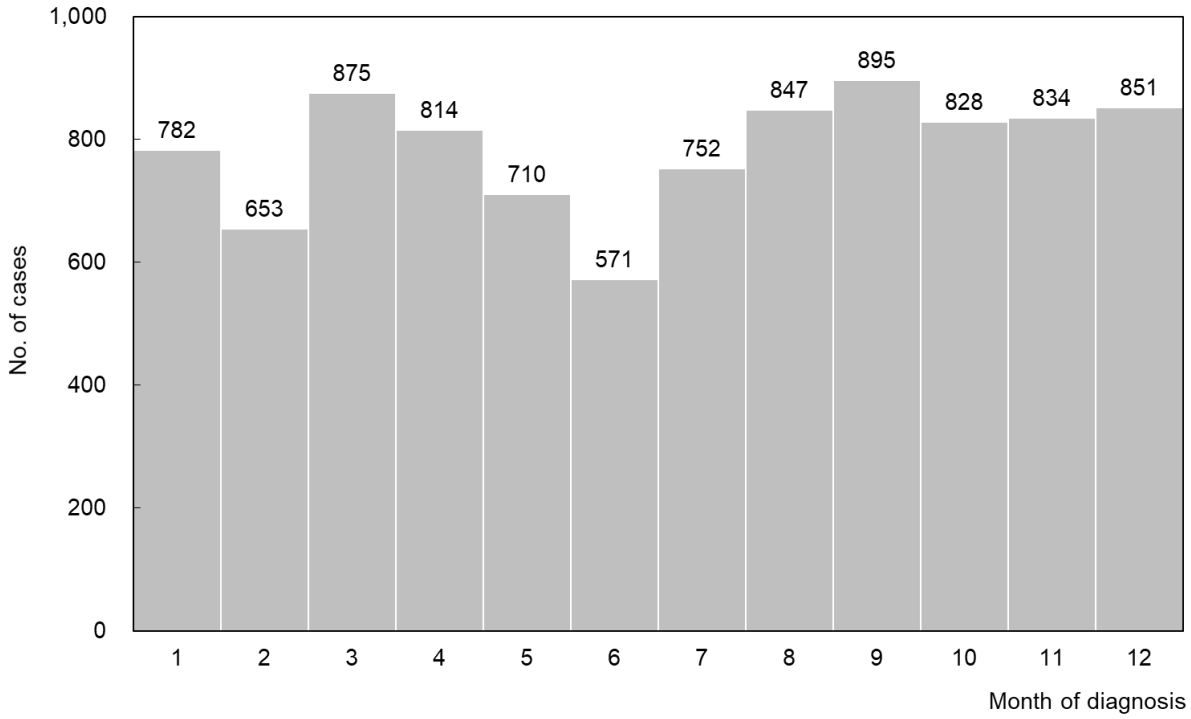


Figure 64 Number of confirmed syphilis cases, 2021

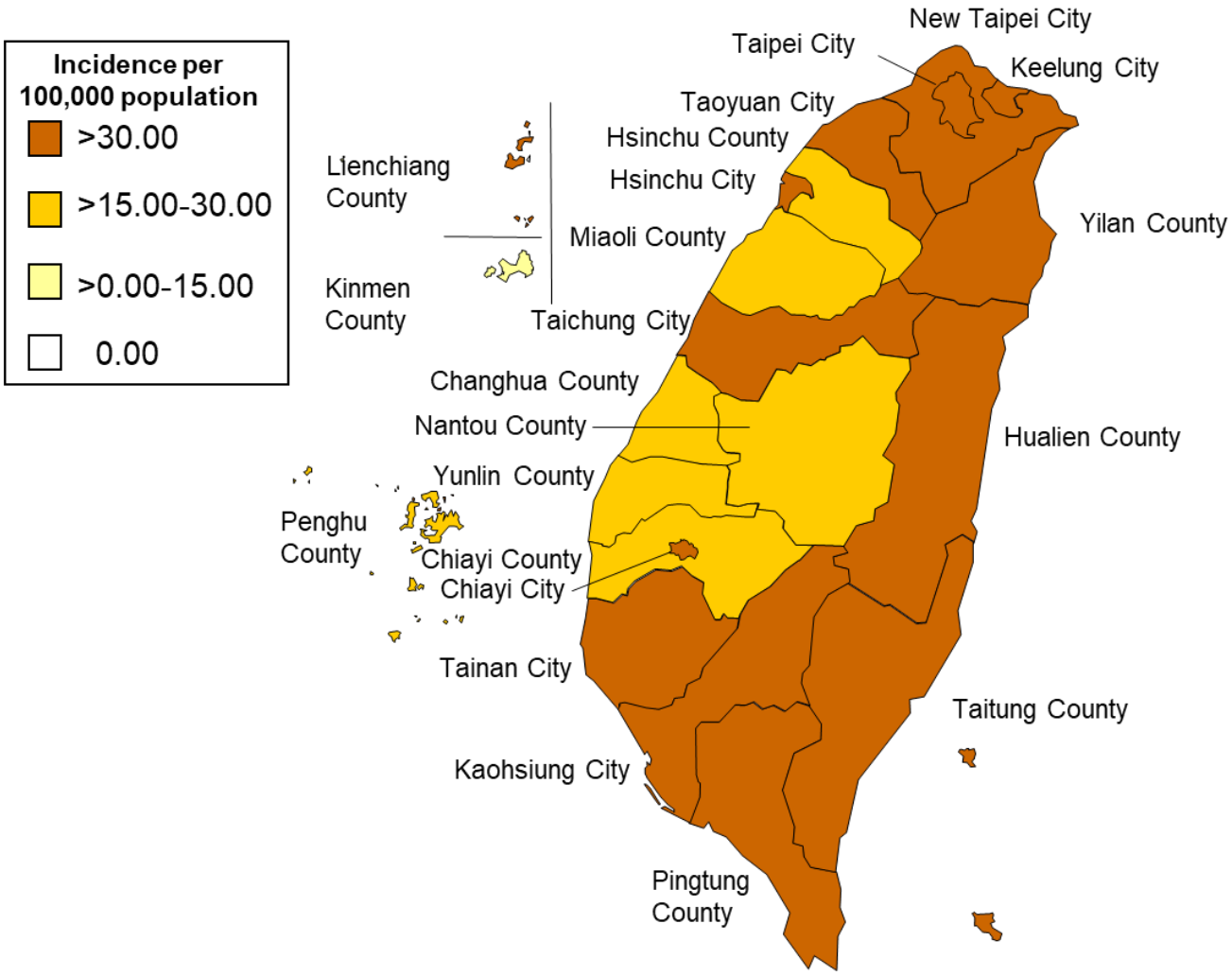


Figure 65 Geographical distribution by incidence of confirmed syphilis cases, 2021

Gonorrhea

In 2021, 7,381 confirmed cases of gonorrhea (incidence rate: 31.45 per 100,000 population) were reported, which represented an increase compared to 7,082 confirmed cases (incidence rate: 30.03 per 100,000 population) in 2020. The data of confirmed cases in 2021 are analyzed as follows:

(1) By gender

There were 6,645 male cases (90.1%), 734 female cases (9.9%) and unkown gender with 1 case. With male to female ratio of 9.1:1.0.

(2) By age group (by age of diagnosis)

The cases occurred mostly in 25-39 years age group with 3,700 cases (50.1%) reported, followed by 15-24 years age group with 2,506 cases (34.0%), 40-64 years age group with 1,093 cases (14.8%), 65 years and over age group with 51 cases (0.7%), 5-14 years age group with 29 cases (0.4%) and 1-4 years age group with 2 cases (less than 0.1%).

(3) By month (by date of diagnosis)

There were no specific prevalent months or seasons for gonorrhea in 2021, and there were confirmed cases reported in each month of the year.

(4) By residential region

Except Lienchiang County, all cities and counties had confirmed cases of gonorrhea reported in 2021. New Taipei City had the highest number of incidents with 1,745 cases (23.6%) reported, followed by Taipei City with 1,136 cases (15.4%), Taoyuan City with 871 cases (11.8%), Kaohsiung City with 773 cases (10.5%), Taichung City with 631 cases (8.5%), Tainan City with 317 cases (4.3%), Hsinchu County with 297 cases (4.0%), Keelung City with 177 cases (2.4%), Miaoli County with 169 cases (2.3%), Nantou County with 166 cases (2.2%), Hsinchu County with 149 cases (2.0%), Hualien County with 146 cases (2.0%), Pingtung County with 131 cases (1.8%), Yilan County with 118 cases (1.6%), and Yunlin County with 109 cases (1.5%). The other cities and counties had less than 100 confirmed cases.

The incidence rate of confirmed cases per 100,000 population was the highest in Hsinchu County (51.82), followed by Keelung City (48.39) and Hualien County (45.22).

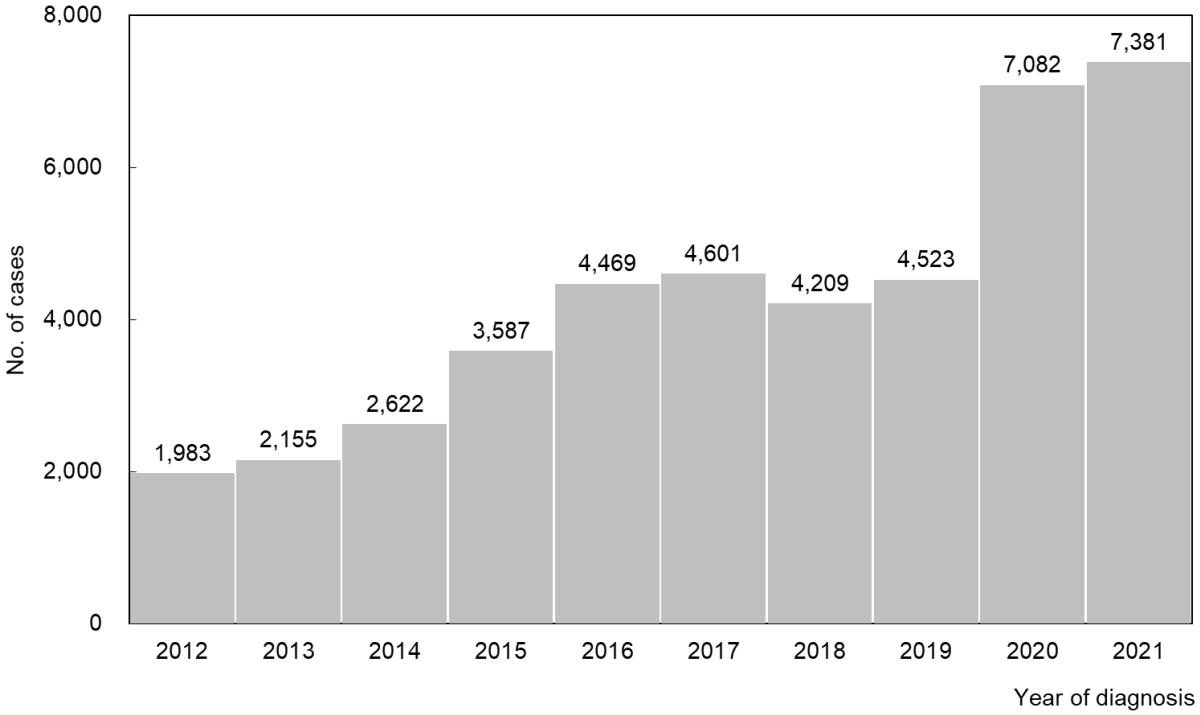


Figure 66 Number of confirmed gonorrhea cases, 2012-2021

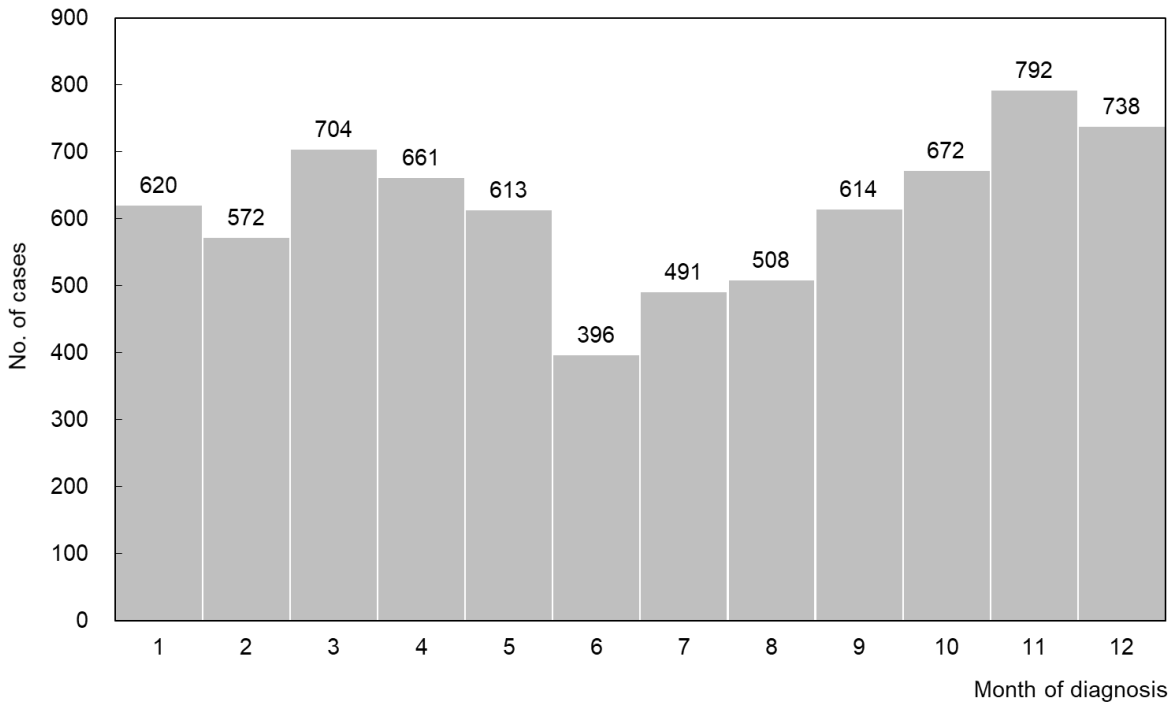


Figure 67 Number of confirmed gonorrhea cases, 2021

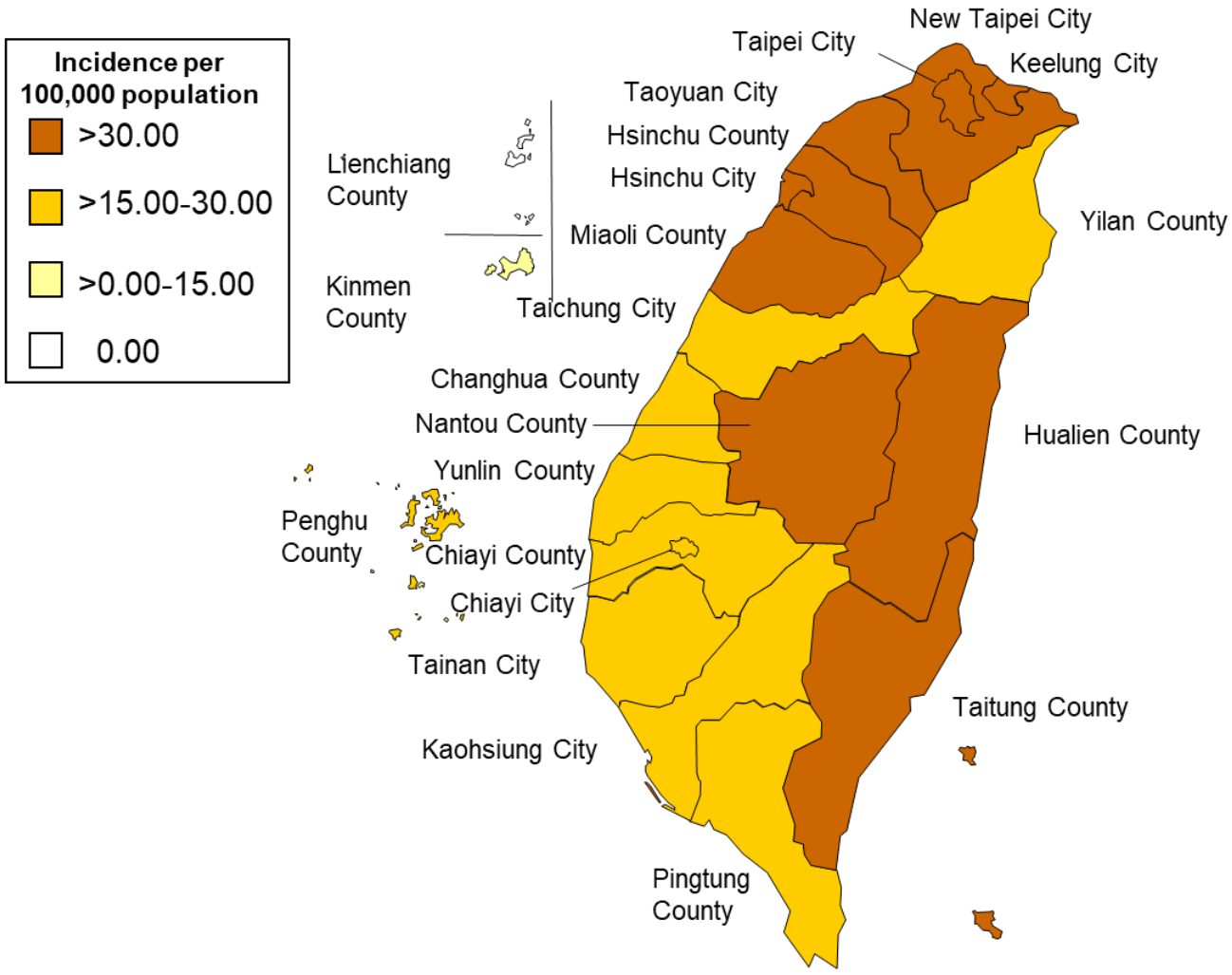


Figure 68 Geographical distribution by incidence of confirmed gonorrhea cases, 2021

HIV Infection & AIDS

From 1984 up to the end of 2021, there were 43,729 cases of human immunodeficiency virus (HIV) infection (42,260 native cases and 1,469 foreign cases) and 20,614 acquired immunodeficiency syndrome (AIDS) cases (20,343 native cases and 271 foreign cases) were reported.

In 2021, 1,347 HIV cases (1,246 native cases and 101 foreign cases) and 722 AIDS cases (689 native cases and 33 foreign cases) were diagnosed and reported. The data of native cases in 2021 are analyzed as follows (the HIV infection cases include those cases with AIDS at the time of reporting):

(1) By gender

HIV: There were 1,208 male cases (97%) and 38 female cases (3%) with male to female ratio of 31.8：1.0.

AIDS: There were 660 male cases (95.8%) and 29 female cases (4.2%) with male to female ratio of 22.8：1.0.

(2) By age group (by age of diagnosis)

HIV: There were 740 cases (59.4%) in 25-39 years age group, 269 cases (21.6%) in 40-64 years age group, and 225 cases (18.1%) in 15-24 years age group.

AIDS: There were 373 cases (54.1%) in 25-39 years age group, 239 cases (34.7%) in 40-64 years age group, and 61 cases (8.9%) in 15-24 years age group.

(3) By month (by date of diagnosis)

There were no specific prevalent months or seasons for HIV infection and AIDS in 2021 and there were confirmed cases reported in each month of the year.

(4) By risk factor

HIV (total): There were 1,044 cases (83.8%) caused by men who have sex with men, 115 cases (9.2%) caused by heterosexual contact, 22 cases (1.8%) caused by injection drug use, and 65 cases (5.2%) with unknown causes.

HIV (male): There were 1,044 cases (86.4%) caused by men who have sex with men, 85 cases (7%) caused by heterosexual contact, 18 cases (1.5%) caused by injection drug use, and 61 cases (5%) with unknown causes.

HIV (female): The cases were mostly caused by heterosexual contact with 30 cases (78.9%), followed by injection drug use with 4 case (10.5%), and unknown causes with 4 cases (10.5%).

AIDS (total): There were 502 cases (76.1%) involving men who have sex with men, 94 cases (13.6%) involving heterosexual contact, 54 cases (7.8%) involving injection drug use. There were also 39 cases (5.7%) with unknown causes.

AIDS (male): There were 502 cases (76.1%) involving men who have sex with men, 75 cases (11.4%) involving heterosexual contact, 47 cases (7.1%) involving injection drug use. There were also 36 cases (5.5%) with unknown causes.

AIDS (female): There were 19 cases (65.5%) involving heterosexual contact, 7 cases (24.1%) involving injection drug use. There were also 3 cases (10.3%) with unknown causes.

See Tables 27 and 28 for statistics of HIV infection and AIDS by risk factor.

(5) By residential region

HIV: New Taipei City had the highest reported HIV cases with 242 cases (19.4%), followed by Taichung City with 176 cases (14.1%),Kaohsiung City with 169 cases (13.6%), Taipei City with 164 cases (13.3%), and Taoyuan City with 146 cases (11.7%). Lienchiang County and Penghu County did not have HIV infection cases reported in 2021.

The new reported confirmed HIV cases per 100,000 population in 2021 was the highest in Taitung County (8.87), followed by Hualien County (7.12) and Taoyuan City (6.43).

AIDS: New Taipei City had the highest reported AIDS cases with 135 cases (19.6%), followed by Kaohsiung City with 102 cases (14.8%), Taichung City with 91 cases (13.2%), Taoyuan City with 86 cases (12.5%) and Taipei City with 72 cases (10.4%). Lienchiang County and Penghu County did not have AIDS cases reported in 2021.

The new reported confirmed AIDS cases per 100,000 population in 2021 was the highest in Keelung City (6.01), followed by Taitung County (5.13) and. Taoyuan City (3.79).

Table 27 Risk factors for male HIV and AIDS cases (foreigner excluded), 2021

Risk factor	HIV	%	AIDS	%
Men who have sex with men	1,044	86.4%	502	76.1%
Heterosexual contact	85	7.0%	75	11.4%
Injecting drug users	18	1.5%	47	7.1%
Recipient of blood/clotting factor	-	-	-	-
Vertical transmission	-	-	-	-
Unknown	61	5.0%	36	5.5%
Total	1,208	100.0%	660	100.0%

Table 28 Risk factors for female HIV and AIDS cases (foreigner excluded), 2021

Risk factor	HIV	%	AIDS	%
Heterosexual contact	30	78.9%	19	65.5%
Injecting drug users	4	10.5%	7	24.1%
Recipient of blood/clotting factor	-	-	-	-
Vertical transmission	-	-	-	-
Unknown	4	10.5%	3	10.3%
Total	38	100.0%	29	100.0%

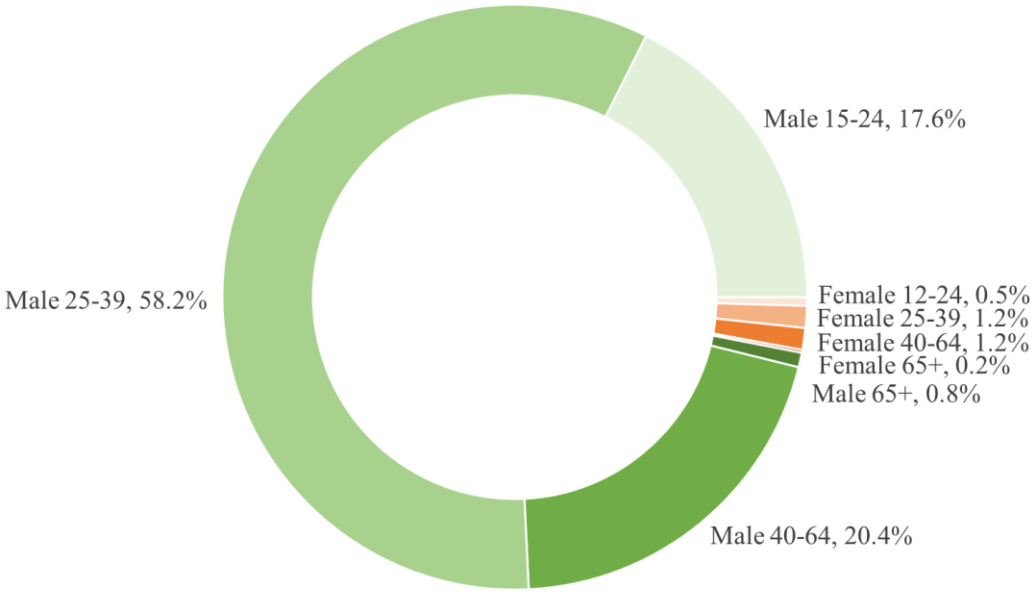


Figure 69 Distribution of confirmed HIV infection cases by sex and age group (foreigner excluded), 2021

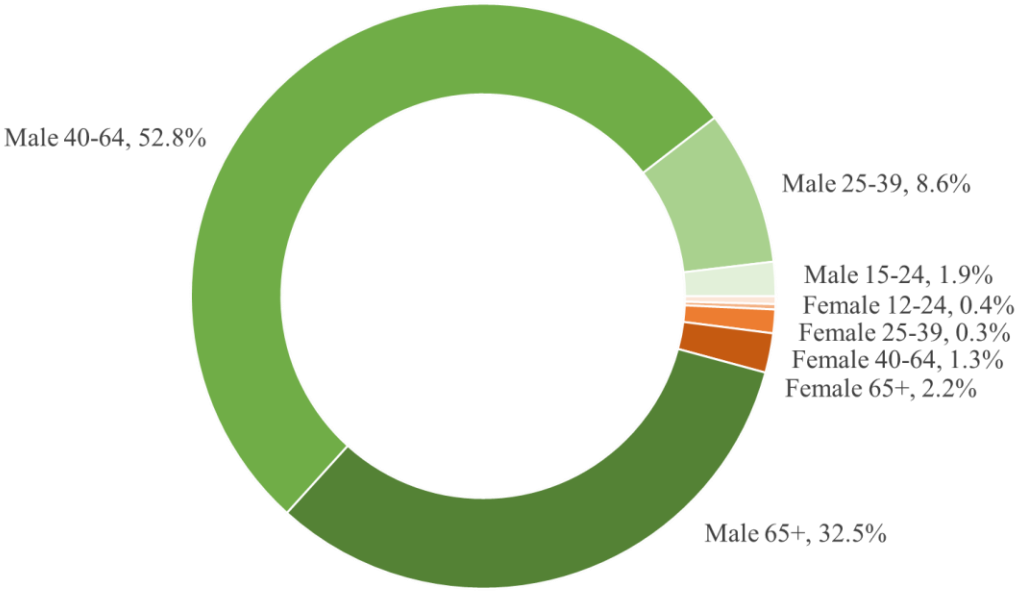


Figure 70 Distribution of confirmed AIDS cases by sex and age group (foreigner excluded), 2021

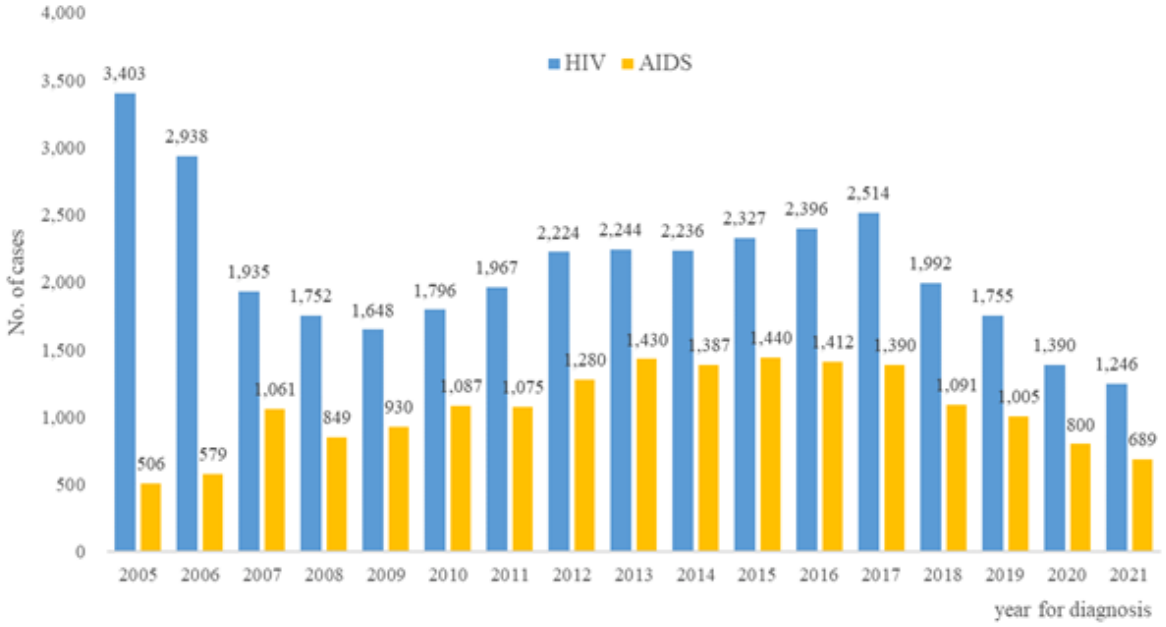


Figure 71 Number of confirmed HIV infection cases and AIDS cases (foreigner excluded), 2005-2021

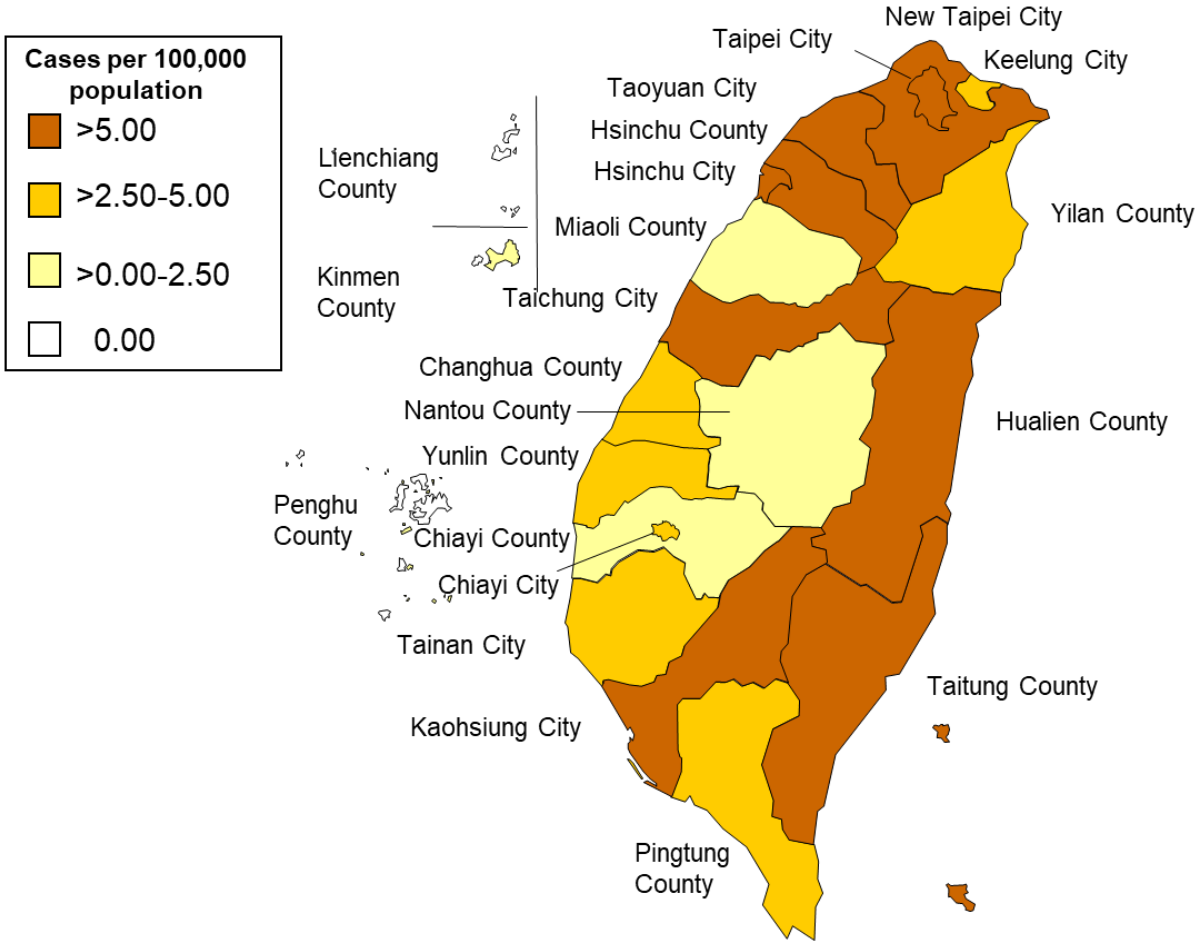


Figure 72 Geographical distribution by reported confirmed HIV infection cases per 100,000 population (foreigner excluded), 2021

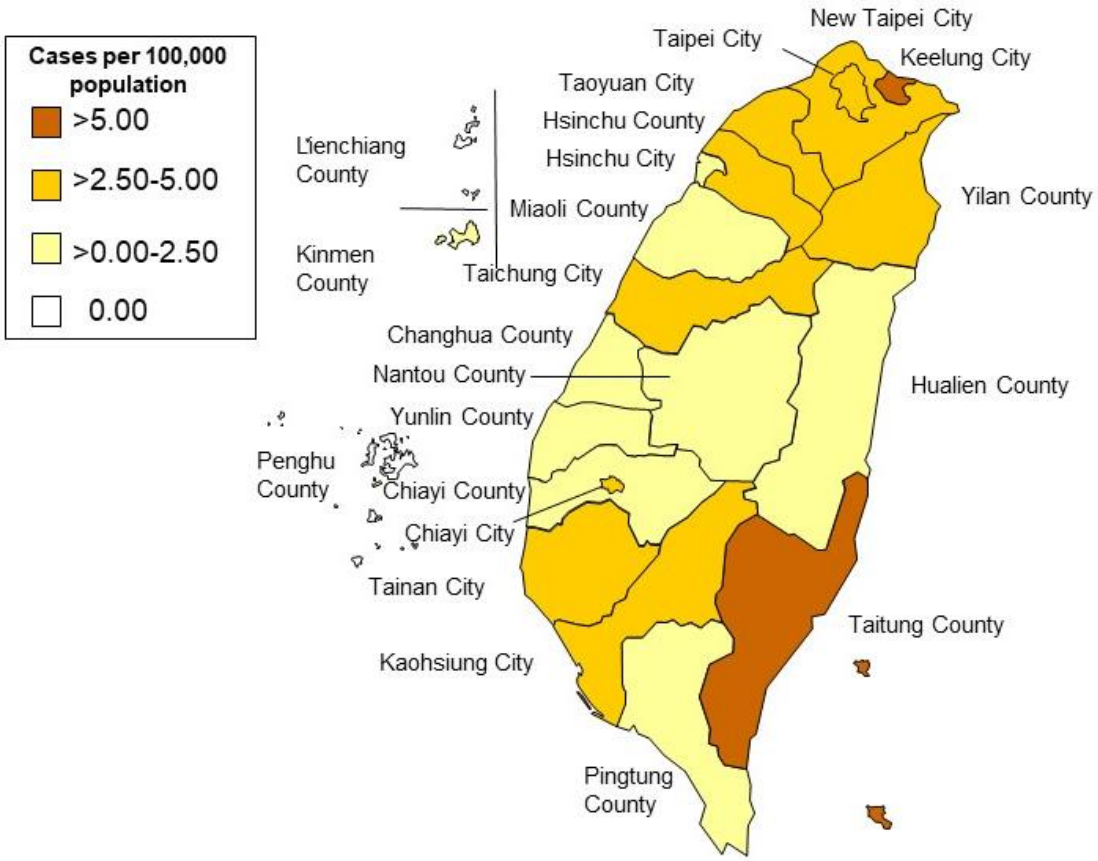


Figure 73 Geographical distribution by reported confirmed AIDS cases per 100,000 population (foreigner excluded), 2021

Tuberculosis

In 2021, 7,062 domestic cases of tuberculosis (incidence rate: 30.1 per 100,000 population) were confirmed, which went down in case number and incidence rate with 9.7% and 9.3% declining respectively, as compared with 7,823 confirmed cases (incidence rate: 33.2 per 100,000 population) in 2020. Furthermore, in 2021, 704 foreigners were confirmed TB cases, which comprised a 1:10 ratio to domestic TB.The data of domestic confirmed TB cases in 2021 were analyzed as follows:

(1) By gender

There were 4,909 male cases (70%) and 2,153 female cases (30%) with a male to female ratio of 2.3:1.0. The incidence rate of tuberculosis in males (42.2 per 100,000 population) was 2.3 times higher than that in females (18.2 per 100,000 population).

(2) By age group

The number of tuberculosis cases and incidence rate per 100,000 population rose significantly with age. Of the new TB cases in 2021, 21 were aged 0-14, 156 were aged 15-24, 220 were aged 25-34, 416 were aged 35-44, 677 were aged 45-54, 1,274 were aged 55-64, and 4,298 were elderly over 65 year-old which accounted for 61% of total.

(3) By month (based on notification date)

There were no specific prevalent months or seasons for tuberculosis notification in 2021 and there were confirmed cases reported in each month of the year, with highest number in March (687 reported) and lowest in July (478 reported).

(4) By residential region

The incidence rate of tuberculosis was higher in eastern region than in western region, and was higher in southern region than in northern region. With regard to incidence rate by city and county, Pingtung county had the highest incidence rate with 55.4 per 100,000 population, followed by Hualien County with 48.9 per 100,000 population. Penghu county and Kinmen county had the lowest incidence rate with 17.0 and 10.6 per 100,000 population respectively.

(5) Mortality distribution

In 2021, there were 442 tuberculosis deaths with a mortality rate of 1.9 per 100,000 population. Males accounted for 324 deaths (2.8 deaths per 100,000 population) and the rest of 118 were females (1.0 deaths per 100,000 population) with a male to female death ratio of 2.7:1.0.

The tuberculosis mortality rate in Taiwan increased with age. Of the 442

tuberculosis deaths in 2021, 88% (387 cases) were elderly aged 65 years and above.

For the overall geographic distribution, tuberculosis deaths in 2021 showed a pattern of higher in eastern and southern regions and lower in northern region. Pingtung county had the highest TB mortality rate (4.3 per 100,000 population), followed by Chiayi county (3.4 per 100,000 population).

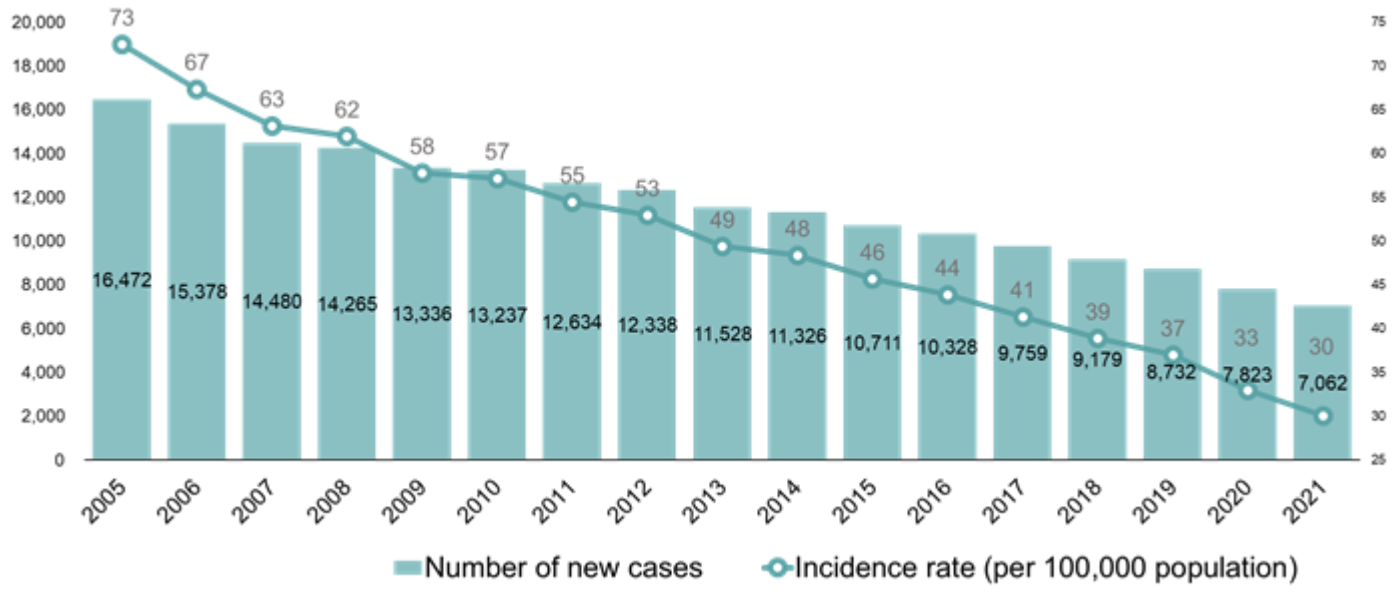


Figure 74 Trend of tuberculosis case number and incidence rate by year, 2005-2021

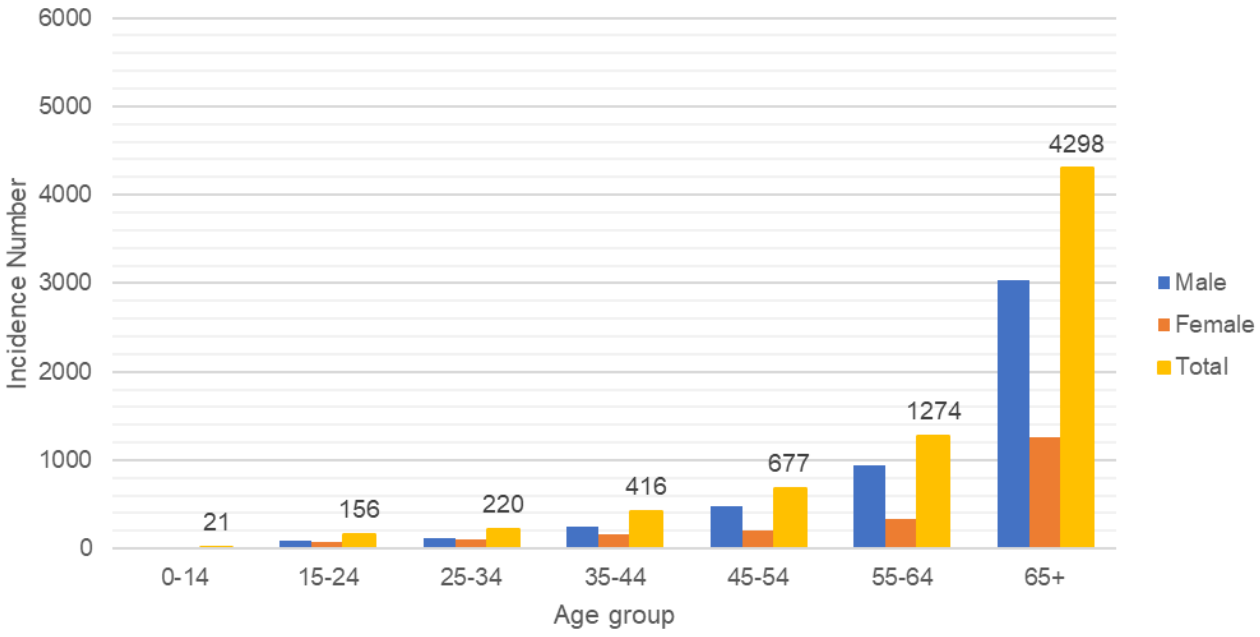


Figure 75 Tuberculosis cases number by age group and sex, 2021

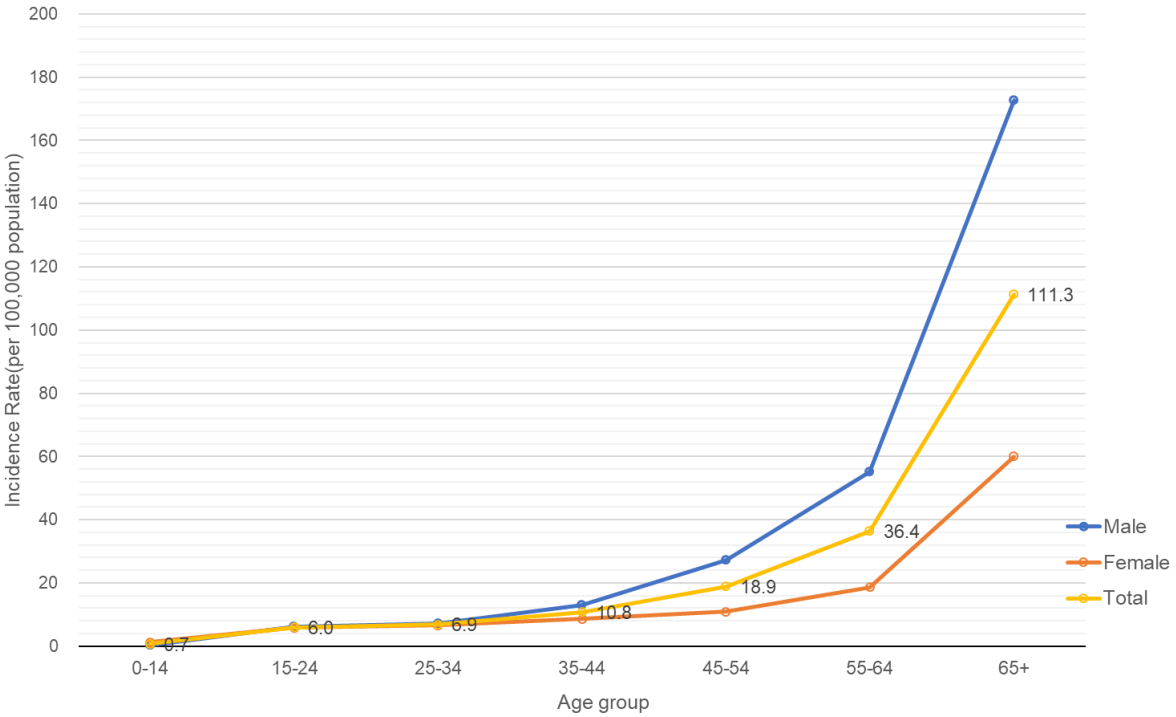


Figure 76 Incidence rate of tuberculosis by age group and sex, 2021

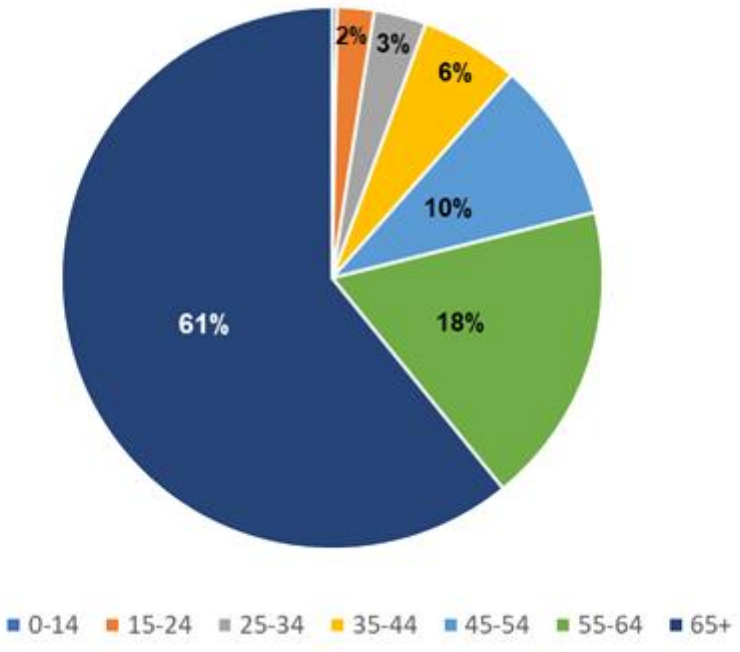


Figure 77 Distribution of tuberculosis incidence by age group, 2021

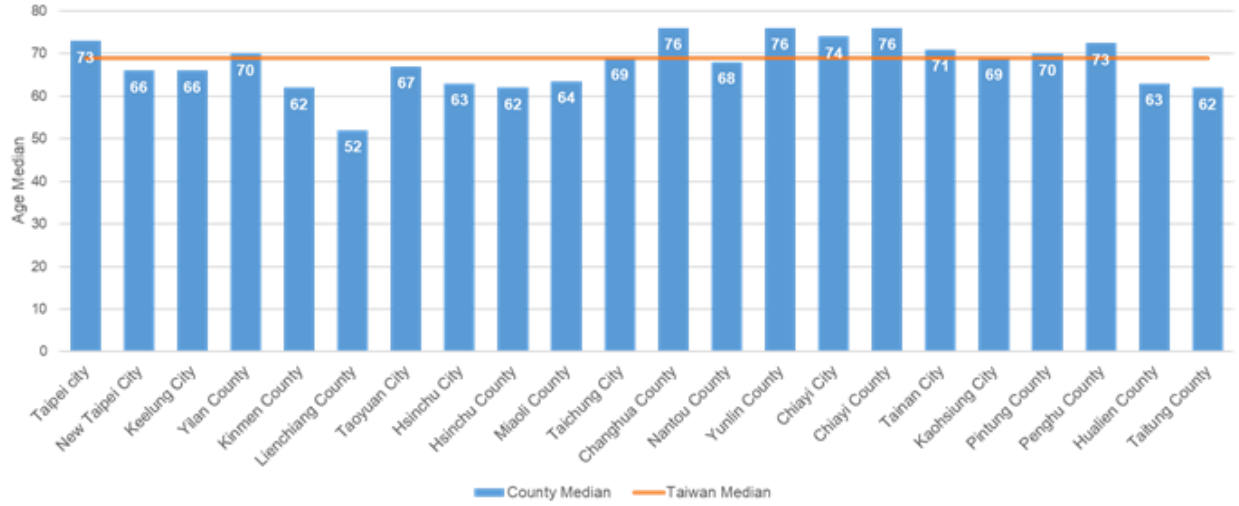


Figure 78 Tuberculosis Age Median by city and county, 2021

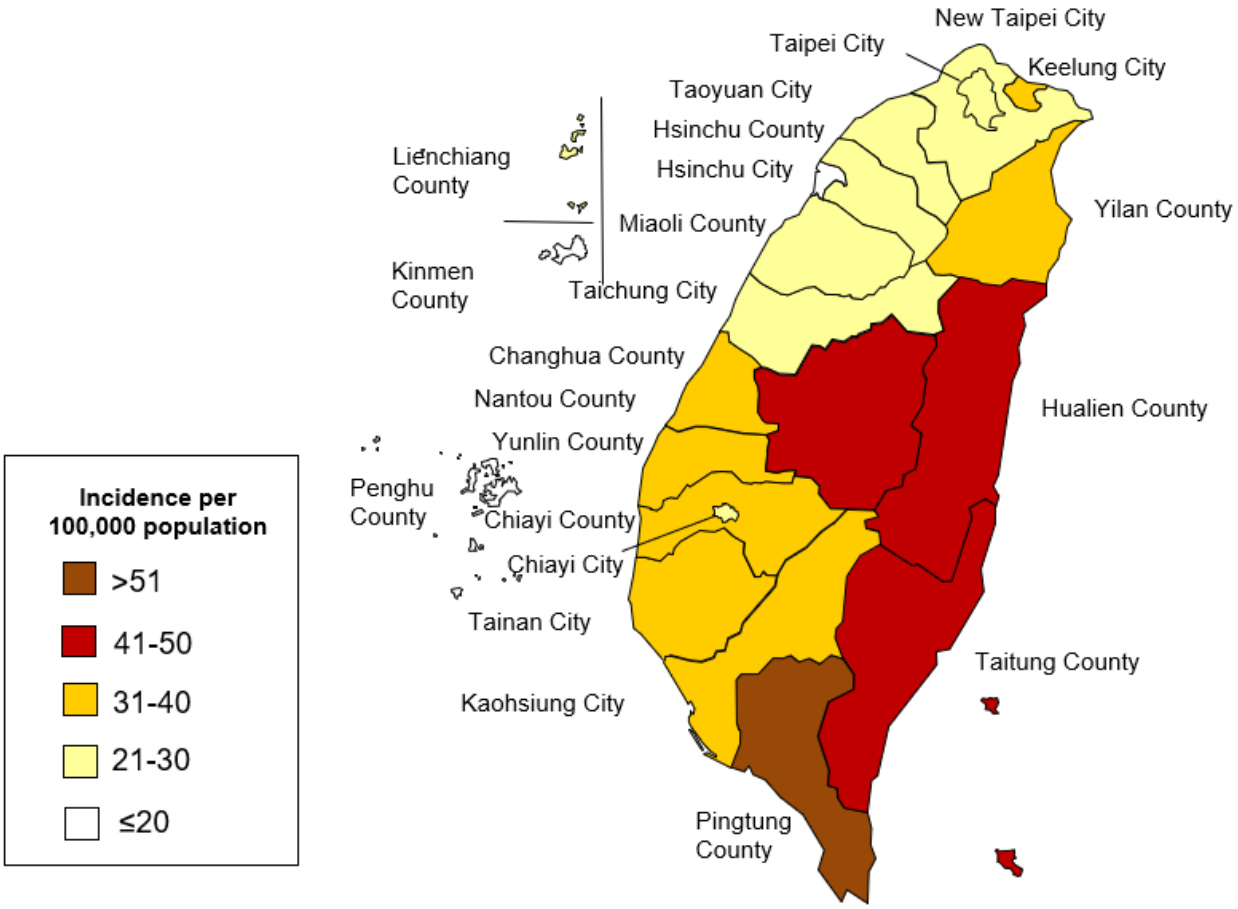


Figure 79 Geographical distribution by incidence of tuberculosis cases, 2021

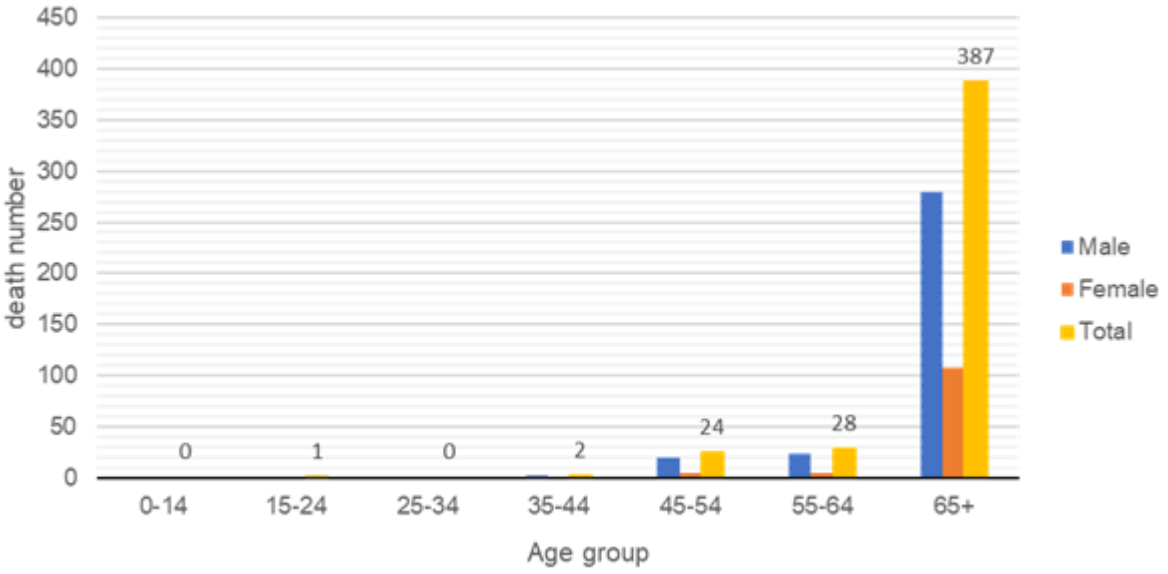


Figure 80 Death number of Tuberculosis by age group and sex, 2021

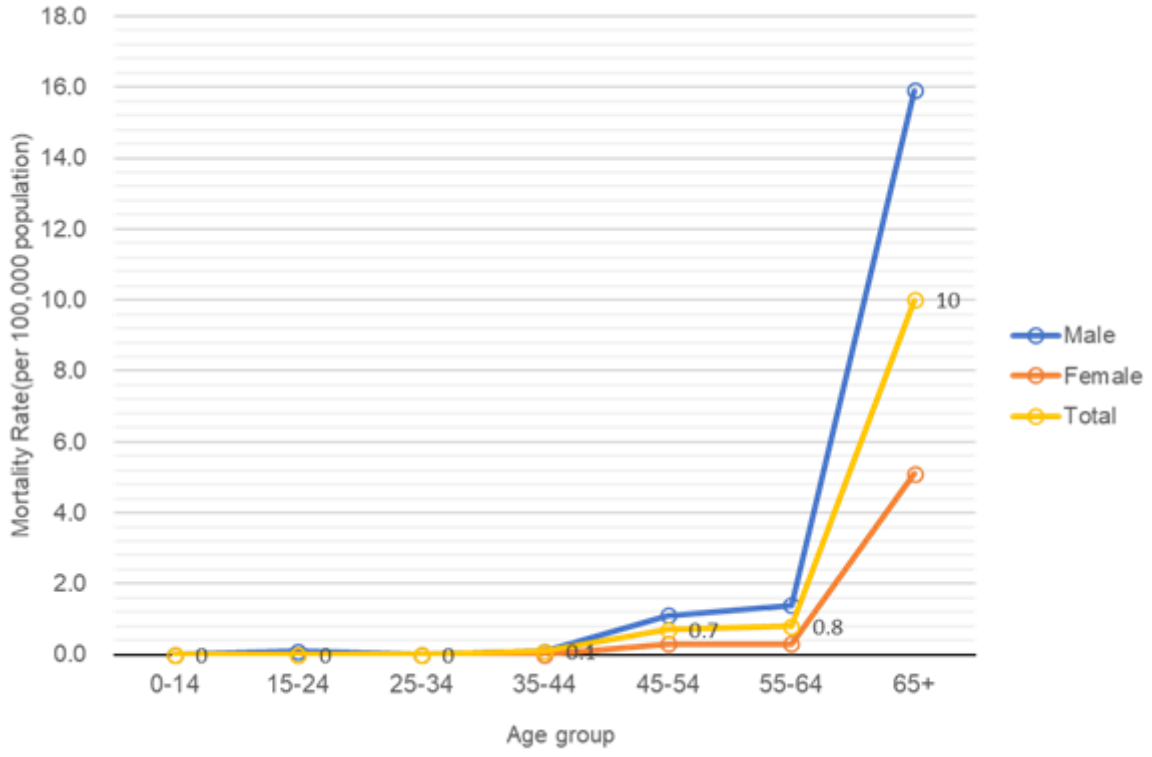


Figure 81 Mortality rate of tuberculosis by age group and sex, 2021

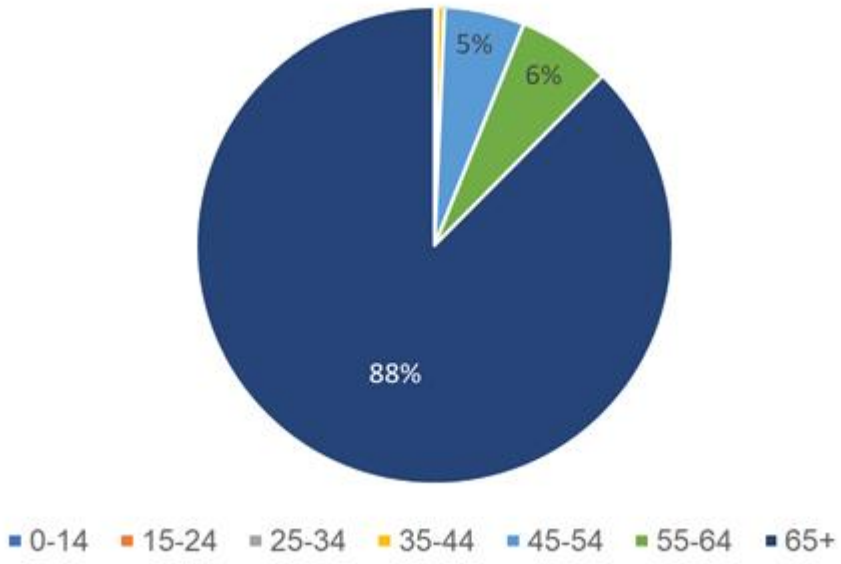


Figure 82 Distribution of tuberculosis mortality by age group, 2021

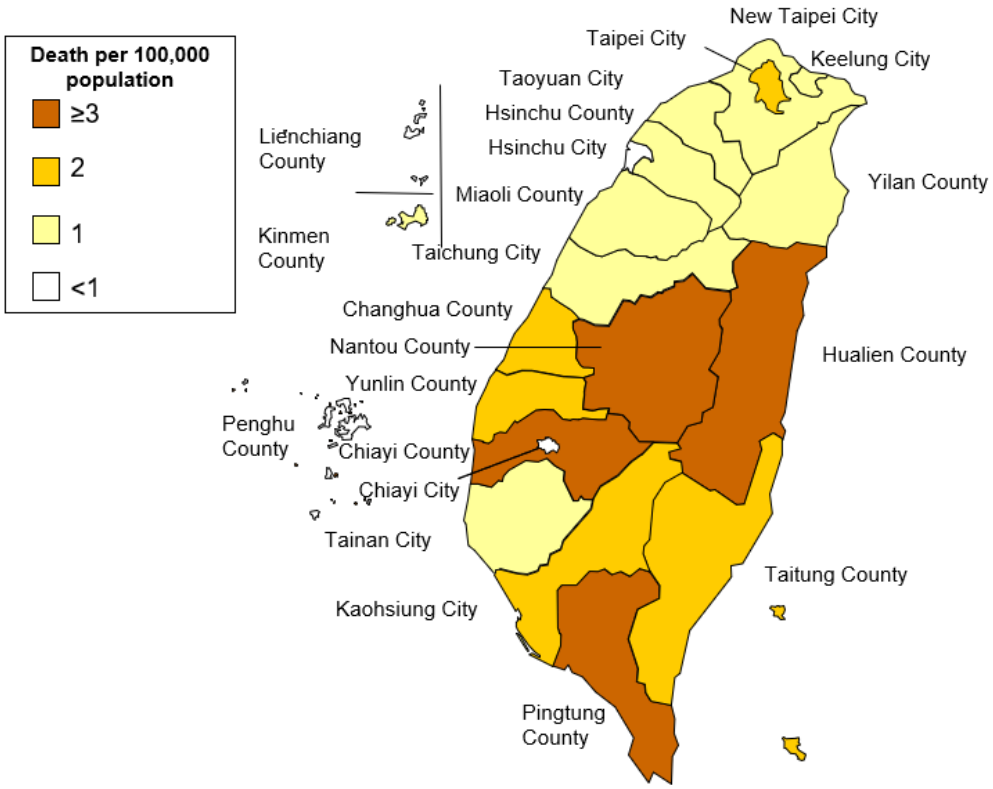
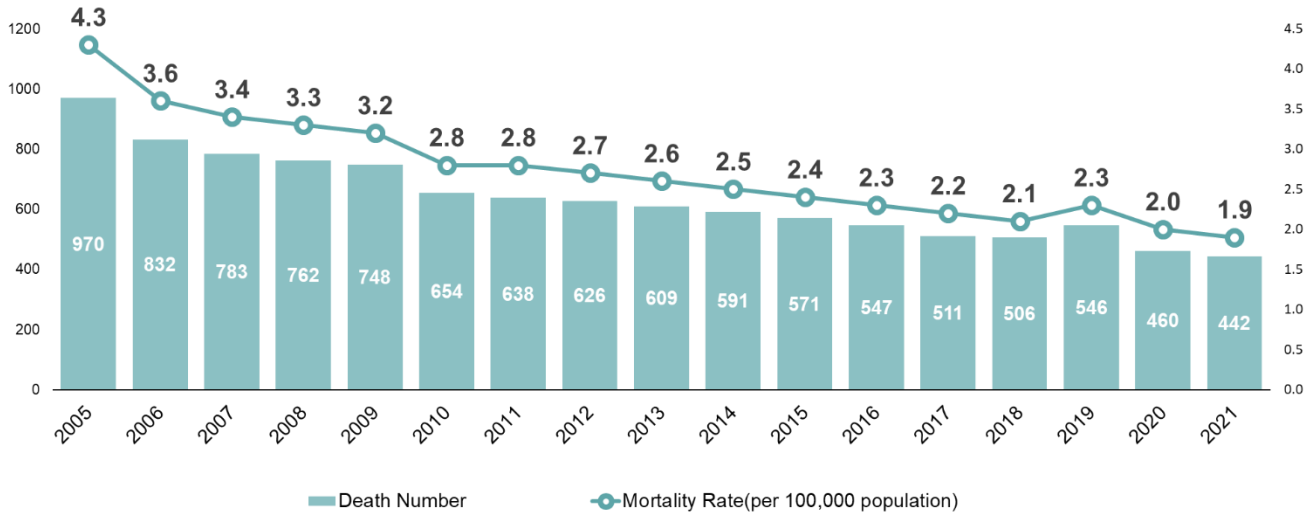


Figure 83 Geographical distribution by mortality of confirmed tuberculosis cases, 2021



Note: The Ministry of Health and Welfare has adopted EU system (IRIS institute) for statistics of cause of death since 2019.

Figure 84 Trend of tuberculosis death number and mortality rate by year, 2005-2021

Table 29 Confirmed tuberculosis cases — by geographical distribution, 2021

Locality	Total			Male			Female		
	Tuberculosis	Midyear population	Per 100,000 population	Tuberculosis	Midyear population	Per 100,000 population	Tuberculosis	Midyear population	Per 100,000 population
Taiwan	7,062	23,468,275	30.1	4,909	11,626,231	42.2	2,153	11,842,045	18.2
Taipei City	545	2,563,406	21.3	355	1,220,292	29.1	190	1,343,114	14.1
New Taipei City	1,060	4,019,534	26.4	738	1,962,846	37.6	322	2,056,688	15.7
Keelung City	116	365,777	31.7	80	182,392	43.9	36	183,386	19.6
Yilan County	158	451,890	35.0	113	227,652	49.6	45	224,238	20.1
Kinmen County	15	141,068	10.6	11	70,355	15.6	4	70,714	5.7
Lienchiang County	4	13,462	29.7	3	7,789	38.5	1	5,673	17.6
Taoyuan City	453	2,270,599	20.0	317	1,124,703	28.2	136	1,145,896	11.9
Hsinchu City	87	452,026	19.2	62	223,157	27.8	25	228,870	10.9
Hsinchu County	157	573,178	27.4	98	292,564	33.5	59	280,614	21.0
Miaoli County	114	540,384	21.1	88	278,534	31.6	26	261,851	9.9
Taichung City	776	2,817,139	27.5	533	1,383,277	38.5	243	1,433,862	16.9
Changhua County	459	1,261,000	36.4	314	640,758	49.0	145	620,242	23.4
Nantou County	214	487,865	43.9	160	249,256	64.2	54	238,609	22.6
Yunlin County	263	673,503	39.0	182	348,248	52.3	81	325,255	24.9
Chiayi City	55	265,366	20.7	32	128,256	25.0	23	137,110	16.8
Chiayi County	175	496,399	35.3	127	257,501	49.3	48	238,898	20.1
Tainan City	617	1,868,488	33.0	426	930,514	45.8	191	937,975	20.4
Kaohsiung City	1,075	2,755,312	39.0	761	1,358,477	56.0	314	1,396,835	22.5
Pingtung County	448	808,549	55.4	307	411,789	74.6	141	396,760	35.5
Penghu County	18	106,146	17.0	15	54,623	27.5	3	51,524	5.8
Hualien County	158	322,865	48.9	117	163,214	71.7	41	159,652	25.7
Taitung County	95	214,324	44.3	70	110,040	63.6	25	104,284	24.0

Table 30 Confirmed tuberculosis cases — by age & sex, 2021

Age	Total			Male			Female		
	tuberculosis	Midyear population	Per 100,000 population	tuberculosis	Midyear population	Per 100,000 population	tuberculosis	Midyear population	Per 100,000 population
Total	7,062	23,468,275	30.1	4,909	11,626,231	42.2	2,153	11,842,045	18.2
0-4	3	895,521	0.3	0	463,798	0.0	3	431,723	0.7
5-9	5	1,064,304	0.5	2	551,404	0.4	3	512,900	0.6
10-14	13	966,828	1.3	2	504,444	0.4	11	462,384	2.4
15-19	61	1,126,080	5.4	35	588,452	5.9	26	537,628	4.8
20-24	95	1,459,804	6.5	49	759,624	6.5	46	700,180	6.6
25-29	104	1,594,428	6.5	58	826,910	7.0	46	767,518	6.0
30-34	116	1,584,829	7.3	60	816,075	7.4	56	768,755	7.3
35-39	190	1,832,728	10.4	104	912,915	11.4	86	919,814	9.3
40-44	226	2,007,386	11.3	146	989,292	14.8	80	1,018,094	7.9
45-49	272	1,780,952	15.3	181	871,878	20.8	91	909,074	10.0
50-54	405	1,792,208	22.6	297	880,934	33.7	108	911,274	11.9
55-59	560	1,819,796	30.8	422	889,432	47.4	138	930,364	14.8
60-64	714	1,680,241	42.5	517	811,770	63.7	197	868,471	22.7
65+	4,298	3,863,174	111.3	3,036	1,759,306	172.6	1,262	2,103,869	60.0

Table 31 Confirmed tuberculosis cases — by aboriginal locality / township, 2021

Locality	Township	Tuberculosis	Midyear population	Per 100,000 population
Total		179	201,791	88.7
New Taipei City	Wulai District	0	6,404	0.0
Yilan County	Nanao Township	10	5,982	167.2
Yilan County	Datong Township	3	6,113	49.1
Taoyuan City	Fusing District	9	12,505	72
Hsinchu County	Jianshih Township	8	9,612	83.2
Hsinchu County	Wufong Township	7	4,480	156.3
Miaoli County	Taian Township	5	5,737	87.2
Taichung City	Heping District	5	10,840	46.1
Nantou County	Renai Township	34	15,814	215.0
Nantou County	Sinyi Township	19	15,832	120.0
Chiayi County	Alishan Township	5	5,474	91.3
Kaohsiung City	Maolin District	2	1,895	105.6
Kaohsiung City	Taoyuan District	2	4,208	47.5
Kaohsiung City	Namasia District	0	3,145	0.0
Pingtung County	Sandimen Township	5	7,700	64.9
Pingtung County	Shihzih Township	1	4,864	20.6
Pingtung County	Majia Township	1	6,737	14.8
Pingtung County	Laiyi Township	6	7,423	80.8
Pingtung County	Chunrih Township	3	4,939	60.7
Pingtung County	Taiwu Township	5	5,356	93.4
Pingtung County	Mudan Township	1	4,857	20.6
Pingtung County	Wutai Township	4	3,253	123.0
Hualien County	Sioulin Township	21	16,349	128.4
Hualien County	Wanrong Township	12	6,195	193.7
Hualien County	Jhuosi Township	2	6,002	33.3
Taitung County	Yanping Township	5	3,570	140.1
Taitung County	Haiduan Township	2	4,128	48.4
Taitung County	Jinfong Township	1	3,681	27.2
Taitung County	Daren Township	1	3,463	28.9
Taitung County	Lanyu Township	0	5,240	0.0

Table 32 Mortality of Tuberculosis — by geographical distribution, 2021

Locality	Number of Death	Midyear population	Per 100,000 population
Taiwan	442	23,468,275	1.9
Taipei City	56	2,563,406	2.2
New Taipei City	56	4,019,534	1.4
Keelung City	5	365,777	1.4
Yilan County	5	451,890	1.1
Kinmen County	2	141,068	1.4
Lienchiang County	0	13,462	0.0
Taoyuan City	30	2,270,599	1.3
Hsinchu City	0	452,026	0.0
Hsinchu County	6	573,178	1.0
Miaoli County	7	540,384	1.3
Taichung City	46	2,817,139	1.6
Changhua County	32	1,261,000	2.5
Nantou County	16	487,865	3.3
Yunlin County	17	673,503	2.5
Chiayi City	0	265,366	0.0
Chiayi County	17	496,399	3.4
Tainan City	31	1,868,488	1.7
Kaohsiung City	65	2,755,312	2.4
Pingtung County	35	808,549	4.3
Penghu County	1	106,146	0.9
Hualien County	10	322,865	3.1
Taitung County	5	214,324	2.3

Note: The Ministry of health and welfare has adopted EU system (IRIS institute) for statistics of cause of death since 2019.

Table 33 Mortality of Tuberculosis — by age & sex, 2021

Age	Total			Male			Female		
	Death	Midyear population	Per 100,000 population	Death	Midyear population	Per 100,000 population	Death	Midyear population	Per 100,000 population
Total	442	23,468,275	1.9	324	11,626,231	2.8	118	11,842,045	1.0
0-4	0	895,521	0.0	0	463,798	0.0	0	431,723	0.0
5-9	0	1,064,304	0.0	0	551,404	0.0	0	512,900	0.0
10-14	0	966,828	0.0	0	504,444	0.0	0	462,384	0.0
15-19	0	1,126,080	0.0	0	588,452	0.0	0	537,628	0.0
20-24	1	1,459,804	0.1	1	759,624	0.1	0	700,180	0.0
25-29	0	1,594,428	0.0	0	826,910	0.0	0	767,518	0.0
30-34	0	1,584,829	0.0	0	816,075	0.0	0	768,755	0.0
35-39	0	1,832,728	0.0	0	912,915	0.0	0	919,814	0.0
40-44	2	2,007,386	0.1	2	989,292	0.2	0	1,018,094	0.0
45-49	6	1,780,952	0.3	5	871,878	0.6	1	909,074	0.1
50-54	18	1,792,208	1.0	14	880,934	1.6	4	911,274	0.4
55-59	12	1,819,796	0.7	10	889,432	1.1	2	930,364	0.2
60-64	16	1,680,241	1.0	13	811,770	1.6	3	868,471	0.3
65+	387	3,863,174	10.0	279	1,759,306	15.9	108	2,103,869	5.1

Note: The Ministry of health and welfare has adopted EU system (IRIS institute) for statistics of cause of death since 2019.

PART IV

Appendix

Appendix 1

Regulations for notifiable disease

Category	Diseases	Reported Within	Mandatory Isolation	Legal Basis*
I	Smallpox, Plague, Severe Acute Respiratory Syndrome, Rabies	24 hours	Isolation care at designated isolation care institution	1、2、6、11、16
II	Diphtheria, Typhoid Fever, Dengue Fever, Meningococcal Meningitis, Paratyphoid Fever, Poliomyelitis (AFP), Shigellosis, Amoebiasis, Malaria, Measles, Acute Hepatitis A, Enterohaemorrhagic E. coli Infection, Hantavirus Syndrome, Cholera, Rubella, Multidrug-Resistant Tuberculosis, Chikungunya Fever, West Nile Fever, Epidemic Typhus Fever, Anthrax, Zika virus infection	24 hours	When necessary, patients may be placed in designated isolation care institutions for isolation care.	1、2、11、19
III	Pertussis, Tetanus, Neonatal Tetanus, Japanese Encephalitis, Tuberculosis (except MDR TB), Congenital Rubella Syndrome, Acute Hepatitis B, Acute Hepatitis C, Acute Hepatitis D, Acute Hepatitis E, Acute Hepatitis (unspecified), Mumps, Legionnaires' Disease, Invasive *Haemophilus Influenzae* Type b Infection, Syphilis, Gonorrhea, Enteroviruses Infection with Severe Complications, Hansens's disease, Congenital Syphilis	one week	When necessary, patients may be placed in designated isolation care institutions for isolation care.	1、2、4、5、22
	HIV Infection, AIDS	24 hours		3、5
IV	Herpesvirus B Infection, Leptospirosis, Melioidosis, Botulism, Severe Fever with Thrombocytopenia Syndrome	24 hours	When necessary, patients may be placed in designated isolation care institutions for isolation care.	1、2、6、7、8、9、14、15、17、23
	Listeriosis	72 hours		
	Invasive Pneumococcal Disease, Q Fever, Endemic Typhus Fever, Lyme Disease, Tularemia, Scrub Typhus, Complicated varicella, Toxoplasmosis, Influenza Case with Severe Complications, Brucellosis	one week		
	Creutzfeldt-Jakob Disease	one month		
V	Rift Valley Fever, Marburg Haemorrhagic Fever, Yellow Fever, Ebola Virus Disease, Lassa Fever	24 hours	Isolation care at designated isolation care institution	1、2、10、12、13、14、16、18、20、21
	Middle East Respiratory Syndrome Coronavirus Infections, Novel Influenza A Virus infections		When necessary, patients may be placed in designated isolation care institutions for isolation care.	
	Severe Pneumonia with Novel Pathogens		When necessary, patients may be placed in designated isolation care institutions for isolation care，or a designated place to take other necessary measures.	

*Note：

1."The Communicable Disease Control Act" amended in 77 articles and promulgated on July 18, 2007.
2."Categories of Communicable Diseases and Prophylaxis of Category IV and V" announced by the Department of Health, the Executive Yuan, on October 9, 2007.
3.“HIV Infection Control and Patient Rights Protection Act“ amended in 27 articles and promulgated on July 11, 2007. (original title: AIDS Prevention and Control Act)
4.The "Hansen's disease Patients Human Rights Protection and Compensation Act" promulgated on August 13, 2008.
5."Categories of Communicable Diseases and Prophylaxis of Category IV and V" announced and amended by the Department of Health, the Executive Yuan, on October 24, 2008.
6."Categories of Communicable Diseases and Prophylaxis of Category IV and V" announced and amended by the Department of Health, the Executive Yuan, on June 19, 2009.
7."Categories of Communicable Diseases and Prophylaxis of Category IV and V" announced and amended by the Department of Health, the Executive Yuan, on September 9, 2010.
8.According to Department of Health’s Bulletin No. Shu-Shou-Ji-Zi-1000100896 dated September 9, 2011, Class IV Notifiable Communicable Disease “Severe Complicated Influenza” is changed name to “Complicated Influenza.”
9.According to Department of Health’s Bulletin No. Shu-Shou-Ji-Zi-1010100098 dated February 7, 2012 of the Department of Health, “Brucellosis” is included in the list of Class IV Notifiable Communicable Diseases and the reporting deadline, reporting and relevant control measures for the diseases should be handled accordingly.
10.According to Department of Health’s Bulletin No. Shu-Shou-Ji-Zi-1010101167 dated October 3, 2012 of the Department of Health, “Severe Acute Respiratory Infections associated with Novel Coronavirus” is included in the list of Class V Notifiable Communicable Diseases.
11.According to Department of Health’s Bulletin No. Shu-Shou-Ji-Zi-1020100062 dated January 24, 2013 of the Department of Health, “Anthrax” is changed from the list of Class I Notifiable Communicable Diseases to Class II.
12.According to Department of Health’s Bulletin No. Shu-Shou-Ji-Zi-1020100343 dated March 14, 2013 of the Department of Health, “Severe Acute Respiratory Infections associated with Novel Coronavirus” is changed name to “Novel Coronavirus Infections” in the list of Class V Notifiable Communicable Disease.
13.According to Department of Health’s Bulletin No. Shu-Shou-Ji-Zi-1020100463 dated April 3, 2013 of the Department of Health, “H7N9 Influenza” is included in the list of Class V Notifiable Communicable Diseases.
14.According to Department of Health’s Bulletin No. Shu-Shou-Ji-Zi-1020100731 dated June 7, 2013 of the Department of Health, “Novel Coronavirus Infection” is changed name to “Middle East Respiratory Syndrome Coronavirus Infections” in the list of Class V Notifiable Communicable Disease. “Cat-Scratch Disease” and “NDM-1 Enterobacteriaceae” are removed from the list of Class IV Notifiable Communicable Disease.
15.According to Department of Health’s Bulletin No. Bu-Shou-Ji-Zi-1020103975 dated December 27, 2013 of the Department of Health, “Varicella” is changed name to “Complicated varicella” in the list of Class IV Notifiable Communicable Disease.
16.According to Department of Health’s Bulletin No. Bu-Shou-Ji-Zi-10301009927 dated June 27, 2014 of the Department of Health, “Novel Influenza A Virus infections” is included in the list of Class V Notifiable Communicable Diseases. “H5N1 Influenza” in the list of Class I Notifiable Communicable Disease and “H7N9 Influenza” in the list of Class V are removed.
17.According to Department of Health’s Bulletin No. Bu-Shou-Ji-Zi-1030101132 dated Augest 1, 2014 of the Department of Health, “Complicated Influenza” is changed name to “Severe Complicated Influenza” in the list of Class IV Notifiable Communicable Disease.
18.According to Department of Health’s Bulletin No. Bu-Shou-Ji-Zi-1030101208 dated Augest 8, 2014 of the Department of Health, “Ebola Haemorrhagic Fever” is changed name to “Ebola Virus Disease” in the list of Class V Notifiable Communicable Disease.
19.According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1040200233 on March 23, 2015, removed “dengue hemorrhagic fever/ dengue shock syndrome” from Category II Communicable Diseases.
20.According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1050100083 on January 22, 2016, included “zika virus infection” in Category II Communicable Diseases.
21.According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1050100179 on February 2, 2016, changed “zika virus infection” from Category II Notifiable Communicable Diseases to Category V.
22.According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1050100423 on Apr 1, 2016, included “congenital syphilis” in Category 3 Communicable Diseases.
23.According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1060101687 on Dec 29, 2017, included “listeriosis” in Category 4 Communicable Diseases.
24.According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1080100423 on Mar 29, 2019,

changed “zika virus infection” from Category 5 Notifiable Communicable Diseases to Category 2.

25."Severe Complicated Influenza" has changed name to "influenza case with severe complications" in the list of Category 4 Communicable Diseases since November, 2019.

26.According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No. 1090100030 on Jun 15, 2020, included “Severe Pneumonia with Novel Pathogens” in Category 5 Communicable Diseases.

27.According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No. 1090100481 on Apr 15, 2020, included “Severe Fever with Thrombocytopenia Syndrome” in Category 4 Communicable Diseases.

Appendix 2

Communicable and Emerging Infectious Disease Report Form

Please protect patient's privacy 2022/05

This form shall be in two copies; one copy is for the Health Bureau.

※For outbreaks of communicable diseases or important communicable diseases (in red), please notify in advance the local health bureau by telephone or FAX, and then fill in and send this report. Diseases in red must be reported in 24 hours. Diseases in brown must be reported in 72 hours. Diseases in black shall be reported in one week. Diseases in green must be reported in one month. Diseases in blue are non-notifiable diseases, suspected cases must be reported as soon as possible.

Hos-pital	Hospital/Clinic		Code No.		Tel	
	Diagnosed by Physician		Address of Hospital/Clinic			

I. The Patient

Name		Sex	☐Male ☐Female	Date of Birth	(Y) (M) (D)
I.D. Number / Passport Number					
National-ity	☐National ☐Other_____ Residence: ☐Foreign Labor ☐Foreigners Identity: ☐ Mainland Chinese ☐ Foreign Bride ☐Mainland Bride ☐Unknown	Tel	Office / Home / Mobil	Marital Status	☐Single ☐Married ☐Widowed ☐Divorced ☐Separated ☐Unknown
Address		Occupation		Animal contact (within 3 months)	☐ No ☐ Yes

II. Medical Record and Date

Medical Record No.		Date of Onset	(Y) (M) (D)	Travel history (within 3 months)	☐ No ☐ Yes, place：_____ From：(Y) (M) (D) To：(Y) (M) (D)
Major Symptoms/ Vaccination record		Date of Diagnosis	(Y) (M) (D)		
Hospital Care	☐ Yes ☐ No ☐ Referred (Date:) to _____Hospital/Clinic	Specimen Collection	☐Yes ☐No	Date of Death	(Y) (M) (D)
Date Reported	(Y) (M) (D)	Date Received by Health Bureau	(Y) (M) (D)	Date Received by CDC	(Y) (M) (D)

III. The Disease

Category I Communicable Diseases
- ☐Smallpox ☐Plague
- ☐Severe Acute Respiratory Syndrome
- ☐Rabies

Category II Communicable Diseases
- ☐Diphtheria ☐Anthrax
- ☐Measles ☐Rubella
- ☐Meningococcal Meningitis
- ☐Dengue Fever
- ☐Typhoid Fever ☐Paratyphoid Fever
- ☐Poliomyelitis
  - ☐Acute Flaccid Paralysis
- ☐Shigellosis ☐Amoebiasis
- ☐Cholera ☐Acute Hepatitis A
- ☐EHEC (Enterohaemorrhagic *E. coli*) Infection
- ☐Hantavirus Syndrome
- ☐Malaria
- ☐Chikungunya Fever ☐West Nile Fever
- ☐Typhus ☐MDR-TB
- ☐Zika virus infection

Category III Communicable Diseases
- ☐Pertussis ☐Tetanus
- ☐Japanese Encephalitis ☐Tuberculosis
- ☐Congenital Rubella Syndrome
- Acute Hepatitis(except Hepatitis A)
  - ☐Type B ☐Type C ☐Type D ☐Type E ☐Unspecified
- ☐Mumps ☐Legionnaires' Disease
- ☐Invasive Haemophilus Influenzae Type b Infection
- ☐Syphilis ☐ Congenital Syphilis
- ☐Gonorrhea ☐Neonatal Tetanus
- ☐Hansen's Disease
- ☐Enteroviruses Infection with Severe Complications
- AIDS
  - ☐HIV infection
  - ☐AIDS
  - Specify risk factors for HIV/AIDS infection：_____
  - Confirmation Unit of HIV 1/2 confirmatory test：_____
  - Confirmation Unit of NAT：_____

Category IV Communicable Diseases
- ☐Herpesvirus B Infection
- ☐Leptospirosis ☐Melioidosis
- ☐Botulism
- ☐Severe Fever with Thrombocytopenia Syndrome (SFTS)
- ☐**Listeriosis**
- ☐Invasive Pneumococcal Disease
- ☐Q fever ☐Murine Typhus
- ☐Lyme Disease ☐Tularemia
- ☐Scrub Typhus
- ☐Complicated varicella
- ☐Toxoplasmosis ☐Brucellosis
- ☐Influenza Case with Severe Complications
- ☐Creutzfeldt-Jakob disease

Category V Communicable Diseases
- ☐Rift Valley Fever ☐Lassa Fever
- ☐Marburg Haemorrhagic Fever
- ☐Ebola Virus Disease ☐Yellow Fever
- ☐Middle East Respiratory Syndrome Coronavirus Infections
- ☐Novel Influenza A Virus infections
- ☐Severe Pneumonia with Novel Pathogens

☐Others _____

IV. Remarks

1. Tuberculosis：☐Acid fast stain: ☐ Positive ☐ Negative ☐ Not tested ☐ Tested but not detected，Date of Testing:_____(y/m/d)
   ☐TB culture: ☐ Positive ☐ Negative ☐ Not tested ☐ Tested but not detected，Date of Testing:_____(y/m/d)
   ☐PCR: ☐ Positive ☐ Negative ☐ Not tested ☐ Tested but not detected，Date of Testing:_____(y/m/d)
   ☐Typical tuberculosis pathology report，Date of Testing: _____(y/m/d)，☐pleural effusion
   ☐Chest and other X-ray examination: ☐Normal ☐No cavity ☐With cavity，Date of Examination:_____(y/m/d)；
2. Testing result by reported hospital：

For Health Agency

Signed by Person-in-charge		Signed by Section Chief	

Express Mail

Floor __ No __ Alley __ Lane___ Section ___ Road / Street _____
_____ Township / District _____ County / City

To：_____Health Bureau, Disease Control Section
Floor __ No __ Alley __ Lane___ Section ___ Road / Street _____
_____ Township / District _____ County / City

Instructions for filling in the report：

1.Instructions for disease report items change:

(1) According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1090100481 on Apr 15, 2020, included" Severe Fever with Thrombocytopenia Syndrome" in Category 4 Communicable Diseases.

(2) According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1090100030 on Jun 15, 2020, included" Severe Pneumonia with Novel Pathogens" in Category 5 Communicable Diseases.

(3) "Severe Complicated Influenza" has changed name to "influenza case with severe complications" in the list of Category 4 Communicable Diseases since November, 2019.

(4) According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1080100423 on Mar 29, 2019, changed "zika virus infection" from Category 5 Notifiable Communicable Diseases to Category 2.

(5) According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1060101687 on Dec 29, 2017, included "listeriosis" in Category 4 Communicable Diseases.

(6) According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1050100423 on Apr 1, 2016, included "congenital syphilis" in Category 3 Communicable Diseases.

(7) According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1050100179 on Feb 2, 2016, changed "zika virus infection" from Category 2 Notifiable Communicable Diseases to Category 5.

(8) According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1050100083 on Jan 22, 2016, included "zika virus infection" in Category 2 Communicable Diseases.

(9) According to the announcement of the Ministry of Health and Welfare, Bu-So-Ji-Zi No.1040200233 on Mar 23, 2015, removed "dengue hemorrhagic fever/ dengue shock syndrome" from Category 2 Communicable Diseases.

(10) According to Department of Health's Bulletin No. Bu-Shou-Ji-Zi-1030101208 dated Augest 8, 2014 of the Department of Health, "Ebola Haemorrhagic Fever" is changed name to "Ebola Virus Disease" in the list of Class V Notifiable Communicable Disease

(11) According to Department of Health's Bulletin No. Bu-Shou-Ji-Zi-1030101132 dated Augest 1, 2014 of the Department of Health, "Complicated Influenza" is changed name to "Severe Complicated Influenza" in the list of Class IV Notifiable Communicable Disease

(12) According to Department of Health's Bulletin No. Bu-Shou-Ji-Zi-10301009927 dated June 27, 2014 of the Department of Health, "Novel Influenza A Virus infection" is included in the list of Class V Notifiable Communicable Diseases. "H5N1 Influenza" in the list of Class I Notifiable Communicable Disease and "H7N9 Influenza" in the list of Class V are removed

(13) According to Department of Health's Bulletin No. Bu-Shou-Ji-Zi-1020103975 dated December 27, 2013 of the Department of Health, "Varicella" is changed name to "Complicated varicella" in the list of Class IV Notifiable Communicable Disease

(14) According to Department of Health's Bulletin No. Shu-Shou-Ji-Zi-1020100731 dated June 7, 2013 of the Department of Health, "Novel Coronavirus Infection" is changed name to "Middle East Respiratory Syndrome Coronavirus Infections" in the list of Class V Notifiable Communicable Disease. "Cat-Scratch Disease" and "NDM-1 Enterobacteriaceae" are removed from the list of Class IV Notifiable Communicable Disease.

(15) According to Department of Health's Bulletin No. Shu-Shou-Ji-Zi-1020100463 dated April 3, 2013 of the Department of Health, "H7N9 Influenza" is included in the list of Class V Notifiable Communicable Diseases.

(16) According to Department of Health's Bulletin No. Shu-Shou-Ji-Zi-1020100343 dated March 14, 2013 of the Department of Health, "Severe Acute Respiratory Infections associated with Novel Coronavirus" is changed name to "Novel Coronavirus Infections" in the list of Class V Notifiable Communicable Disease.

(17) According to Department of Health's Bulletin No. Shu-Shou-Ji-Zi-1020100062 dated January 24, 2013 of the Department of Health, "Anthrax" is changed from the list of Class I Notifiable Communicable Diseases to Class II.

(18) According to Department of Health's Bulletin No. Shu-Shou-Ji-Zi- 1010101167dated October 3, 2012 of the Department of Health, is Severe Acute Respiratory Infections associated with Novel Coronavirus included in the list of Class 5 Notifiable Communicable Diseases.

(19) According to Department of Health's Bulletin No. Shu-Shou-Ji-Zi-1010100098 dated February 7, 2012 of the Department of Health, Brucellosis is included in the list of Class 4 Notifiable Communicable Diseases and the reporting deadline, reporting and relevant control measures for the diseases should be handled accordingly.

(20) According to Department of Health's Bulletin No. Shu-Shou-Ji-Zi-1000100896 dated September 9, 2011, Class 4 Notifiable Communicable Disease "Severe Complicated Influenza" is changed name to "Complicated Influenza."

(21) According to Department of Health's Bulletin No. Shu-Shou-Ji-Zi-0990001077 dated September 9, 2010 of the Department of Health, NDM-1 Enterobacteriaceae infection is included in the list of Class 4 Notifiable Communicable Diseases and the reporting deadline, reporting and relevant control measures for the diseases should be handled accordingly.

(22) According to the announcement of the Department of Health of the Executive Yuan, Shu-So-Ji No.0980000829 on June 19, 2009, amendment was made to exclude influenza A (H1N1) from Category 1 notifiable communicable diseases. Any influenza A (H1N1) cases with severe complications should be reported in accordance with regulations applicable to Category 4 notifiable communicable diseases, and subject to that category's corresponding prevention and control measures.

(23) Leprosy were renamed as Hansen's Disease and HIV Infection were belong to category 3 of communicable disease Since Nov.1, 2008, announced under Sue-So-Ji No. 0970001187 on October 24, 2008.

2. Report and Sample Collection Precautions

(1) This report should follow the regulations by time limit reported to the local health bureau (station). The priority mode of report to the Center for Disease Control "NIDRS system" (website: https://NIDRS.cdc.gov.tw/) filling in the report. If meet problems, this report may be mailed or faxed to the local health agency and local health bureau (station) will help supplement information. When catastrophic pandemic, report can be made directly by telephone to the local health agency.

(2) The report fields are necessary information, please filling in the report completely. When report filling in the "NIDRS system", it followed by the systems about the additional epidemic prevention information then finish the report.

(3) On detection of acute intestinal tract communicable diseases such as suspected Cholera, Typhoid Fever, dysentery, Pertussis, Meningococcal Meningitis specimens shall be collected for laboratory testing before medication. For specimen collection for cases of other communicable diseases, please refer to the "Manual of Standard Operational Procedures for Specimen Collection for Disease Control" of the Center for Disease Control, or directly contact the local health bureau (station).

(4) The reporting of Acute Hepatitis D,E and Unspecified shall send the specimen to CDC lab. For specimen collection of the rest acute hepatitis, please refer to the "Manual of Standard Operation Procedures for specimen collection of Disease control."

(5) HIV infection：Cases must be confirmed positive by the HIV 1/2 confirmatory test or NAT. When reporting, hospitals shall attach laboratory report of positive result or indicate agency for testing confirmation.

AIDS：In addition to prior mentioned, cases must be considered "infected" while developing symptoms of opportunistic infections such as candidiasis or pneumocystis carinii pneumonia; or CD4/ CD4 ratio complied with reporting criteria. Cases excluded acute initial infection then regard as onset. Please fill "AIDS case report form" additionally.

Vertical transmission and maternal suspected cases: Report by suspected cases. Please fill " Vertical transmission suspected case report form" or "materal infect HIV suspected case report form" by objects.

For further information, please contact：

_____Health Bureau, Disease Control Section

Hot Line：_____

Appendix 3

2021 Epidemiological Weeks Calendar

	January								February								March							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat
						~~1~~	~~2~~	week 5	31	1	2	3	4	5	6	week 9	28	1	2	3	4	5	6
week 1	3	4	5	6	7	8	9	week 6	7	8	9	10	11	12	13	week 10	7	8	9	10	11	12	13
week 2	10	11	12	13	14	15	16	week 7	14	15	16	17	18	19	20	week 11	14	15	16	17	18	19	20
week 3	17	18	19	20	21	22	23	week 8	21	22	23	24	25	26	27	week 12	21	22	23	24	25	26	27
week 4	24	25	26	27	28	29	30		~~28~~								~~28~~	~~29~~	~~30~~	~~31~~			
	~~31~~																						

	April								May								June							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat	
week 13	28	29	30	31	1	2	3	week 17	25	26	27	28	29	30	~~1~~	week 22	30	31	1	2	3	4	5	
week 14	4	5	6	7	8	9	10	week 18	2	3	4	5	6	7	8	week 23	6	7	8	9	10	11	12	
week 15	11	12	13	14	15	16	17	week 19	9	10	11	12	13	14	15	week 24	13	14	15	16	17	18	19	
week 16	18	19	20	21	22	23	24	week 20	16	17	18	19	20	21	22	week 25	20	21	22	23	24	25	26	
	~~25~~	~~26~~	~~27~~	~~28~~	~~29~~	~~30~~		week 21	23	24	25	26	27	28	29		~~27~~	~~28~~	~~29~~	~~30~~				
									~~30~~	~~31~~														

	July								August								September							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat	
week 26	27	28	29	30	1	2	3	week 31	1	2	3	4	5	6	7	week 35	29	30	31	1	2	3	4	
week 27	4	5	6	7	8	9	10	week 32	8	9	10	11	12	13	14	week 36	5	6	7	8	9	10	11	
week 28	11	12	13	14	15	16	17	week 33	15	16	17	18	19	20	21	week 37	12	13	14	15	16	17	18	
week 29	18	19	20	21	22	23	24	week 34	22	23	24	25	26	27	28	week 38	19	20	21	22	23	24	25	
week 30	25	26	27	28	29	30	31		~~29~~	~~30~~	~~31~~						~~26~~	~~27~~	~~28~~	~~29~~	~~30~~			

	October								November								December							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat		Sun	Mon	Tue	Wed	Thu	Fri	Sat	
week 39	26	27	28	29	30	1	2	week 44	31	1	2	3	4	5	6	week 48	28	29	30	1	2	3	4	
week 40	3	4	5	6	7	8	9	week 45	7	8	9	10	11	12	13	week 49	5	6	7	8	9	10	11	
week 41	10	11	12	13	14	15	16	week 46	14	15	16	17	18	19	20	week 50	12	13	14	15	16	17	18	
week 42	17	18	19	20	21	22	23	week 47	21	22	23	24	25	26	27	week 51	19	20	21	22	23	24	25	
week 43	24	25	26	27	28	29	30		~~28~~	~~29~~	~~30~~					week 52	26	27	28	29	30	31	~~1~~	
	~~31~~																							

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List of information providers

Centers for Disease Control, Ministry of Health and Welfare
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Department of Health, Taipei City Government
Department of Health, New Taipei City Government
Keelung City Health Bureau
Public Health Bureau, Yilan County
Public Health Bureau, Kinmen County
Bureau of Health and Welfare, Lienchiang County
Department of Public Health, Taoyuan
Public Health Bureau, Hsinchu City
Public Health Bureau of Hsinchu County Government
Miaoli County Government Public Health Bureau
Health Bureau of Taichung City Government
Changhua County Public Health Bureau
Health Bureau, Nantou County Government
Public Health Bureau, Yunlin County
Public Health Bureau, Chiayi City
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Department of Health, Kaohsiung City Government
Public Health Bureau, Pingtung County Government
Public Health Bureau, Penghu County
Hualien County Health Bureau
Public Health Bureau, Taitung County

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