

COVID-19 & FLU EXPRESS



COVID-19 & Flu Express is a weekly report produced by Surveillance Division of the Communicable Disease Branch of the Centre for Health Protection. It monitors and summarizes the latest local and global COVID-19 and influenza activities.

Local Situation of COVID-19 Activity (as of Feb 28, 2024)

Reporting period: Feb 18 – Feb 24, 2024 (Week 8)

- The latest surveillance data showed that the local COVID-19 activity has increased in the past week. The current weekly positive detection rate of specimens tested positive for SARS-CoV-2 virus has exceeded the level recorded in the past six months.
- Concerning the monitoring of SARS-CoV-2 variants, the latest surveillance data showed that JN.1 has become the most prevalent variant. However, the current evidence does not suggest JN.1 will cause a more severe disease than the previous prevalent XBB and its descendant lineages.
- Members of the public are advised to maintain strict personal and environmental hygiene at all times for personal protection against COVID-19 infection and prevention of the spread of the disease in the community. High risk people (e.g. persons with underlying medical conditions or persons who are immunocompromised) should adopt additional measures to protect themselves such as wearing mask properly when going to public places. For other details, please visit the COVID-19 information page (<https://www.chp.gov.hk/en/healthtopics/content/24/102466.html>).
- Members of the public are advised to take note of the latest recommendations on the use of COVID-19 vaccines in Hong Kong to protect themselves from serious outcomes of COVID-19. High-risk priority groups are recommended to receive a dose of COVID-19 vaccine at least six months since the last dose or infection before a possible COVID-19 winter surge in the coming months, regardless of the number of doses received previously. For more details, please visit ([https://www.chp.gov.hk/files/pdf/consensus interim recommendations on the use of covid19 vaccines in hong kong 11oct.pdf](https://www.chp.gov.hk/files/pdf/consensus_interim_recommendations_on_the_use_of_covid19_vaccines_in_hong_kong_11oct.pdf)).
- For the latest information on COVID-19 and prevention measures, please visit the thematic website of COVID-19 (<https://www.coronavirus.gov.hk/eng/index.html>).

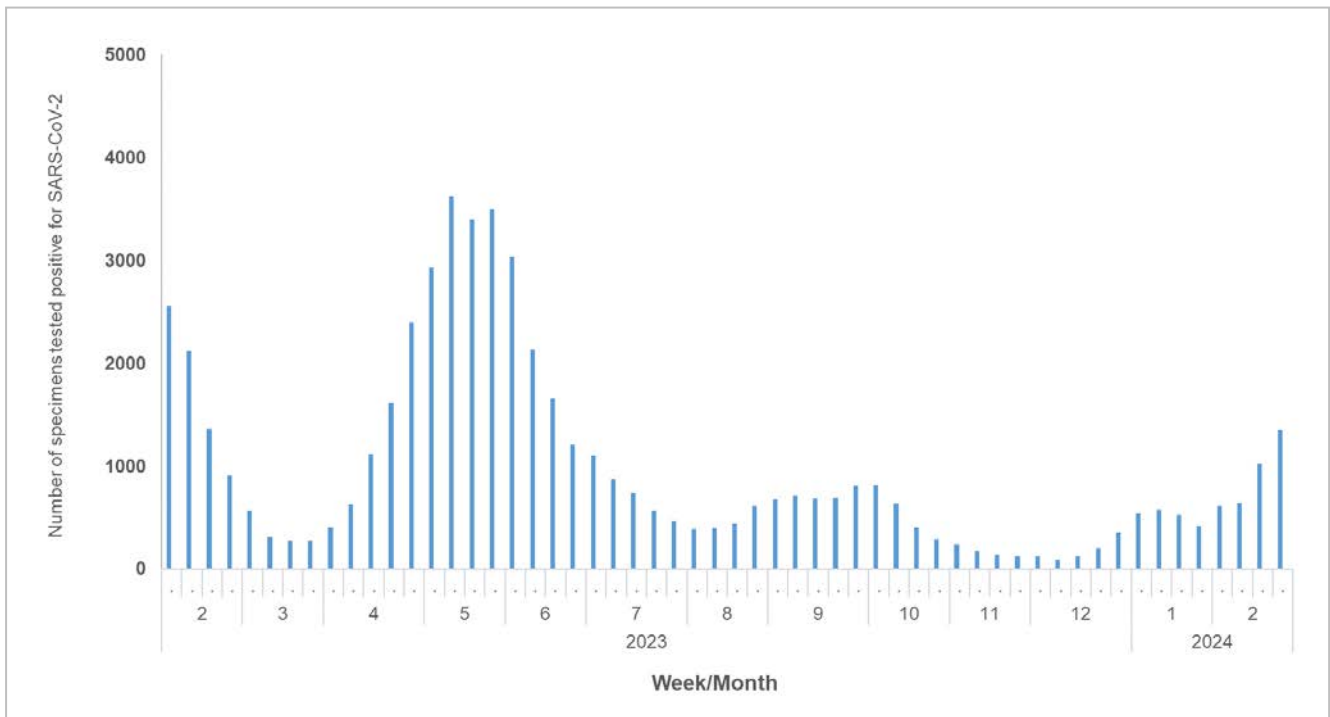
Laboratory surveillance for COVID-19 cases

Positive nucleic acid test laboratory detections for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus

In week 8, the weekly number of newly recorded positive nucleic acid test laboratory detections for SARS-CoV-2 virus was 1,355 as compared to 1,023 in the preceding week. (Figure 1.1)

In the first 4 days of week 9 (Feb 25 – Feb 28), the daily number of newly recorded positive nucleic acid test laboratory detections for SARS-CoV-2 virus ranged from 174 to 190.

Since Jan 30, 2023, the cumulative number of positive nucleic acid test laboratory detections was 55,322 (as of Feb 28, 2024).



Positive detection rate of specimens tested positive for SARS-CoV-2 virus at the Public Health Laboratory Services Branch

Among the 8,766 respiratory specimens received by the Public Health Laboratory Services Branch (PHLSB) in week 8, 1,297 (14.80%) were tested positive for SARS-CoV-2 virus as compared to 1,056 (13.27%) in the preceding week. (Figure 1.2)

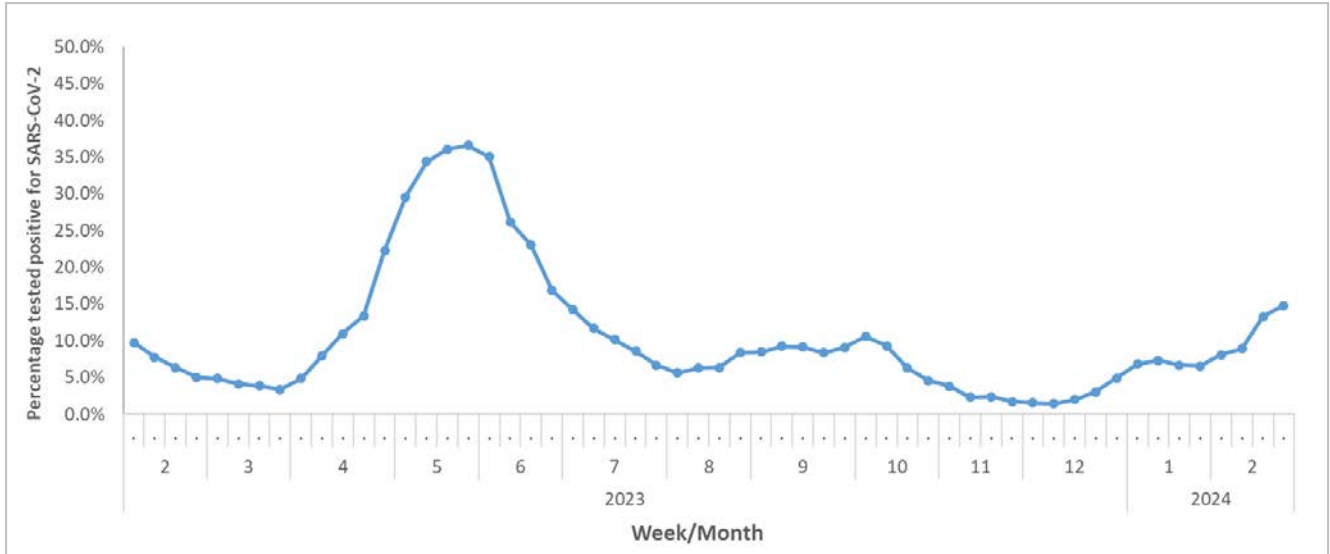


Figure 1.2 Percentage of specimens tested positive for SARS-CoV-2 virus at PHLSB

COVID-19 outbreak surveillance

In week 8, 20 COVID-19 outbreaks occurring in schools/institutions were recorded (affecting 106 persons), as compared to 17 outbreaks recorded in the previous week (affecting 96 persons). (Figure 1.3)

In the first 4 days of week 9 (Feb 25 – Feb 28), 9 COVID-19 outbreaks occurring in schools/institutions were recorded (affecting 44 persons).

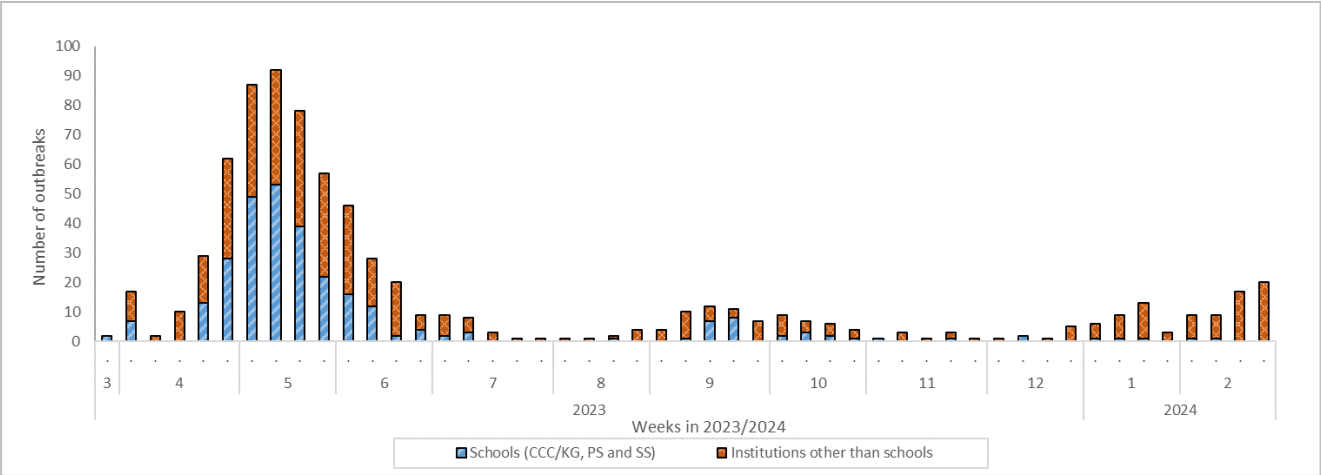


Figure 1.3 COVID-19 outbreaks in schools/institutions

Type of institutions	Week 7	Week 8	First 4 days of week 9 (Feb 25 – Feb 28)
Child care centre/ kindergarten (CCC/KG)	0	0	0
Primary school (PS)	0	0	0
Secondary school (SS)	0	0	0
Residential care home for the elderly	11	15	7
Residential care home for persons with disabilities	6	3	1
Others	0	2	1
Total number of outbreaks	17	20	9
Total number of persons affected	96	106	44

Surveillance of severe and fatal COVID-19 cases

(Note: The data reported are provisional figures and subject to further revision.)

In week 8, the weekly number of severe COVID-19 cases including deaths with cause of death preliminarily assessed to be related to COVID-19 was 54 as compared to 44 in the preceding week. (Figure 1.4)

Since Jan 30, 2023, the cumulative number of fatal cases with cause of death preliminarily assessed to be related to COVID-19 was 1,096 (as of Feb 24, 2024).

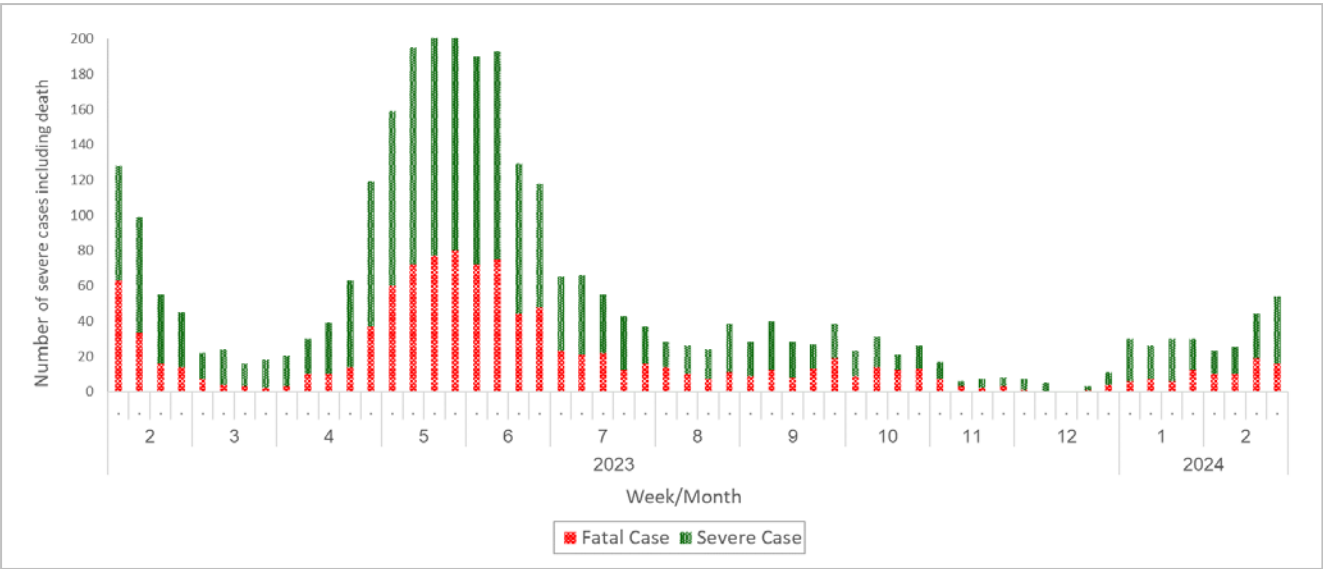


Figure 1.4 Weekly number of severe COVID-19 cases including deaths

Sewage surveillance of SARS-CoV-2 virus

In week 8, the 7-day geometric mean per capita viral load of SARS-CoV-2 virus from sewage surveillance was around 453,000 copy/L as compared to around 473,000 copy/L in the preceding week. (Figure 1.5)

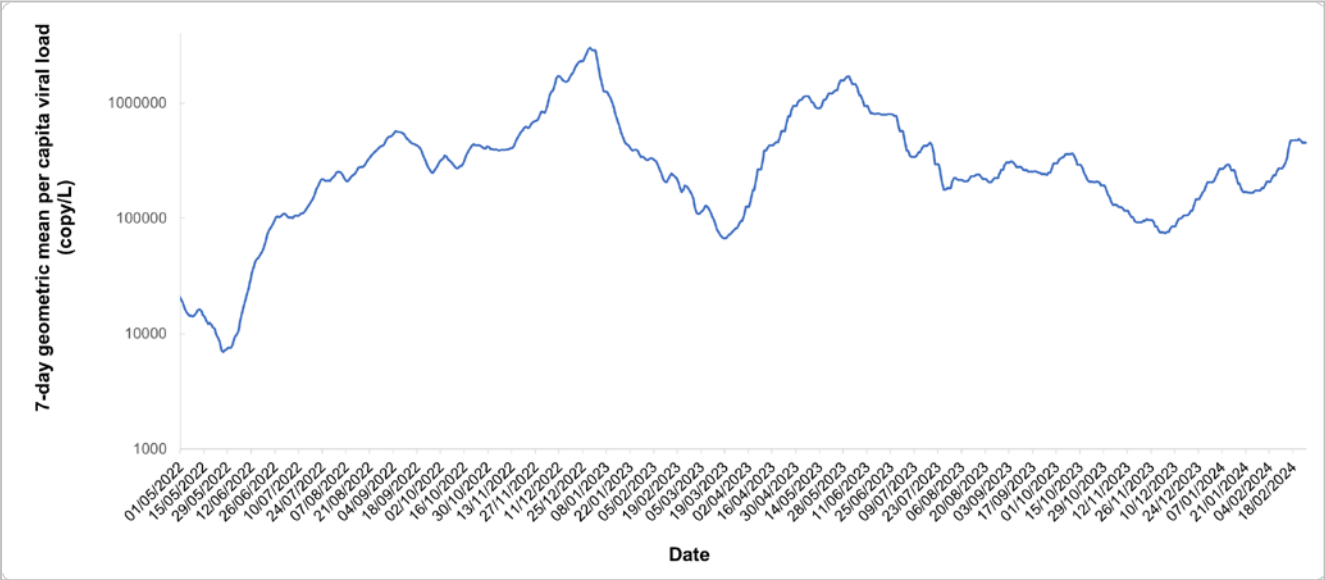


Figure 1.5 7-day geometric mean per capita viral load of SARS-CoV-2 virus from sewage surveillance since May 1, 2022

COVID-19 surveillance among sentinel general out-patient clinics and sentinel private medical practitioner clinics

In week 8, the average consultation rate for COVID-19 among sentinel general out-patient clinics (GOPC) and sentinel private medical practitioner clinics were 67.8 (Figure 1.6) and 33.3 (Figure 1.7) COVID-19 cases per 1,000 consultations, respectively.

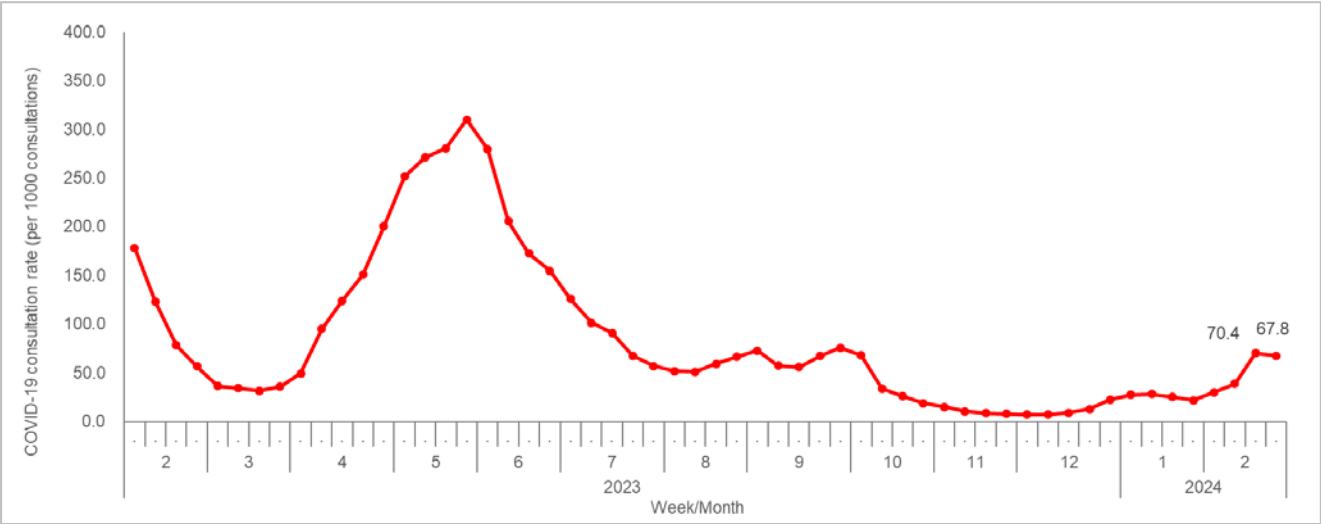


Figure 1.6 Average consultation rate of COVID-19 cases in GOPC

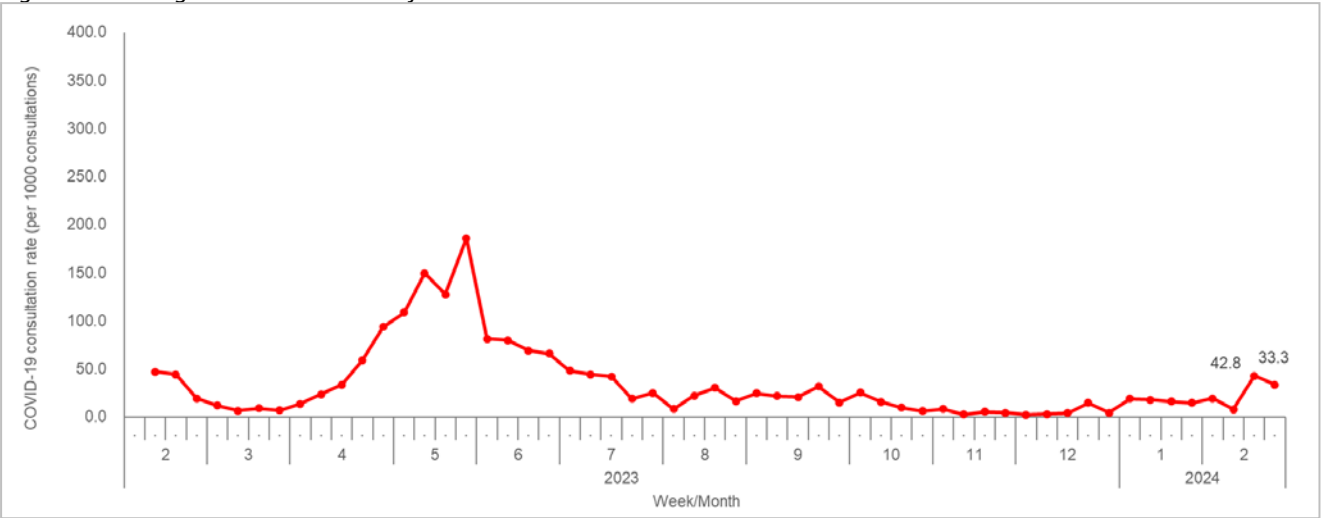


Figure 1.7 Average consultation rate of COVID-19 cases in private medical practitioner clinics

Surveillance on SARS-CoV-2 variants

The Centre for Health Protection (CHP) conducts surveillance on SARS-CoV-2 variants from sewage samples. The latest surveillance data (as of Feb 14, 2024) showed that JN.1 and its descendant lineages remained the most prevalent variant, comprising around 91.5% of all characterised specimens. At the same time, the prevalence of XBB.1.9.2^ comprised about 8.5% of all specimens. (Figure 1.8)

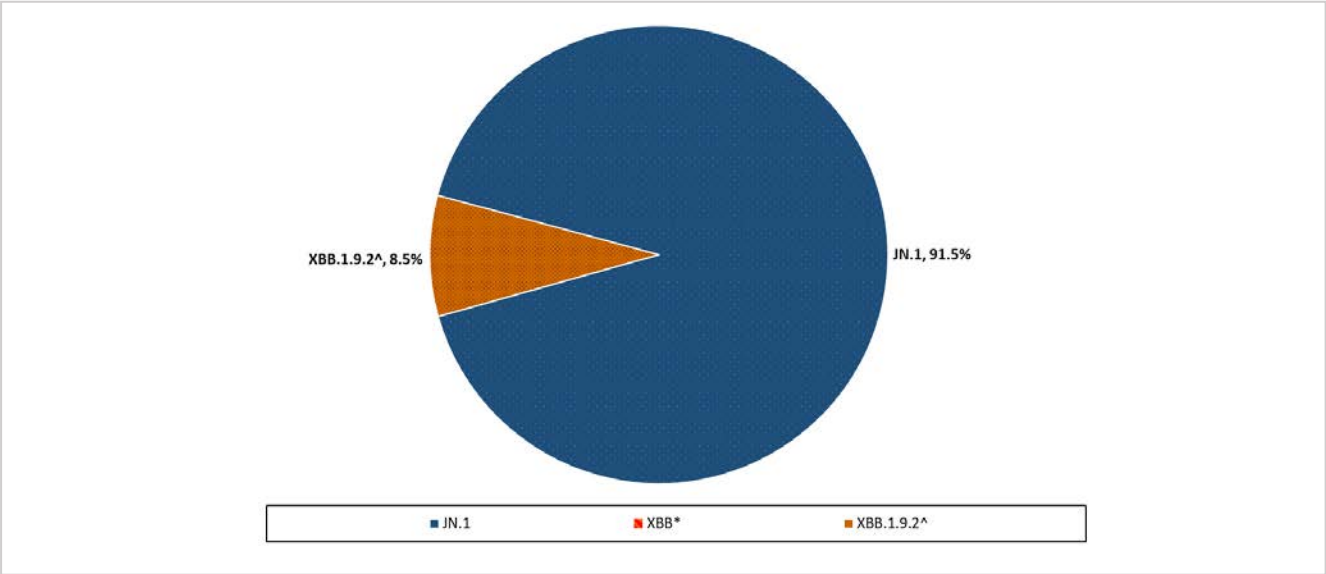


Figure 1.8 Estimated proportion of variants among sewage samples

* Includes descendant lineages, except those individually specified elsewhere in the graph

^ Including EG.5, HV.1 and their descendant lineages

CHP also conducted genetic characterisation of 50 specimens obtained from reported severe and fatal cases of COVID-19 between Feb 14, 2024 and Feb 27, 2024. The results showed that JN.1 and its descendant lineages remained the most prevalent variant, comprising around 96% of all characterised specimens (48 cases). At the same time, the prevalence of XBB and its descendant lineages comprised around 4% of all specimens. (Figure 1.9)

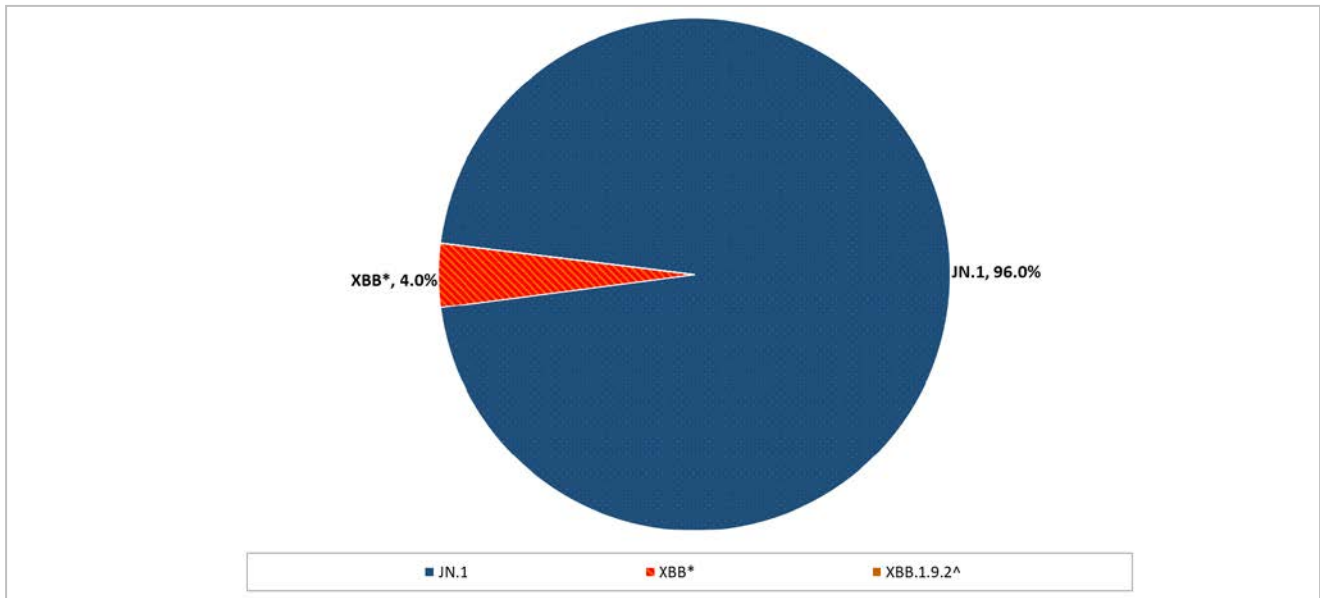


Figure 1.9 Proportion of variants among specimens obtained from reported severe and death cases for COVID-19

* Includes descendant lineages, except those individually specified elsewhere in the table.

^ Including EG.5, HV.1 and their descendant lineages

Besides, CHP conducted genetic characterisation for the specimens obtained from some non-severe cases of COVID-19 during the same period. The results showed that JN.1 and its descendant lineages are the most prevalent variant, comprising around 97% of all characterised specimens. At the same time, XBB and its descendant lineages comprised about 3% of all characterised specimens.

Global situation of COVID-19 activity

- Globally, as of Feb 11, 2024, there have been 774,631,444 confirmed cases of COVID-19, including 7,031,216 deaths, reported to WHO.
- According to WHO COVID-19 epidemiological update last published on Feb 16, 2024,
 - ◆ Over 0.5 million new cases and over 10,000 deaths were reported in the last 28 days (Jan 8 to Feb 4, 2024) globally.
 - ◆ The highest numbers of new 28-day cases were reported from Russia, Singapore, Malaysia, Australia and Greece. The highest numbers of new 28-day deaths were reported from the USA, Italy, Russia, Greece and Sweden.
 - ◆ WHO commented that current trends in reported COVID-19 cases were underestimates of the true number due to the reduction in testing and delays in reporting in many countries. Therefore, related data should be interpreted with caution.
 - ◆ Currently, WHO is monitoring five VOIs, which are BA.2.86, EG.5, JN.1, XBB.1.5 and XBB.1.16, and three VUMs, which are XBB, XBB.1.9.1 and XBB.2.3.
 - ◆ Between Jan 29 and Feb 4, 2024, JN.1 is the most prevalent variant globally, accounting for 88.2% compared to 77.1% between Jan 8 and 14, 2024. The updated risk evaluation for JN.1 suggested an overall evaluation of low public health risk at the global level based on available evidence. During the same period, the prevalence of BA.2.86, EG.5, XBB.1.5 and XBB.1.16 decreased from 5.4%, 12.1%, 2.2% and 0.8% to 3.7%, 5.4%, 0.9% and 0.4% respectively. All VUMs showed decreasing trends over the reporting period.

Sources:

1. [WHO COVID-19 dashboard](#), accessed on Feb 29, 2024
2. [World Health Organization COVID-19 epidemiological update](#)

Local Situation of Influenza Activity (as of Feb 28, 2024)

Reporting period: Feb 18 – 24, 2024 (Week 8)

- Hong Kong has entered winter influenza season since early January. According to the latest surveillance data, influenza detection rate increased as compared to previous week while influenza-associated hospital admission rate remained above the baseline threshold.
- 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.
- The Seasonal Influenza Vaccination Subsidy Scheme (VSS) 2023/24 has been launched since September 28, 2023, whereas the Government Vaccination Programme (GVP), Seasonal Influenza Vaccination School Outreach (Free of Charge) Programme and the Residential Care Home Vaccination Programme have been launched since October 5, 2023. The public may visit the CHP's Vaccination Schemes page for more details of the vaccination programmes (<https://www.chp.gov.hk/en/features/17980.html>).
- Apart from getting influenza vaccination, members of the public should always maintain good personal and environmental hygiene.
- For the latest information on seasonal influenza and its prevention, please visit the Centre for Health Protection's Seasonal Influenza page (http://www.chp.gov.hk/en/view_content/14843.html).

Influenza-like-illness surveillance among sentinel general out-patient clinics and sentinel private medical practitioner clinics, 2020-24

In week 8, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPC) was 10.7 ILI cases per 1,000 consultations, which was higher than 10.3 recorded in the previous week (Figure 2.1, left). The average consultation rate for ILI among sentinel private medical practitioner (PMP) clinics was 49.2 ILI cases per 1,000 consultations, which was lower than 54.3 recorded in the previous week (Figure 2.1, right).

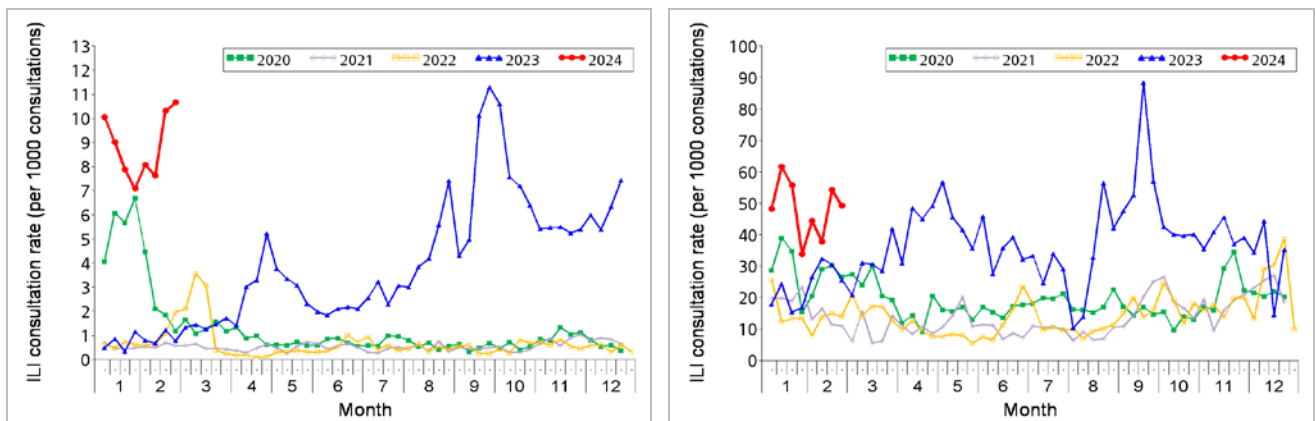


Figure 2.1 ILI consultation rates at sentinel GOPC (left) and PMP clinics (right), 2020-24

Note: The CHP has started to use electronic data on diagnosis coding of patients of the Hospital Authority's GOPC for sentinel surveillance since January 2020, replacing manual data collection in the past.

Laboratory surveillance, 2020-24

Among the 10,370 respiratory specimens received in week 8*, 702 (6.77%) were tested positive for seasonal influenza A or B viruses. Among the subtyped influenza detections, there were 177 (26%) influenza A(H1), 288 (42%) influenza A(H3) and 218 (32%) influenza B viruses. The positive percentage (6.77%) was below the baseline threshold of 9.21% but was higher than 6.60% recorded in the previous week (Figure 2.2).

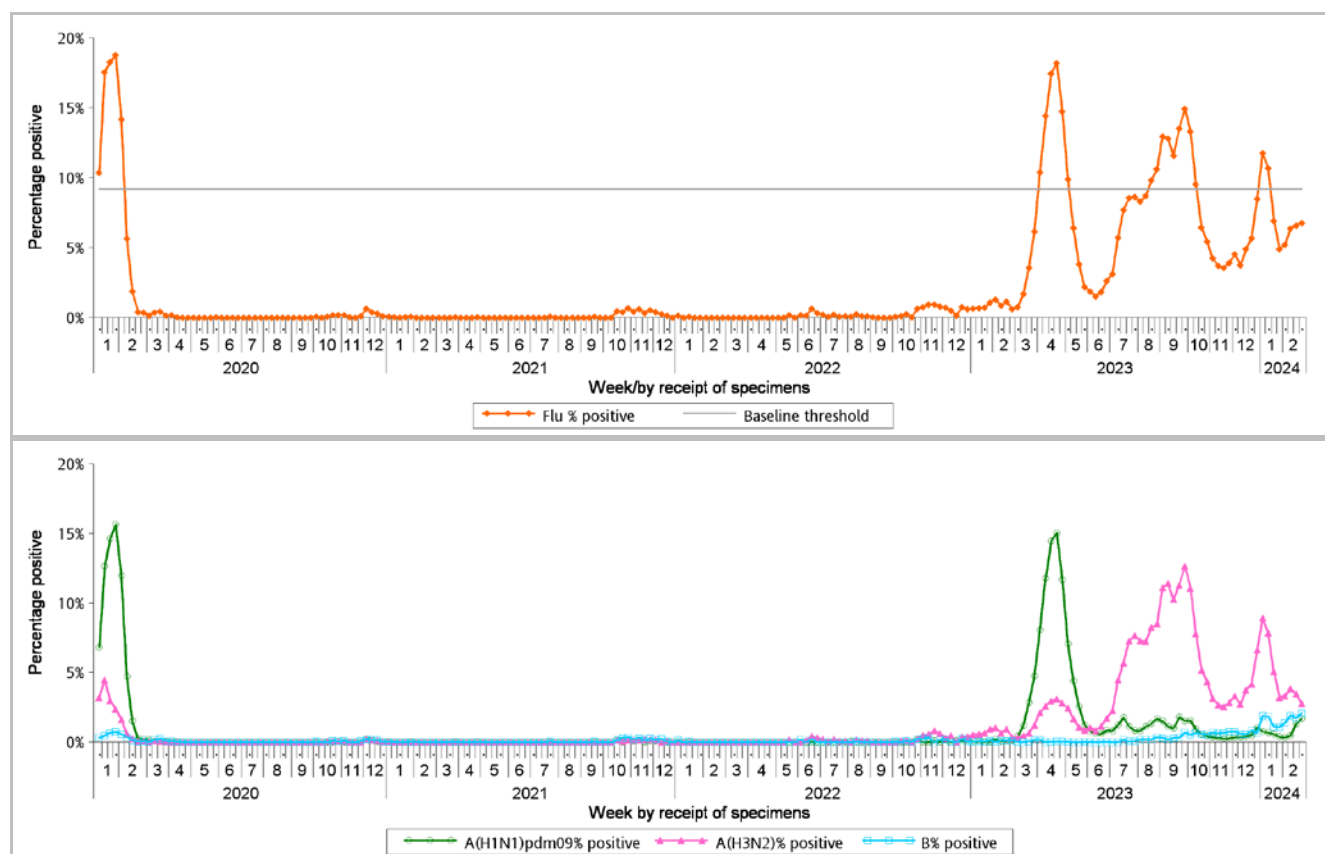


Figure 2.2 Percentage of respiratory specimens tested positive for influenza viruses, 2020-24 (upper: overall positive percentage, lower: positive percentage by subtypes)

[Note: The baseline threshold is 1.96 standard deviation above the average weekly positive percentage during non-season periods from 2014 week 49 to 2019 week 48.]

Remarks: Some specimens may contain vaccine strains from people with recent history of receiving live-attenuated influenza vaccine

Surveillance of oseltamivir resistant influenza A and B viruses

- In December 2023, there were no new reports of oseltamivir (Tamiflu) resistant influenza A and B viruses.
- For the results of previous months, please refer to the following webpage:
<https://www.chp.gov.hk/en/statistics/data/10/641/695/7035.html>

* Including 8,766 specimens received by Public Health Laboratory Services Branch, Centre for Health Protection and 1,604 specimens received by the Hospital Authority

Influenza-like illness outbreak surveillance, 2020-24

In week 8, 14 ILI outbreaks occurring in schools/institutions were recorded (affecting 71 persons), as compared to 2 outbreaks recorded in the previous week (affecting 8 persons) (Figure 2.3). The overall number was at the low intensity level currently (Figure 2.4*). In the first 4 days of week 9 (Feb 25 to 28), 26 ILI outbreaks occurring in schools/institutions were recorded (affecting 119 persons). Since the start of 2023-24 winter influenza season in week 2, 146 outbreaks were recorded (as of Feb 28).

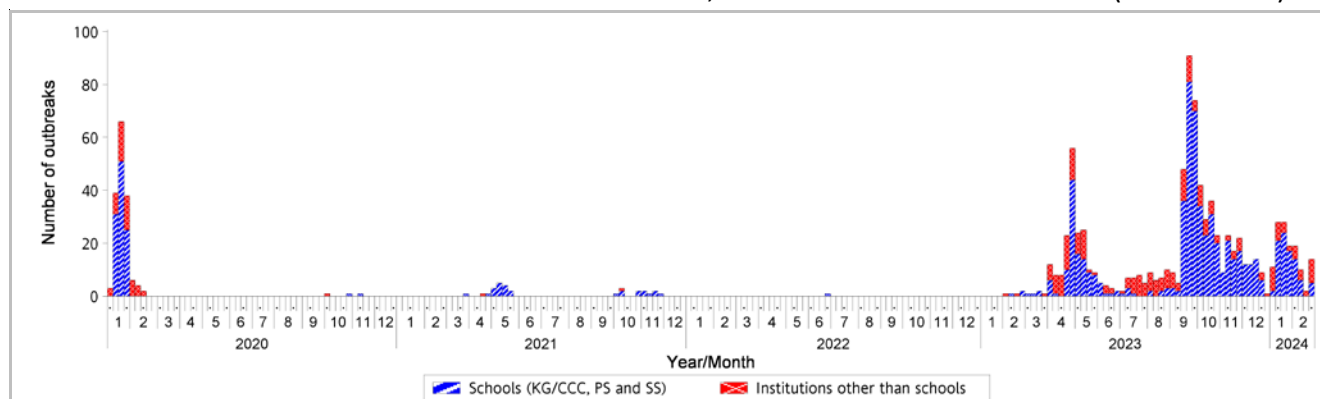


Figure 2.3 ILI outbreaks in schools/institutions, 2020-24

Type of institutions	Week 7	Week 8	Cumulative number of outbreaks since week 2 (as of Feb 28)
Child care centre/ kindergarten (CCC/KG)	0	0	16
Primary school (PS)	0	5	75
Secondary school (SS)	0	0	16
Residential care home for the elderly	1	4	16
Residential care home for persons with disabilities	0	2	11
Others	1	3	12
<i>Total number of outbreaks</i>	2	14	146
<i>Total number of persons affected</i>	8	71	770

In comparison, 482, 589, 154 and 279 outbreaks were recorded in the same duration of surveillance (7 complete weeks) in the 2017/18 winter, 2018/19 winter, 2023 April and 2023 summer seasons respectively, as compared with 120 outbreaks in the current season (Figure 2.5).

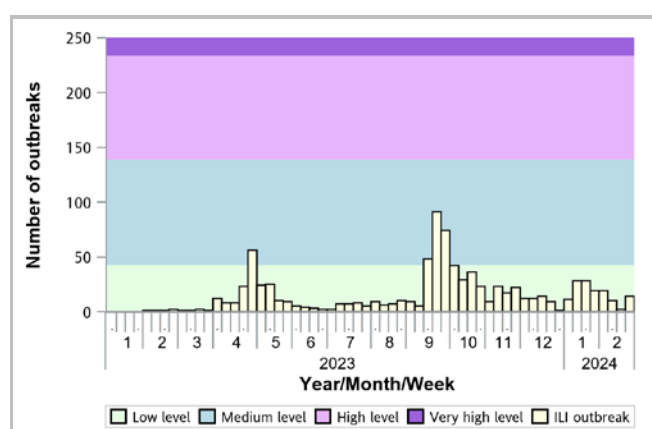


Figure 2.4 ILI outbreaks in schools/institutions, 2023-24

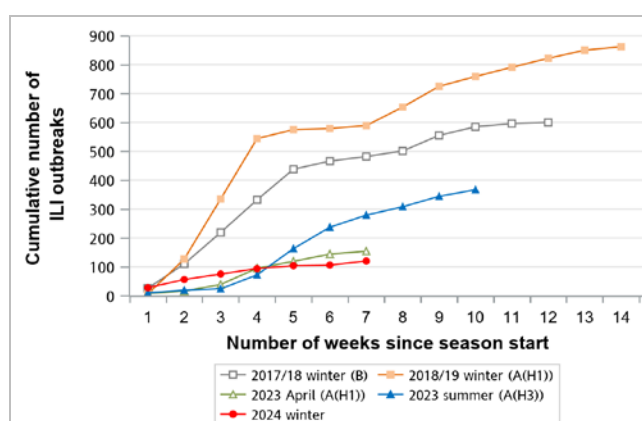


Figure 2.5 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2018–19 and 2023–24

Note: The predominant virus was shown in bracket.

* Various intensity levels applicable for this year were calculated with the moving epidemic method (MEM) based on the relevant historical data recorded from 2010 week 49 to 2019 week 48. 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, 2020-24

In week 8, the overall admission rate in public hospitals with principal diagnosis of influenza was 0.43 (per 10,000 population) as compared to 0.45 recorded in the previous week (Figure 2.6). It was above the baseline threshold of 0.25 but at the low intensity level (Figure 2.7*). 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 2.63, 0.75, 0.32, 0.19, 0.17 and 0.80 cases (per 10,000 people in the age group) respectively, as compared to 1.87, 0.61, 0.11, 0.26, 0.19 and 0.95 cases in the previous week (Figure 2.6).

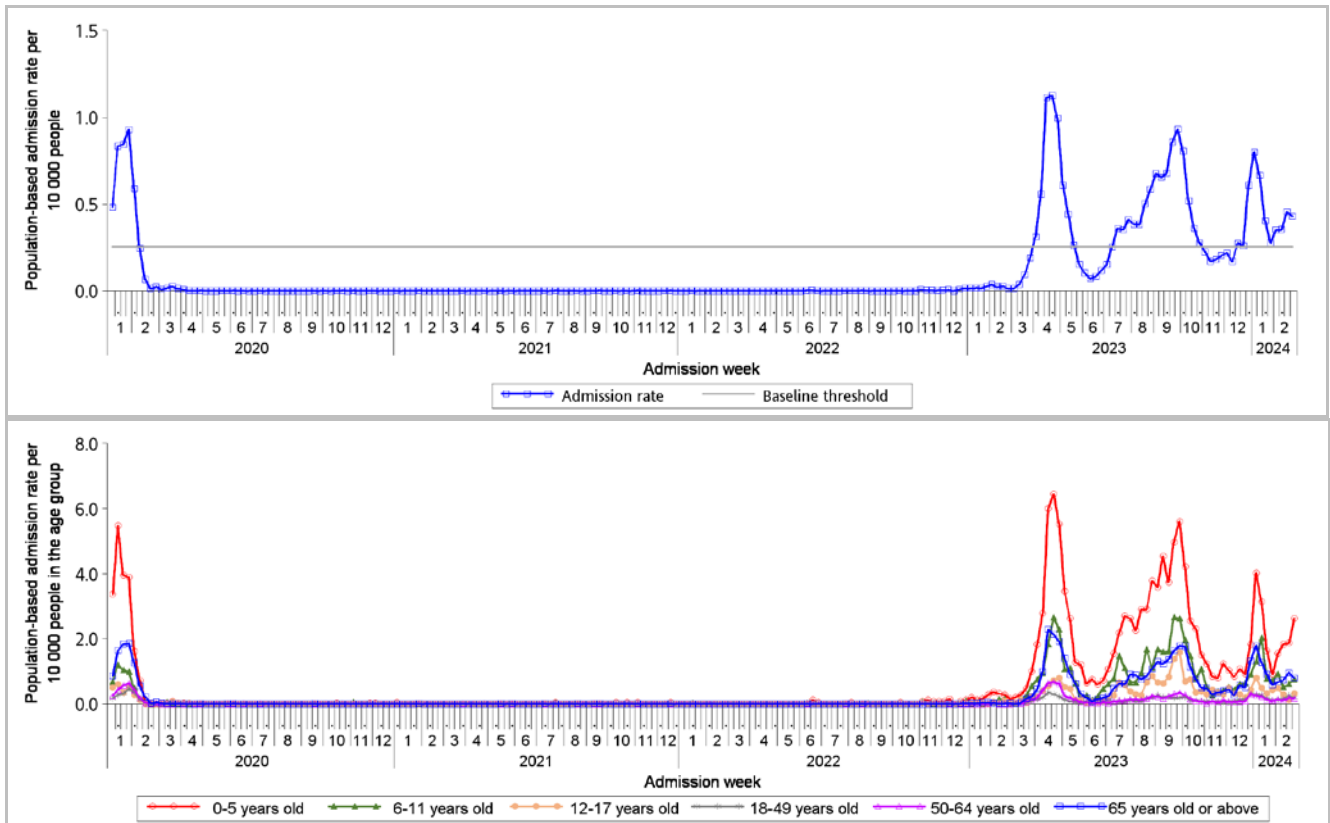


Figure 2.6 Influenza-associated hospital admission rates, 2020-24 (upper: overall rate, lower: rates by age groups)

[Note: The baseline threshold is 1.96 standard deviation above the average weekly admission rate during non-season periods from 2014 week 49 to 2019 week 48.]

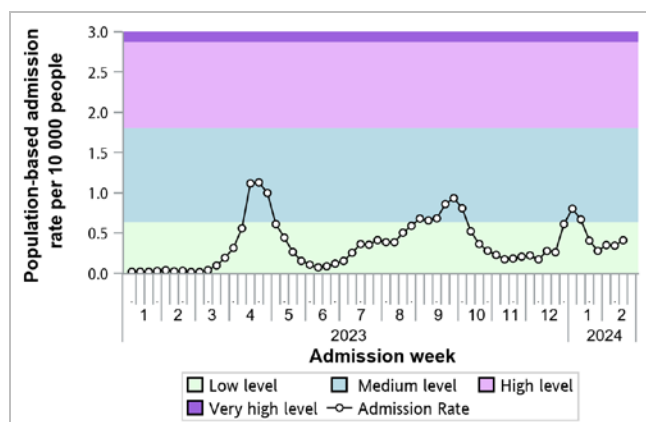


Figure 2.7 Influenza-associated hospital admission rates, 2023-24

*Various intensity levels applicable for this year were calculated with the moving epidemic method (MEM) based on the relevant historical data recorded from 2010 week 49 to 2019 week 48. For details, please refer to this webpage: https://www.chp.gov.hk/files/pdf/explanatory_note_for_flux_mem_enq.pdf

Rate of ILI syndrome group in accident and emergency departments, 2020-24[#]

In week 8, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 195.4 (per 1,000 coded cases), which was lower than the rate of 221.8 in the previous week (Figure 2.8).

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

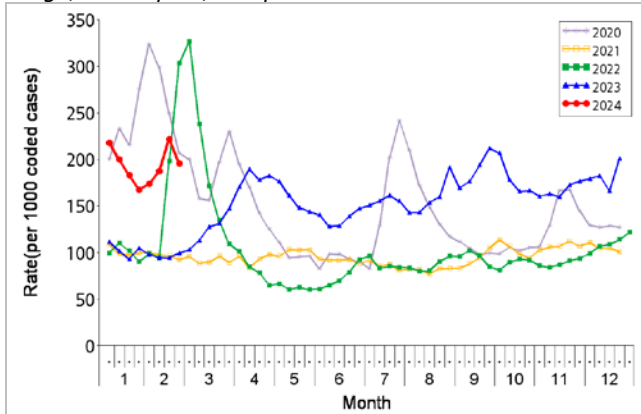


Figure 2.8 Rate of ILI syndrome group in AEDs, 2020-24

Fever surveillance at sentinel child care centres/ kindergartens, 2020-24

In week 8, 1.00% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above). The surveillance for week 7 was suspended due to Chinese New Year holiday (Figure 2.9).

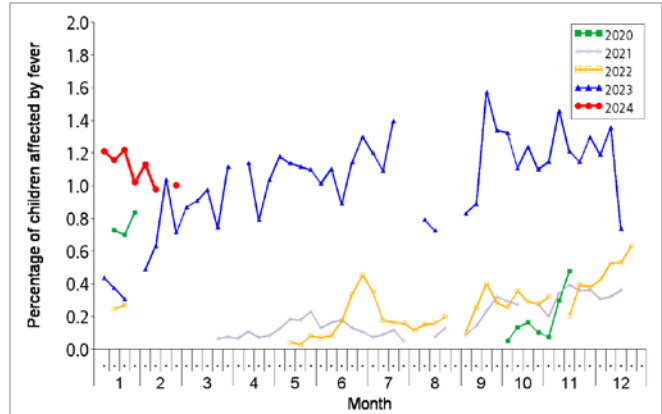


Figure 2.9 Percentage of children with fever at sentinel CCCs/KGs, 2020-24

Fever surveillance at sentinel residential care homes for the elderly, 2020-24

In week 8, 0.18% 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 2.10).

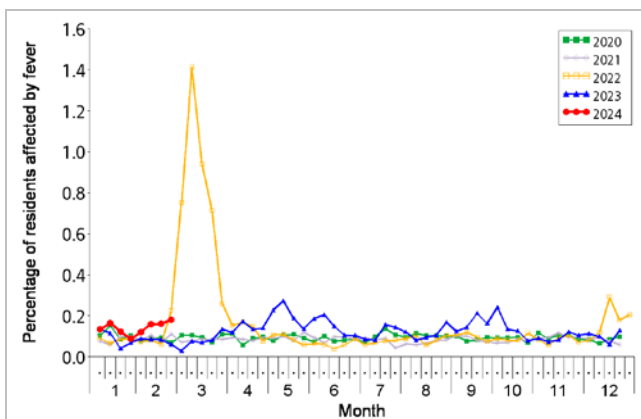


Figure 2.10 Percentage of residents with fever at sentinel RCHes, 2020-24

Influenza-like illness surveillance among sentinel Chinese medicine practitioners, 2020-24

In week 8, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 0.95 ILI cases per 1,000 consultations as compared to 1.57 recorded in the previous week (Figure 2.11).

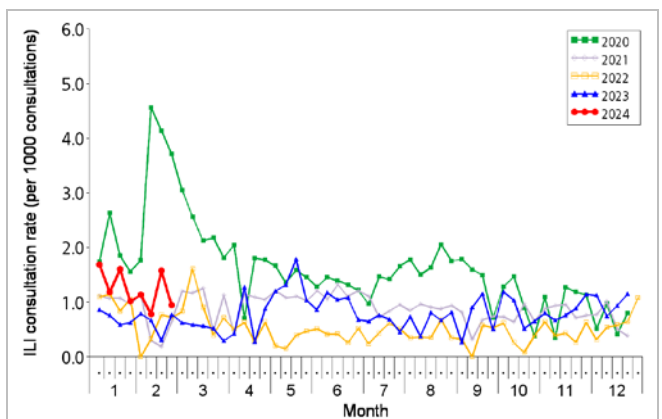


Figure 2.11 ILI consultation rate at sentinel CMPs, 2020-24

Surveillance of severe influenza cases

(Note: The data reported are provisional figures and subject to further revision.)

Surveillance for intensive care unit (ICU) admission/death 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 8, 37 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 26 of them were fatal. Among the 37 adult cases, 9 were known to have received the 2023/24 seasonal influenza vaccine (SIV). In the first 4 days of week 9 (Feb 25 – 28), 17 cases were recorded, in which 7 of them were fatal.

Week	Influenza type					
	A(H1)	A(H3)	A(H1) and A(H3)	A (pending subtype)	B	C
Week 8	9	23	0	0	5	0
First 4 days of week 9 (Feb 25 – 28)	4	8	0	2	3	0

- Since the start of 2023-24 winter influenza season in week 2, 238 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 143 of them were fatal. Among them, 33 patients had influenza A(H1) infection, 144 patients with influenza A(H3), 1 patient with influenza A(H1) and A(H3), 22 patients with influenza A (pending subtype), 36 patients with influenza B and 2 patients with influenza C.
- In comparison, 397, 391, 274 and 214 adult cases were recorded in the same duration of surveillance (7 complete weeks) in the 2017/18 winter, 2018/19 winter, 2023 April and 2023 summer seasons respectively, as compared with 221 cases in the current season (Figure 2.12, left). The corresponding figures for deaths were 256, 216, 172, 132 in the above seasons, as compared with 136 deaths in the current season (Figure 2.12, right).

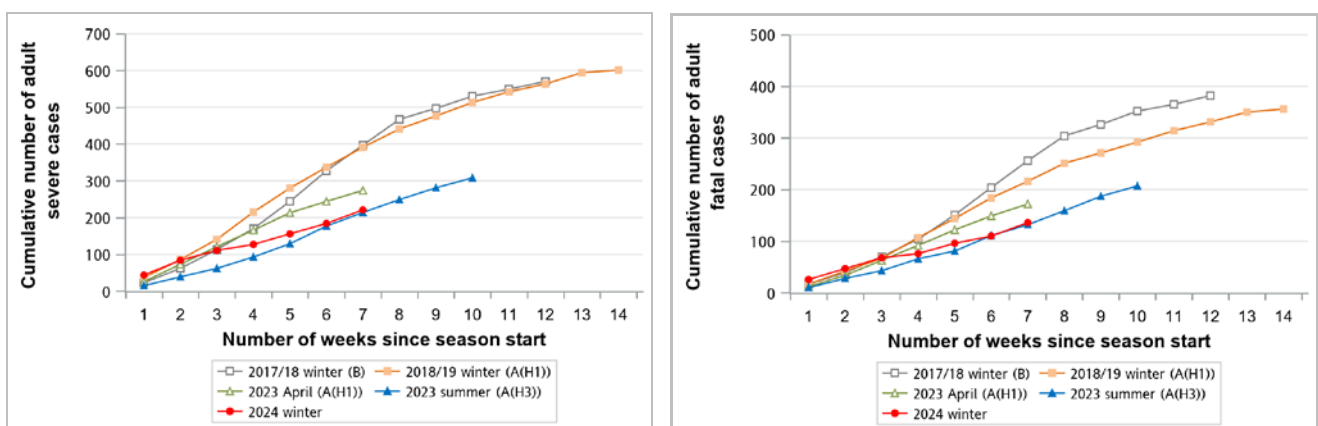


Figure 2.12 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2018–19 and 2023–24 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 8 and the first 4 days of week 9 (Feb 25 – 28), there was 1 case of severe paediatric influenza-associated complication/death.

Reporting week	Age	Sex	Complication	Fatal case?	Influenza subtype	History of receiving influenza vaccine for this season
8	4 years	Female	Severe pneumonia	No	Influenza B	No

- Since the start of 2023-24 winter influenza season in week 2, 8 paediatric cases of influenza-associated complication/death were reported, in which none of them were fatal. Six cases had infections with influenza A(H3), one with influenza A(H1) and one with influenza B. Three of them received the 2023/24 SIV. In 2024, 9 paediatric cases of influenza-associated complication/death were recorded, in which none of them were fatal (as of Feb 28).
- In comparison, 15, 21, 3 and 13 paediatric cases of influenza-associated complication/death were recorded in the same duration of surveillance (7 complete weeks) in the 2017/18 winter, 2018/19 winter, 2023 April and 2023 summer seasons respectively, as compared with 8 cases in the current season (Figure 2.13, left). The corresponding figures for deaths were 2, 1, 2 and 1 in the above seasons, as compared with 0 death in current season (Figure 2.13, right).

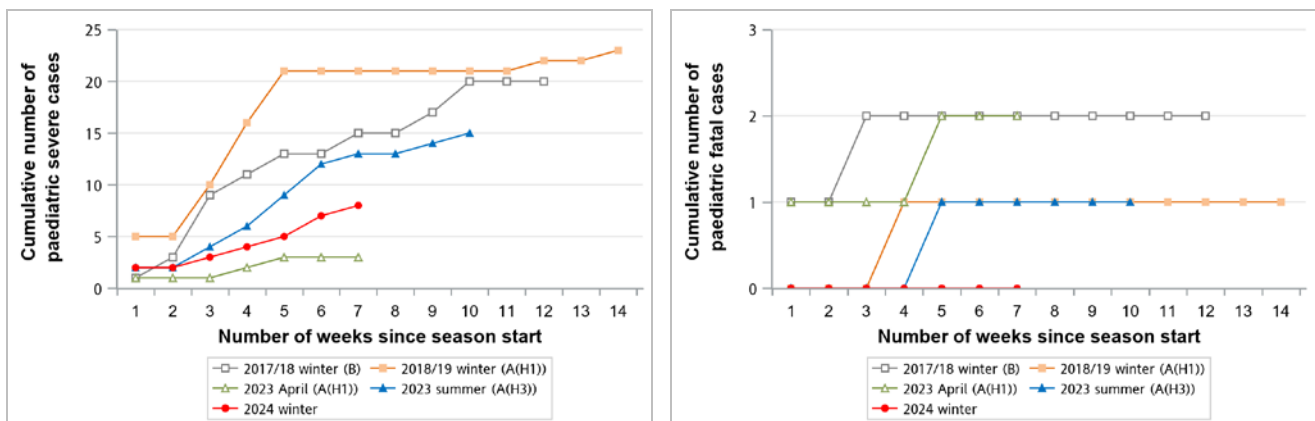


Figure 2.13 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2018–19 and 2023–24 (left: complication/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

Severe influenza cases of all ages

- Since the start of 2023-24 winter influenza season in week 2, 246 severe influenza cases among all ages have been reported, including 143 deaths (as of Feb 28).

Age group	Cumulative number of cases (death)
0-5	4 (0)
6-11	3 (0)
12-17	1 (0)
18-49	34 (4)
50-64	40 (13)
>=65	164 (126)

- Among the adult fatal cases with available clinical information, about 87% had chronic diseases.
- Among patients with laboratory confirmation of influenza admitted to public hospitals in this season (from Jan 7 to Feb 28), 3.1% 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).

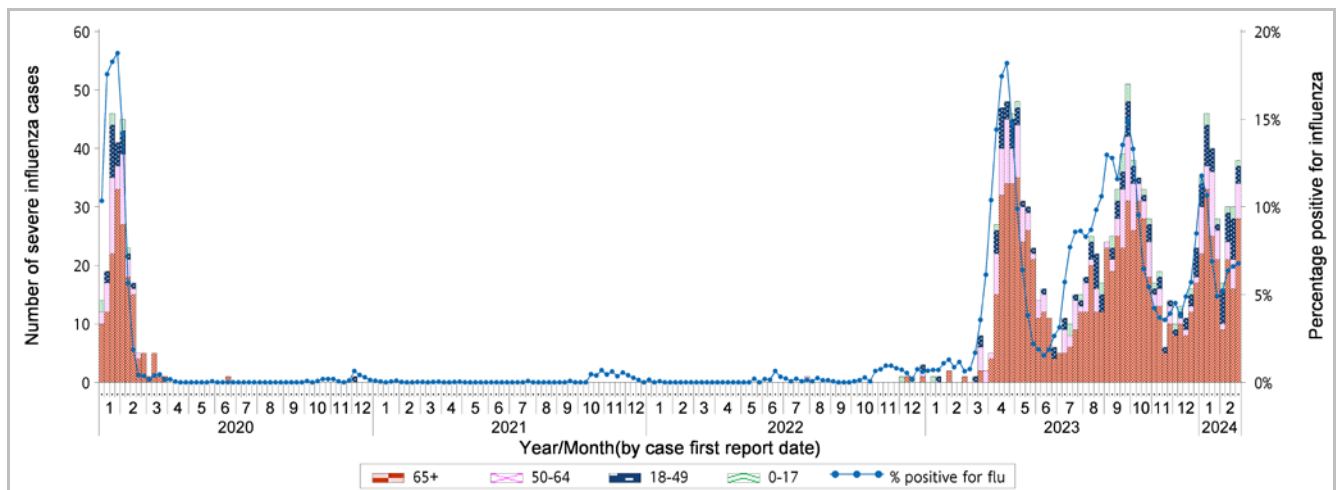


Figure 2.14 Weekly number of severe influenza cases by age groups, 2020-24 (the percentage positive for influenza viruses in Figure 2.2 is also shown in this graph)

Global Situation of Influenza Activity

Influenza activity remained elevated in most Northern hemisphere countries (data up to Feb 4, 2024).

- In the United States (week ending Feb 17, 2024), influenza activity remained elevated nationally with increases in some parts of the country. The percentage of specimens tested positive for influenza was 14.8%, as compared to 15.6% in the preceding week. The percentage of out-patient visits for ILI was 4.5%, which was above the national baseline of 2.9%. The most frequently reported influenza viruses in week 7 were influenza A(H1) viruses.
- In Canada (week ending Feb 17, 2024), influenza season started in late November. Most indicators of Influenza activity remained similar compared to the preceding week. The weekly percentage of tests positive for influenza was 11.6% in week 7. Influenza A predominated, while influenza B detections were steadily increasing over the past 6 weeks but remained low.
- In the United Kingdom (week ending Feb 18, 2024), influenza activity decreased across most indicators. Influenza positivity was 8.9% in week 7 as compared to 12.3% in the preceding week. The weekly ILI consultation rate in England decreased to 7.6 from 9.1 per 100,000 population in preceding week, and remained within baseline activity levels.
- In Europe (week ending Feb 18, 2024), the overall influenza activity remained elevated but appeared to have stabilized over the past 6 weeks. The percentage of sentinel specimens tested positive for influenza was well above 10% epidemic threshold at 24%, as compared to 30% in preceding week. Influenza A(H1) viruses predominated, followed by influenza A(H3) viruses.
- In Mainland China (week ending Feb 18, 2024), influenza surveillance data showed influenza detections in southern and northern provinces continued to decrease. The percentage of specimens tested positive for influenza in the southern and northern provinces were 31.6% and 20.4% respectively. Influenza B(Victoria) viruses predominated.
- In Taiwan (week ending Feb 24, 2024), influenza-like illness activity was at plateau phase. The percentage of specimens tested positive for influenza in week 6 was 13.4%. Most of the influenza detections in the 4 weeks from week 3 to week 6 were influenza A(H3N2) (65.5%), followed by influenza B (26.4%) and influenza A(H1) (8.0%) viruses.
- In Japan (week ending Feb 18, 2024), the average number of reported ILI cases per sentinel site decreased to 20.64 from 23.93 in the preceding week, but was above the baseline level of 1.00. Most of the influenza detections in recent weeks were influenza B viruses.
- In South Korea (week ending Feb 17, 2024), the weekly ILI rate remained elevated. The rate in week 7 was 24.3 per 1,000 out-patient visits, which was above the season epidemic threshold of 6.5. In week 7, 17.8% of tests were positive for influenza (including 9.4% influenza B, 7.6% influenza A(H3N2) and 0.7% 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](#), [UK Health Security Agency](#), [European Centre for Disease Prevention and Control \(ECDC\)](#) and [WHO Regional Office for Europe \(WHO Euro\)](#), [Chinese National Influenza Center](#), [Taiwan Centers for Disease Control](#), [Japan Ministry of Health, Labour and Welfare](#) and [Korean Disease Control and Prevention Agency](#).