



Synopsis

During week 44 (October 30 – November 5, 2016), influenza activity increased slightly.

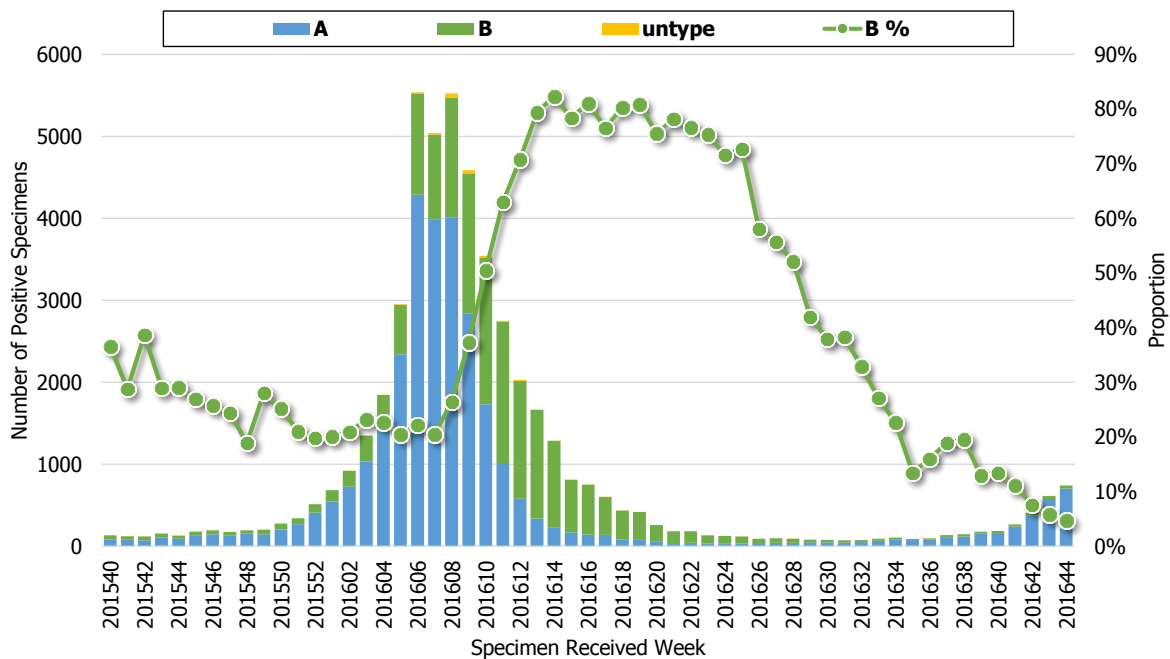
- Both proportions of outpatient and ER visits for influenza-like illness (ILI) increased during week 44.
- The number of specimens testing positive for influenza virus has been slightly increasing recently. The major type of the circulating influenza viruses was H3N2, which matched 2016-17 influenza vaccine. No antiviral-resistance virus was found within the circulating influenza viruses.
- The numbers of reported and confirmed cases with severe complicated influenza have been increasing recently. There were 19 newly confirmed severe complicated influenza cases and 3 reports of death due to severe complicated influenza. During this influenza season, a total of 87 severe complicated influenza cases that resulted in 10 deaths. The majority of severe cases were infected with influenza A (H3N2) virus (77%), and influenza B virus (14%).
- During week 43 (ending on October 29) 2016, the number of deaths attributed to pneumonia and influenza (P&I) was low.
- According to the weather forecast, it will drop to 18-19 Celsius in Northern Taiwan, it is predictable that influenza activity will be increasing.

Viral Surveillance

Types and Trend

According to LARS¹, the number of the influenza positive specimens are still increasing, and the major influenza type among positive specimens was influenza A.

Trend of Influenza Positive Specimens according to LARS

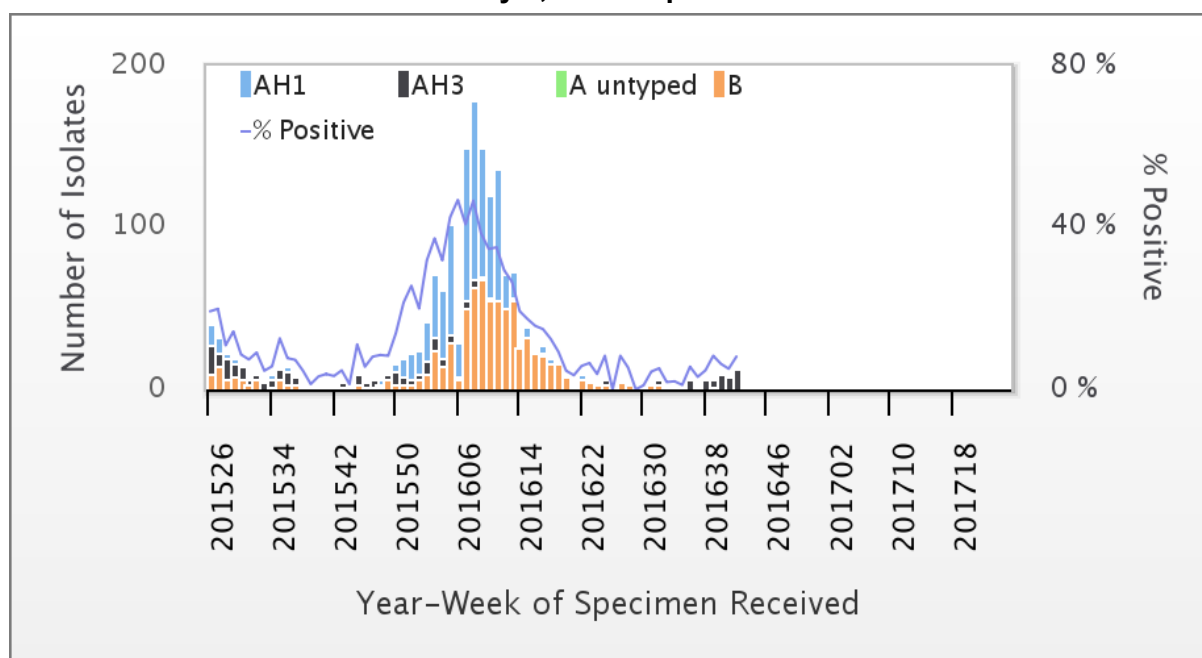


¹ To present the trend of influenza virus in real-time, the automated laboratory reporting system (LARS) has been established by Taiwan CDC since 2014. There are 29 hospitals, including 17 medical centers, have been participating in LARS, which daily upload all information of positive specimens automatically.



According to the Taiwan CDC Contracted Diagnostic Virology Laboratories², the proportion of specimens tested positive for influenza virus was 8.1%, and all positive tests were H3N2 during week 42. 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

During 2016-17 flu season, among those influenza positive specimens that were antigenically characterized, all (100%) of the influenza A (H1N1) virus isolates match with the A (H1N1) component of the 2016-17 influenza vaccine (A/California/7/2009), all (100%) of the influenza A (H3N2) virus isolates match with the A (H3N2) component of the 2016-17 influenza vaccine (A/Hong Kong/4801/2014), and all (100%) of influenza B isolates match with the B component of the 2016-17 influenza vaccine (B/Brisbane/60/2008).

Antiviral Resistance

The results of antiviral resistance to neuraminidase inhibitor (Oseltamivir) from October 1 to November 4, 2016 are summarized in the table below. All of recent circulating influenza viruses are susceptible to Oseltamivir.

	Isolates tested (n)	Resistance Viruses, n (%)
		Oseltamivir
Influenza A (H1N1)	0	0
Influenza A (H3N2)	11	0
Influenza B	1	0

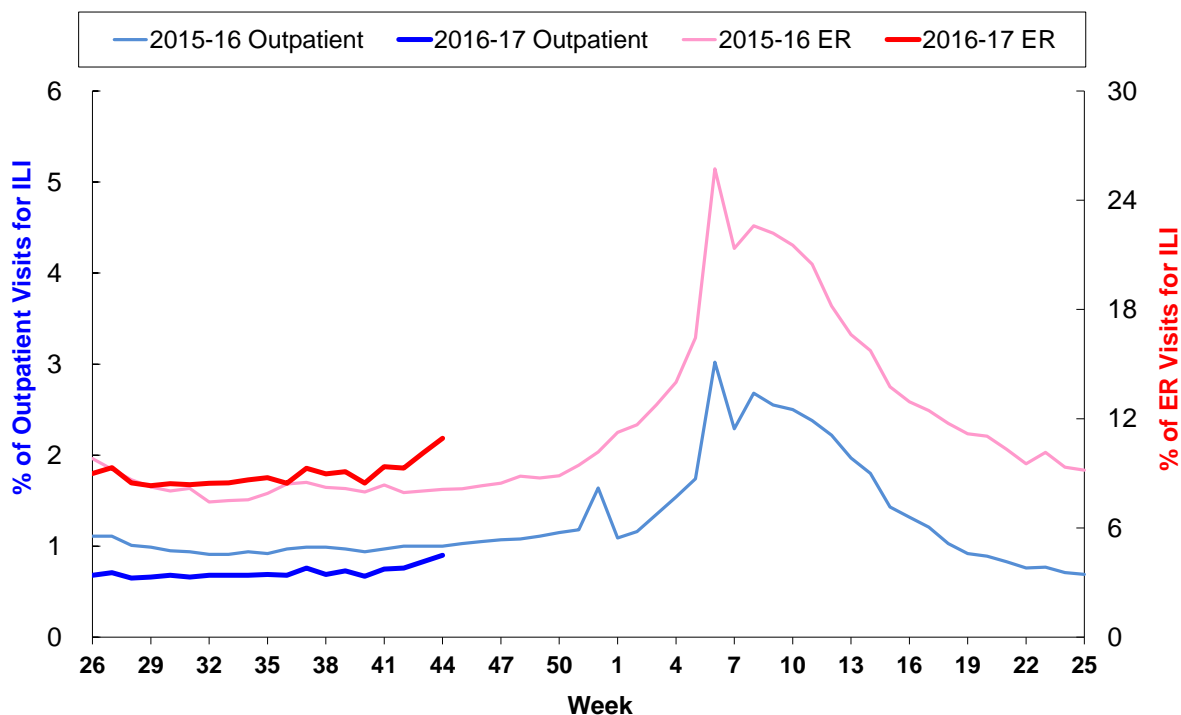
² To observe the subtype, antigenicity and drug resistance of the influenza viruses circulating in the community, the Contracted Diagnostic Virology Laboratories, including 8 laboratories of medical centers, has been established by Taiwan CDC since March, 1999.



Influenza-like Illness (ILI) Surveillance

During week 44, both proportions of outpatient and ER visits for ILI increased. The number of outpatient visits for ILI were around 46,000, and the number of ER visits for ILI were around 12,800. The numbers of patient visits increased this week in both ILI and ER visits by 9%.

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



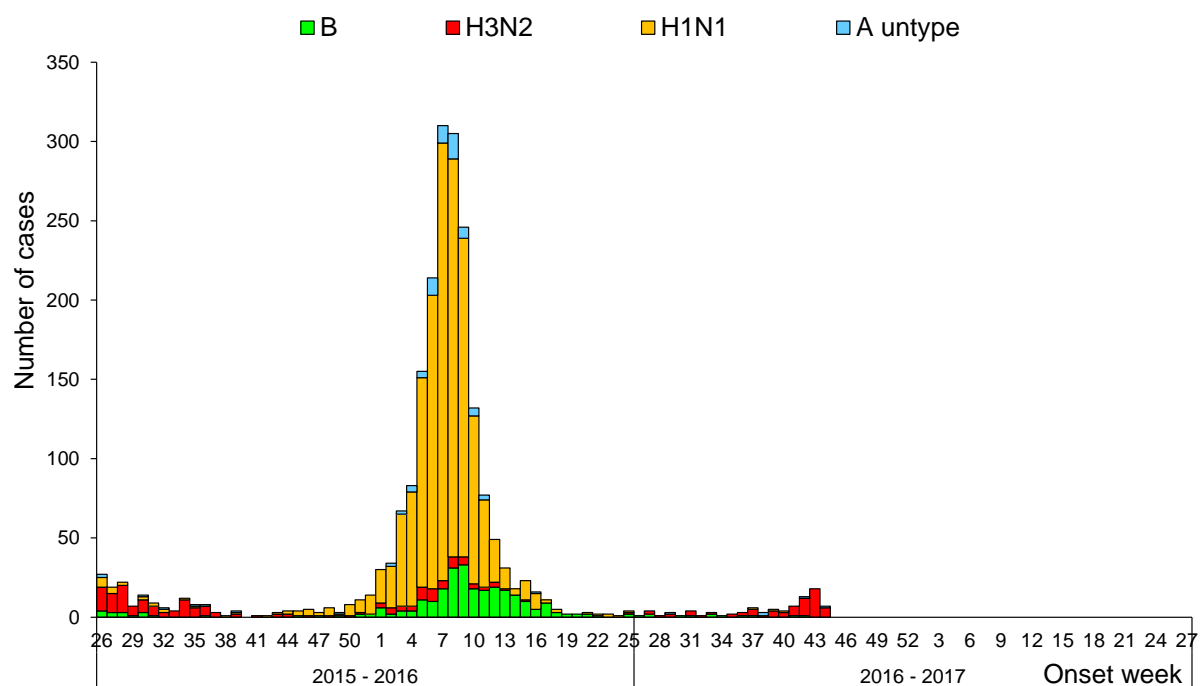
* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.

Reports of Severe Complicated Influenza

The numbers of reported and confirmed severe complicated influenza cases have been increasing recently. There were 19 new confirmed severe complicated influenza cases, including 18 H3N2 cases, and one influenza A (subtyping unknown) case. There were three new death reports due to severe complicated influenza, including one H3N2 report, one H1N1 report, and one influenza B report. During this influenza season, a total of 87 severe complicated influenza cases has been confirmed, and 98% of these cases did not get vaccinated against the flu. Among 87 cases, there were 77% infected with H3N2, 14% with influenza B virus, 6% with influenza A (subtyping unknown), and 3% with H1N1. The highest incidence and severe case numbers were among adults aged 65 years and above. A total of 10 deaths due to severe complicated influenza were reported, including 6 deaths with H3N2 infection, 3 deaths with influenza B virus infection, and 1 death with H1N1 infection. All reports of death did not get vaccinated against the flu. Both numbers of confirmed cases and deaths were lower than previous two flu seasons (2014-2016).



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



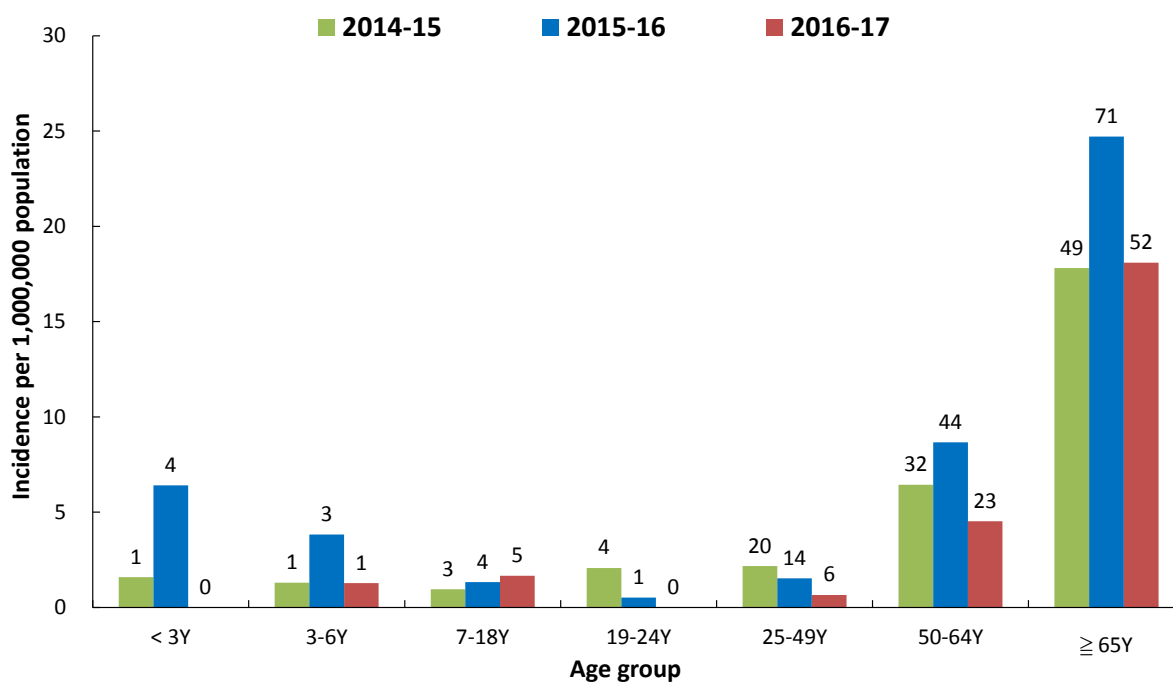
*A confirmed severe complicated influenza case is defined as influenza virus infection with complication (pulmonary complication, neurologic complication, myocarditis, invasive bacterial infection, or pericarditis) that requires intensive care or results in death within 14 days after the onset of influenza-like 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	6	2	0.7	0.2
50-64 y	23	3	4.5	0.6
65 +	52	3	18.1	1.0
Total	87	10	3.7	0.4



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

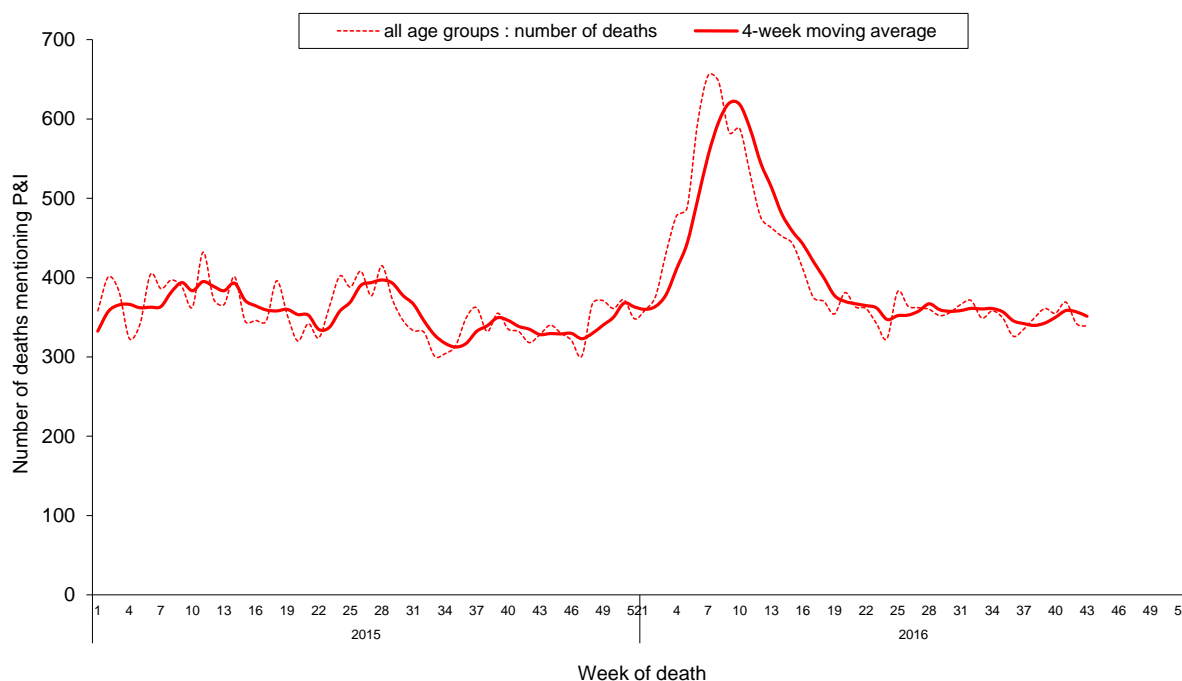


*Numbers represent number of complicated influenza reports for that specific age stratum.



Pneumonia and Influenza (P&I) Mortality Surveillance

Based on the Internet System for Death Reporting (ISDR) surveillance data, the number of deaths attributed to P&I was low. The proportion of deaths attributed to P&I for adults aged 65 years and above was the highest among the three age groups (0–49, 50–64, and 65+).



* 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.

