

# 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 Mar 14, 2018)

**Reporting period: Mar 4 – 10, 2018 (Week 10)**

- The latest surveillance data showed that the overall influenza activity in Hong Kong has continued to decrease. Currently the predominating virus is influenza B, followed by influenza A(H1).
- 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 10, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPCs) was 6.8 ILI cases per 1,000 consultations, which was lower than 7.6 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private doctors was 40.2 ILI cases per 1,000 consultations, which was lower than 47.9 recorded in the previous week (Figure 1, right).

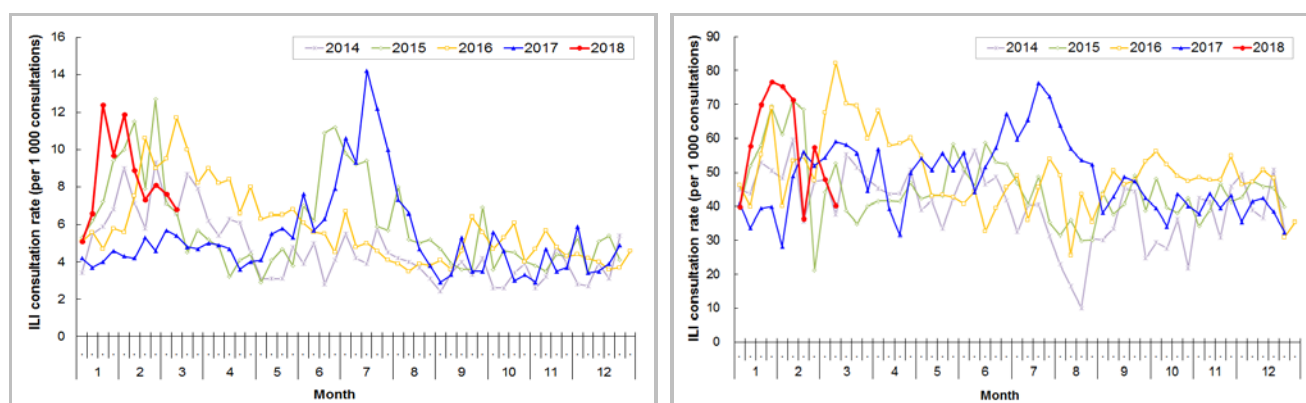


Figure 1 ILI consultation rate at sentinel GOPCs (left) and private doctors (right), 2014-18

## Laboratory surveillance, 2014-18

Among the respiratory specimens received in week 10, the positive percentage of seasonal influenza viruses was 16.96%, which was above the baseline threshold of 10.7% but lower than 21.16% recorded in the previous week (Figure 2). The 1081 influenza viruses detected last week included 327 (5.13%) influenza A(H1), 40 (0.63%) influenza A(H3), 691 (10.84%) influenza B and 23 (0.36%) influenza C.

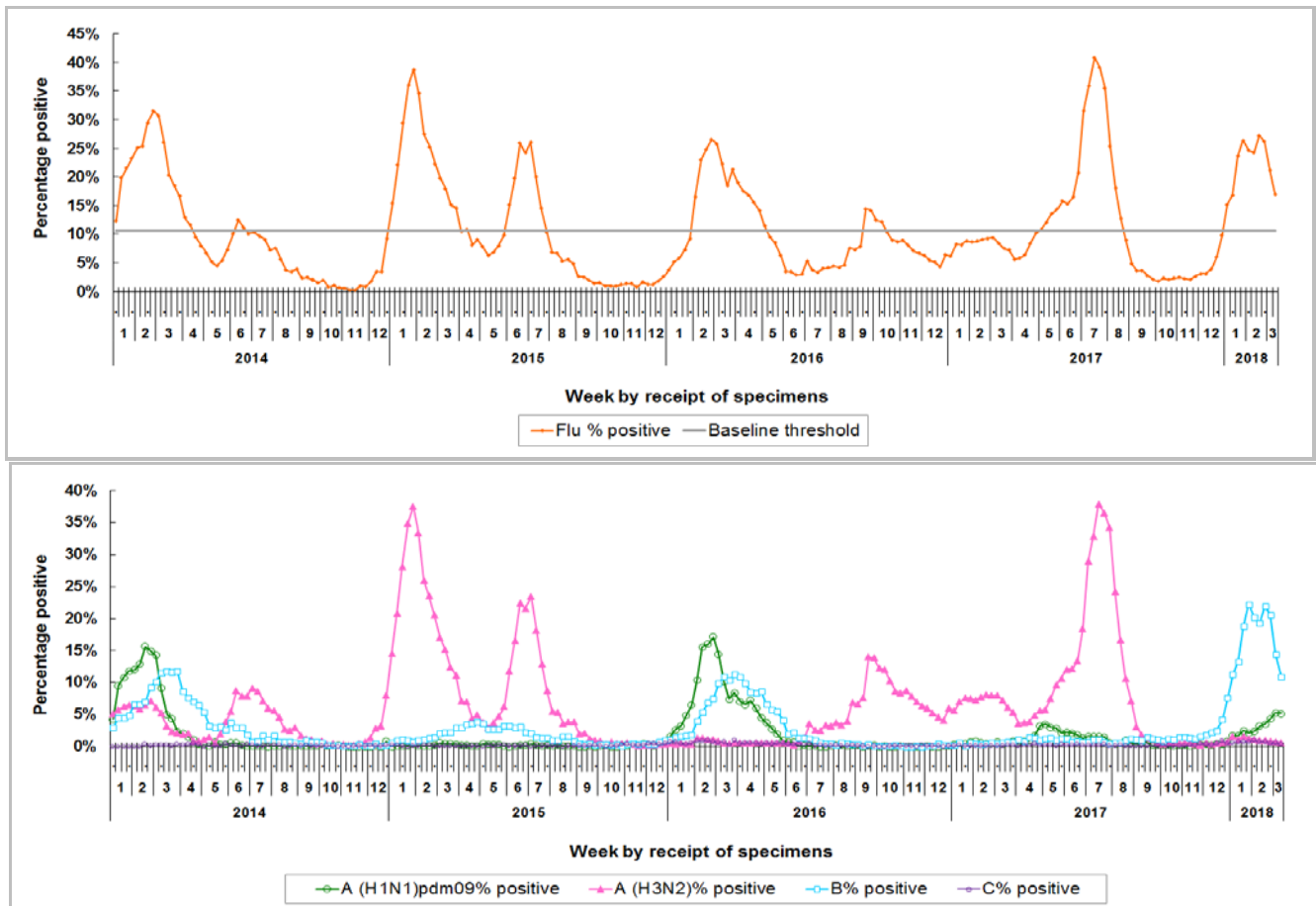


Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2014-18 (upper: overall positive percentage, lower: positive percentage by subtypes)

[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 10, 54 ILI outbreaks occurring in schools/institutions were recorded (affecting 255 persons), which was higher than 19 outbreaks recorded in the previous week (affecting 89 persons) (Figure 3). In the first 4 days of week 11 (Mar 11-14), 22 ILI outbreaks in schools/institutions were recorded (affecting 99 persons). Since the start of the 2017/18 winter influenza season in week 2, 577 outbreaks were recorded (as of Mar 14).

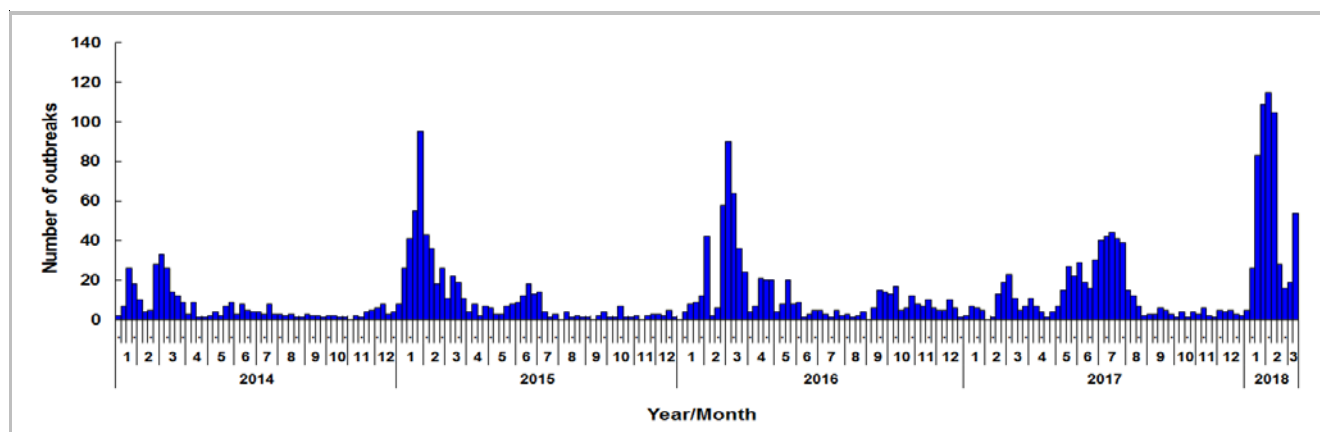


Figure 3 ILI outbreaks in schools/institutions, 2014-18

Type of institutions	Week 9	Week 10	Cumulative number of outbreaks since week 2 (as of Mar 14)
Kindergarten/ child care centre	8	24	218
Primary school	5	20	205
Secondary school	0	2	46
Residential care home for the elderly	5	6	67
Residential care home for the disabled	0	1	14
Others	1	1	27
<i>Total number of outbreaks</i>	19	54	577
<i>Total number of persons affected</i>	89	255	3927

In comparison, 348, 334 and 240 outbreaks were recorded in the same duration of surveillance (nine complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 555 outbreaks in the current season (Figure 4).

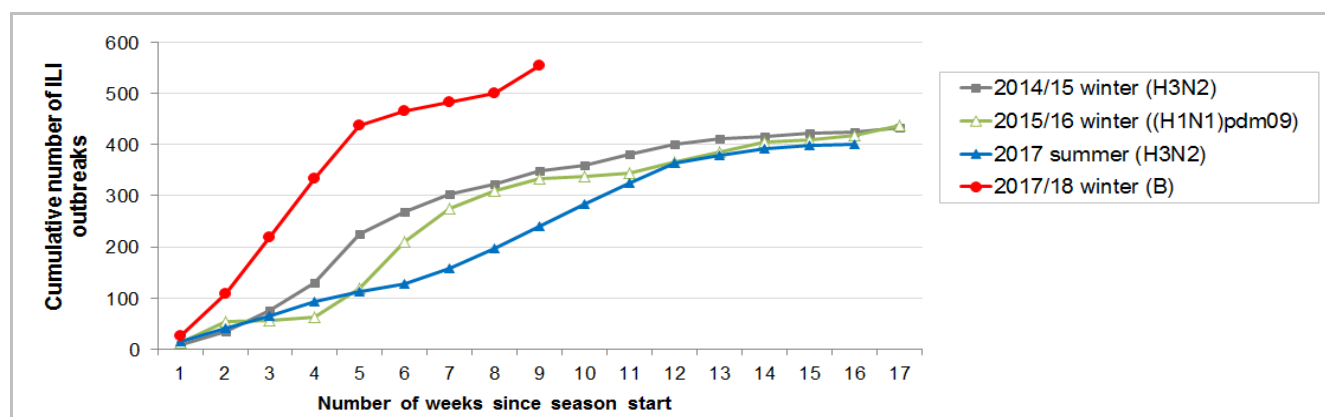


Figure 4 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2015-18

Note: The predominating virus was shown in bracket.

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

In week 10, the overall admission rate in public hospitals with principal diagnosis of influenza was 0.68 (per 10,000 population), which was above the seasonal threshold of 0.20 but lower than 1.10 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 4.70, 1.88, 0.23 and 1.55 cases (per 10,000 people in the age group) respectively, as compared to 6.44, 2.08, 0.37 and 2.96 cases in the previous week (Figure 5).

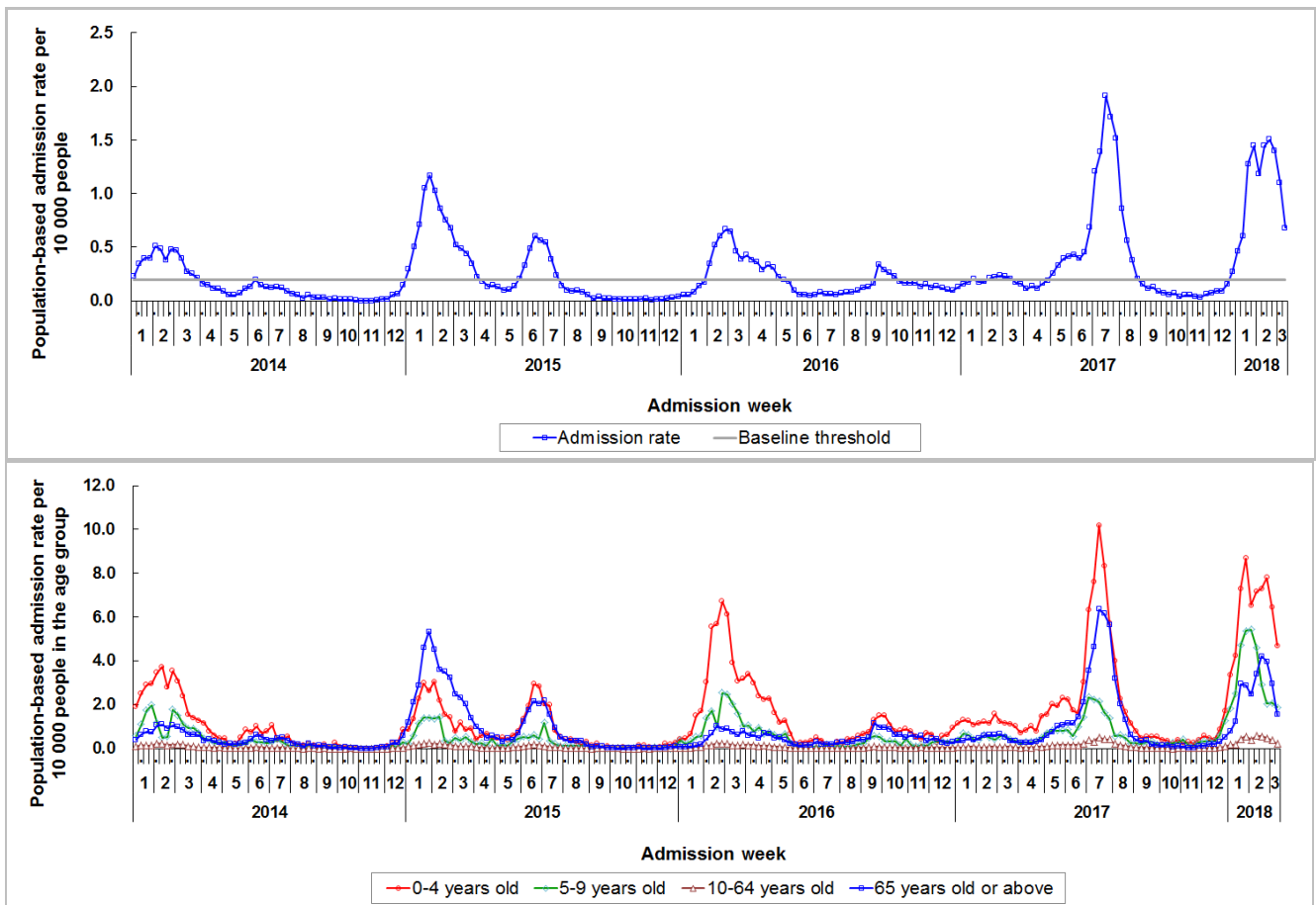


Figure 5 Influenza-associated hospital admission rates, 2014-18 (upper: overall rate, lower: rates by age groups)

[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 10, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 179.6 (per 1,000 coded cases), which was lower than the rate of 205.9 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.*

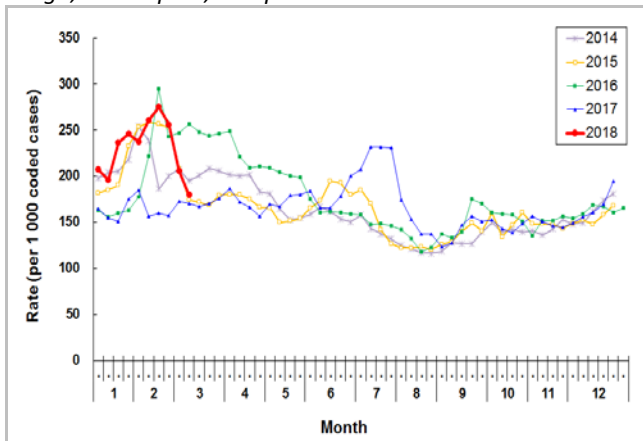


Figure 5 Rate of ILI syndrome group in AEDs, 2014-18

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

In week 10, 0.73% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 0.57% recorded in week 9 (Figure 6).

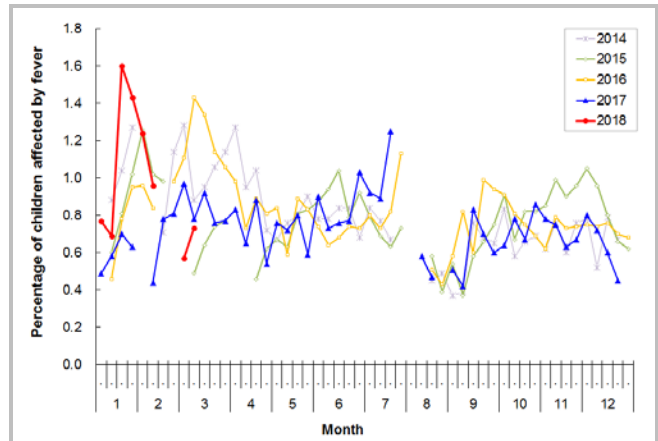


Figure 6 Percentage of children with fever at sentinel CCCs/KGs, 2014-18

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

In week 10, 0.10% of residents in the sentinel residential care homes for the elderly (RCHes) had fever (38°C or above), compared to 0.13% recorded in the previous week (Figure 7).

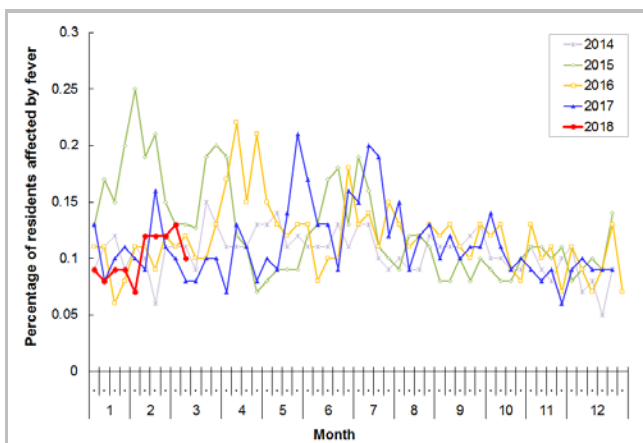


Figure 7 Percentage of residents with fever at sentinel RCHes, 2014-18

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

In week 10, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 2.28 ILI cases per 1,000 consultations as compared to 2.50 recorded in the previous week (Figure 8).

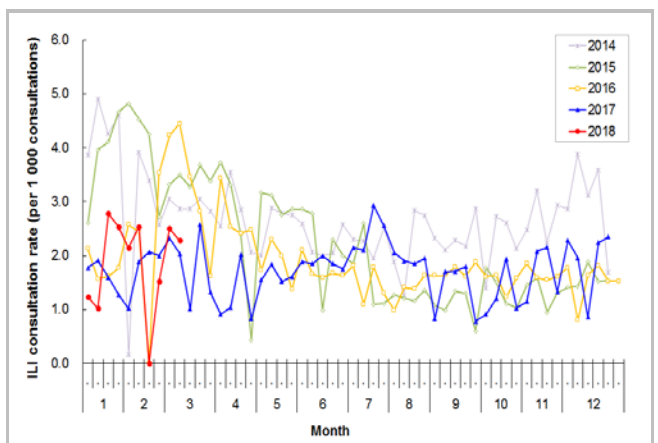


Figure 8 ILI consultation rate at sentinel CMPs, 2014-18

## 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 10, 30 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 22 of them were fatal. Nine of the 30 severe adult cases were known to have received the 2017/18 influenza vaccine. In the first 4 days of week 11 (Mar 11 to 14), 20 cases were recorded, in which 17 of them were fatal.

Week	Influenza type				
	A(H1)	A(H3)	B	C	A (pending subtype)
Week 10	5	3	19	1	2
First 4 days of week 11 (Mar 11 to 14)	3	1	15	0	1

- Since the start of the 2017/18 winter influenza season in week 2, 517 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 341 of them were fatal (as of Mar 14). Among them, 425 patients had infection with influenza B, 50 patients with influenza A(H1N1)pdm09, 28 patients with influenza A(H3N2), four patients with influenza C and ten patients with influenza A pending subtype.
- In comparison, 464, 292 and 181 adult cases were recorded in the same duration of surveillance (nine complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 497 cases in the current season (Figure 10, left). The corresponding figures for deaths were 357, 134 and 129 in the above seasons, as compared with 324 deaths in the current season (Figure 10, right).

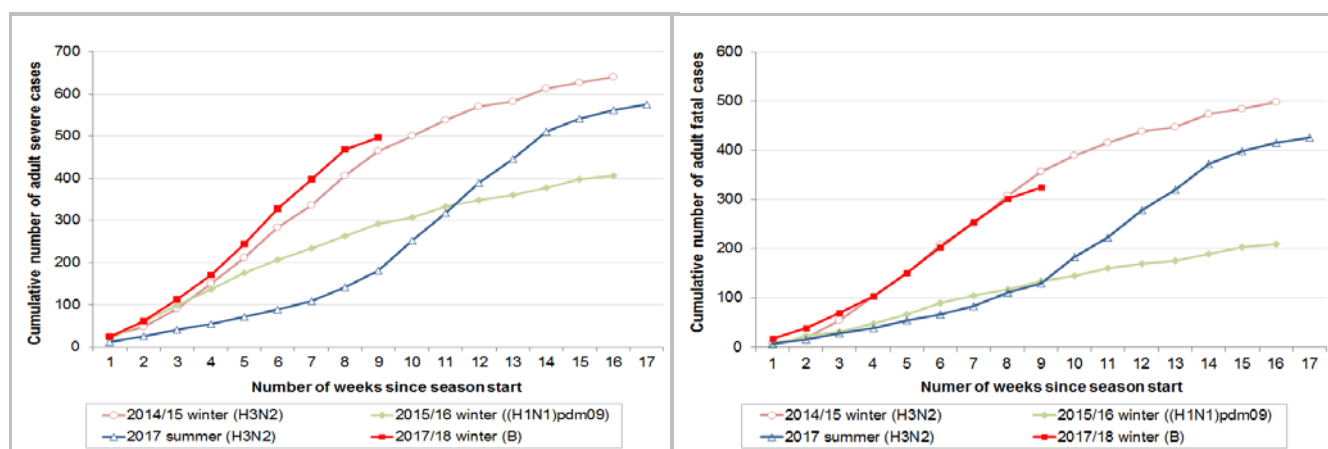


Figure 10 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2015–18 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 10 and the first 4 days of week 11 (Mar 11 to 14), there were four cases of severe paediatric influenza-associated complication.

Reporting week	Age	Sex	Complication	Fatal case?	Influenza subtype	History of receiving influenza vaccine for this season
10	10 years	Male	Encephalopathy	No	Influenza A (H1)	No
10	19 months	Male	Encephalopathy	No	Influenza B	No
11	8 years	Male	Encephalopathy	No	Influenza B	No
11	3 years	Female	Severe pneumonia	No	Influenza A (H1)	No

Data as of Mar 14, 2018

- In 2018, 19 paediatric cases of influenza-associated complication/death were recorded, in which two of them were fatal (as of March 14). 15 patients had infection with influenza B and four with influenza A(H1). 18 (94.7%) did not receive the influenza vaccine for the 2017/18 season.
- In comparison, 16, 17 and 10 paediatric cases of influenza-associated complication/death were recorded in the same duration of surveillance (nine complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 17 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).

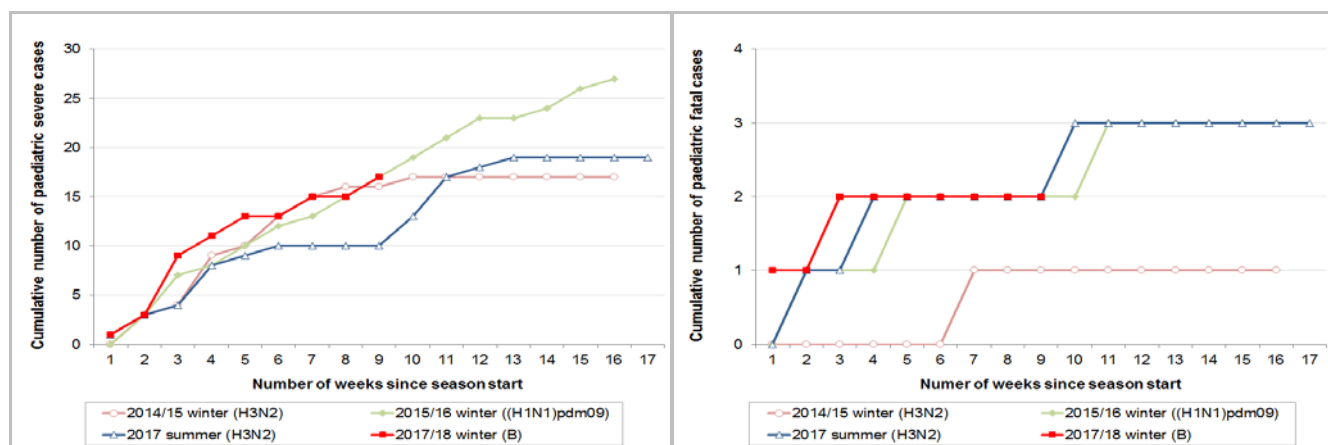


Figure 11 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2015–18 (left: complication/death cases; right: deaths)

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, 536 severe influenza cases among all ages have been reported, including 343 deaths (as of Mar 14).

Age group	Cumulative number of cases (death)
0-5	12 (2)
6-11	5 (0)
12-17	2 (0)
18-49	39 (7)
50-64	108 (39)
>=65	370 (295)

- Among the adult fatal cases, about 82% 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 Mar 14), 2.3% 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).

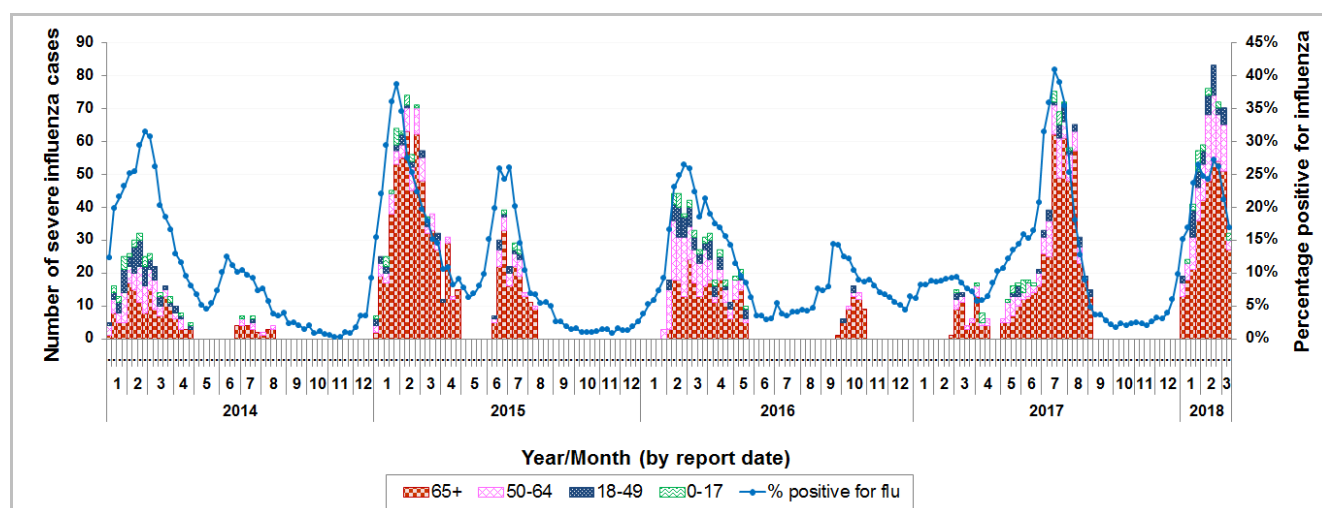


Figure 12 Weekly number of severe influenza cases by age groups, 2014-18 (the percentage positive for influenza viruses in Figure 2 is also shown in this graph)

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 10 and the first 4 days of week 11 (Mar 11 to 14), 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 Mar 3, 2018), influenza activity decreased. The proportion of outpatient visits for ILI was 3.7%, which was above the national baseline of 2.2%. Overall, influenza A(H3) viruses have predominated this season. However, in recent weeks the proportion of influenza A viruses has declined, and during week the week ending Mar 3, 2018, the numbers of influenza A and influenza B viruses reported were similar.
- In Canada (week ending Mar 3, 2018), Influenza activity is slowly decreasing in many parts of the country but remains high. The overall percentage of tests positive for influenza was 30%. Detections of influenza B continue to be greater than those of influenza A.
- In the United Kingdom (week ending Mar 4, 2018), influenza continued to circulate, although activity has now peaked. Influenza A and B were co-circulating. The positivity of influenza detection was 29.3% in the week ending Mar 4, 2018, above the baseline threshold of 8.6%.
- In Europe (week ending Mar 4, 2018), influenza continued to circulate widely in the region and some eastern European countries were experiencing a slow start. Both influenza A and B viruses were co-circulating with a higher proportion of type B viruses. 49% of sentinel specimens were tested positive for influenza virus, a slight decrease compared to the previous week (50%).
- In Macau (week ending Mar 3, 2018), the proportions of ILI cases in emergency departments among adults decreased, while that among children increased. The proportion of influenza detections was 38.2%, higher than that in the previous week (37.6%), but lower than the peak in week 4 (54.1%).
- In Taiwan (week ending Mar 10, 2018), influenza activity was gradually slowing down, but was still at the seasonal level. In the week ending Mar 10, the proportion of ILI cases in emergency department was 12.90% which was above the threshold of 11.4%. The predominating virus was influenza B.
- In Japan (week ending Mar 4, 2018), the influenza season has started in late November 2017. The average number of reported ILI cases per sentinel site has decreased to 17.42 in the week ending Mar 4, 2018 from 22.64 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](#), [Health Bureau of Macao Special Administrative Region](#), [Taiwan Centers for Disease Control](#) and [Japan Ministry of Health, Labour and Welfare](#).