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COVID-19 & FLU EXPRESS

衞生防護中心 Centre for Health Protection
保障市民健康 Protecting Hong Kong's health

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 Sep 27, 2023)

Reporting period: Sep 17 – Sep 23, 2023 (Week 38)

- The latest surveillance data showed that local COVID-19 activity remained stable.
- 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 who have never been vaccinated or infected with COVID-19 before should adopt additional hygiene measures to protect themselves such as avoid going to crowded places, wear mask properly and maintain hand hygiene. For more 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 people who have not received vaccination or infected within the past 6 months are recommended to receive another dose of COVID-19 vaccine as soon as possible. For more details, please visit (https://www.chp.gov.hk/files/pdf/consensus_interim_recommendations_on_the_use_of_covid19_vaccines_in_hong_kong_29mar.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 38, the weekly number of newly recorded positive nucleic acid test laboratory detections for SARS-CoV-2 virus was 695 as compared to 686 in the preceding week. (Figure 1.1)

In the first 4 days of week 39 (Sep 24 – Sep 27), the daily number of newly recorded positive nucleic acid test laboratory detections for SARS-CoV-2 virus ranged from 101 to 122.

Since Jan 30, 2023, the cumulative number of positive nucleic acid test laboratory detections was 44,844 (as of Sep 27, 2023).

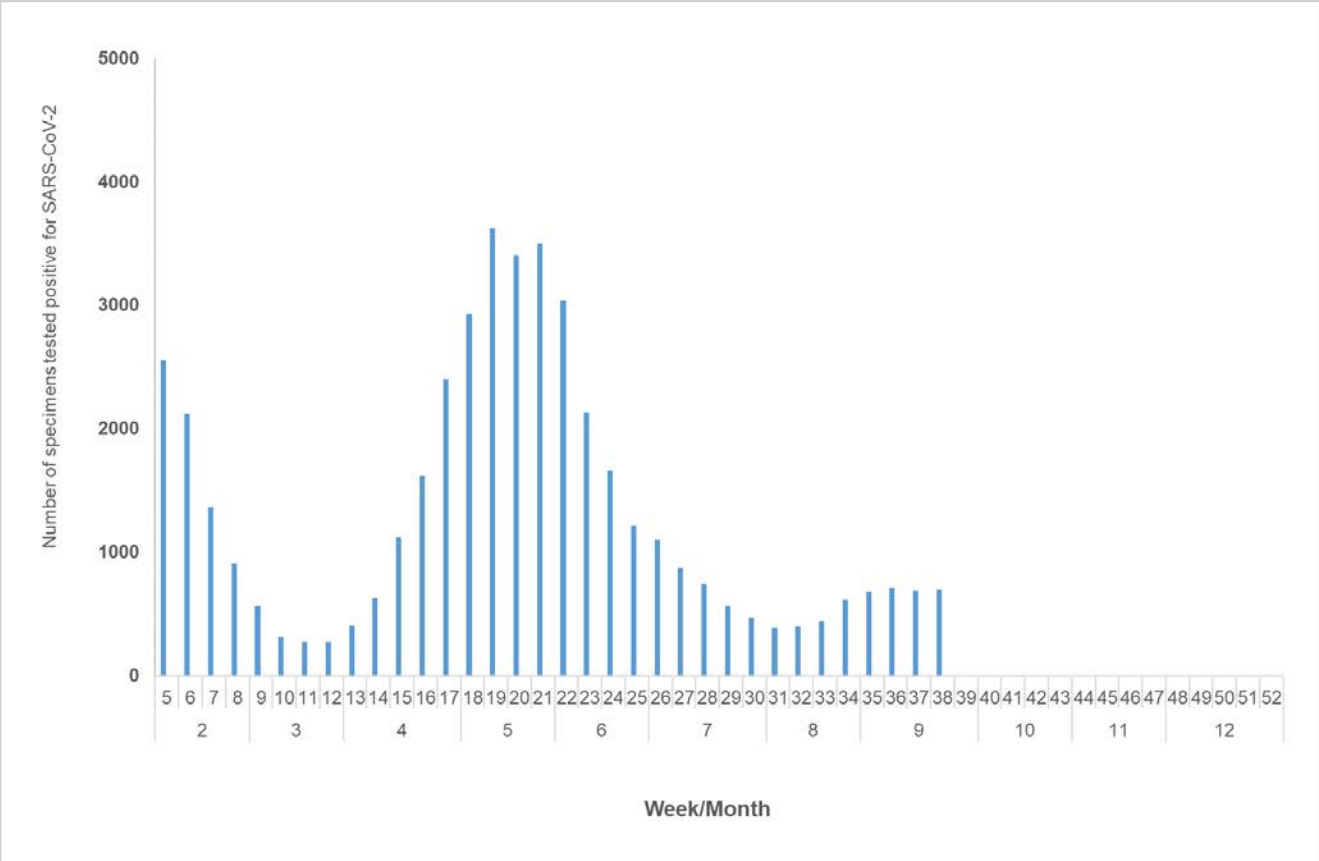

Figure 1.1 Weekly number of positive nucleic acid test laboratory detections for SARS-CoV-2 virus

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

Among the 6,560 respiratory specimens received by the Public Health Laboratory Services Branch (PHLSB) in week 38, 550 (8.38%) were tested positive for SARS-CoV-2 virus. (Figure 1.2)

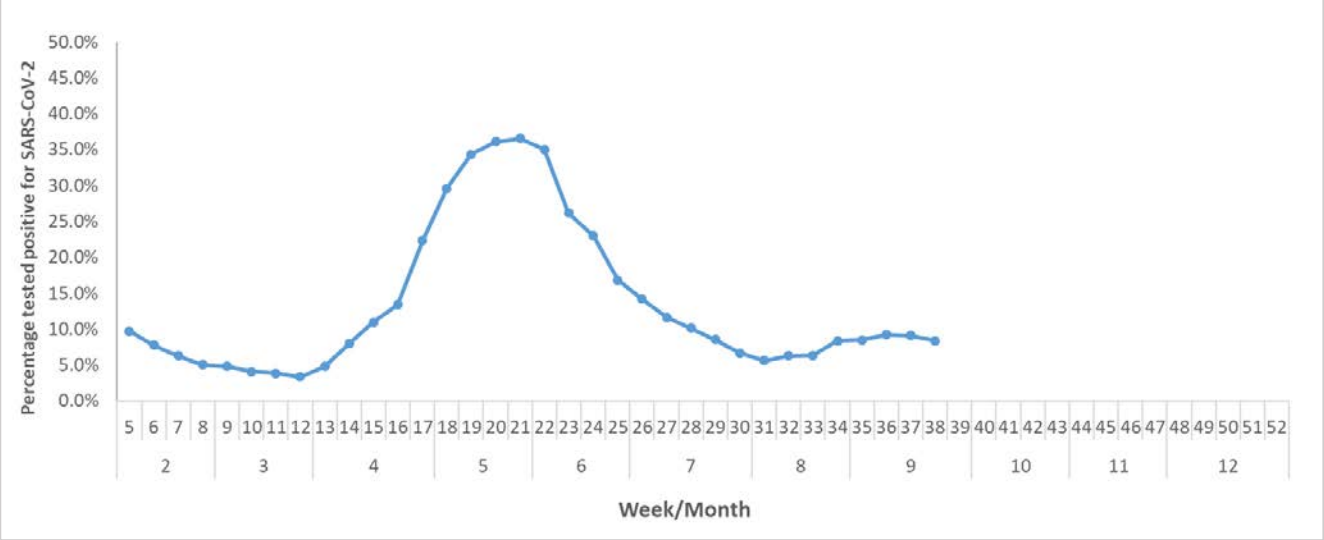

Figure 1.2 Percentage of specimens tested positive for SARS-CoV-2 virus at PHLSB

COVID-19 outbreak surveillance

In week 38, 9 COVID-19 outbreaks occurring in schools/institutions were recorded (affecting 54 persons), as compared to 10 outbreaks recorded in the previous week (affecting 85 persons). (Figure 1.3)

In the first 4 days of week 39 (Sep 24 – Sep 27), 5 COVID-19 outbreaks occurring in schools/institutions were recorded (affecting 20 persons).

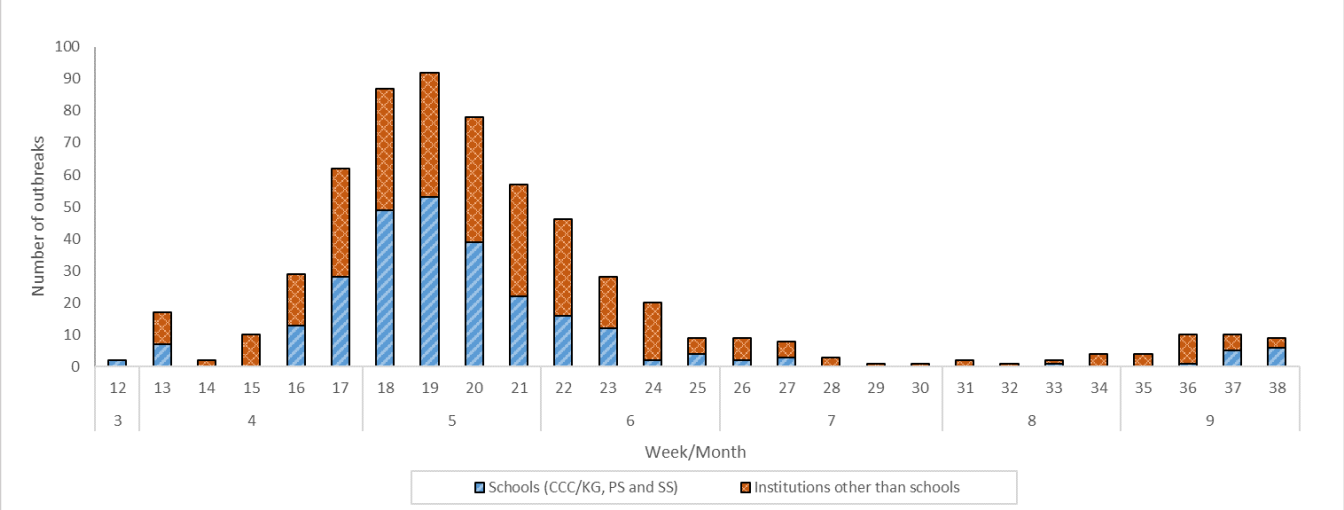

Figure 1.3 COVID-19 outbreaks in schools/institutions

Type of institutions	Week 37	Week 38	First 4 days of week 39 (Sep 24 – Sep 27)
Child care centre/ kindergarten (CCC/KG)	1	1	0
Primary school (PS)	2	2	0
Secondary school (SS)	2	3	0
Residential care home for the elderly	2	1	3
Residential care home for persons with disabilities	3	2	1
Others	0	0	1
Total number of outbreaks	10	9	5
Total number of persons affected	85	54	20

Surveillance of severe and fatal COVID-19 cases

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

In week 38, the weekly number of severe COVID-19 cases including deaths with cause of death preliminarily assessed to be related to COVID-19 was 27 as compared to 28 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 916 (as of Sep 23, 2023).

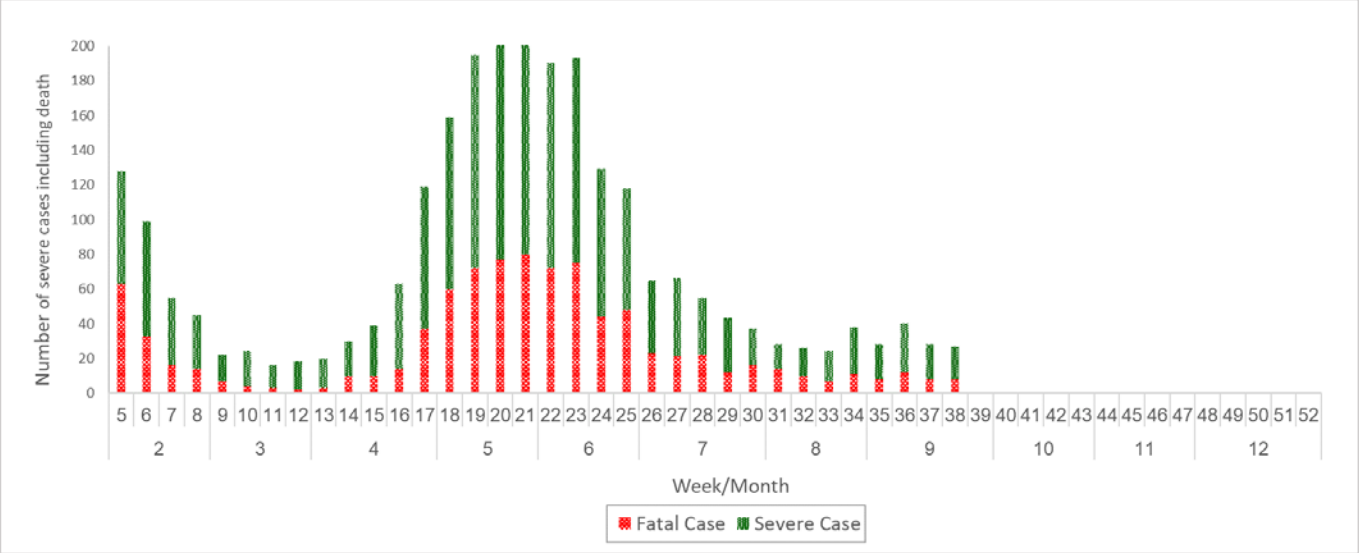

Figure 1.4 Weekly number of severe COVID-19 cases including deaths

Sewage surveillance of SARS-CoV-2 virus

In week 38, the 7-day geometric mean per capita viral load of SARS-CoV-2 virus from sewage surveillance was around 242,000 copy/L as compared to around 254,000 copy/L in the preceding week. (Figure 1.5)

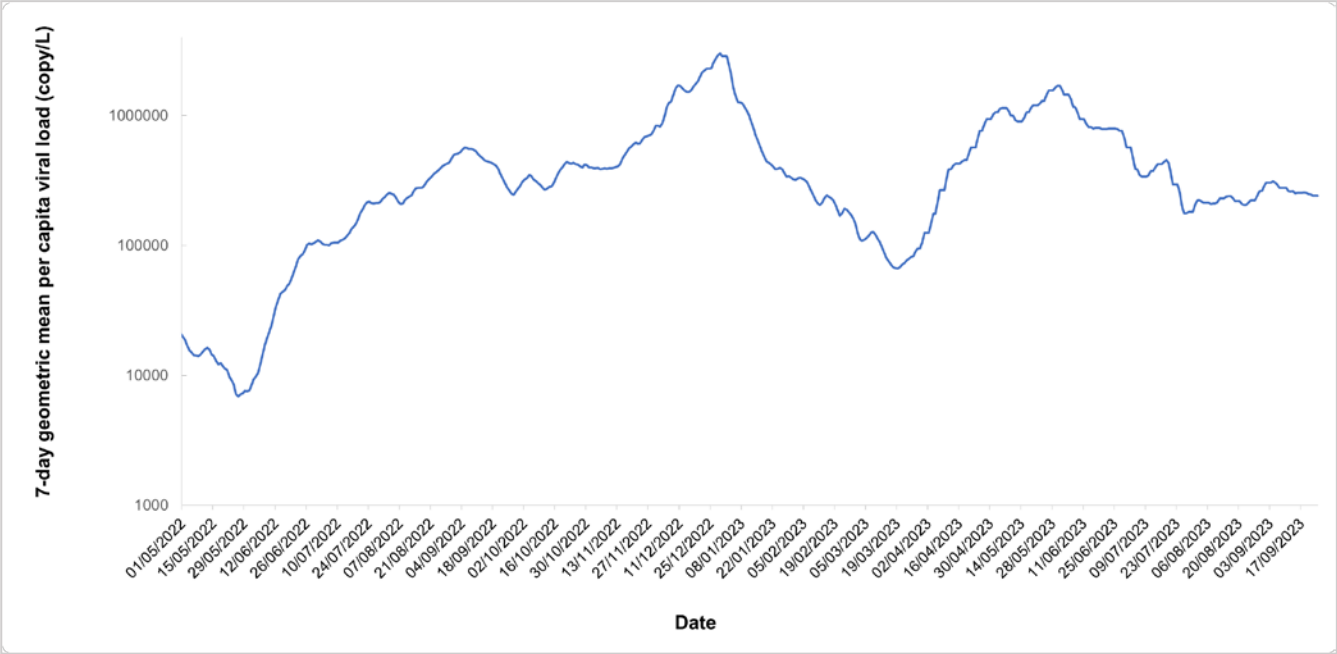

Figure 1.5 7-day geometric mean per capita viral load of SARS-CoV-2 virus from sewage surveillance since May 1, 2022

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

In week 38, the average consultation rate for COVID-19 among sentinel general out-patient clinics (GOPC) and sentinel private medical practitioner clinics were 67.2 (Figure 1.6) and 31.6 (Figure 1.7) COVID-19 cases per 1,000 consultations, respectively.

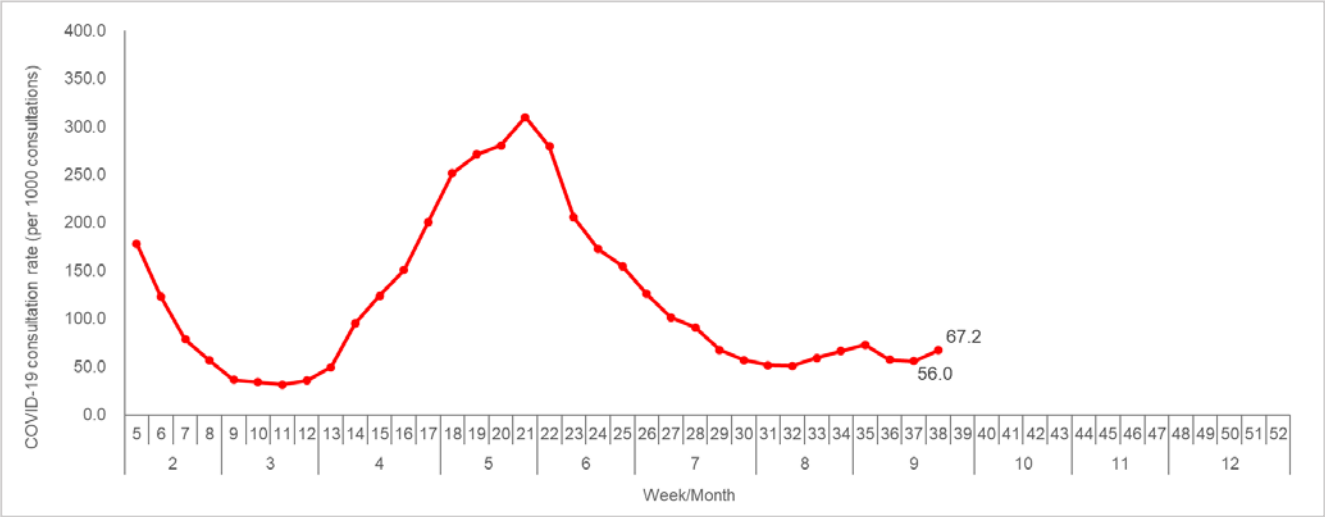

Figure 1.6 Average consultation rate of COVID-19 cases in GOPC

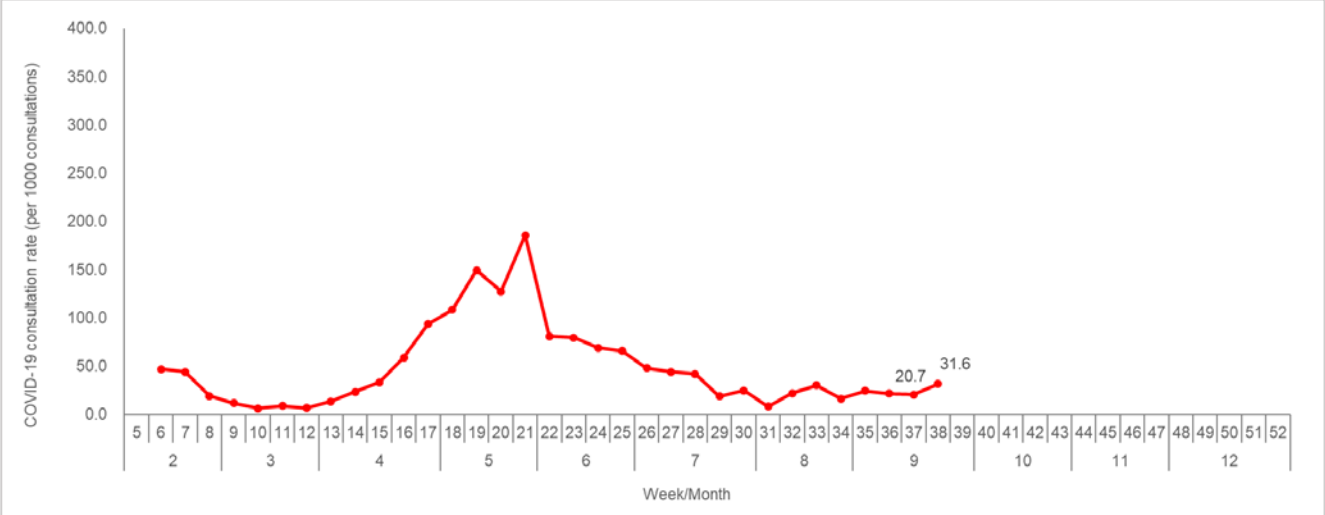

Figure 1.7 Average consultation rate of COVID-19 cases in private medical practitioner clinics

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 Sep 27, 2023) showed that XBB and its descendant lineages continue to be the most prevalent variant, comprising around 98% of all characterised specimens. These XBB sublineages included XBB.1.9.1, XBB.1.9.2^, XBB.1.16, and others. (Figure 1.8)

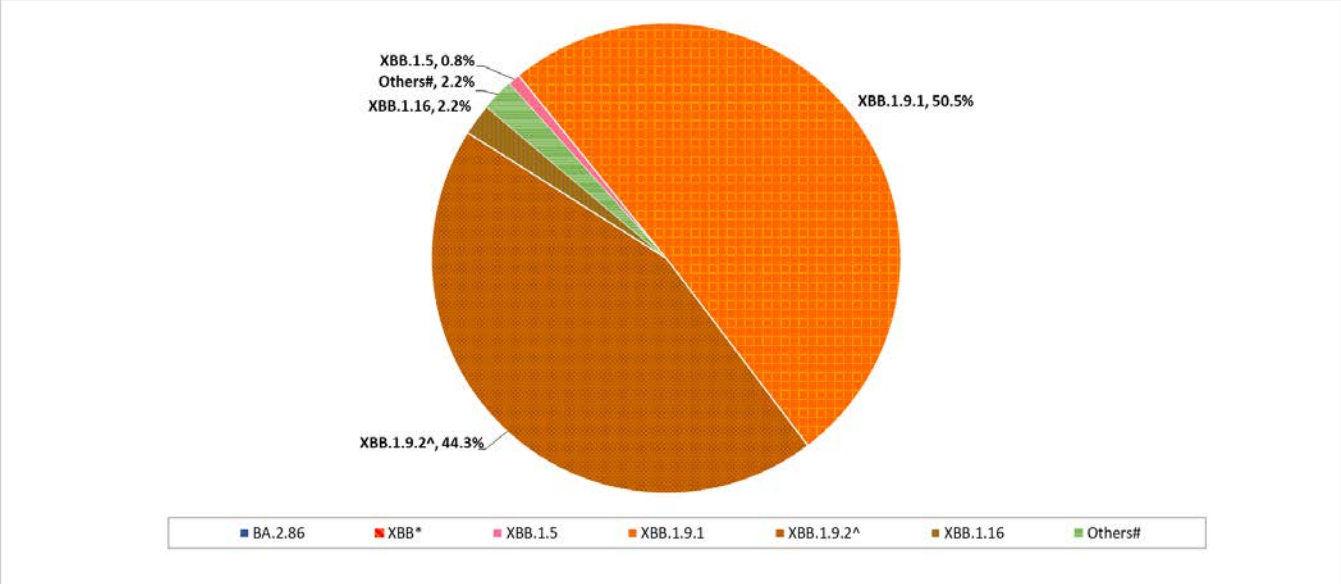

Figure 1.8 Estimated proportion of variants among sewage samples

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

^ Including EG.5 and its descendant lineages

 # Those SARS-CoV-2 variants not classified as variants of interest (VOIs)/variants under monitoring (VUMs) by World Health Organisation (WHO)

CHP also conducted genetic characterisation of 97 specimens obtained from reported severe and fatal cases of COVID-19 between Aug 29 and Sep 25, 2023. The result showed that XBB and its descendant lineages continue to be the most prevalent variant, comprising around 98% of all characterised specimens. These XBB sublineages included XBB*, XBB.1.9.2^, XBB.1.16 and others. (Figure 1.9)

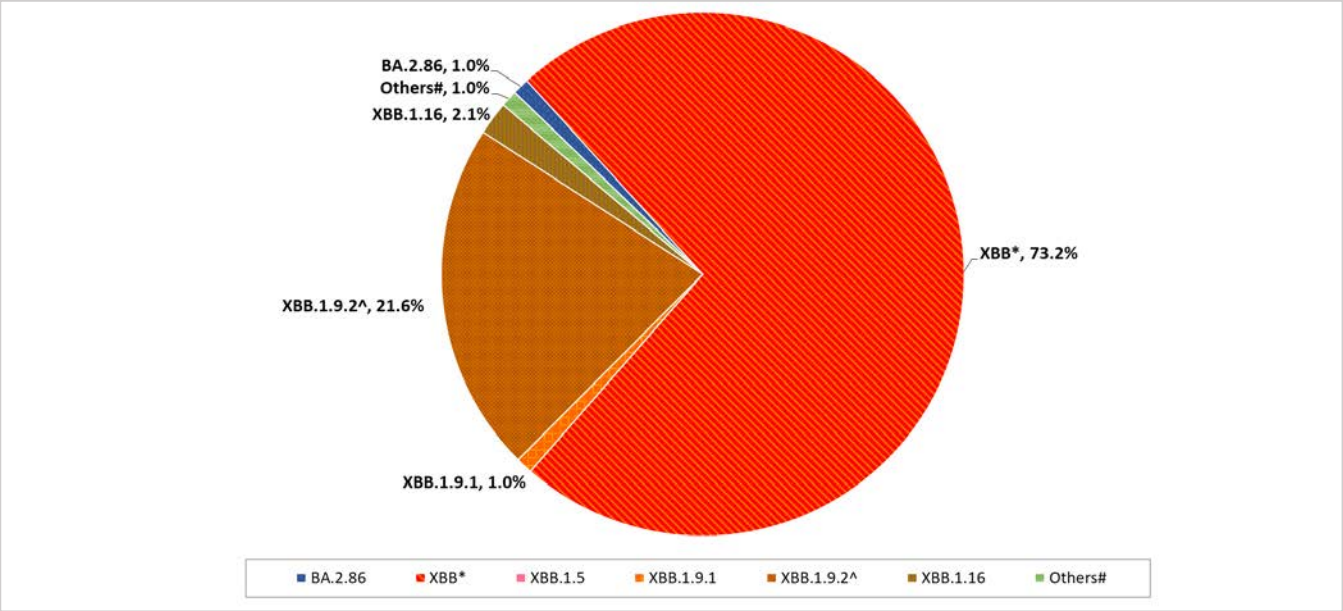

Figure 1.9 Proportion of variants among specimens obtained from reported severe and death cases for COVID-19

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

^ Including EG.5 and its descendant lineages

 # Those SARS-CoV-2 variants not classified as VOIs/VUMs by WHO

Global situation of COVID-19 activity

- Globally, as of Sep 27, 2023, there have been 770,875,433 confirmed cases of COVID-19, including 6,959,316 deaths, reported to WHO.

- According to WHO COVID-19 weekly epidemiological update last published on Sep 1, 2023,
  - Over 1.4 million new cases and over 1800 deaths were reported in the last 28 days (Jul 31 to Aug 27, 2023) globally.
  - The highest numbers of new 28-day cases were reported from Korea, Italy, the United Kingdom, Australia, and Singapore. The highest numbers of new 28-day deaths were reported from Korea, Italy, Russia, Australia, and China.
  - 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 three VOIs, which are EG.5, XBB.1.5 and XBB.1.16, and seven VUMs, which are BA.2.75, BA.2.86, CH.1.1, XBB, XBB.1.9.1, XBB.1.9.2 and XBB.2.3.
  - Between Aug 7 and Aug 13, 2023, EG.5 is the most prevalent variant globally, accounting for 26.1% compared to 15.4% between Jul 10 and Jul 16, 2023. During the same period, the prevalence of XBB.1.16 remained stable (22.9% to 22.7%), while that of XBB.1.5 decreased (12.2% to 10.2%). Among the VUMs, the prevalence of two showed decreasing trends, including BA.2.75 (2.3% to 0.9%) and XBB.1.9.2 (7.1% to 4.6%). Other VUMs have shown stable trends.
  - BA.2.86 was designated as a new VUM on Aug 17, 2023. As of Aug 30, 2023, there have been 21 sequences of the variant reported from seven countries (five in the European Region, one in the African Region, and one in the Region of the Americas). To date, no deaths have been reported to WHO among the cases detected with BA.2.86. The potential impact of the high number of mutations in BA.2.86 is presently unknown and is under assessment.

Sources:

1. WHO COVID-19 dashboard, accessed on Sep 28, 2023
2. World Health Organization COVID-19 weekly epidemiological update

Local Situation of Influenza Activity (as of Sep 27, 2023)

Reporting period: Sep 17 – 23, 2023 (Week 38)

- Hong Kong has entered summer influenza season. The latest surveillance data showed that the overall local seasonal influenza activity continued to increase. It is expected that this summer influenza season will last for some time.
- 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, whereas the Government Vaccination Programme (GVP), Seasonal Influenza Vaccination School Outreach (Free of Charge) Programme and the Residential Care Home Vaccination Programme will begin on October 5. 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, 2019-23

In week 38, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPC) was 10.1 ILI cases per 1,000 consultations, which was higher than 5.0 recorded in the previous week (Figure 2.1, left). The average consultation rate for ILI among sentinel private medical practitioner (PMP) clinics was 88.4 ILI cases per 1,000 consultations, which was higher than 52.6 recorded in the previous week (Figure 2.1, right).

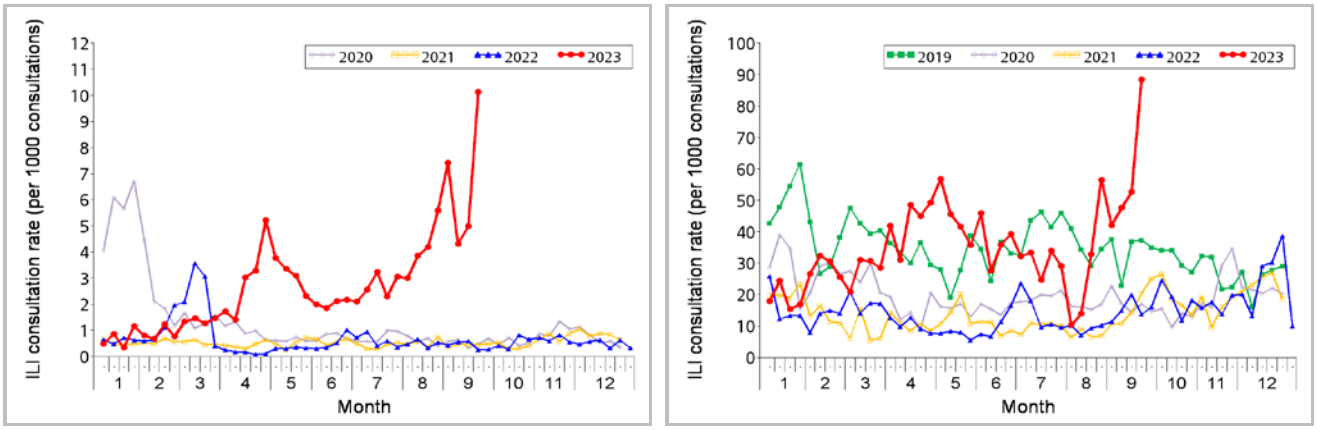

Figure 2.1 ILI consultation rates at sentinel GOPC (2020-23) (left) and PMP clinics (2019-23) (right)
Note: The CHP has started to use electronic data on diagnosis coding of patients of the Hospital Authority's GOPC for sentinel surveillance since January 2020, replacing manual data collection in the past.

Laboratory surveillance, 2019-23

Among the 7,670 respiratory specimens received in week 38, 1,033 (13.47%) were tested positive for seasonal influenza A or B viruses. These positive detections include 137 (13%) influenza A(H1), 866 (84%) influenza A(H3) and 24 (2%) influenza B viruses. The positive percentage (13.47%) was above the baseline threshold of 9.21% and was higher than 11.59% recorded in the previous week (Figure 2.2).

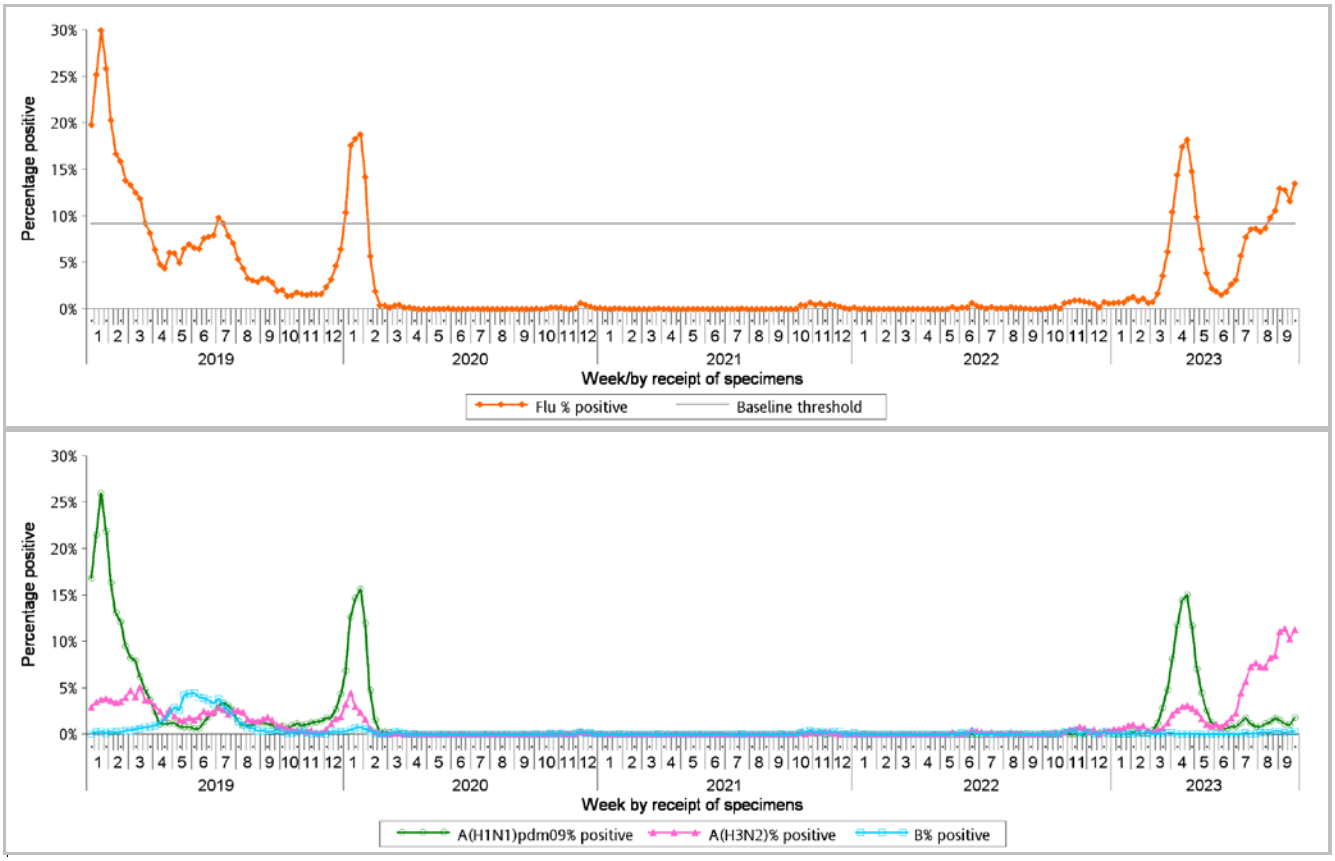

Figure 2.2 Percentage of respiratory specimens tested positive for influenza viruses, 2019-23 (upper: overall positive percentage, lower: positive percentage by subtypes)

[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 July 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 6,560 specimens received by Public Health Laboratory Services Branch, Centre for Health Protection and 1,110 specimens received by the Hospital Authority

Influenza-like illness outbreak surveillance, 2019-23

In week 38, 94 ILI outbreaks occurring in schools/institutions were recorded (affecting 460 persons), as compared to 48 outbreaks recorded in the previous week (affecting 304 persons) (Figure 2.3). The overall number was at the medium intensity level currently (Figure 2.4*). In the first 4 days of week 39 (Sep 24 to 27), 59 ILI outbreaks occurring in schools/institutions were recorded (affecting 267 persons). Since the start of this influenza season in week 34, 225 outbreaks were recorded (as of Sep 27).

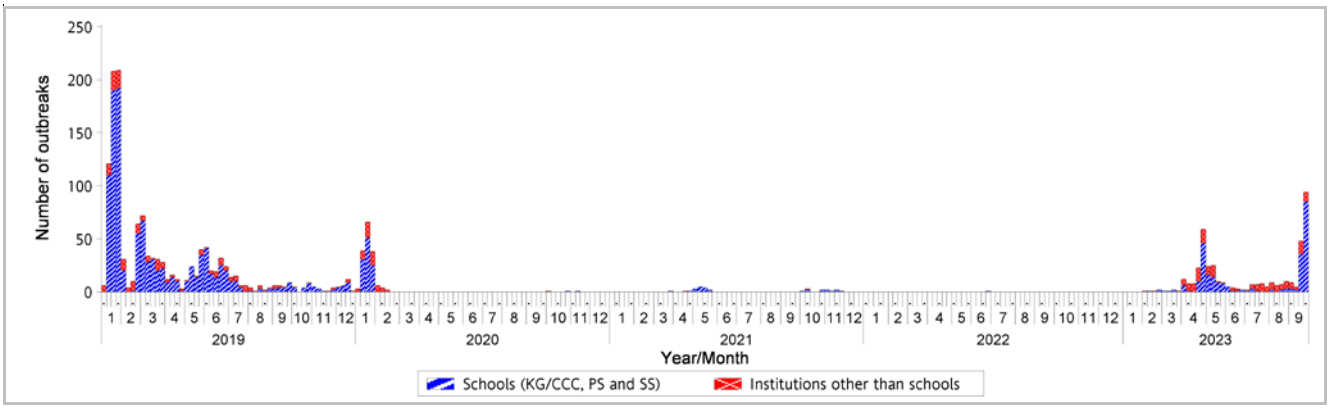

Figure 2.3 ILI outbreaks in schools/institutions, 2019-23

Type of institutions	Week 37	Week 38	Cumulative number of outbreaks since week 34 (as of Sep 27)
Child care centre/ kindergarten (CCC/KG)	4	4	19
Primary school (PS)	23	53	109
Secondary school (SS)	9	28	56
Residential care home for the elderly	7	6	23
Residential care home for persons with disabilities	2	0	8
Others	3	3	10
Total number of outbreaks	48	94	225
Total number of persons affected	304	460	1180

In comparison, 112, 438, 575 and 122 outbreaks were recorded in the same duration of surveillance (5 complete weeks) in the 2017 summer, 2017/18 winter, 2018/19 winter and 2023 winter seasons respectively, as compared with 166 outbreaks in the current season (Figure 2.5).

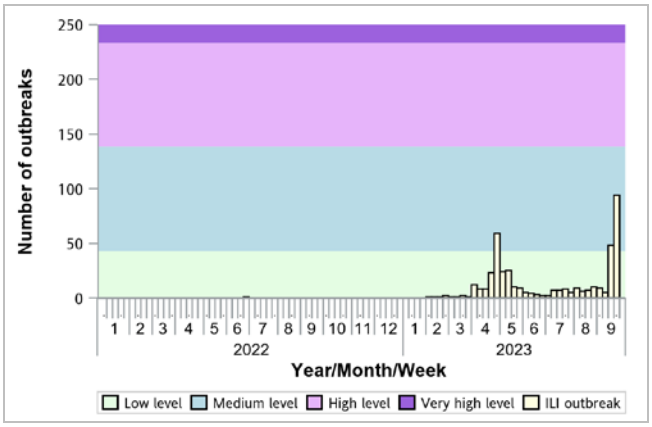

Figure 2.4 ILI outbreaks in schools/institutions, 2022-23

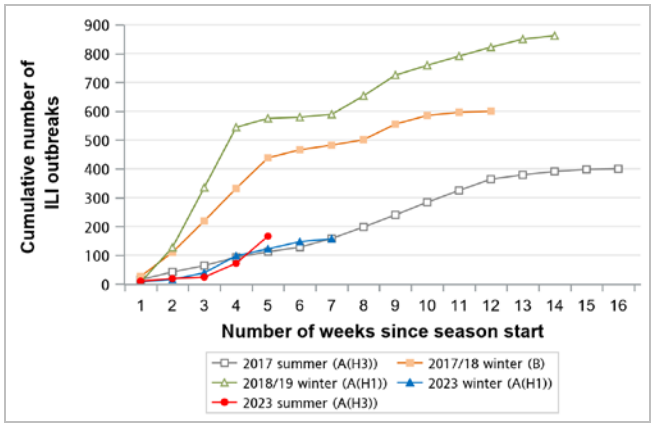

Figure 2.5 Cumulative numbers of ILI outbreaks reported during major influenza seasons, 2017–2023
Note: The predominating virus was shown in bracket.

** 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, 2019-23

In week 38, the overall admission rate in public hospitals with principal diagnosis of influenza was 0.73 (per 10,000 population) as compared to 0.64 recorded in the previous week (Figure 2.6). It was above the baseline threshold of 0.25 and was at the medium 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 5.05, 2.69, 1.43, 0.17, 0.24 and 1.14 cases (per 10,000 people in the age group) respectively, as compared to 3.94, 1.62, 0.77, 0.20, 0.21 and 1.20 cases in the previous week (Figure 2.6).

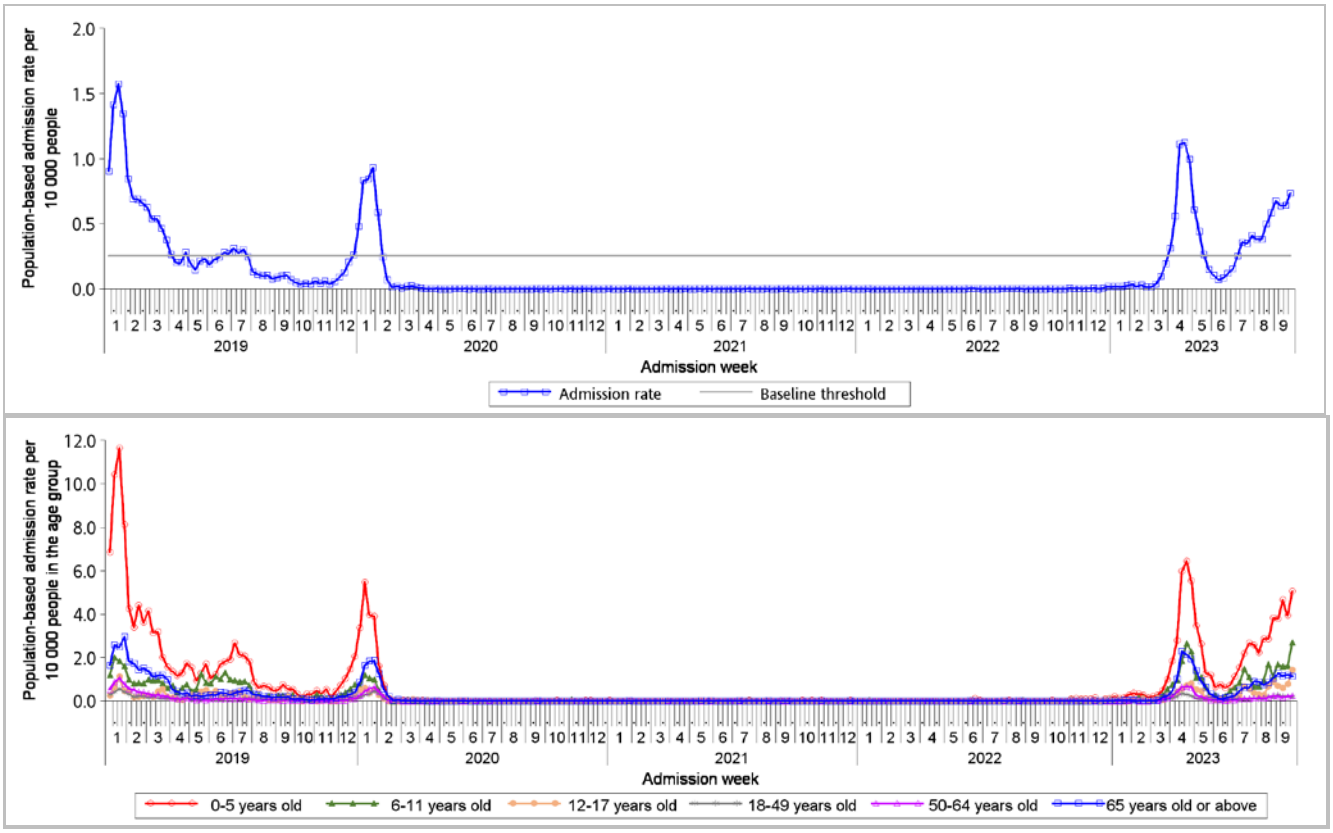

Figure 2.6 Influenza-associated hospital admission rates, 2019-23 (upper: overall rate, lower: rates by age groups)
[Note: The baseline threshold is 1.96 standard deviation above the average weekly admission rate during non-season periods from 2014 week 49 to 2019 week 48.]

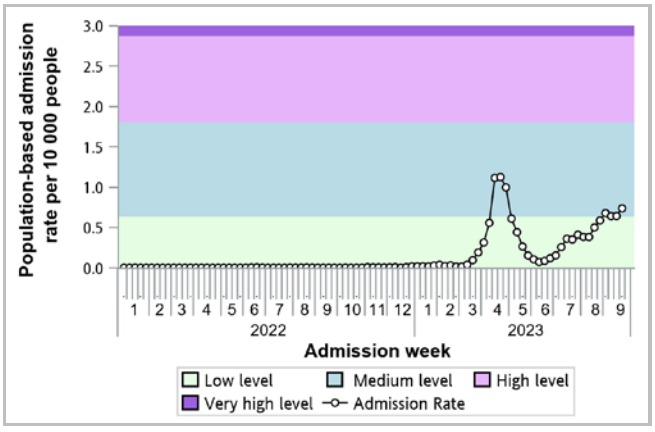

Figure 2.7 Influenza-associated hospital admission rates, 2022-23

**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*

Rate of ILI syndrome group in accident and emergency departments, 2019-23#

In week 38, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 193.9 (per 1,000 coded cases), which was higher than the rate of 176.5 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.

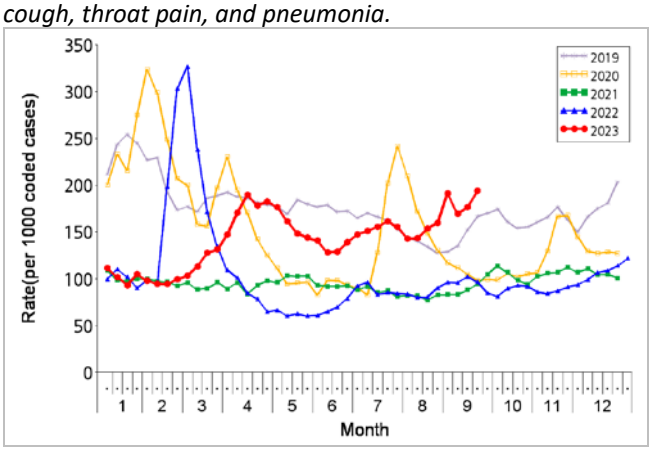

Figure 2.8 Rate of ILI syndrome group in AEDs, 2019-23

Fever surveillance at sentinel child care centres/ kindergartens, 2019-23

In week 38, 1.57% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 0.89% recorded in the previous week (Figure 2.9).

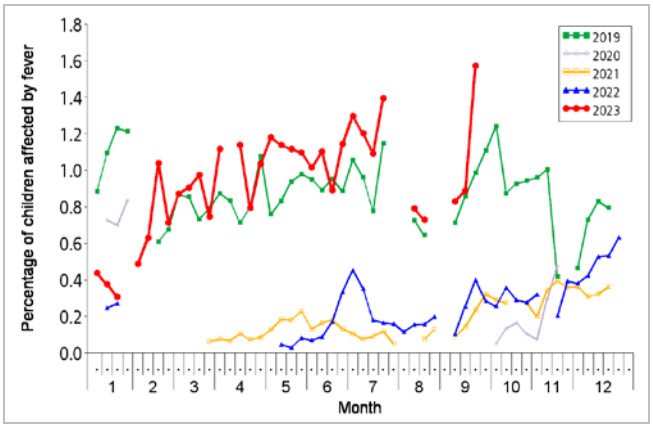

Figure 2.9 Percentage of children with fever at sentinel CCCs/KGs, 2019-23

Fever surveillance at sentinel residential care homes for the elderly, 2019-23

In week 38, 0.21% of residents in the sentinel residential care homes for the elderly (RCHEs) had fever (38°C or above), compared to 0.15% recorded in the previous week (Figure 2.10).

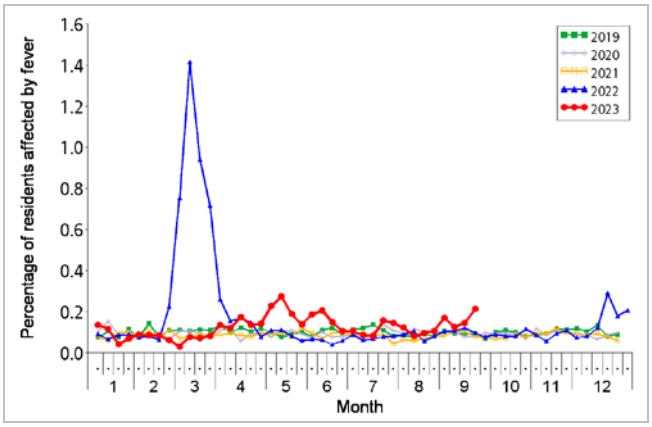

Figure 2.10 Percentage of residents with fever at sentinel RCHEs, 2019-23

Influenza-like illness surveillance among sentinel Chinese medicine practitioners, 2019-23

In week 38, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 1.16 ILI cases per 1,000 consultations as compared to 0.91 recorded in the previous week (Figure 2.11).

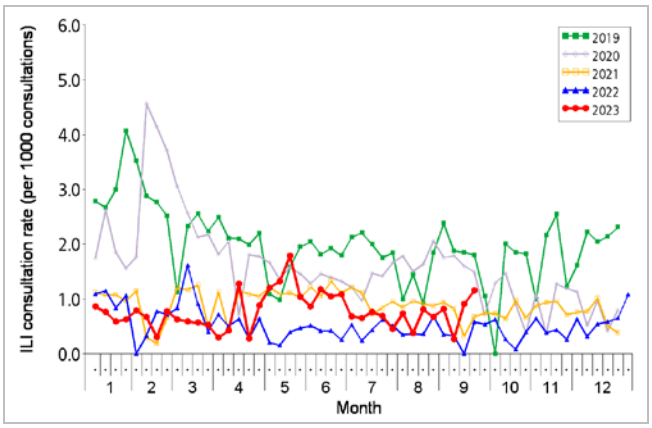

Figure 2.11 ILI consultation rate at sentinel CMPs, 2019-23

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 38, 36 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 14 of them were fatal. Among the 36 adult cases, 6 were known to have received the 2022/23 seasonal influenza vaccine (SIV). In the first 4 days of week 39 (Sep 24 – 27), 26 cases were recorded, in which 14 of them were fatal.

Week	Influenza type			
	A(H1)	A(H3)	B	A (pending subtype)
Week 38	12	20	1	3
First 4 days of week 39 (Sep 24 – 27)	3	18	0	5

- Since the start of 2023 summer influenza season in week 34, 155 adult cases of ICU admission/death with laboratory confirmation of influenza were recorded, in which 91 of them were fatal. Among them, 27 patients had influenza A(H1) infection, 109 patients with influenza A(H3), 18 patients with influenza A (pending subtype) and 1 patient with influenza B.

- In comparison, 72, 244, 280 and 213 adult cases were recorded in the same duration of surveillance (5 complete weeks) in the 2017 summer, 2017/18 winter, 2018/19 winter and 2023 winter influenza seasons respectively, as compared with 129 cases in the current season (Figure 2.12, left). The corresponding figures for deaths were 54, 151, 144 and 122 in the above seasons, as compared with 77 deaths in the current season (Figure 2.12, right).

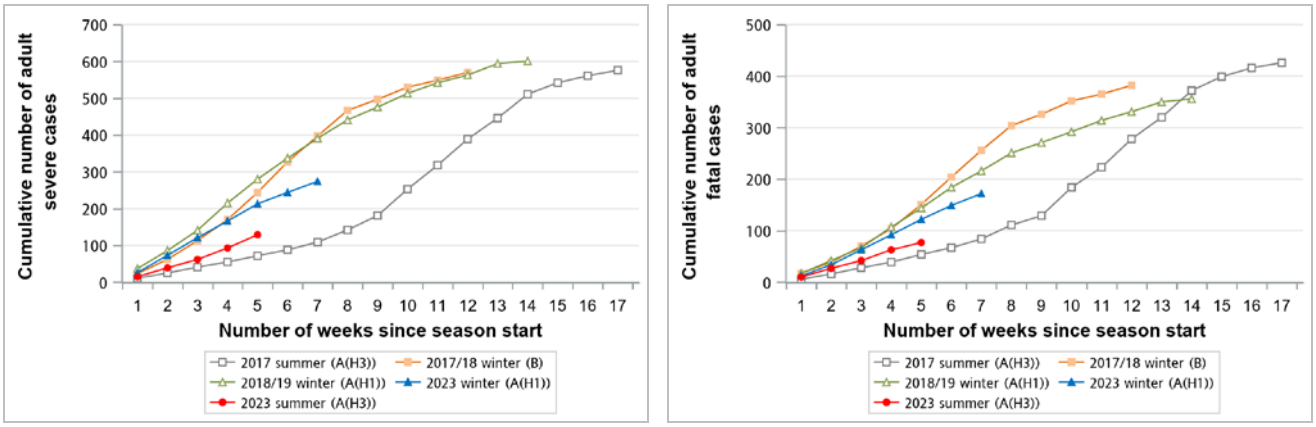

Figure 2.12 Cumulative numbers of adult severe influenza cases reported during major influenza seasons, 2017–2023 (left: ICU admission/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

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

- In week 38 and the first 4 days of week 39 (Sep 24 – 27), there were 5 cases of severe paediatric influenza-associated complication/death.

Reporting week	Age	Sex	Complication	Fatal case?	Influenza subtype	History of receiving influenza vaccine for this season
38	5 years	Female	Encephalitis	Yes	Influenza A(H3)	No
38	9 years	Male	Severe pneumonia	No	Influenza A(H3)	No
38	13 years	Female	Shock	No	Influenza A(H3)	Yes
39	9 years	Female	Respiratory failure secondary to aspiration pneumonia	No	Influenza A(H3)	Yes
39	16 years	Male	Severe pneumonia	No	Influenza A(H3)	No

- Since the start of 2023 summer influenza season in week 34, 11 paediatric cases of influenza-associated complication/death were reported, in which one of them were fatal. All cases had infections with influenza A(H3). Four of them received the 2022/23 SIV. In 2023, 19 paediatric cases of influenza-associated complication/death were recorded, in which 5 of them were fatal (as of Sep 27).

- In comparison, 9, 13, 21 and 3 paediatric cases of influenza-associated complication/death were recorded in the same duration of surveillance (5 complete weeks) in the 2017 summer, 2017/18 winter, 2018/19 winter and 2023 winter seasons respectively, as compared with 9 cases in the current season (Figure 2.13, left). The corresponding figures for deaths were 2, 2, 1 and 2 in the above seasons, as compared with 1 death in current season (Figure 2.13, right).

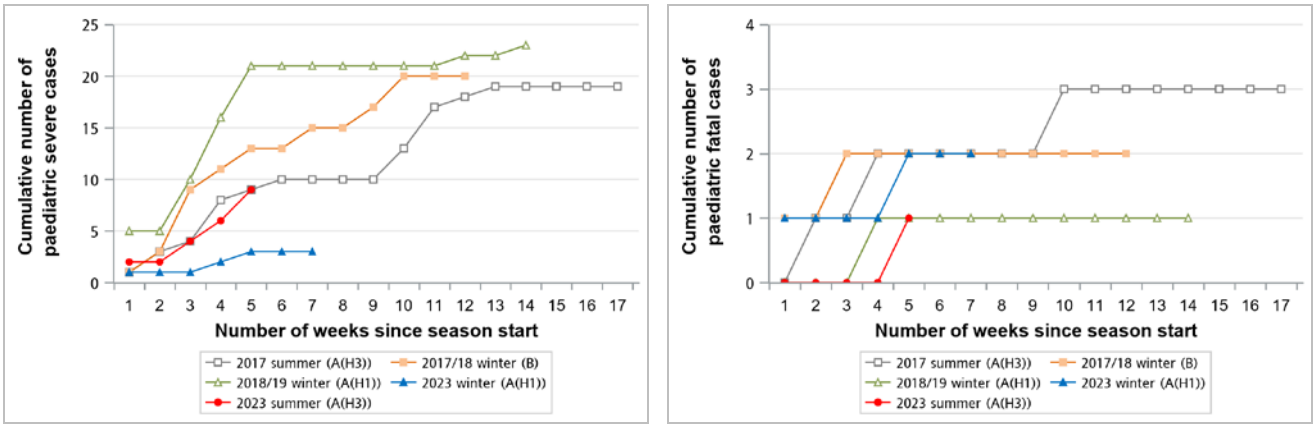

Figure 2.13 Cumulative numbers of cases of paediatric influenza-associated complication/death reported during major influenza seasons, 2017–2023 (left: complication/death cases; right: deaths)

Note: The predominating virus was shown in bracket.

Severe influenza cases of all ages

- Since the start of 2023 summer influenza season in week 34, 166 severe influenza cases among all ages have been reported, including 92 deaths (as of Sep 27).

Age group	Cumulative number of cases (death)
0-5	3 (1)
6-11	5 (0)
12-17	3 (0)
18-49	15 (1)
50-64	24 (10)
>=65	116 (80)

- Among the adult fatal cases with available clinical information, about 93% had chronic diseases.
- Among patients with laboratory confirmation of influenza admitted to public hospitals in this season (from Aug 20 to Sep 27, 2023), 1.8% 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).

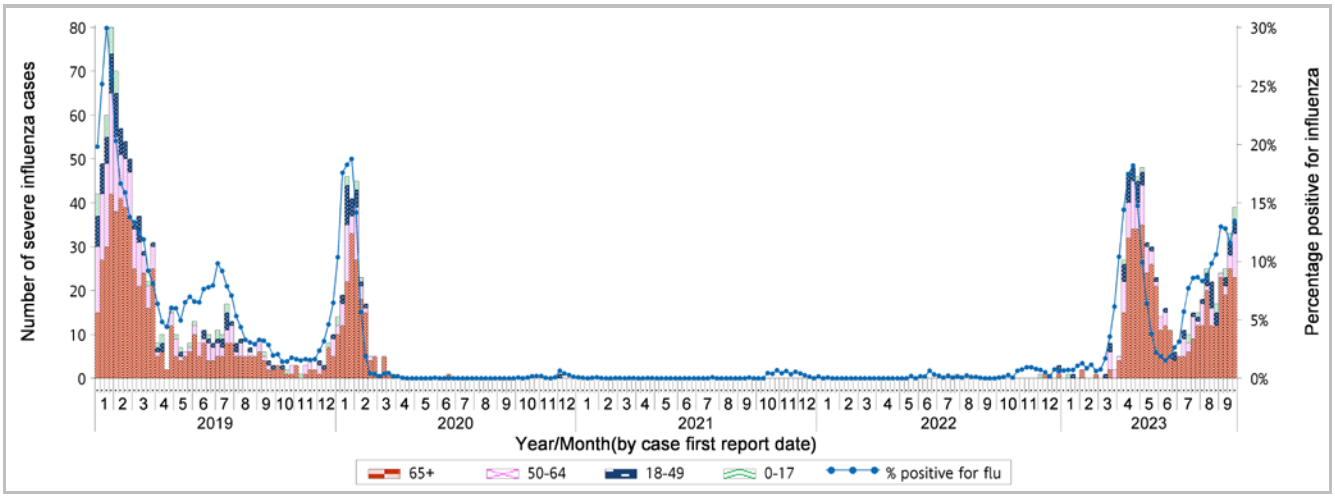

Figure 2.14 Weekly number of severe influenza cases by age groups, 2019-23 (the percentage positive for influenza viruses in Figure 2.2 is also shown in this graph)

Global Situation of Influenza Activity

Globally, influenza detections remained low. In Oceania, influenza activity decreased with influenza A(H1N1)pdm09 and influenza B viruses predominant. In South-East Asia, influenza activity remained elevated overall, with continued reporting of predominantly influenza A(H1N1)pdm09 and A(H3N2) virus detections. (data up to Sep 3, 2023).

- In the United States (week ending Sep 16, 2023), influenza activity remained low. The percentage of specimens tested positive for influenza remained low (0.8%). The percentage of out-patient visits for ILI was 2.0%, which was below the national baseline of 2.5%.
- In Canada (Jul 23 – Aug 26, 2023), influenza activity had been stable and remained at inter-seasonal levels. The weekly percentage of tests positive for influenza was 0.6% in week 34.
- In the United Kingdom (week ending 10 Sep, 2023), influenza activity remained low. Influenza positivity remained low and stable at 0.8%. The weekly ILI consultation rate in England remained stable and was within baseline activity levels.
- In Europe (Jul 31 – Sep 3, 2023), the influenza activity remained at inter-seasonal level.
- In Mainland China (week ending Sep 17, 2023), influenza surveillance data showed that influenza detections in some southern provinces slightly increased whereas the influenza activities in the northern provinces remained at low levels. The percentage of specimens tested positive for influenza in the southern and northern provinces were 5.5% and 0.3% respectively.
- In Taiwan (week ending Sep 23, 2023), influenza activity increased. The percentage of specimens tested positive for influenza in week 36 was 17.8%. Influenza A(H1N1) and A(H3N2) viruses were co-circulating.
- In Japan (week ending Sep 17, 2023), the average number of reported ILI cases per sentinel site increased to 7.03 from 4.48 in the preceding week, which was above the baseline level of 1.00. Influenza A(H1) and A(H3) viruses were co-circulating.
- In Korea (week ending Sep 16, 2023), the weekly ILI rate increased. The rate in week 37 was 13.1 per 1,000 out-patient visits as compared to 11.3 in the preceding week. In week 37, 14 out of 324 respiratory specimens (4.3%) were tested positive for influenza (including 5 influenza A(H3N2) and 9 influenza A(H1N1)pdm09).
- In Singapore (week ending Sep 23, 2023), the average daily number of consultations for acute respiratory infection remained low. The overall positivity rate for influenza among ILI samples in the community was 23.4% in the past 4 weeks. Majority of the influenza detections in August were influenza A(H3N2) viruses (69%), followed by influenza A(H1N1) (25%) and influenza B viruses (6%).
- In Australia (fortnight ending Sep 17, 2023), influenza activity in the community has continued to be stable. The ILI consultation rate among sentinel general practitioners was 5.44 cases per 1,000 consultations in the fortnight ending Sep 3, 2023. Among the 17,191 samples tested across sentinel laboratories, 6% were positive for influenza, compared to 7% in the previous fortnight. Influenza A(H1N1) and influenza B viruses were co-circulating.
- In New Zealand (week ending Sep 17, 2023), ILI activity in the community decreased and remained lower than the 2015-2019 average for this time of year. Influenza A(H1N1) and influenza B viruses had been the most commonly detected viruses in the community in recent 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, UK Health Security Agency, Joint European Centre for Disease Prevention and Control-World Health Organization/Flu News Europe, Chinese National Influenza Center, Taiwan Centers for Disease Control, Japan Ministry of Health, Labour and Welfare, Korean Centers for Disease Control and Prevention, Singapore Ministry of Health, Australian Department of Health and Aged Care and New Zealand Ministry of Health.