

# FLU EXPRESS



*Flu Express* is a weekly report produced by Surveillance Division of the Communicable Disease Branch of the Centre for Health Protection. It monitors and summarizes the latest local and global influenza activities.

## Local Situation of Influenza Activity (as of Feb 19, 2020)

**Reporting period: Feb 9 – 15, 2020 (Week 7)**

- The latest surveillance data showed that the overall seasonal influenza activity in Hong Kong continued to decrease and was at a low level.
- Influenza can cause serious illnesses in high-risk individuals and even healthy persons. Given that seasonal influenza vaccines are safe and effective, all persons aged 6 months or above except those with known contraindications are recommended to receive influenza vaccine to protect themselves against seasonal influenza and its complications, as well as related hospitalisations and deaths.
- The 2019/20 seasonal influenza vaccination programmes, including Vaccination Subsidy Scheme and Government Vaccination Programme, have been launched on 9 and 23 October, 2019 respectively. For details, please refer to the webpage ([http://www.chp.gov.hk/en/view\\_content/17980.html](http://www.chp.gov.hk/en/view_content/17980.html)).
- Apart from getting influenza vaccination, members of the public should maintain good personal and environmental hygiene throughout the winter influenza season.
- For the latest information on influenza and prevention measures, please visit the Centre for Health Protection's pages below for more information:
  - The influenza page ([http://www.chp.gov.hk/en/view\\_content/14843.html](http://www.chp.gov.hk/en/view_content/14843.html))
  - Webpage on Personal Hygiene (<https://www.chp.gov.hk/en/healthtopics/content/460/19899.html>)
  - Video on "Prevent diseases · Maintain good hygiene" (<https://youtu.be/X0OxrsgAP2w>)

### Influenza-like-illness surveillance among sentinel general outpatient clinics and sentinel private medical practitioner clinics, 2016-20

In week 7, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPC) was 1.9 ILI cases per 1,000 consultations, which was lower than 2.1 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private medical practitioner (PMP) clinics was 30.2 ILI cases per 1,000 consultations, which was higher than 29.1 recorded in the previous week (Figure 1, right).

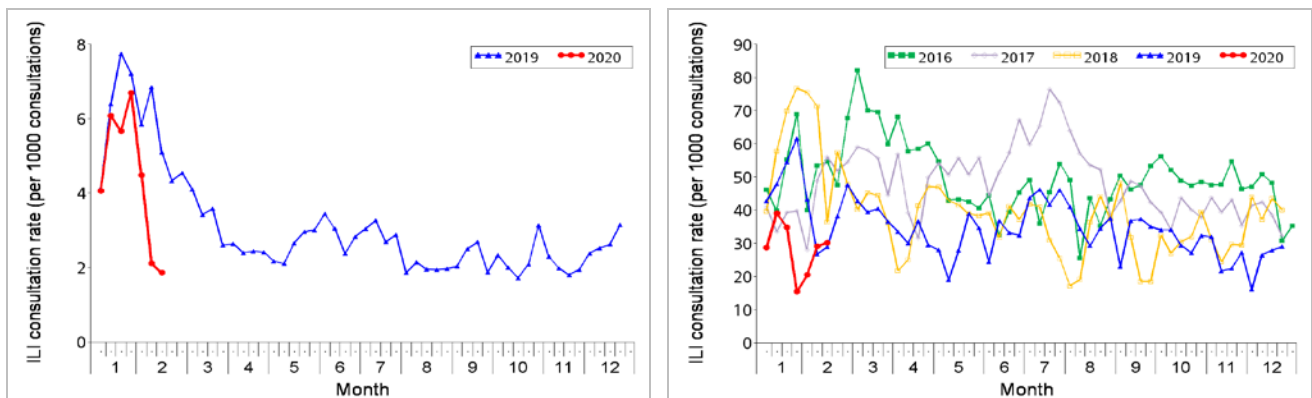


Figure 1 ILI consultation rates at sentinel GOPC (2019-20) (left) and PMP clinics (2016-20) (right)

Note: The CHP has started to use electronic data on diagnosis coding of patients of the Hospital Authority's GOPC for sentinel surveillance since January 2020, replacing manual data collection in the past.

## Laboratory surveillance, 2016-20

Among the 4965 respiratory specimens received in week 7, 93 (1.87%) were tested positive for seasonal influenza A or B viruses. These positive detections include 75 (81%) influenza A(H1), 12 (13%) influenza A(H3) and 6 (6%) influenza B viruses. The positive percentage (1.87%) was below the baseline threshold of 9.21% and was lower than 5.66% recorded in the previous week (Figure 2).

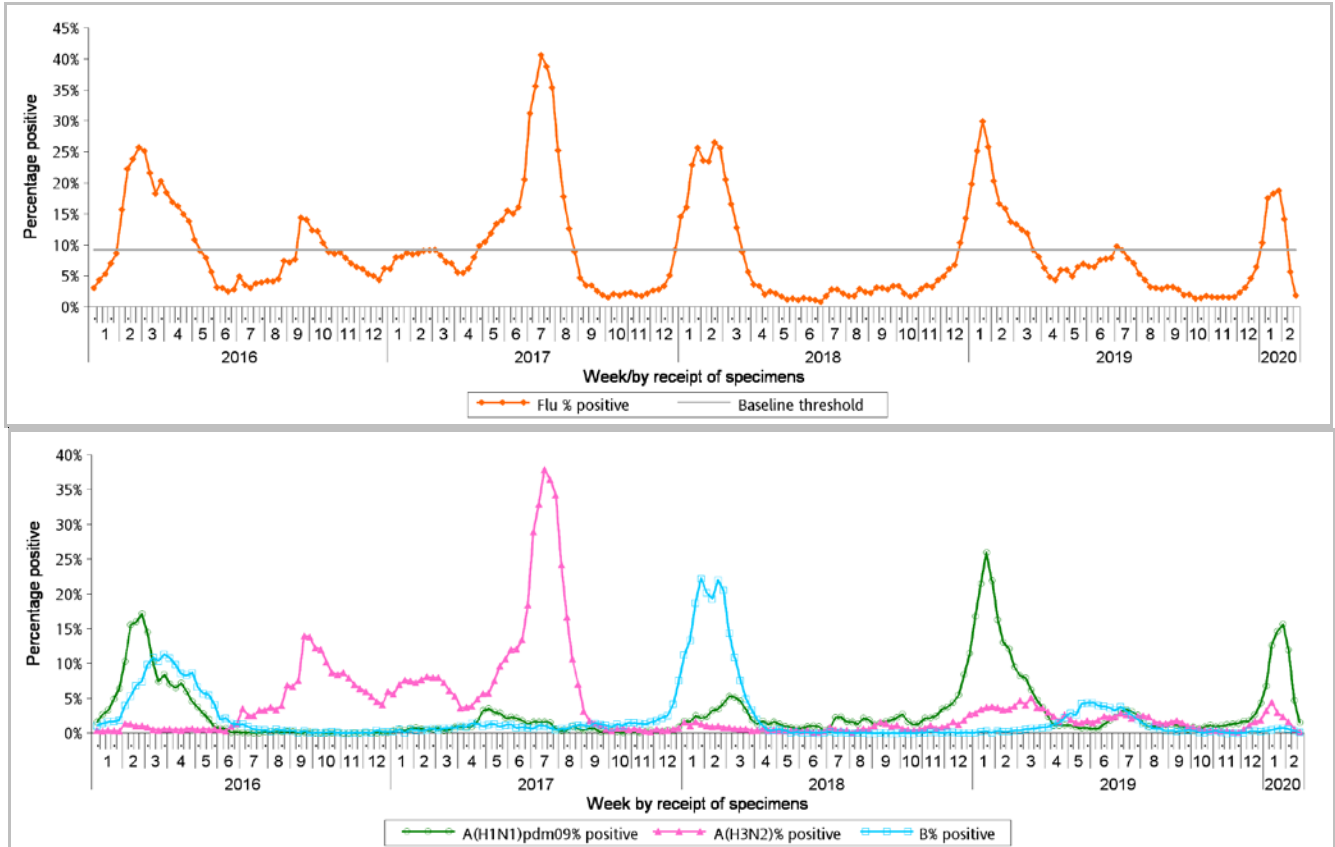


Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2016-20 (upper: overall positive percentage, lower: positive percentage by subtypes)

[Note: The baseline threshold is 1.96 standard deviation above the average weekly positive percentage during non-season periods from 2014 week 49 - 2019 week 48.]

## Surveillance of oseltamivir resistant influenza A and B viruses

- In December 2019, there were no new reports of oseltamivir (Tamiflu) resistant influenza A and B viruses.
- For the results of previous months, please refer to the following webpage:  
<https://www.chp.gov.hk/en/statistics/data/10/641/695/6835.html>

## Antigenic characterisation of influenza viruses

*Influenza viruses are antigenically characterised by haemagglutination inhibition test (HAI) using the antisera supplied by the World Health Organization.*

**Influenza A (H1):** In February 2020, among the 72 influenza A(H1) viruses antigenically characterised by HAI, 67 (93.1%) were antigenically similar to the strain “A/Brisbane/02/2018(H1N1)pdm09” representing the A(H1) component of the 2019/20 Northern Hemisphere influenza vaccines, as compared with 97.3% (354/364) in January 2020.

**Influenza A (H3):** In February 2020, among the 8 influenza A(H3) viruses antigenically characterised by HAI, 2 (25.0%) were antigenically similar to the strain “A/Kansas/14/2017(H3N2)” representing the A(H3) component of the 2019/20 Northern Hemisphere influenza vaccines, as compared with 19.3% (21/109) in January 2020.

**Influenza B/Victoria:** In February 2020, among the 4 influenza B/Victoria lineage viruses antigenically characterised by HAI, 4 (100%) were antigenically similar to the strain “B/Colorado/06/2017” representing the B/Victoria component of the 2019/20 Northern Hemisphere influenza vaccines, as compared with 92.9% (13/14) in January 2020.

**Influenza B/Yamagata:** In February and January 2020, no influenza B/Yamagata lineage viruses were antigenically characterised by HAI due to the very small number of positive detections.

Results of antigenic characterisation of influenza viruses, February 2020 (as at February 12, 2020)

Virus type	Number tested	Antigenically similar* to vaccine viruses	Antigenically dissimilar/ Low reacting
Influenza A(H1)	72	67 (93.1%)	5 <sup>#</sup> (6.9%)
Influenza A(H3)	8	2 (25.0%)	6 <sup>^</sup> (75.0%)
Influenza B/Victoria lineage	4	4 (100%)	0 (0%)
Influenza B/Yamagata lineage	0	0	0

\*Reacting at titres that are within 4-fold difference of the titres of the vaccine viruses.

# 5 with 8-fold or more differences of the vaccine virus titre.

<sup>^</sup>4 with 8-fold differences and 2 with 16-fold differences of the vaccine virus titre.

## Influenza-like illness outbreak surveillance, 2016-20

In week 7, two ILI outbreaks occurring in schools/institutions were recorded (affecting 13 persons), as compared to five outbreaks recorded in the previous week (affecting 25 persons) (Figure 3). In the first 4 days of week 8 (Feb 16 to 19), no ILI outbreaks in schools/ institutions were recorded.

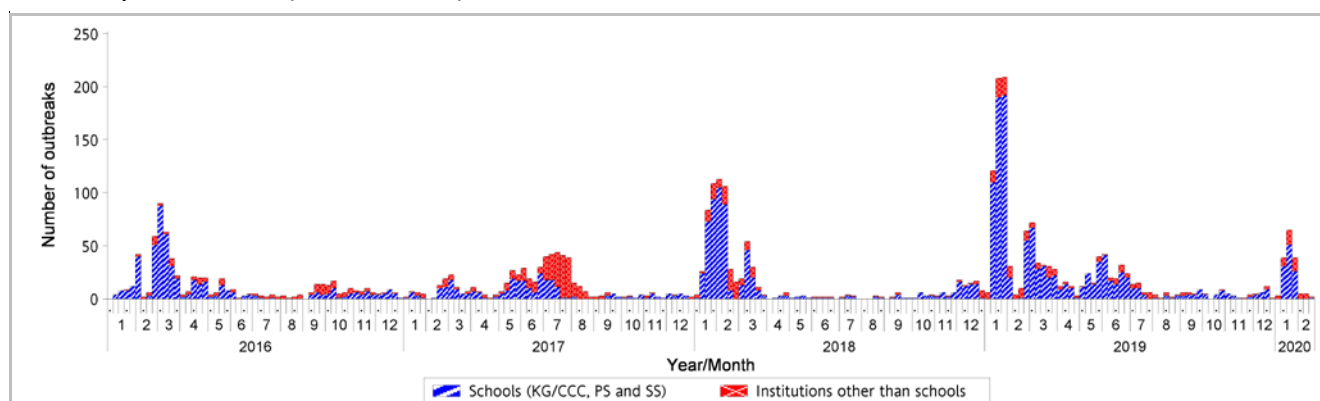


Figure 3 ILI outbreaks in schools/institutions, 2016-20

Type of institutions	Week 6	Week 7	First 4 days of Week 8 (February 16 to 19)
Child care centre/ kindergarten (CCC/KG)	0	0	0
Primary school (PS)	0	0	0
Secondary school (SS)	0	0	0
Residential care home for the elderly	3	1	0
Residential care home for persons with disabilities	2	0	0
Others	0	1	0
<i>Total number of outbreaks</i>	5	2	0
<i>Total number of persons affected</i>	25	13	0

## Influenza-associated hospital admission rates in public hospitals based on discharge coding, 2016-20

In week 7, the overall admission rates in public hospitals with principal diagnosis of influenza was 0.05 (per 10,000 population), which was below the baseline threshold of 0.25 and was lower than 0.23 recorded in the previous week. The influenza-associated admission rates for persons aged 0-5 years, 6-11 years, 12-17 years, 18-49 years, 50-64 years and 65 years or above were 0.06, 0.03, 0.03, 0.03, 0.03 and 0.14 cases (per 10,000 people in the age group) respectively, as compared to 0.63, 0.19, 0.12, 0.13, 0.17 and 0.52 cases in the previous week (Figure 4).

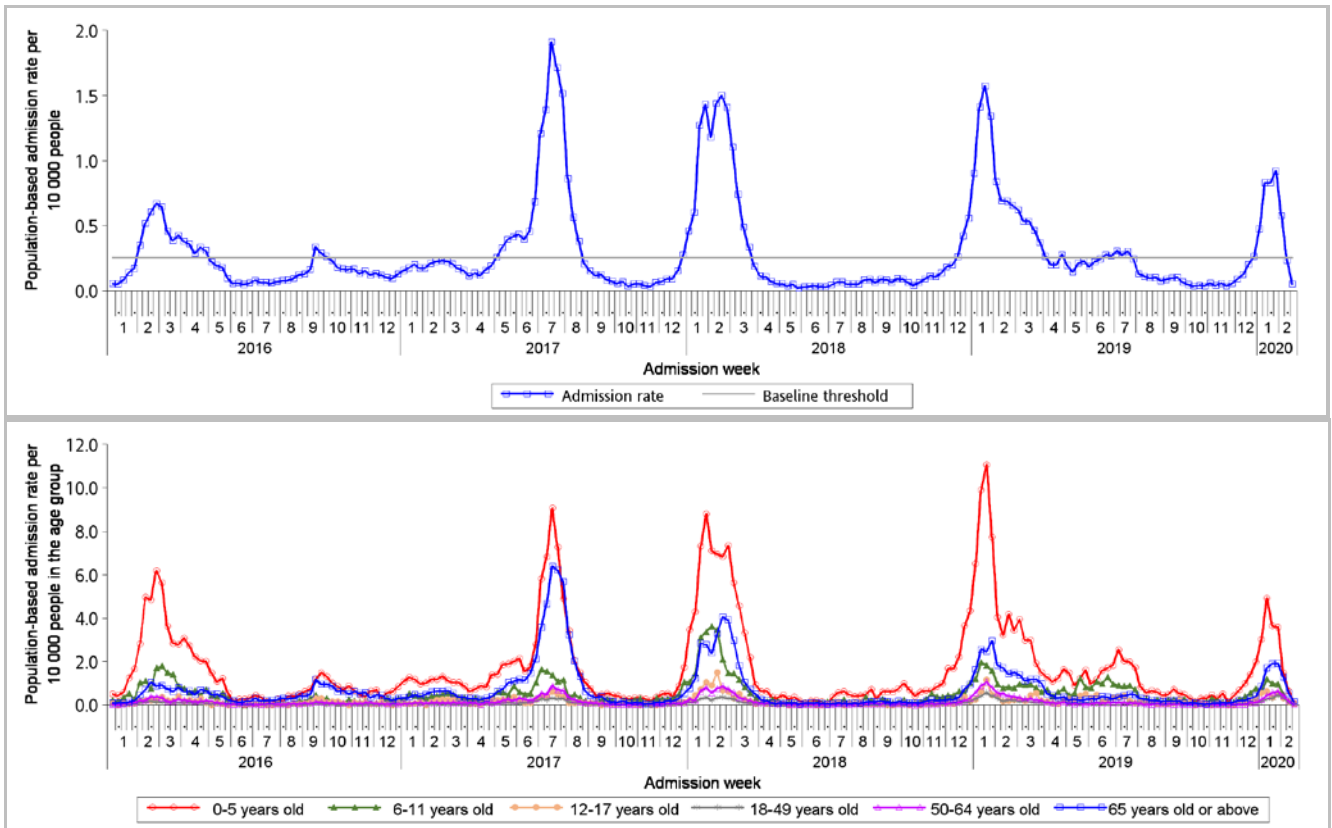


Figure 4 Influenza-associated hospital admission rates, 2016-20 (upper: overall rate, lower: rates by age groups)  
 [Note: The baseline threshold is 1.96 standard deviation above the average weekly admission rate during non-season periods from 2014 week 49 – 2019 week 48.]

### Rate of ILI syndrome group in accident and emergency departments, 2016-20<sup>#</sup>

In week 7, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 250.1 (per 1,000 coded cases), which was lower than the rate of 299.2 in the previous week (Figure 5).

*#Note: This syndrome group includes codes related to ILI such as influenza, upper respiratory tract infection, fever, cough, throat pain, and pneumonia.*

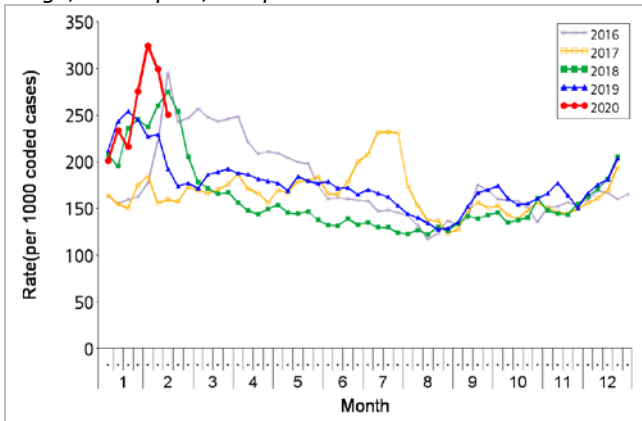


Figure 5 Rate of ILI syndrome group in AEDs, 2016-20

### Fever surveillance at sentinel child care centres/ kindergartens, 2016-20

The surveillance in week 5-7 was suspended due to temporary school suspension. In week 4, 0.84% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 0.70% recorded in the previous week (Figure 6).

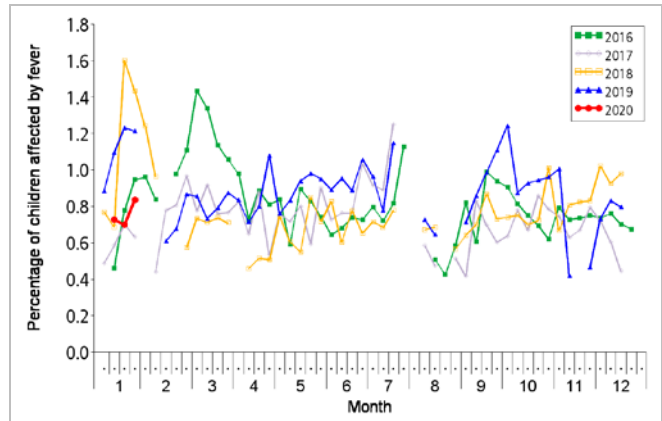


Figure 6 Percentage of children with fever at sentinel CCCs/KGs, 2016-20

### Fever surveillance at sentinel residential care homes for the elderly, 2016-20

In week 7, 0.09% of residents in the sentinel residential care homes for the elderly (RCHEs) had fever (38°C or above), compared to 0.09% recorded in the previous week (Figure 7).

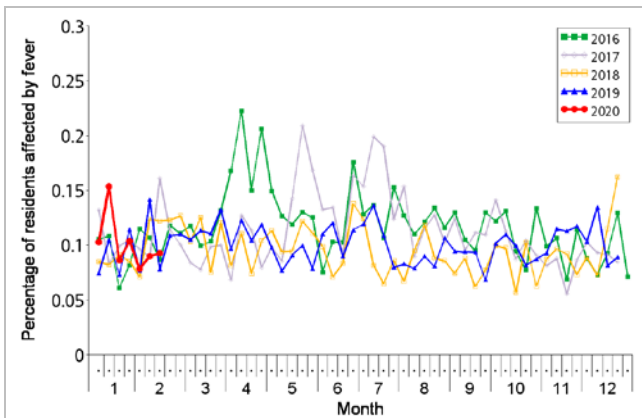


Figure 7 Percentage of residents with fever at sentinel RCHEs, 2016-20

### Influenza-like illness surveillance among sentinel Chinese medicine practitioners, 2016-20

In week 7, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 4.15 ILI cases per 1,000 consultations as compared to 4.57 recorded in the previous week (Figure 8).

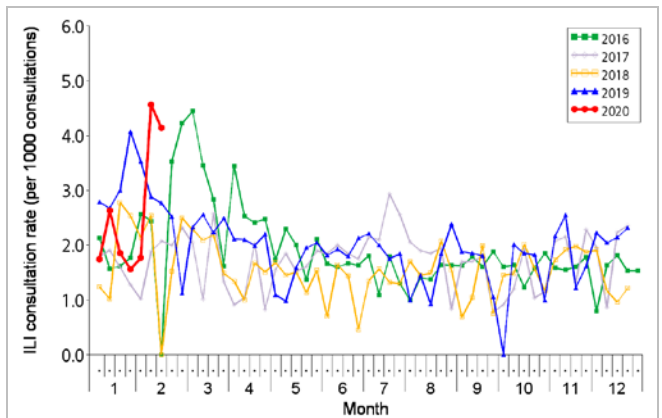


Figure 8 ILI consultation rate at sentinel CMPs, 2016-20



## Surveillance of severe influenza cases

(Note: The data reported are provisional figures and subject to further revision.)

### **Surveillance for intensive care unit (ICU) admissions/deaths with laboratory confirmation of influenza among adult patients (Aged 18 years or above)**

Since 2018, the Centre for Health Protection (CHP) has collaborated with the Hospital Authority and private hospitals to monitor ICU admissions and deaths with laboratory confirmation of influenza among adult patients regularly. For surveillance purpose, the cases refer to laboratory-confirmed influenza patients who required ICU admission or died within the same admission of influenza infection. Their causes of ICU admission or death may be due to other acute medical conditions or underlying diseases.

- In week 7, 17 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded (including 13 deaths), as compared to 22 cases (including 18 deaths) in the previous week. Six of the 17 severe adult cases were known to have received the 2019/20 influenza vaccine.

Week	Influenza type				
	A(H1)	A(H3)	B	C	A (pending subtype)
Week 6	18	0	0	0	4
Week 7	14	0	0	1	2

### **Surveillance of severe paediatric influenza-associated complication/death (Aged below 18 years)**

- In week 7 and the first 4 days of week 8 (Feb 16 to 19), there were no cases of severe paediatric influenza-associated complication/death.
- In 2020, six paediatric cases of influenza-associated complication/death were recorded, in which none of them were fatal (as of Feb 19). About 83% had not ever received the influenza vaccine for the 2019/20 season.

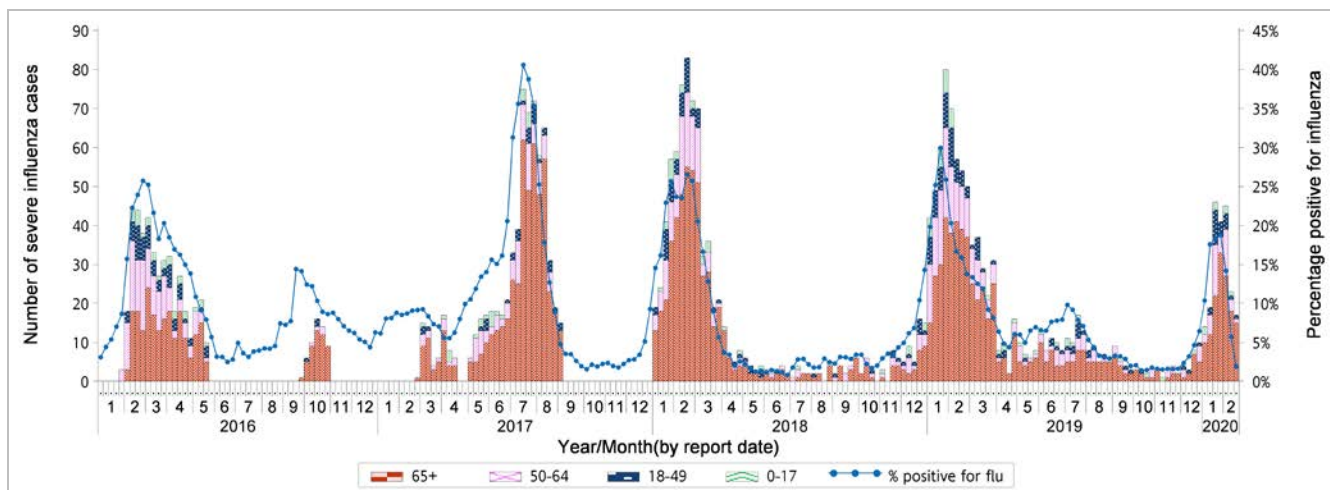


Figure 9 Weekly number of severe influenza cases by age groups, 2016-20 (the percentage positive for influenza viruses in Figure 2 is also shown in this graph)

Note: The surveillance system for severe influenza cases among adult patients aged 18 years or above was only activated intermittently during influenza seasons before 2018.

## Global Situation of Influenza Activity

In the temperate zone of the northern hemisphere, influenza activity remained elevated overall. In South East Asia, influenza activity was low in most reporting countries. In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

- In the United States (week ending Feb 8, 2020), influenza activity remained high and increased in the past four weeks. Indicators that track severity (hospitalizations and deaths) were not high at this point in the season. The proportion of outpatient visits for ILI increased to 6.8%, which was above the national baseline of 2.4%. The percentage of respiratory specimens testing positive for influenza increased to 30.8% from 30.1% recorded in the previous week. Number of influenza B (Victoria) and A(H1N1)pdm09 viruses are approximately equal for the season overall, with continued increases in influenza A(H1N1)pdm09 viruses in recent weeks.
- In Canada (week ending Feb 8, 2020), the influenza activity remained high, but majority of indicators remained similar or decreased slightly from the previous week. The percentage of tests positive for influenza was similar to the previous week at 30% and remained above the peak reported in late December last year. Influenza A and B continued to co-circulate in almost equal proportions.
- In the United Kingdom (week ending Feb 9, 2020), influenza activity continued to decrease with all indicators below baseline levels. The positivity of influenza detection were 5.6%, decreased from 7.1% in the previous week. This is below the baseline threshold of 9.7%. The most common influenza viruses detected were influenza A(H3) in this season.
- In Europe (week ending Feb 9, 2020), influenza activity were at a high level. Widespread influenza activity was reported by the majority of countries in the Region. 51% of the sentinel specimens were tested positive for influenza viruses. Both influenza virus types A and B were co-circulating with a higher proportion (60%) of type A viruses detected. The distribution of viruses detected varied between countries and areas.
- In Mainland China (week ending Feb 9, 2020), some provinces were at the winter influenza seasons. Influenza activity has decreased since the peak of activity in week 1. Influenza A(H3N2) and influenza B(Victoria) viruses were predominant.
- In Macau (week ending Feb 8, 2020), the overall numbers of ILI cases has been decreasing. The predominating viruses were influenza A(H1).
- In Taiwan (week ending Feb 15, 2020), influenza activity decreased but still remained at a high level. Influenza A(H1N1) was the predominant strain in the community while the proportion of influenza B continued to increase.
- In Japan (week ending Feb 9, 2020), the average number of reported ILI cases per sentinel site decreased to 9.04 from 14.11 in the previous week, which was above the baseline level of 1.00. The predominating virus detected in the past five weeks was influenza A(H1)pdm09 (89%), followed by influenza B (9%) and influenza A(H3) (3%).

### Sources:

Information have been extracted from the following sources when updates are available: [World Health Organization](#), [United States Centers for Disease Control and Prevention](#), [Public Health Agency of Canada](#), [Public Health England](#), [Joint European Centre for Disease Prevention and Control-World Health Organization/Flu News Europe](#), [Chinese National Influenza Center](#), [Health Bureau of Macao Special Administrative Region](#), [Taiwan Centres for Disease Control](#) and [Japan Ministry of Health, Labour and Welfare](#).