



Summary

The influenza activity was still low in Taiwan. The most frequently identified influenza virus was A(H3N2) viruses.

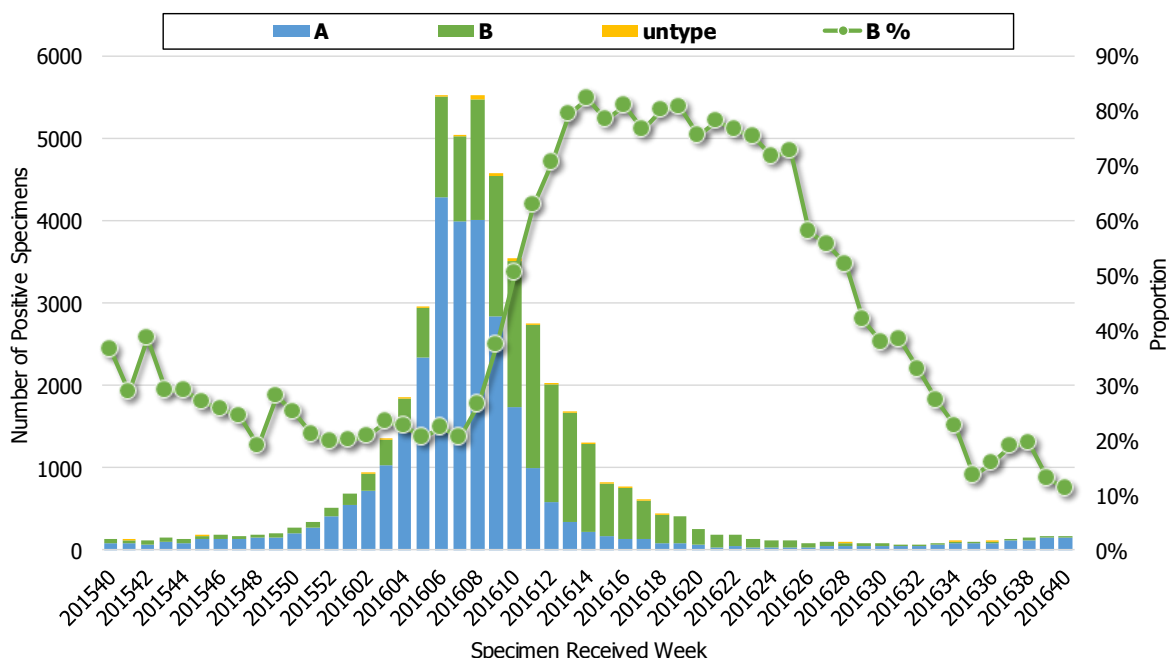
- The major virus type in circulating influenza virus was unknown yet in this season, but the most frequently identified influenza virus was A(H3N2) virus.
- During Week 40, the number of ILI visits to outpatient services and emergency rooms (ER) was still low.
- Since the beginning of this influenza season on July 1, 2016, there have been 39 severe cases. Most severe cases were infected with influenza A (H3N2) virus primarily, and influenza B virus secondly.

Viral Surveillance

Types and Trend

According to LARS¹, the trend of the influenza positive specimens was still low, but a slight increase was observed in recent weeks. The major influenza type among positive specimens was type A recently.

Trend of Influenza Positive Specimens according to LARS

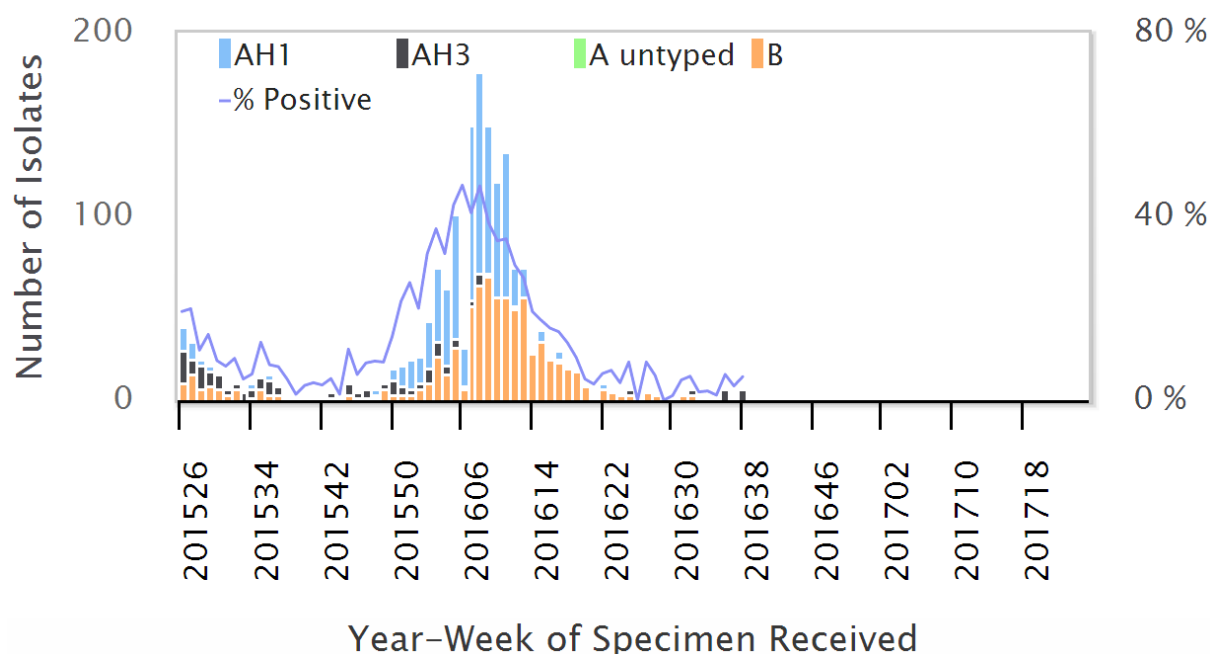


¹ To present the trend of influenza virus in real-time, the automated laboratory reporting system (LARS) has been established by Taiwan CDC since 2014. Twenty nine hospitals, including 17 medical centers, have been participating in LARS, which daily upload all information of positive specimens automatically.



According to the Taiwan CDC Contracted Diagnostic Virology Laboratories², the rate of specimens testing positive for influenza virus was 5.1% during Week 38. All viruses that were typed by laboratories during Week 38 were H3N2. Weekly virus data are available on website: <http://nidss.cdc.gov.tw/> .

Influenza Positive Tests according to Contracted Diagnostic Virology Laboratories 2015 – 2017



Antigenicity

During Week 40, among those influenza positive specimens that were antigenically characterized, 100% of the influenza A (H1N1) virus isolates match the A (H1N1) component of the 2016-17 influenza vaccine (A/California/7/2009), and 100% of the influenza A (H3N2) virus isolates match the A (H3N2) component of the 2016-17 influenza vaccine (A/Hong Kong/4801/2014). No influenza B isolate was tested with the B component of the 2016-17 influenza vaccine (B/Brisbane/60/2008).

Antiviral Resistance

Since October 1, 2016, 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)	0	0
Influenza A (H3N2)	1	0
Influenza B	0	0

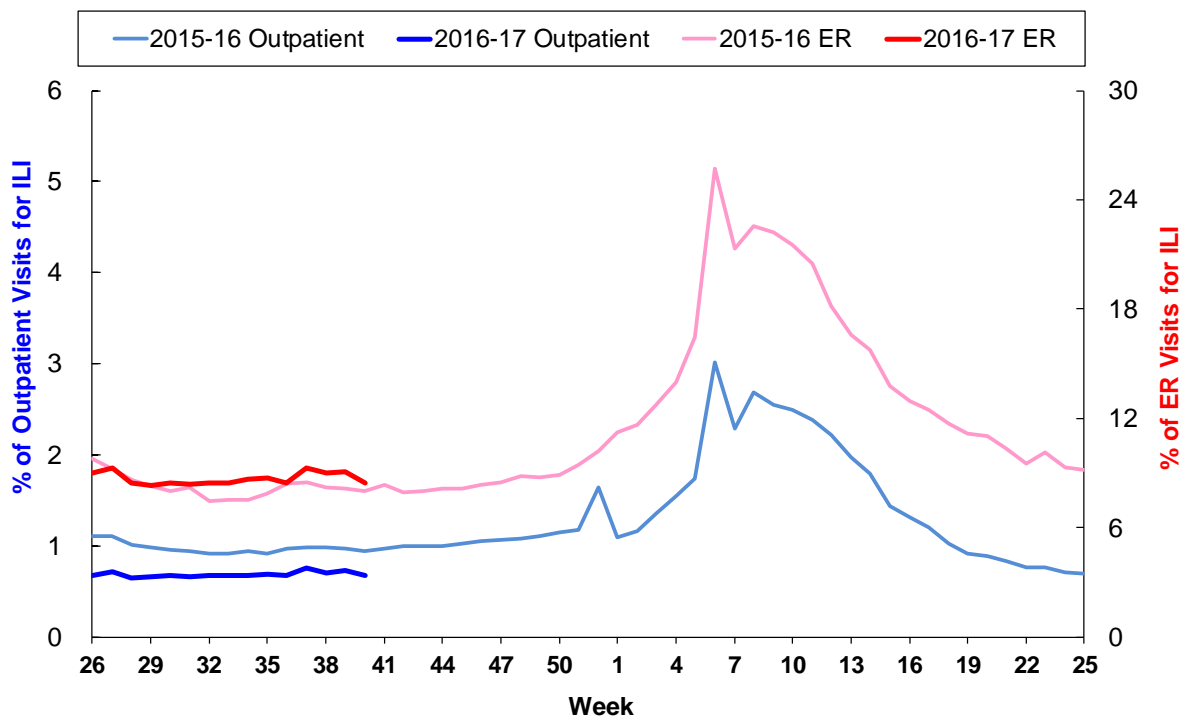
²To observe the subtype, antigenicity and drug resistance of the influenza viruses circulating in the community, the Contracted Diagnostic Virology Laboratories, including 8 laboratories of medical centers, has been established by Taiwan CDC since March, 1999.



Influenza-like Illness Surveillance

According to the National Health Insurance Database, both the consultation rates and numbers of visits to outpatient services and ER for ILI have been low for recent weeks. During Week 40, the number of outpatient visits for ILI were around 34,000, the number of ER visits for ILI were around 10,000, and a increase of 5% in both ILI visits as compared to the previous week was observed.

**Proportions of outpatient department and ER visits for ILI
July 1, 2015 to present**



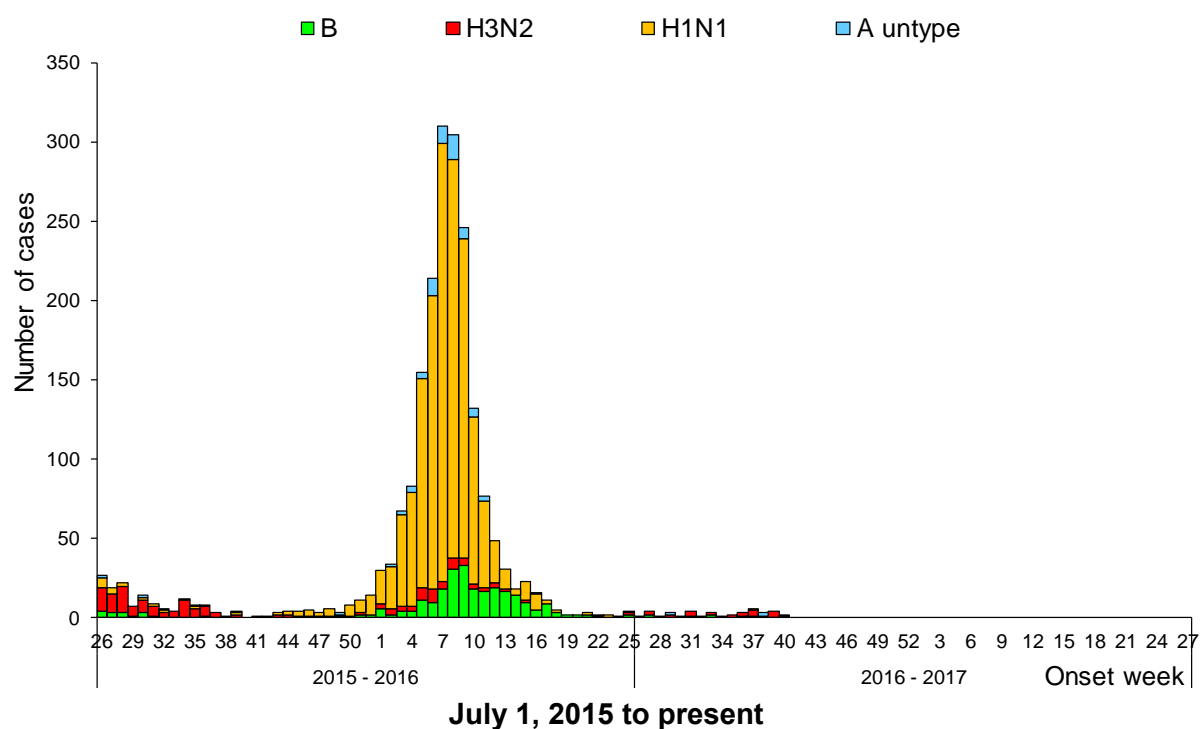
* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.

Reports of Severe Complicated Influenza

Since the beginning of this influenza season on July 1, 2016, a total of 39 severe complicated influenza cases was confirmed, 61.5% of severe cases were infected with H3N2, and 25.6% were infected with type B. During this influenza season, the highest incidence and case number were observed among adults aged ≥ 65 years. Thus far, the number of sever cases in this season was lower than those in the same period in the previous two seasons.



Number of severe complicated influenza reports by week of onset



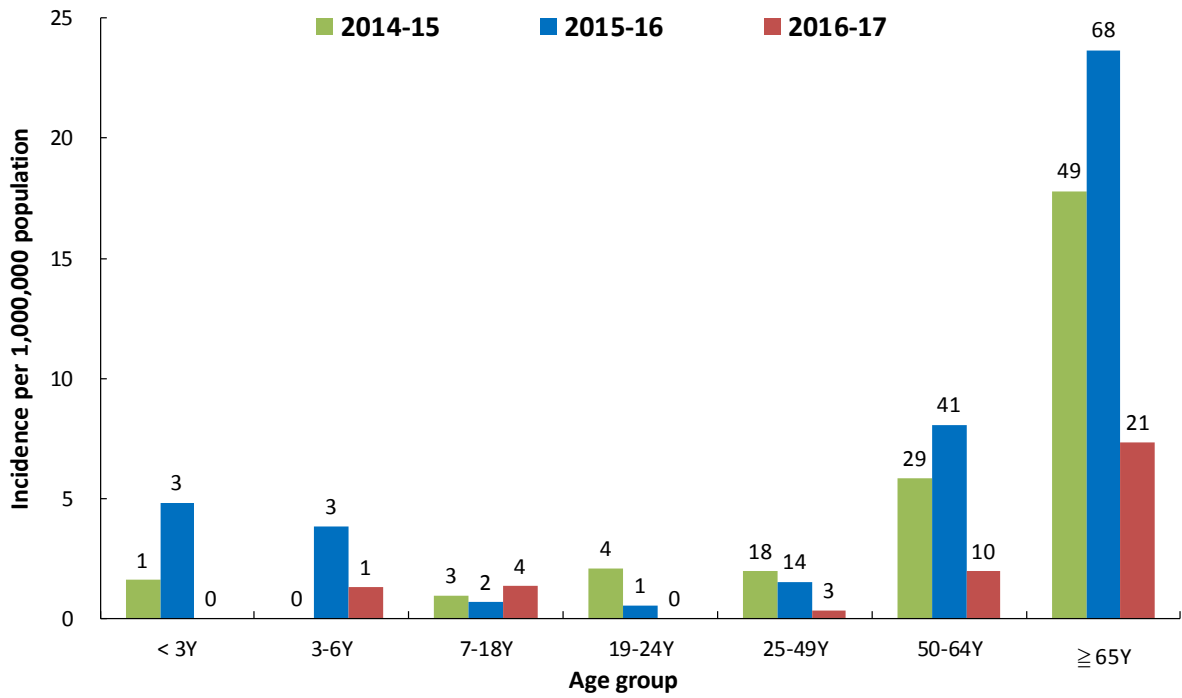
*A confirmed severe complicated influenza case is defined as influenza virus infection with complication (pulmonary complication, neurologic complication, myocarditis, invasive bacterial infection, or pericarditis) that requires intensive care or results in death within 14 days after the onset of influenza-like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

Rate of severe complicated influenza cases and deaths by age groups July 1, 2016 to present

Age Group	Cases	Deaths	Cumulative incidence per million population	Cumulative mortality per million population
< 3 y	0	0	0.0	0.0
3-6 y	1	0	1.3	0.0
7-18 y	4	0	1.3	0.0
19-24 y	0	0	0.0	0.0
25-49 y	3	0	0.3	0.0
50-64 y	10	0	2.0	0.0
65 +	21	0	7.3	0.0
Total	39	0	1.7	0.0



Incidence of severe complicated influenza reports by age groups July 1, 2016 to present

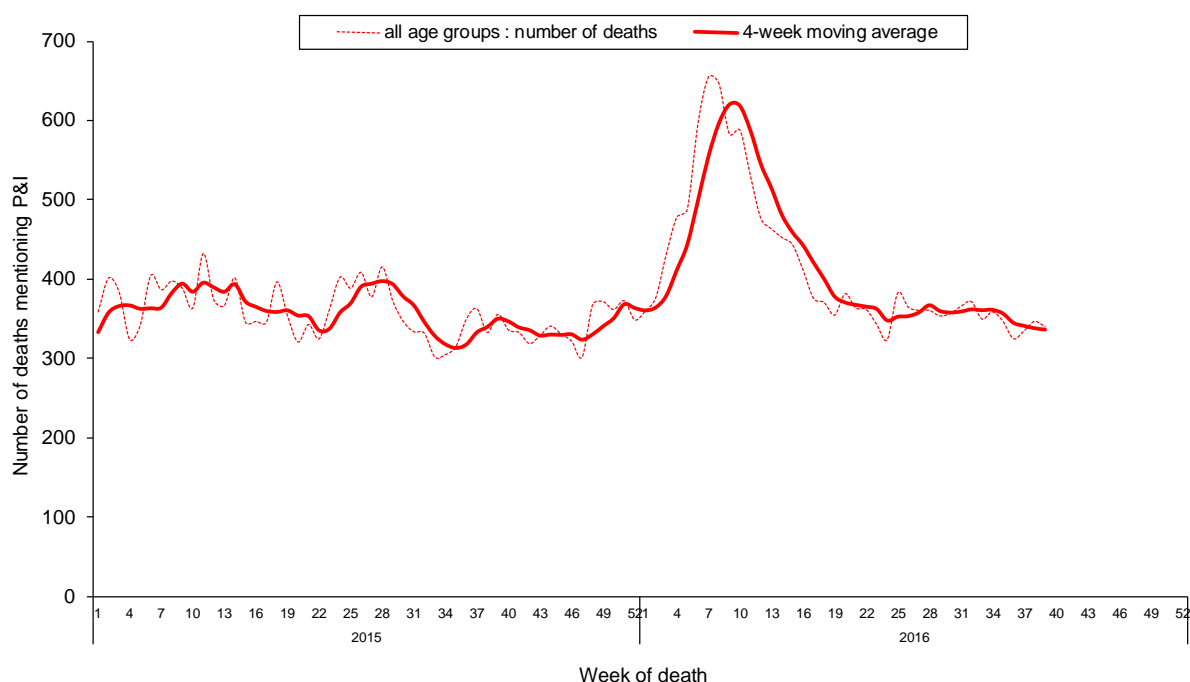


*Numbers represent number of complicated influenza reports for that specific age stratum.



Pneumonia and Influenza (P&I) Mortality Surveillance

The overall trend of P&I was low. 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.

