



Synopsis

Influenza activity remains high, but continues to decline.

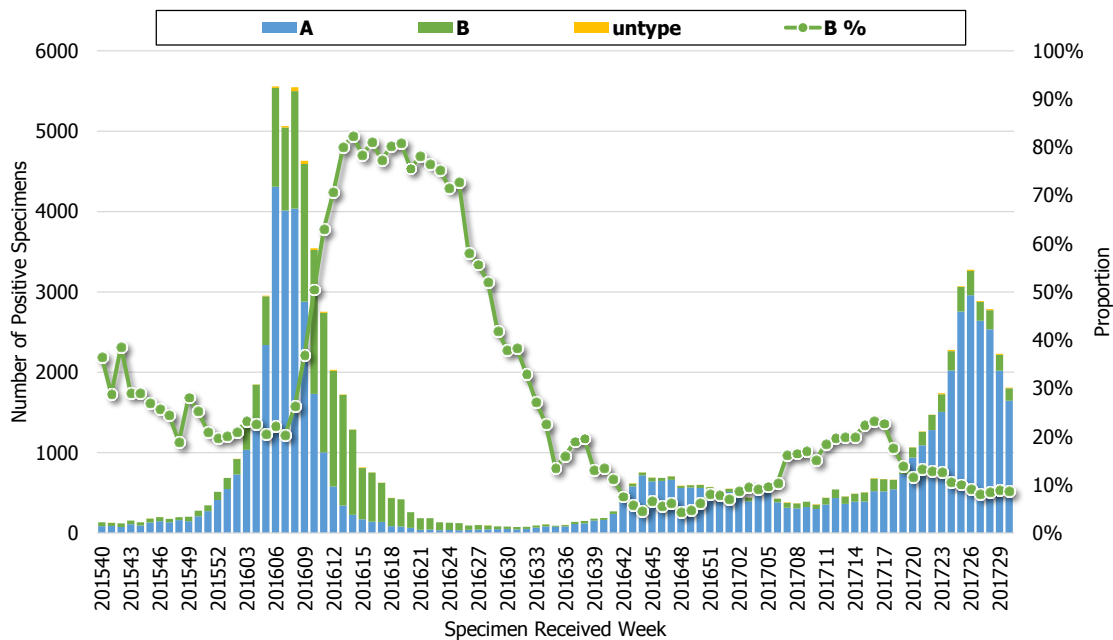
- Both of the numbers and proportions of outpatient department and ER visits for ILI has been decreasing recently.
- The number of the influenza positive specimens has been decreasing recently. The majority of the circulating influenza virus type was H3N2, 97% of H3N2 viruses matched to the 2016-17 influenza vaccine strain in the past 4 weeks. No antiviral-resistance viruses were found in the circulating influenza viruses.
- Both numbers of reported and newly confirmed cases of severe complicated influenza has been decreasing in the past three weeks. There were 55 newly confirmed severe complicated influenza cases and 14 newly reported deaths due to influenza infection during week 30. A total of 1,249 severe complicated influenza cases have been confirmed since July 1, 2016, and 135 of them reported death. Influenza A (H3N2) remained the dominant virus among severe cases (84%).
- The occurrence of severe cases has declined following the decrease of ILI. Influenza activity is expected to return to baseline level around the middle of August.

Viral Surveillance

Types and Trend

According to LARS¹, the number of the influenza positive specimens has been decreasing in the past three weeks, and the dominant influenza type among positive specimens was influenza A. The proportion of specimens positive for influenza B virus was about 9% during week 30.

Trend of Influenza Positive Specimens according to LARS

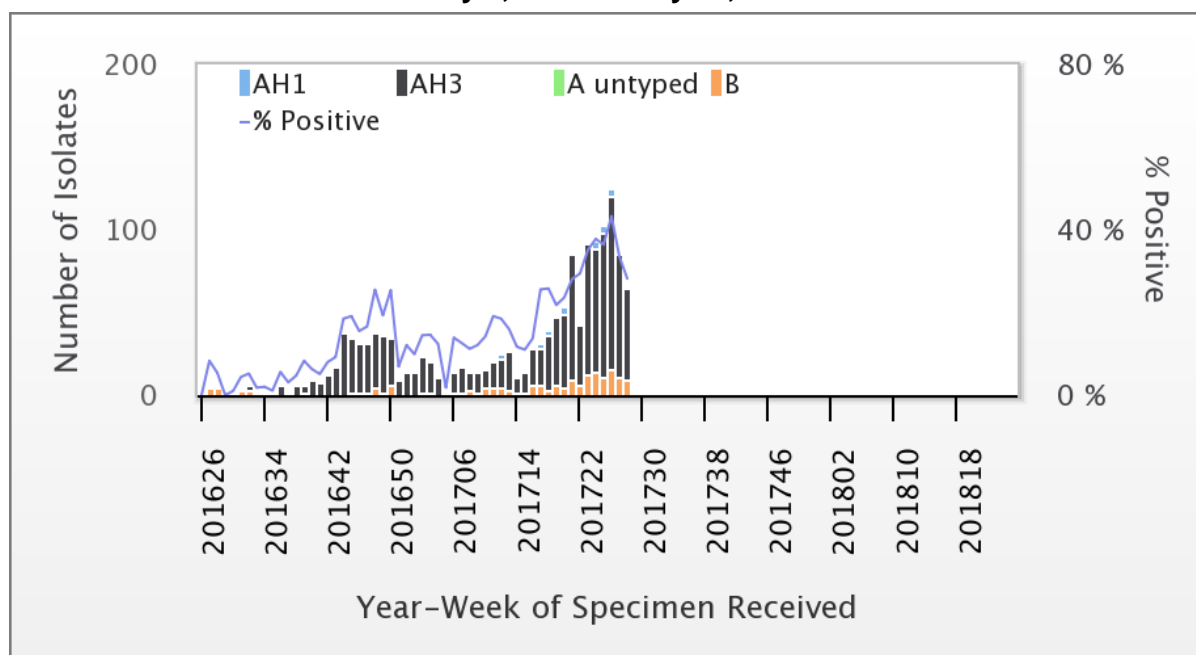


¹ In order to present the trend of influenza virus in real-time, the Automated Laboratory Reporting System (LARS) has been established by Taiwan CDC since 2014. The data presented here collected from 29 participating hospitals, including 17 medical centers. All positive specimens data uploads to LARS automatically.



According to the Taiwan CDC Contracted Diagnostic Virology Laboratories², the proportion of specimens testing positive for influenza virus was 28.2%. Among these, 82.1% were H3N2 during week 28, 2017. Weekly virus data are available at: <http://nidss.cdc.gov.tw/>.

Influenza Positive Tests according to Contracted Diagnostic Virology Laboratories July 1, 2015 to July 15, 2017



Antigenicity

In the past 4 weeks, among those influenza positive specimens that were antigenically characterized, all (100%) of the influenza A (H1N1) virus isolates matched the A (H1N1) component of the 2016-17 influenza vaccine (A/California/7/2009), and 97% of the H3N2 virus isolates matched the A (H3N2) component of the 2016-17 influenza vaccine (A/Hong Kong/4801/2014). Among influenza B isolates, 6% were B/Victoria lineage and 94% were B/Yamagata lineage; these isolates matched the B component of the 2016-17 influenza vaccine B/Brisbane/60/2008 (trivalent) and B/Phuket/30/2013 (tetraivalent), respectively.

Antiviral Resistance

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

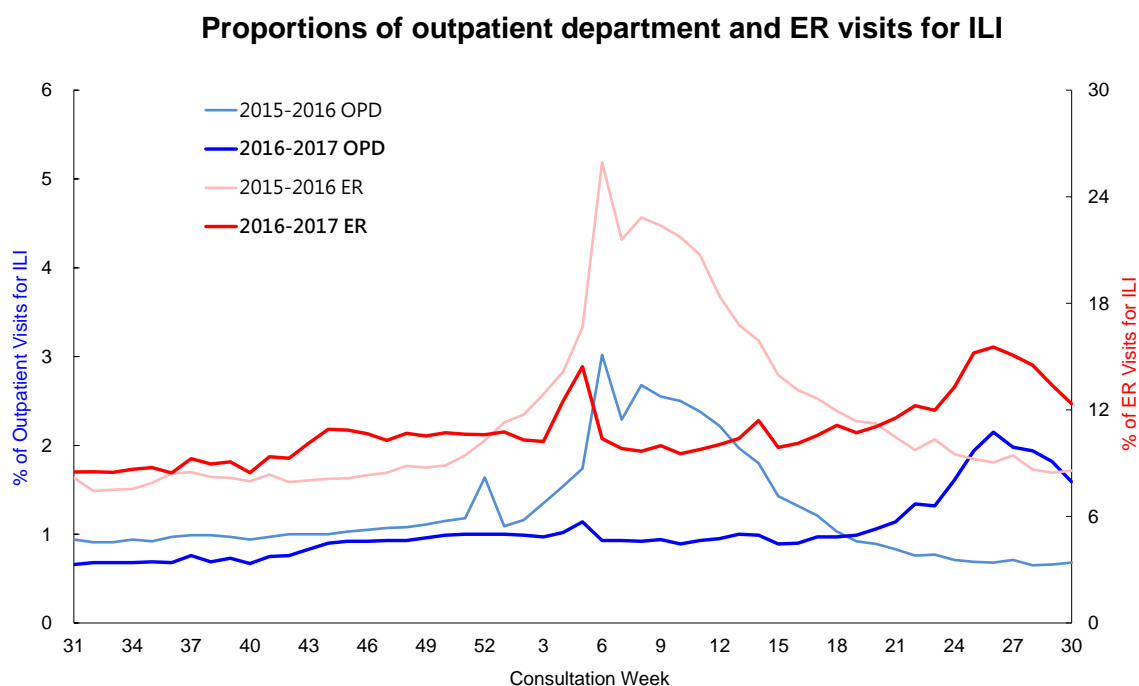
	Isolates tested (n)	Resistance Viruses, n (%)
		Oseltamivir
Influenza A (H1N1)	30	0
Influenza A (H3N2)	228	0
Influenza B	88	0

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



Influenza-like Illness (ILI) Surveillance

During week 30, the proportions of ER visits for ILI (12.34%) and the outpatient department visits for ILI (1.59%) were lower than the previous week.



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

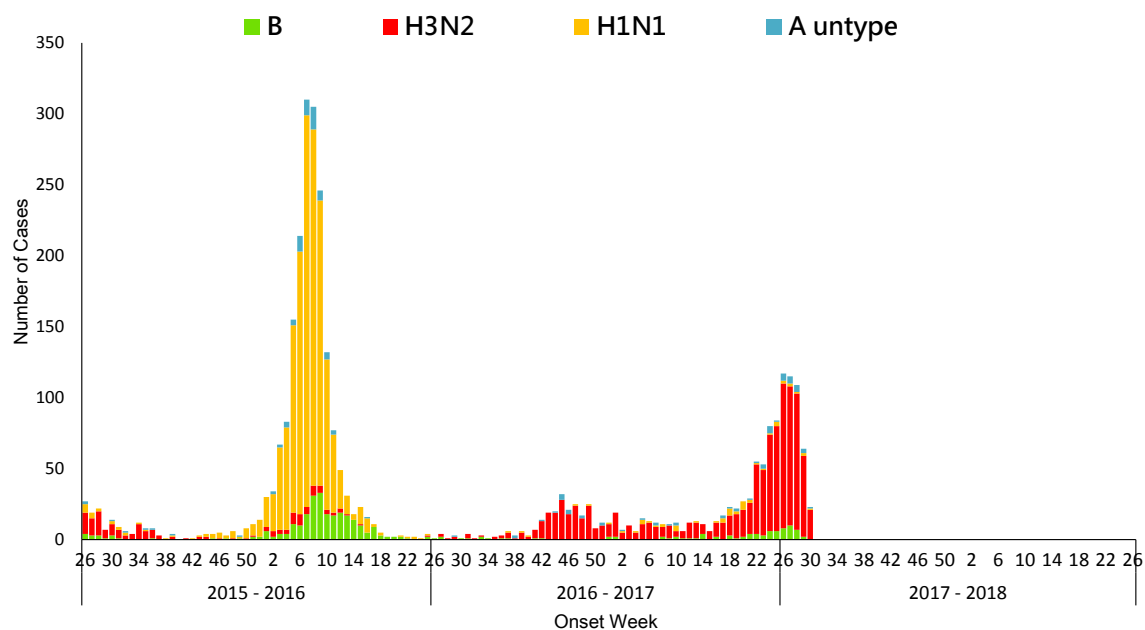
Severe Complicated Influenza Report

Both numbers of reported and newly confirmed cases of severe complicated influenza decreased in the past three weeks. There were 55 newly confirmed severe complicated influenza cases [48 H3N2, 3 influenza A (unknown subtype), 2 H1N1 and 2 influenza B] and 14 newly reported deaths due to influenza infection [10 H3N2, 2 influenza B, 1 H1N1 and 1 influenza A (unknown subtype)].

Since July 1, 2016, a total of 1,249 severe complicated influenza cases have been confirmed (84% were H3N2), and 83% of them did not receive 2016-17 seasonal influenza vaccine. The highest incidence and number of severe cases were among adults aged 65 years and above. There were 135 deaths due to severe complicated influenza (76% were H3N2). Among these deaths, 84% did not receive 2016-17 seasonal influenza vaccine.



Number of severe complicated influenza reports by week of onset



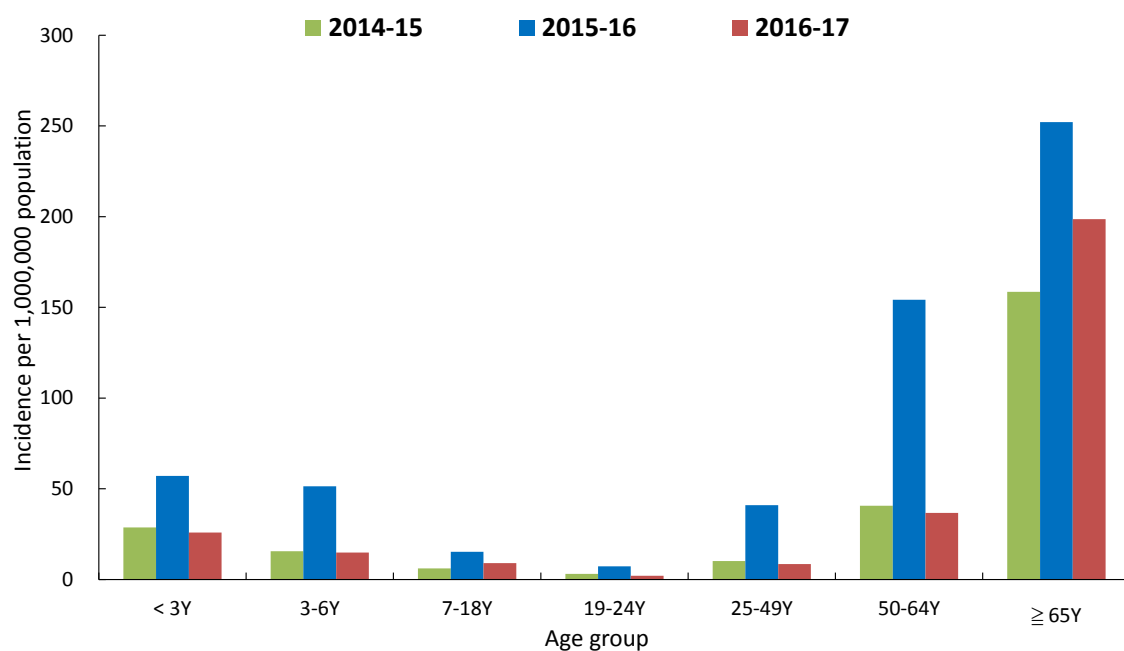
* A person who has ILI symptoms become severely ill (includes pulmonary complication, neurologic complication, myocarditis, invasive bacterial infection, or pericarditis) that requires intensive care or results in death within 14 days and with influenza virus infection confirmed by the laboratory is defined as a confirmed severe complicated influenza case.

Number and incidence of confirmed severe complicated influenza cases and deaths by age groups July 1, 2016 to July 31, 2017

Age Group	Cases	Deaths	Cumulative incidence per million population	Cumulative mortality per million population
< 3 y	21	2	33.9	3.2
3-6 y	17	2	21.0	2.5
7-18 y	28	2	9.7	0.7
19-24 y	6	0	3.1	0.0
25-49 y	97	9	10.7	1.0
50-64 y	234	25	45.4	4.9
65 +	846	95	280.6	31.5
Total	1249	135	53.1	5.7



Incidence of confirmed severe complicated influenza cases by age groups

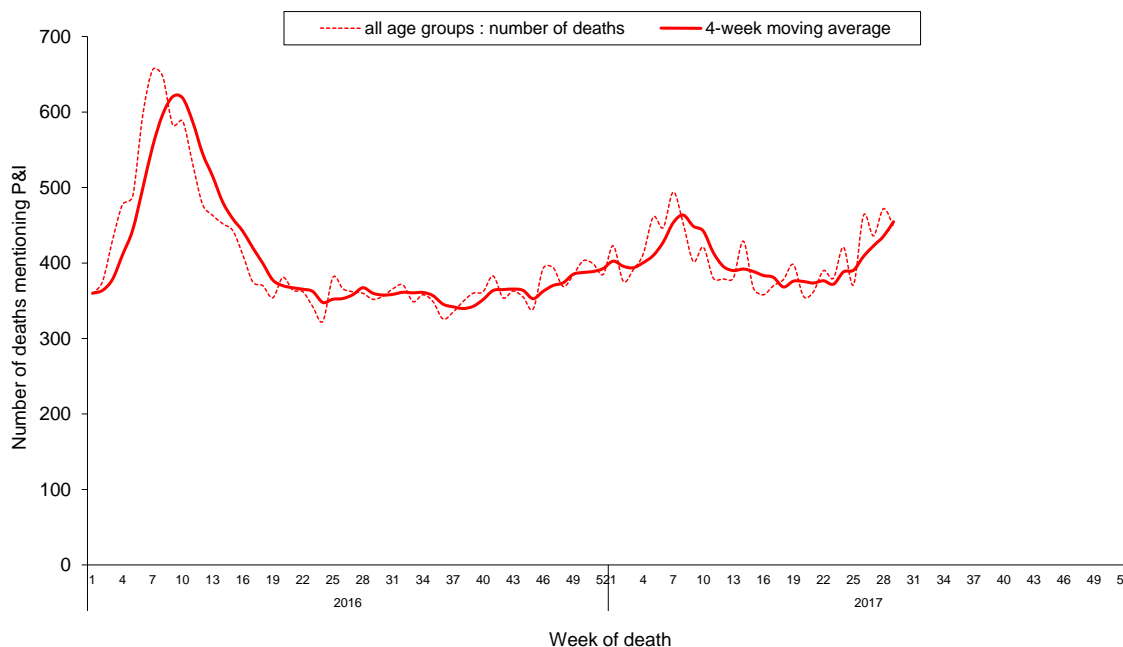


*The incidence was calculated by onset date from July 1 to June 30 for each influenza season.



Pneumonia and Influenza (P&I) Mortality Surveillance

Based on the Internet System for Death Reporting (ISDR) surveillance data, the number of deaths attributed to pneumonia and influenza (P&I) during week 29 was lower than the previous week, and the trend of P&I deaths has been increasing in the past few weeks. 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.

