

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 27, 2019)

Reporting period: Mar 17 – 23, 2019 (Week 12)

- The latest surveillance data showed that the local influenza activity has further decreased to a level approaching the baseline. Influenza A(H1) and influenza A(H3) viruses co-circulated in the past few weeks.
- 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 12, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPC) was 5.8 ILI cases per 1,000 consultations, which was higher than 4.6 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private medical practitioners (PMP) was 40.4 ILI cases per 1,000 consultations, which was higher than 39.5 recorded in the previous week (Figure 1, right).

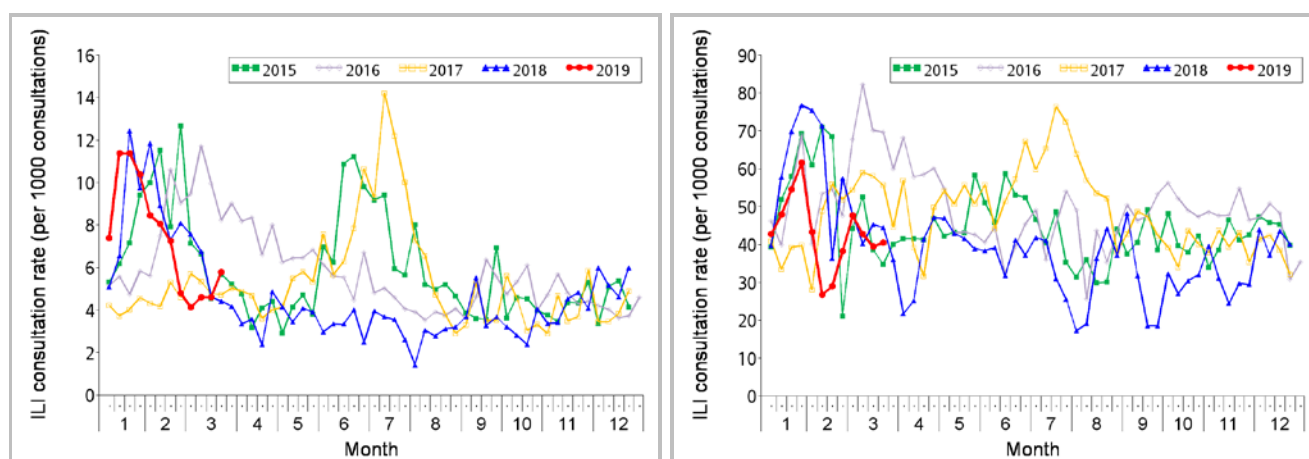


Figure 1 ILI consultation rate at sentinel GOPC (left) and PMP (right), 2015-19

Laboratory surveillance, 2015-19

Among the respiratory specimens received in week 12, the positive percentage of seasonal influenza viruses was 9.19%, which was below the baseline threshold of 10.3% and was lower than 12.06% recorded in the previous week (Figure 2). The 595 influenza viruses detected last week included 304 (4.69%) influenza A(H1), 239 (3.69%) influenza A(H3), 48 (0.74%) influenza B and 4 (0.06%) influenza C.

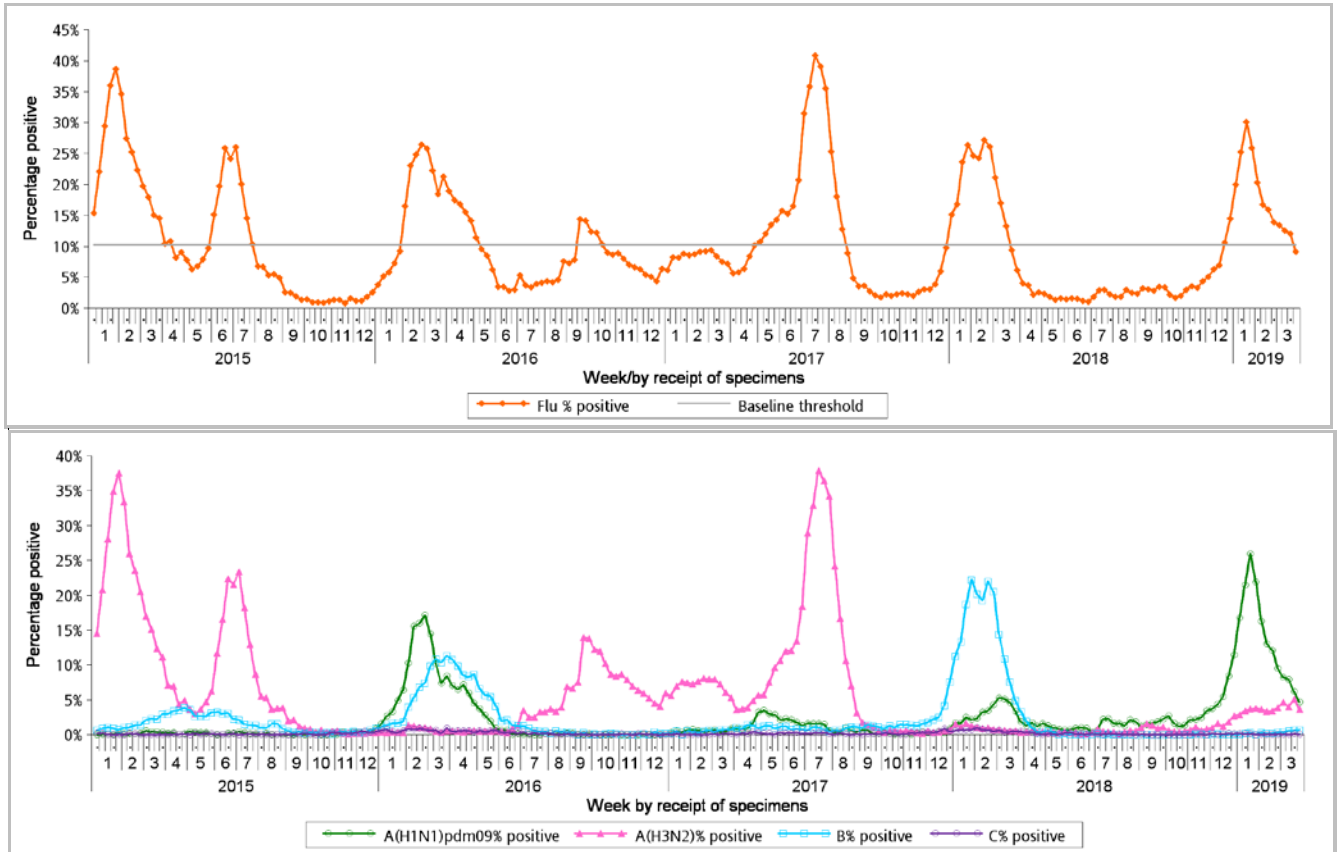


Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2015-19 (upper: overall positive percentage, lower: positive percentage by subtypes)

[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 12, 32 ILI outbreaks occurring in schools/institutions were recorded (affecting 136 persons), as compared to 32 outbreaks recorded in the previous week (affecting 190 persons) (Figure 3). The overall number was at the low intensity level currently (Figure 4*). In the first 4 days of week 13 (Mar 24 to 27), 20 ILI outbreaks in schools/institutions were recorded (affecting 105 persons). Since the start of the 2018/19 winter influenza season in week 1, 843 outbreaks were recorded (as of Mar 27).

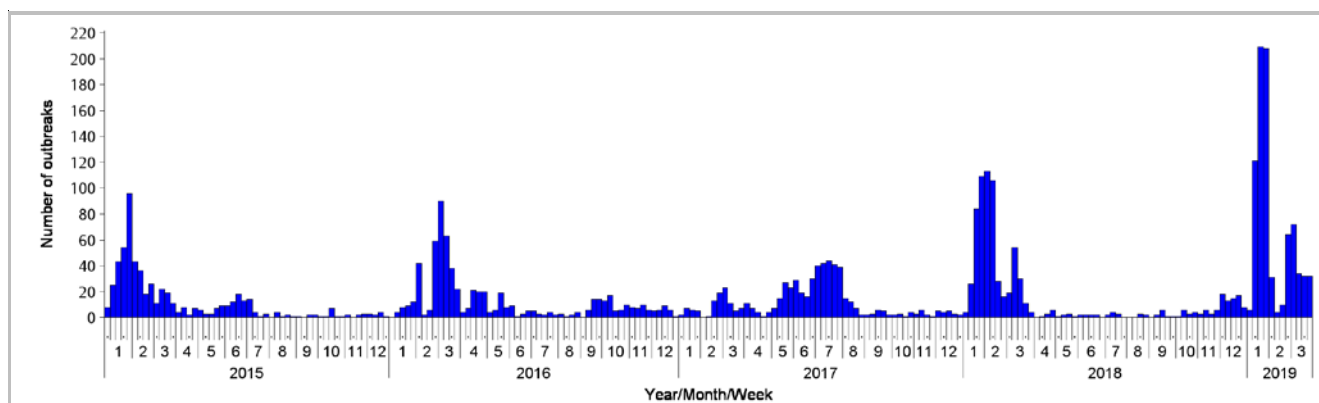


Figure 3 ILI outbreaks in schools/institutions, 2015-19

Type of institutions	Week 11	Week 12	Cumulative number of outbreaks since week 1 (as of Mar 27)
Kindergarten/ child care centre (KG/CCC)	17	7	521
Primary school (PS)	11	12	177
Secondary school (SS)	3	2	35
Residential care home for the elderly (RCHE)	0	3	53
Residential care home for the disabled (RCHD)	0	4	17
Others	1	4	40
<i>Total number of outbreaks</i>	32	32	843
<i>Total number of persons affected</i>	190	136	5910

In comparison, 400, 366, 364 and 600 outbreaks were recorded in the same duration of surveillance (12 complete weeks) in the 2014/15 winter, 2015/16 winter, 2017 summer and 2017/18 winter seasons respectively, as compared with 823 outbreaks in the current season (Figure 5).

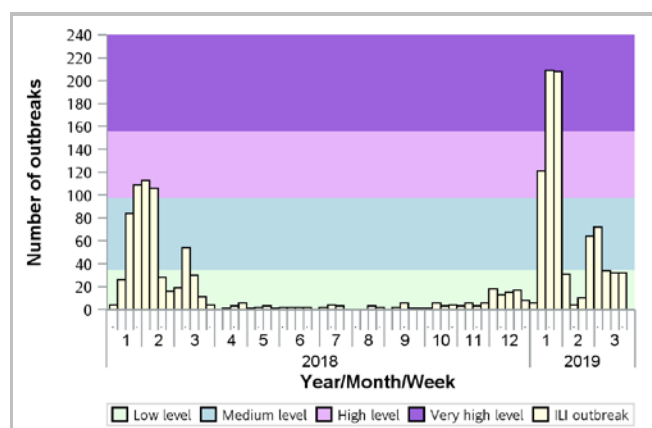


Figure 4 ILI outbreaks in schools/institutions, 2018-19

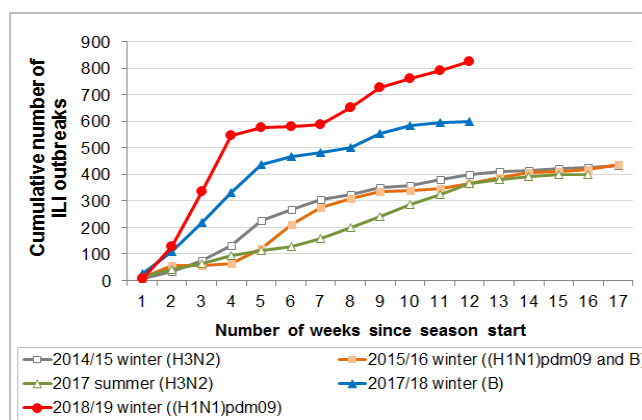


Figure 5 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2015–19

* 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 12)

- The number of ILI outbreaks in KG/CCC was 7, as compared to 17 in the previous week. It was at the low intensity level (Figure 6).
- The number of ILI outbreaks in PS was 12, as compared to 11 in the previous week. It was at the low intensity level (Figure 7).
- The number of ILI outbreaks in RCHE was 3, as compared to 0 in the previous week. It was at the low intensity level (Figure 8).

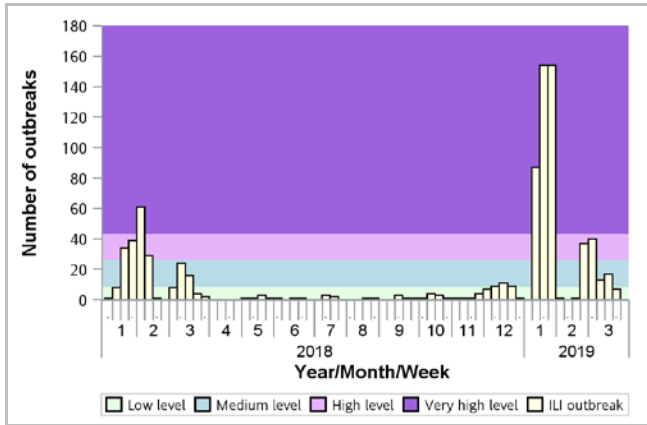


Figure 6 ILI outbreaks in KG/CCC, 2018-19

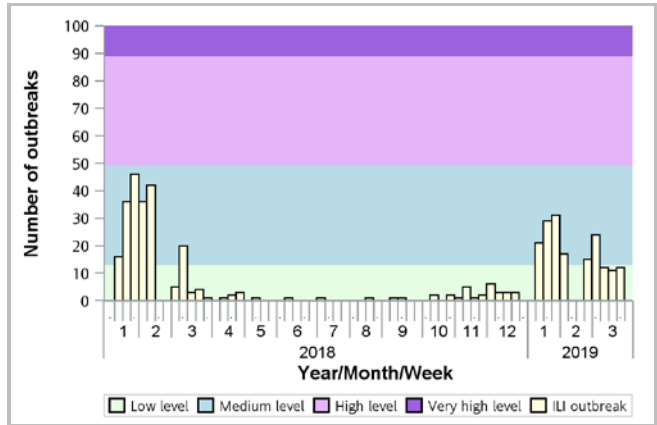


Figure 7 ILI outbreaks in PS, 2018-19

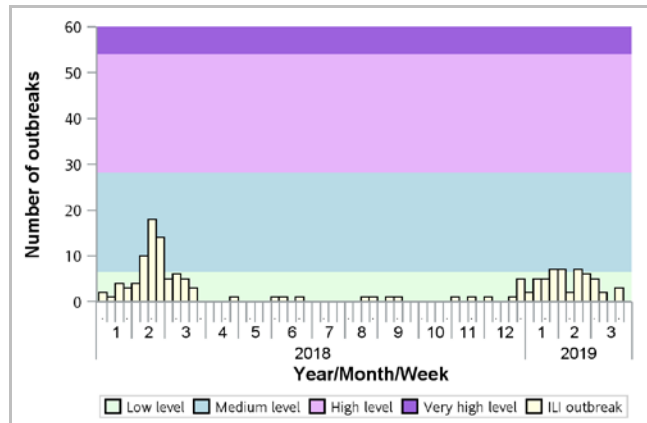


Figure 8 ILI outbreaks in RCHE, 2018-19

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

In week 12, the overall admission rate in public hospitals with principal diagnosis of influenza was 0.37 (per 10,000 population) as compared to 0.51 recorded in the previous week (Figure 9). It was above the baseline threshold of 0.23 and at the low 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 1.70, 0.66, 0.52, 0.10, 0.19 and 0.88 cases (per 10,000 people in the age group) respectively, as compared to 2.93, 0.94, 0.43, 0.13, 0.28 and 1.09 cases in the previous week (Figure 9)

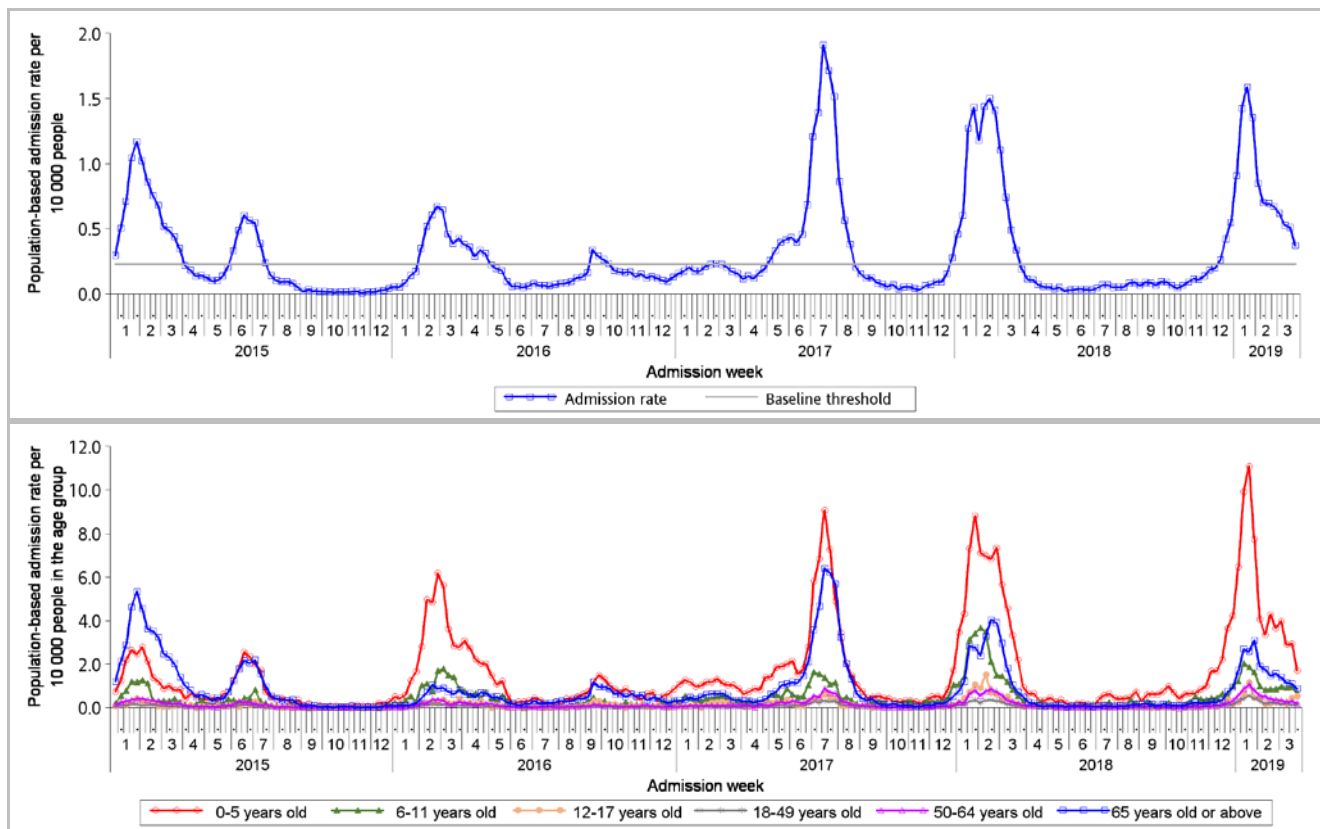


Figure 9 Influenza-associated hospital admission rates, 2015-19 (upper: overall rate, lower: rates by age groups) [Note: The baseline threshold is 1.96 standard deviation above the average weekly admission rate during non-season periods from 2014-2018.]

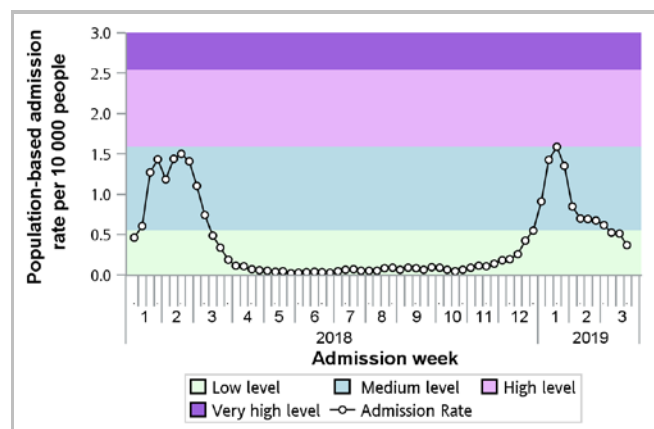


Figure 10 Influenza-associated hospital admission rates, 2018-19

*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 12)

- The rate for young children aged 0 to 5 years was 1.70 (per 10,000 people in the age group), as compared to 2.93 in the previous week. It was at the low intensity level (Figure 11).
- The rate for children aged 6 to 11 years was 0.66 (per 10,000 people in the age group), as compared to 0.94 in the previous week. It was at the low intensity level (Figure 12).
- The rate for elderly aged 65 years or above was 0.88 (per 10,000 people in the age group), as compared to 1.09 in the previous week. It was at the low intensity level (Figure 13).

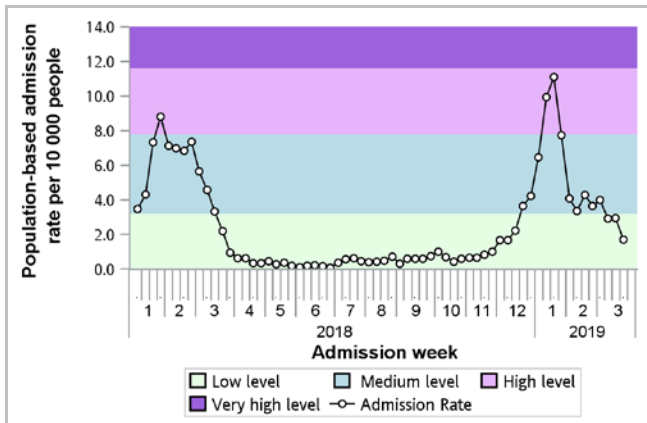


Figure 11 Influenza-associated hospital admission rates for young children aged 0-5 years, 2018-19

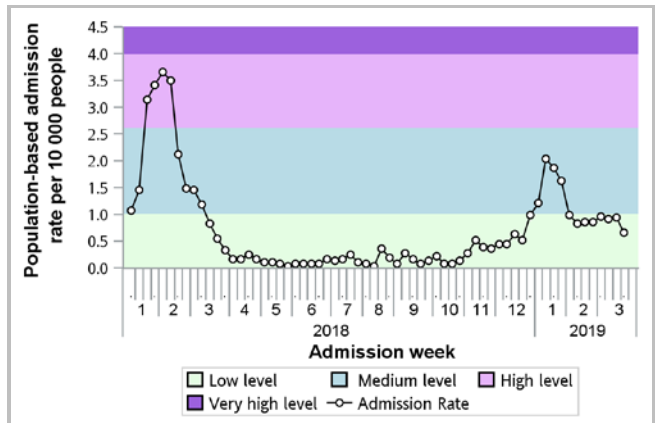


Figure 12 Influenza-associated hospital admission rates for children aged 6-11 years, 2018-19

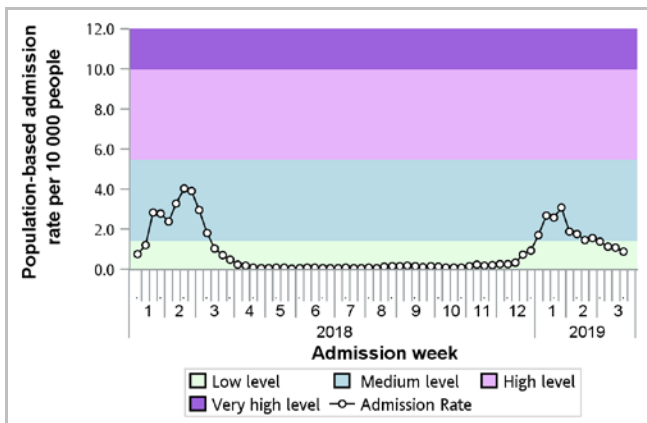


Figure 13 Influenza-associated hospital admission rates for elderly aged 65 years or above, 2018-19

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

In week 12, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 189.4 (per 1,000 coded cases), which was higher than the rate of 186.9 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.

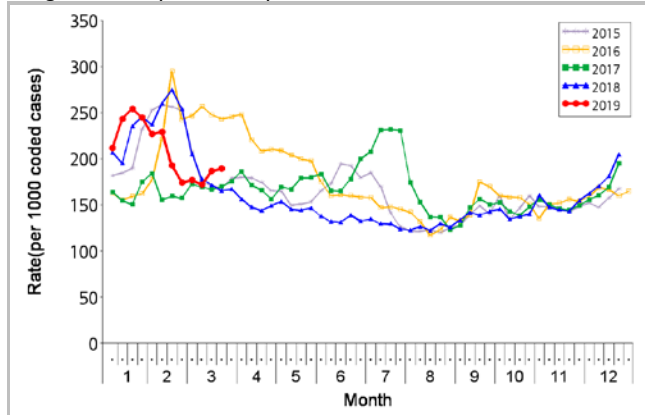


Figure 14 Rate of ILI syndrome group in AEDs, 2015-19

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

In week 12, 0.79% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 0.73% recorded in the previous week (Figure 15).

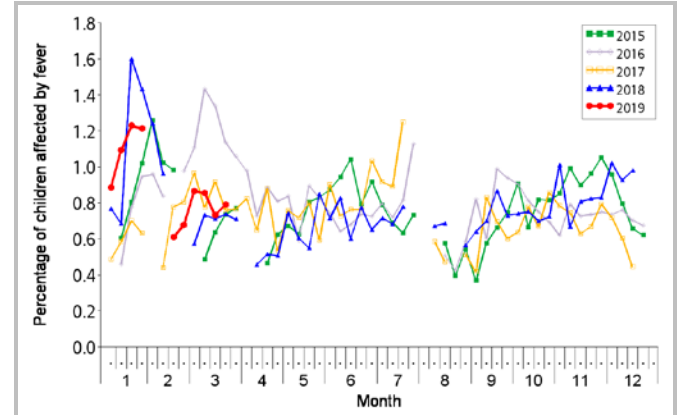


Figure 15 Percentage of children with fever at sentinel CCCs/KGs, 2015-19

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

In week 12, 0.11% 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 16).

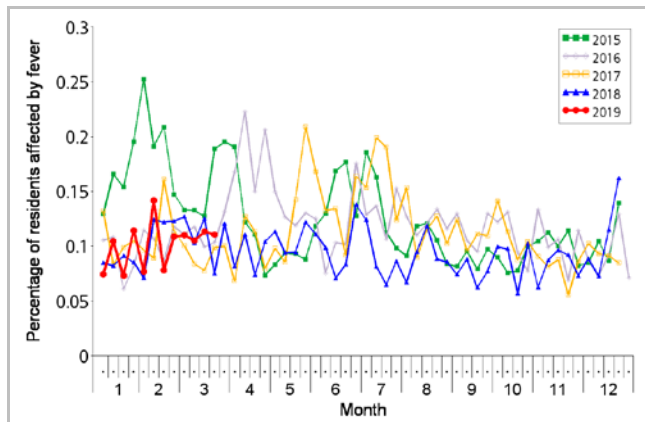


Figure 16 Percentage of residents with fever at sentinel RCHes, 2015-19

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

In week 12, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 2.24 ILI cases per 1,000 consultations as compared to 2.56 recorded in the previous week (Figure 17).

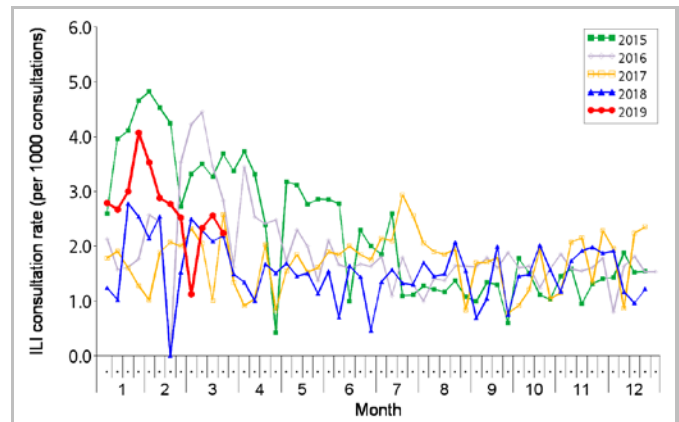


Figure 17 ILI consultation rate at sentinel CMPs, 2015-19

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 12, 21 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 17 of them were fatal. Seven of the 21 severe adult cases were known to have received the 2018/19 influenza vaccine. In the first 4 days of week 13 (Mar 24 to 27), 20 cases were recorded, in which 12 of them were fatal.

Week	Influenza type				
	A(H1)	A(H3)	B	C	A (pending subtype)
Week 12	13	4	1	0	3
First 4 days of week 13 (Mar 24 to 27)	6	6	0	0	8

- Since the start of the 2018/19 winter influenza season in week 1, 583 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 343 of them were fatal (as of Mar 27). Among them, 454 patients had influenza A(H1N1)pdm09, 95 patients with influenza A(H3N2), two patients with influenza B, one patient with influenza C and 31 patients with influenza A pending subtype.
- In comparison, 570, 349, 389 and 570 adult cases were recorded in the same duration of surveillance (12 complete weeks) in the 2014/15 winter, 2015/16 winter, 2017 summer and 2017/18 winter seasons respectively, as compared with 563 cases in the current season (Figure 18, left). The corresponding figures for deaths were 439, 169, 278, 382 in the above seasons, as compared with 331 deaths in the current season (Figure 18, right).

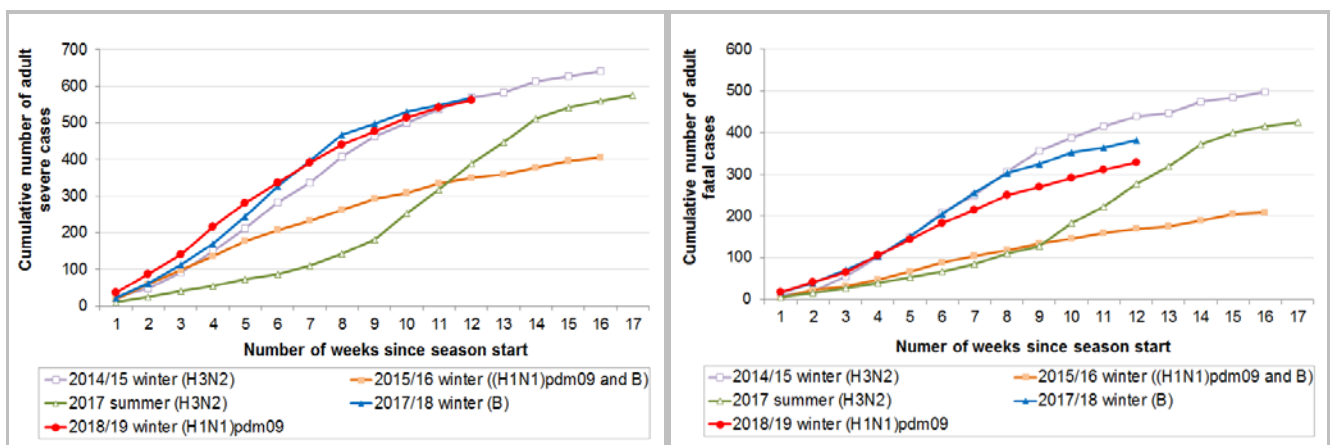


Figure 18 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2015–19 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 12 and the first 4 days of week 13 (Mar 24 to 27), there was one case of severe paediatric influenza-associated complication.

Reporting week	Age	Sex	Complication	Fatal case?	Influenza subtype	Ever received influenza vaccine for this season
12	1 month	Male	Encephalopathy	No	Influenza A(H3)	Not applicable*

Data as of Mar 27, 2019

* Persons aged under 6 months are not eligible for seasonal influenza vaccination

- In 2019, 22 paediatric cases of influenza-associated complication/death were recorded, in which one of them was fatal (as of Mar 27). 17 patients had infection with influenza A(H1) and five with influenza A(H3). 17 (77%) did not ever receive the influenza vaccine for the 2018/19 season.
- In comparison, 17, 23, 18 and 20 paediatric cases of influenza-associated complication/death were recorded in the same duration of surveillance (12 complete weeks) in the 2014/15 winter, 2015/16 winter, 2017 summer and 2017/18 winter seasons respectively, as compared with 22 cases in the current season (Figure 19, left). The corresponding figures for deaths were 1, 3, 3 and 2 in the above seasons, as compared with 1 death in current season (Figure 19, right).

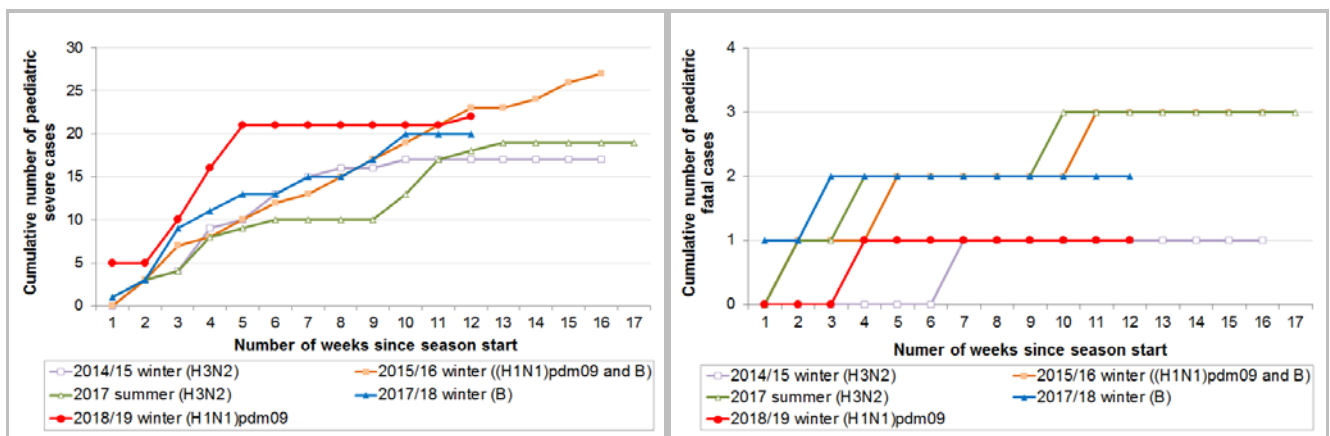


Figure 19 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2015–19 (left: complication/death cases; right: deaths)

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, 605 severe influenza cases among all ages have been reported, including 344 deaths (as of Mar 27) (Figure 20).

Age group	Cumulative number of cases (death)
0-5	13 (1)
6-11	7 (0)
12-17	2 (0)
18-49	60 (5)
50-64	152 (42)
>=65	371 (296)

- Among the adult fatal cases, about 88% had chronic diseases.
- Among patients with laboratory confirmation of influenza admitted to public hospitals in this season (from Dec 30, 2018 to Mar 27, 2019), 2.4% 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).

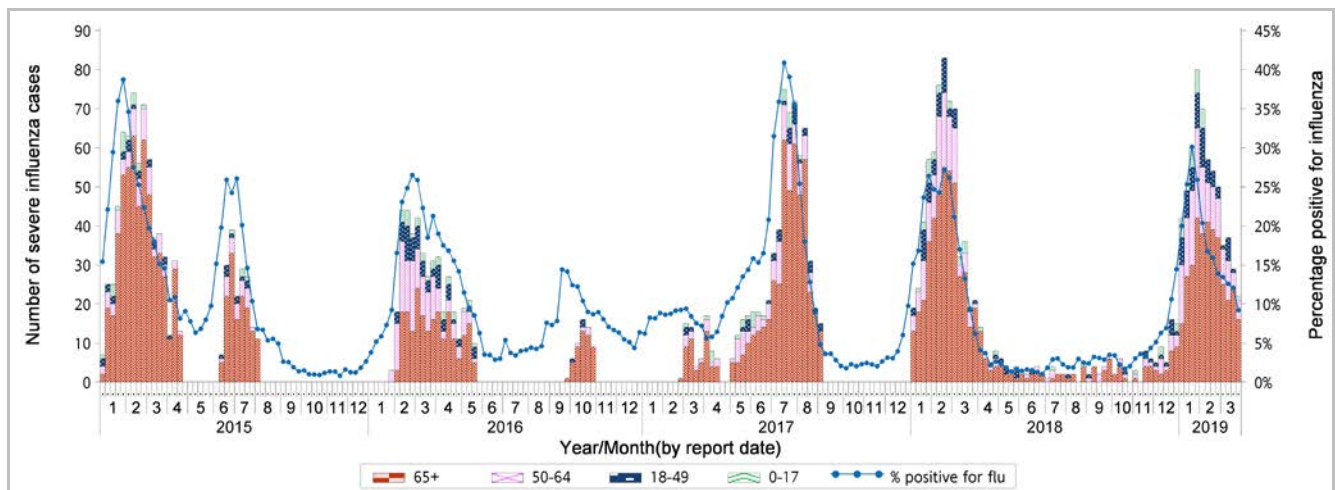


Figure 20 Weekly number of severe influenza cases by age groups, 2015-19 (the percentage positive for influenza viruses in Figure 2 is also shown in this graph)

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 12 and the first 4 days of week 13 (Mar 24 to 27), 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 be reported. In East Asia, influenza activity appeared to decrease overall, with influenza A(H1N1)pdm09 virus predominating. In Europe, influenza activity decreased across the continent, with two thirds of countries still above baseline for influenza-like illness activity. 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 Mar 16, 2019), influenza activity remained elevated. The proportion of outpatient visits for ILI remained at 4.4%, which was above the national baseline of 2.2%. The percent of respiratory specimens testing positive for influenza was 26%, higher than 25.1% recorded in the previous week. Influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B viruses continued to co-circulate.
- In Canada (week ending Mar 16, 2019), influenza activity continued to be reported in almost all regions but was circulating at higher levels in eastern regions. Influenza A(H1N1)pdm09 was the predominant subtype to date this season, but the detections of influenza A(H3N2) have been steadily increasing since mid-January and accounted for 64% of subtyped influenza A detections this week.
- In the United Kingdom (week ending Mar 17, 2019), influenza continued to circulate in the community with activity indicators decreasing and below baseline. The positivity of influenza detection was 13.4%, as compared to 11.5% in previous week and the baseline threshold of 9.2%. Influenza A(H1N1)pdm09 and influenza A(H3N2) were co-circulating.
- In Europe (week ending Mar 17, 2019), influenza activity was widespread in one-third of the countries of the Region. 34% of sentinel specimens were tested positive for influenza virus. Influenza type A virus detections dominated with slightly more A(H1N1)pdm09 viruses than A(H3N2) viruses. Very few influenza B viruses were detected.
- In Mainland China (week ending Mar 17, 2019), influenza activity was still at a relatively high level, and the activity increased again in some of the northern provinces. There was an increasing trend in detection of influenza A(H3N2) and B(Victoria) viruses, while detections of the previously predominant influenza A(H1N1) viruses decreased.
- In Taiwan (week ending Mar 23, 2019), the influenza season has ended. Influenza A (H1N1) was predominant in community. In recent four weeks, most of the influenza detection were influenza A viruses (94.4%) with 67.6% being influenza A(H1N1).
- Macau (Mar 25, 2019), influenza activity had been significantly relieved compared with that in mid-January but was still at the seasonal level currently. The main circulating viruses were influenza A(H1) for this season.
- In Japan (week ending Mar 17, 2019), the influenza season was past the peak in early February and the influenza activity continued to decrease. The average number of reported ILI cases per sentinel site decreased to 2.92 last week from 4.12 in the previous week, but was still higher than the baseline level of 1.00. The most frequently detected influenza virus was influenza A(H3) 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](#).