Synopsis

The ILI activity has declined gradually, but severe complicated influenza cases have occurred continuously. The influenza activity has been remaining in peak.

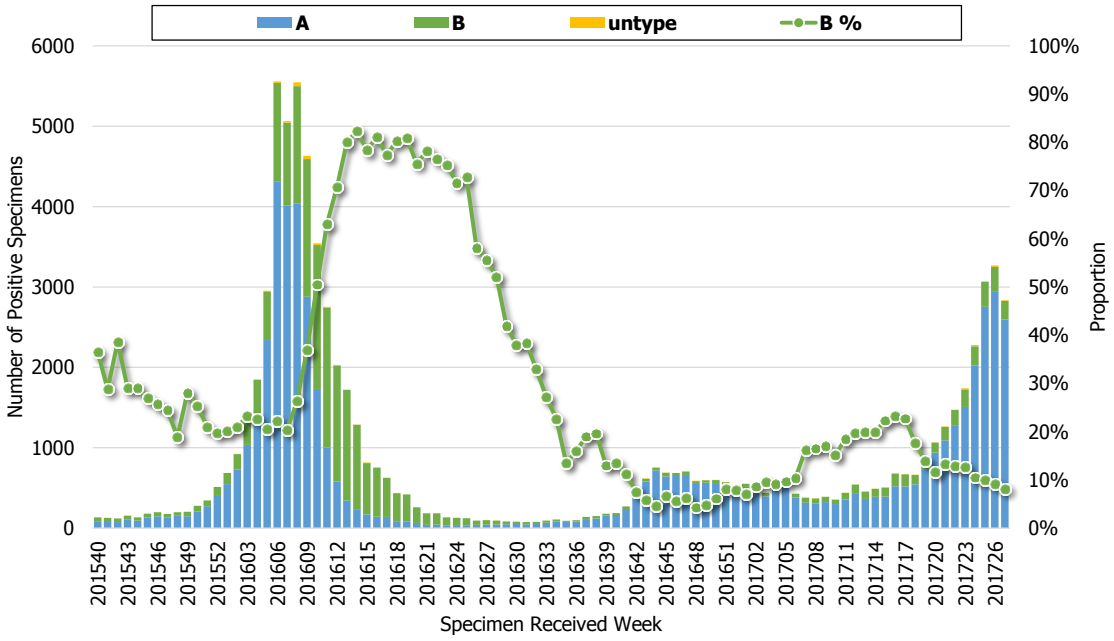
- During week 27, both of the numbers and proportions of outpatient department and ER visits for ILI were lower than the previous week.
- The number of the influenza positive specimens was lower than the previous week. The majority of the circulating influenza virus type was H3N2, 95% of H3N2 matched to the 2016-17 influenza vaccine strain in the past 4 weeks. No antiviral-resistance viruses were found in the circulating influenza viruses.
- During week 27, both numbers of reported and confirmed cases of severe complicated influenza were higher than the previous week, and there were 124 new confirmed severe complicated influenza cases and 11 new reported deaths due to influenza infection. A total of 983 severe complicated influenza cases have been confirmed since July 1, 2016, and 97 of them reported death. Influenza A (H3N2) remained the dominant virus among severe cases (82%).
- Mild influenza outbreaks has reached its peak and some cases are expected to develop severe symptoms. According to past epidemics, incidences of severe case will decrease after mild influenza outbreak appears to be ebbing.

Viral Surveillance

Types and Trend

According to LARS[1], the number of the influenza positive specimens during week 27 was lower than the previous week, and the dominant influenza type among positive specimens was influenza A. The proportion of specimens positive for influenza B virus was 8% during week 27.

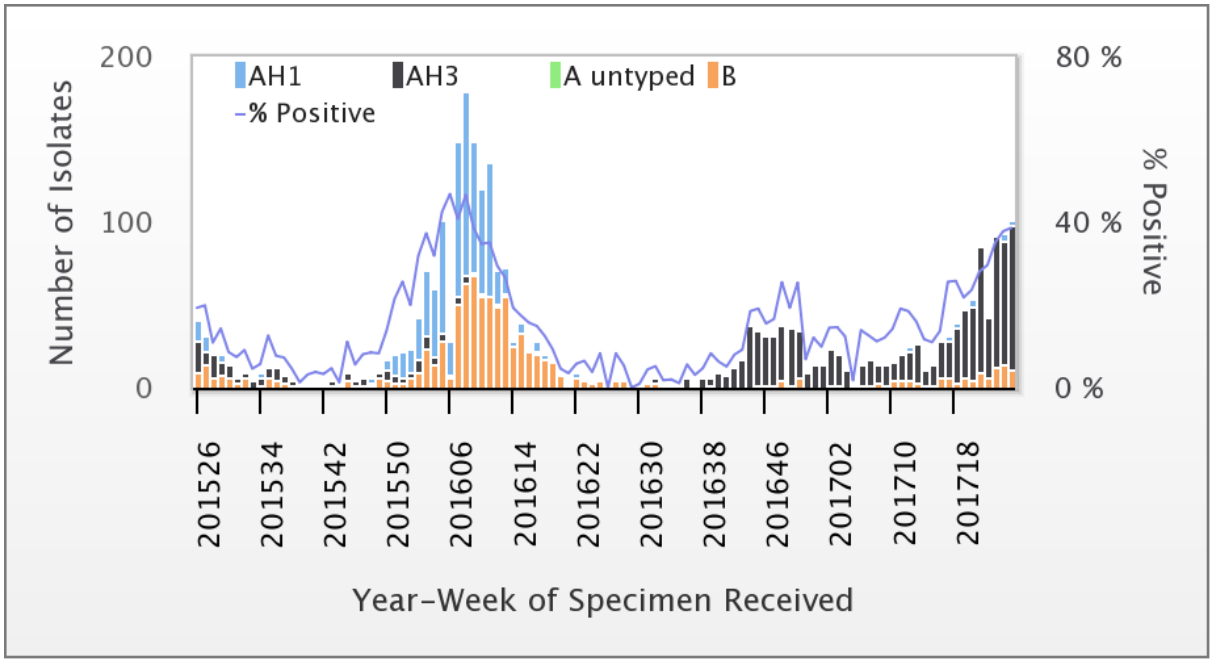
Trend of Influenza Positive Specimens according to LARS



[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 Laboratories[2], the proportion of specimens testing positive for influenza virus was 38.6%. Among these, 85.3% were H3N2 during week 25, 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 June 24, 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 95% 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, 7% were B/Victoria lineage and 93% 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 (tetravalent), 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.

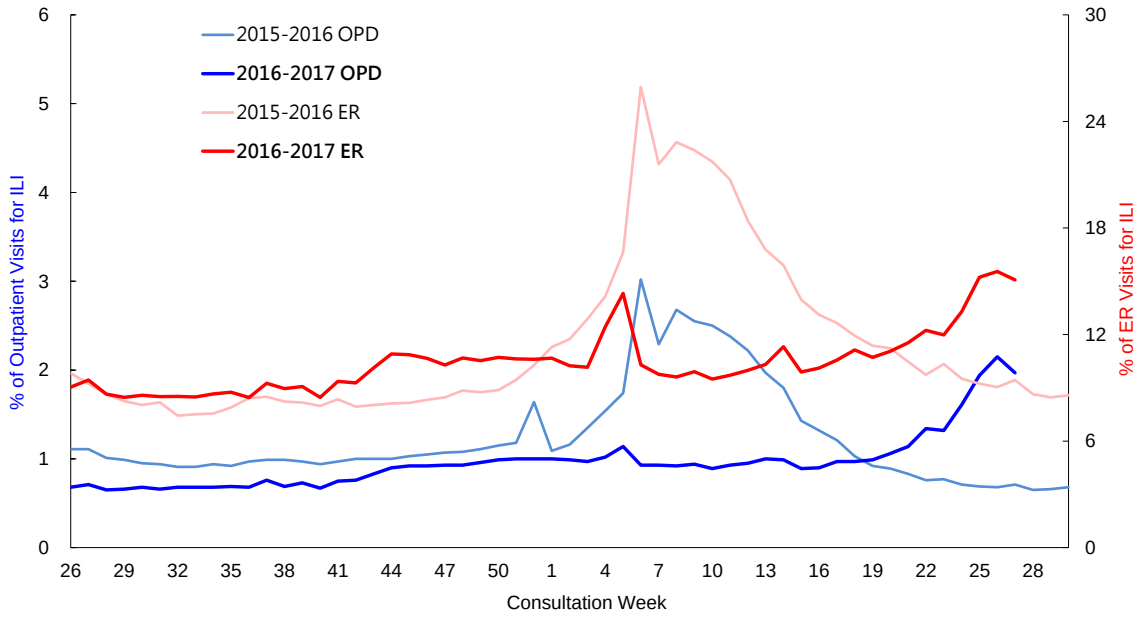
	Isolates tested (n)	Resistance Viruses, n (%)
		Oseltamivir
Influenza A (H1N1)	20	0
Influenza A (H3N2)	211	0
Influenza B	66	0

[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 27, the proportions of ER visits for ILI (15.08%) and the outpatient department visits for ILI (1.97%) were lower than the previous week.

Proportions of outpatient department and ER visits for ILI



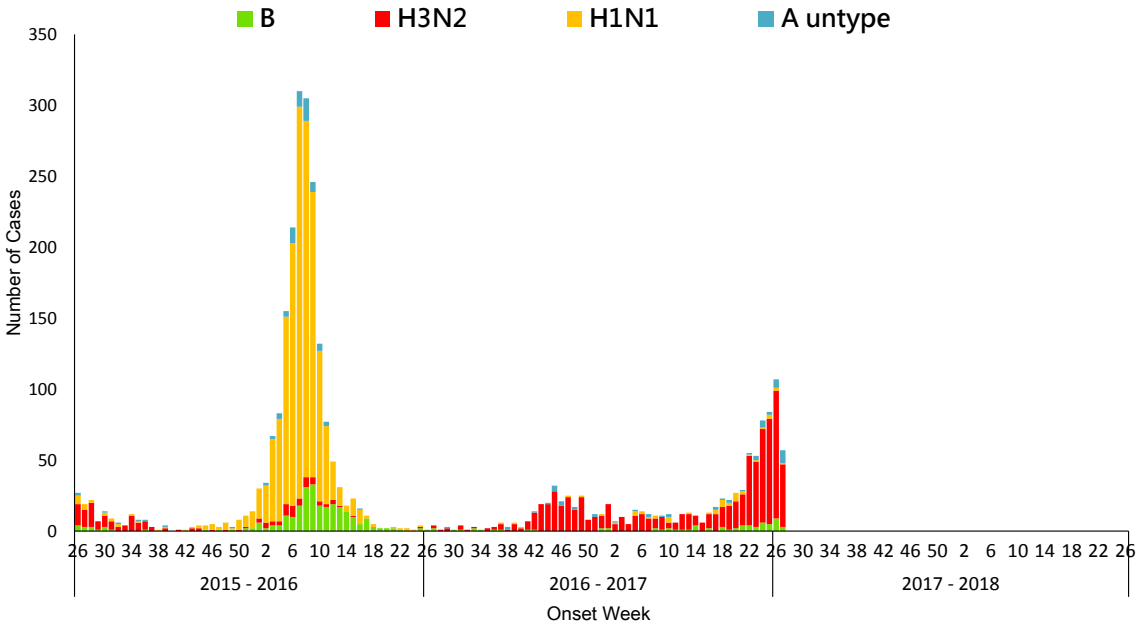
* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.

Severe Complicated Influenza Report

During week 27, both numbers of reported and confirmed cases of severe complicated influenza were higher than the previous week. There were 124 new confirmed severe complicated influenza cases [100 H3N2, 3 H1N1, 13 influenza A (unknown subtype), and 8 influenza B] and 11 new reported deaths due to influenza infection (9 H3N2, 1 H1N1 and 1 influenza B).

Since July 1, 2016, a total of 983 severe complicated influenza cases have been confirmed (82% 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 97 deaths due to severe complicated influenza (75% were H3N2). Among these deaths, 82% did not receive 2016-17 seasonal influenza vaccine.

Number of severe complicated influenza reports by week of onset

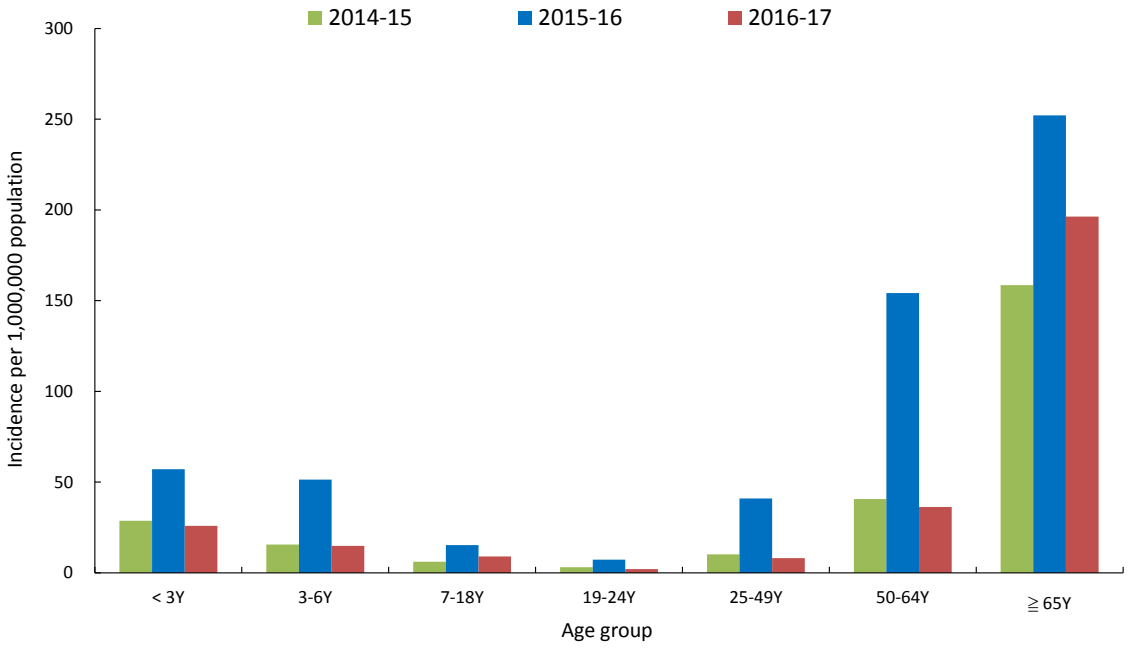


* A person who has ILI symptoms become severely ill (includes pulmonary complication, neurologic complication, myocarditis, invasive bacterial infection, or pericarditis) that requires intensive care or results in death within 14 days and with influenza virus infection confirmed by the laboratory is 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 8, 2017

Age Group	Cases	Deaths	Cumulative incidence per million population	Cumulative mortality per million population
< 3 y	17	2	27.5	3.2
3-6 y	13	1	16.1	1.2
7-18 y	26	2	9.0	0.7
19-24 y	4	0	2.1	0.0
25-49 y	77	8	8.5	0.9
50-64 y	204	19	39.6	3.7
65 +	642	65	212.9	21.6
Total	983	97	41.8	4.1

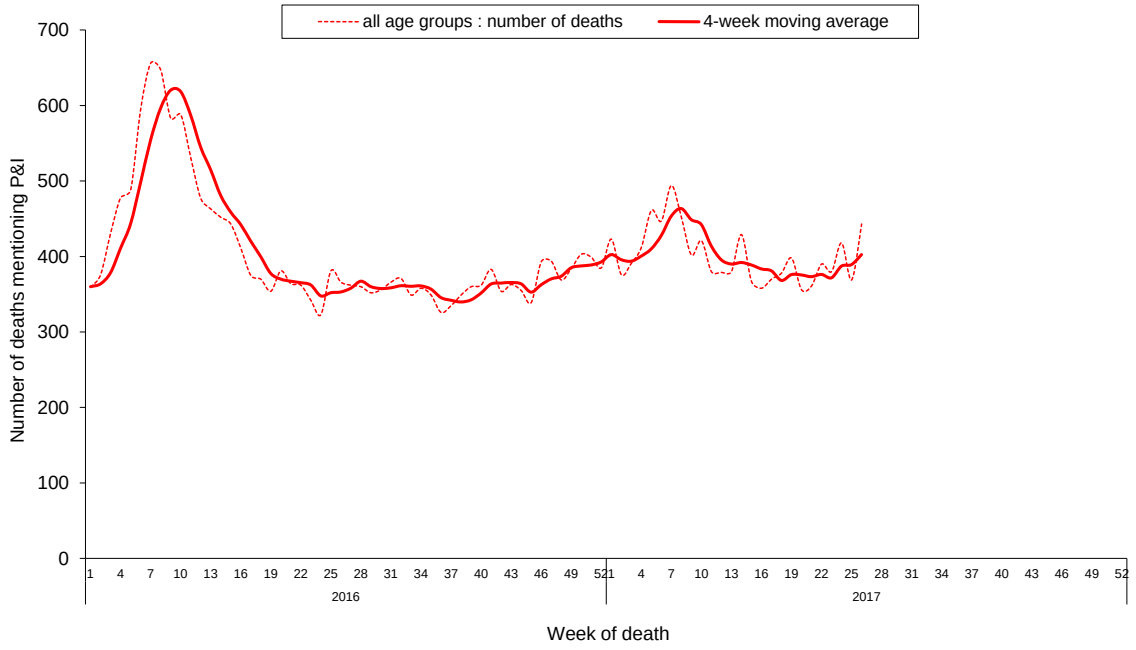
Incidence of confirmed severe complicated influenza cases by age groups



*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 26 was higher than the previous week. 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.