



Summary : Week 10 (Mar. 6 – Mar. 12, 2016)

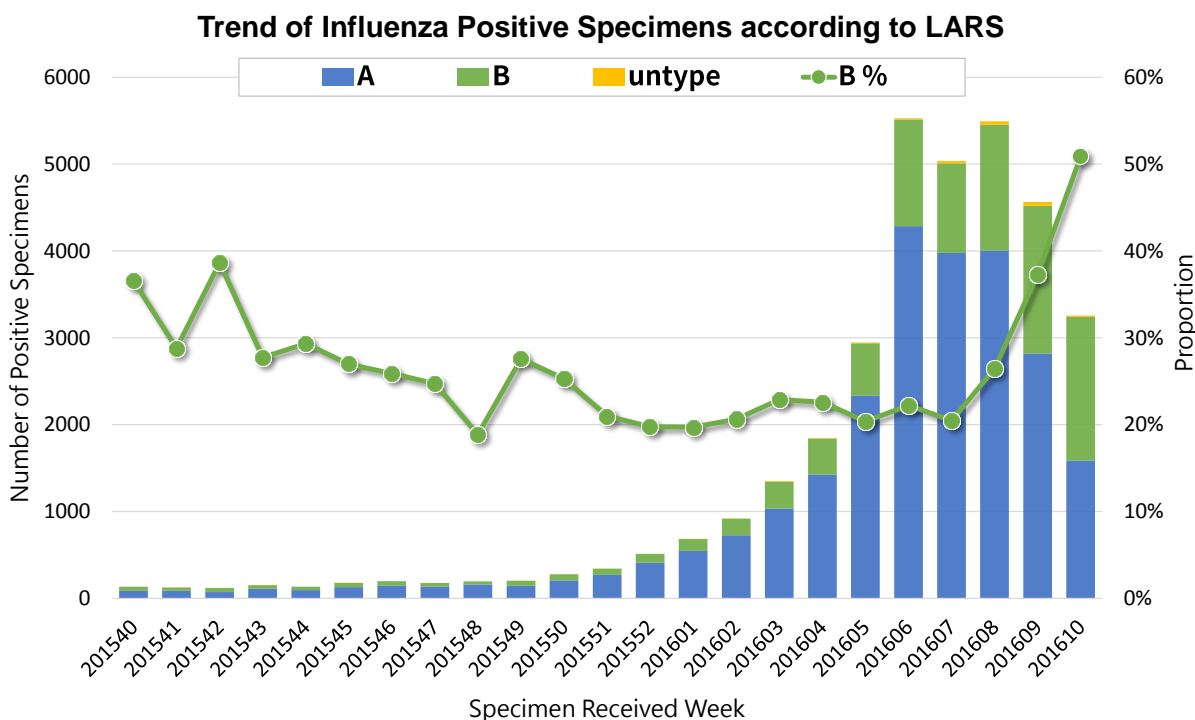
Influenza activity in Taiwan has gradually decreased. The proportion of influenza B isolates among the circulating strains in the community has been increasing. During the past 4 weeks, the antigenicity match between the seasonal influenza vaccine and the circulating influenza virus strains were 100% in influenza A (H1N1) and A (H3N2) viruses, but 58% in influenza B virus. Thus far, none of the viruses tested has shown drug resistance.

- During this season, the predominant subtype circulating in the community is influenza A (H1N1) virus, but influenza B isolates has been increasing recently.
- Recently, both the consultation rates and numbers of visits to outpatient services and emergency rooms for influenza-like illness (ILI) have been on a gradual decline.
- Since the beginning of this influenza season on July 1, 2015, there were 163 reports of death among the 1,663 severe complicated influenza cases. Most cases were infected with influenza A (H1N1) virus, and the number of cases infected with influenza B virus has been on the rise recently.

Viral Surveillance

Types and Trend

According to LARS¹, after reaching a peak during Weeks 6 to 8, the number of specimens tested positive for influenza virus has continuously decreased, especially those tested positive for influenza A (H1N1) virus. Among the influenza positive specimens, the proportion of type B has gradually increased, which was 50.9% during week 10.



¹ To present the trend of influenza virus in real-time, the automated laboratory reporting system (LARS) has been established by Taiwan CDC since 2014. Twenty nine hospitals, including 17 medical centers, have been participating in LARS, which daily upload all information of positive specimens automatically.



According to the Taiwan CDC Contracted Diagnostic Virology Laboratories², the rate of specimens testing positive for influenza virus was 46.6% during Week 8. Of the viruses that were typed by laboratories for the week, 61.5% were H1N1, 3.4% were influenza B virus, and 3.4% were H3N2. Recently, two influenza B virus lineages, B/Yamagata and B/Victoria, have co-circulated in similar proportions.

Antigenicity

Among those influenza positive specimens that were antigenically characterized, 100% of the influenza A(H1N1) virus isolates match the A(H1N1) component of the 2015-16 influenza vaccine (A/California/7/2009), and 100% of the influenza A(H3N2) virus isolates match the A(H3N2) component of the 2015-16 influenza vaccine (A/Switzerland/9715293/2013). Additionally, 58% of the influenza B isolates match the B component of the 2015-16 influenza vaccine (B/Phuket/3073/2013-like).

Antiviral Resistance

Since October 1, 2015, the results of antiviral resistance to neuraminidase inhibitor (Oseltamivir) are summarized in the table below. All of recently circulating influenza viruses are susceptible to oseltamivir.

	Isolates tested (n)	Resistance Viruses, n (%)
		Oseltamivir
Influenza A (H1N1)	53	0
Influenza A (H3N2)	38	0
Influenza B	29	0

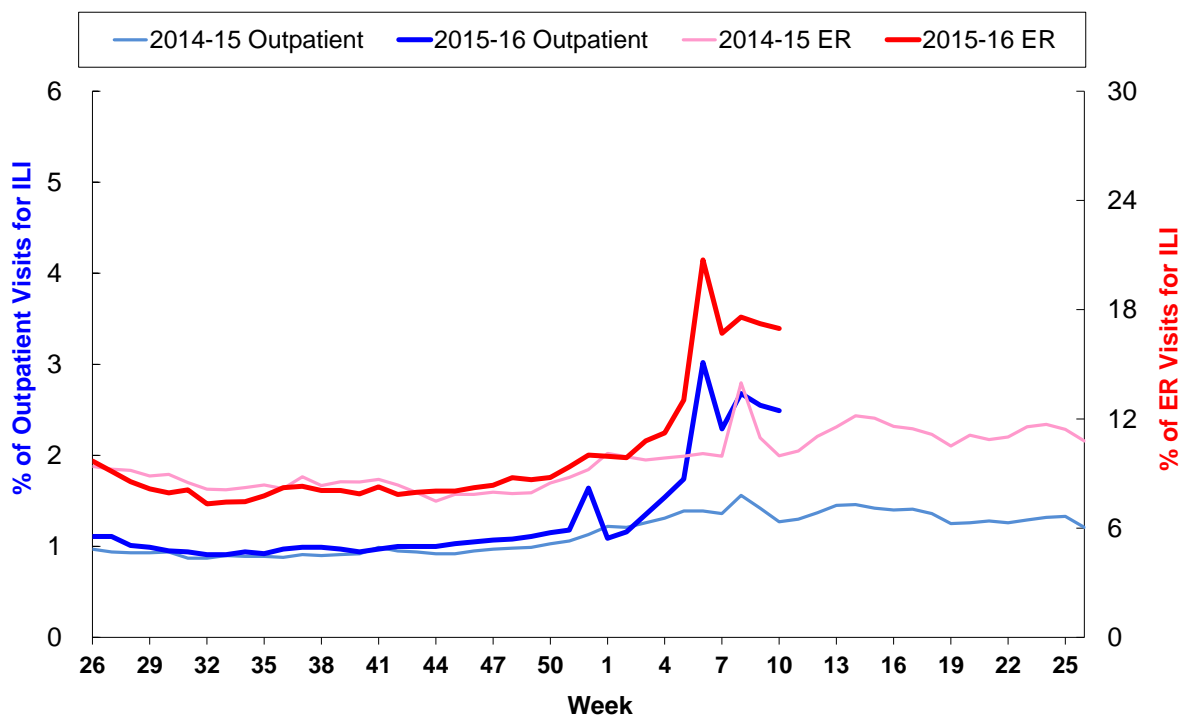
² To observe the subtype, antigenicity and drug resistance of the influenza viruses circulating in the community, the Contracted Diagnostic Virology Laboratories, including 8 laboratories of medical centers, has been established by Taiwan CDC since March, 1999.



Influenza-like Illness Surveillance

According to the National Health Insurance Database, both the consultation rates and numbers of visits to outpatient services and emergency rooms for ILI have been gradually decreasing. Yet, they are still higher than the numbers reported during the same period last year. During Week 10, the number of outpatient visits for ILI were around 130,000, the number of ER visits for ILI were around 23,000, and a decrease of 12% in both ILI visits as compared to the previous week was observed.

Proportions of outpatient and emergency room (ER) visits for influenza-like illness (July 1, 2014 to present)



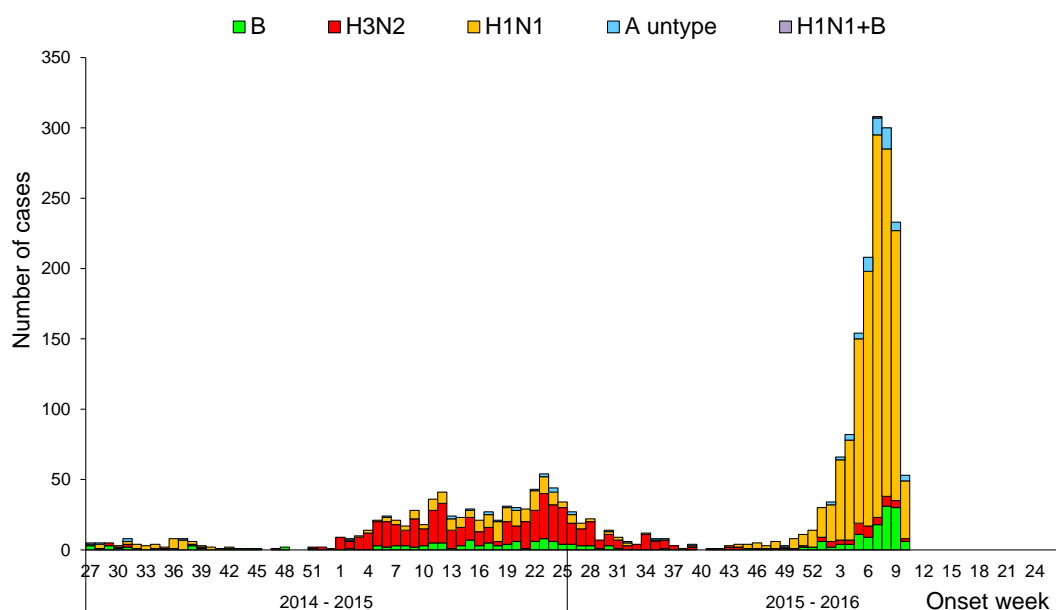
* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.

Reports of Severe Complicated Influenza

Since the beginning of this influenza season on July 1, 2015, a total of 1,663 severe complicated influenza cases, 96% did not receive the 2015-16 flu vaccine, 78.5% of severe cases were infected with H1N1, and 9% were infected with H3N2. 95.1% of the 163 reported deaths that were found to be associated with severe complicated influenza infection did not receive the seasonal influenza vaccine. 69.9% of the reported deaths were infected with H1N1, and 15.3% were infected with H3N2. During this influenza season, the majority of complicated influenza cases were adults aged 50-64 years. The highest incidence was observed among adults aged ≥ 65 years. In addition, the incidences among all age groups were the highest compared to the same period in the last 3 years, especially in the 50-64 age group.



Number of severe complicated influenza reports by week of onset July 1, 2014 to present



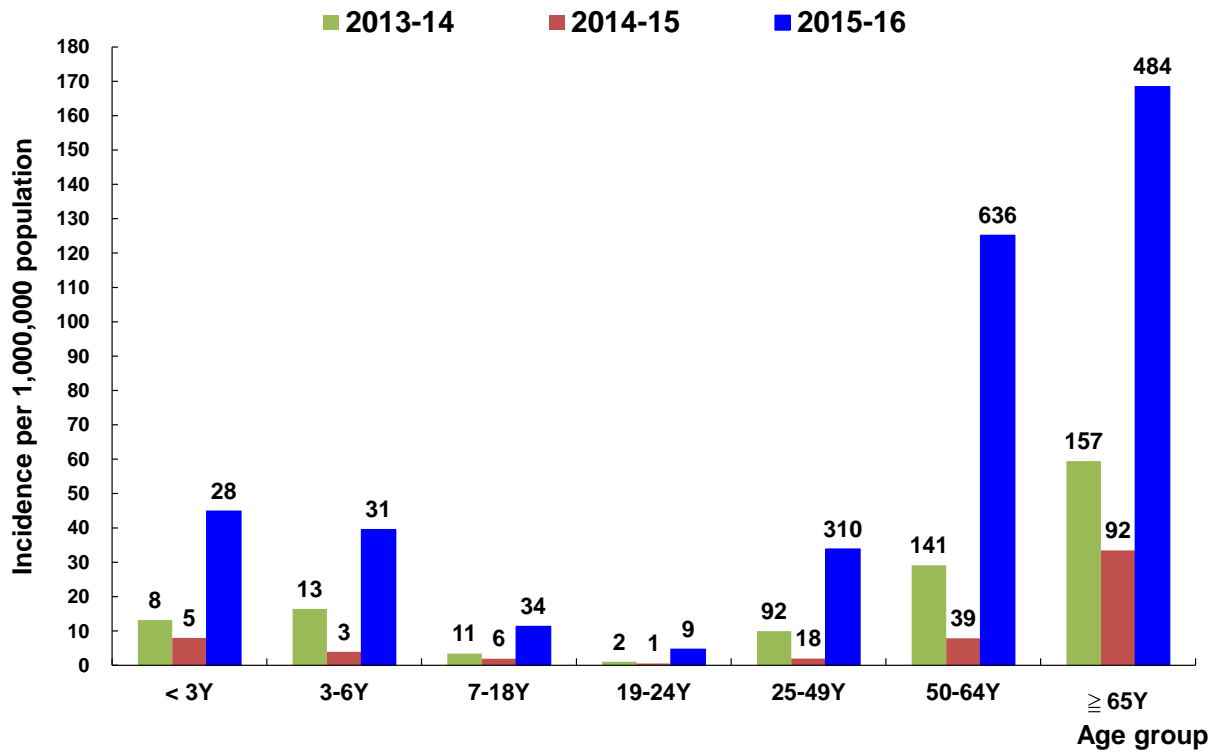
*A confirmed severe complicated influenza case is defined as influenza virus infection with complication (pulmonary complication, neurologic complication, myocarditis, invasive bacterial infection, or pericarditis) that requires intensive care or results in death within 14 days after the onset of influenza-like illness.

Rate of severe complicated influenza cases and deaths by age groups (July 1, 2015 to present)

Age Group	Cases	Deaths	Cumulative incidence per million population	Cumulative mortality per million population
< 3 y	31	3	49.7	4.8
3-6 y	34	3	43.3	3.8
7-18 y	36	2	12.0	0.7
19-24 y	10	0	5.2	0.0
25-49 y	324	29	35.4	3.2
50-64 y	676	65	133.0	12.8
65 +	552	61	192.1	21.2
Total	1663	163	70.9	6.9



Incidence of severe complicated influenza reports by age groups (Oct 1, 2015 to present)

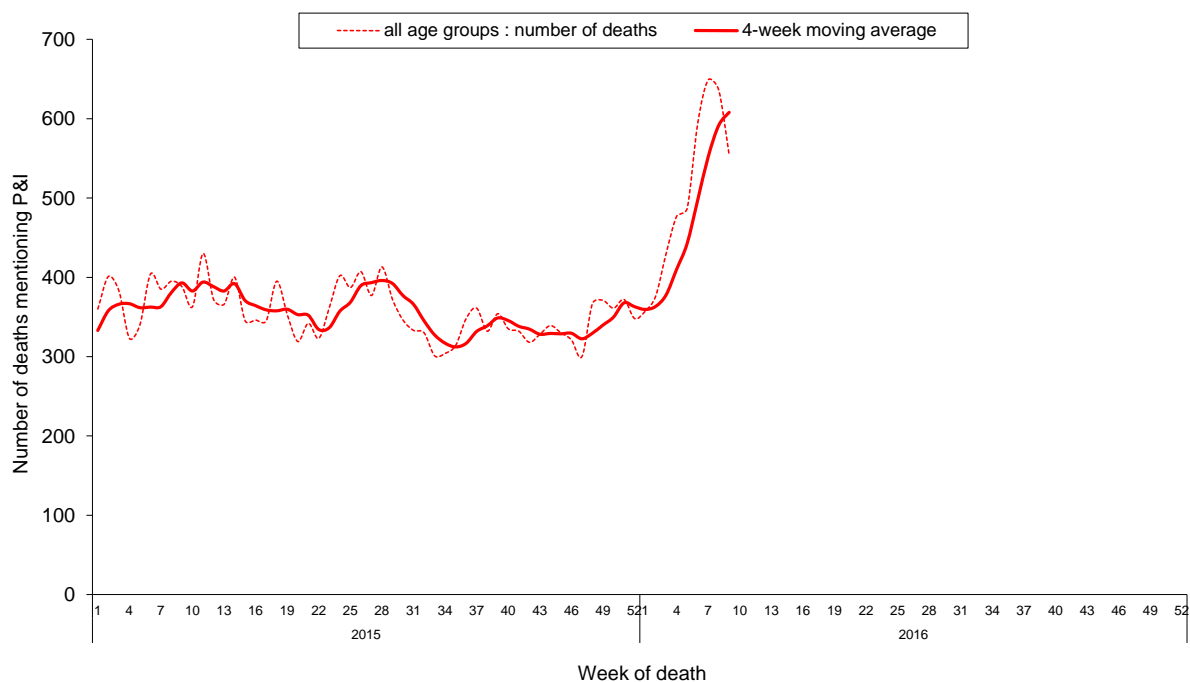


*Numbers represent number of complicated influenza reports for that specific age stratum.



Pneumonia and Influenza (P&I) Mortality Surveillance

The overall trend of P&I has increased in recent weeks. Among the three age groups (0–49, 50–64, and 65+), the number of deaths related to P&I for adults aged 65 years and above was the highest.



* Medical institutions are required to report any mortality case to the Ministry of Health and Welfare (MOHW) within 7 days after a death certificate is issued through the Internet System for Death Reporting (ISDR). Either the immediate cause of death or the underlying cause of death was used to identify P&I death cases. Only those with keyword texts containing 'pneumonia', 'influenza' or 'common cold' were counted as a P&I death. Since January 1, 2014, ISDR has been improved in coverage.

