VOLUME 1, NUMBER 9 (PUBLISHED ON APR 6 2023)

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 Apr 5, 2023)

Reporting period: Mar 26 – Apr 1, 2023 (Week 13)

- The latest surveillance data showed that the activity of COVID-19 has slightly increased in the past one week in Hong Kong.
- 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. For more details, please visit the COVID-19 information page (https://www.chp.gov.hk/en/healthtopics/content/24/102466.html).
- 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).
- 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. 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).

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 13, the weekly number of newly recorded positive nucleic acid test laboratory detections for SARS-CoV-2 virus was 407 as compared to 274 in the preceding week. (Figure 1.1)

In the first 4 days of week 14 (Apr 2- Apr 5), the daily number of newly recorded positive nucleic acid test laboratory detections for SARS-CoV-2 virus ranged from 73 to 105.

Since Jan 30, 2023, the cumulative number of positive nucleic acid test laboratory detections was 9,140 (as of Apr 5, 2023).

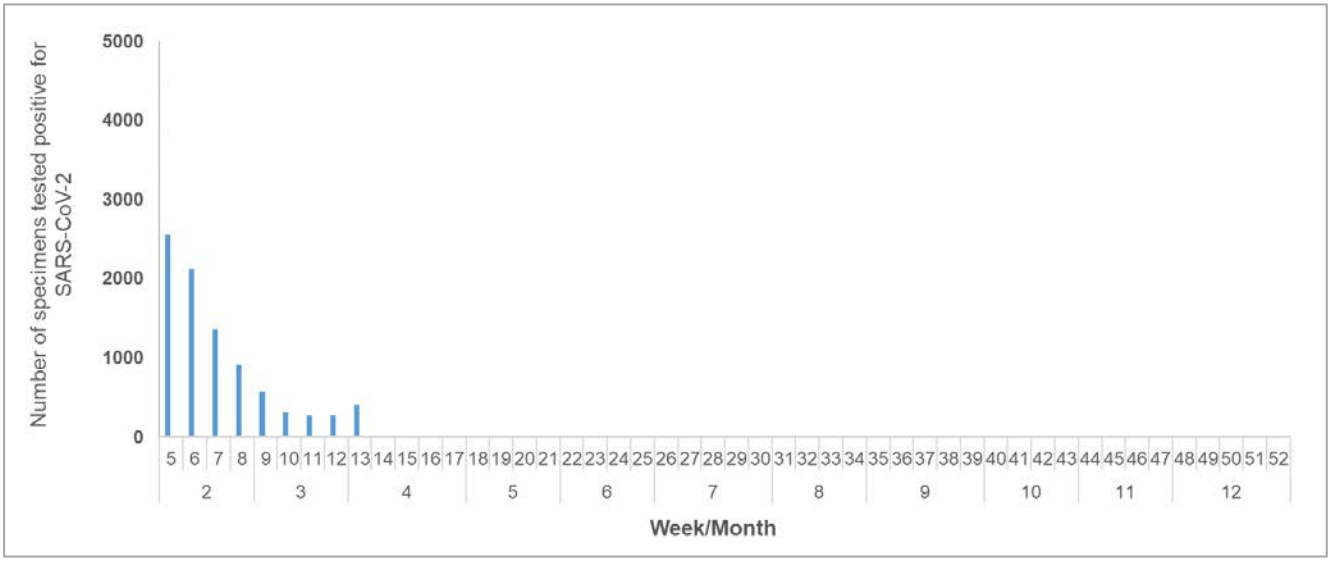


Figure 1.1 Weekly number of positive nucleic acid test laboratory detections for SARS-CoV-2 virus

Positive detection rate of specimens tested positive for SARS-CoV-2 virus at community testing centres and community testing stations

In week 13, the positive rate of specimens (7-day moving average) collected from community testing centres (CTC) and community testing stations tested for SARS-CoV-2 virus was 1.38% (compared to 0.95% in the preceding week), with daily number of tested specimens ranged from around 1,200 to around 1,400 during the week. (Figure 1.2)

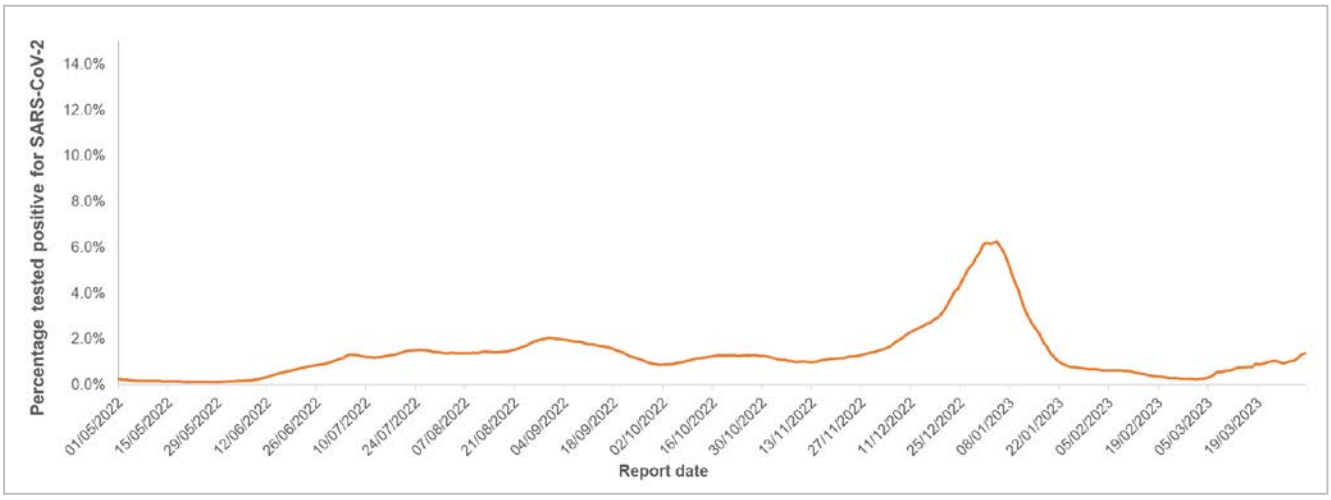


Figure 1.2 Percentage of specimens tested positive for SARS-CoV-2 virus at CTC and community testing stations since May 1, 2022

Laboratory surveillance on genetic characterisation for COVID-19 cases

The Public Health Laboratory Services Branch (PHLSB) of the Centre for Health Protection (CHP) conducts genetic characterisation on a sample of specimens positive for SARS-CoV-2 as well as reported severe and death cases for COVID-19. Between Mar 30 and Apr 5, 2023, the most common variants identified were descendant lineages of BA.2. Other variants comprised 45.5% of all characterised specimens during the period, with proportion of BN.1, BQ.1, CH.1.1 and XBB accounting for 1.5%, 1.5%, 4.5%, and 37.9% respectively. (Figure 1.3)

In week 13, the prevalence of XBB increased from 16.7% in week 10 to 37.9% in week 13. (Figure 1.4)

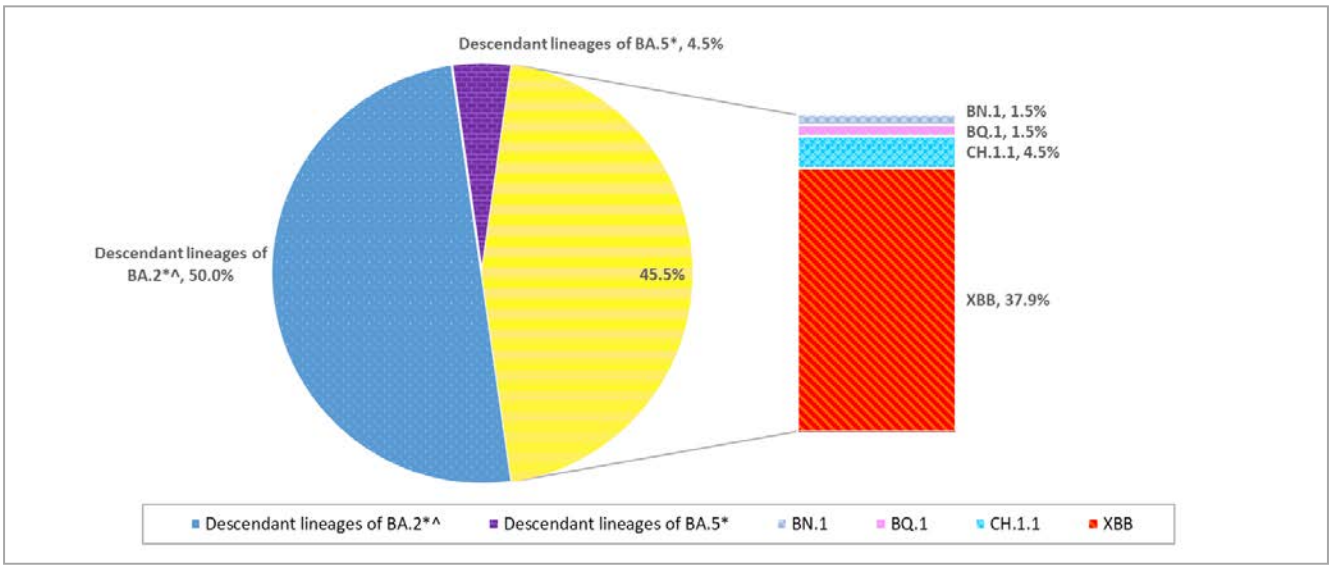
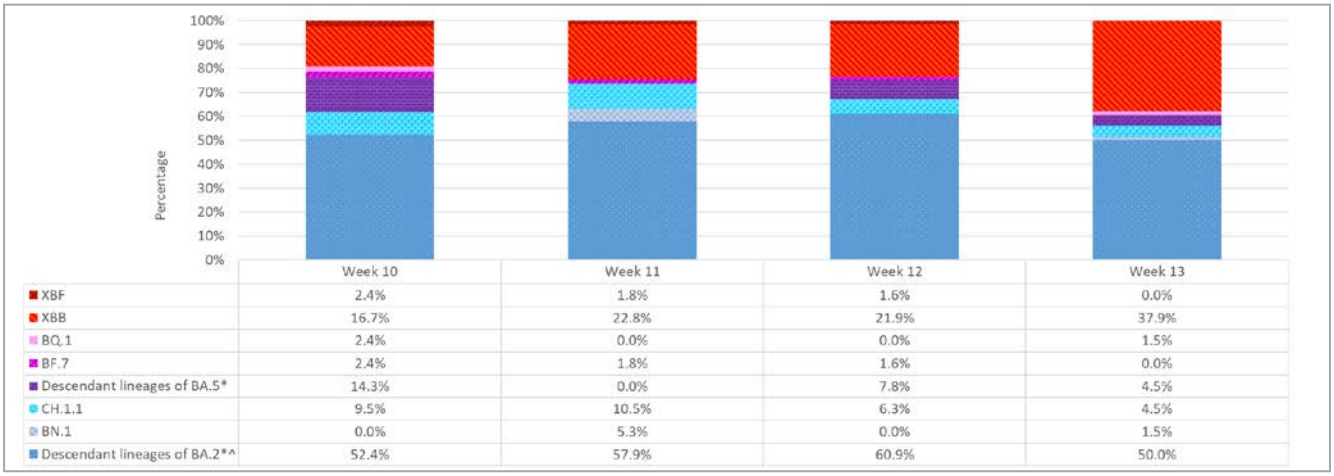


Figure 1.3 Proportion of variants among specimens tested positive for SARS-CoV-2 virus by PHLSB



	Week 10	Week 11	Week 12	Week 13
XBF	2.4%	1.8%	1.6%	0.0%
XBB	16.7%	22.8%	21.9%	37.9%
BQ.1	2.4%	0.0%	0.0%	1.5%
BF.7	2.4%	1.8%	1.6%	0.0%
Descendant lineages of BA.5*	14.3%	0.0%	7.8%	4.5%
CH.1.1	9.5%	10.5%	6.3%	4.5%
BN.1	0.0%	5.3%	0.0%	1.5%
Descendant lineages of BA.2*^	52.4%	57.9%	60.9%	50.0%

Figure 1.4 Proportion of variants among specimens tested positive for SARS-CoV-2 virus by PHLSB in the past 4 weeks

** Excluding BF.7, CH.1.1, XBB, XBF and their descendant lineages*

^ Among them, at least 9.1% were confirmed to be BA.2.75 sublineages other than CH.1.1, accounting for at least 4.5% of all characterised specimens during the period.

COVID-19 outbreak surveillance

In week 13, 14 COVID-19 outbreaks occurring in schools/institutions were recorded (affecting 148 persons), as compared to 2 outbreaks recorded in the previous week (affecting 8 persons) (Figure 1.5).

In the first 4 days of week 14 (Apr 2 to 5), 1 COVID-19 outbreaks occurring in schools/institutions were recorded (affecting 5 persons).

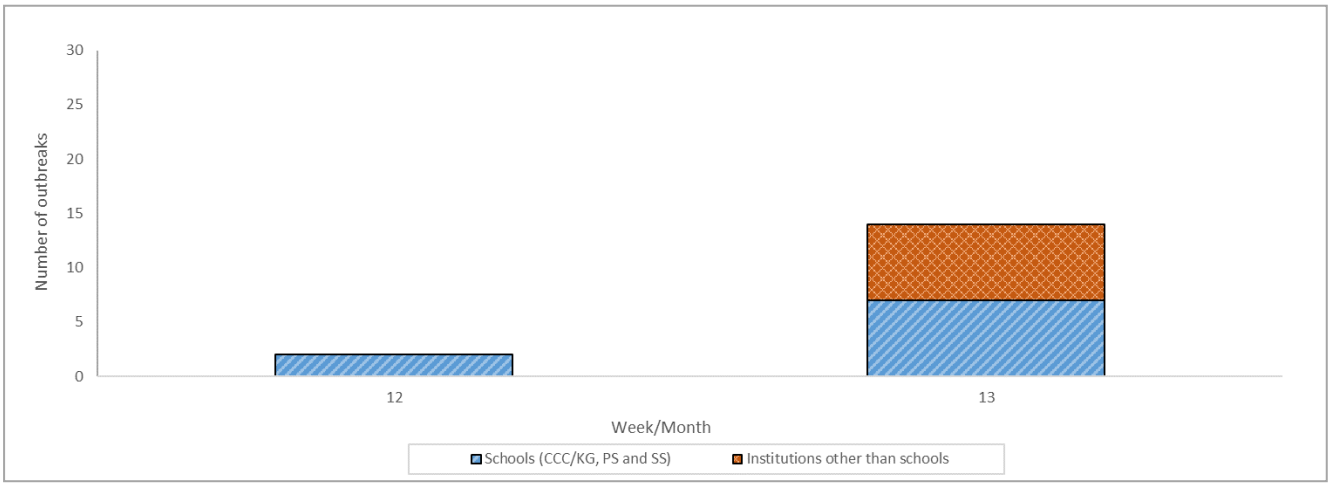


Figure 1.5 COVID-19 outbreaks in schools/institutions

Type of institutions	Week 12	Week 13	First 4 days of Week 14 (Apr 2-5)
Child care centre/ kindergarten (CCC/KG)	0	0	0
Primary school (PS)	0	2	0
Secondary school (SS)	2	5	0
Residential care home for the elderly	0	4	1
Residential care home for persons with disabilities	0	1	0
Others	0	2	0
Total number of outbreaks	2	14	1
Total number of persons affected	8	148	5

Surveillance of severe and fatal COVID-19 cases

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

In week 13, the weekly number of severe COVID-19 cases including deaths with cause of death preliminarily assessed to be related to COVID-19 was 20 as compared to 18 in the preceding week. (Figure 1.6)

In the first 4 days of week 14 (Apr 2 – Apr 5), 17 severe COVID-19 cases including deaths with cause of death preliminarily assessed to be related to COVID-19.

Since Jan 30, 2023, the cumulative number of fatal cases with cause of death preliminarily assessed to be related to COVID-19 was 149 (as of Apr 5, 2023).

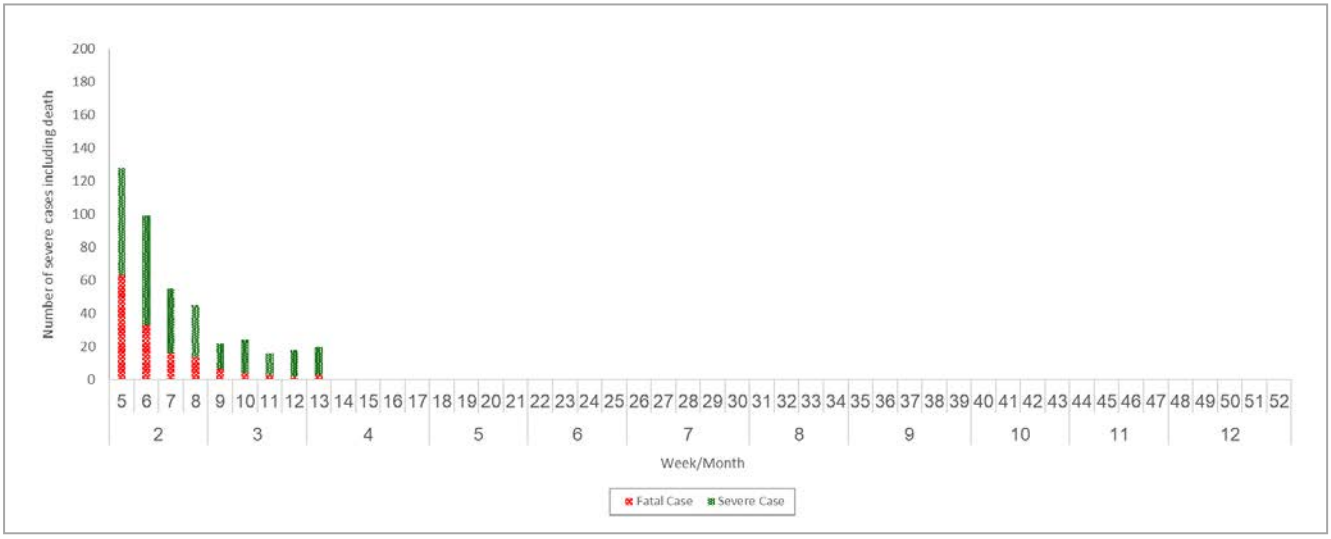


Figure 1.6 Weekly number of severe COVID-19 cases including deaths

Sewage surveillance of SARS-CoV-2 virus

In week 13, the 7-day geometric mean per capita viral load of SARS-CoV-2 virus from sewage surveillance was around 126,000 copy/L as compared to around 82,000 copy/L in the preceding week. (Figure 1.7)

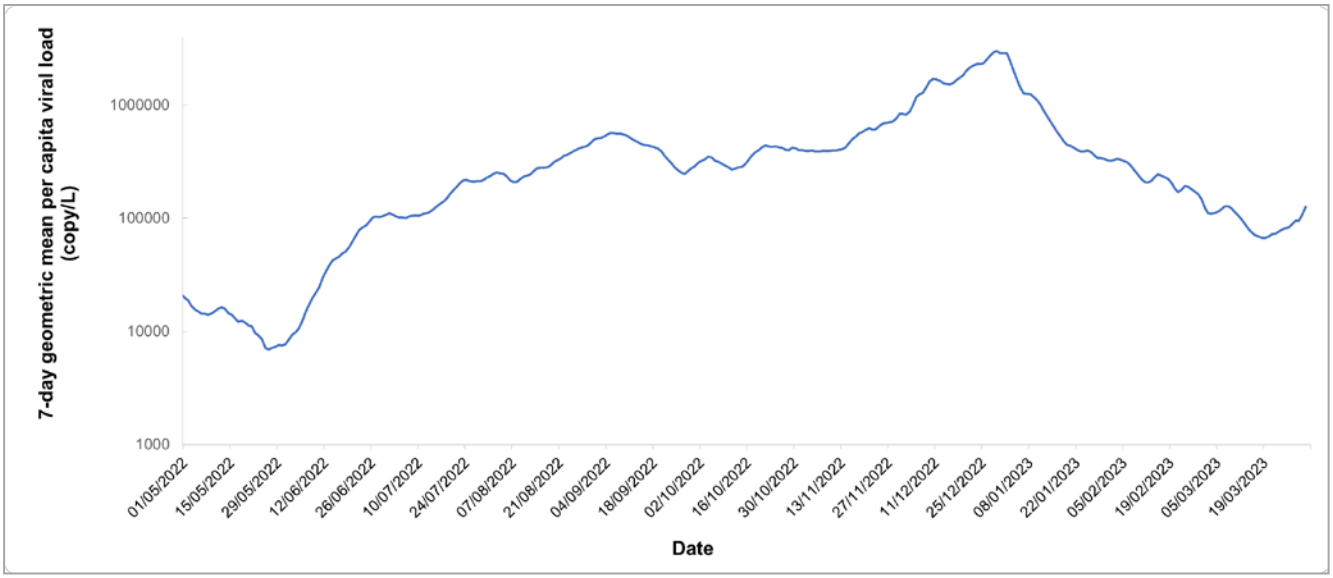


Figure 1.7 7-day geometric mean per capita viral load of SARS-CoV-2 virus from sewage surveillance since May 1, 2022

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

In week 13, the average consultation rate for COVID-19 among sentinel general out-patient clinics (GOPC) and sentinel private medical practitioner clinics was 49.5 (Figure 1.8) and 13.5 (Figure 1.9) COVID-19 cases per 1,000 consultations, respectively.

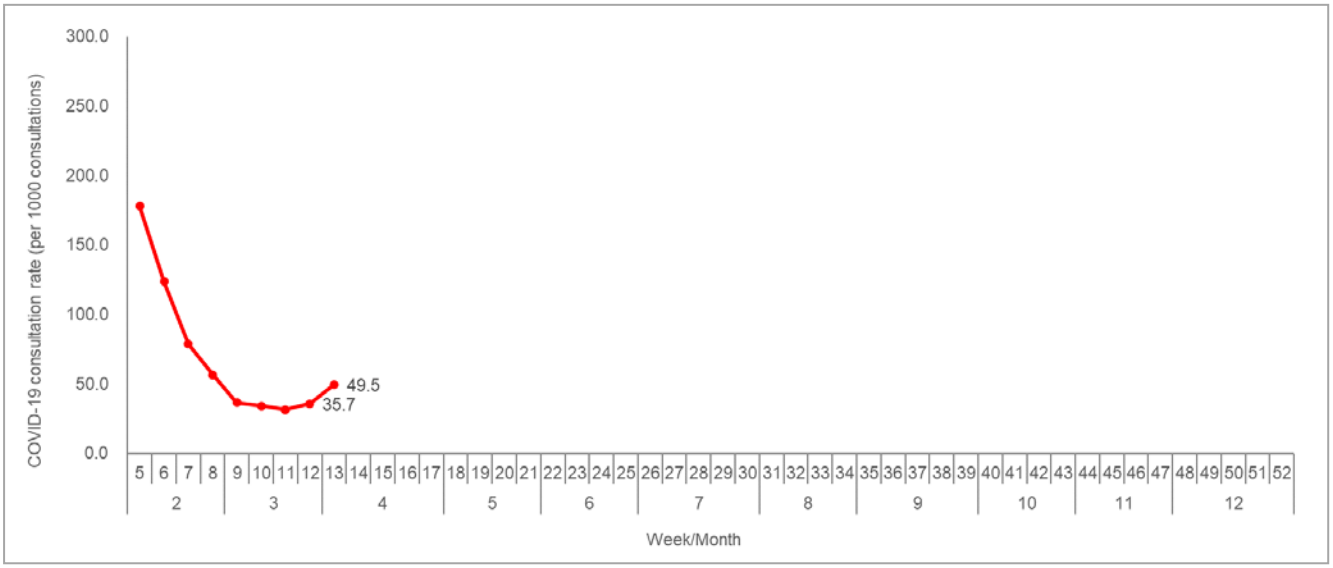


Figure 1.8 Average consultation rate of COVID-19 cases in GOPC

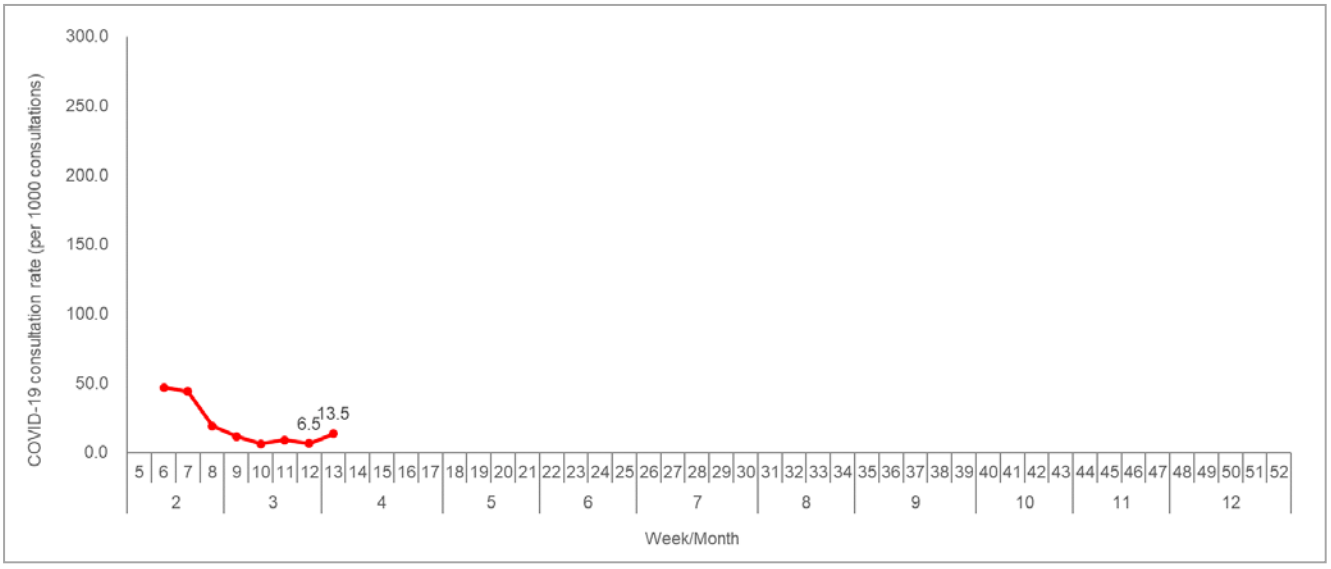


Figure 1.9 Average consultation rate of COVID-19 cases in private medical practitioner clinics

Global situation of COVID-19 activity

- According to the World Health Organization (WHO), as of Mar 26, 2023, over 761 million confirmed cases and over 6.8 million deaths have been reported globally. Over 3.6 million new cases and over 25,000 deaths were reported in the last 28 days (Feb 27 to Mar 26, 2023) globally, a decrease of 27% and 39%, respectively, compared to the previous 28 days (Jan 30 to Feb 26, 2023).
- The highest numbers of new 28-day cases were reported from the United States of America (USA), Russia, Korea, China and Japan. The highest numbers of new 28-day deaths were reported from the USA, the United Kingdom, Japan, China and Germany.
- 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.
- WHO has updated its tracking system and working definitions for variants of SARS-CoV-2. From Mar 15 2023, the tracking system classifies Omicron sublineages as variants under monitoring (VUMs), variants of interest (VOIs), or variant of concern (VOCs). Currently WHO is monitoring one VOI, which is XBB.1.5, and six VUMs, which are BQ.1, BA.2.75, CH.1.1, XBB, XBF and XBB.1.16.
- Between Mar 6 to Mar 12, 2023, the prevalence of XBB.1.5 was 45.1%, an increase when compared to 35.6% between Feb 6 to Feb 12, 2023. Between Feb 6 and Mar 12, 2023, all VUMs showed declining or stable trends except XBB, which increased from 6.2% to 19.7%. BQ.1 declined from 22.7% to 8.4%, BA.2.75 decreased from 7.1% to 1.7%, while CH.1.1 (7.2% to 6.4%) and XBF (1.4% to 1.4%) remained stable.

Sources:
Information will be extracted from the following sources when updates are available: World Health Organization Weekly epidemiological update on COVID-19

Local Situation of Influenza Activity (as of Apr 5, 2023)

Reporting period: Mar 26 – Apr 1, 2023 (Week 13)

- The latest surveillance data showed that the overall local seasonal influenza activity continued to increase and exceeded the baseline threshold, indicating that Hong Kong has entered influenza season.
- 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.
- As Hong Kong continues to face the challenge of COVID-19 pandemic, influenza viruses and the virus that causes COVID-19 may both spread in the winter influenza season. To protect the healthcare system from being overwhelmed, getting influenza vaccination is therefore important. For the 2022-23 season, Seasonal Influenza Vaccination School Outreach and the Residential Care Home Vaccination Programme were launched on September 29, 2022, whereas the Vaccination Subsidy Scheme (VSS) and the Government Vaccination Programme (GVP) began on October 6, 2022. For details, please refer to the webpage (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 influenza and prevention measures, please visit the Centre for Health Protection's pages below for more information:
  - The influenza page (http://www.chp.gov.hk/en/view_content/14843.html)
  - Webpage on Personal Hygiene (https://www.chp.gov.hk/en/healthtopics/content/460/19899.html)
  - Video on "Prevent diseases · Maintain good hygiene" (https://www.youtube.com/watch?v=sJFekuVwJ-s)
- The current influenza surveillance data should be interpreted with caution as the ongoing COVID-19 pandemic has influenced the monitoring systems.

Influenza-like-illness surveillance among sentinel general out-patient clinics and sentinel private medical practitioner clinics, 2019-23

In week 13, the average consultation rate for influenza-like illness (ILI) among sentinel general outpatient clinics (GOPC) was 1.7 ILI cases per 1,000 consultations, which was higher than 1.5 recorded in the previous week (Figure 2.1, left). The average consultation rate for ILI among sentinel private medical practitioner (PMP) clinics was 42.0 ILI cases per 1,000 consultations, which was higher than 28.5 recorded in the previous week (Figure 2.1, right).

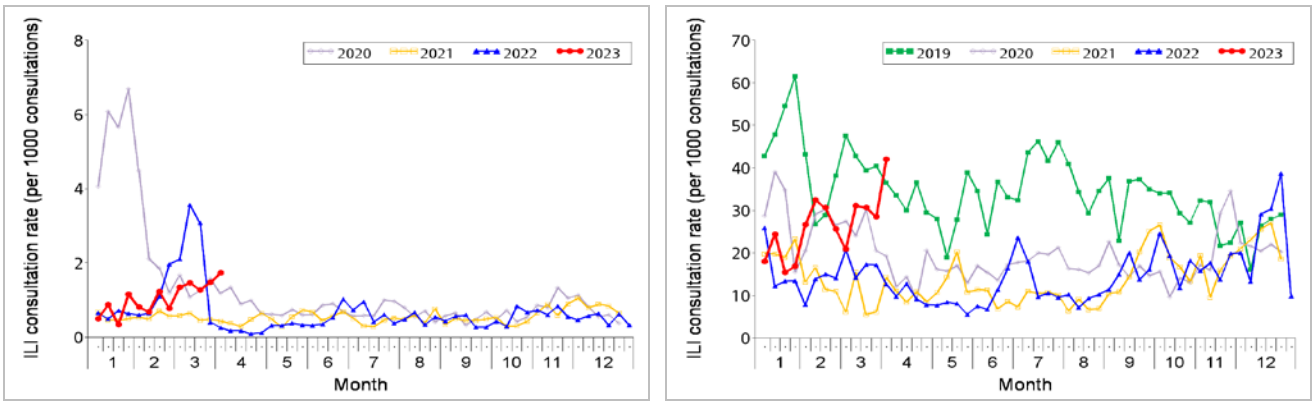


Figure 2.1 ILI consultation rates at sentinel GOPC (2020-23) (left) and PMP clinics (2019-23) (right)
Note: The CHP has started to use electronic data on diagnosis coding of patients of the Hospital Authority's GOPC for sentinel surveillance since January 2020, replacing manual data collection in the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

Laboratory surveillance, 2019-23

Among the 6,126 respiratory specimens* received in week 13, 606 (9.89%) were tested positive for seasonal influenza A or B viruses. These positive detections include 467 (77%) influenza A(H1), 129 (21%) influenza A(H3) and 10 (2%) influenza B viruses. The positive percentage (9.89%) was above the baseline threshold of 9.21% but was higher than 6.14% recorded in the previous week (Figure 2.2).

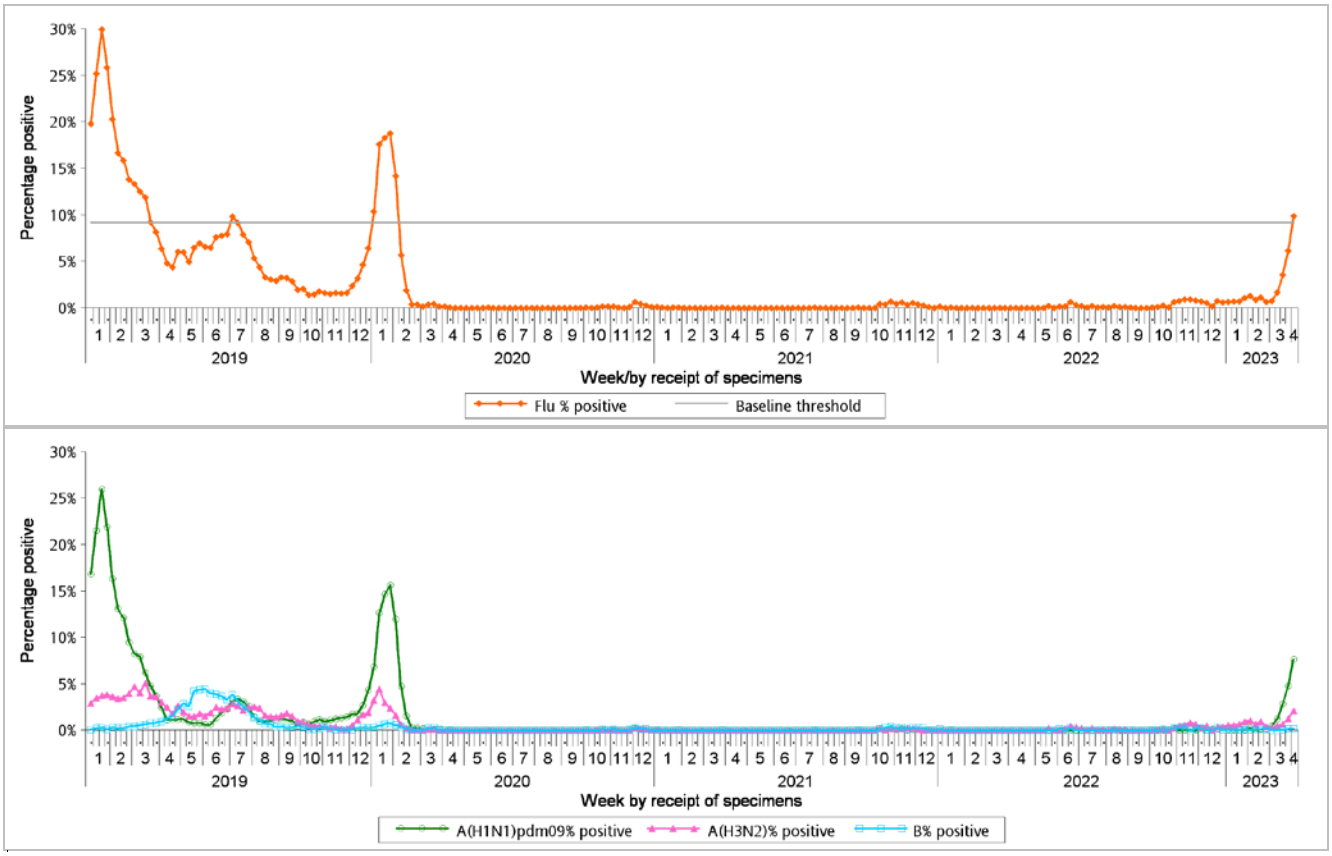


Figure 2.2 Percentage of respiratory specimens tested positive for influenza viruses, 2019-23 (upper: overall positive percentage, lower: positive percentage by subtypes)

[Note: The baseline threshold is 1.96 standard deviation above the average weekly positive percentage during non-season periods from 2014 week 49 - 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 February 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/10/641/695/7009.html

* Including 2,411 specimens received by Public Health Laboratory Services Branch, Centre for Health Protection and 3,715 specimens received by Hospital Authority

Influenza-like illness outbreak surveillance, 2019-23

In week 13, 12 ILI outbreak occurring in schools/institutions were recorded (affecting 49 persons), as compared to 1 outbreak recorded in the previous week (affecting 3 persons) (Figure 2.3). In the first 4 days of week 14 (Apr 2 to 5), 3 ILI outbreaks occurring in schools/institutions were recorded (affecting 11 persons).

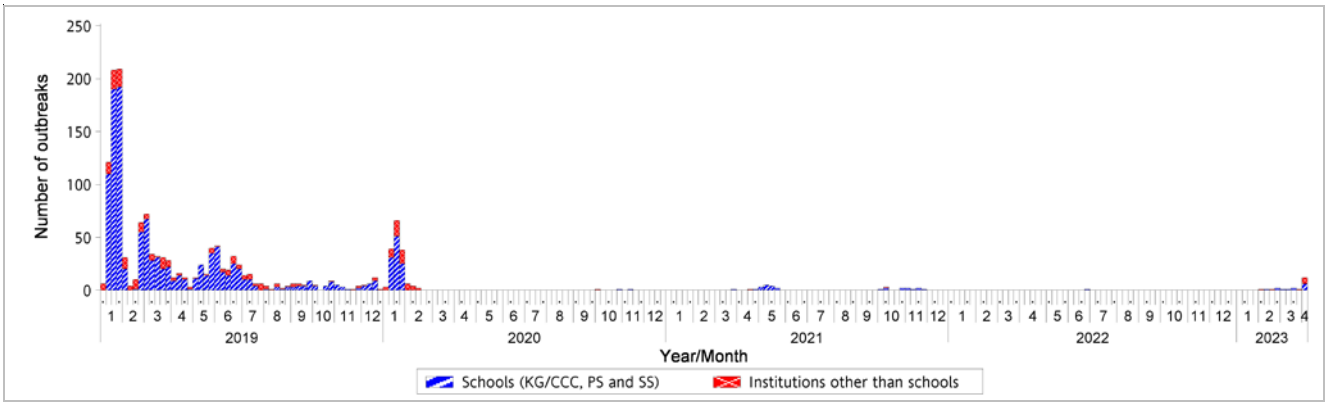


Figure 2.3 ILI outbreaks in schools/institutions, 2019-23

Type of institutions	Week 12	Week 13	First 4 days of Week 14 (Apr 2 – 5)
Child care centre/ kindergarten (CCC/KG)	0	0	0
Primary school (PS)	0	5	1
Secondary school (SS)	0	1	0
Residential care home for the elderly	1	2	0
Residential care home for persons with disabilities	0	1	1
Others	0	3	1
Total number of outbreaks	1	12	3
Total number of persons affected	3	49	11

Influenza-associated hospital admission rates in public hospitals based on discharge coding, 2019-23

In week 13, the overall admission rates in public hospitals with principal diagnosis of influenza was 0.25 (per 10,000 population), which was the same as the baseline threshold of 0.25 and was higher than 0.19 recorded in the previous week. 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 1.39, 0.72, 0.18, 0.13, 0.18 and 0.29 cases (per 10,000 people in the age group) respectively, as compared to 0.98, 0.49, 024, 0.09, 0.13 and 0.22 cases in the previous week (Figure 2.4).

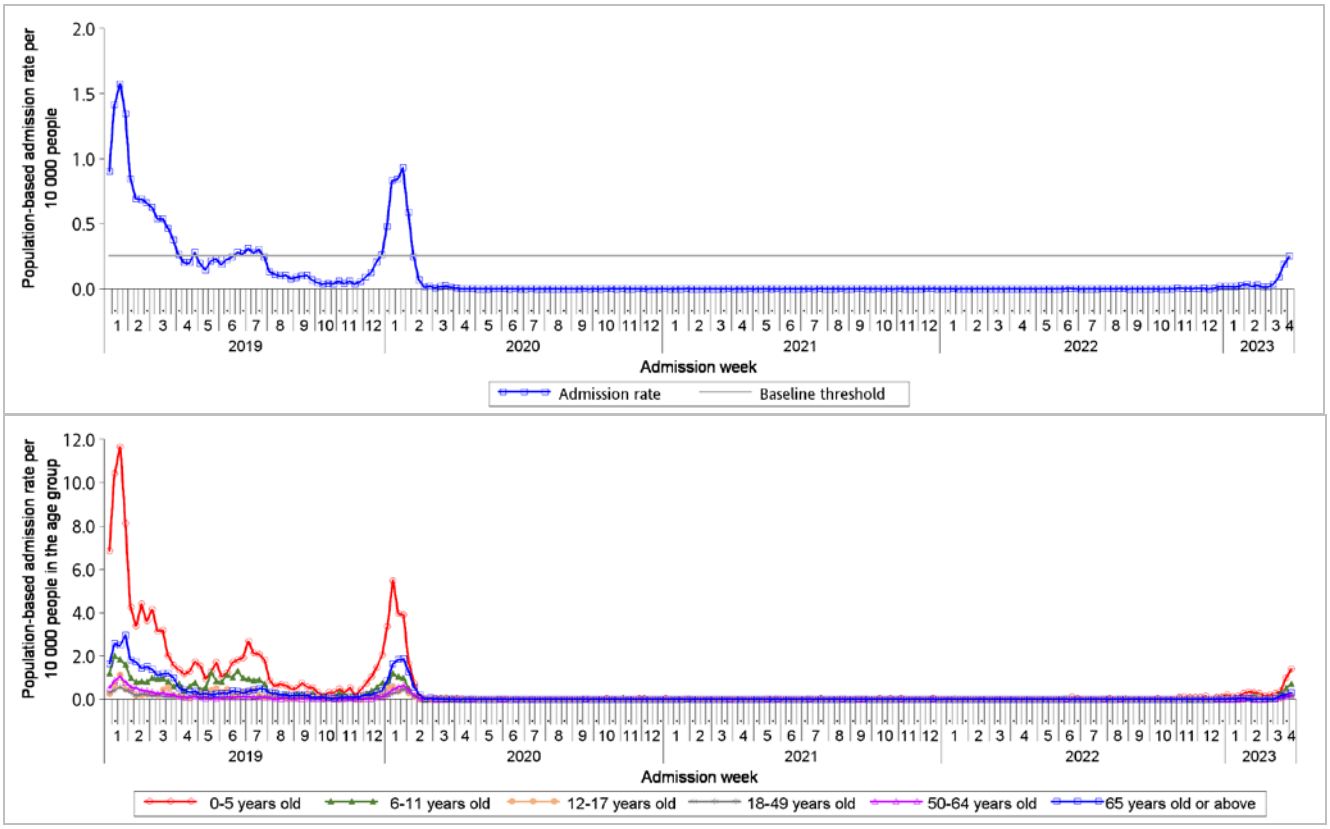


Figure 2.4 Influenza-associated hospital admission rates, 2019-23 (upper: overall rate, lower: rates by age groups)

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

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

In week 13, the rate of the ILI syndrome group in the accident and emergency departments (AEDs) was 147.6 (per 1,000 coded cases), which was higher than the rate of 131.3 in the previous week (Figure 2.5).

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

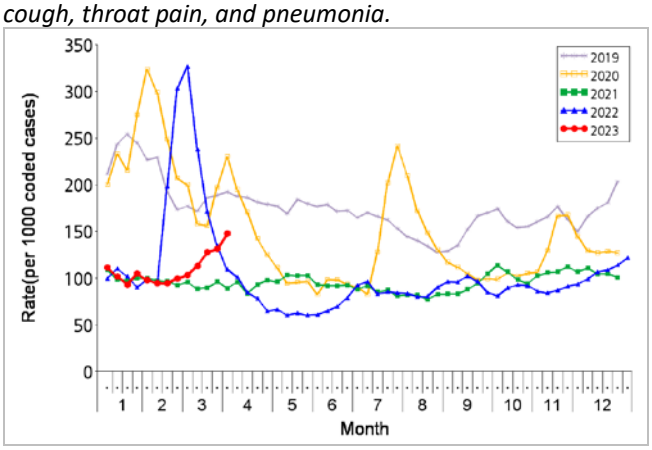


Figure 2.5 Rate of ILI syndrome group in AEDs, 2019-23

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

In week 13, 1.12% of children in the sentinel child care centres / kindergartens (CCCs/KGs) had fever (38°C or above) as compared to 0.75% recorded in the previous week (Figure 2.6).

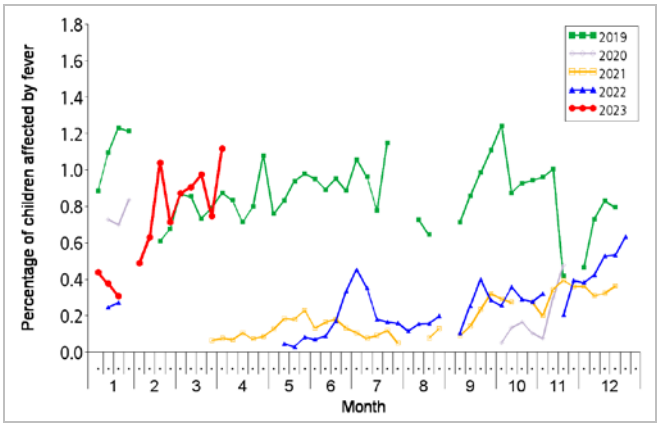


Figure 2.6 Percentage of children with fever at sentinel CCCs/KGs, 2019-23

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

In week 13, 0.14% of residents in the sentinel residential care homes for the elderly (RCHEs) had fever (38°C or above), compared to 0.08% recorded in the previous week (Figure 2.7).

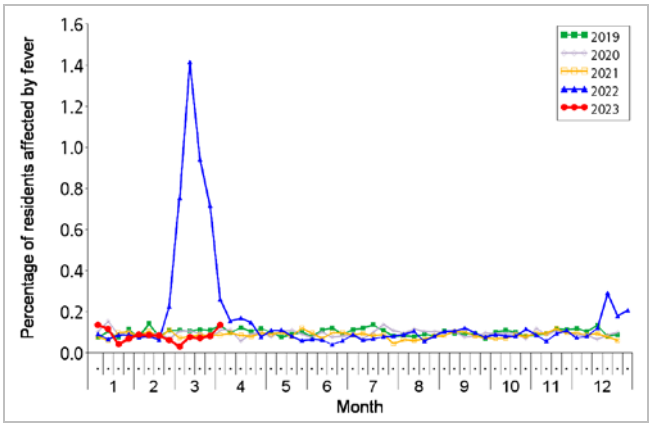


Figure 2.7 Percentage of residents with fever at sentinel RCHEs, 2019-23

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

In week 13, the average consultation rate for ILI among Chinese medicine practitioners (CMPs) was 0.29 ILI cases per 1,000 consultations as compared to 0.52 recorded in the previous week (Figure 2.8).

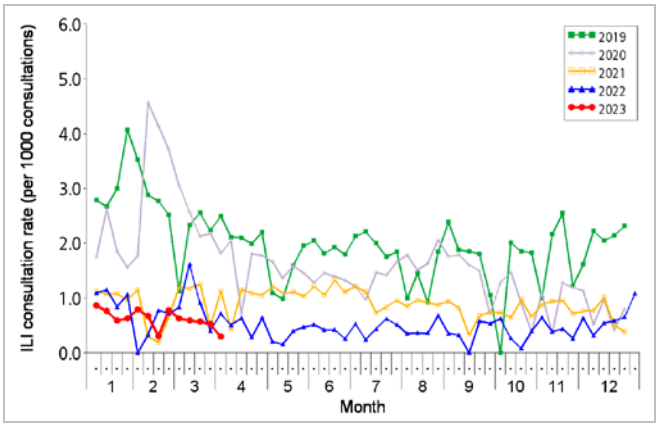


Figure 2.8 ILI consultation rate at sentinel CMPs, 2019-23

Surveillance of severe influenza cases

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

Surveillance for intensive care unit (ICU) 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 13 and the first 4 days of week 14 (Apr 2 – 5), 10 adult cases of ICU admissions/deaths with laboratory confirmation of influenza were recorded, in which 4 of them were fatal. Three of these cases were known to have received the 2022/23 seasonal influenza vaccine.

Week	Influenza type			
	A(H1)	A(H3)	B	A (pending subtype)
Week 13	3	0	0	2
Week 14 (Apr 2 – 5)	2	0	0	3

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

- In week 13 and the first 4 days of week 14 (Apr 2 – 5), there was one 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
14	17 years	Male	Severe pneumonia and shock	Yes	Influenza A(H1)	No

- In 2023, 2 paediatric cases of severe influenza-associated complication/death were recorded, in which both of them were fatal (as of Apr 5, 2023).

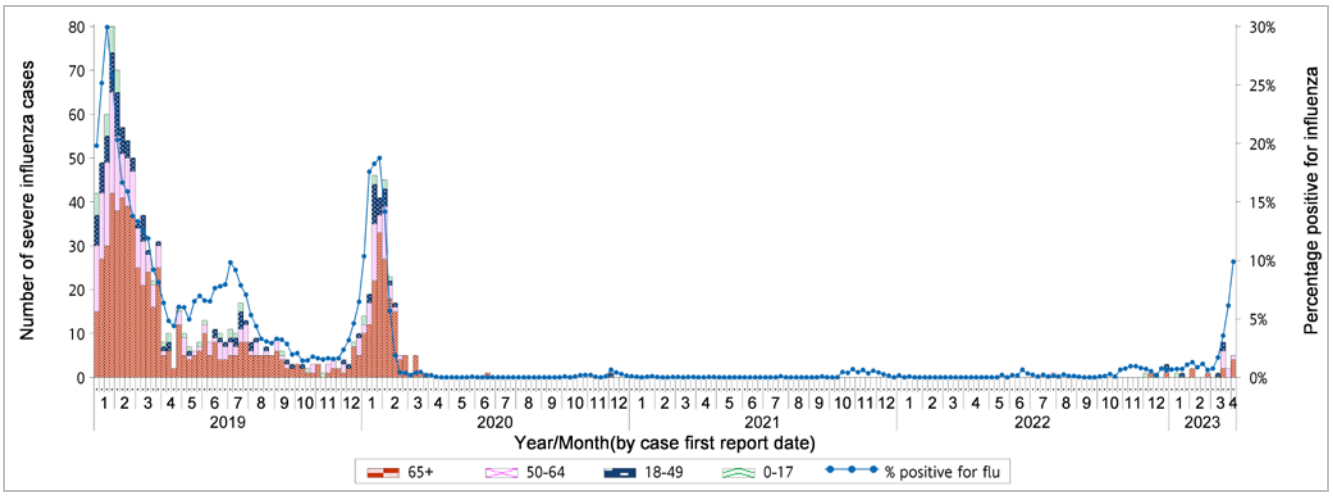


Figure 2.9 Weekly number of severe influenza cases by age groups, 2019-23 (the percentage positive for influenza viruses in Figure 2 is also shown in this graph)

Global Situation of Influenza Activity

Globally, influenza detections decreased steeply in January after a peak in late 2022. Detections in 2022 were predominantly influenza A(H3N2). Since the end of January 2023, activity increased again with an increased proportion of influenza A(H1N1)pdm09 and B virus detections. Influenza detections appear to have decreased in the most recent week. In the temperate zone of the southern hemisphere, influenza activity remained low.

- In the United States (week ending Mar 25, 2023), influenza activity remained low nationally. The percentage of specimens tested positive for influenza remained low (0.9%). The percentage of out-patient visits for ILI remained stable (2.3%), and was below the national baseline of 2.5%.
- In Canada (week ending Mar 18, 2023), influenza activity remained low. The weekly percentage of tests positive for influenza was 1.6% and was at inter-seasonal level.
- In the United Kingdom (week ending Mar 26, 2023), influenza activity remained low. Influenza positivity remained low and stable at 1.5%. The weekly ILI consultation rate remained at baseline activity levels.
- In Europe (week ending Mar 26, 2023), the percentage of sentinel specimens tested positive for influenza decreased to 22% from 24% in preceding week, but remained above the epidemic threshold of 10%. In week 12, both influenza A and B viruses were detected in sentinel and non-sentinel surveillance, with influenza B viruses predominating in both systems.
- In Mainland China (week ending Mar 26, 2023), influenza surveillance data showed that increase in the percentage of specimens tested positive for influenza in the southern provinces has slowed down, while that in the northern provinces continued to decrease. Majority of the influenza detections in the northern and southern provinces were influenza A(H1N1)pdm09 viruses, and co-circulation of influenza A(H1N1)pdm09 and influenza A(H3N2) viruses were observed.
- In Taiwan (week ending Mar 25, 2023), influenza activity persisted in the community. Majority of the influenza detections in the past 4 weeks were influenza A(H3N2) viruses.
- In Japan (week ending Mar 26, 2023), the average number of reported ILI cases per sentinel site decreased to 6.44 from 8.42 in the preceding week, which was above the baseline level of 1.00. Influenza A(H3) viruses were predominating.
- In Korea (week ending Mar 25, 2023), influenza activity remained elevated. The weekly ILI rate was 13.2 per 1,000 out-patient visits, higher than 11.7 in the preceding week. In week 12, 17 out of 347 respiratory specimens (4.9%) were tested positive for influenza (including 14 influenza A(H3N2) and 3 influenza B).
- In Singapore (week ending Mar 25, 2023), the daily number of consultations for acute respiratory infection slightly increased. The overall positivity rate for influenza among ILI samples in the community was 28% in the past 4 weeks. Influenza A(H3N2) viruses have become predominant among specimens tested positive for influenza since February.

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 and Singapore Ministry of Health.