

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 9, 2019)

Reporting period: Dec 30, 2018 – Jan 5, 2019 (Week 1)

- The latest surveillance data showed that the local influenza activity continued to increase. Currently the predominating virus is 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.
- 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 1, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPC) was 7.4 ILI cases per 1,000 consultations, which was higher than 6.0 recorded in the previous week (Figure 1, left). The average consultation rate for ILI among sentinel private medical practitioners (PMP) was 42.8 ILI cases per 1,000 consultations, which was higher than 40.1 recorded in the previous week (Figure 1, right).

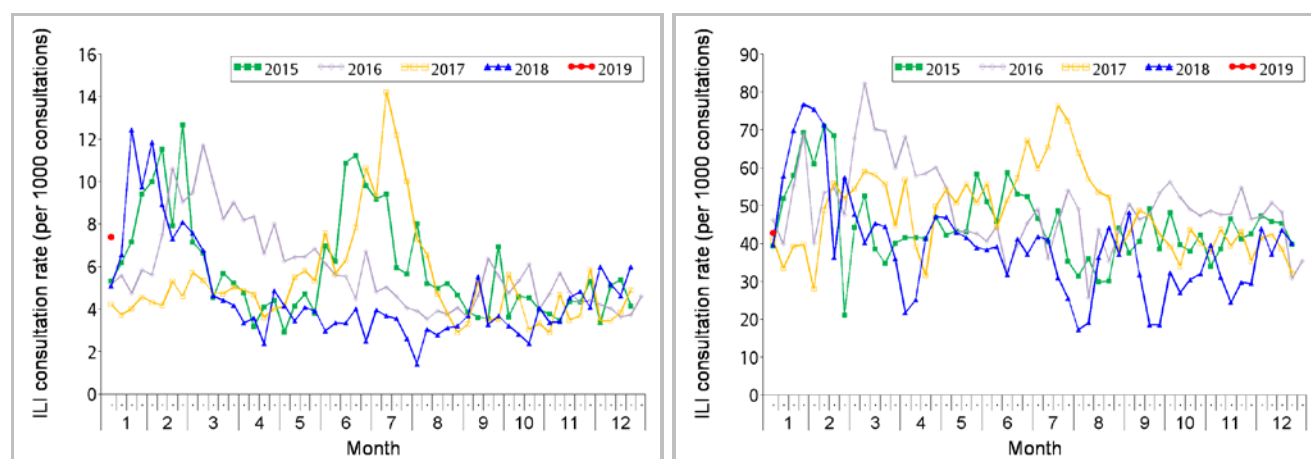


Figure 1 ILI consultation rate at sentinel GOPC (left) and PMP (right), 2015-19

Laboratory surveillance, 2015-19

Among the respiratory specimens received in week 1, the positive percentage of seasonal influenza viruses was 19.67%, which was above the baseline threshold of 10.3% and was higher than 14.46% recorded in the previous week (Figure 2). The 1191 influenza viruses detected last week included 1003 (16.56%) influenza A(H1), 173 (2.86%) influenza A(H3), 5 (0.08%) influenza B and 10 (0.17%) influenza C.

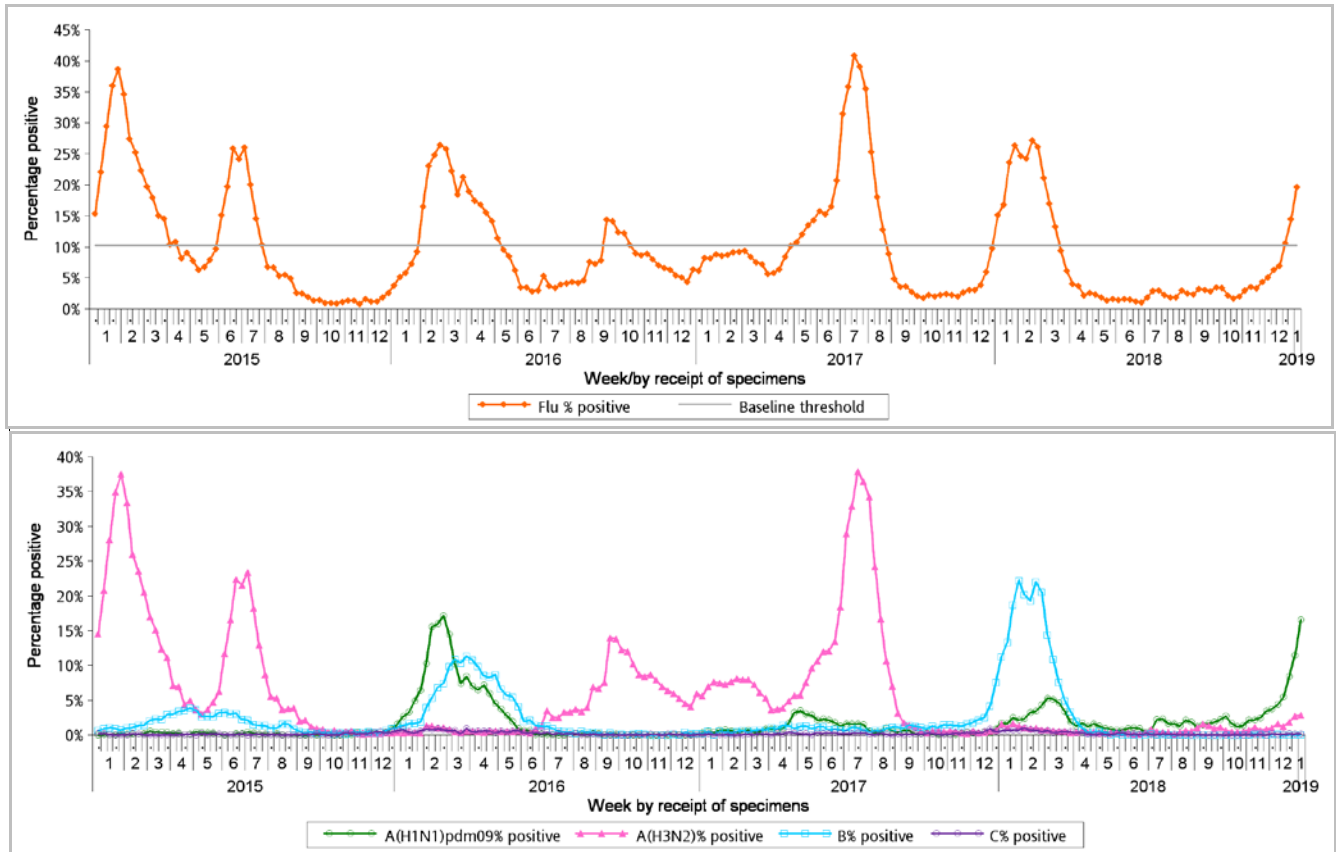


Figure 2 Percentage of respiratory specimens tested positive for influenza viruses, 2015-19 (upper: overall positive percentage, lower: positive percentage by subtypes)

[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 1, six ILI outbreaks occurring in schools/institutions were recorded (affecting 28 persons) as compared to eight outbreaks recorded in the previous week (affecting 65 persons) (Figure 3). It was at the low intensity level currently (Figure 4*). In the first 4 days of week 2 (Jan 6 - 9), 81 ILI outbreaks in schools/institutions were recorded (affecting 426 persons). Since the start of the 2018/19 winter influenza season in week 1, 87 outbreaks were recorded (as of January 9).

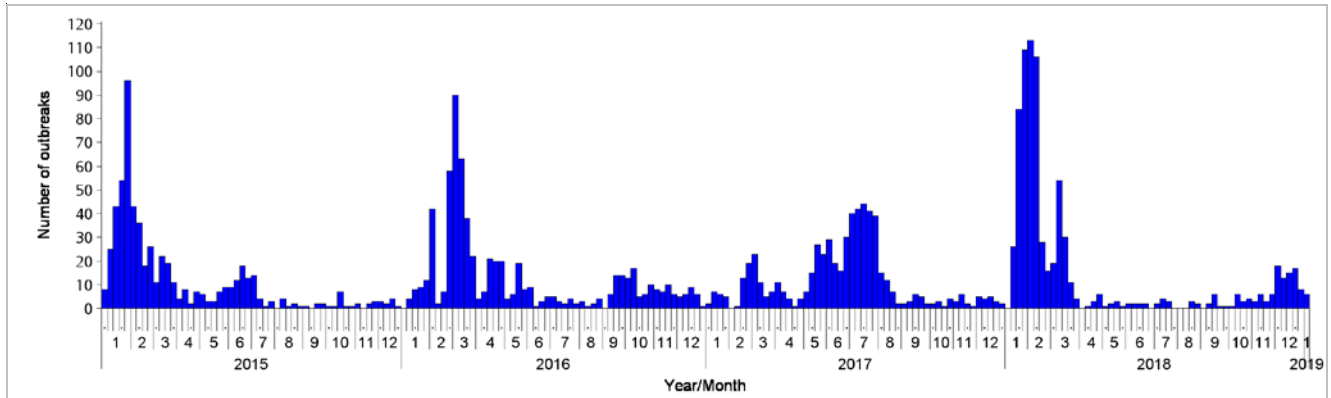


Figure 3 ILI outbreaks in schools/institutions, 2015-19

Type of institutions	Week 52	Week 1	Cumulative number of outbreaks since week 1 (as of January 9)
Kindergarten/ child care centre	1	0	57
Primary school	0	0	17
Secondary school	0	0	2
Residential care home for the elderly	5	2	3
Residential care home for the disabled	1	1	3
Others	1	3	5
<i>Total number of outbreaks</i>	8	6	87
<i>Total number of persons affected</i>	65	28	454

In comparison, 8, 12, 15 and 26 outbreaks were recorded in the same duration of surveillance (one complete week) in the 2014/15 winter, 2015/16 winter, 2017 summer and 2017/18 winter seasons respectively, as compared with 6 outbreaks in the current season (Figure 5).

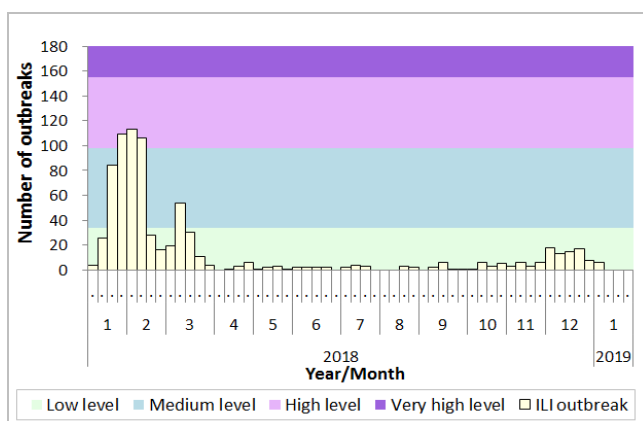


Figure 4 ILI outbreaks in schools/institutions, 2018-19

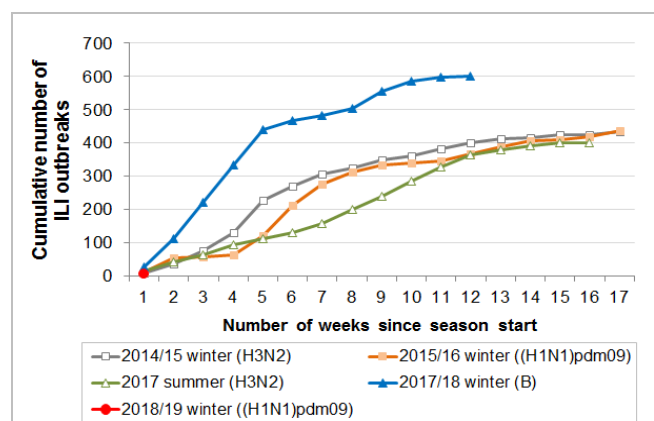


Figure 5 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2015–19

* 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

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

In week 1, the overall admission rates in public hospitals with principal diagnosis of influenza was 0.76 (per 10,000 population) as compared to 0.52 recorded in the previous week (Figure 6). It was above the baseline threshold of 0.23 and at the medium intensity level (Figure 7*). 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 6.04, 1.10, 0.25, 0.25, 0.44 and 1.20 cases (per 10,000 people in the age group) respectively, as compared to 4.06, 1.05, 0.15, 0.16, 0.29 and 0.79 cases in the previous week (Figure 6).

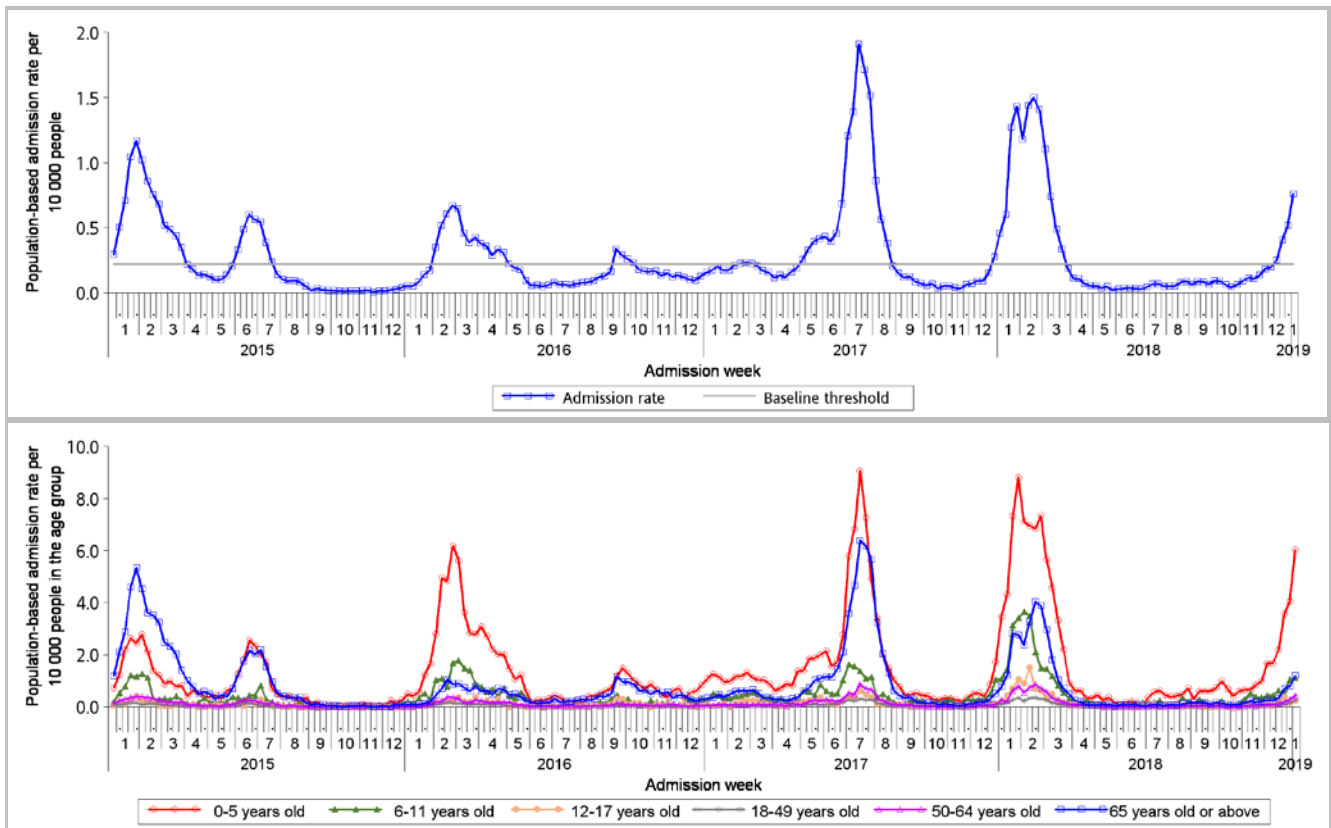


Figure 6 Influenza-associated hospital admission rates, 2015-19 (upper: overall rate, lower: rates by age groups)

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

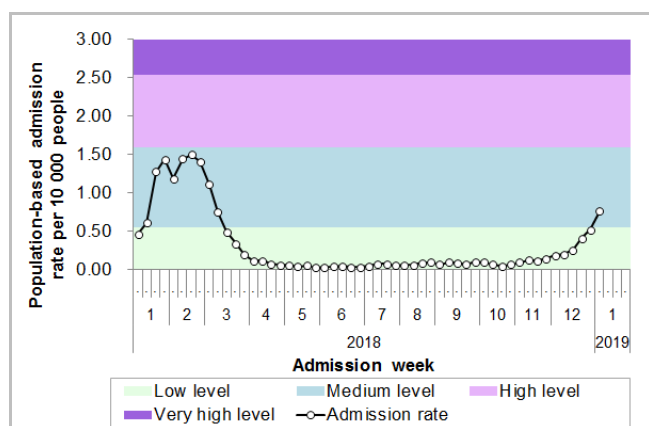


Figure 7 Influenza-associated hospital admission rates, 2018-19

*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

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

In week 1, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 212.3 (per 1,000 coded cases), which was higher than the rate of 205.4 in the previous week (Figure 8).

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

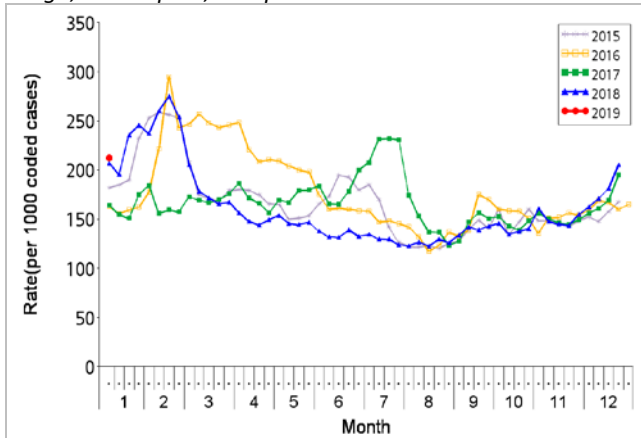


Figure 8 Rate of ILI syndrome group in AEDs, 2015-19

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

In week 1, 0.89% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 0.98% recorded in week 51, 2018. The surveillance for week 52 was suspended due to Christmas holiday (Figure 9).

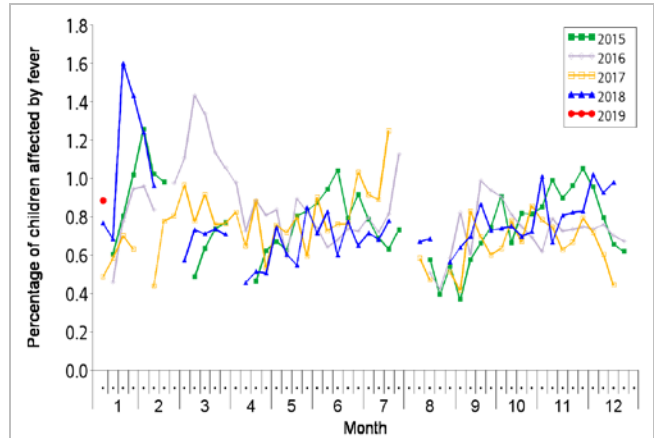


Figure 9 Percentage of children with fever at sentinel CCCs/KGs, 2015-19

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

In week 1, 0.07% of residents in the sentinel residential care homes for the elderly (RCHes) had fever (38°C or above), compared to 0.16% recorded in the previous week (Figure 10).

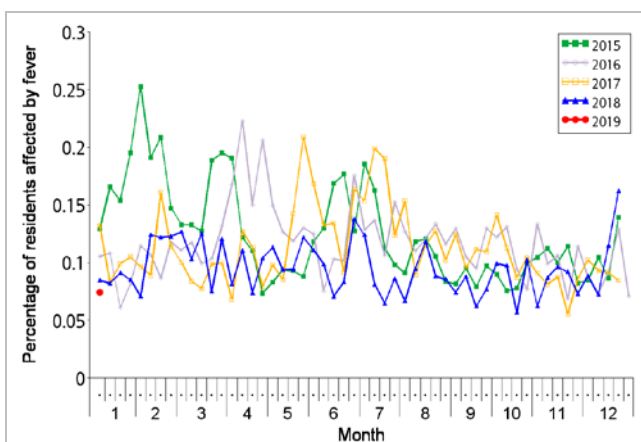


Figure 10 Percentage of residents with fever at sentinel RCHes, 2015-19

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

In week 1, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 2.79 ILI cases per 1,000 consultations as compared to 1.22 recorded in the previous week (Figure 11).

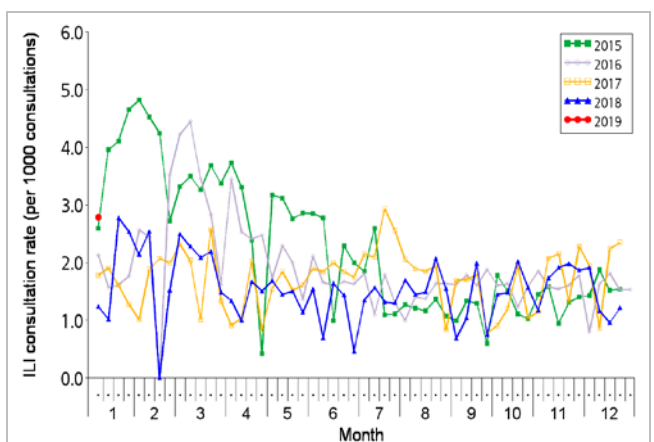


Figure 11 ILI consultation rate at sentinel CMPs, 2015-19

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 1, 37 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 13 of them were fatal. None of the 37 severe adult cases were known to have received the 2018/19 influenza vaccine. In the first 4 days of week 2 (Jan 6 to 9), 23 cases were recorded, in which nine of them were fatal.

Week	Influenza type				
	A(H1)	A(H3)	B	C	A (pending subtype)
Week 1	29	4	0	0	4
First 4 days of week 2 (Jan 6 to 9)	12	1	0	0	10

- Since the start of the 2018/19 winter influenza season in week 1, 60 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 22 of them were fatal (as of January 9). Among them, 41 patients had influenza A(H1N1)pdm09, five patients with influenza A(H3N2) and 14 patients with influenza A pending subtype.
- In comparison, 25, 18, 11 and 23 adult cases were recorded in the same duration of surveillance (one complete week) in the 2014/15 winter, 2015/16 winter, 2017 summer and 2017/18 winter seasons respectively, as compared with 37 cases in the current season (Figure 12, left). The corresponding figures for deaths were 9, 3, 6, 17 in the above seasons, as compared with 13 deaths in the current season (Figure 12, right).

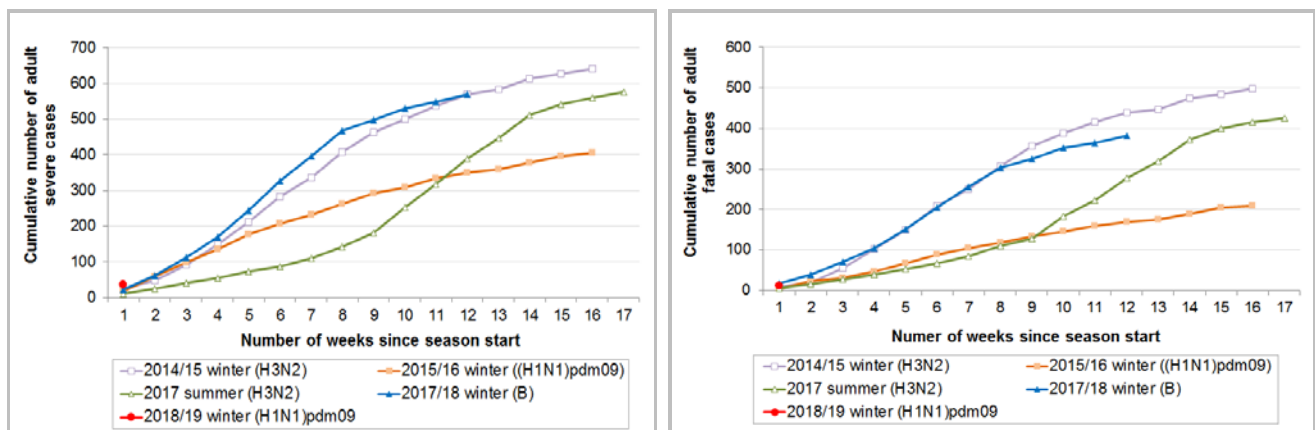


Figure 12 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2015–19 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 1 and the first 4 days of week 2 (Jan 6 to 9), there were five cases of severe paediatric influenza-associated complication.

Reporting week	Age	Sex	Complication	Fatal case?	Influenza subtype	History of receiving influenza vaccine for this season
1	8 years	Male	Encephalopathy	No	Influenza A(H1)	Yes
1	4 years	Male	Severe pneumonia and invasive pneumococcal disease	No	Influenza A(H3)	Yes
1	6 years	Female	Encephalitis	No	Influenza A(H1)	No
1	4 years	Female	Severe pneumonia	No	Influenza A(H1)	No
1	7 years	Male	Meningoencephalitis	No	Influenza A(H1)	No

Data as of Jan 9, 2019

- In 2019, five paediatric cases of influenza-associated complication were recorded, and no fatal cases were recorded (as of January 9). Four patients had infection with influenza A(H1) and one with influenza A(H3). Three (60%) did not receive the influenza vaccine for the 2018/19 season.
- In comparison, 0, 0, 1 and 1 paediatric cases of influenza-associated complication/death were recorded in the same duration of surveillance (one complete week) in the 2014/15 winter, 2015/16 winter, 2017 summer and 2017/18 winter seasons respectively, as compared with 5 cases in the current season (Figure 13, left). The corresponding figures for deaths were 0, 0, 0 and 1 in the above seasons, as compared with 0 deaths in current season (Figure 13, right).

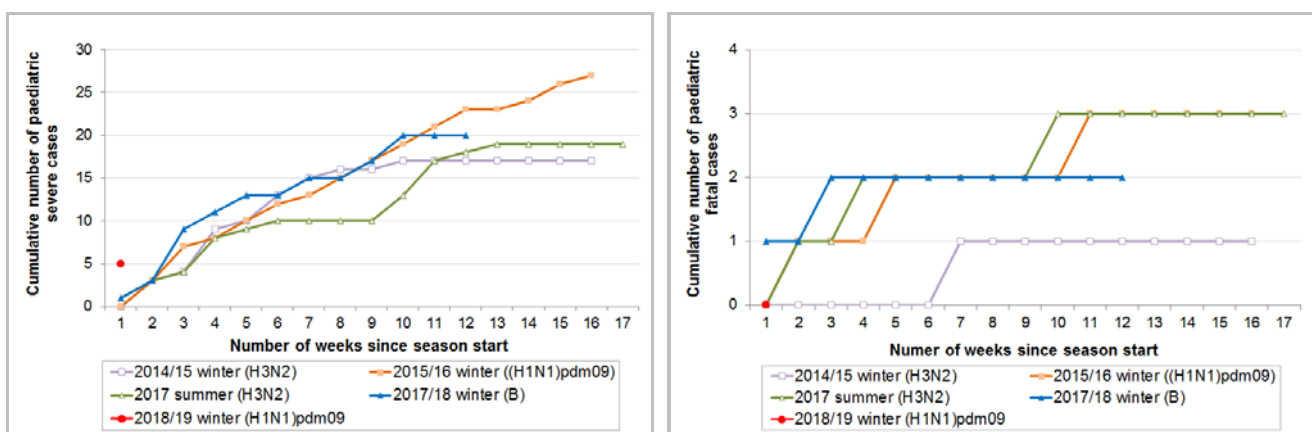


Figure 13 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2015–19 (left: complication/death cases; right: deaths)

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, 65 severe influenza cases among all ages have been reported, including 22 deaths (as of January 9).

Age group	Cumulative number of cases (death)
0-5	2 (0)
6-11	3 (0)
12-17	0 (0)
18-49	12 (0)
50-64	23 (3)
>=65	25 (19)

- Among the adult fatal cases, about 82% had chronic diseases.
- Among patients with laboratory confirmation of influenza admitted to public hospitals in this season (from December 30, 2018 to January 9, 2019), 1.0% 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).

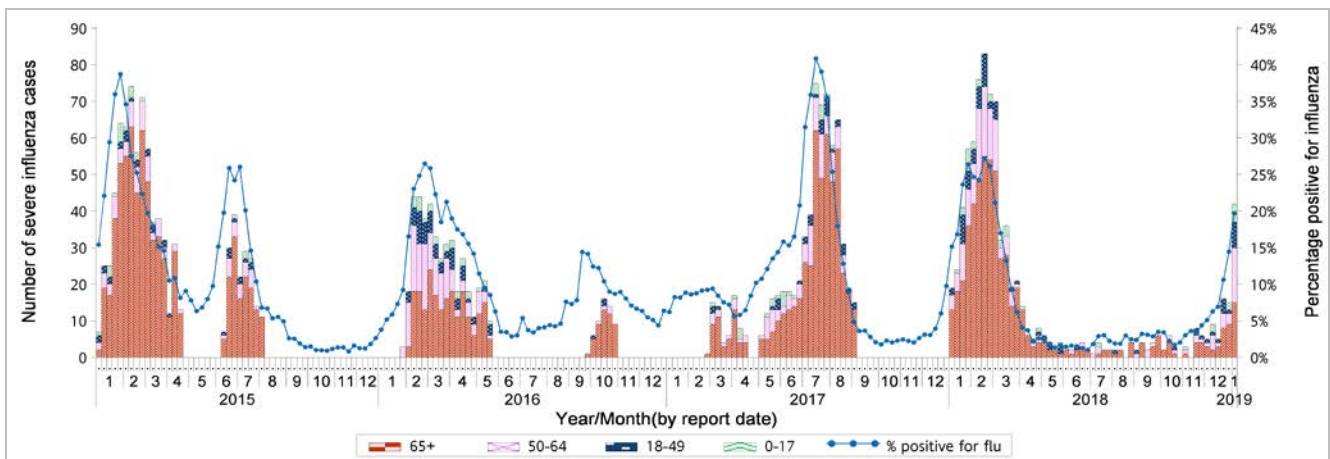


Figure 14 Weekly number of severe influenza cases by age groups, 2015-19 (the percentage positive for influenzas viruses in Figure 2 is also shown in this graph)

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 1 and the first 4 days of week 2 (Jan 6 to 9), 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 slowly. In East Asia, influenza season appeared to have started, with predominantly influenza A(H1N1)pdm09 detected. In Europe, influenza activity increased, with both A viruses circulating. In the temperate zones of the southern hemisphere, influenza activity returned to inter-seasonal levels with exception of some parts in Australia. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

- In the United States (week ending Dec 29, 2018), influenza activity is increasing. The proportion of outpatient visits for ILI increased to 4.1%, which was above the national baseline of 2.2%. The percent of respiratory specimens testing positive for influenza increased to 13.66% from 13.25% recorded in the previous week. Influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B viruses continued to co-circulate.
- In Canada (Dec 16 - 29, 2018), influenza activity continued to increase. The influenza season started in late October which was earlier than in recent years. The percentage of tests positive for influenza continued to increase to 29.4%. Influenza A was the most common influenza virus, and the majority of these viruses were A(H1N1)pdm09.
- In the United Kingdom (week ending Dec 30, 2018), there was evidence that influenza was starting to circulate in the community as activity indicators approached baseline threshold levels. The positivity of influenza detection was 17.4%, which was above the baseline threshold of 9.2%.
- In Europe (week ending Dec 30, 2018), influenza activity continued to increase in the European Region. 37% of sentinel specimens were tested positive for influenza virus. The majority of influenza virus detections were type A. From sentinel samples, influenza A(H3N2) and A(H1N1)pdm09 viruses were detected in similar proportions.
- In Mainland China (week ending Dec 30, 2018), most provinces have entered the influenza season, and influenza activity continued to increase. 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 Jan 5, 2019), influenza activity increased significantly and was above the national baseline. Influenza A(H3N2) (45.3%) and A(H1N1) (45.3%) viruses co-circulated in the community in recent four weeks.
- In Macau (Jan 7, 2019), influenza activity increased, indicating that the influenza season has started. The proportions of ILI cases in emergency departments among both adults and children increased. The proportion of influenza detections increased from 11.0% in November to 21.0% in December. Influenza viruses detected were influenza A(H1) (69.2%) and influenza A(H3) (30.8%).
- In Japan (week ending Dec 30, 2018), influenza activity continued to increase and the influenza season started in early December. The average number of reported ILI cases per sentinel site increased to 11.17 in the week ending December 30, 2018, which was above the baseline level of 1.00. The predominating virus in the past four weeks was influenza 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](#), [Chinese National Influenza Center](#), [Taiwan Centers for Disease Control](#), [Health Bureau of Macao Special Administrative Region](#) and [Japan Ministry of Health, Labour and Welfare](#).