

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 31, 2018)

Reporting period: Jan 21 – 27, 2018 (Week 4)

- The latest surveillance data showed that the local influenza activity continued to increase and remained at 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 4, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPCs) was 9.7 ILI cases per 1,000 consultations, which was lower than 12.4 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private doctors was 76.8 ILI cases per 1,000 consultations, which was higher than 70.0 recorded in the previous week (Figure 1, right).

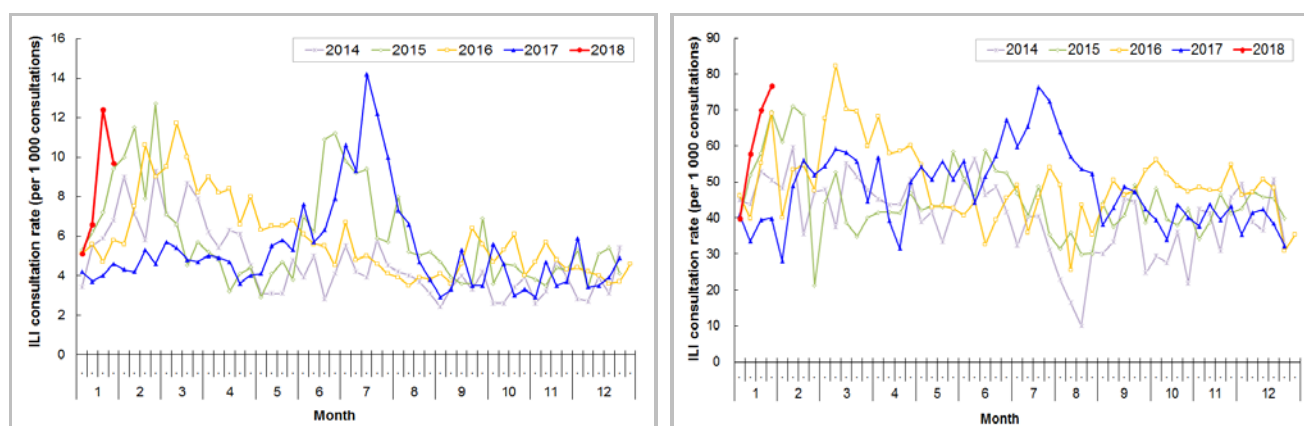


Figure 1 ILI consultation rate at sentinel GOPCs (left) and private doctors (right), 2014-18

Laboratory surveillance, 2014-18

Among the respiratory specimens received in week 4, the positive percentage of seasonal influenza viruses was 26.29%, which was above the baseline threshold of 10.7% and higher than 23.65% recorded in the previous week (Figure 2). The 1988 influenza viruses detected last week included 162 (2.14%) influenza A(H1), 94 (1.24%) influenza A(H3), 1676 (22.16%) influenza B and 56 (0.74%) influenza C.

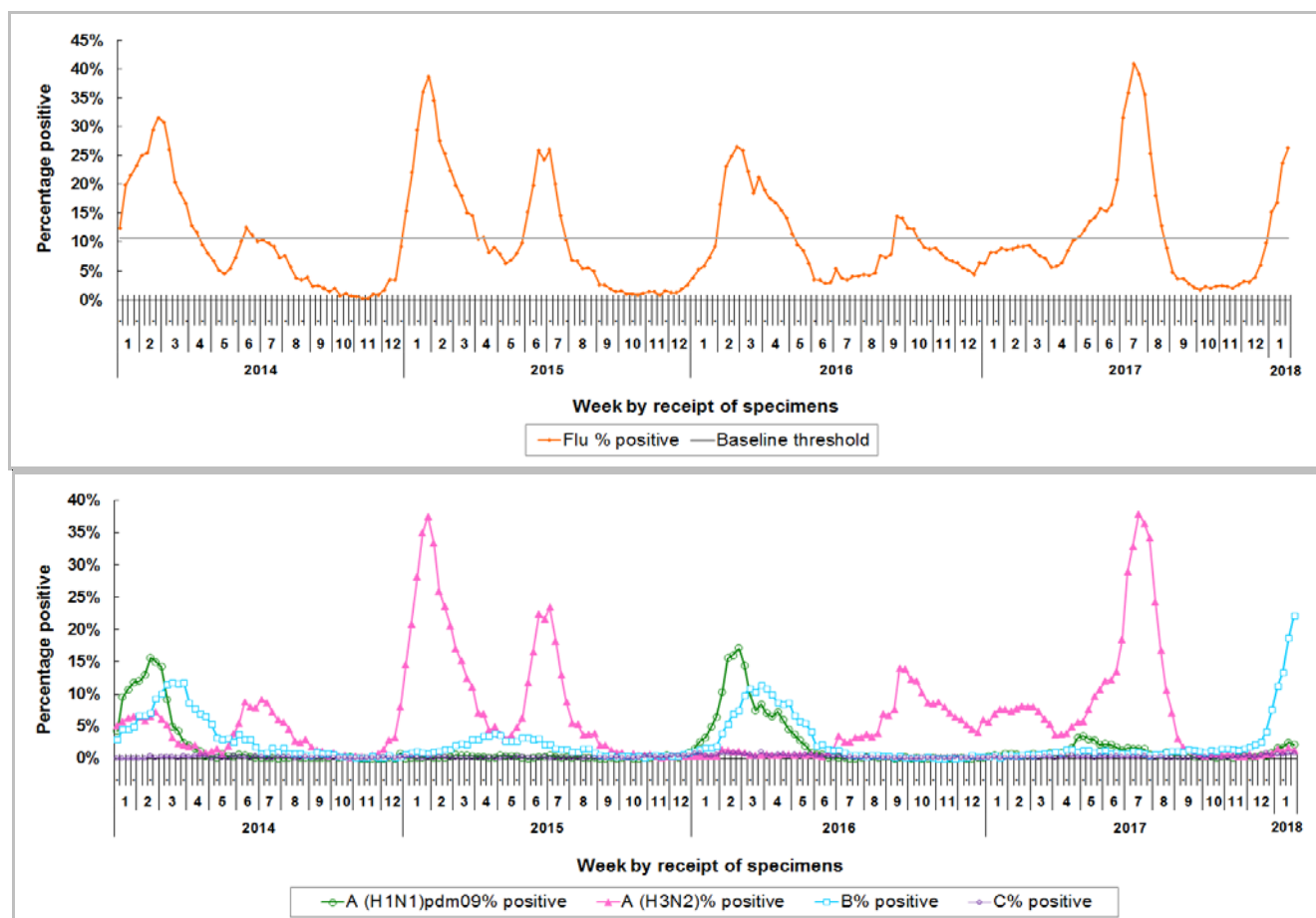


Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2014-18 (upper: overall positive percentage, lower: positive percentage by subtypes)

[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 4, 109 ILI outbreaks occurring in schools/institutions were recorded (affecting 671 persons), which was higher than 83 outbreaks recorded in the previous week (affecting 646 persons) (Figure 3). In the first 4 days of week 5 (Jan 28-31, 2018), 81 ILI outbreaks in schools/institutions were recorded (affecting 403 persons). Since the start of the 2017/18 winter influenza season in week 2, 299 outbreaks were recorded (as of January 31).

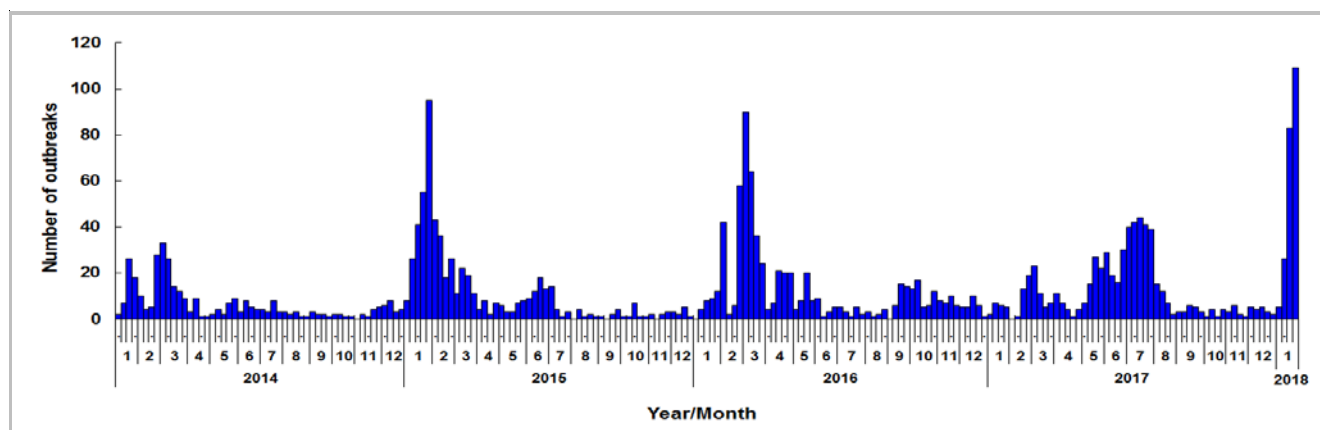


Figure 3 ILI outbreaks in schools/institutions, 2014-18

Type of institutions	Week 3	Week 4	Cumulative number of outbreaks since week 2 (as of January 31)
Kindergarten/ child care centre	33	39	132
Primary school	37	46	121
Secondary school	2	9	14
Residential care home for the elderly	4	3	10
Residential care home for the disabled	3	2	5
Others	4	10	17
<i>Total number of outbreaks</i>	83	109	299
<i>Total number of persons affected</i>	646	671	1944

In comparison, 75, 56 and 64 outbreaks were recorded in the same duration of surveillance (three complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 218 outbreaks in the current season (Figure 4).

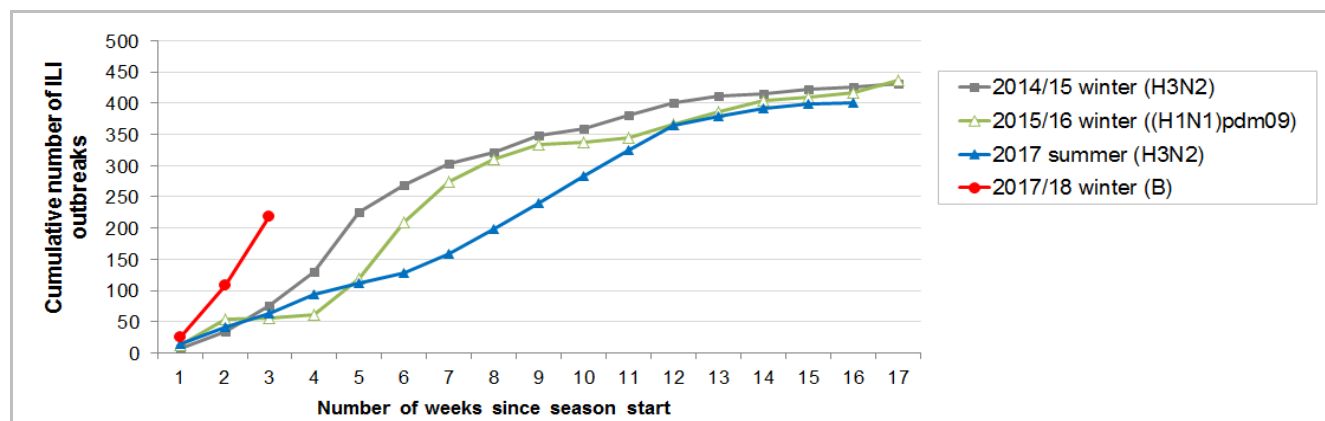


Figure 4 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2015-18

Note: The predominating virus was shown in bracket.

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

In week 4, the overall admission rate in public hospitals with principal diagnosis of influenza was 1.31 (per 10,000 population), which was above the seasonal threshold of 0.20 and higher than 1.27 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 8.42, 5.27, 0.53 and 2.28 cases (per 10,000 people in the age group) respectively, as compared to 7.45, 4.71, 0.42 and 2.87 cases in the previous week (Figure 5).

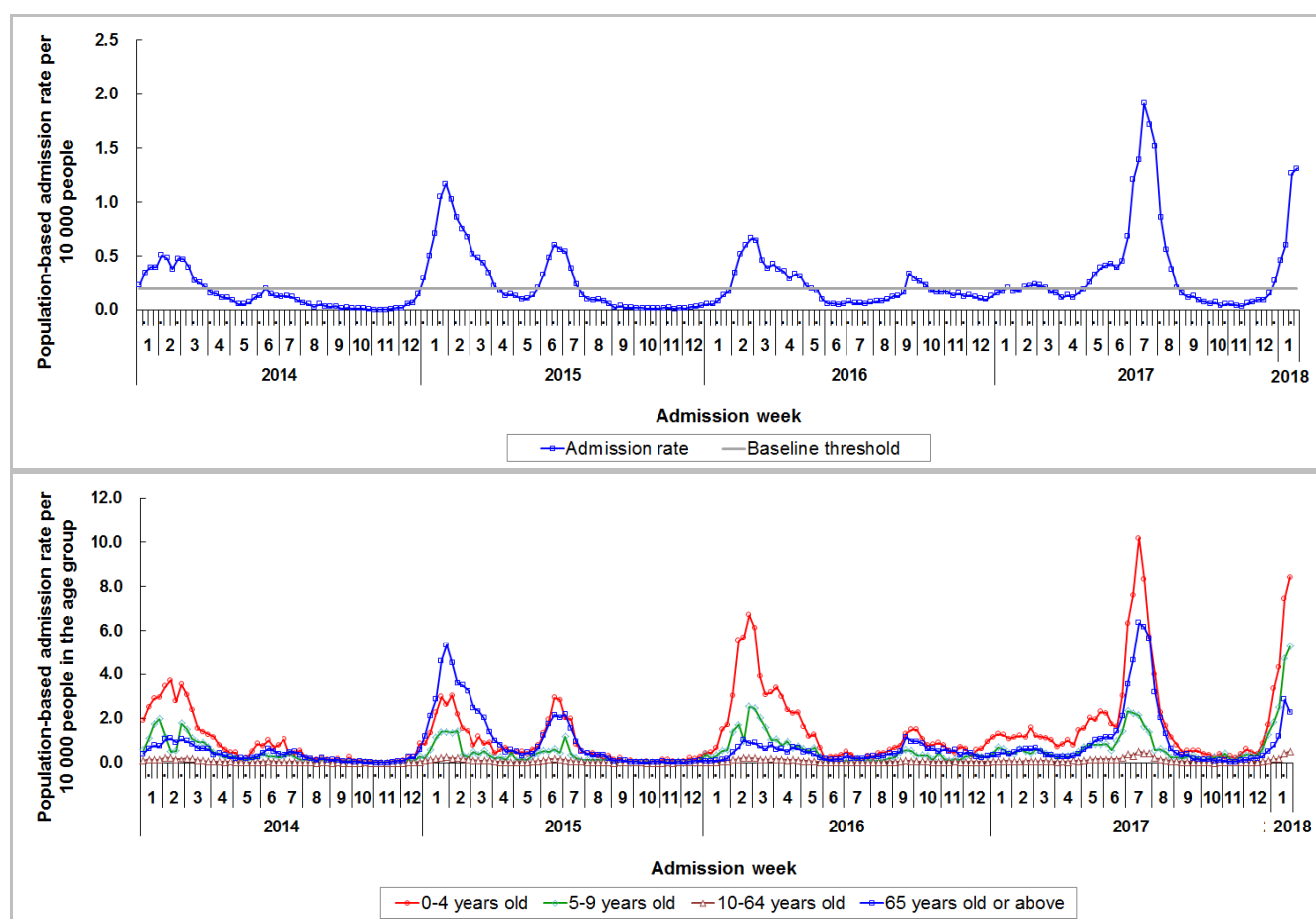


Figure 5 Influenza-associated hospital admission rates, 2014-18 (upper: overall rate, lower: rates by age groups)

[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 4, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 247.5 (per 1,000 coded cases), which was higher than the rate of 237.2 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.

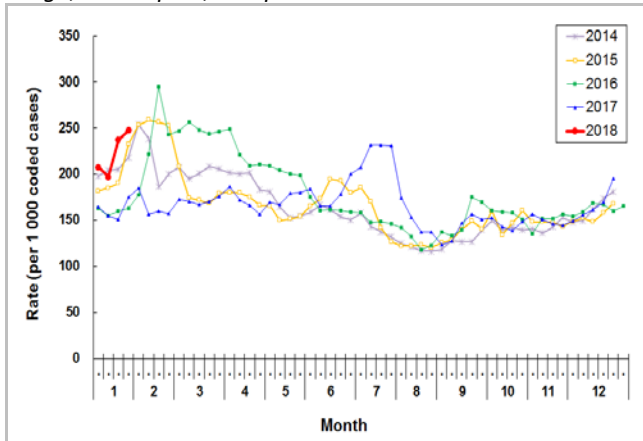


Figure 5 Rate of ILI syndrome group in AEDs, 2014-18

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

In week 4, 1.43% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 1.60% recorded in the previous week (Figure 6).

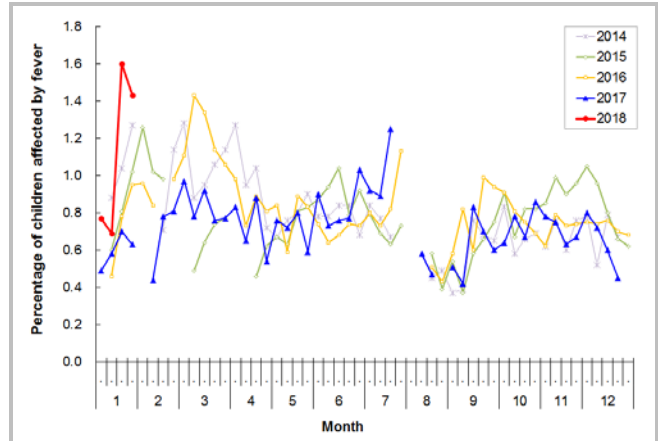


Figure 6 Percentage of children with fever at sentinel CCCs/KGs, 2014-18

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

In week 4, 0.09% of residents in the sentinel residential care homes for the elderly (RCHes) had fever (38°C or above), same as 0.09% recorded in the previous week (Figure 7).

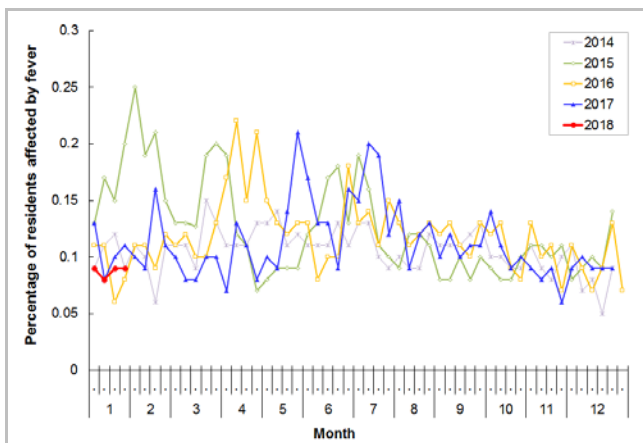


Figure 7 Percentage of residents with fever at sentinel RCHes, 2014-18

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

In week 4, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 2.54 ILI cases per 1,000 consultations as compared to 2.78 recorded in the previous week (Figure 8).

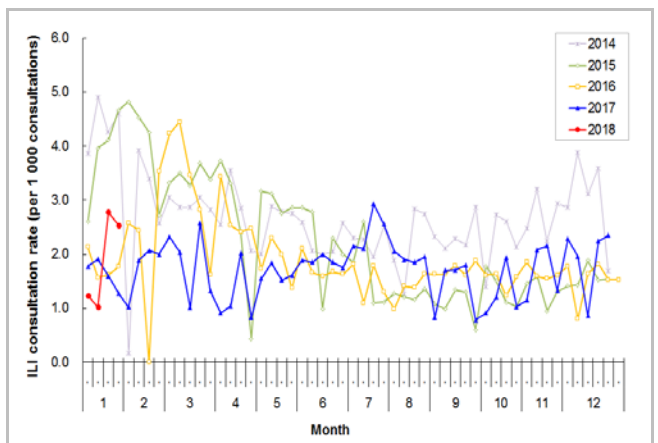


Figure 8 ILI consultation rate at sentinel CMPs, 2014-18

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 4, 51 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 29 of them were fatal. 12 of the 51 severe adult cases were known to have received the 2017/18 influenza vaccine. In the first 4 days of week 5 (Jan 28 to 31), 34 cases were recorded, in which 15 of them were fatal.

Week	Influenza type				
	A(H1)	A(H3)	B	C	A (pending subtype)
Week 4	0	3	46	0	2
First 4 days of week 5 (Jan 28 to 31)	3	0	30	0	1

- Since the start of the 2017/18 winter influenza season in week 2, 147 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 81 of them were fatal (as of January 31). Among them, 127 patients had infection with influenza B, nine patients with influenza A(H1N1)pdm09, six patients with influenza A(H3N2) and five patients with influenza A pending subtype.
- In comparison, 91, 99 and 41 adult cases were recorded in the same duration of surveillance (three complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 113 cases in the current season (Figure 10, left). The corresponding figures for deaths were 55, 32 and 28 in the above seasons, as compared with 66 deaths in the current season (Figure 10, right).

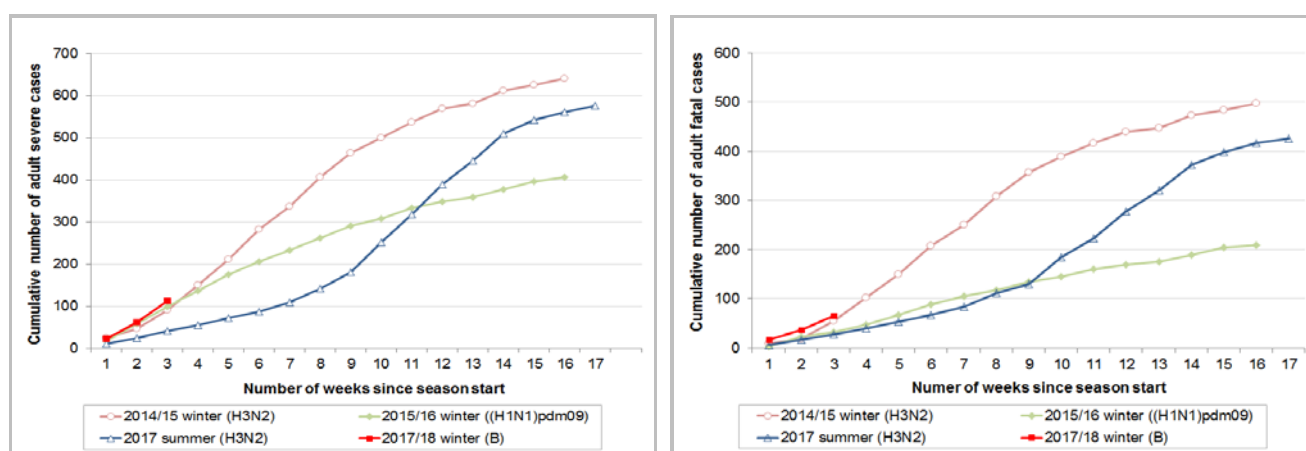


Figure 10 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2015–18 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 4 and the first 4 days of week 5 (Jan 28 to 31), there were eight cases of severe paediatric influenza-associated complication/death.

Reporting week	Age	Sex	Complication	Fatal case?	Influenza subtype	History of receiving influenza vaccine for this season
4	4 years	Female	Status epilepticus	No	Influenza A(H1)	No
4	5 years	Male	Encephalopathy	Yes	Influenza B	No
4	6 years	Female	Severe pneumonia	No	Influenza B	No
4	5 years	Male	Encephalopathy and invasive pneumococcal disease	No	Influenza B	No
4	9 years	Male	Septic shock	No	Influenza B	No
4	2 years	Female	Status epilepticus	No	Influenza B	No
5	3 years	Male	Severe pneumonia and empyema	No	Influenza B	No
5	15 years	Female	Septic shock	No	Influenza B	No

Data as of Jan 31, 2018

- In 2018, 11 paediatric cases of influenza-associated complication/death were recorded, in which two of them were fatal (as of January 31). Ten patients had infection with influenza B and one with influenza A(H1). Ten (90.9%) did not receive the influenza vaccine for the 2017/18 season.
- In comparison, 4, 7 and 4 paediatric cases of influenza-associated complication/death were recorded in the same duration of surveillance (three complete weeks) in the 2014/15 winter, 2015/16 winter and 2017 summer seasons respectively, as compared with 9 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 2 deaths in current season (Figure 11, right).

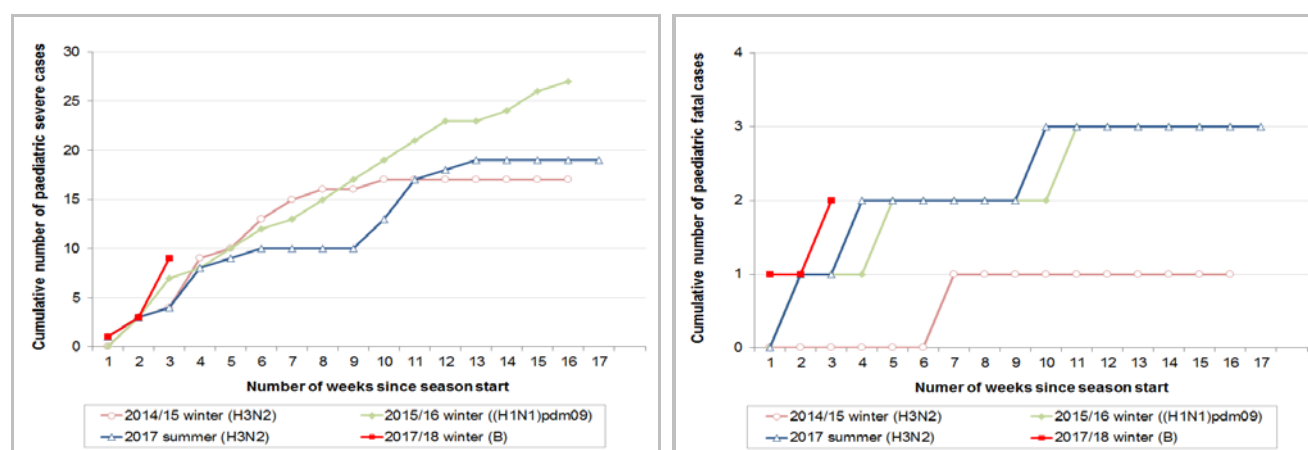


Figure 11 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2015–18 (left: complication/death cases; right: deaths)

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, 158 severe influenza cases among all ages have been reported, including 83 deaths (as of January 31).
- Among patients with laboratory confirmation of influenza admitted to public hospitals in this season (from January 7 to 31), 1.5% 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).

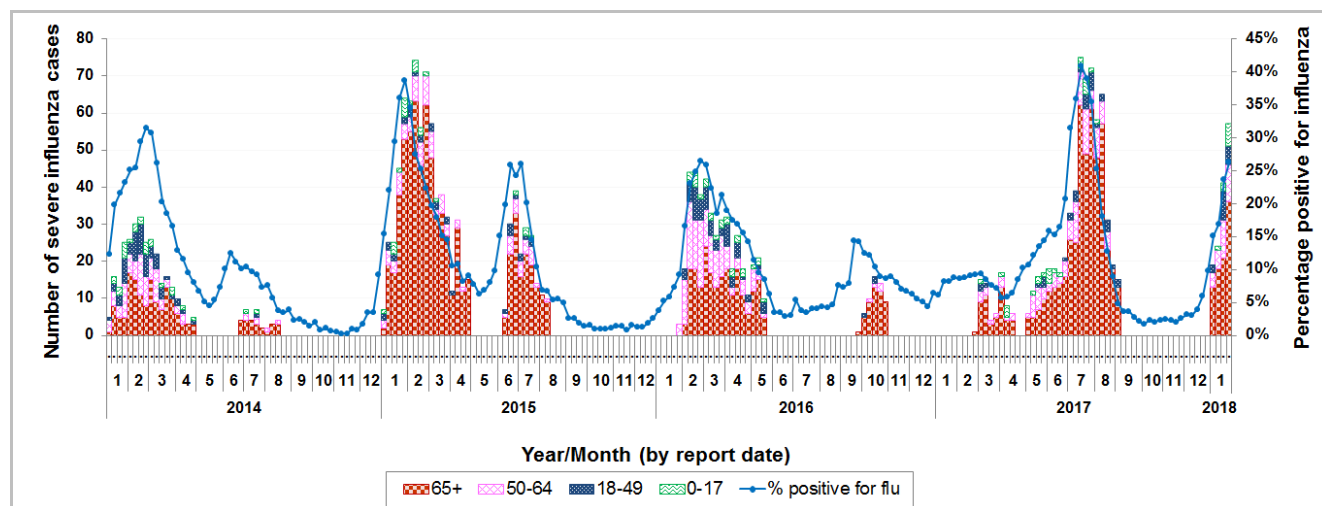


Figure 12 Weekly number of severe influenza cases by age groups, 2014-18 (the percentage positive for influenza viruses in Figure 2 is also shown in this graph)

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 4 and the first 4 days of week 5 (Jan 28 to 31), 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 20, 2018), influenza activity increased. The proportion of outpatient visits for ILI was 6.6%, 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 20, 2018 was influenza A (H3).
- In Canada (week ending Jan 20, 2018), the overall influenza activity remained high but there is some indication that activity is starting to slow down. The proportion of tests positive for influenza increased slightly from 29% in week 2 to 31% in week 3. The percentage of laboratory test positive for influenza B continued to increase while the percentage of laboratory test positive for influenza A remained stable. The majority of influenza detections continue to be A(H3N2), although 40% of detections were influenza B in week 3.
- In the United Kingdom (week ending Jan 21, 2018), influenza activity is starting to stabilise. Influenza A and B are co-circulating. The positivity of influenza detection was 28.1% in the week ending Jan 21, 2018, above the baseline threshold of 8.6%.
- In Europe (week ending Jan 21, 2018), influenza activity was widespread in the majority of reporting countries, while increasing activity was observed in eastern European countries. Both influenza A and B viruses were co-circulating with a higher proportion of type B viruses. 52% of sentinel specimens were tested positive for influenza virus, a slight increase compared to recent weeks (42-50%).
- In Mainland China (week ending Jan 21, 2018), the influenza activity in both southern and northern provinces was at the seasonal level for winter influenza season. The activity in northern provinces has been decreasing in the past two weeks while that in southern provinces is still on an increasing trend. In southern provinces, the proportion of ILI cases in emergency and outpatient departments reported by sentinel hospitals was 6.7%, higher than that reported in the previous week (6.0%) and those in the corresponding period in 2015-2017 (3.0%, 3.3%, 2.8%). In northern provinces, that proportion was 5.2%, lower than that reported in the previous week (5.5%) but higher than those in the corresponding period in 2015-2017 (3.6%, 3.5%, 3.4%). The proportion of influenza detections in the week ending January 21, 2018 was 47.0% (53.6% influenza A and 46.4% influenza B).
- In Macau (week ending Jan 27, 2018), the proportions of ILI cases in emergency departments among adults and children increased. The proportion of influenza detections was 54.9%, higher than 44.6% in the previous week.
- Taiwan (week ending Jan 27, 2018) was at the peak of the influenza season. In the week ending January 27, the proportion of ILI cases in emergency department was 14.64% which was above the threshold of 11.4%. The predominating virus was influenza B.
- In Japan (week ending Jan 21, 2018), the influenza season has started in late November 2017. The average number of reported ILI cases per sentinel site markedly increased to 51.93 in the week ending January 21, 2018 from the previous week (26.44), which was higher than the baseline level of 1.00. The proportions of detection for influenza A(H1N1)pdm09 and B in the past five weeks were similar, then followed by influenza 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](#).