

# FLU EXPRESS



*Flu Express* is a weekly report produced by the Respiratory Disease Office 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 28, 2018)

**Reporting period: Feb 18 – 24, 2018 (Week 8)**

- The latest surveillance data showed that the local influenza activity remained at a high level in the past few weeks. Currently the predominating virus is influenza B.
- 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.
- Apart from adopting personal, hand and environmental hygiene practices against respiratory illnesses, those members of the public who have not received influenza vaccine are urged to get vaccinated as soon as possible for personal protection.
- The Vaccination Subsidy Scheme (VSS) and the Government Vaccination Programme (GVP) for the 2017/18 season have been launched on Oct 18 and Oct 25, 2017 respectively. The VSS continues to provide subsidised vaccination to children aged 6 months to under 12 years, elderly aged 65 years or above, pregnant women, persons with intellectual disabilities and recipients of Disability Allowance. Eligible groups for free vaccination are the same as those of 2016/17 under the GVP. For more 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)).

## Influenza-like-illness surveillance among sentinel general outpatient clinics and sentinel private doctors, 2014-18

In week 8, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPCs) was 8.1 ILI cases per 1,000 consultations, which was higher than 7.3 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private doctors was 57.4 ILI cases per 1,000 consultations, which was higher than 36.4 recorded in the previous week (Figure 1, right).

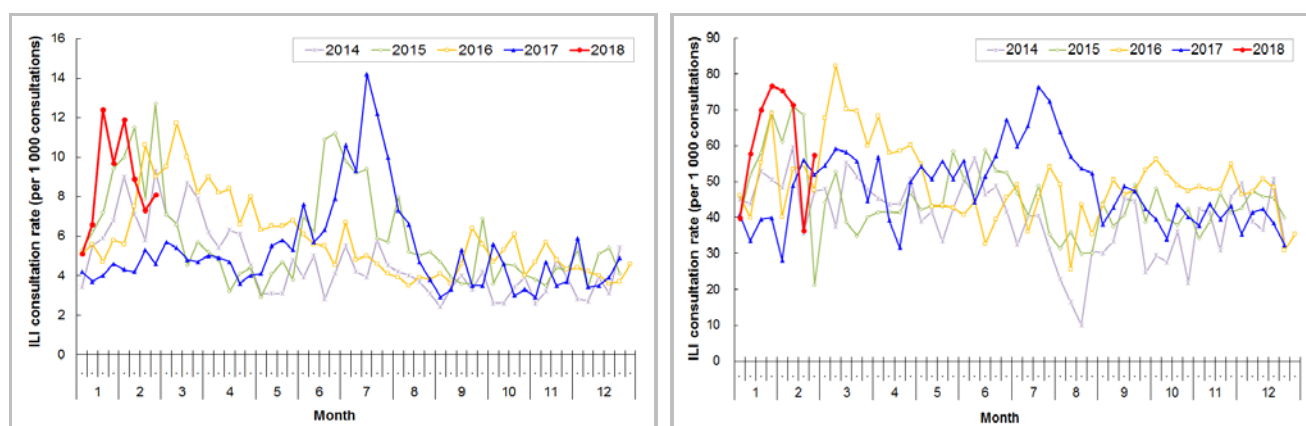


Figure 1 ILI consultation rate at sentinel GOPCs (left) and private doctors (right), 2014-18

## Laboratory surveillance, 2014-18

Among the respiratory specimens received in week 8, the positive percentage of seasonal influenza viruses was 26.07%, which was above the baseline threshold of 10.7% but lower than 27.21% recorded in the previous week (Figure 2). The 2513 influenza viruses detected last week included 414 (4.30%) influenza A(H1), 80 (0.83%) influenza A(H3), 1973 (20.47%) influenza B and 46 (0.48%) influenza C.

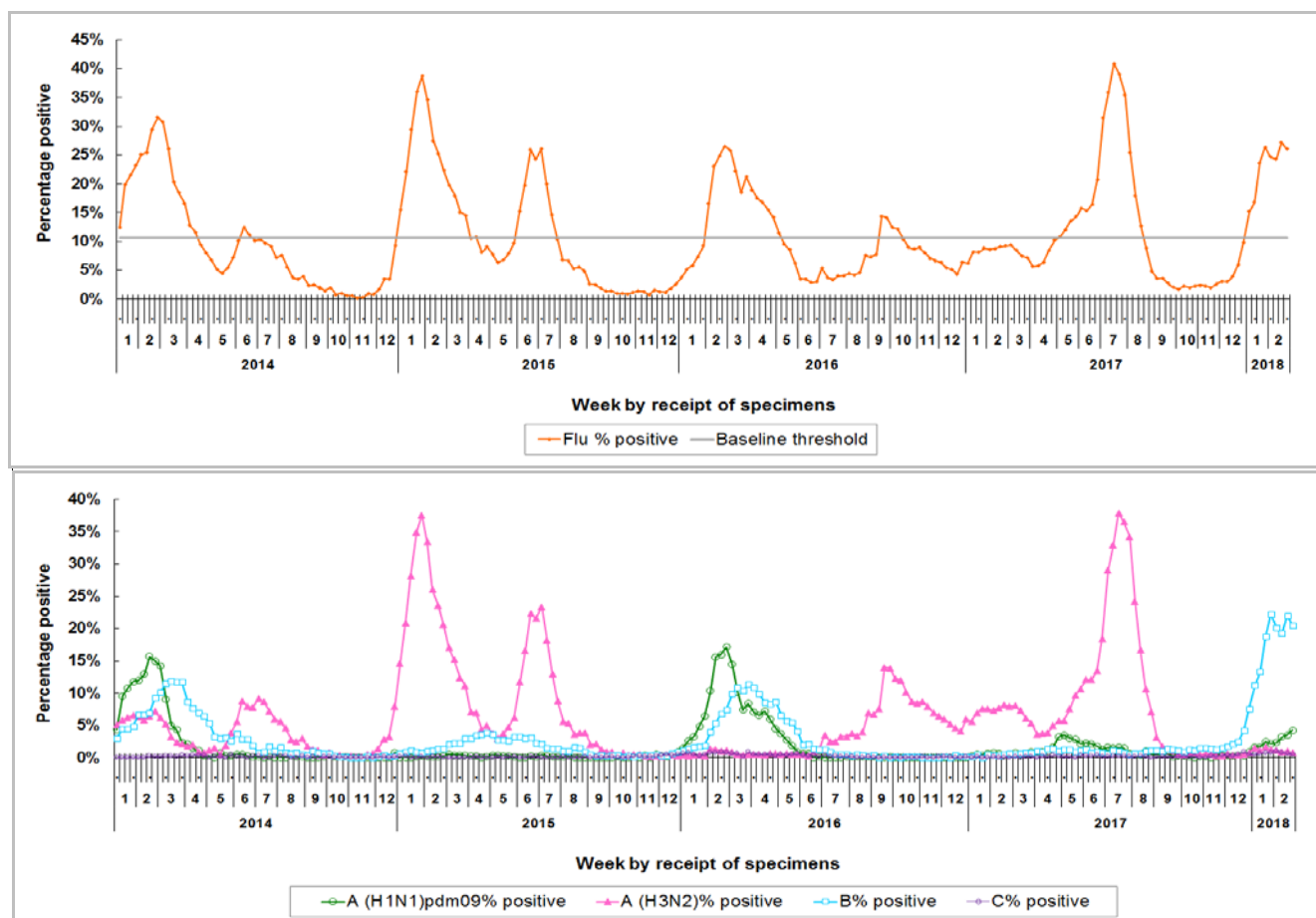


Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2014-18 (upper: overall positive percentage, lower: positive percentage by subtypes)

[Note: The baseline threshold is 1.96 standard deviation above the average weekly positive percentage during non-season periods from 2014-2017.]

## Influenza-like illness outbreak surveillance, 2014-18

In week 8, 16 ILI outbreaks occurring in schools/institutions were recorded (affecting 72 persons), which was lower than 28 outbreaks recorded in the previous week (affecting 151 persons) (Figure 3). In the first 4 days of week 9 (Feb 25-28, 2018), 7 ILI outbreaks in schools/institutions were recorded (affecting 28 persons). Since the start of the 2017/18 winter influenza season in week 2, 488 outbreaks were recorded (as of February 28).

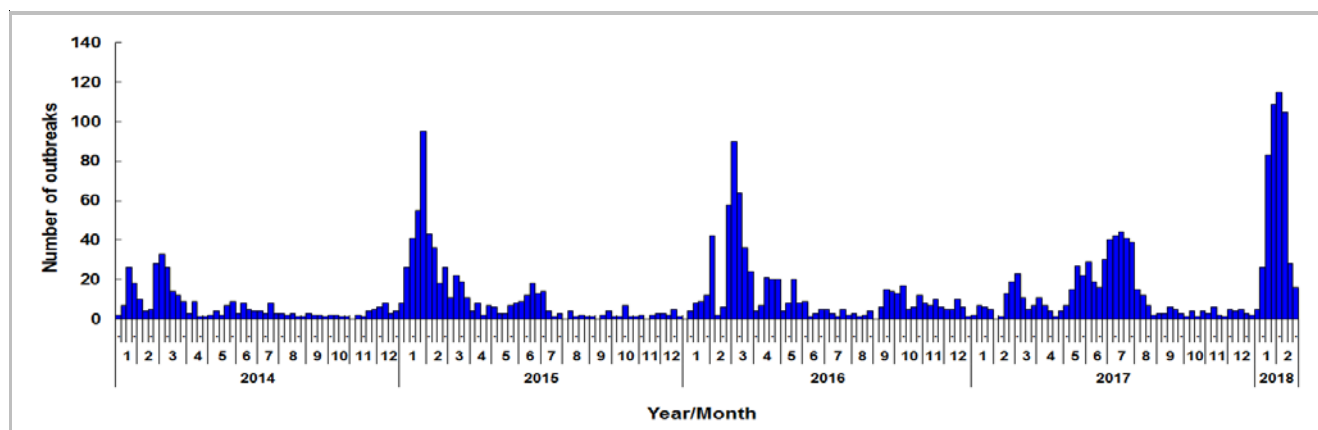


Figure 3 ILI outbreaks in schools/institutions, 2014-18

Type of institutions	Week 7	Week 8	Cumulative number of outbreaks since week 2 (as of February 28)
Kindergarten/ child care centre	1	0	176
Primary school	0	0	177
Secondary school	7	0	43
Residential care home for the elderly	18	14	57
Residential care home for the disabled	2	2	13
Others	0	0	22
<i>Total number of outbreaks</i>	28	16	488
<i>Total number of persons affected</i>	151	72	3373

In comparison, 304, 274 and 158 outbreaks were recorded in the same duration of surveillance (seven complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 482 outbreaks in the current season (Figure 4).

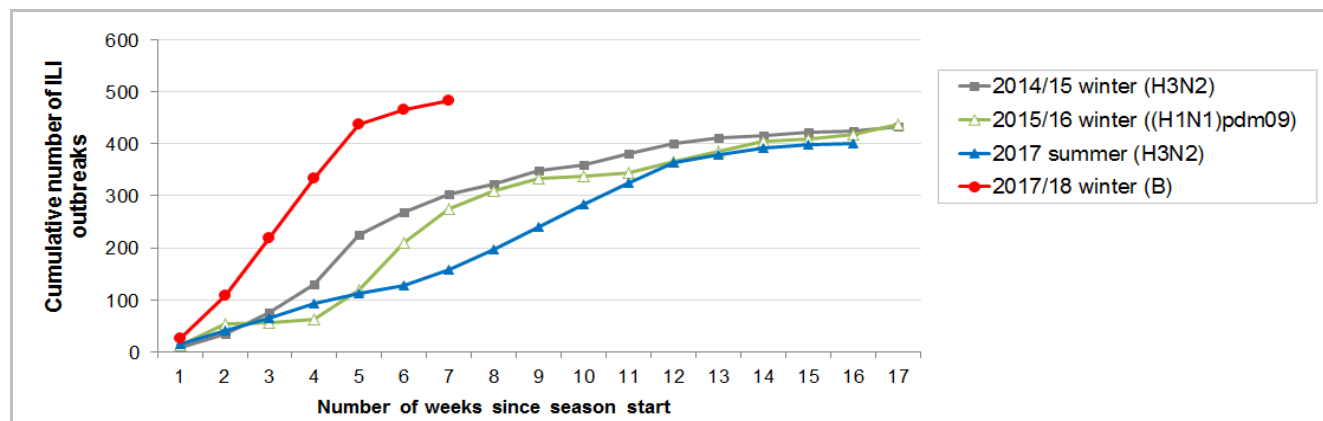


Figure 4 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2015-18

Note: The predominating virus was shown in bracket.

## Influenza-associated hospital admission rates in public hospitals based on discharge coding, 2014-18

In week 8, the overall admission rate in public hospitals with principal diagnosis of influenza was 1.28 (per 10,000 population), which was above the seasonal threshold of 0.20 but lower than 1.46 recorded in the previous week. The influenza-associated admission rates for persons aged 0-4 years, 5-9 years, 10-64 years and 65 years or above were 7.70, 1.94, 0.45 and 3.45 cases (per 10,000 people in the age group) respectively, as compared to 7.16, 2.96, 0.54 and 4.01 cases in the previous week (Figure 5).

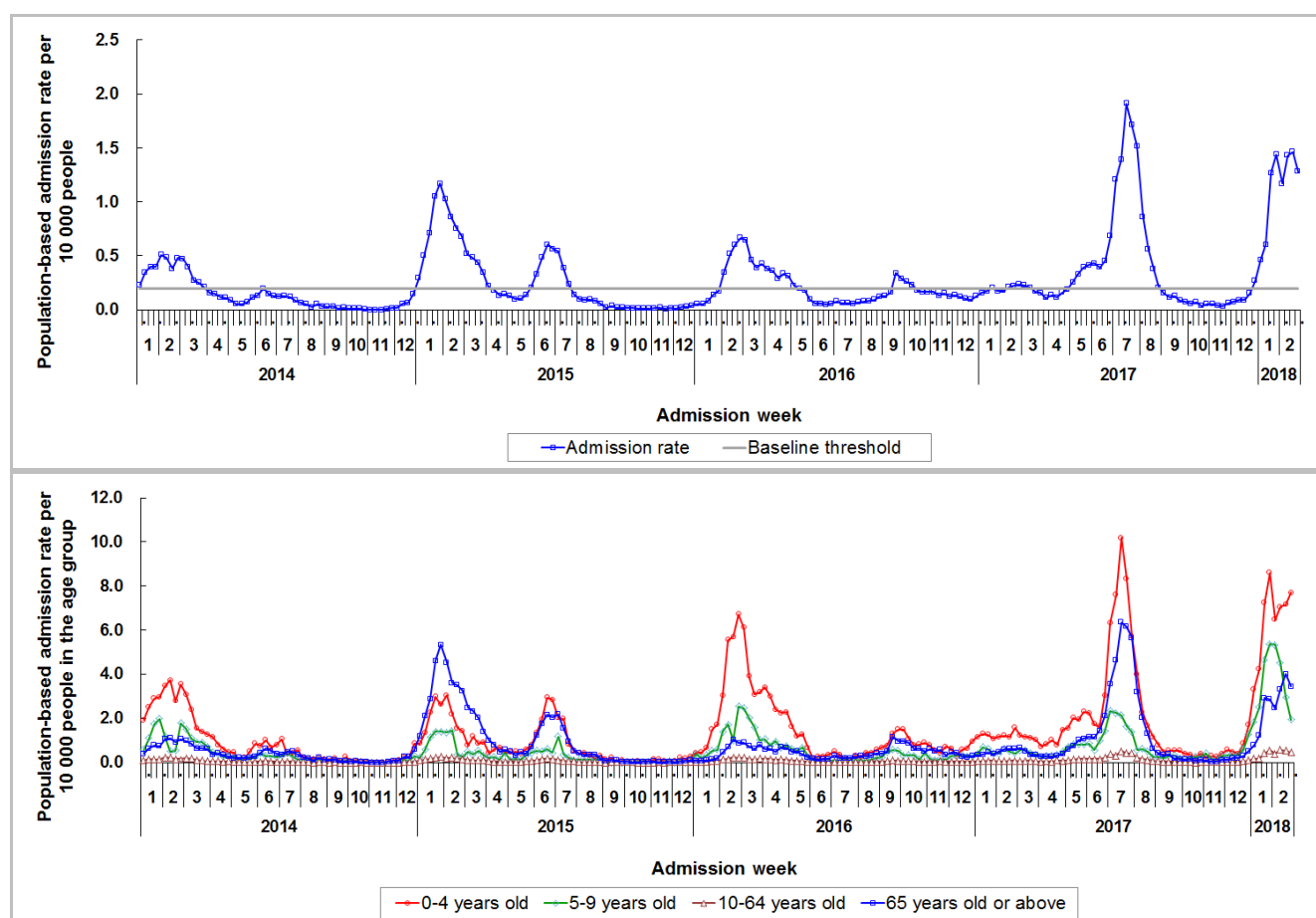


Figure 5 Influenza-associated hospital admission rates, 2014-18 (upper: overall rate, lower: rates by age groups)

[Note: The baseline threshold is 1.96 standard deviation above the average weekly admission rate during non-season periods from 2014-2017.]

## Rate of ILI syndrome group in accident and emergency departments, 2014-18<sup>#</sup>

In week 8, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 256.8 (per 1,000 coded cases), which was lower than the rate of 276.1 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.*

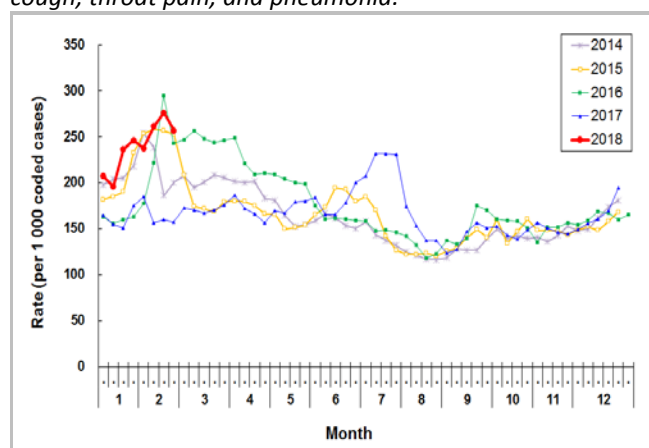


Figure 5 Rate of ILI syndrome group in AEDs, 2014-18

## Fever surveillance at sentinel child care centres/ kindergartens, 2014-18

The surveillance for week 7 and 8 was suspended due to Chinese New Year holiday. In week 6, 0.96% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 1.24% recorded in the previous week (Figure 6).

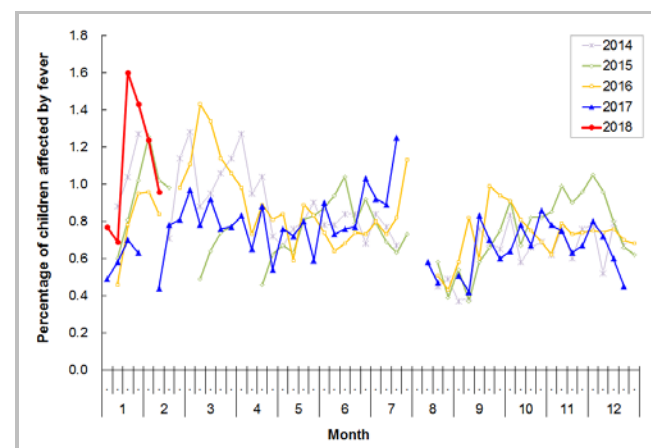


Figure 6 Percentage of children with fever at sentinel CCCs/KGs, 2014-18

## Fever surveillance at sentinel residential care homes for the elderly, 2014-18

In week 8, 0.12% of residents in the sentinel residential care homes for the elderly (RCHes) had fever (38°C or above), the same as that recorded in the previous week (Figure 7).

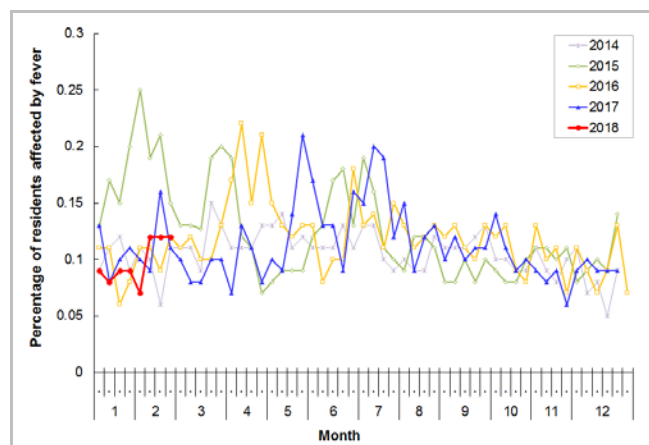


Figure 7 Percentage of residents with fever at sentinel RCHes, 2014-18

## Influenza-like illness surveillance among sentinel Chinese medicine practitioners, 2014-18

In week 8, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 1.52 ILI cases per 1,000 consultations as compared to 0 recorded in the previous week (Figure 8).

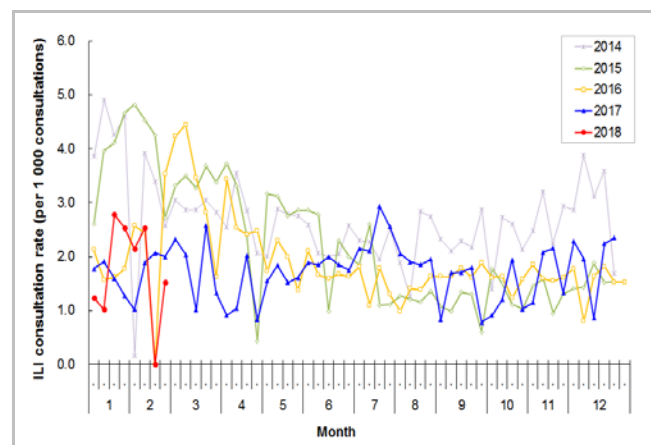


Figure 8 ILI consultation rate at sentinel CMPs, 2014-18

## 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 8, 70 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 51 of them were fatal. 22 of the 70 severe adult cases were known to have received the 2017/18 influenza vaccine. In the first 4 days of week 9 (Feb 25 to 28), 46 cases were recorded, in which 30 of them were fatal.

Week	Influenza type				
	A(H1)	A(H3)	B	C	A (pending subtype)
Week 8	4	1	64	0	1
First 4 days of week 9 (Feb 25 to 28)	6	4	33	0	3

- Since the start of the 2017/18 winter influenza season in week 2, 443 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 282 of them were fatal (as of February 28). Among them, 373 patients had infection with influenza B, 37 patients with influenza A(H1N1)pdm09, 23 patients with influenza A(H3N2), three patients with influenza C and seven patients with influenza A pending subtype.
- In comparison, 337, 233 and 109 adult cases were recorded in the same duration of surveillance (seven complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 397 cases in the current season (Figure 10, left). The corresponding figures for deaths were 251, 105 and 84 in the above seasons, as compared with 252 deaths in the current season (Figure 10, right).

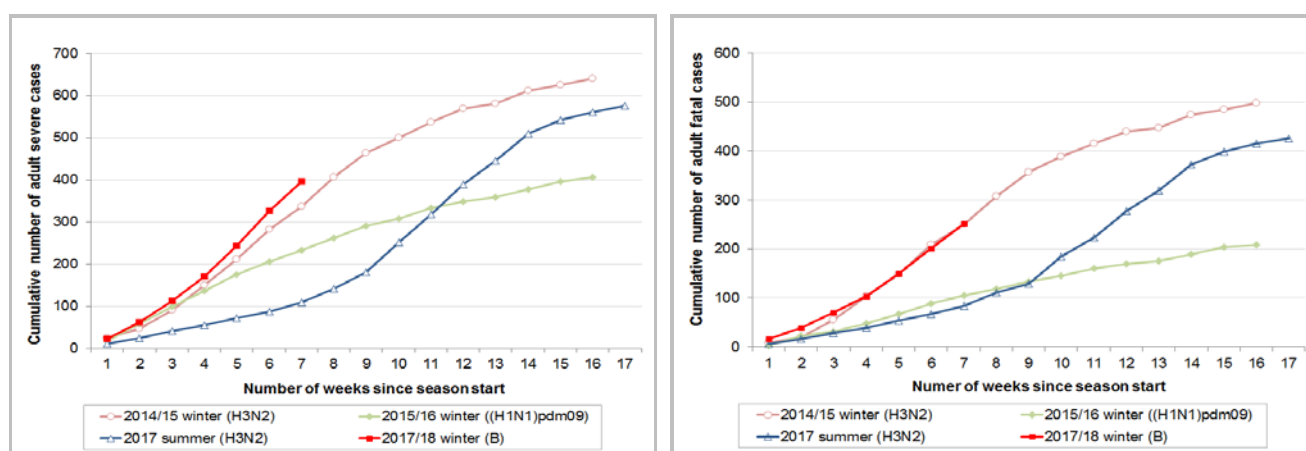


Figure 10 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2015–18 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 8 and the first 4 days of week 9 (Feb 25 to 28), there were two cases of severe paediatric influenza-associated complication.

Reporting week	Age	Sex	Complication	Fatal case?	Influenza subtype	History of receiving influenza vaccine for this season
8	2 years	Male	Severe pneumonia	No	Influenza B	No
8	7 years	Male	Encephalopathy	No	Influenza A (H1)	No

Data as of Feb 28, 2018

- In 2018, 15 paediatric cases of influenza-associated complication/death were recorded, in which two of them were fatal (as of February 28). 13 patients had infection with influenza B and two with influenza A(H1). 14 (93.3%) did not receive the influenza vaccine for the 2017/18 season.
- In comparison, 15, 13 and 10 paediatric cases of influenza-associated complication/death were recorded in the same duration of surveillance (seven complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 15 cases in the current season (Figure 11, left). The corresponding figures for deaths were 1, 2 and 2 in the above seasons, as compared with 2 deaths in current season (Figure 11, right).

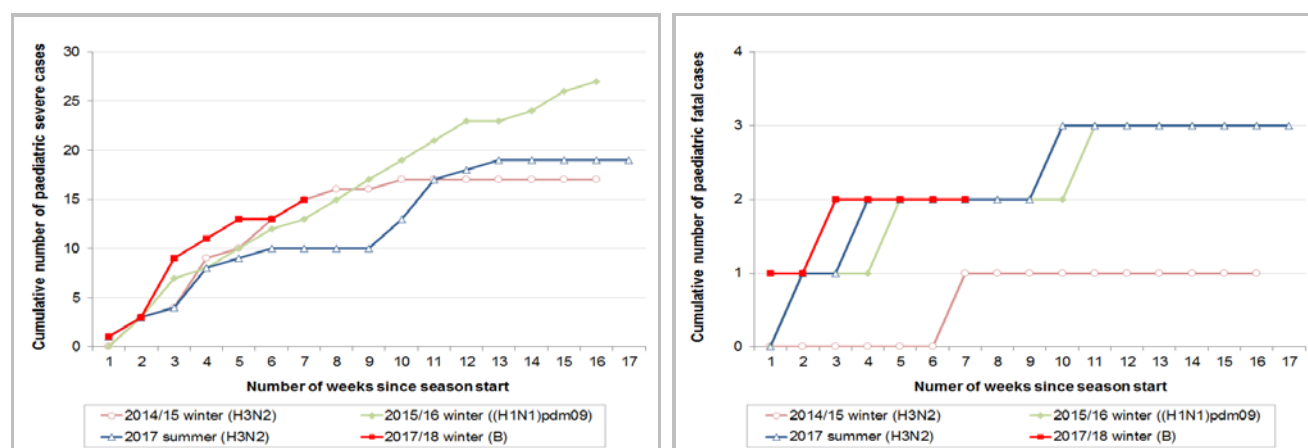


Figure 11 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2015–18 (left: complication/death cases; right: deaths)

Note: The predominating virus was shown in bracket.



### **Severe influenza cases of all ages**

- Since the start of the current winter influenza season in week 2, 458 severe influenza cases among all ages have been reported, including 284 deaths (as of February 28).

Age group	Cumulative number of cases (death)
0-5	10 (2)
6-11	3 (0)
12-17	2 (0)
18-49	37 (7)
50-64	98 (33)
>=65	308 (242)

- Among the adult fatal cases, about 79% had chronic diseases. Both of the two paediatric fatal cases did not have chronic diseases.
- Among patients with laboratory confirmation of influenza admitted to public hospitals in this season (from January 7 to February 28), 2.2% of admitted cases died during the same episode of admission. So far, it was within the historical range between 1.9% (2015/16 winter season) and 3.3% (2015 summer season).

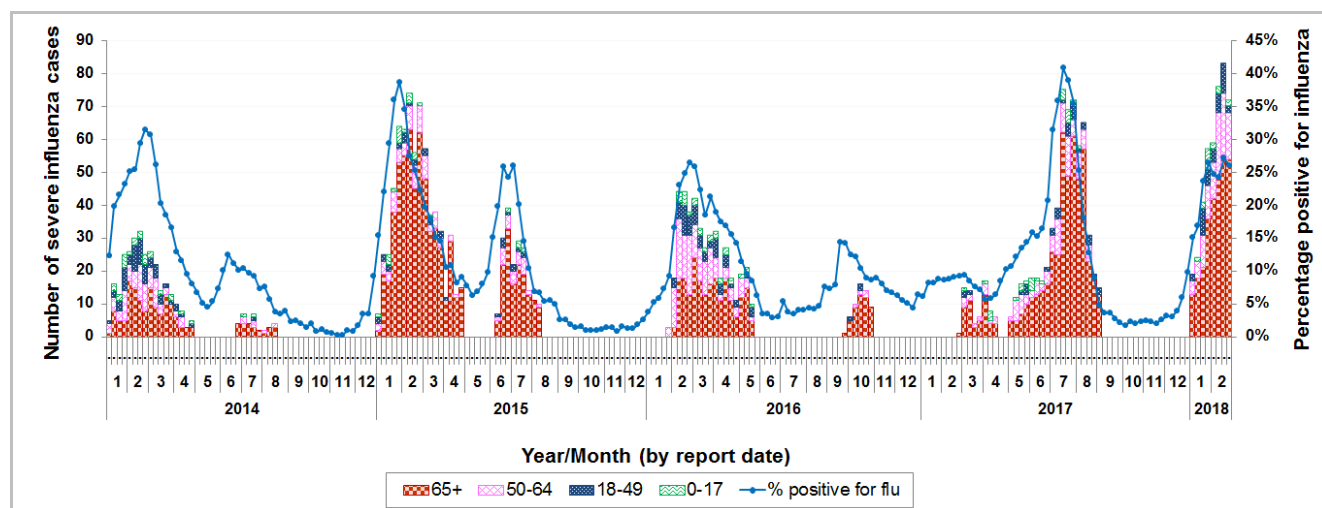


Figure 12 Weekly number of severe influenza cases by age groups, 2014-18 (the percentage positive for influenza viruses in Figure 2 is also shown in this graph)

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.



## Surveillance of oseltamivir resistant influenza A(H1N1)pdm09 virus infection

- In week 8 and the first 4 days of week 9 (Feb 25 to 28), there were no new reports of oseltamivir (Tamiflu) resistant influenza A(H1N1)pdm09 virus infection. There are totally 48 reports of oseltamivir resistant influenza A(H1N1)pdm09 virus detected in Hong Kong since 2009.

## Global Situation of Influenza Activity

Influenza activity remained high in the temperate zone of the northern hemisphere while in the temperate zone of the southern hemisphere activity was at inter-seasonal levels. Worldwide, influenza A accounted still for the majority of influenza detections but influenza B (mostly from the Yamagata lineage) increased in recent weeks.

- In the United States (week ending Feb 17, 2018), influenza activity remained elevated. The proportion of outpatient visits for ILI was 6.4%, which was above the national baseline of 2.2%. The most frequently identified influenza virus type reported by public health laboratories in the week ending Feb 17, 2018 was influenza A (H3).
- In Canada (week ending Feb 17, 2018), the overall influenza activity remained at peak levels. Activity was decreasing in some parts of the country but at the national level, the decline in activity has been slow. The overall percentage of tests positive for influenza was 33%. The percentage of tests positive for influenza A continued to decline slowly. The percentage of tests positive for influenza B continued to increase to 17% in week 07.
- In the United Kingdom (week ending Feb 18, 2018), influenza continued to circulate widely, although activity has now peaked. Influenza A and B were co-circulating. The positivity of influenza detection was 30.6% in the week ending Feb 18, 2018, above the baseline threshold of 8.6%.
- In Europe (week ending Feb 18, 2018), influenza activity was widespread in the majority of reporting countries. Both influenza A and B viruses were co-circulating with a higher proportion of type B viruses. 51% of sentinel specimens were tested positive for influenza virus. The detection decreased slightly compared to the previous week (53%).
- In Mainland China (week ending Feb 18, 2018), both southern and northern provinces were still in winter influenza season. Although the proportion of ILI cases in emergency and outpatient departments increased as a result of decreased number of patients attending hospitals during the Lunar New Year holiday, the proportion of influenza detections was on a decreasing trend. Currently the influenza activity in southern provinces was higher than that in northern provinces. The proportion of influenza A detection was higher than that of influenza B. Influenza A(H1N1) and influenza B Yamagata viruses are predominating while levels of influenza A(H3N2) and influenza B Victoria viruses remained low. In southern provinces, the proportion of ILI cases in emergency and outpatient departments reported by sentinel hospitals was 5.6%, higher than that reported in the previous week (4.3%) and that in the corresponding period in 2015-2017 (2.7%, 3.0%, 2.7%). In northern provinces, that proportion was 4.5%, higher than those reported in the previous week (3.6%) and the corresponding period in 2015-2017 (2.7%, 3.3%, 2.7%). The proportion of influenza detections in the week ending Feb 18, 2018 was 33.0% (62.7% influenza A and 37.3% influenza B).
- In Macau (as of Feb 27, 2018), the influenza activity has slowed down but remained at high level. The proportions of ILI cases in emergency departments among adults and children decreased. The proportion of influenza detections was 37.6%, lower than 46.7% in the previous week.
- In Taiwan (week ending Feb 24, 2018), influenza activity remained at the peak of the season. In the week ending Feb 24, the proportion of ILI cases in emergency department was 17.16% which was above the threshold of 11.4%. The predominating virus was influenza B.
- In Japan (week ending Feb 18, 2018), the influenza season has started in late November 2017. The average number of reported ILI cases per sentinel site has decreased to 29.65 in the week ending Feb 18, 2018 from 45.38 in the previous week. It was higher than the baseline level of 1.00. The predominating virus in the past five weeks was influenza B, followed by influenza A(H3N2) and A(H1N1)pdm09.

### 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](#), [Government Information Bureau of the Macao SAR](#), [Taiwan Centers for Disease Control](#) and [Japan Ministry of Health, Labour and Welfare](#).