

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 20, 2019)

Reporting period: Feb 10 – 16, 2019 (Week 7)

- The latest surveillance data showed that the local influenza activity has continued to decrease from the peak level in January but remained above the baseline threshold. Currently the predominating virus is influenza A(H1).
- As this winter influenza season is expected to last for some time, all persons aged six months or above (except those with known contraindications) who have not yet received the seasonal influenza vaccine for this season are recommended to get vaccinated for personal protection as soon as possible, in particular, children, people aged 50 to 64 years, the elderly and those with underlying illnesses.
- In the 2018/19 season, the Vaccination Subsidy Scheme (VSS) has been expanded to cover those aged 50 to 64 to receive subsidised seasonal influenza vaccination. It also 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. Under the Government Vaccination Programme (GVP), eligible groups for free vaccination are the same as that of 2017/18. VSS and GVP have been launched on Oct 10 and Oct 24, 2018 respectively. 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 medical practitioners, 2015-19

In week 7, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPC) was 7.2 ILI cases per 1,000 consultations, which was lower than 8.1 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private medical practitioners (PMP) was 29.0 ILI cases per 1,000 consultations, which was higher than 26.8 recorded in the previous week (Figure 1, right).

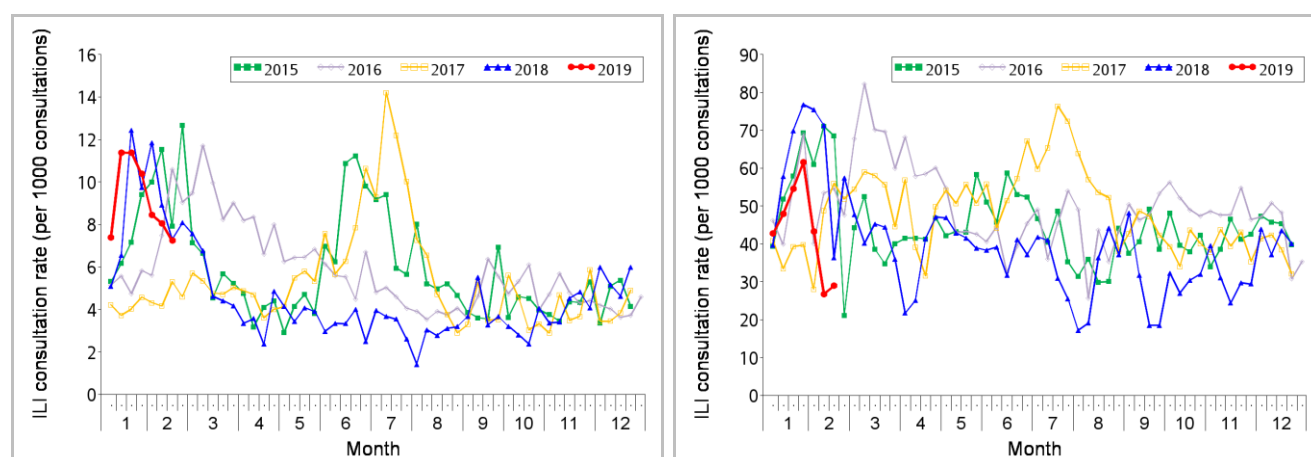


Figure 1 ILI consultation rate at sentinel GOPC (left) and PMP (right), 2015-19

Laboratory surveillance, 2015-19

Among the respiratory specimens received in week 7, the positive percentage of seasonal influenza viruses was 15.72%, which was above the baseline threshold of 10.3% but was lower than 16.73% recorded in the previous week (Figure 2). The 1002 influenza viruses detected last week included 763 (11.97%) influenza A(H1), 219 (3.44%) influenza A(H3), 16 (0.25%) influenza B and 4 (0.06%) influenza C.

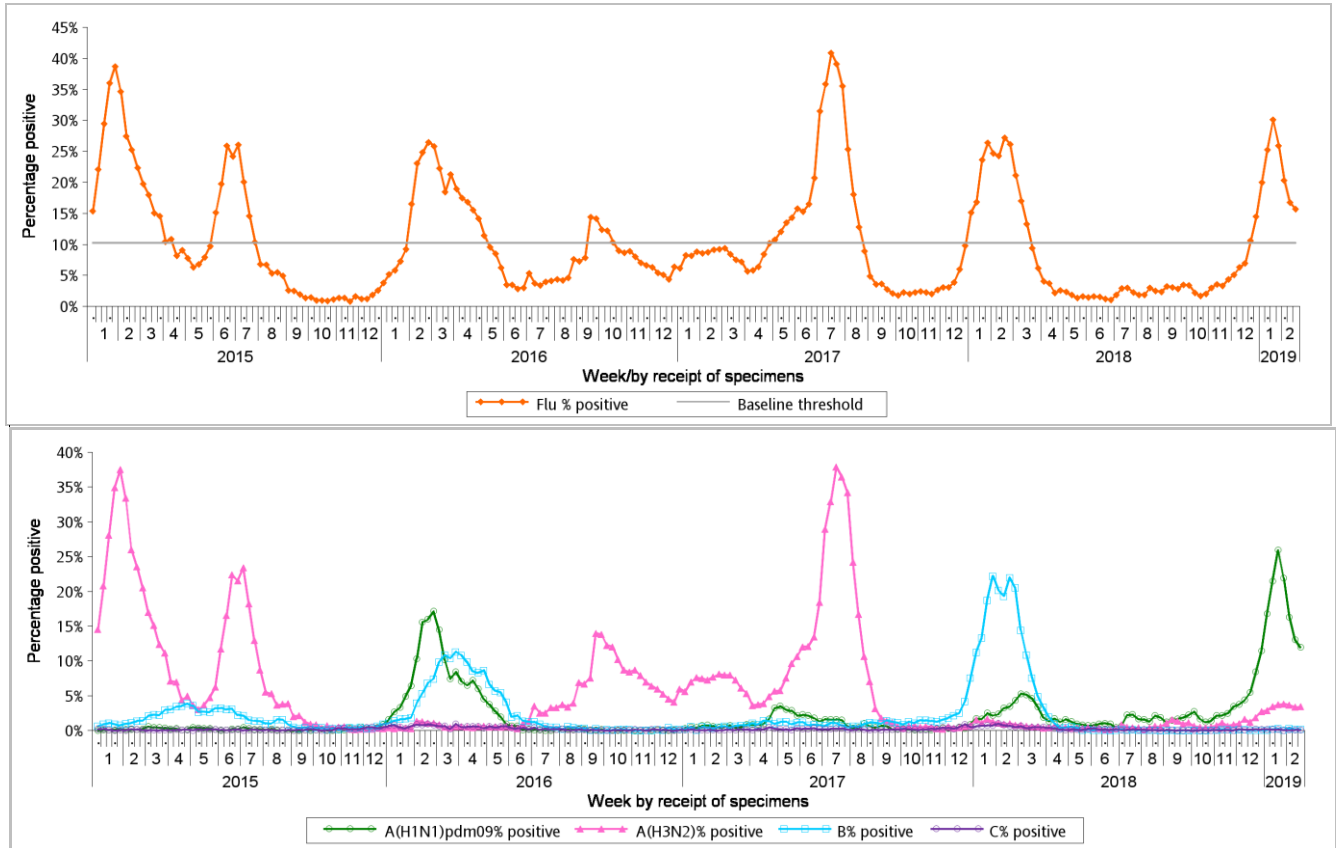


Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2015-19 (upper: overall positive percentage, lower: positive percentage by subtypes)

[Note: The baseline threshold is 1.96 standard deviation above the average weekly positive percentage during non-season periods from 2014-2018.]

Influenza-like illness outbreak surveillance, 2015-19

In week 7, ten ILI outbreaks occurring in schools/institutions were recorded (affecting 49 persons), as compared to four outbreaks recorded in the previous week (affecting 13 persons) (Figure 3). The overall number was at the low intensity level currently (Figure 4*). In the first 4 days of week 8 (Feb 17 to 20), 27 ILI outbreaks in schools/institutions were recorded (affecting 125 persons). Since the start of the 2018/19 winter influenza season in week 1, 616 outbreaks were recorded (as of February 20).

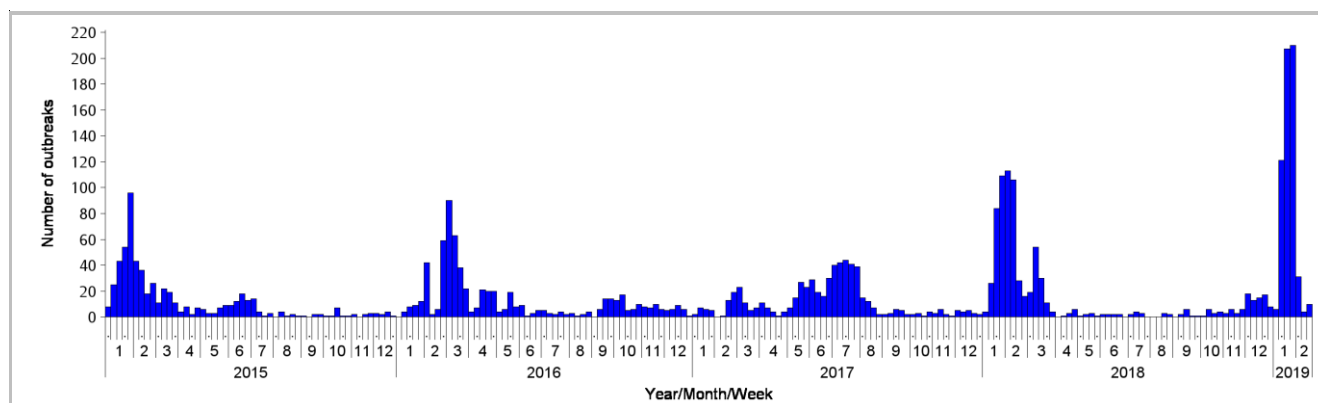


Figure 3 ILI outbreaks in schools/institutions, 2015-19

Type of institutions	Week 6	Week 7	Cumulative number of outbreaks since week 1 (as of February 20)
Kindergarten/ child care centre (KG/CCC)	0	1	411
Primary school (PS)	0	0	106
Secondary school (SS)	0	0	19
Residential care home for the elderly (RCHE)	2	7	38
Residential care home for the disabled (RCHD)	1	0	11
Others	1	2	31
<i>Total number of outbreaks</i>	4	10	616
<i>Total number of persons affected</i>	13	49	4208

In comparison, 304, 274, 158 and 482 outbreaks were recorded in the same duration of surveillance (seven complete weeks) in the 2014/15 winter, 2015/16 winter, 2017 summer and 2017/18 winter seasons respectively, as compared with 589 outbreaks in the current season (Figure 5).

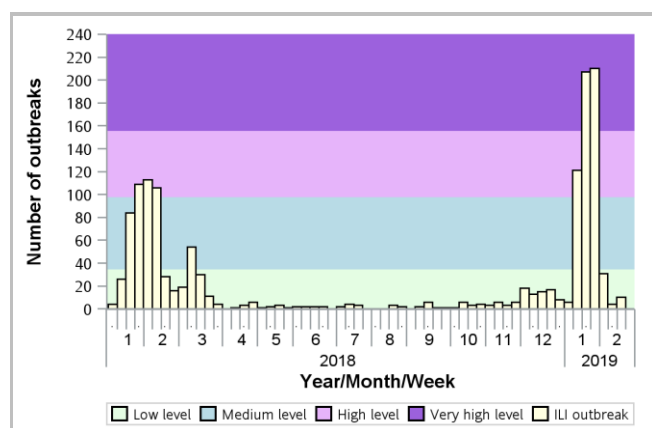


Figure 4 ILI outbreaks in schools/institutions, 2018-19

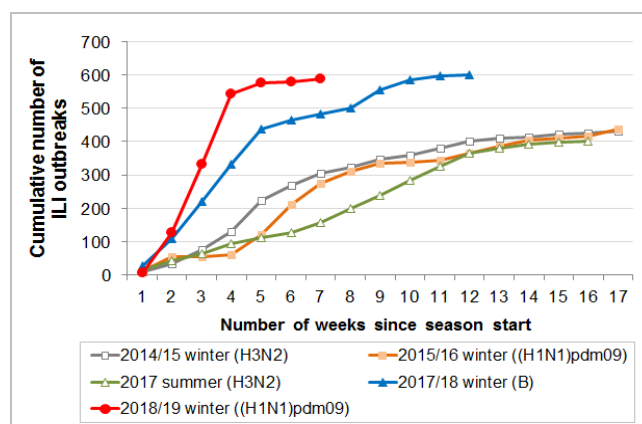


Figure 5 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2015-19

* Various intensity levels applicable for this year were calculated with the moving epidemic method (MEM) based on the relevant historical data recorded from 2011 to 2018. For details, please refer to this webpage: https://www.chp.gov.hk/files/pdf/explanatory_note_for_flux_mem_eng.pdf

Intensity levels of ILI outbreaks according to type of institutions (week 7)

- The number of ILI outbreaks in KG/CCC was one, as compared to 0 in the previous week. It was at the low intensity level (Figure 6).
- The number of ILI outbreaks in PS was 0, as compared to 0 in the previous week. It was at the low intensity level (Figure 7).
- The number of ILI outbreaks in RCHE was seven, as compared to two in the previous week. It was at the medium intensity level (Figure 8).

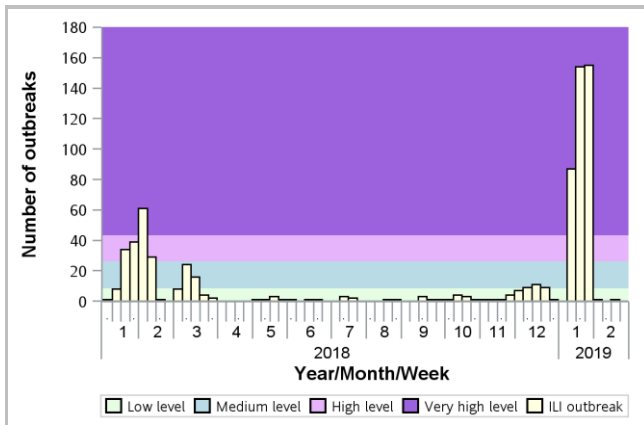


Figure 6 ILI outbreaks in KG/CCC, 2018-19

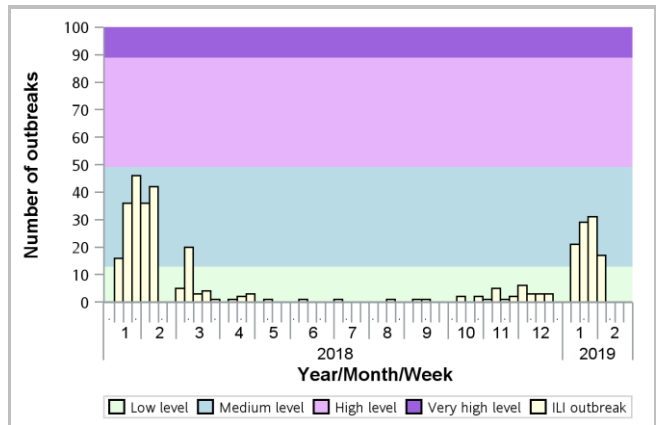


Figure 7 ILI outbreaks in PS, 2018-19

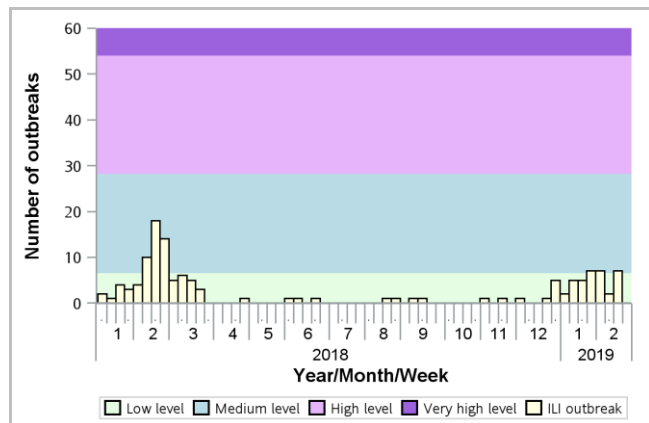


Figure 8 ILI outbreaks in RCHE, 2018-19

Influenza-associated hospital admission rates in public hospitals based on discharge coding, 2015-19

In week 7, the overall admission rate in public hospitals with principal diagnosis of influenza was 0.60 (per 10,000 population) as compared to 0.67 recorded in the previous week (Figure 9). It was above the baseline threshold of 0.23 and at the medium intensity level (Figure 10*). 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 4.12, 0.85, 0.15, 0.23, 0.34 and 1.07 cases (per 10,000 people in the age group) respectively, as compared to 3.53, 0.83, 0.15, 0.16, 0.49 and 1.59 cases in the previous week (Figure 9).

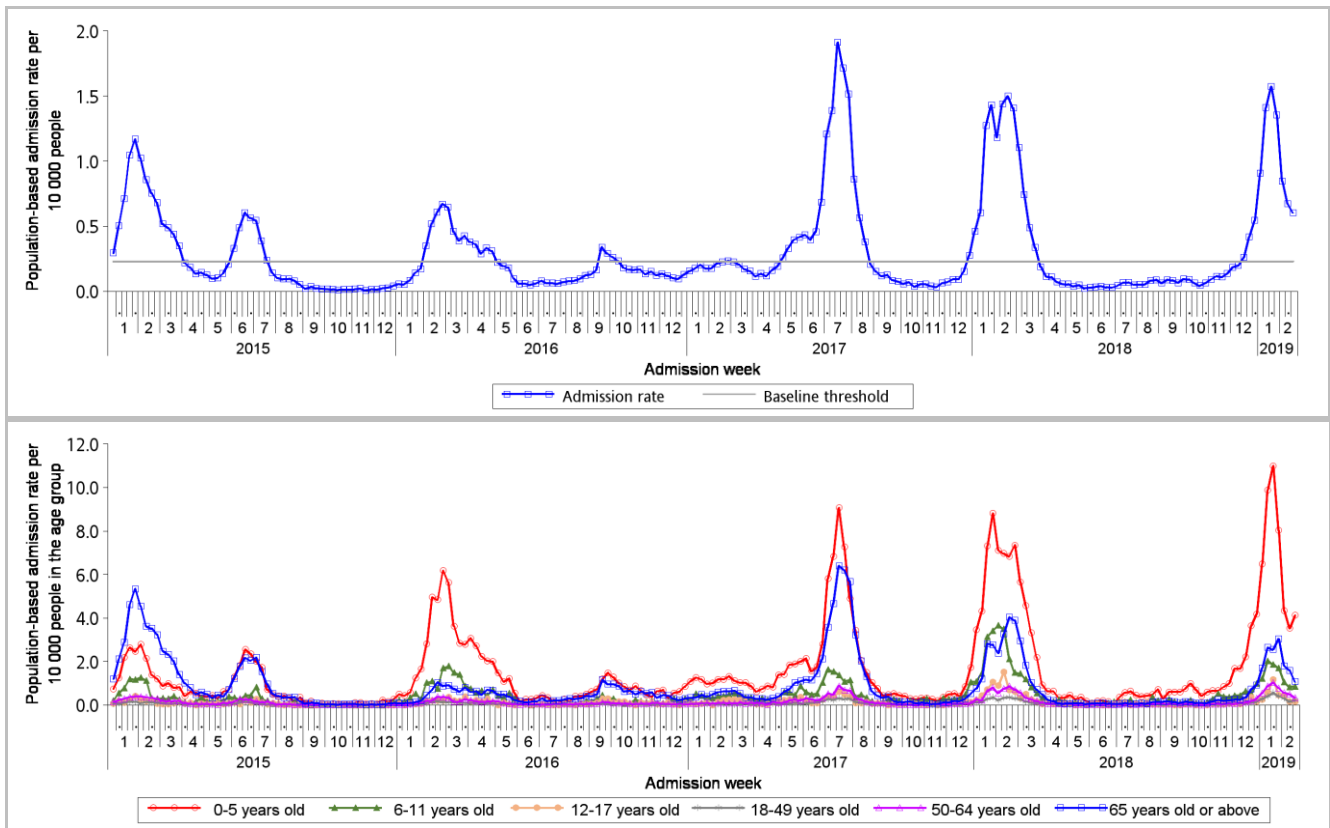


Figure 9 Influenza-associated hospital admission rates, 2015-19 (upper: overall rate, lower: rates by age groups)

[Note: The baseline threshold is 1.96 standard deviation above the average weekly admission rate during non-season periods from 2014-2018.]

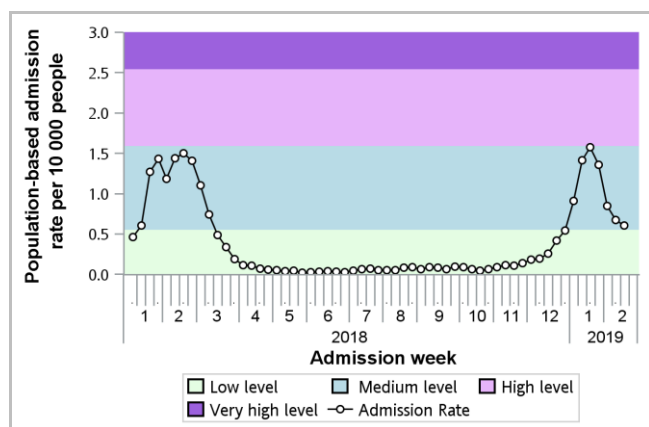


Figure 10 Influenza-associated hospital admission rates, 2018-19

*Various intensity levels applicable for this year were calculated with the moving epidemic method (MEM) based on the relevant historical data recorded from 2011 to 2018. For details, please refer to this webpage: https://www.chp.gov.hk/files/pdf/explanatory_note_for_flux_mem_eng.pdf

Intensity levels of influenza-associated hospital admission rates according to age group (week 7)

- The rate for young children aged 0 to 5 years was 4.12 (per 10,000 people in the age group), as compared to 3.53 in the previous week. It was at the medium intensity level (Figure 11).
- The rate for children aged 6 to 11 years was 0.85 (per 10,000 people in the age group), as compared to 0.83 in the previous week. It was at the low intensity level (Figure 12).
- The rate for elderly aged 65 years or above was 1.07 (per 10,000 people in the age group), as compared to 1.59 in the previous week. It was at the low intensity level (Figure 13).

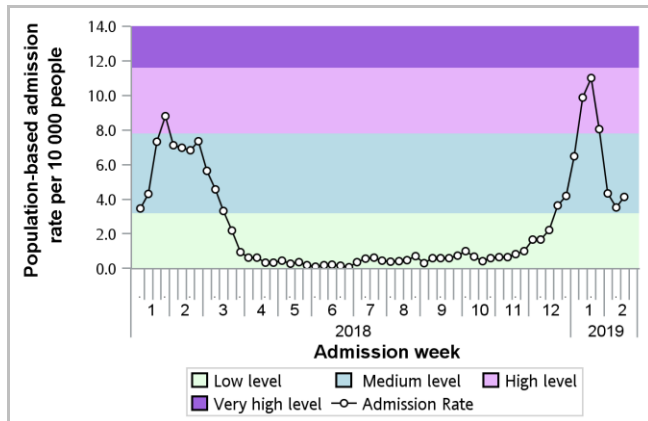


Figure 11 Influenza-associated hospital admission rates for young children aged 0-5 years, 2018-19

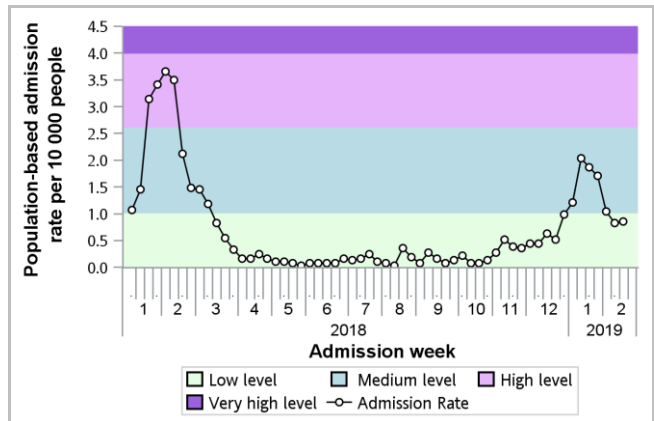


Figure 12 Influenza-associated hospital admission rates for children aged 6-11 years, 2018-19

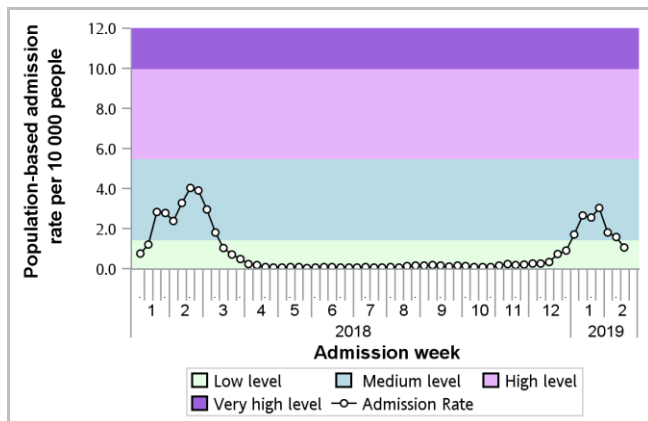


Figure 13 Influenza-associated hospital admission rates for elderly aged 65 years or above, 2018-19

Rate of ILI syndrome group in accident and emergency departments, 2015-19[#]

In week 7, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 193.3 (per 1,000 coded cases), which was lower than the rate of 229.7 in the previous week (Figure 14).

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

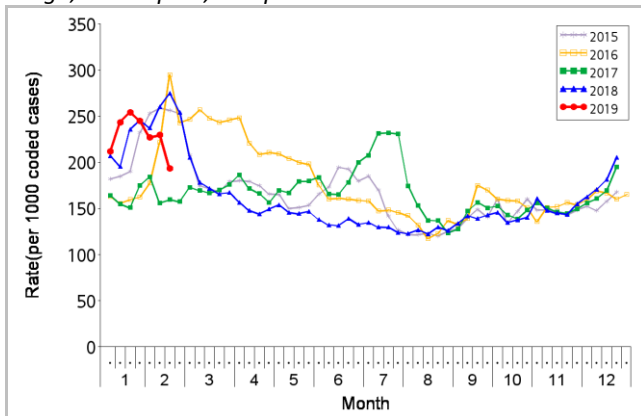


Figure 14 Rate of ILI syndrome group in AEDs, 2015-19

Fever surveillance at sentinel child care centres/ kindergartens, 2015-19

In week 7, 0.61% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 1.21% recorded in the week 4. The surveillance for week 5-6 was suspended due to Lunar New Year holiday. (Figure 15)

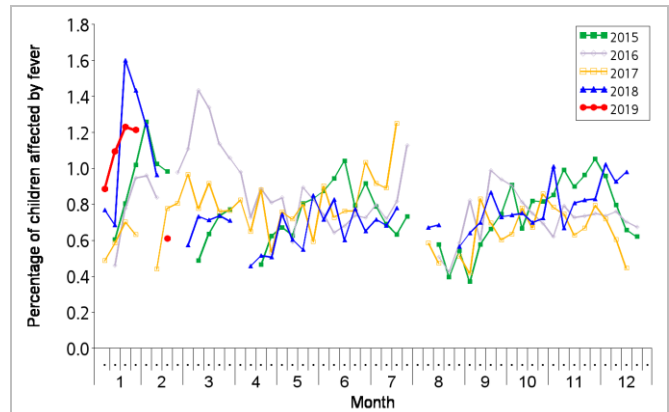


Figure 15 Percentage of children with fever at sentinel CCCs/KGs, 2015-19

Fever surveillance at sentinel residential care homes for the elderly, 2015-19

In week 7, 0.08% of residents in the sentinel residential care homes for the elderly (RCHes) had fever (38°C or above), compared to 0.14% recorded in the previous week (Figure 16).

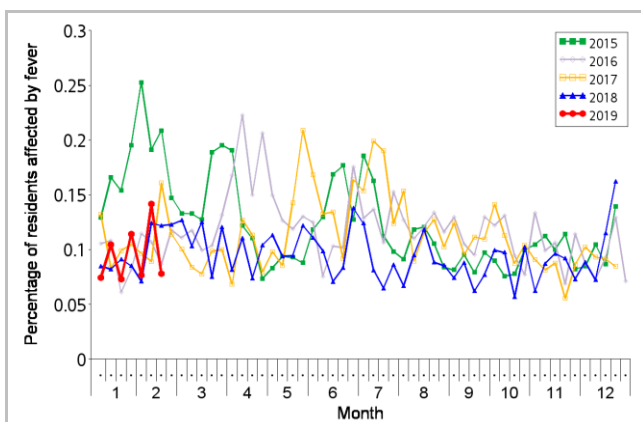


Figure 16 Percentage of residents with fever at sentinel RCHes, 2015-19

Influenza-like illness surveillance among sentinel Chinese medicine practitioners, 2015-19

In week 7, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 2.77 ILI cases per 1,000 consultations as compared to 2.88 recorded in the previous week (Figure 17).

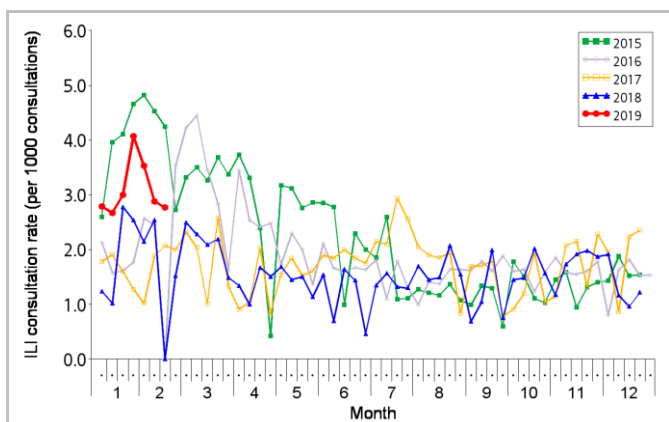


Figure 17 ILI consultation rate at sentinel CMPs, 2015-19

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, 54 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 30 of them were fatal. 18 of the 54 severe adult cases were known to have received the 2018/19 influenza vaccine. In the first 4 days of week 8 (Feb 17 to 20), 34 cases were recorded, in which 23 of them were fatal.

Week	Influenza type				
	A(H1)	A(H3)	B	C	A (pending subtype)
Week 7	45	9	0	0	0
First 4 days of week 8 (Feb 17 to 20)	18	7	0	0	9

- Since the start of the 2018/19 winter influenza season in week 1, 425 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 232 of them were fatal (as of Feb 20). Among them, 346 patients had influenza A(H1N1)pdm09, 56 patients with influenza A(H3N2), one patient with influenza B and 22 patients with influenza A pending subtype.
- In comparison, 337, 233, 109 and 397 adult cases were recorded in the same duration of surveillance (seven complete weeks) in the 2014/15 winter, 2015/16 winter, 2017 summer and 2017/18 winter seasons respectively, as compared with 391 cases in the current season (Figure 18, left). The corresponding figures for deaths were 251, 105, 84, 256 in the above seasons, as compared with 209 deaths in the current season (Figure 18, right).

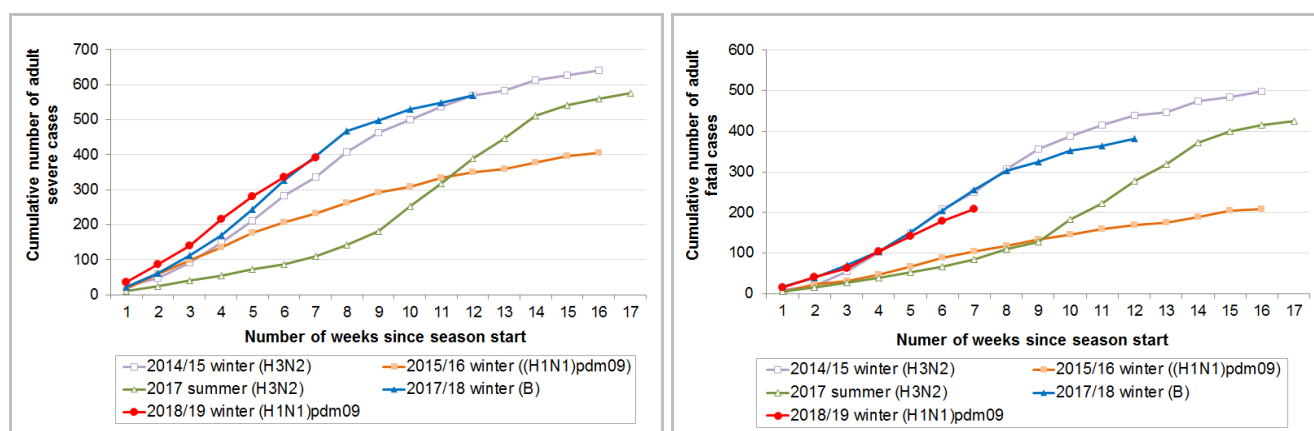


Figure 18 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2015–19 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 7 and the first 4 days of week 8 (Feb 17 to 20), there were no cases of severe paediatric influenza-associated complication/death.
- In 2019, 21 paediatric cases of influenza-associated complication/death were recorded, in which one of them was fatal (as of Feb 20). 17 patients had infection with influenza A(H1) and four with influenza A(H3). 16 (76%) did not ever receive the influenza vaccine for the 2018/19 season.
- In comparison, 15, 13, 10 and 15 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, 2017 summer and 2017/18 winter seasons respectively, as compared with 21 cases in the current season (Figure 19, left). The corresponding figures for deaths were 1, 2, 2 and 2 in the above seasons, as compared with 1 death in current season (Figure 19, right).

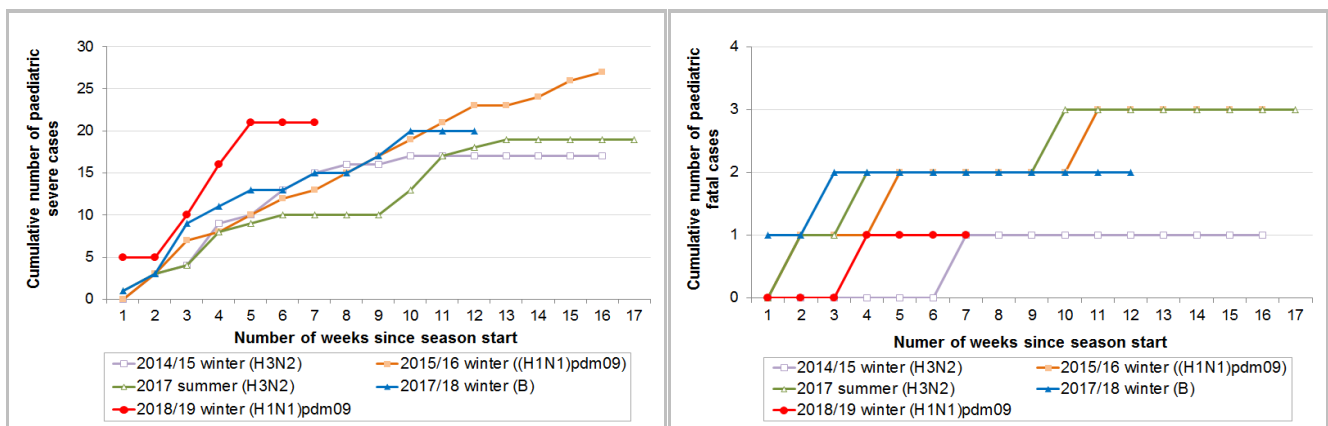


Figure 19 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2015–19 (left: complication/death cases; right: deaths)

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 1, 446 severe influenza cases among all ages have been reported, including 233 deaths (as of Feb 20) (Figure 20).

Age group	Cumulative number of cases (death)
0-5	12 (1)
6-11	7 (0)
12-17	2 (0)
18-49	51 (5)
50-64	117 (29)
>=65	257 (198)

- Among the adult fatal cases, about 90% had chronic diseases.
- Among patients with laboratory confirmation of influenza admitted to public hospitals in this season (from Dec 30, 2018 to Feb 20, 2019), 2.1% 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).

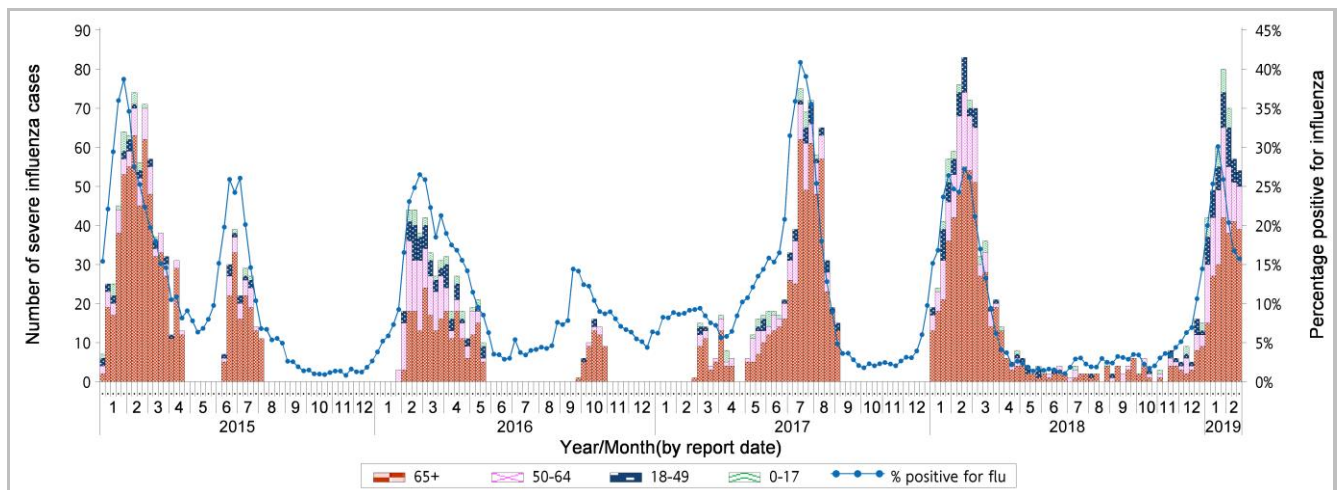


Figure 20 Weekly number of severe influenza cases by age groups, 2015-19 (the percentage positive for influenza viruses in Figure 2 is also shown in this graph)

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 7 and the first 4 days of week 8 (Feb 17 to 20), 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

In the temperate zone of the northern hemisphere influenza activity continued to increase. In East Asia, influenza activity appeared to have peaked already, with influenza A(H1N1)pdm09 virus predominating. In Europe, influenza activity increased and in most of the countries was above the epidemic threshold. Influenza A viruses co-circulated. In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels, with the exception of some parts of Australia where influenza activity remained above inter-seasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

- In the United States (week ending Feb 9, 2019), influenza activity continued to increase. The proportion of outpatient visits for ILI increased to 4.8%, which was above the national baseline of 2.2%. The percent of respiratory specimens testing positive for influenza was 24.6%, higher than 22.8% recorded in the previous week. Influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B viruses continued to co-circulate.
- In Canada (week ending Feb 9, 2019), influenza activity continued to decline slowly. Influenza activity was past the peak in most regions in western Canada, but continued to circulate in eastern regions. Influenza A(H1N1)pdm09 was the most common influenza virus circulating in Canada. There was currently very little influenza B circulation compared to previous seasons.
- In the United Kingdom (week ending Feb 10, 2019), influenza continued to circulate in the community with activity indicators at low intensity. The positivity of influenza detection was 31.0%, which was above the baseline threshold of 9.2%. Influenza A(H1N1)pdm09 was the dominant circulating subtype.
- In Europe (week ending Feb 10, 2019), influenza activity was wide spread in the Region. 53% of sentinel specimens were tested positive for influenza virus. Influenza type A virus detections dominated with A(H1N1)pdm09 and A(H3N2) viruses co-circulating. Very few influenza B viruses were detected.
- In Mainland China (week ending Feb 10, 2019), influenza activity in southern and northern provinces showed a decreasing trend but was still at the peak of the influenza season. Influenza viruses detected were mainly influenza A(H1N1), followed by influenza A(H3N2), and there were few influenza B(Victoria) and B(Yamagata) detections.
- In Taiwan (week ending Feb 16, 2019), influenza was still at the peak and influenza A (H1N1) was predominant in community. In recent four weeks, most of the influenza detection were influenza A viruses (99.6%) with 62% being influenza A(H1N1).
- Macau (Feb 18, 2019), influenza activity was at the peak level currently. The proportions of ILI cases in emergency departments among adult and paediatric patients continued to show a decreasing trend and had decreased by almost a half from the peak. The most frequently detected influenza virus was influenza A(H1).
- In Japan (week ending Feb 10, 2019), the influenza season started in early December last year. Influenza activity has decreased in the week ending Feb 10. The average number of reported ILI cases per sentinel site decreased to 26.28 last week from 43.24 in the previous week, which was still much higher than the baseline level of 1.00. Influenza A(H3) (56%) and A(H1) (43%) co-circulated in the past five weeks.

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](#), [Taiwan Centers for Disease Control](#), [Health Bureau of Macao Special Administrative Region](#) and [Japan Ministry of Health, Labour and Welfare](#).