



Synopsis

Influenza activity closed to the seasonal peak and A/H1N1 were the most frequently isolated virus in the community.

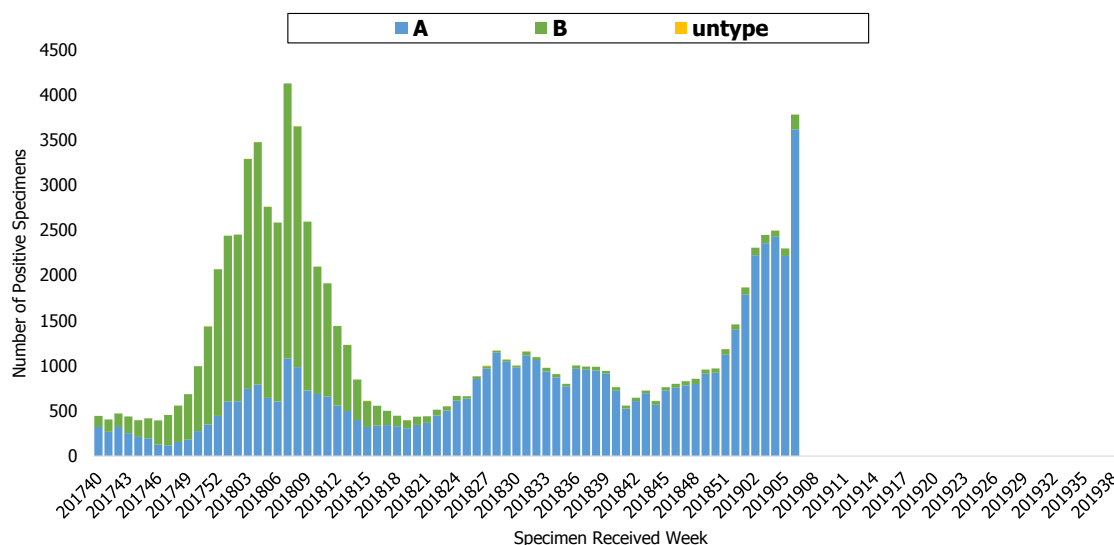
- Influenza A was the predominant virus type, and the proportion of A/H1N1 was 63.5%.
- Due to Lunar New Year holiday, the proportion of ER visits for ILI increased, but the number of outpatient and ER visits for ILI decreased.
- New confirmed severe complicated influenza cases infected with A/H1N1 virus were more than A/H3N2 in recent weeks. There have been 475 severe complicated influenza cases, including 42 deaths, since October 1, 2018. A/H1N1 and H3N2 were the major virus types from these cases.

Laboratory Surveillance

Types and Trend

According to LARS¹, the number of influenza positive specimens significantly increased, and the proportion of positive specimens for influenza A virus was 95.5%.

Trend of influenza positive specimens according to LARS

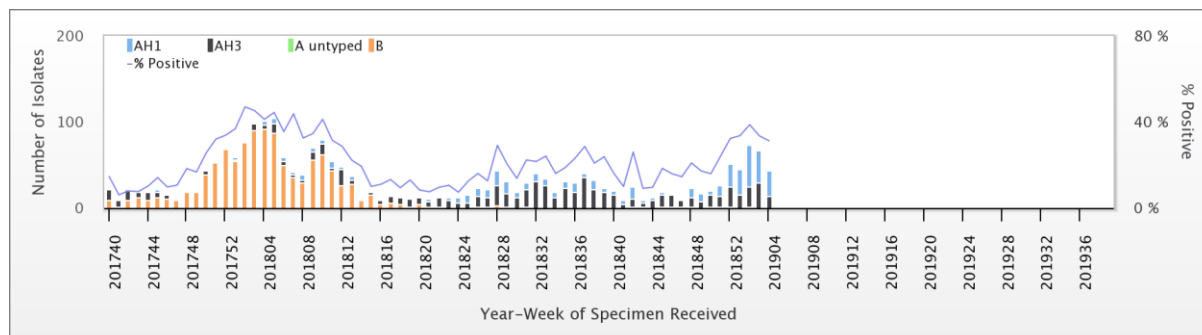


¹ In order to present the trend of influenza virus in real-time, the Laboratory Automated Reporting System (LARS) has been established by Taiwan CDC since 2014. The data presented here collected from 57 participating hospitals. All positive specimens data uploads to LARS automatically.



According to the laboratory surveillance², the proportion of influenza positive specimens was 31.2%. Among these, 68.2% were influenza A/H1N1 virus and 31.8% were A/H3N2 during week 4, 2019. In the previous 4 weeks, influenza A was the predominant virus type. The proportion of A/H1N1 was 63.5% and the proportion of A/H3N2 was 36.5%. Weekly virus data are available at: <http://nidss.cdc.gov.tw/>.

Influenza isolates and positive rate according to Contracted Virology Laboratories October 1, 2017 to January 26, 2019



Antigenicity

In the past 4 weeks, among those influenza isolates that were antigenically characterized, all of the influenza A (H1N1) virus isolates matched the A (H1N1) component of the 2018-19 influenza vaccine (A/Michigan/45/2015), and 75% of the H3N2 virus isolates matched the A (H3N2) component of the 2018-19 influenza vaccine (A/Singapore/INFIMH-16-0019/2016). Among influenza B isolates, 60% were B/Victoria lineage, and 83% of those isolates matched the B component of the 2018-19 influenza vaccine B/Colorado/06/2017 (tetraivalent); 40% were B/Yamagata lineage, and 100% of those isolates matched the B component of the 2018-19 influenza vaccine B/Phuket/3073/2013 (quadrivalent).

Antiviral Resistance

The table below summarized antiviral resistance to neuraminidase inhibitor (Oseltamivir) from October 1, 2018. All of the influenza isolates were susceptible to Oseltamivir.

	Isolates tested (n)	Resistance Viruses, n (%)
		Oseltamivir
Influenza A (H1N1)	136	0
Influenza A (H3N2)	169	0
Influenza B	11	0

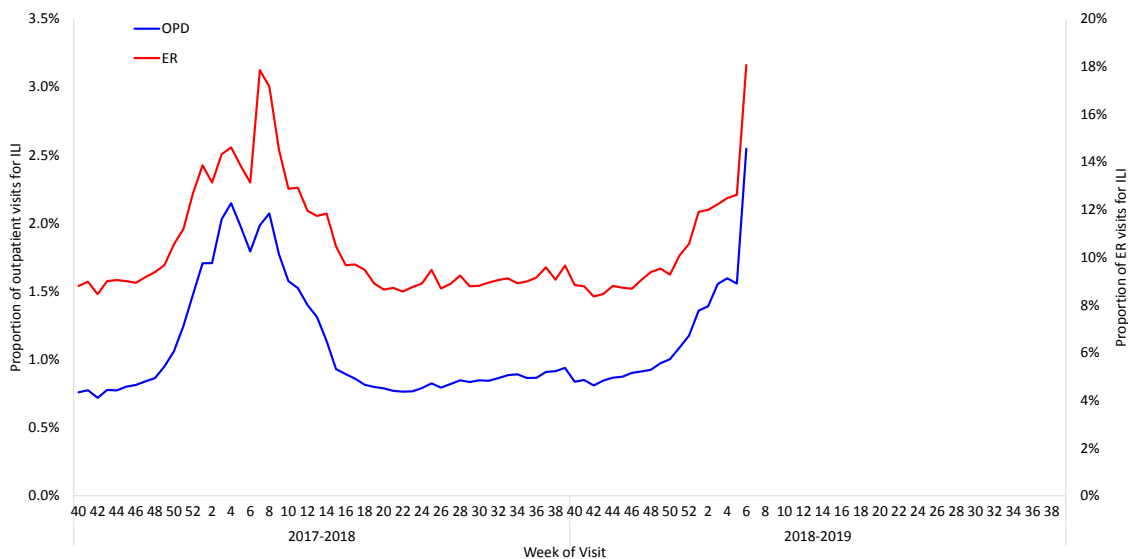
² In terms of the surveillance systems in Taiwan, please see: Jian, S. W., Chen, C. M., Lee, C. Y., & Liu, D. P. (2017). Real-Time Surveillance of Infectious Diseases: Taiwan's Experience. *Health security*, 15(2), 144-153.



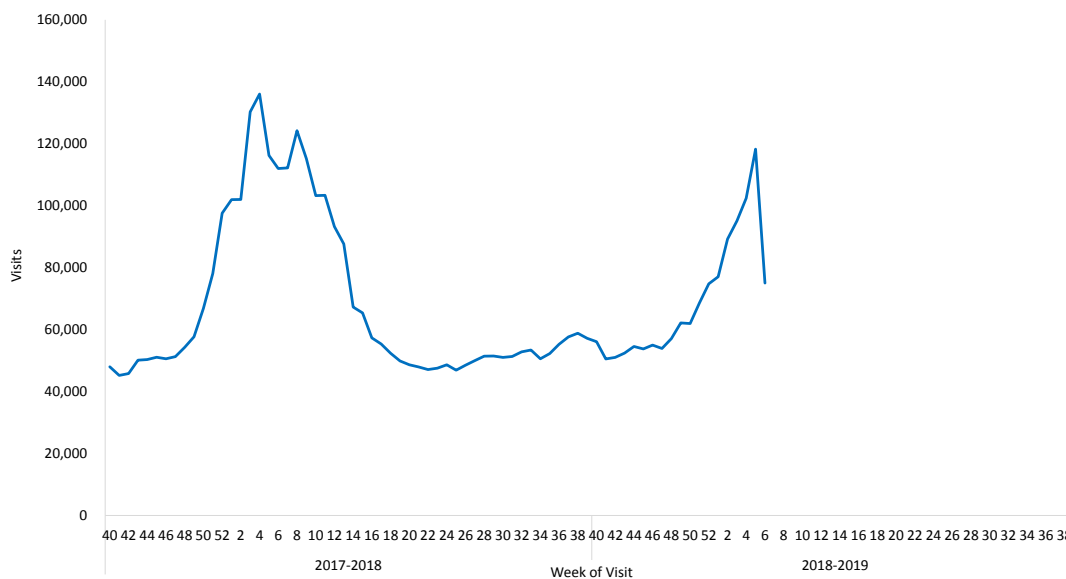
Influenza-like Illness (ILI) Surveillance

During week 6, most hospital outpatient services and clinics were closed for Lunar New Year holiday, the proportions of ILI visits were 2.55% and 18.06% for the outpatient and ER visits, respectively. These proportions were significantly higher than the previous week, and the proportion of ER visits was above the national baseline of 11.5%. However, the number of visits for ILI in outpatient and ER combined was 75,013, which was lower than the previous week.

Proportions of outpatient and ER visits for ILI



Total number of outpatient and ER visits for ILI



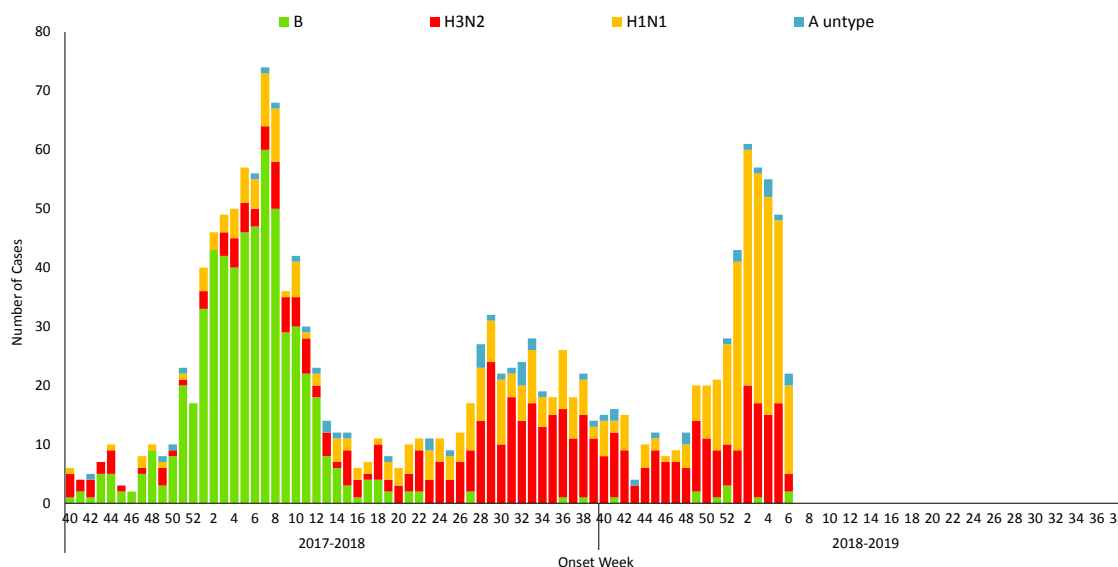
* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.



Severe Complicated Influenza Case

In week 6, there were 61 new influenza cases with severe complications [40 H1N1, 16 H3N2, 3 influenza A(untyped) and 2 influenza B] and 8 new fatal cases (5 H3N2 and 3 H1N1). Since October 1, 2018, a total of 475 severe complicated influenza cases have been confirmed [265 H1N1, 182 H3N2, 18 influenza A(untyped) and 10 influenza B], including 42 fatal cases (24 H1N1 and 18 H3N2). Most of these cases were adults aged 65 and older.

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.

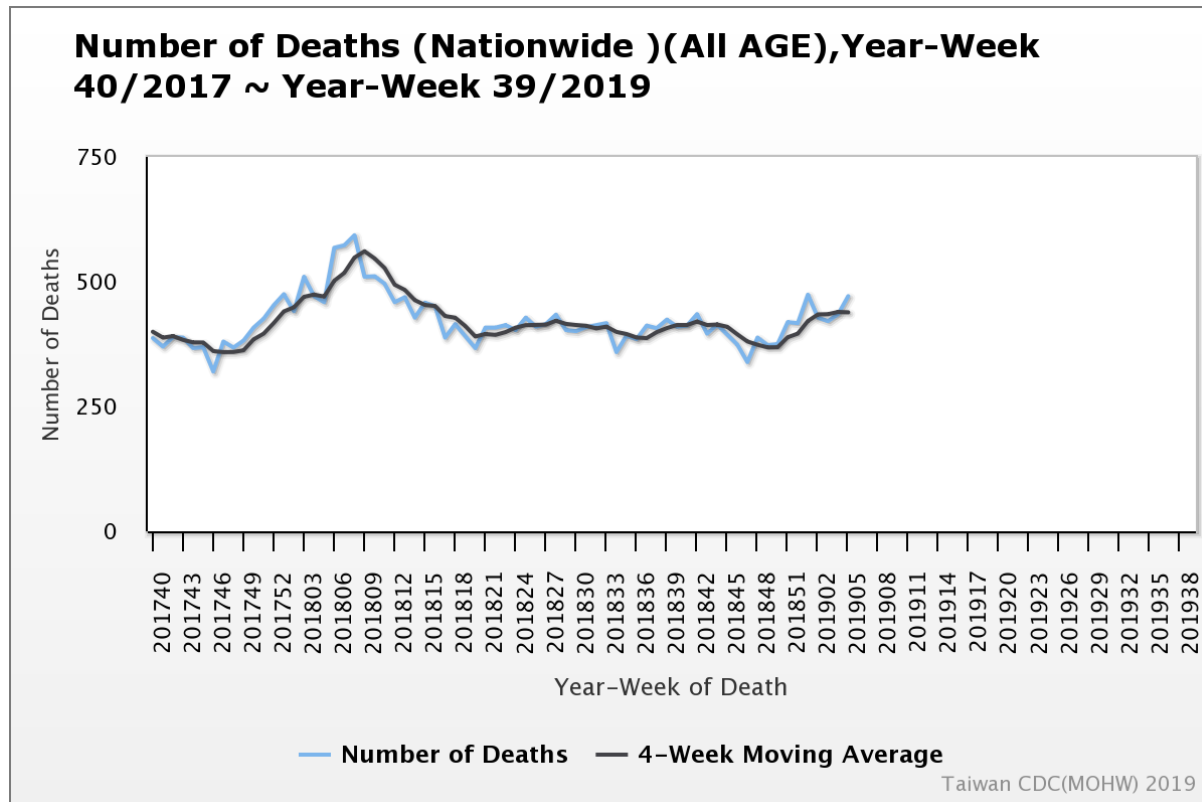
Number and incidence of severe complicated influenza confirmed cases and deaths by age groups
October 1, 2018 to February 11, 2019

Age Group	Cases	Deaths	Cumulative incidence per ten thousand population	Cumulative mortality per ten thousand population
< 3 y	16	1	2.7	0.2
3-6 y	8	1	0.9	0.1
7-18 y	17	2	0.6	0.1
19-24 y	3	0	0.2	0
25-49 y	57	3	0.6	0.03
50-64 y	123	5	2.3	0.1
65 +	251	30	7.5	0.9
Total	475	42	2.0	0.2



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 5 was higher than the previous week. The proportion of deaths attributed to P&I for adults aged 65 and older was the highest among the three age groups (0–49, 50–64, and 65+). Weekly P&I data are available at: <http://nidss.cdc.gov.tw/>.



* 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.

