



Synopsis

Influenza activity was below the national baseline. A/H1N1 was the predominant virus in the community.

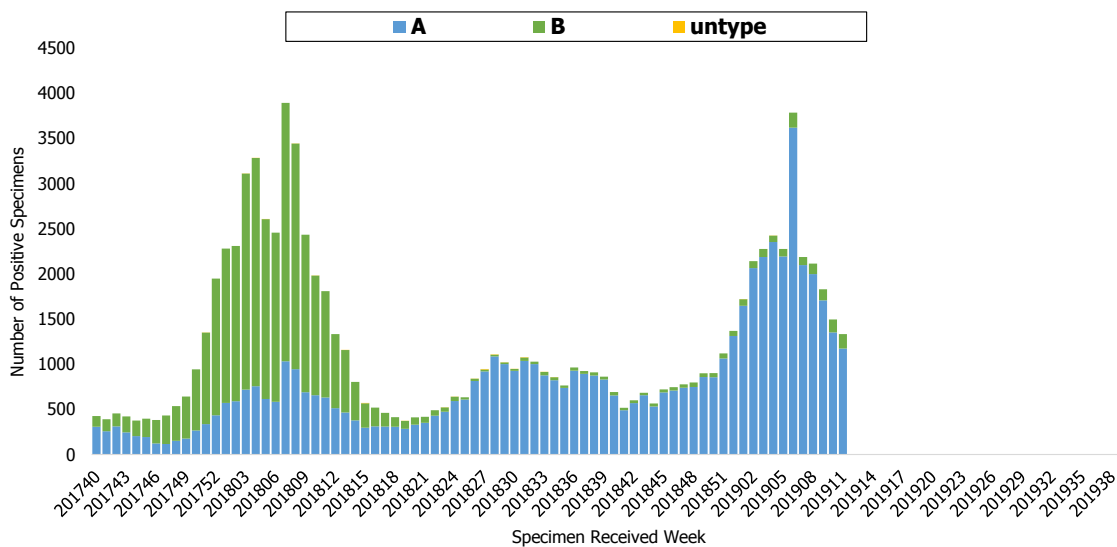
- Influenza A was the predominant virus type, and the proportion of A/H1N1 was 72.8%.
- The number of outpatient and ER visits for ILI was similar to the previous week, and the proportion of ER visits for ILI was below the national baseline in the past 2 weeks.
- Most of the confirmed severe complicated influenza cases were infected with A/H1N1 virus. There have been 755 severe complicated influenza cases, including 74 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 decreased, and the proportion of positive specimens for influenza A virus was 88.1%.

Trend of influenza positive specimens according to LARS

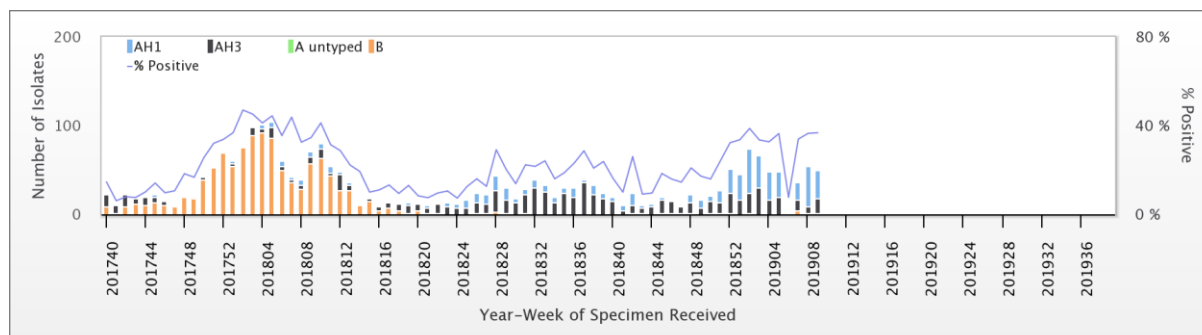


¹ In order to present the trend of influenza virus in real-time, the Laboratory Automated Reporting System (LARS) has been established by Taiwan CDC since 2014. The data presented here collected from 57 participating hospitals. All positive specimens data uploads to LARS automatically.



According to the laboratory surveillance², the proportion of influenza positive specimens was 36.8%. Among these, 64% were influenza A/H1N1 virus, 34% were A/H3N2 and 2% were influenza B during week 9, 2019. In the previous 4 weeks, influenza A was the predominant virus type. The proportion of A/H1N1 was 72.8% and the proportion of A/H3N2 was 27.2%. 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 March 2, 2019



Antigenicity

In the past 4 weeks, among those influenza isolates that were antigenically characterized, 97% of the influenza A (H1N1) virus isolates matched the A (H1N1) component of the 2018-19 influenza vaccine (A/Michigan/45/2015), and 100% of the H3N2 virus isolates matched the A (H3N2) component of the 2018-19 influenza vaccine (A/Singapore/INF16H/16-0019/2016). Among influenza B isolates, 50% were B/Victoria lineage, and 100% of those isolates matched the B component of the 2018-19 influenza vaccine B/Colorado/06/2017 (tetraivalent); 50% 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)	183	0
Influenza A (H3N2)	201	0
Influenza B	11	0

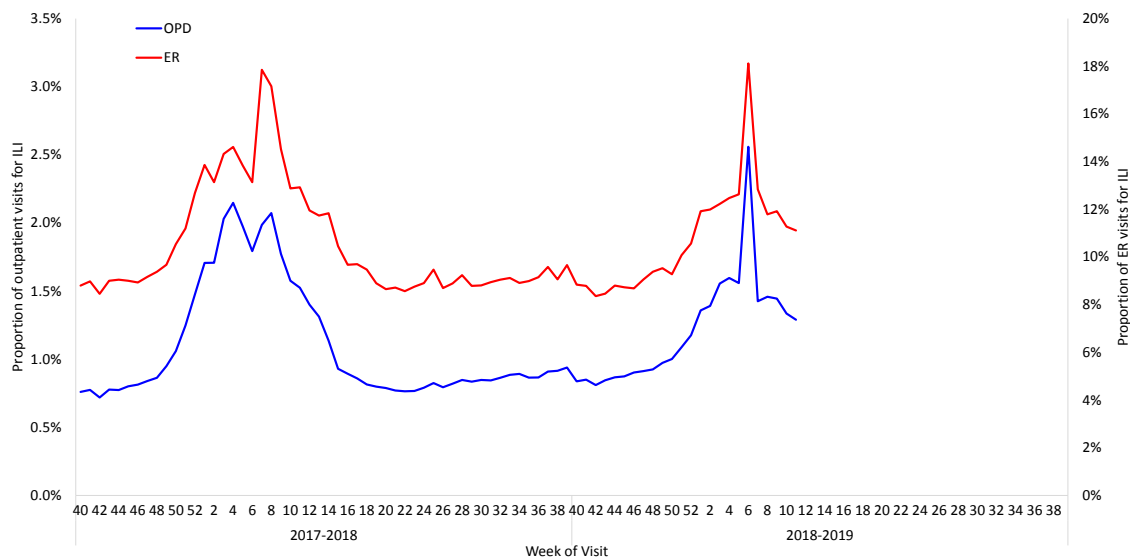
² In terms of the surveillance systems in Taiwan, please see: Jian, S. W., Chen, C. M., Lee, C. Y., & Liu, D. P. (2017). Real-Time Surveillance of Infectious Diseases: Taiwan's Experience. *Health security*, 15(2), 144-153.



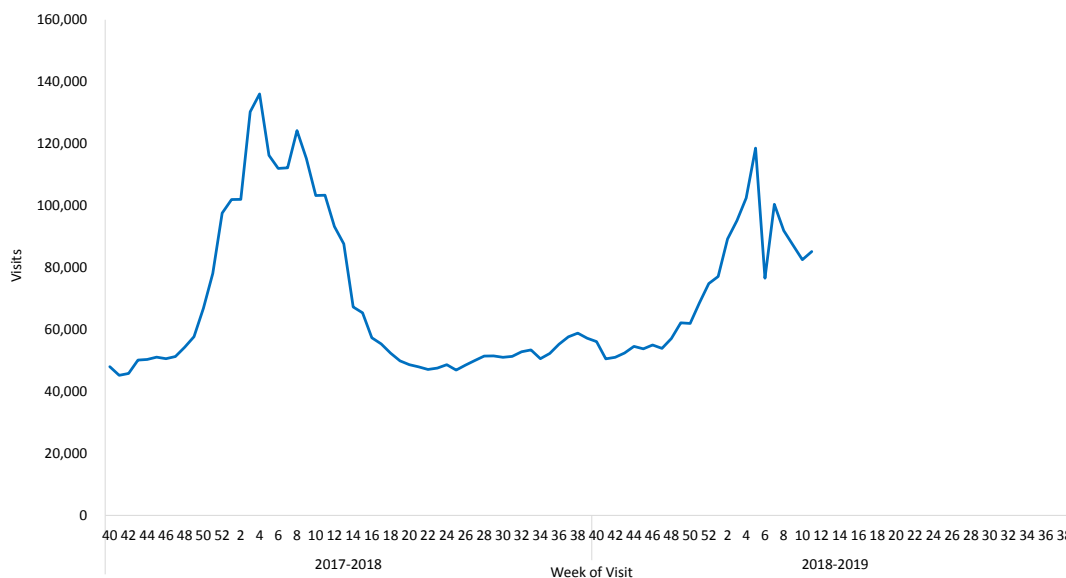
Influenza-like Illness (ILI) Surveillance

During week 11, the proportions of ILI visits were 1.29% and 11.11% for the outpatient and ER visits, respectively. Both proportions were lower than the previous week. The proportion of ER visits was below the national baseline of 11.5% in the past 2 weeks. The total number of visits for ILI in outpatient and ER was 85,163, which was similar to the previous week.

Proportions of outpatient and ER visits for ILI



Total number of outpatient and ER visits for ILI



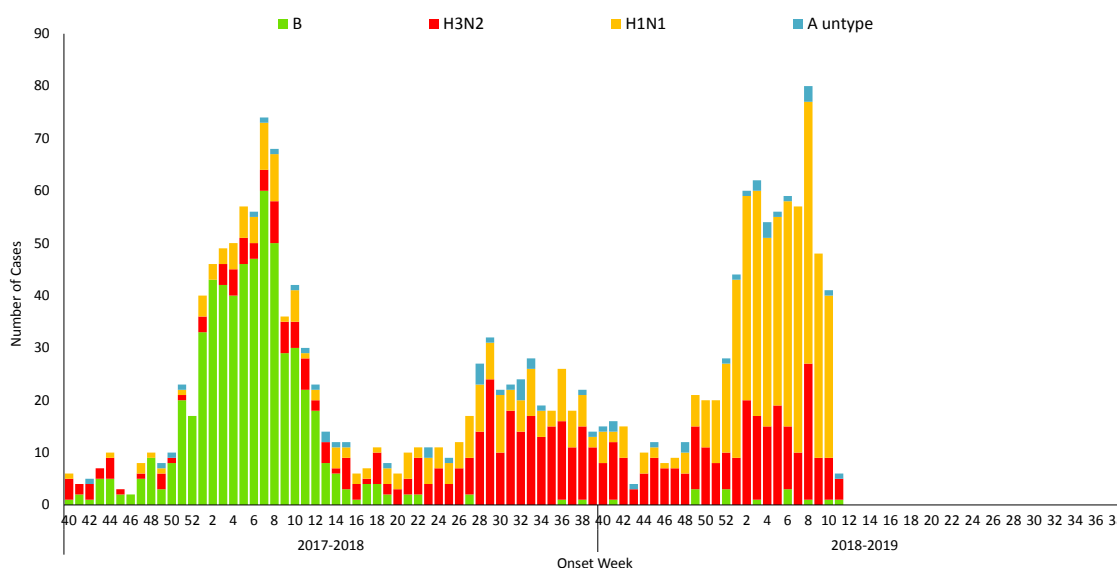
* Since 2016, the analysis of the ILI data from National Health Insurance Database is based on the ICD-10 diagnosis codes.



Severe Complicated Influenza Case

In week 11, there were 39 new influenza cases with severe complications [28 H1N1, 8 H3N2, 1 influenza A (not subtyped), 2 influenza B] and 4 new fatal cases infected with H1N1 virus. Since October 1, 2018, a total of 755 severe complicated influenza cases have been confirmed [469 H1N1, 250 H3N2, 22 influenza A (not subtyped) and 14 influenza B], including 74 fatal cases [45 H1N1, 25 H3N2, 3 influenza A (not subtyped) and 1 influenza B]. 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.

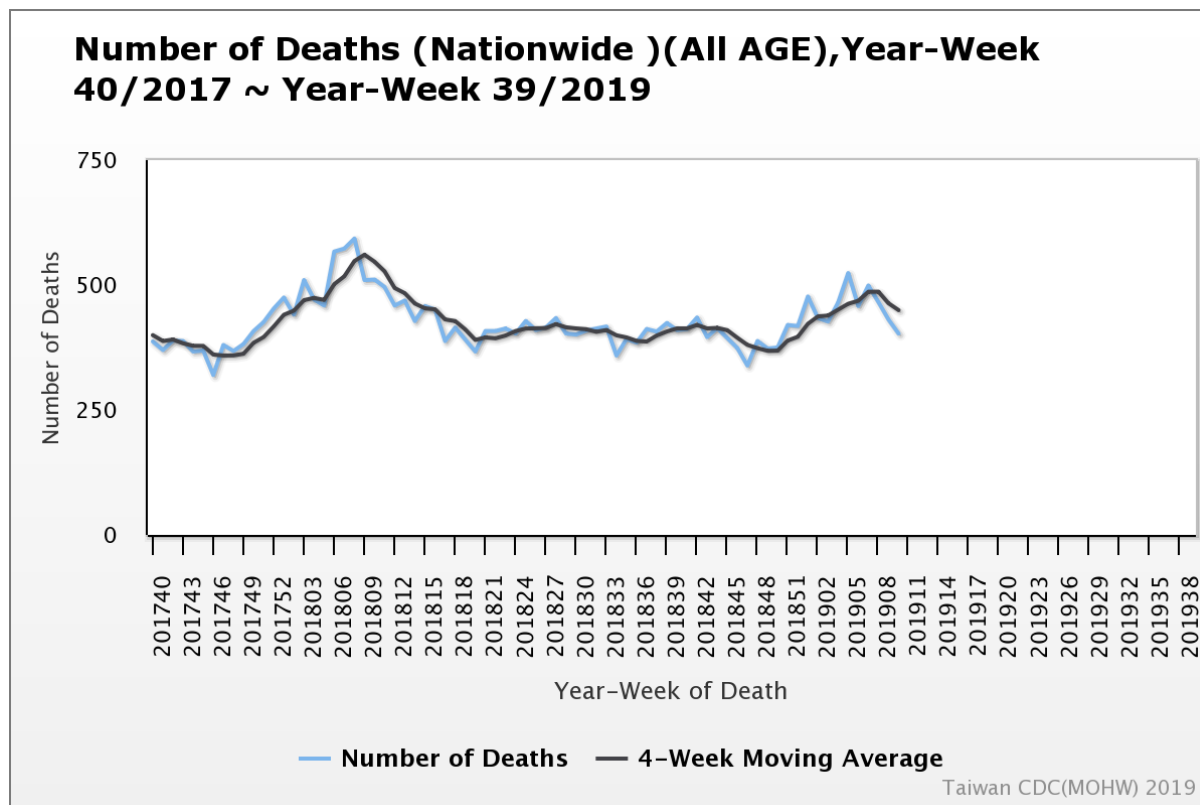
Number and incidence of severe complicated influenza confirmed cases and deaths by age groups
October 1, 2018 to March 18, 2019

Age Group	Cases	Deaths	Cumulative incidence per ten thousand population	Cumulative mortality per ten thousand population
< 3 y	23	1	3.8	0.2
3-6 y	14	1	1.6	0.1
7-18 y	18	3	0.7	0.1
19-24 y	3	0	0.2	0
25-49 y	98	7	1.1	0.1
50-64 y	202	17	3.9	0.3
65 +	397	45	11.9	1.3
Total	755	74	3.2	0.3



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) decreased in the past 3 weeks. 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.

