

HIV in Taiwan: 2014 Statistics Overview

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Abstract

Taiwan CDC received 2,236 reports of new HIV infections in year 2014. With 8 cases less than year 2013, this number of new reports showed the first decline trend since 2009. Among the cumulative 28,710 cases, 26,892 (93.7%) were male, 1,818 (6.3%) were female, with sex ratio of 14.8:1. Among the 2,236 new cases in year 2014, 2,176 (97.3%) were male and 60 (2.7%) were female, with sex ratio of 36.3:1; the sex ratio was reduced compared to year 2013. Among the cumulative cases, 92.9% were aged 15–49 years old; while among the new cases in year 2014, 979 (43.8%) were aged 25–34 years old, followed by 15–24 years old (658 cases [29.4%]). Southern and Taipei regions showed increasing trend (8.3% and 2.9%, respectively) compared to year 2013, but the other regions showed declining trend. Among the cumulative cases, the main risk category for HIV infections was sexual contacts (74.9%), followed by drug injection users (23.8%). Among those within the sexual contacts risk category, 75.3% were men who have sex with men (MSM). This article summarized the national HIV trends, analyzed data by adopting the UNAIDS goals and WHO's Second Generation Surveillance concepts, determined the risk factors, and compared to international countries, to better promote national strategy and control of HIV in Taiwan.

Keywords : HIV infection ; Risk factors ; HIV surveillance and epidemiology ; Second Generation Surveillance

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Molecular Patterns of *Burkholderia pseudomallei* in Taiwan, 2011-2014

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Abstract

Melioidosis, caused by *Burkholderia pseudomallei*, is endemic in southeast Asia and northern Australia. Taiwan Centers for Disease Control started surveillance for melioidosis since 2000; among the 256 cases identified from 2005 to 2010, southwestern Taiwan had the highest incidence, especially in Kaohsiung City. In this study, we reviewed 114 cases of melioidosis reported from 2011 to 2014, with the highest incidence occurring in southwestern Taiwan. Molecular typing was carried out by pulsed-field gel electrophoresis. Of the 7 clusters identified, 4 (57.1%) are the emerging patterns since 2004. Moreover, 88.6% of *B. pseudomallei* isolates belong to type VI which is found mostly in Kaohsiung-Pingtung region. There is a trend that type VI is becoming the dominant type. Melioidosis should be taken into consideration for patients with domestic or foreign travel history in endemic areas.

Keywords : Melioidosis ; Pulsed-field gel electrophoresis ; Molecular typing

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Toxinotype of *Clostridium difficile* in Taiwan

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Abstract

Clostridium difficile is a pathogen highly associated with nosocomial infection; it causes diseases ranging from self-limited diarrhea to pseudomembranous colitis. Recently, the hyper-virulent strain of *C. difficile* has appeared in Taiwan. In addition, a *C. difficile* nosocomial outbreak was reported at one southern hospital. In this study, 59 strains of toxigenic *C. difficile* with known PCR-ribotypes were collected during 2008–2009 from eight and two hospitals from central and southern Taiwan, and characterized by toxinotyping and *Clostridium difficile* binary toxin(CDT) detection. Of 59 strains, 48 strains produced A+B+ toxin, and 11 produced A–B+ toxin. Among A+B+ toxin producing strains, 46 strains were toxinotype 0, 1 strain was toxinotype VI, and 1 strain was new toxinotype (toxinotype TN1). Among A–B+ toxin producing strains, 6 strains were toxinotype VIII, 3 strains were toxinotype V-like, and 2 strains belonged to a new type (toxinotype TN2). The strains of toxinotype 0 belonged to several PCR-ribotypes, whereas the strains of toxinotype VIII belonged to one PCR-ribotype, this indicated toxinotype VIII strains belonged to the same clonal origin. Six (10.2%) of 59 strains had CDT gene; among them, 2 strains were A+B+ toxin producing, 4 strains were A–B+ toxin producing. This study found that prevalence of A–B+ strains in Taiwan was similar to those in other Asian countries, but higher than those in Europe and USA. The strains of toxinotype V-like and VI in Taiwan was not reported in other Asian countries, neither the 2 new toxinotypes TN1 and TN2.

Keywords : *Clostridium difficile* ; Toxinotype ; PCR-ribotype ; *Clostridium difficile* binary toxin

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

Case diagnosis week		Week 46		Week 1—46		
Classification	Disease Diagnosed ¹	2015	2014	2015	2014	
Category I	Plague	0	0	0	0	
	Rabies	0	0	0	0	
	SARS	0	0	0	0	
	Smallpox	0	0	0	0	
Category II	Acute Flaccid Paralysis	0	0	19	29	
	Acute Viral Hepatitis type A	2	5	121	115	
	Amoebiasis	4	7	306	258	
	Anthrax	0	0	0	0	
	Chikungunya Fever	0	0	4	7	
	Cholera	0	0	10	4	
	Dengue Fever	1995	1425	34570	11779	
	Diphtheria	0	0	0	0	
	Enterohemorrhagic E. coli Infection	0	0	0	0	
	Epidemic Typhus Fever	0	0	0	0	
	Hantavirus Pulmonary Syndrome	0	0	0	0	
	Hemorrhagic Fever with Renal Syndrome	0	0	2	1	
	Malaria	0	0	8	18	
	Measles	0	1	29	26	
	Meningococcal Meningitis	0	0	3	3	
	Paratyphoid Fever	1	0	4	8	
	Poliomyelitis	0	0	0	0	
	Rubella	0	0	6	5	
	Shigellosis	2	2	160	121	
	Typhoid fever	1	0	27	21	
West Nile Fever	0	0	0	0		
Category III	Acute Viral Hepatitis type B	0	5	104	105	
	Acute Viral Hepatitis type C ⁵	3	5	185	170	
	Acute Viral Hepatitis type D	0	0	2	1	
	Acute Viral Hepatitis type E	2	0	4	11	
	Acute Viral Hepatitis untype	1	0	2	4	
	Congenital Rubella Syndrome	0	0	0	0	
	Enteroviruses Infection with Severe Complications	0	0	5	7	
	Haemophilus Influenza type b Infection	0	0	2	3	
	Japanese Encephalitis	0	0	30	17	
	Legionellosis	0	3	144	119	
	Mumps ²	7	17	680	804	
	Neonatal Tetanus	0	0	0	0	
	Pertussis	1	0	76	62	
	Tetanus ²	0	1	10	7	
	Category IV	Botulism	0	0	2	0
		Brucellosis	0	0	2	0
Complicated Influenza		4	0	812	1758	
Complicated Varicella ⁴		0	0	47	49	
Endemic Typhus Fever		1	0	31	23	
Herpesvirus B Infection		0	0	0	0	
Invasive Pneumococcal Disease		3	18	449	515	
Leptospirosis		0	1	72	85	
Lyme Disease		0	0	2	2	
Melioidosis		2	0	32	30	
Q Fever		2	0	41	47	
Scrub Typhus		18	6	394	399	
Toxoplasmosis		0	0	11	13	
Tularremia		0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0	
	Ebola-Marburg Hemorrhagic Fever	0	0	0	0	
	Novel Influenza A Virus Infections ⁶	0	0	0	0	
	Lassa Fever	0	0	0	0	
	Rift Valley Fever	0	0	0	0	
	Middle East Respiratory Syndrome Coronavirus Yellow Fever	0 0	0 0	0 0	0 0	

1. The following 8 chronic diseases are excluded from the table: MDR-TB, Tuberculosis, Syphilis, Gonorrhea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease.
2. Reported cases.
3. Since 2014/1/1, "Varicella" was modified to "Complicated Varicella".
4. Since 2014/3/6, the case definition for confirmed Acute hepatitis C was changed from "meet the clinical and laboratory conditions" to "meet the clinical or laboratory conditions".
5. Since 2014/7/1, various subtypes of human cases of avian influenza are reported as "novel influenza A virus infections", a Category V Notifiable Infectious Disease. The original "H5N1 flu" and "H7N9 flu", which were respectively listed as a Category I Notifiable Infectious Disease and a Category V Notifiable Infectious Disease were removed from the list on the same day.

Suspected Clusters

- Twelve clusters were reported, including 9 diarrhea clusters, 2 upper respiratory tract infection clusters, and 1 tuberculosis cluster.

Imported Infectious Diseases

- 14 confirmed cases were imported from 7 countries during Week 46 of 2015.

Country \ Disease	Vietnam	Indonesia	Singapore	Thailand	Malaysia	Hong Kong	Philippines	Total
Dengue Fever	4			2	1		1	8
Amoebiasis		4						4
Paratyphoid Fever			1					1
Hepatitis B						1		1
Total	4	4	1	2	1	1	1	14

Note: The statistics listed in this table include imported cases that were either confirmed or updated^{*} in the previous week.

- A total of 678 confirmed cases were imported from 34 countries in 2015.
- Top 3 imported diseases : Dengue fever (304), Amoebiasis (177), Shigellosis (85).
- Top 3 countries responsible for most imported cases : Indonesia (315), Philippines (62), Vietnam (60).

Summary of Epidemic

- **Dengue Fever** : Dengue activity has entered the peak of the epidemic season. The public is urged to clean up and remove any vector breeding sites. The epidemic has increased in Kaohsiung City and the cumulative number of cases reported this year is already more than that reported during the same period last year. The number of new cases reported during Week 46 is 1.2 times higher than that reported during Week 45. The hot spots of the epidemic in Kaohsiung City are Sanmin District, Fongshan District, Cianjhen District and Lingya District. On the other hand, in Tainan City, the epidemic has slowed down and the number of new cases reported during Week 46 is 40% less than that reported during Week 45. The majority of the cases were reported in East District, Tainan City. Since May 1, 2015, 174 deaths have been confirmed to be caused by dengue infection, while 14 deaths are waiting to be reviewed. As of now, 51 dengue cases are still being treated in the intensive care unit (ICU), and 93.3% of the reported cases have recovered.

- **Enterovirus** : Enterovirus season has continued and enterovirus activity is above the epidemic threshold. The numbers of visits to outpatient services and ER for enterovirus infection during Week 46 is higher than that during Week 45. Coxsackie A virus is currently the dominant strain circulating in the community.
- **Influenza** : Influenza activity has slightly increased and remained at the baseline level. This season's vaccine is well-matched to circulating viruses.

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

Case diagnosis week		Week 47		Week 1—47	
Classification	Disease Diagnosed ¹	2015	2014	2015	2014
Category I	Plague	0	0	0	0
	Rabies	0	0	0	0
	SARS	0	0	0	0
	Smallpox	0	0	0	0
Category II	Acute Flaccid Paralysis	0	0	19	29
	Acute Viral Hepatitis type A	3	1	135	116
	Amoebiasis	8	6	326	264
	Anthrax	0	0	0	0
	Chikungunya Fever	0	0	4	7
	Cholera	0	0	10	4
	Dengue Fever	2334	1107	39255	12886
	Diphtheria	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	2	1
	Malaria	0	0	9	18
	Measles	0	0	29	26
	Meningococcal Meningitis	0	0	3	3
	Paratyphoid Fever	0	0	6	8
	Poliomyelitis	0	0	0	0
	Rubella	0	1	6	6
	Shigellosis	4	0	168	121
Typhoid fever	0	2	27	23	
West Nile Fever	0	0	0	0	
Category III	Acute Viral Hepatitis type B	2	2	110	107
	Acute Viral Hepatitis type C ⁵	4	5	197	175
	Acute Viral Hepatitis type D	0	0	2	1
	Acute Viral Hepatitis type E	0	0	4	11
	Acute Viral Hepatitis untype	0	0	2	4
	Congenital Rubella Syndrome	0	0	0	0
	Enteroviruses Infection with Severe Complications	0	0	5	7
	Haemophilus Influenza type b Infection	0	0	2	3
	Japanese Encephalitis	0	0	30	17
	Legionellosis	3	2	156	121
	Mumps ²	20	15	713	819
	Neonatal Tetanus	0	0	0	0
	Pertussis	1	4	85	66
	Tetanus ²	0	0	10	7
Category IV	Botulism	0	0	2	0
	Brucellosis	0	0	2	0
	Complicated Influenza	4	1	820	1759
	Complicated Varicella ⁴	0	2	47	51
	Endemic Typhus Fever	1	0	32	23
	Herpesvirus B Infection	0	0	0	0
	Invasive Pneumococcal Disease	9	7	466	522
	Leptospirosis	2	3	80	88
	Lyme Disease	0	0	2	2
	Melioidosis	0	0	37	30
	Q Fever	0	0	43	47
	Scrub Typhus	16	9	450	408
	Toxoplasmosis	0	0	11	13
Tularremia	0	0	0	0	
Category V	Ebola Virus Disease	0	0	0	0
	Ebola-Marburg Hemorrhagic Fever	0	0	0	0
	Novel Influenza A Virus Infections ⁶	0	0	0	0
	Lassa Fever	0	0	0	0
	Rift Valley Fever	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0
Yellow Fever	0	0	0	0	

1. The following 8 chronic diseases are excluded from the table: MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease.

2. Reported cases.

3. Since 2014/1/1, "Varicella" was modified to "Complicated Varicella".

4. Since 2014/3/6, the case definition for confirmed Acute hepatitis C was changed from "meet the clinical and laboratory conditions" to "meet the clinical or laboratory conditions".

5. Since 2014/7/1, various subtypes of human cases of avian influenza are reported as "novel influenza A virus infections", a Category V Notifiable Infectious Disease. The original "H5N1 flu" and "H7N9 flu", which were respectively listed as a Category I Notifiable Infectious Disease and a Category V Notifiable Infectious Disease were removed from the list on the same day.

Suspected Clusters

- Eleven clusters were reported, including 8 diarrhea clusters, 2 tuberculosis clusters, and 1 influenza-like illness cluster.

Imported Infectious Diseases

- 23 confirmed cases were imported from 8 countries during Week 47 of 2015.

Country Disease	Indonesia	Vietnam	Malaysia	Philippines	Japan	Myanmar	China	Singapore	Total
Dengue Fever		4	3	1		1	1	1	11
Amoebiasis	7								7
Hepatitis A				1	2				3
Shigellosis	2								2
Total	9	4	3	2	2	1	1	1	23

Note: The statistics listed in this table include imported cases that were either confirmed or updated* in the previous week.

- A total of 702 confirmed cases were imported from 34 countries in 2015.
- Top 3 imported diseases : Dengue fever (316), Amoebiasis (184), Shigellosis (87).
- Top 3 countries responsible for most imported cases : Indonesia (324), Philippines (65), Vietnam (65).

Summary of Epidemic

- **Dengue Fever** : Dengue activity has entered the peak of the epidemic season. The public is urged to clean up and remove any vector breeding sites. The epidemic has decreased in Kaohsiung City and the number of new cases reported during Week 47 is 20% less than that reported during Week 46. The hot spots of the epidemic in Kaohsiung City are Sanmin District, Fongshan District, Cianjhen District and Lingya District. On the other hand, in Tainan City, the epidemic has slowed down and the number of new cases reported during Week 47 is 40% less than that reported during Week 46. The majority of the cases were reported in East District, Tainan City. Since May 1, 2015, 184 deaths have been confirmed to be caused by dengue infection, while 21 deaths are waiting to be reviewed. As of now, 48 dengue cases are still being treated in the intensive care unit (ICU), and 95.0% of the reported cases have recovered.

- **Enterovirus** : Enterovirus season has continued and enterovirus activity is above the epidemic threshold. The ER consultation rate for enterovirus infection during Week 47 is higher than the epidemic threshold. Coxsackie A virus is currently the dominant strain circulating in the community.
- **Influenza** : Influenza activity has slightly increased and remained at the baseline level. This season's vaccine is well-matched to circulating viruses.

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