



## Synopsis

During week 43 (October 23-29, 2016), the influenza activity increased earlier compared with previous seasons in Taiwan, but has not yet exceeded the epidemic threshold.

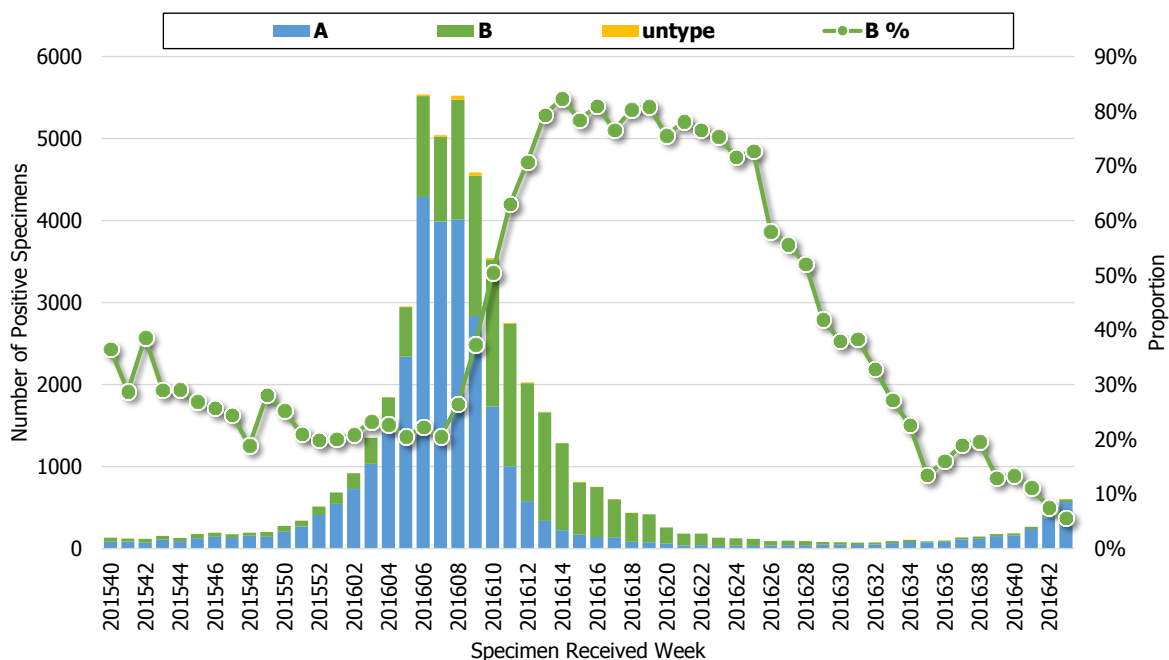
- Both proportions of outpatient and ER visits for influenza-like illness (ILI) increased during week 43.
- The number of specimens tested positive for influenza virus has been increasing recently. The major virus type of the circulating influenza viruses was H3N2, which matched 2016-17 influenza vaccine.
- The numbers of reported and confirmed cases with severe complicated influenza have been increasing recently. There were 17 newly confirmed severe complicated influenza cases and 1 report of death due to severe complicated influenza. During this influenza season, a total of 68 severe complicated influenza cases that resulted in 7 deaths. Most severe cases were infected with influenza A (H3N2) virus primarily, and influenza B virus secondly.
- During week 42 ending October 22, 2016, the number of deaths attributed to pneumonia and influenza (P&I) was low.
- According to one week extended weather forecast with lower temperature and large temperature difference, the higher influenza activity is predictable.

## Viral Surveillance

### Types and Trend

According to LARS<sup>1</sup>, the number of the influenza positive specimens has increased. Recently, the major influenza type among positive specimens was influenza A.

### Trend of Influenza Positive Specimens according to LARS

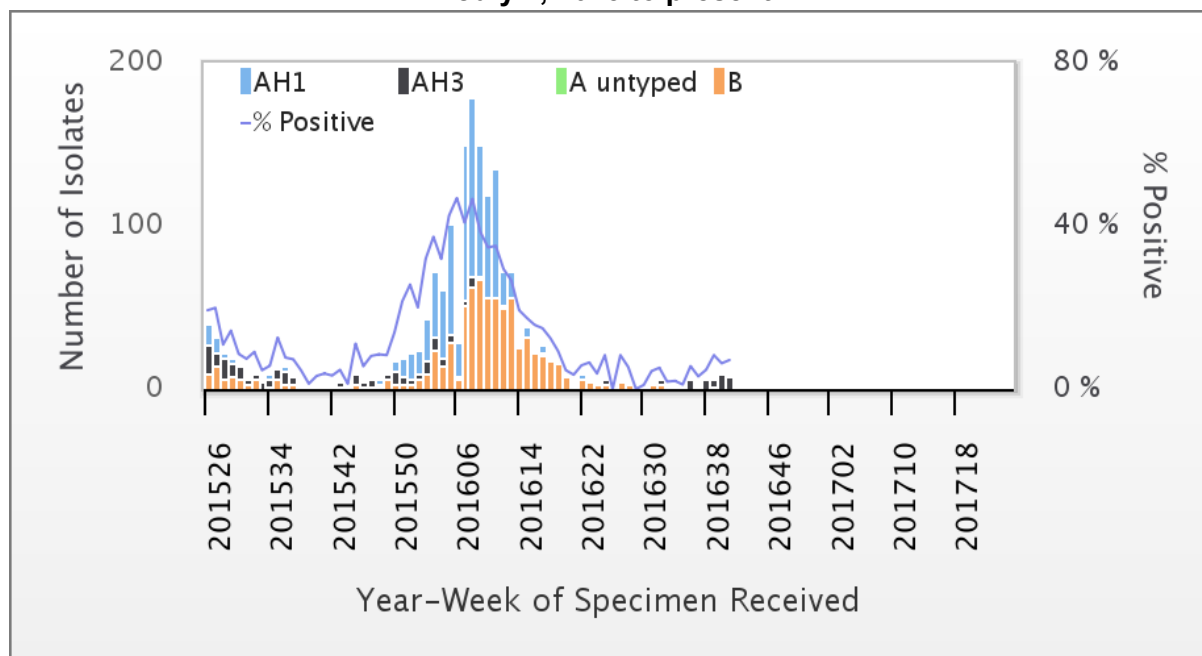


<sup>1</sup> To present the trend of influenza virus in real-time, the automated laboratory reporting system (LARS) has been established by Taiwan CDC since 2014. Twenty nine hospitals, including 17 medical centers, have been participating in LARS, which daily upload all information of positive specimens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



According to the Taiwan CDC Contracted Diagnostic Virology Laboratories<sup>2</sup>, during week 41 ending October 22, 2016, the proportion of specimens tested positive for influenza virus was 7.1%, 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 4 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)	9	0
Influenza B	1	0

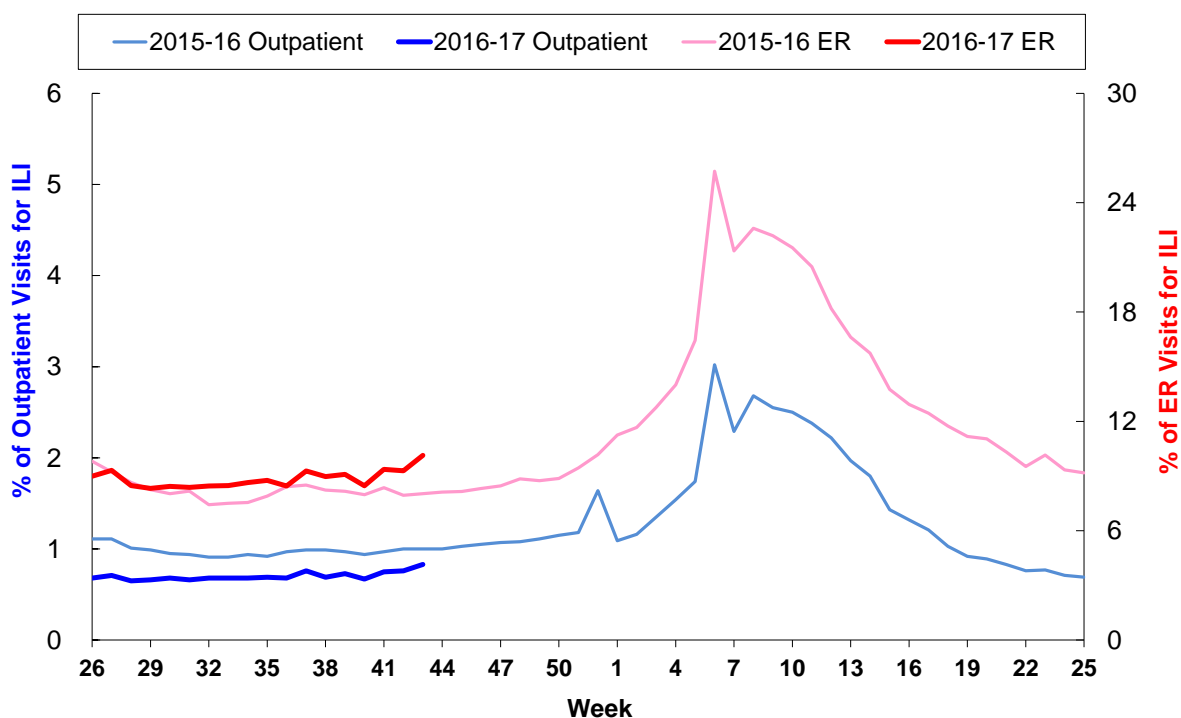
<sup>2</sup> To observe the subtype, antigenicity and drug resistance of the influenza viruses circulating in the community, the Contracted Diagnostic Virology Laboratories, including 8 laboratories of medical centers, has been established by Taiwan CDC since March, 1999.



## Influenza-like Illness Surveillance

During week 43, both proportions of outpatient and ER visits for ILI increased. The number of outpatient visits for ILI were around 41,000, the number of ER visits for ILI were around 12,000, and an increase of 8% in both ILI visits as compared to week 42 was observed.

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



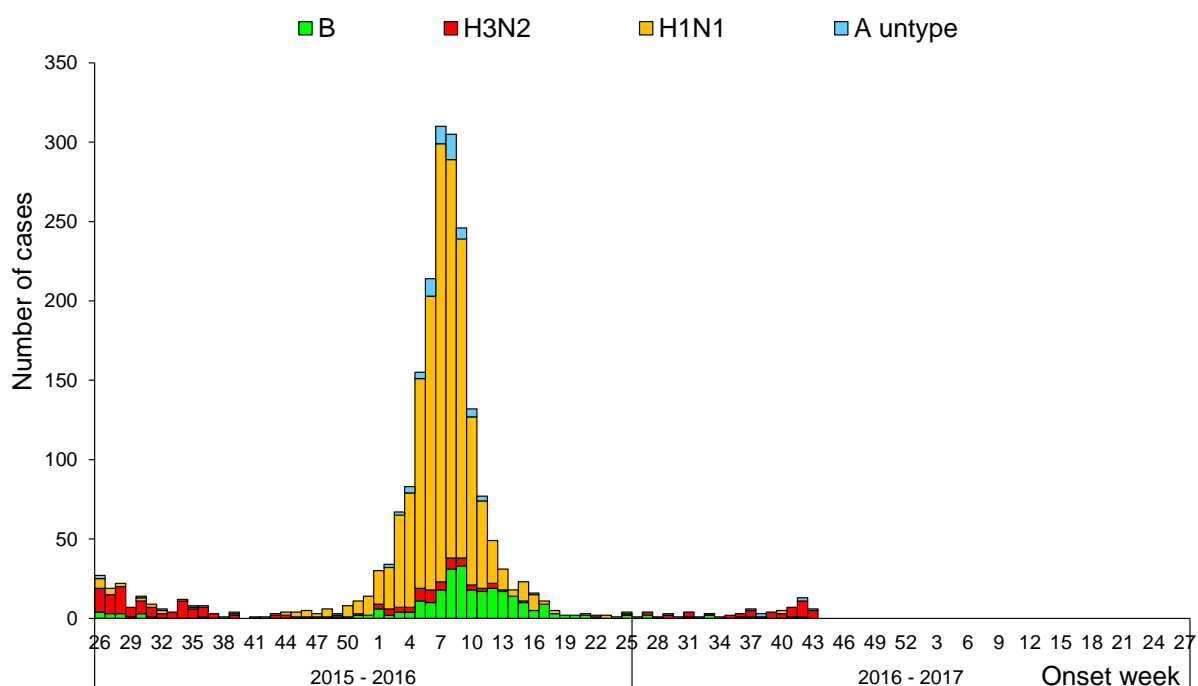
\* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.

## Reports of Severe Complicated Influenza

The number of reports for severe complicated influenza has increased. There were 17 newly confirmed severe complicated influenza cases, including 15 H3N2 cases, 1 influenza A (subtyping unknown) case, 1 influenza B case. There was 1 newly report of death due to severe complicated influenza with H3N2 infection. During this influenza season, a total of 68 severe complicated influenza cases has been confirmed, which resulted in 7 deaths and was lower than the previous influenza seasons (2014-2016). Among 68 severe cases, 69.1% were infected with H3N2 and 17.6% 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



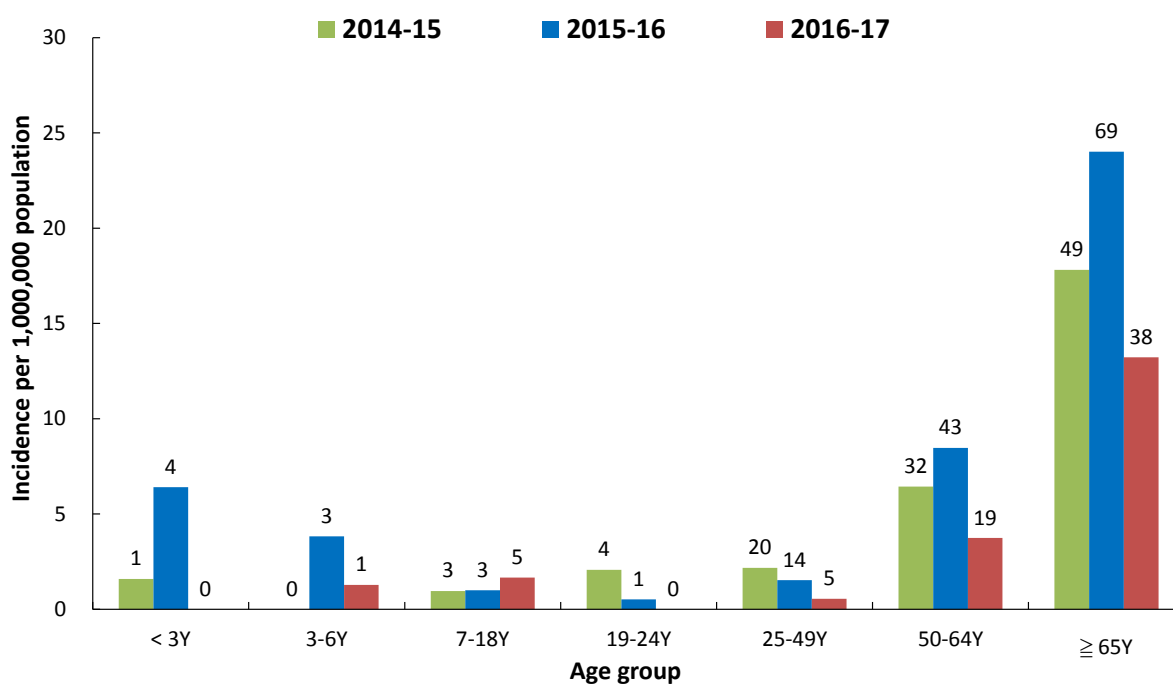
\*A confirmed severe complicated influenza case is defined as influenza virus infection with complication (pulmonary complication, neurologic complication, myocarditis, invasive bacterial infection, or pericarditis) that requires intensive care or results in death within 14 days after the onset of influenza-like 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	5	1	0.5	0.1
50-64 y	19	2	3.7	0.4
65 +	38	2	13.2	0.7
Total	68	7	2.9	0.3



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

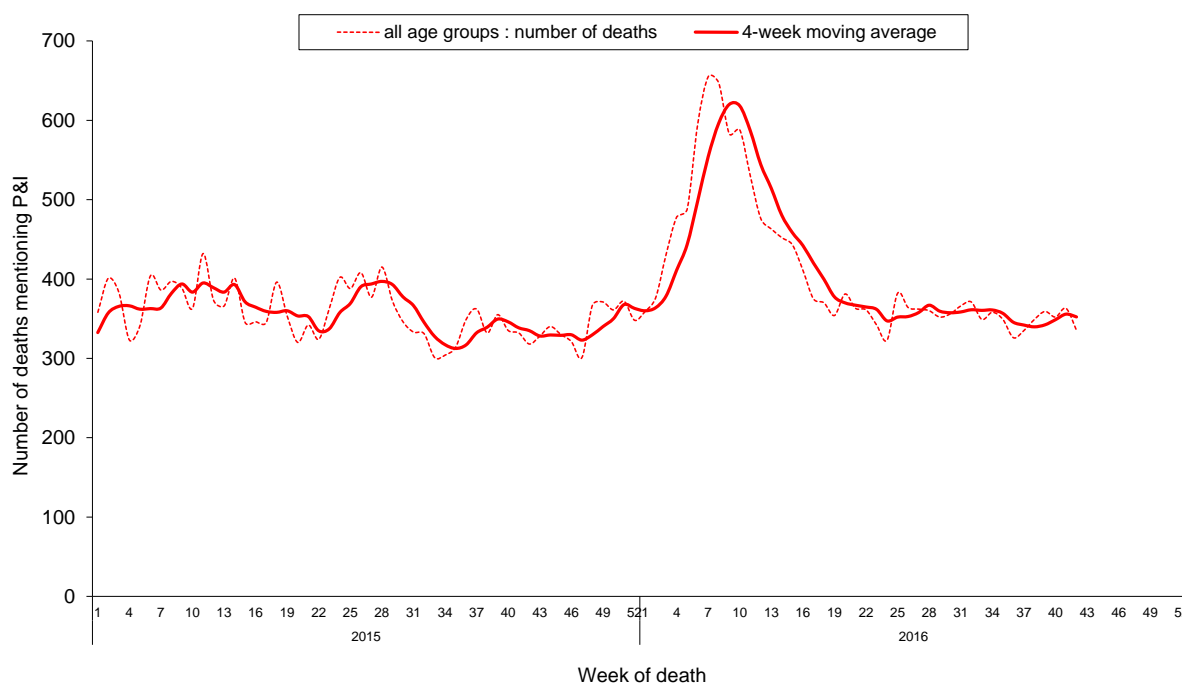


\*Numbers represent number of complicated influenza reports for that specific age stratum.



## Pneumonia and Influenza (P&I) Mortality Surveillance

Base on Internet System for Death Reporting (ISDR) surveillance data, during week 42 ending October 22, 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.

