

### A probable case of iatrogenic botulism related to cosmetic injections of botulinum toxin, Taiwan, 2018

Hsin-Yi Wei\*, Wan-Ching Chen, Yu-Fang Tsai, Hsiao-Ping Tung

#### Abstract

In November 2018, Taiwan Centers for Disease Control was notified of a suspected botulism intoxication case occurred in a 40-year-old female, who developed dysphagia, blurred vision and dyspnea following cosmetic procedure performed oversea in October. She had visited several clinics and hospitals for help but in vain. Then she went to one medical center for the application of botulism antitoxin. The clinician reported this case to the public health authority after clinical evaluation.

The supply of botulism antitoxin is extremely limited, leading to its high cost. The procurement cost per bottle in 2018 is around 200,000 New Taiwan dollars. Foreigners or those who received botulinum toxin injections for cosmetics or other personal reasons should receive the antitoxin at their own expense. Those who plan to receive botulinum toxin injections, especially for those doing the procedure abroad, should make sure that the injections are performed by qualified medical professionals in registered facilities, and inspect the labeled components and licensed number of the injection preparations before procedure. Clinicians should report any case with botulism intoxication presentation after receiving botulinum toxin injections.

**Keywords** : iatrogenic botulism, cosmetic procedures, botulism antitoxin, overseas cosmetics

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## Investigation of Tuberculosis Outbreak in A Long-Term Care Facility in Northern Taiwan, 2015

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### Abstract

In 2011, an outbreak of tuberculosis (TB) occurred in a long-term care facility in northern Taiwan. According to the policy at that time, the contacts did not receive latent tuberculosis infection (LTBI) treatment. In 2014–2015, two contacts and one new foreign care provider developed active TB, and became a new cluster. This indicated that delayed diagnosis and treatment in an untreated LTBI case could lead to clustered infections. We started LTBI treatment to the residents and staff, stopped receiving new residents, and centralized management of the contacts. No new cases was identified as of April 2017. This demonstrated that the LTBI case management in long-term care facilities caring for the elderly becomes a critical issue. Only by implementing treatment of LTBI and centralizing management of contacts could we lower the risks of TB outbreaks in long-term care facilities.

**Keywords:** Tuberculosis, long-term care facility, outbreak, latent tuberculosis infection treatment

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

Case diagnosis year		Week 50★		Week 1–50			
Classification	Disease Diagnosed	2018	2017	2018		2017	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	2	5	70	0	50	0
	Acute Viral Hepatitis type A	3	4	86	32	374	48
	Amoebiasis	11	14	326	143	360	186
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	1	0	7	7	11	11
	Cholera	0	0	7	0	2	1
	Dengue Fever	11	7	504	321	335	324
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	1	0	1	0
	Malaria	0	0	6	6	7	7
	Measles	1	0	37	9	5	5
	Meningococcal Meningitis	1	1	6	1	12	0
	Paratyphoid Fever	0	0	8	7	5	4
	Poliomyelitis	0	0	0	0	0	0
Rubella	0	0	10	9	3	2	
Shigellosis	5	1	163	50	161	56	
Typhoid fever	0	0	14	10	17	14	
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	3	3	138	10	151	9
	Acute Viral Hepatitis type C	19	16	469	6	310	2
	Acute Viral Hepatitis type D	0	0	0	0	1	0
	Acute Viral Hepatitis type E	0	0	7	0	15	3
	Congenital Syphilis	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	1	1
	Enteroviruses Infection with Severe Complications	0	3	38	0	14	0
	Haemophilus Influenza type b Infection	0	0	5	0	6	0
	Japanese Encephalitis	0	0	37	0	25	0
	Legionellosis	4	5	203	10	177	14
	Mumps	11	8	582	10	622	9
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	30	2	34	0
Tetanus	0	0	5	0	10	0	
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	1	0	53	0	28	1
	Endemic Typhus Fever	0	1	23	1	36	1
	Herpesvirus B Infection	0	0	0	0	0	0
	Invasive Pneumococcal Disease	9	11	440	0	437	3
	Leptospirosis	2	2	95	1	101	1
	Listeriosis	5	...	162	1	...	...
	Lyme Disease	0	0	2	2	1	1
	Melioidosis	1	0	25	1	25	1
	Q Fever	0	0	20	2	18	0
	Scrub Typhus	9	7	359	2	409	0
	Severe Complicated Influenza	24	5	1142	5	1316	7
Toxoplasmosis	1	0	15	1	20	0	
Tularemia	0	0	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	1	1
	Rift Valley Fever	0	0	0	0	0	0
	Yellow Fever	0	0	0	0	0	0
Zika virus infection	0	0	3	3	4	4	

- ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
- MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease are excluded from the table.
- Numbers of mumps and tetanus cases are summed up by the week of report.
- Since 2018/1/1, "Listeriosis" was listed as a Notifiable Infectious Disease. Symbols "..." means not under surveillance.

## Suspected Clusters

- Nineteen clusters were reported, including 4 tuberculosis clusters, 5 diarrhea clusters, 1 upper respiratory tract infection cluster, 3 influenza-like illness cluster, 4 varicella clusters, and 2 enterovirus clusters.

## Imported Infectious Diseases

- There were 20 confirmed imported cases from 10 countries during week 50 of 2018.

Disease \ Country	Vietnam	Indonesia	Singapore	Cambodia	Thailand	Myanmar	Maldives	Morocco	Malaysia	Philippines	Total
DF	4		2	2			1		1	1	11
Amoebiasis		3									3
Acute Hepatitis A		1						1			2
Shigellosis		1				1					2
Acute Hepatitis C	1										1
Chikungunya Fever					1						1
Total	5	5	2	2	1	1	1	1	1	1	20

Note: The table summarized the number of imported cases that were either **confirmed** or **updated** in the given week.

- There are 642 confirmed imported cases from 31 different countries in 2018. The top 3 countries are Indonesia (185), Vietnam (78), and Philippines (76).
- Top 3 imported diseases are Dengue Fever (321), Amoebiasis (143), and Shigellosis (50).

## Summary of Epidemic

- **Influenza:** Influenza activity has been increased gradually.
- **Enterovirus:** The epidemic has been increased slowly. Most reported cases experienced mild symptoms. However, cases of enterovirus infection with severe complications are likely to occur sporadically.
- **Dengue Fever:** The risk of indigenous dengue epidemics has been slowed down. The dengue epidemics are still at its peak or in the midst in some of the nearby Asian countries, the potential risks of imported cases remain in Taiwan.

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

Case diagnosis year		Week 51★		Week 1–51			
Classification	Disease Diagnosed	2018	2017	2018		2017	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	1	4	71	0	54	0
	Acute Viral Hepatitis type A	1	2	87	32	376	48
	Amoebiasis	8	10	334	154	370	190
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	7	7	11	11
	Cholera	0	0	7	0	2	1
	Dengue Fever	9	4	513	330	339	328
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	1	0	1	0
	Malaria	0	0	6	6	7	7
	Measles	1	0	38	10	5	5
	Meningococcal Meningitis	0	0	6	1	12	0
	Paratyphoid Fever	0	0	8	7	5	4
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	10	9	3	2
Shigellosis	6	1	169	55	162	56	
Typhoid fever	0	0	14	10	17	14	
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	1	2	139	10	153	9
	Acute Viral Hepatitis type C	15	11	484	6	321	3
	Acute Viral Hepatitis type D	0	0	0	0	1	0
	Acute Viral Hepatitis type E	0	0	7	0	15	3
	Congenital Syphilis	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	1	1
	Enteroviruses Infection with Severe Complications	2	4	40	0	18	0
	Haemophilus Influenza type b Infection	0	0	5	0	6	0
	Japanese Encephalitis	0	0	37	0	25	0
	Legionellosis	3	3	206	10	180	14
	Mumps	9	7	591	10	629	9
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	30	2	34	0
Tetanus	0	0	5	0	10	0	
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	0	3	53	0	31	1
	Endemic Typhus Fever	0	0	23	1	36	1
	Herpesvirus B Infection	0	0	0	0	0	0
	Invasive Pneumococcal Disease	2	4	442	0	441	3
	Leptospirosis	0	0	95	1	101	1
	Listeriosis	0	...	162	1	...	...
	Lyme Disease	0	0	2	2	1	1
	Melioidosis	0	0	25	1	25	1
	Q Fever	0	1	20	2	19	0
	Scrub Typhus	7	7	366	2	416	0
	Severe Complicated Influenza	20	13	1162	5	1329	7
Toxoplasmosis	1	1	16	1	21	0	
Tularemia	0	0	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	1	1
	Rift Valley Fever	0	0	0	0	0	0
	Yellow Fever	0	0	0	0	0	0
Zika virus infection	0	0	3	3	4	4	

5. ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.  
6. MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease are excluded from the table.  
7. Numbers of mumps and tetanus cases are summed up by the week of report.  
8. Since 2018/1/1, "Listeriosis" was listed as a Notifiable Infectious Disease. Symbols "..." means not under surveillance.

## Suspected Clusters

- Thirty-seven clusters were reported, including 14 tuberculosis clusters, 5 diarrhea clusters, 3 upper respiratory tract infection clusters, 7 influenza-like illness clusters, 6 varicella clusters, and 2 enterovirus clusters.

## Imported Infectious Diseases

- There were 27 confirmed imported cases from 6 countries during week 51 of 2018.

Country Disease	Indonesia	Philippines	Vietnam	Sri Lanka	Japan	Cambodia	Total
Amoebiasis	6	3	1		1		11
DF		3	6	1			10
Shigellosis	4					1	5
Measles		1					1
Total	10	7	7	1	1	1	27

Note: The table summarized the number of imported cases that were either **confirmed** or **updated** in the given week.

- There are 669 confirmed imported cases from 30 different countries in 2018. The top 3 countries are Indonesia (195), Vietnam (85), and Philippines (83).
- Top 3 imported diseases are Dengue Fever (331), Amoebiasis (154), and Shigellosis (55).

## Summary of Epidemic

- **Influenza:** Influenza activity has been increasing continuously.
- **Enterovirus:** The epidemic occurred mainly in northern Taiwan. Most reported cases experienced mild symptoms. However, cases of enterovirus infection with severe complications are likely to occur sporadically.
- **Dengue Fever:** The risk of indigenous dengue epidemics has been slowed down. The dengue epidemics are still at its peak or in the midst in some of the nearby Asian countries, the potential risks of imported cases remain in Taiwan.

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

Case diagnosis year		Week 1★		Week 1			
Classification	Disease Diagnosed	2019	2018	2019		2018	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	1	2	1	0	2	0
	Acute Viral Hepatitis type A	0	3	0	0	3	1
	Amoebiasis	0	7	0	0	7	3
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	1	0	0	1	1
	Cholera	0	0	0	0	0	0
	Dengue Fever	13	0	13	13	0	0
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	0	0	0	0
	Malaria	1	0	1	1	0	0
	Measles	1	1	1	1	1	0
	Meningococcal Meningitis	0	0	0	0	0	0
	Paratyphoid Fever	0	0	0	0	0	0
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0
Shigellosis	1	5	1	0	5	1	
Typhoid fever	3	0	3	3	0	0	
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	5	1	5	0	1	0
	Acute Viral Hepatitis type C	10	4	10	0	4	0
	Acute Viral Hepatitis type D	0	0	0	0	0	0
	Acute Viral Hepatitis type E	0	0	0	0	0	0
	Congenital Syphilis	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	0	1	0	0	1	0
	Haemophilus Influenza type b Infection	0	0	0	0	0	0
	Japanese Encephalitis	0	0	0	0	0	0
	Legionellosis	4	4	4	0	4	0
	Mumps	12	14	12	0	14	0
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0	
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	1	1	1	0	1	0
	Endemic Typhus Fever	0	0	0	0	0	0
	Herpesvirus B Infection	0	0	0	0	0	0
	Invasive Pneumococcal Disease	15	14	15	0	14	0
	Leptospirosis	2	1	2	0	1	0
	Listeriosis	0	0	0	0	0	0
	Lyme Disease	0	0	0	0	0	0
	Melioidosis	0	0	0	0	0	0
	Q Fever	0	0	0	0	0	0
	Scrub Typhus	9	5	9	0	5	0
	Severe Complicated Influenza	25	19	25	0	19	0
Toxoplasmosis	0	1	0	0	1	0	
Tularemia	0	0	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
	Yellow Fever	0	0	0	0	0	0
Zika virus infection	0	0	0	0	0	0	

1. ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.  
2. MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease are excluded from the table.  
3. Numbers of mumps and tetanus cases are summed up by the week of report.  
4. Since 2018/1/1, "Listeriosis" was listed as a Notifiable Infectious Disease.

## Suspected Clusters

- Thirty-four clusters were reported, including 6 tuberculosis clusters, 7 diarrhea clusters, 11 upper respiratory tract infection clusters, 9 influenza-like illness clusters, and 1 varicella cluster.

## Imported Infectious Diseases

- There were 29 confirmed imported cases from 7 countries during week 52 of 2018.

Country Disease	Indonesia	Philippines	Vietnam	Cambodia	Tuvalu	Thailand	India	Total
Amoebiasis	9	1			2			12
DF	3	1	2	2		1	1	10
Shigellosis	4							4
Acute Hepatitis A		1						1
Measles				1				1
Melioidosis			1					1
Total	16	3	3	3	2	1	1	29

Note: The table summarized the number of imported cases that were either **confirmed** or **updated** in the given week.

- There are 698 confirmed imported cases from 31 different countries in 2018. The top 3 countries are Indonesia (211), Vietnam (88), and Philippines (86).
- Top 3 imported diseases are Dengue Fever (341), Amoebiasis (166), and Shigellosis (59).

## Summary of Epidemic

- **Enterovirus:** The epidemic occurred mainly in northern Taiwan. Most reported cases experienced mild symptoms. However, cases of enterovirus infection with severe complications are likely to occur sporadically.
- **Influenza:** Influenza activity is increasing, and likely to reach the epidemic threshold.



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

Case diagnosis year		Week 52★		Week 1-52			
Classification	Disease Diagnosed	2018	2017	2018		2017	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	0	2	71	0	56	0
	Acute Viral Hepatitis type A	5	2	92	33	378	49
	Amoebiasis	8	4	342	166	374	191
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	7	7	11	11
	Cholera	0	0	7	0	2	1
	Dengue Fever	11	9	524	341	348	337
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	1	0	1	0
	Malaria	0	0	6	6	7	7
	Measles	2	0	40	11	5	5
	Meningococcal Meningitis	0	0	6	1	12	0
	Paratyphoid Fever	0	0	8	7	5	4
Poliomyelitis	0	0	0	0	0	0	
Rubella	0	0	10	9	3	2	
Shigellosis	4	2	173	59	164	58	
Typhoid fever	0	0	14	10	17	14	
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	5	1	144	10	154	9
	Acute Viral Hepatitis type C	14	9	497	6	330	3
	Acute Viral Hepatitis type D	0	0	0	0	1	0
	Acute Viral Hepatitis type E	0	0	7	0	15	3
	Congenital Syphilis	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	1	1
	Enteroviruses Infection with Severe Complications	0	2	40	0	20	0
	Haemophilus Influenza type b Infection	0	0	5	0	6	0
	Japanese Encephalitis	0	0	37	0	25	0
	Legionellosis	3	6	209	10	186	14
	Mumps	10	6	601	10	635	9
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	30	2	34	0
Tetanus	0	0	5	0	10	0	
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	0	1	53	0	32	1
	Endemic Typhus Fever	0	1	23	1	37	1
	Herpesvirus B Infection	0	0	0	0	0	0
	Invasive Pneumococcal Disease	13	10	455	0	451	3
	Leptospirosis	0	3	95	1	104	1
	Listeriosis	2	...	164	1	...	...
	Lyme Disease	0	0	2	2	1	1
	Melioidosis	1	1	26	2	26	1
	Q Fever	0	0	20	2	19	0
	Scrub Typhus	6	6	372	2	422	0
	Severe Complicated Influenza	20	23	1182	5	1352	7
	Toxoplasmosis	1	0	17	1	21	0
Tularemia	0	0	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	1	1
	Rift Valley Fever	0	0	0	0	0	0
	Yellow Fever	0	0	0	0	0	0
Zika virus infection	0	0	3	3	4	4	

1. ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
2. MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease are excluded from the table.
3. Numbers of mumps and tetanus cases are summed up by the week of report.
4. Since 2018/1/1, "Listeriosis" was listed as a Notifiable Infectious Disease. Symbols "..." means not under surveillance.

## Suspected Clusters

- Eleven clusters were reported, including 4 tuberculosis clusters, 3 diarrhea clusters, 2 upper respiratory tract infection clusters, and 2 influenza-like illness clusters.

## Imported Infectious Diseases

- There were 21 confirmed imported cases from 8 countries during week 1 of 2019.

Country \ Disease	Indonesia	Philippines	Vietnam	Cambodia	Thailand	Australia	India	Ethiopia	Total
DF	3	4	4	2					13
Typhoid fever	2						1		3
Amoebiasis	2								2
Acute Hepatitis C						1			1
Measles					1				1
Malaria								1	1
Total	7	4	4	2	1	1	1	1	21

Note: The table summarized the number of imported cases that were either **confirmed** or **updated** in the given week.

- There are 18 confirmed imported cases from 7 different countries in 2019. The top 3 countries are Indonesia (5), Vietnam (4), and Philippines (4).
- Top 3 imported diseases are Dengue Fever (13), Typhoid fever (3), and Measles (1).

## Summary of Epidemic

- **Influenza:** Taiwan is in the midst of influenza season. The epidemic activity has been gradually increasing.
- **Enterovirus:** The epidemic has passed its peak and gradually declined.

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