Synopsis

Influenza activity was low recently. The most frequently isolated influenza virus was A (H3N2) virus.

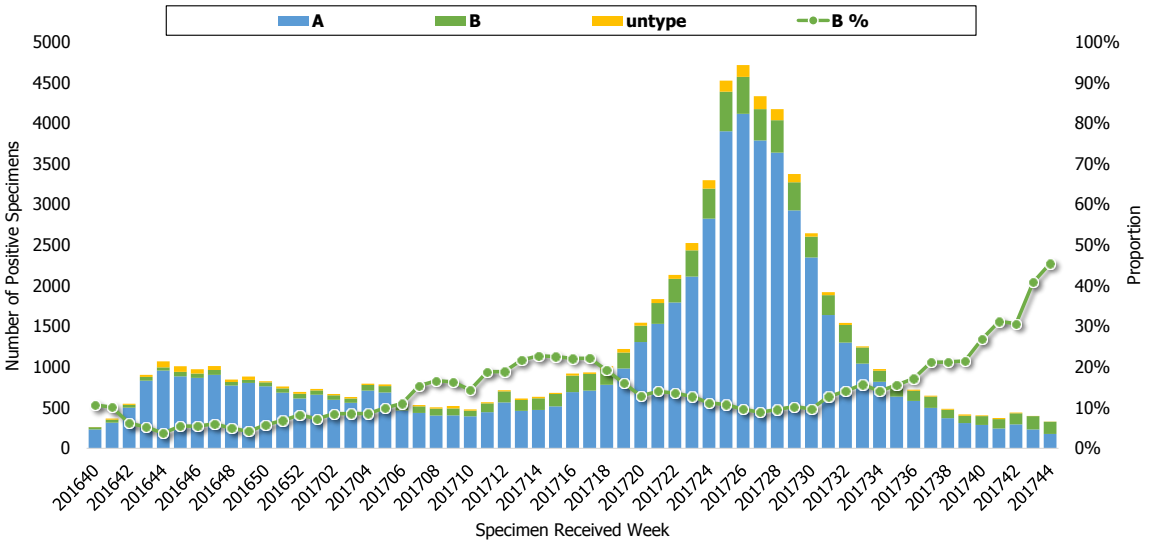
- The proportions of ILI visit in outpatient department and ER were low recently.
- The number of influenza positive specimens was low recently, and the proportion of influenza B positive specimens was increasing. The most frequently isolated influenza virus was A (H3N2); 86% of isolated virus matched to the 2017-18 influenza vaccine strain in the past 4 weeks. No antiviral-resistance was found in the circulating virus.
- The numbers of reported and newly confirmed cases of severe complicated influenza cases were low recently. During week 44, there were 8 newly confirmed severe complicated influenza cases and 2 newly fatal severe influenza cases. A total of 25 severe complicated influenza cases were confirmed since October 1, 2017, and one of them was fatal case. Influenza A (H3N2) remained the predominant virus strain among severe complicated cases (56%).

Viral Surveillance

Types and Trend

According to LARS data[1], the number of influenza positive specimens was low recently, and the dominant influenza type among positive specimens was influenza A. The proportion of specimens positive for influenza B virus was about 45% during week 44.

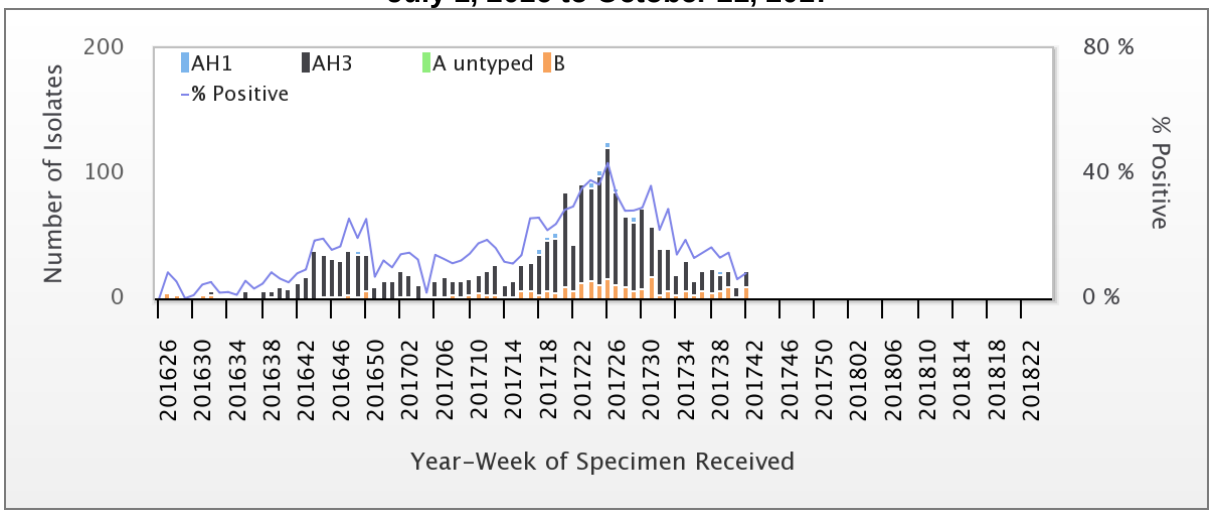
Trend of influenza positive specimens according to LARS



[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 51 participating hospitals. All positive specimens data uploads to LARS automatically.

According to the Taiwan CDC Contracted Virology Laboratories[2], the proportion of influenza positive specimens was 8%. Among these, 56.5% were H3N2, and 39.1% were influenza B viruses during week 42, 2017. Weekly virus data are available at: http://nidss.cdc.gov.tw/.

Influenza isolates and positive rate according to Contracted Virology Laboratories July 1, 2016 to October 21, 2017



Antigenicity

In the past 4 weeks, among the influenza isolates were antigenically characterized, all (100%) of the influenza A (H1N1) virus isolates matched the A (H1N1) component of the 2017-18 influenza vaccine (A/Michigan/45/2015), and 86% of the H3N2 virus isolates matched the A (H3N2) component of the 2017-18 influenza vaccine (A/Hong Kong/4801/2014). Among influenza B isolates, 100% were B/Yamagata lineage, and 94% of those isolates matched the B component of the 2017-18 influenza vaccine B/Phuket/3073/2013 (tetravalent).

Antiviral Resistance

The table below summarized antiviral resistance to neuraminidase inhibitor (Oseltamivir) from October 1, 2017 to present. All of the influenza isolates were susceptible to Oseltamivir.

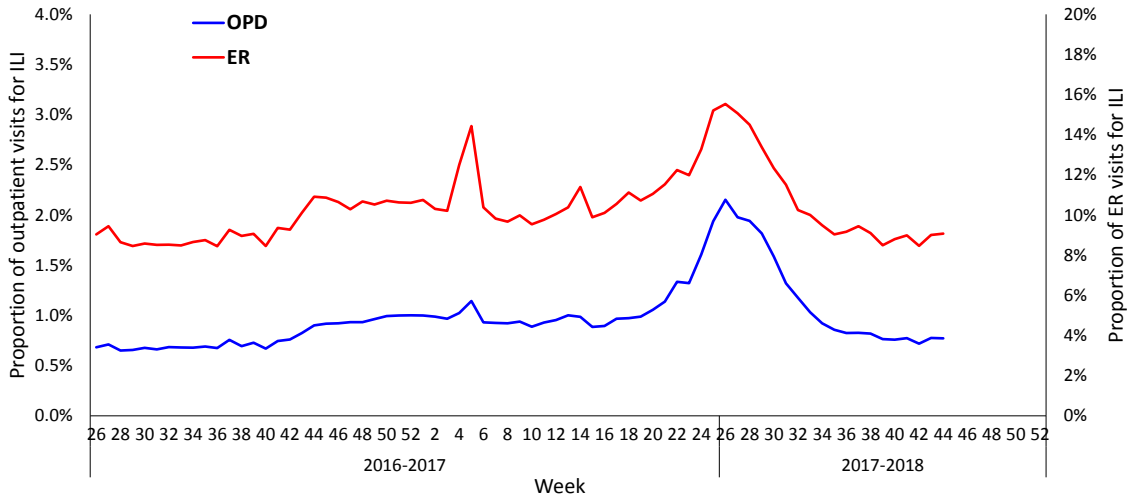
	Isolates tested (n)	Resistance Viruses, n (%)
		Oseltamivir
Influenza A (H1N1)	6	0
Influenza A (H3N2)	20	0
Influenza B	20	0

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

Influenza-like Illness (ILI) Surveillance

During week 44, the proportions of ER visits for ILI (9.07%) and the outpatient department visits for ILI (0.77%) were similar to the previous week.

Proportions of outpatient department and ER visits for ILI



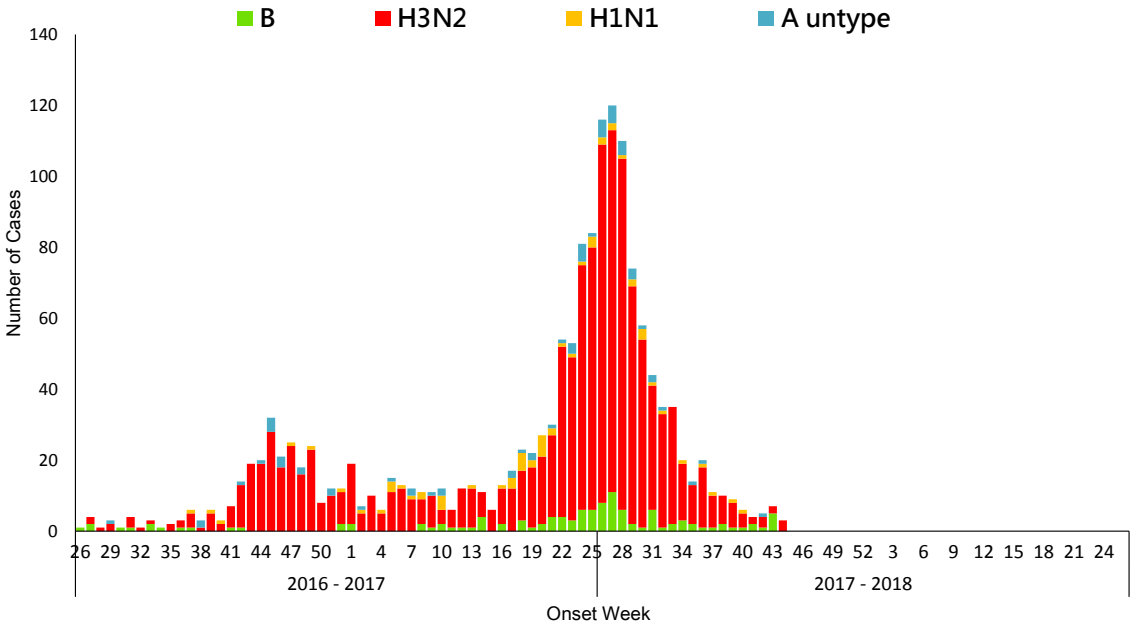
* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.

Severe Complicated Influenza Report

The numbers of reported and newly confirmed cases of severe complicated influenza were low recently. During week 44, there were 8 newly confirmed severe complicated influenza cases [4 influenza B, 3 H3N2 and 1 influenza A (unknown subtype)] and 2 newly fatal severe influenza cases infected with H3N2 viruses.

The influenza activity has returned to baseline in mid-August 2017 and the number of severe cases continuously declined until September. Since October 1, 2017, a total of 25 severe complicated influenza cases have been confirmed (56% were H3N2) and one of them was fatal case. The number, incidence and mortality of severe influenza cases were highest in adults aged 65 years and above.

Number of severe complicated influenza confirmed cases 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 severe complicated influenza confirmed cases and deaths by age groups

October 1, 2017 to November 6, 2017

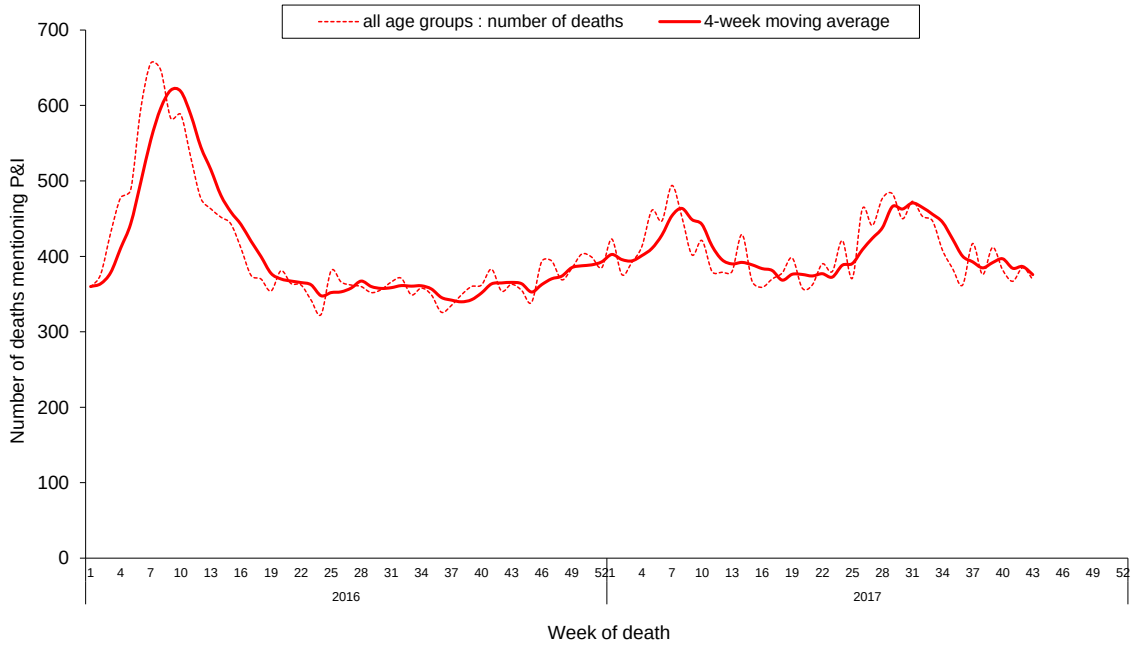
Age Group	Cases	Deaths	Cumulative incidence per ten thousand population	Cumulative mortality per ten thousand population
< 3 y	0	0	0.0	0.0
3-6 y	0	0	0.0	0.0
7-18 y	1	0	0.0	0.0
19-24 y	0	0	0.0	0.0
25-49 y	2	0	0.0	0.0
50-64 y	3	0	0.1	0.0
65 +	19	1	0.6	0.0
Total	25	1	0.1	0.0

July 1, 2017 to November 6, 2017 (by flu season)

Age Group	Cases	Deaths	Cumulative incidence per ten thousand population	Cumulative mortality per ten thousand population
< 3 y	10	0	1.6	0.0
3-6 y	9	1	1.1	0.1
7-18 y	4	0	0.1	0.0
19-24 y	6	0	0.3	0.0
25-49 y	47	9	0.5	0.1
50-64 y	92	16	1.8	0.3
65 +	432	70	13.6	2.2
Total	600	96	2.5	0.4

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) was decreasing 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.