



Synopsis

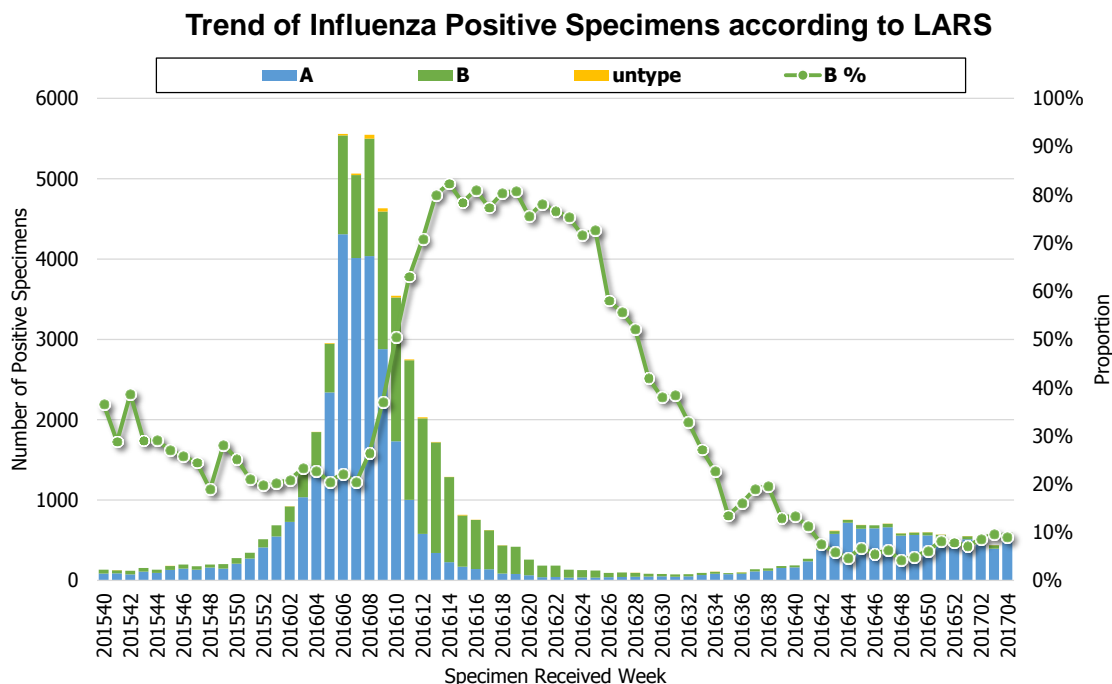
The Lunar New Year holiday started on January 27. Most outpatient departments were closed on holidays, so patients went to the ER for influenza-like illness (ILI) treatments. Therefore, the proportion of ER visits for ILI has an apparent increase during week 4.

- The proportion of ER visits for ILI during week 4 were obviously higher than the previous week.
- The majority of the circulating influenza virus type was H3N2, 92% of H3N2 matched to the 2016-17 influenza vaccine strain in the recent 4 weeks. No antiviral-resistance viruses were found in the circulating influenza viruses.
- The number of reported severe complicated influenza cases during week 4 was similar to week 3. Both trends of reported cases with severe complicated influenza and influenza-associated hospitalization cases were low recently. There were 7 new confirmed severe complicated influenza cases in week 4. Since July 1, 2016, 289 severe complicated influenza cases were reported; 39 of them reported death. Influenza A (H3N2) remained the dominant virus in severe cases (85%).
- The trend of deaths attributed to pneumonia and influenza (P&I) during recent weeks was slightly decreased.
- It will be a large temperature difference in next week, and people usually travel around for Lunar New Year holiday. It is possible that influenza activity will increase.

Viral Surveillance

Types and Trend

According to LARS¹, the number of the influenza positive specimens during week 4 was higher than week 3, 2017, and the major influenza type among positive specimens was influenza A.

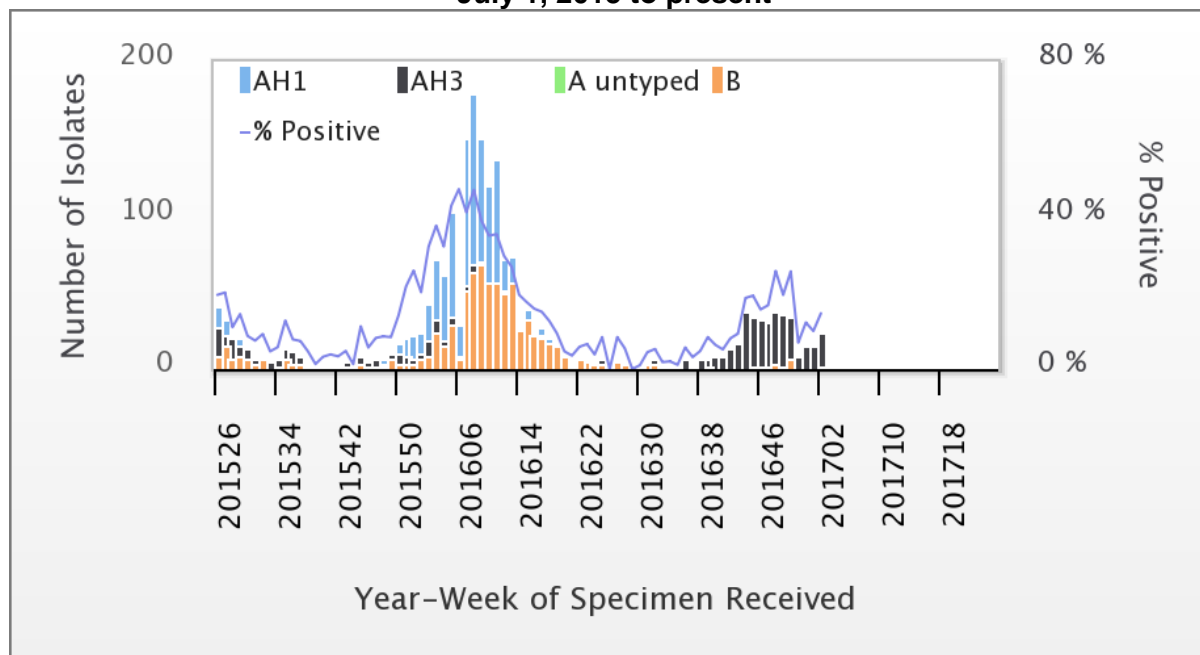


¹ In order to present the trend of influenza virus in real-time, the automated laboratory reporting system (LARS) has been established by Taiwan CDC since 2014. There are 29 hospitals, including 17 medical centers, have been participating in LARS. All data from positive specimens are uploading onto LARS automatically on a daily basis.



According to the Taiwan CDC Contracted Diagnostic Virology Laboratories², the proportion of specimens testing positive for influenza virus was 14.5% and 96% of positive tests were H3N2 during week 2, 2017. 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 the past 4 weeks, among those influenza positive specimens that were antigenically characterized, all (100%) of the influenza A (H1N1) virus isolates match the A (H1N1) component of the 2016-17 influenza vaccine (A/California/7/2009), and 92% of the H3N2 virus isolates match the A (H3N2) component of the 2016-17 influenza vaccine (A/Hong Kong/4801/2014). In addition, all influenza B virus isolates match the B component of the 2016-17 influenza vaccine (B/Brisbane/60/2008).

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)	4	0
Influenza A (H3N2)	86	0
Influenza B	9	0

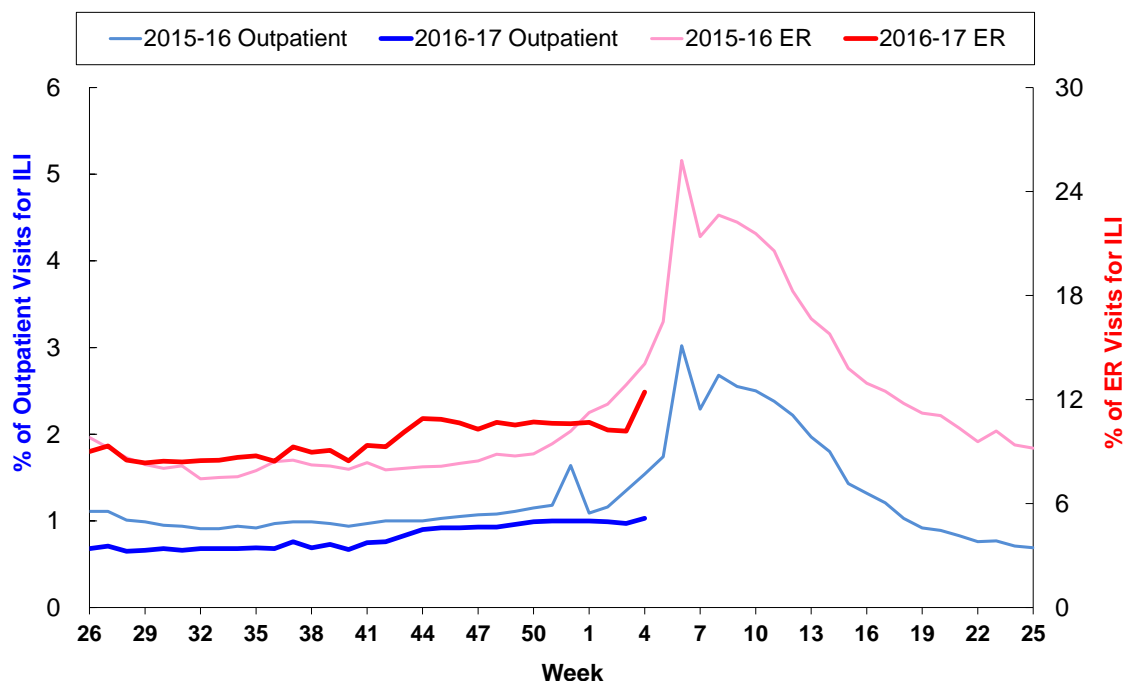
² The Contracted Diagnostic Virology Laboratories, including 8 laboratories of medical centers, have been established by Taiwan CDC since March, 1999 to observe the subtype, antigenicity and drug resistance of the influenza viruses circulating in the community,



Influenza-like Illness (ILI) Surveillance

The proportion of outpatient visits for ILI during week 4 was 1.03%, which was higher than the previous week (0.97%). The proportion of ER visits for ILI was 12.43%, which was obviously higher than the previous week (10.18%).

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.

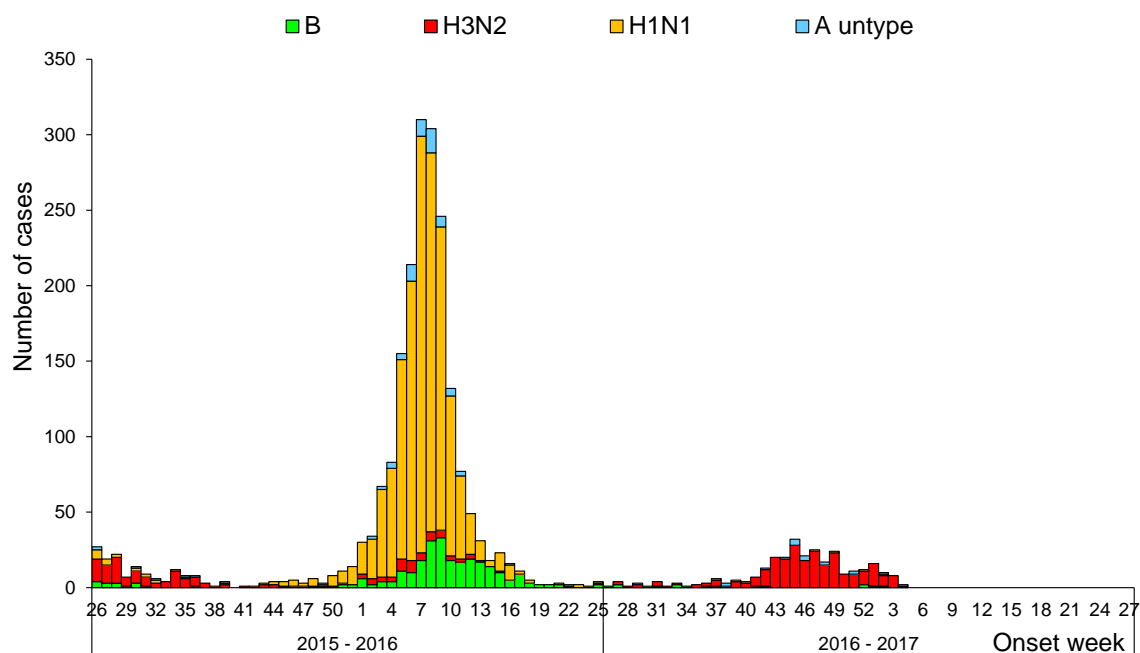
Severe Complicated Influenza Report

The number of reported severe complicated influenza cases during week 4 was similar to week 3. Both trends of reported severe complicated influenza cases and influenza-associated hospitalization cases were low recently. There were 7 new confirmed severe complicated influenza cases (5 H3N2 and 2 influenza A (unknown subtype)).

During this influenza season (July 1, 2016 to present), 289 severe complicated influenza cases has been confirmed (85% H3N2, 2% H1N1, 6% influenza A (unknown subtype), 6% influenza B virus, and 1% co-infected with H3N2 and influenza B virus), 86% of them did not receive influenza vaccine. The highest incidence and severe case numbers were among adults aged 65 years and above. The total number of 39 deaths due to severe complicated influenza were reported (29 H3N2, 2 H1N1, 4 influenza A (unknown subtype), 3 influenza B virus, and 1 co-infection with H3N2 and influenza B). Among these deaths, 72% did not receive influenza vaccine.



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



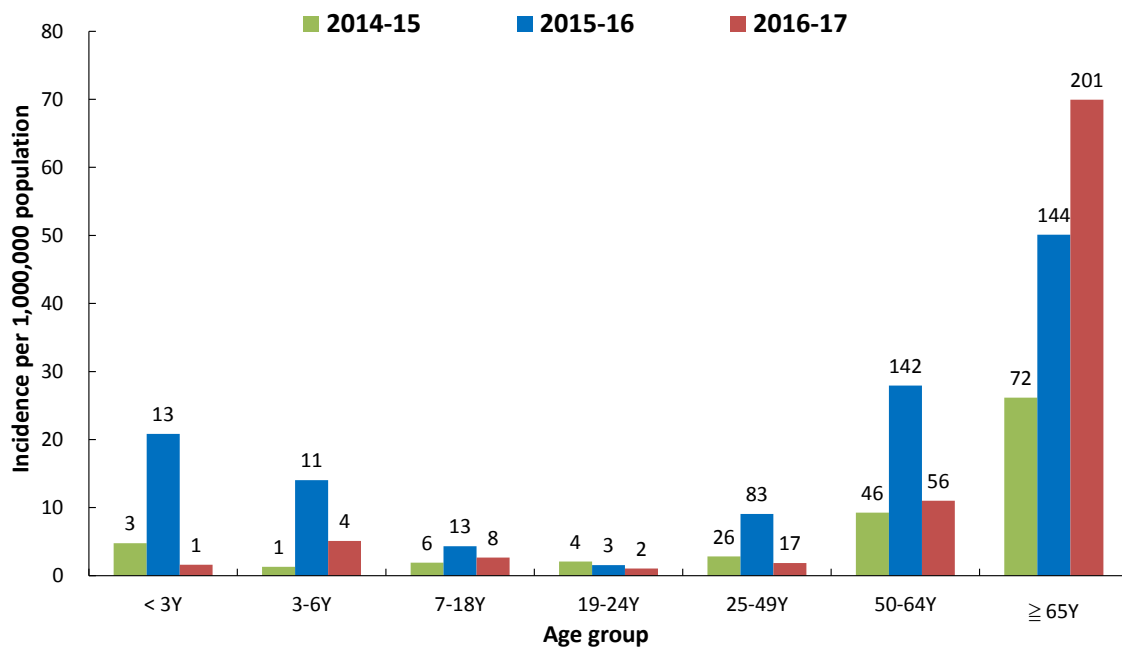
* A person who has ILI symptoms become severely ill (includes pulmonary complication, neurologic complication, myocarditis, invasive bacterial infection, or pericarditis) that requires intensive care or results in death within 14 days and with influenza virus infection confirmed by the laboratory is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

Age Group	Cases	Deaths	Cumulative incidence per million population	Cumulative mortality per million population
< 3 y	1	0	1.6	0.0
3-6 y	4	1	5.1	1.3
7-18 y	8	1	2.7	0.3
19-24 y	2	0	1.0	0.0
25-49 y	17	3	1.9	0.3
50-64 y	56	7	11.0	1.4
65 +	201	27	69.9	9.4
Total	289	39	12.3	1.7



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



*The number shows above each bar represents the number of confirmed sever complicated influenza cases.



Pneumonia and Influenza (P&I) Mortality Surveillance

Based on the Internet System for Death Reporting (ISDR) surveillance data, the trend of deaths attributed to pneumonia and influenza (P&I) during recent weeks was slightly decreased. 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.

