

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 Jan 24, 2018)

Reporting period: Jan 14 – 20, 2018 (Week 3)

- The latest surveillance data showed that the local influenza activity increased markedly to a high level. 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).

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

In week 3, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPCs) was 12.4 ILI cases per 1,000 consultations, which was higher than 6.6 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private doctors was 70.0 ILI cases per 1,000 consultations, which was higher than 57.8 recorded in the previous week (Figure 1, right).

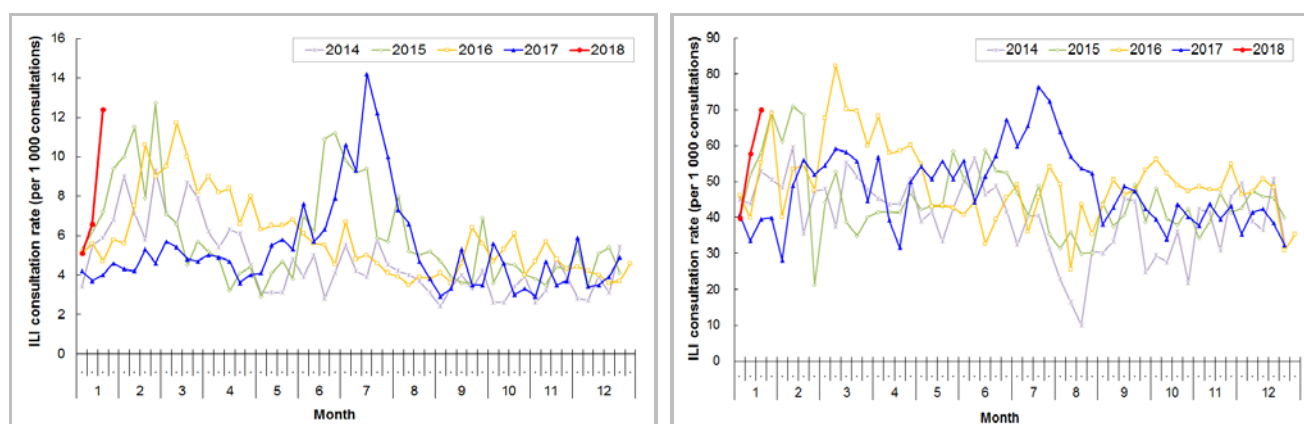


Figure 1 ILI consultation rate at sentinel GOPCs (left) and private doctors (right), 2014-18

Laboratory surveillance, 2014-18

Among the respiratory specimens received in week 3, the positive percentage of seasonal influenza viruses was 23.56%, which was above the baseline threshold of 10.7% and higher than 16.83% recorded in the previous week (Figure 2). The 1691 influenza viruses detected last week included 179 (2.49%) influenza A(H1), 118 (1.64%) influenza A(H3), 1340 (18.67%) influenza B and 54 (0.75%) influenza C.

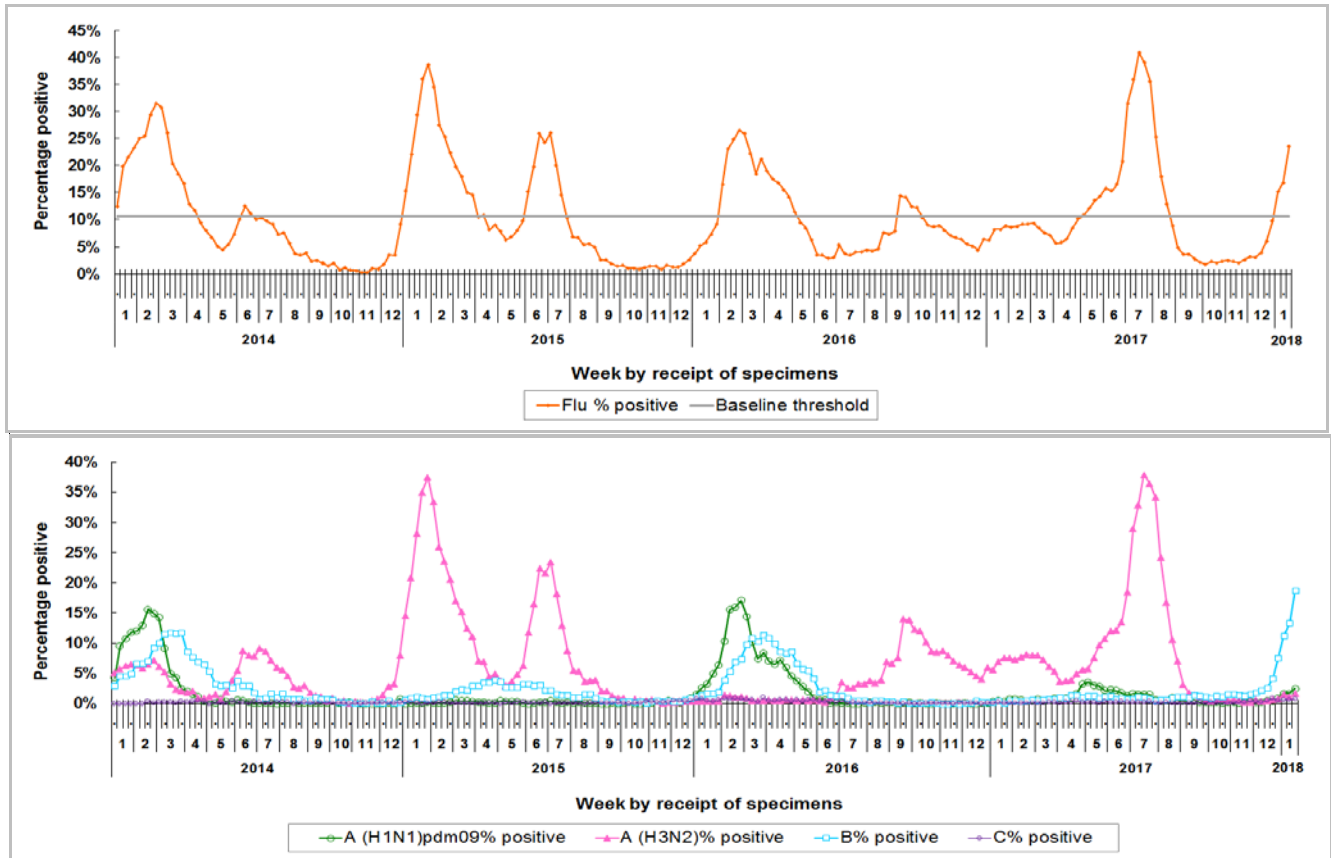


Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2014-18 (upper: overall positive percentage, lower: positive percentage by subtypes)

[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 3, 82 ILI outbreaks occurring in schools/institutions were recorded (affecting 557 persons), which was much higher than 26 outbreaks recorded in the previous week (affecting 190 persons) (Figure 3). In the first 4 days of week 4 (Jan 21-24, 2018), 72 ILI outbreaks in schools/institutions were recorded (affecting 364 persons). Since the start of the 2017/18 winter influenza season in week 2, 180 outbreaks were recorded (as of January 24).

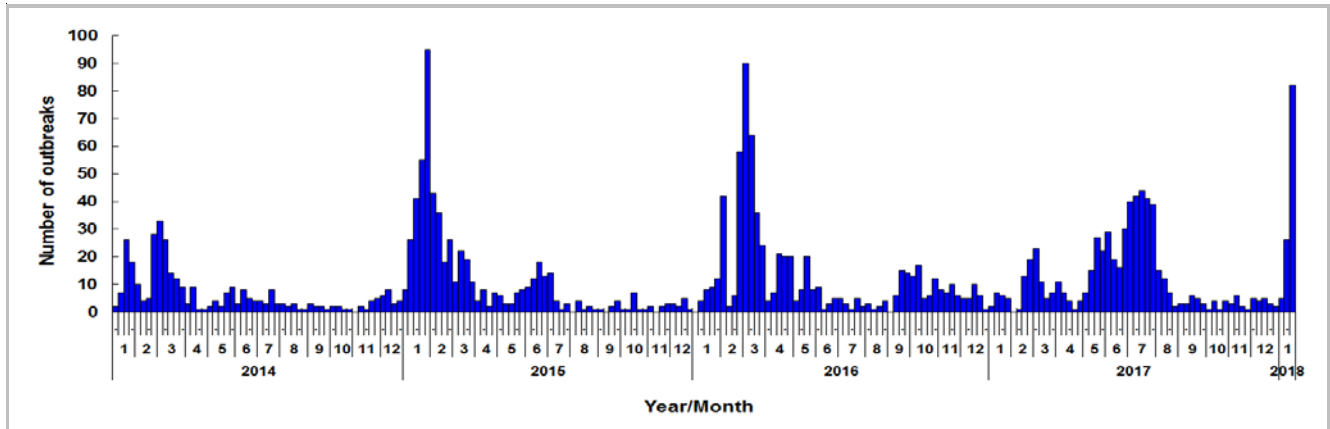


Figure 3 ILI outbreaks in schools/institutions, 2014-18

Type of institutions	Week 2	Week 3	Cumulative number of outbreaks since week 2 (as of January 24)
Kindergarten/ child care centre	8	33	68
Primary school	16	36	81
Secondary school	0	2	9
Residential care home for the elderly	1	4	5
Residential care home for the disabled	0	3	5
Others	1	4	12
<i>Total number of outbreaks</i>	26	82	180
<i>Total number of persons affected</i>	190	557	1111

In comparison, 34, 54 and 42 outbreaks were recorded in the same duration of surveillance (two complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 108 outbreaks in the current season (Figure 4).

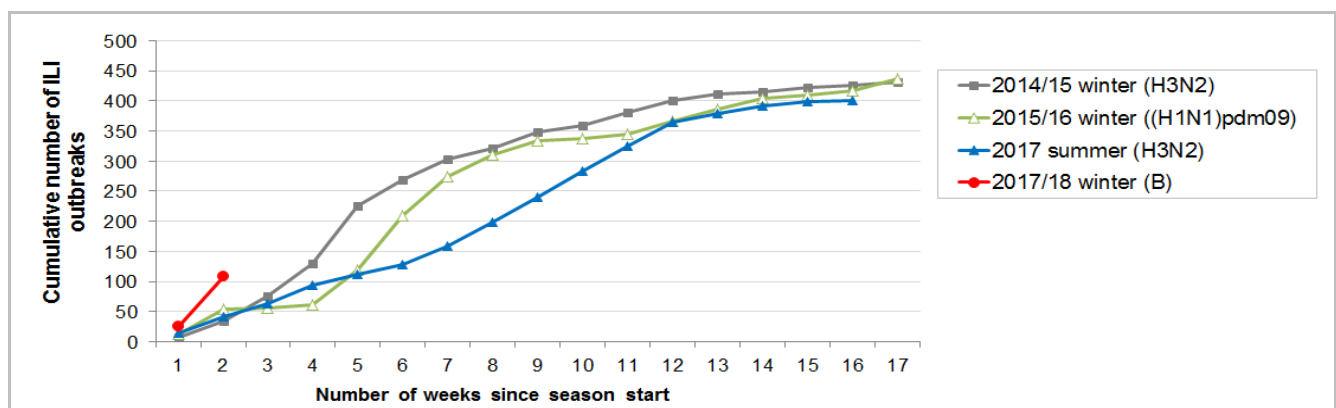


Figure 4 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2015-18

Note: The predominating virus was shown in bracket.

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

In week 3, the overall admission rate in public hospitals with principal diagnosis of influenza was 1.14 (per 10,000 population), which was above the seasonal threshold of 0.20 and higher than 0.60 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 6.91, 4.51, 0.38 and 2.44 cases (per 10,000 people in the age group) respectively, as compared to 4.34, 2.50, 0.18 and 1.19 cases in the previous week (Figure 5).

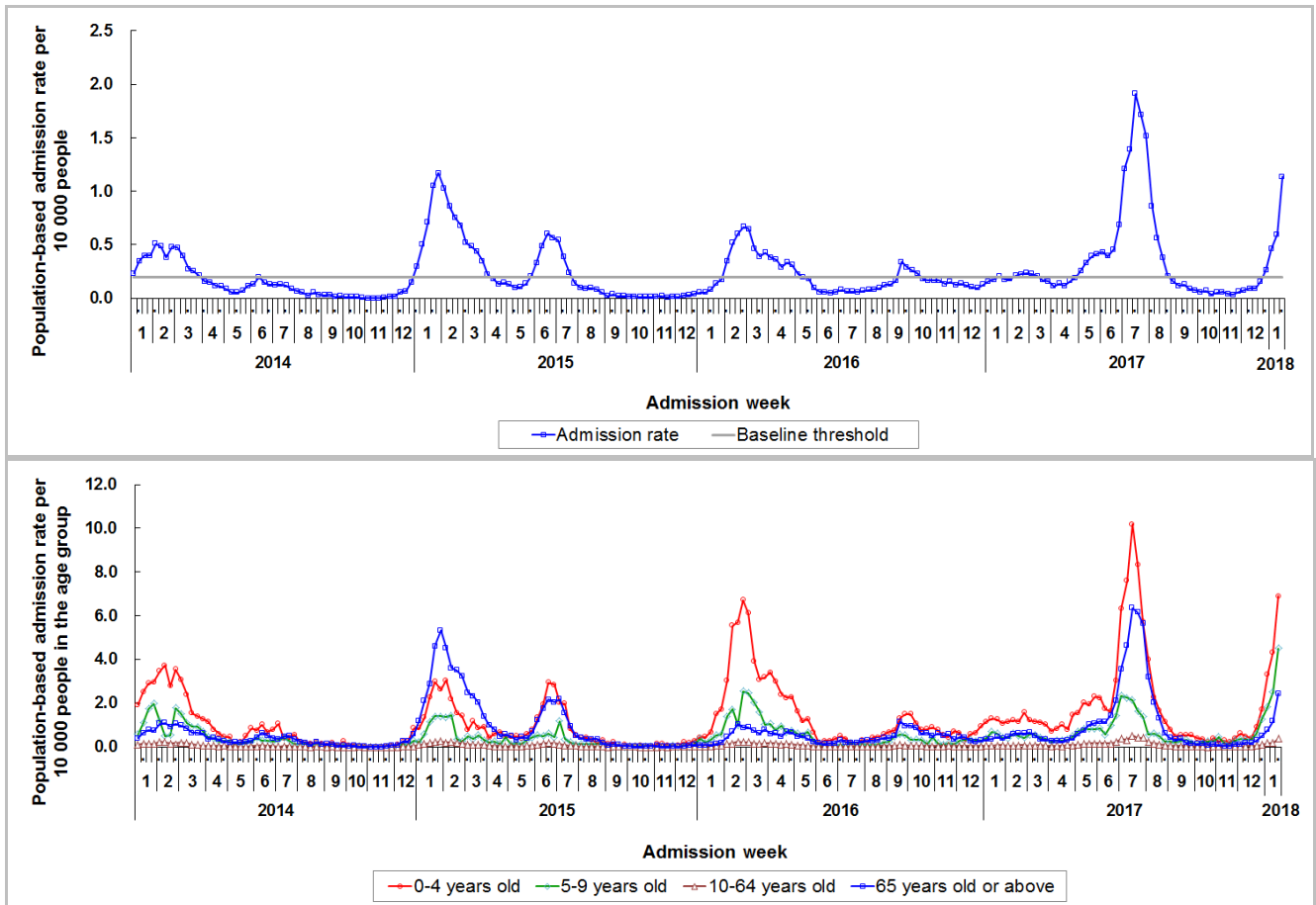


Figure 5 Influenza-associated hospital admission rates, 2014-18 (upper: overall rate, lower: rates by age groups)

[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[#]

In week 3, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 238.1 (per 1,000 coded cases), which was higher than the rate of 197.5 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.

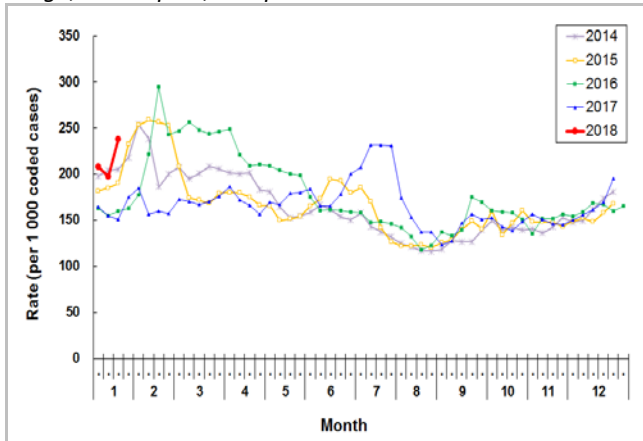


Figure 5 Rate of ILI syndrome group in AEDs, 2014-18

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

In week 3, 1.60% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 0.69% recorded in the previous week (Figure 6).

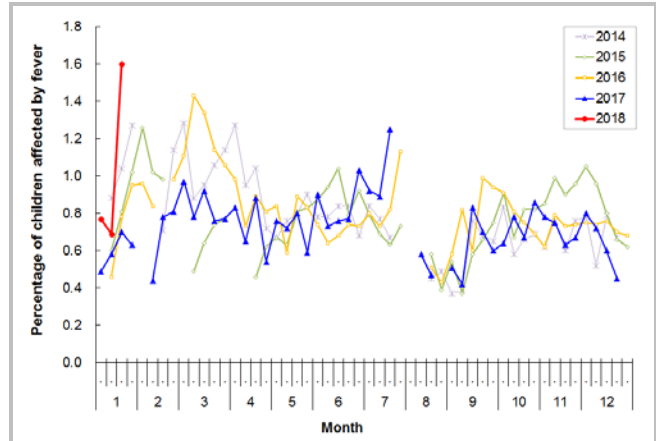


Figure 6 Percentage of children with fever at sentinel CCCs/KGs, 2014-18

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

In week 3, 0.09% of residents in the sentinel residential care homes for the elderly (RCHes) had fever (38°C or above) as compared to 0.08% recorded in the previous week (Figure 7).

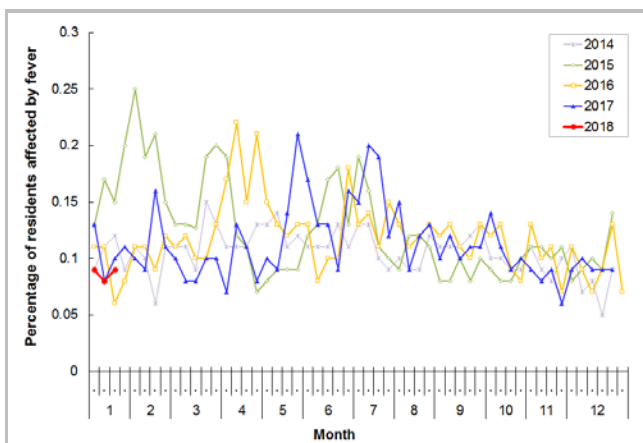


Figure 7 Percentage of residents with fever at sentinel RCHes, 2014-18

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

In week 3, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 2.78 ILI cases per 1,000 consultations as compared to 1.02 recorded in the previous week (Figure 8).

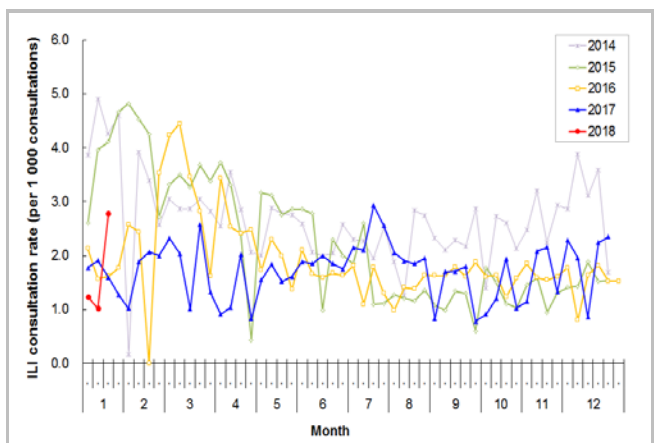


Figure 8 ILI consultation rate at sentinel CMPs, 2014-18

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 3, 39 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 18 of them were fatal. Eight of the 39 severe adult cases were known to have received the 2017/18 influenza vaccine. In the first 4 days of week 4 (Jan 21 to 24), 26 cases were recorded, in which 13 of them were fatal.

Week	Influenza type				
	A(H1)	A(H3)	B	C	A (pending subtype)
Week 3	1	2	34	0	2
First 4 days of week 4 (Jan 21 to 24)	0	1	23	0	2

- Since the start of the 2017/18 winter influenza season in week 2, 88 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 46 of them were fatal (as of January 24). Among them, 74 patients had infection with influenza B, six patients with influenza A(H1N1)pdm09, four patients with influenza A(H3N2) and four patients with influenza A pending subtype.
- In comparison, 47, 59 and 25 adult cases were recorded in the same duration of surveillance (two complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 62 cases in the current season (Figure 10, left). The corresponding figures for deaths were 19, 23 and 16 in the above seasons, as compared with 33 deaths in the current season (Figure 10, right).

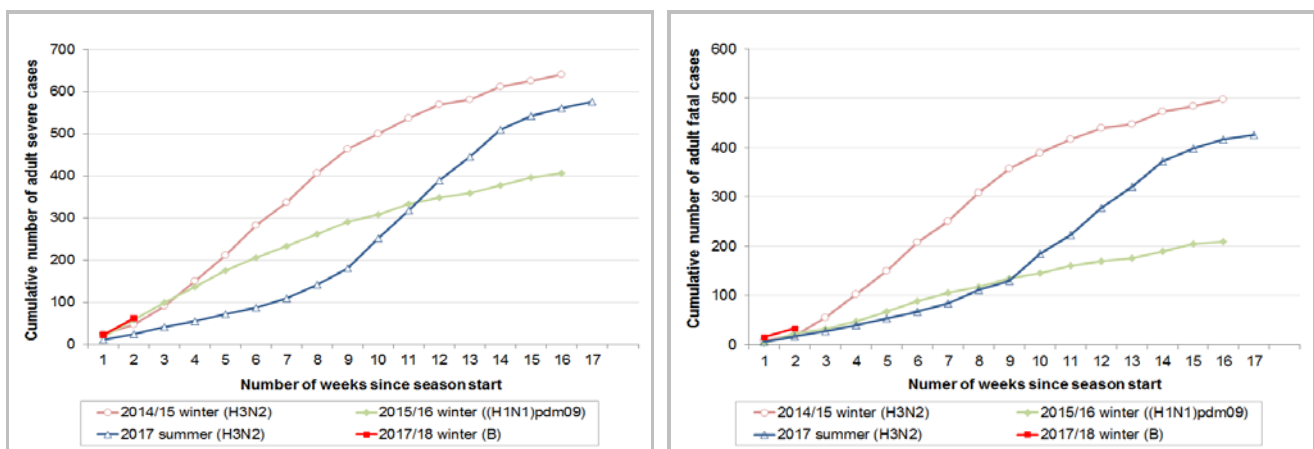


Figure 10 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2015–18 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 3 and the first 4 days of week 4 (Jan 21 to 24), there were three cases of severe paediatric influenza-associated complication.

Reporting week	Age	Sex	Complication	Fatal case?	Influenza subtype	History of receiving influenza vaccine for this season
3	3 years	Male	Pneumonia and septic shock	No	Influenza B	No
3	15 years	Female	Encephalopathy	No	Influenza B	Yes
4	4 years	Female	Status epilepticus	No	Influenza A(H1)	No

Data as of Jan 24, 2018

- In 2018, four paediatric cases of influenza-associated complication/death were recorded, in which one of them was fatal (as of January 24). Three patients had infection with influenza B and one with influenza A(H1). Three (75%) did not receive the influenza vaccine for the 2017/18 season.
- In comparison, 3, 3 and 3 paediatric cases of influenza-associated complication/death were recorded in the same duration of surveillance (two complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with three cases in the current season (Figure 11, left). The corresponding figures for deaths were 0, 1 and 1 in the above seasons, as compared with one death in current season (Figure 11, right).

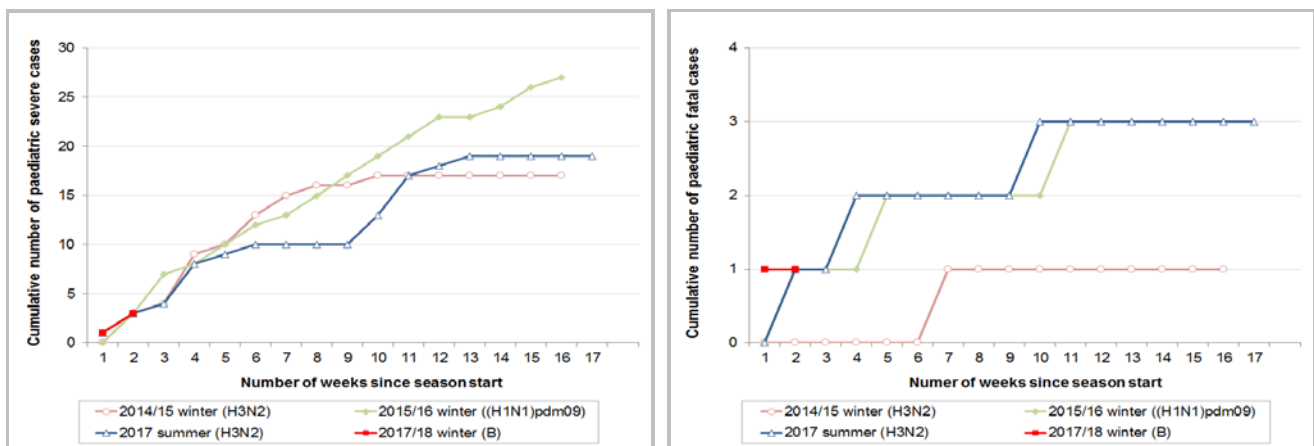


Figure 11 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2015–18 (left: complication/death cases; right: deaths)

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, 92 severe influenza cases among all ages have been reported, including 47 deaths (as of January 24).
- Among patients with laboratory confirmation of influenza admitted to public hospitals in this season (from January 7 to 24), 1.3% of admitted cases died during the same episode of admission. So far, it was below the historical range between 1.9% (2015/16 winter season) and 3.3% (2015 summer season).

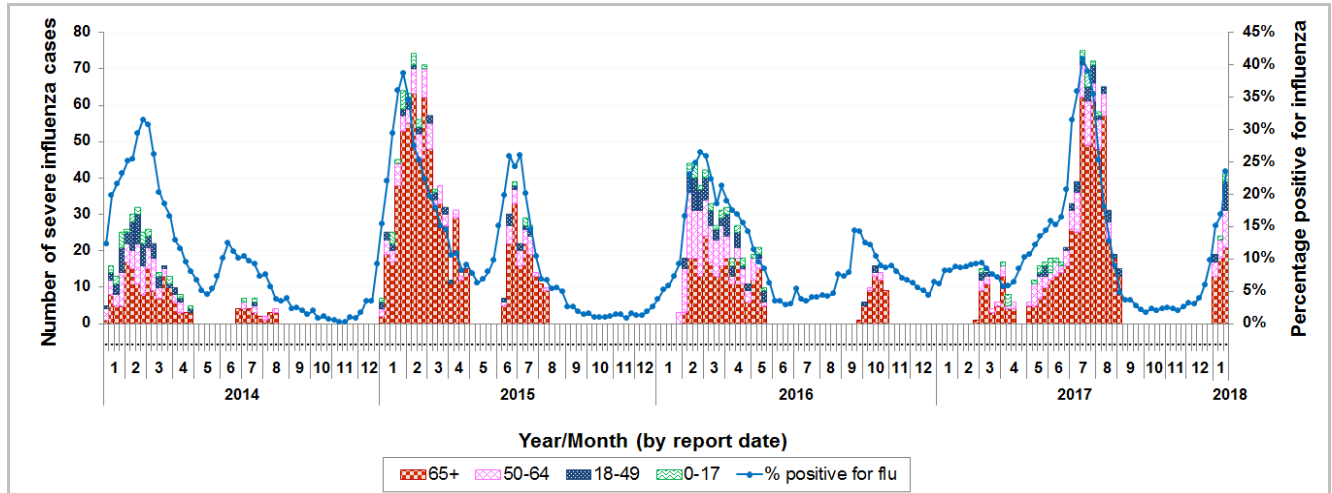


Figure 12 Weekly number of severe influenza cases by age groups, 2014-18 (the percentage positive for influenza viruses in Figure 2 is also shown in this graph)

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 3 and the first 4 days of week 4 (Jan 21 to 24), 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 continued to increase 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 (62%) but influenza B (mostly from the Yamagata lineage) has increased proportionally.

- In the United States (week ending Jan 13, 2018), influenza activity increased. The proportion of outpatient visits for ILI was 6.3%, 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 Jan 13, 2018 was influenza A (H3).
- In Canada (week ending Jan 13, 2018), the overall influenza activity remained high. The proportion of tests positive for influenza increased slightly from 29% in week 1 to 30% in week 2. The proportion of influenza detections that are influenza B has been increasing since week 43 last year. In week 2, 63% of detections were influenza A and 37% influenza B.
- In the United Kingdom (week ending Jan 14, 2018), influenza activity continues to increase across several surveillance indicators although there are signs that some are stabilising. Influenza A and B are co-circulating. The positivity of influenza detection was 27.3% in the week ending Jan 14, 2018, above the baseline threshold of 8.6%.
- In Europe (week ending Jan 14, 2018), influenza activity was increasing in countries in northern, southern and western Europe. Both influenza A and B viruses were co-circulating. 46% of sentinel specimens were tested positive for influenza virus, similar to the previous weeks (42-50%).
- In Mainland China (week ending Jan 14, 2018), the influenza activity in both southern and northern provinces was at the seasonal level for winter influenza season, but the increasing trend slowed down. In southern provinces, the proportion of ILI cases in emergency and outpatient departments reported by sentinel hospitals was 6.0%, same as that reported in the previous week but higher than that in the corresponding period in 2015-2017 (2.9%, 3.2%, 3.1%). In northern provinces, that proportion was 5.5%, lower than that reported in the previous week (5.7%) but higher than that in the corresponding period in 2015-2017 (3.5%, 3.2%, 3.6%). The proportion of influenza detections in the week ending January 14, 2018 was 45.2%. The most common influenza virus detected currently was influenza B.
- In Macau (week ending Jan 13, 2018), the proportions of ILI cases in emergency departments among adults decreased, while that among children increased. The proportion of influenza detections was 38.4%, higher than 33.9% in the previous week.
- Taiwan (week ending Jan 20, 2018) was at the peak of the influenza season. In the week ending January 20, the proportion of ILI cases in emergency department was 14.32% which was above the threshold of 11.4%. The predominating virus was influenza B.
- In Japan (week ending Jan 14, 2018), the influenza season has started in late November 2017. The average number of reported ILI cases per sentinel site increased to 26.44 in the week ending January 14, 2018, which was higher than the baseline level of 1.00. The most frequently identified influenza virus type in the past five weeks was influenza A(H1N1)pdm09, followed by influenza B and A(H3N2).

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 Centers for Disease Control](#) and [Japan Ministry of Health, Labour and Welfare](#).