



Synopsis

During week 42 (October 16-22, 2016), the influenza activity was low in Taiwan, but an increased number of reports for severe complicated influenza was observed.

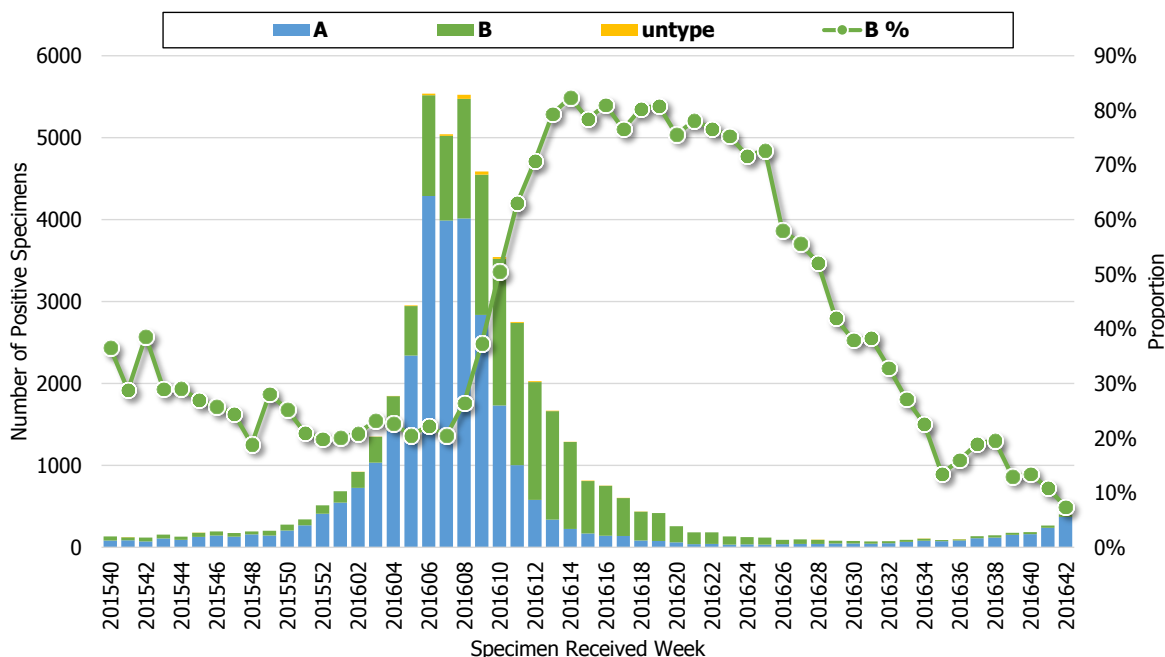
- The major virus type in circulating influenza virus was unknown yet in this flu season, but the most frequently identified influenza virus type was influenza A(H3N2).
- Both proportions of outpatient and ER visits for influenza-like illness (ILI) were low.
- There were 8 newly confirmed severe complicated influenza cases and 6 reports of death due to severe complicated influenza. During this influenza season, a total of 51 severe complicated influenza cases that resulted in 6 deaths. Most severe cases were infected with influenza A (H3N2) virus primarily, and influenza B virus secondly.
- During week 41 ending October 15, 2016, the number of deaths attributed to pneumonia and influenza (P&I) was low.
- The higher numbers of visits for ILI and reports of severe complicated influenza in the next week (week 43) is predictable.

Viral Surveillance

Types and Trend

According to LARS¹, the number of the influenza positive specimens increased slightly. Recently, the major influenza type among positive specimens was influenza A.

Trend of Influenza Positive Specimens according to LARS

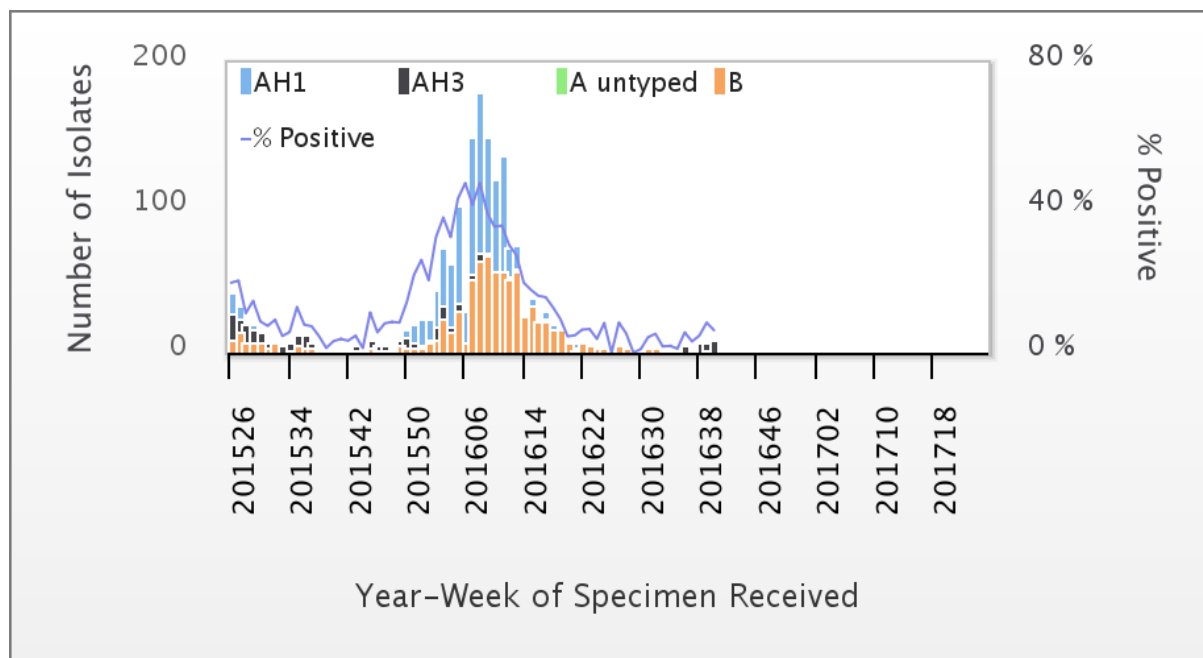


¹ To present the trend of influenza virus in real-time, the automated laboratory reporting system (LARS) has been established by Taiwan CDC since 2014. Twenty nine hospitals, including 17 medical centers, have been participating in LARS, which daily upload all information of positive specimens automatically.



According to the Taiwan CDC Contracted Diagnostic Virology Laboratories², during week 40 ending October 15, 2016, the proportion of specimens tested positive for influenza virus was 6.2%, and all positive tests were typed as H3N2. Weekly virus data are available on website: <http://nidss.cdc.gov.tw/>.

Influenza Positive Tests according to Contracted Diagnostic Virology Laboratories July 1, 2015 to present



Antigenicity

In recent 3 weeks, 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), 100% of the influenza A (H3N2) virus isolates match the A (H3N2) component of the 2016-17 influenza vaccine (A/Hong Kong/4801/2014), and 100% of influenza B isolates match 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)	7	0
Influenza B	0	0

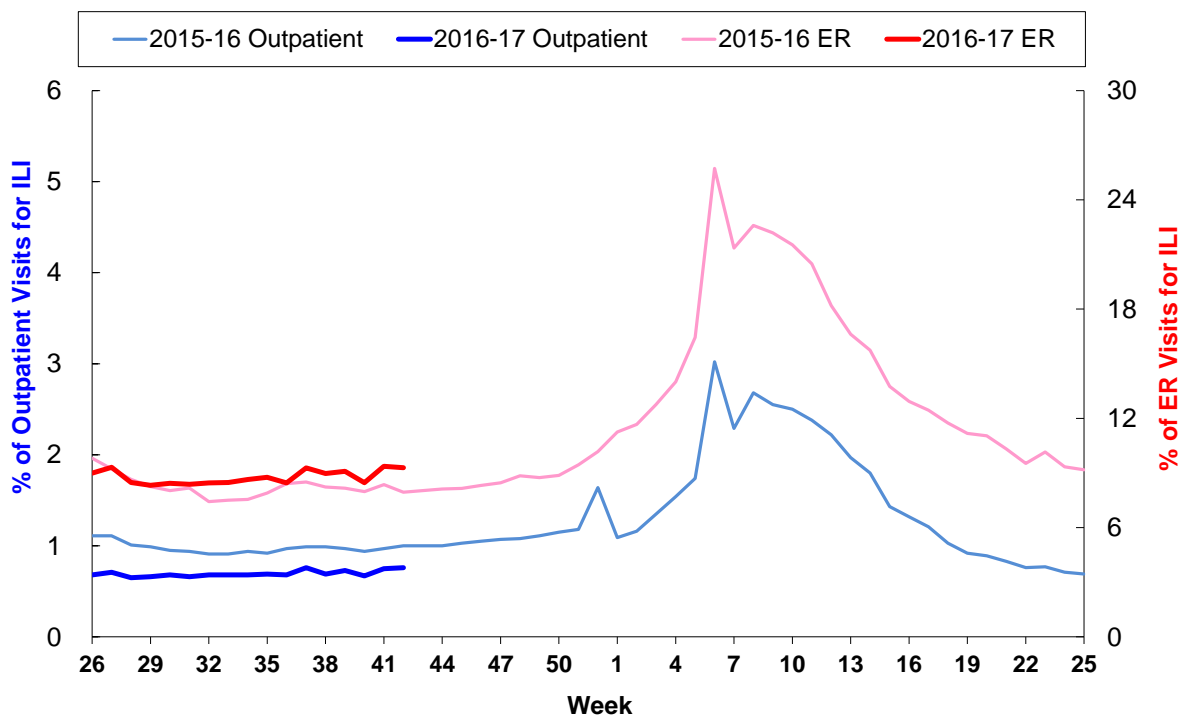
² To observe the subtype, antigenicity and drug resistance of the influenza viruses circulating in the community, the Contracted Diagnostic Virology Laboratories, including 8 laboratories of medical centers, has been established by Taiwan CDC since March, 1999.



Influenza-like Illness Surveillance

The number of outpatient visits for ILI were around 38,000, the number of ER visits for ILI were around 11,000, and an increase of 6% in both ILI visits as compared to week 41 was observed.

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



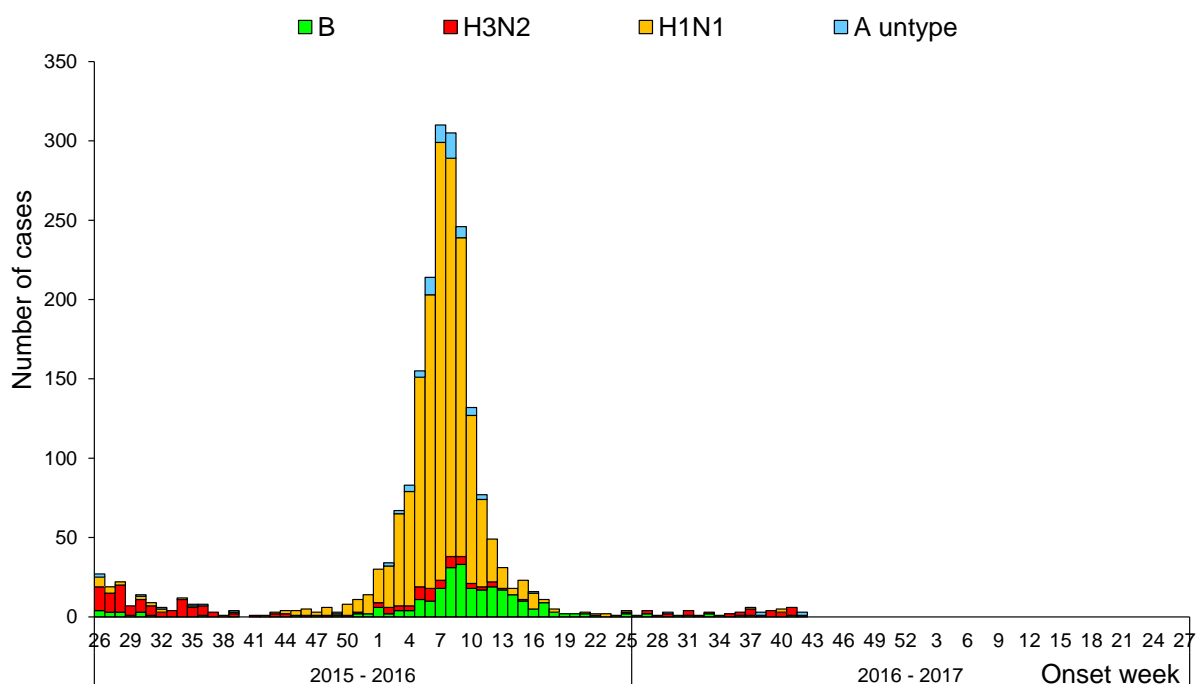
* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.

Reports of Severe Complicated Influenza

The number of reports for severe complicated influenza increased slightly. There were 8 newly confirmed severe complicated influenza cases, including 5 H3N2 cases, 2 influenza A (subtyping unknown) case, 1 influenza B case. There were 6 newly reports of death due to severe complicated influenza, including 4 H3N2 reports and 2 influenza B reports. During this influenza season, a total of 51 severe complicated influenza cases has been confirmed, which resulted in 6 deaths and was lower than the previous influenza seasons (2014-2016). Among 51 severe cases, 62.7% were infected with H3N2 and 21.6% were infected with influenza B. The highest incidence and severe case number were observed among adults aged 65 years and above.



Number of severe complicated influenza reports by week of onset July 1, 2015 to present



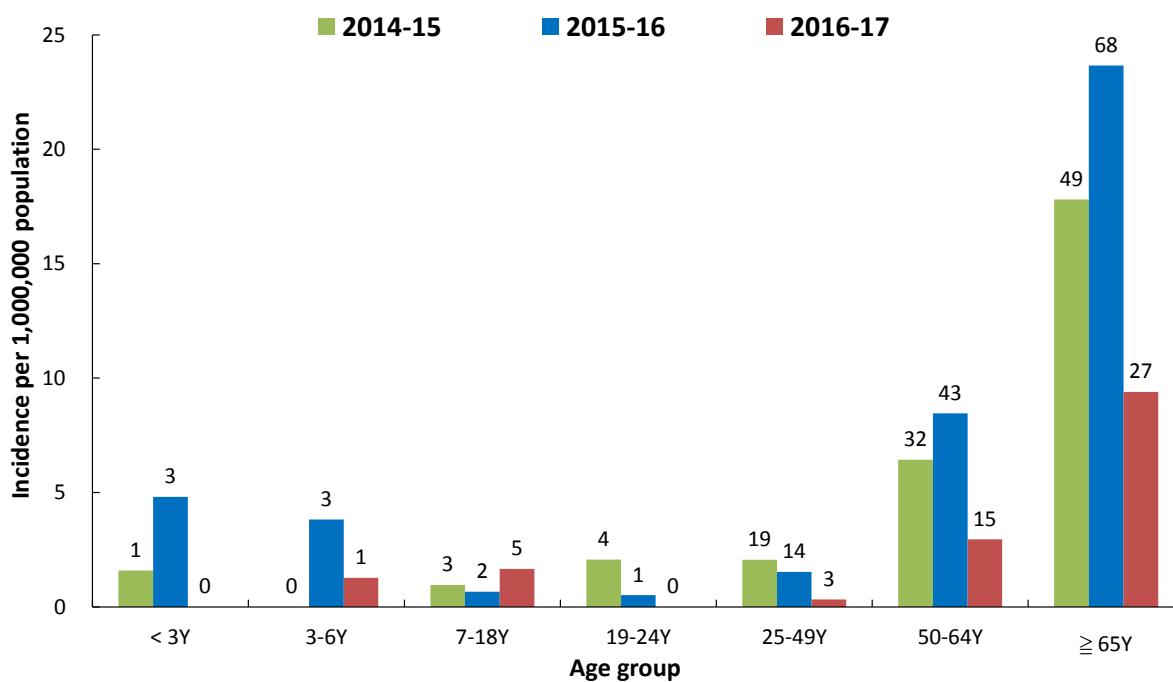
*A confirmed severe complicated influenza case is defined as influenza virus infection with complication (pulmonary complication, neurologic complication, myocarditis, invasive bacterial infection, or pericarditis) that requires intensive care or results in death within 14 days after the onset of influenza-like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

Rate of severe complicated influenza cases and deaths by age groups July 1, 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	1	1.3	1.3
7-18 y	5	1	1.7	0.3
19-24 y	0	0	0.0	0.0
25-49 y	3	1	0.3	0.1
50-64 y	15	1	3.0	0.2
65 +	27	2	9.4	0.7
Total	51	6	2.2	0.3



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

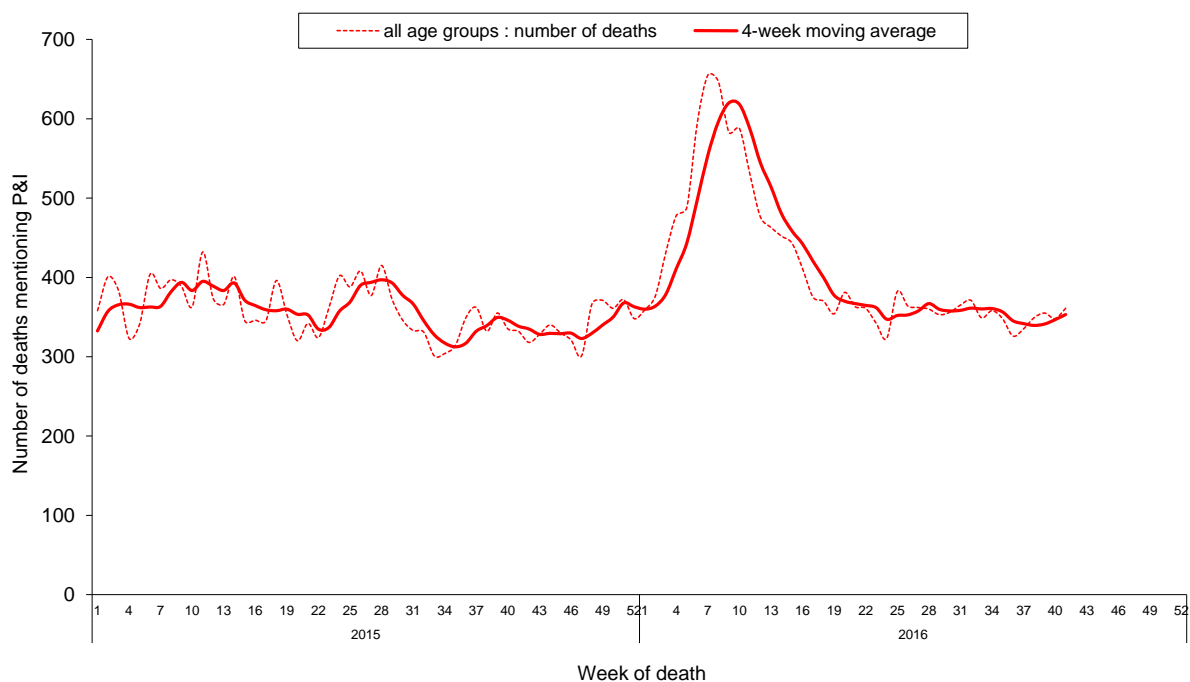


*Numbers represent number of complicated influenza reports for that specific age stratum.



Pneumonia and Influenza (P&I) Mortality Surveillance

Base on Internet System for Death Reporting (ISDR) surveillance data, during week 41 ending October 15, 2016, the number of deaths attributed to P&I was low. Among three age groups (0–49, 50–64, and 65+), the proportion of deaths attributed 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.

