

Communicable Diseases WATCH



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FEATURE IN FOCUS

Summary of the 2023 influenza season in Hong Kong

Reported by Ms Vera CHOW, Scientific Officer, Respiratory Disease Section, Communicable Disease Branch, CHP.

Hong Kong experienced an influenza season from April to May this year after the very low influenza activity recorded in the past three years related to the stringent hygiene and social distancing measures during COVID-19 pandemic. The local influenza activity started to increase in mid-March and continued to rise to a peak in late April. It then gradually decreased, and returned to a low level in late May. The season spanned for seven weeks from early April to late May, arrived few months later than the previous winter influenza seasons that commonly occurred from January to March or April with shorter duration than the range of 12 to 16 weeks recorded in three major influenza seasons (2017 to 2019) prior to the COVID pandemic.

Laboratory surveillance

The weekly positive percentage of influenza detections among respiratory specimens received by the Hospital Authority (HA) and Public Health Laboratory Services Branch (PHLSB) of the Centre for Health Protection (CHP) started to increase since late-March, rose rapidly exceeding the baseline threshold of 9.2% in early April. It peaked at 18.2% in the week ending April 22 and then declined significantly to below the threshold in late May (Figure 1). The peak percentage was below the range recorded in the major seasons from 2017 to 2019 (26.5% to 40.6%).

Influenza A(H1) viruses predominated in this season (Figure 2). From April 2 to May 20, the majority of influenza detections were influenza A(H1) (80%), followed by influenza A(H3) (20%). The activity of influenza B remained at a low level throughout this season. Both influenza A(H1) and A(H3) viruses remained antigenically similar to the strains contained in the seasonal influenza vaccine (SIV) recommended for the 2022-23 Northern Hemisphere season.

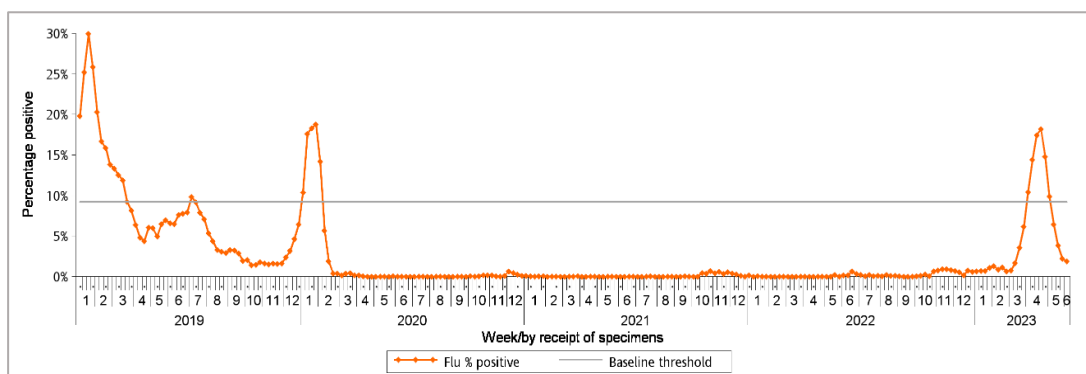


Figure 1 - Percentage of respiratory specimens tested positive for influenza viruses, 2019-2023 June.

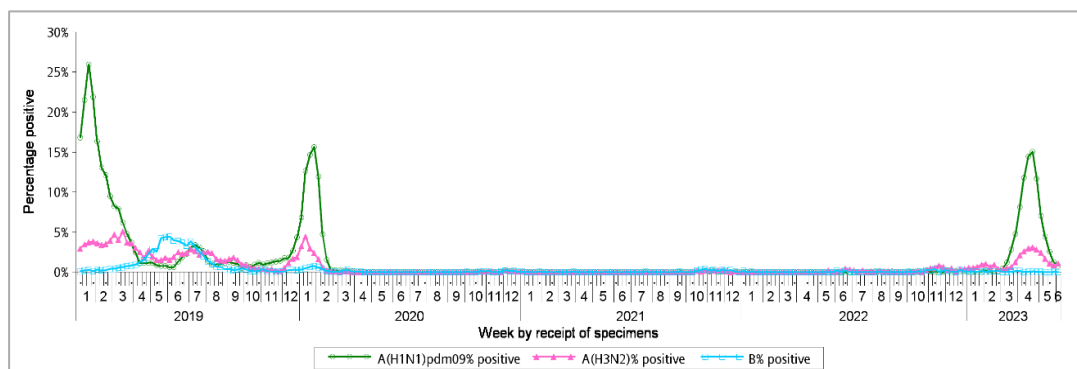


Figure 2 - Percentage of respiratory specimens tested positive for influenza virus subtypes, 2019-2023 June.

Influenza-associated hospital admission rates in public hospitals

The overall admission rate with principal discharge diagnosis of influenza in public hospitals also started to increase since late March, exceeding the baseline threshold of 0.25 per 10,000 population in early April, reaching a peak of 1.14 in the week ending April 22 (Figure 3a), and then returned to a low level in late May. The peak weekly rate reached the medium intensity level according to the assessment by moving epidemic method (MEM)* (Figure 3b).

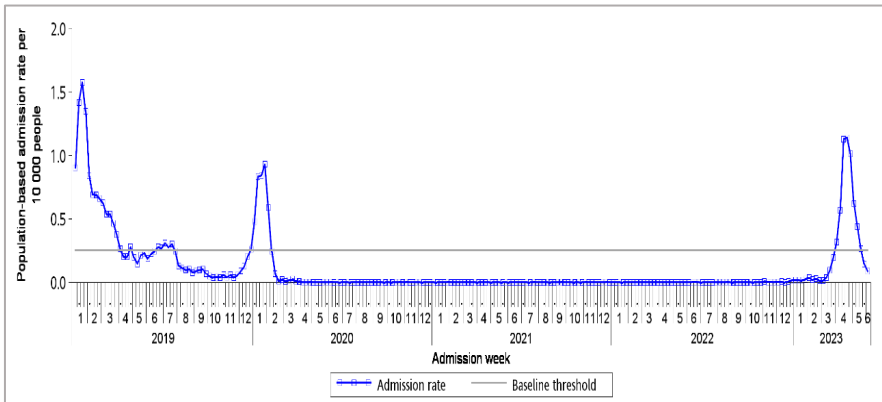


Figure 3a - Weekly admission rates with principal diagnosis of influenza in public hospitals, 2019-2023 June.

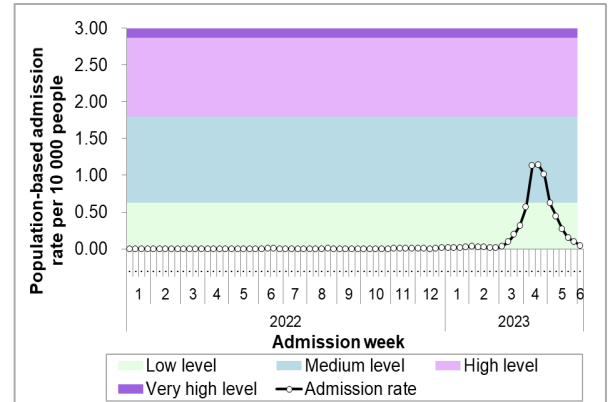


Figure 3b - Weekly admission rates with principal diagnosis of influenza in public hospitals, 2022-2023 June.

The peak weekly admission rate of this season (1.14) was lower than those recorded in three major influenza seasons from 2017 to 2019 (ranging from 1.50 to 1.91) (Table 1). The most affected age groups were children aged 5 years or less (6.03), followed by children aged 6-11 years (2.65) and elders aged 65 years or above (2.44) (Figure 4). The peak rates of both children aged 0-5 years and elders 65 years or above were lower than those in three previous major seasons, whereas that of children of age 6-11 years (2.65) was within the range of 1.65 to 3.69 cases in the prepandemic years (Table 1). While comparing the peak rates recorded during 2018/19 winter season which had the same predominating virus type (influenza A(H1)) as this year, the peak admission rates across all age groups were lower this year, except for the age group of 6-11 years (Table 1).

Table 1 – Peak weekly admission rates recorded during major influenza seasons, 2023, as compared with 2017-2019.

Season (predominating virus)	Peak weekly admission rate (per 10,000 population)						
	0-5	6-11	12-17	18-49	50-64	≥65	All ages
2023 (H1)	6.03	2.65	0.85	0.35	0.67	2.44	1.14
2018/19 winter (H1)	11.66	2.00	1.14	0.57	1.04	2.96	1.58
2017/18 winter (B)	9.03	3.69	1.50	0.36	0.86	4.05	1.50
2017 summer (H3)	9.14	1.65	0.61	0.31	0.69	6.39	1.91

Note: The peak rate of various age groups might be recorded in different weeks of the same season.

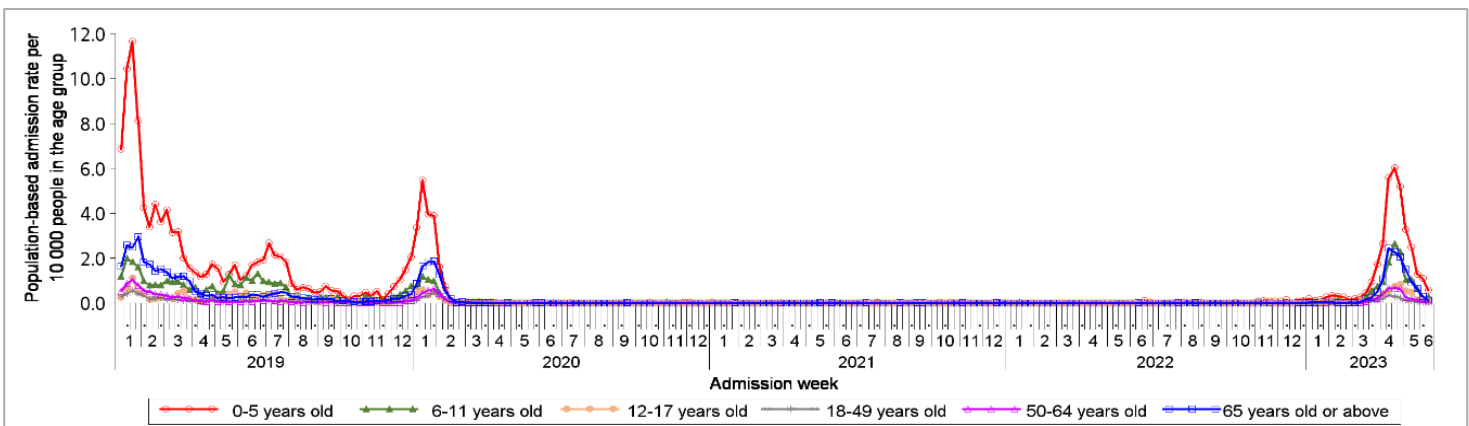


Figure 4 - Weekly admission rates with principal diagnosis of influenza in public hospitals by age groups, 2019-2023 June.

* Details are available from: https://www.chp.gov.hk/files/pdf/explanatory_note_for_flux_mem_eng.pdf

Influenza-like illness (ILI) outbreaks in schools and institutions

While Hong Kong entered influenza season in early April, the weekly number of institutional ILI outbreaks reported to CHP started to increase since mid-April after the Easter holiday. The weekly number of outbreaks increased to a peak of 59 in the last week of April, and declined to a low level afterwards (Figure 5). The peak reached the medium intensity level according to the assessment by MEM (Figure 6). It was lower than 113 and 209 outbreaks recorded in 2017/18 and 2018/19 winter seasons respectively but was higher than that (44) in 2017 summer season. In this season from April 2 to May 20, 157 outbreaks were recorded with totally 997 persons affected. The mostly affected type of institutions was primary school and residential care home for elderly which constituted 39% and 22% of the reported outbreaks respectively (Table 2).

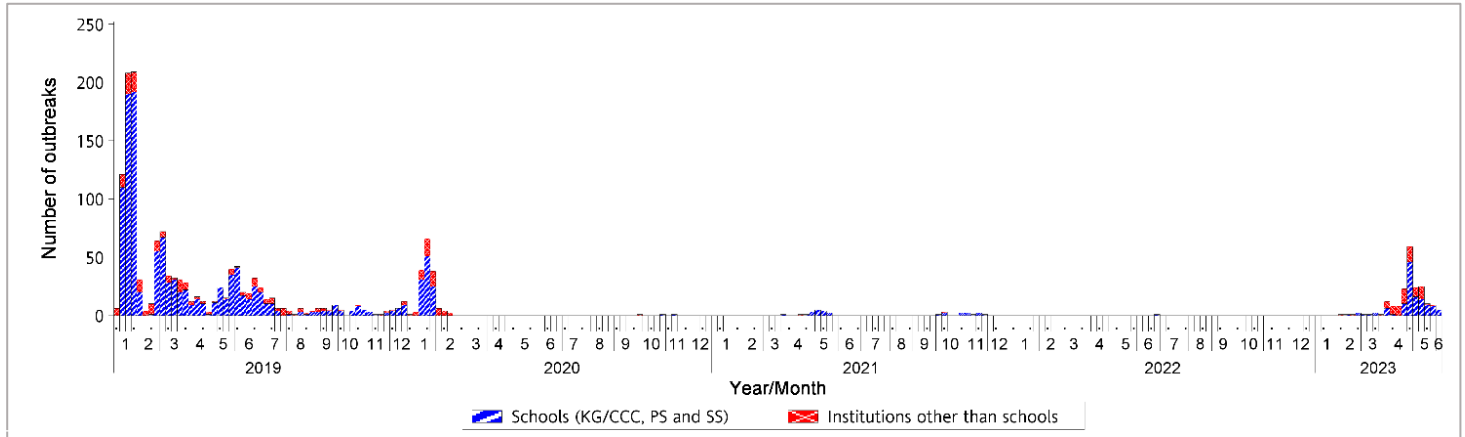


Figure 5 - Weekly number of institutional ILI outbreaks reported to CHP, 2019-2023 June.

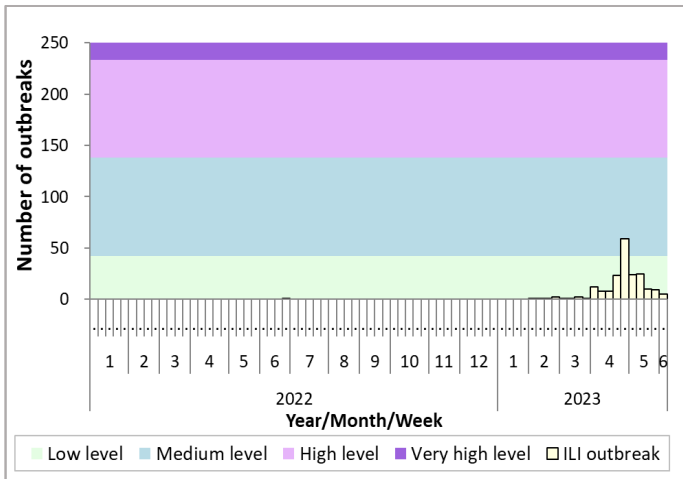


Figure 6 - Weekly number of institutional ILI outbreaks, 2022-2023 June.

Table 2 - Numbers and percentages of ILI outbreaks in schools and institutions during the 2023 influenza season.

Type of institutions	Cumulative number of ILI outbreaks reported from April 2 to May 20 (% total)
Primary school (PS)	61 (39%)
Residential care home for elderly persons (RCHE)	34 (22%)
Secondary school (SS)	19 (12%)
Residential care home for persons with disabilities (RCHD)	19 (12%)
Kindergarten/ child care centre/ (KG/CCC)	16 (10%)
Others	8 (5%)
Total	157

Severe influenza cases

CHP collaborates with the HA and private hospitals to monitor intensive care unit (ICU) admissions and deaths with laboratory confirmation of influenza among adult patients. For surveillance purpose, the cases include all laboratory-confirmed influenza patients who require ICU admission or die within the same admission of influenza infection. It should be noted that their causes of ICU admission or death may be due to other acute medical conditions or underlying diseases.

During this influenza season, 274 cases of ICU admission or death with laboratory confirmation of influenza (including 172 deaths) were recorded among adult patients aged 18 years or above. The number was lower than the range of 570 to 601 cases (356 to 430 deaths) recorded during the major influenza seasons from 2017 to 2019. The peak number of cases recorded in a week was 48, which was also lower than the range of 72 to 83 cases recorded in previous seasons. Their ages ranged from 20 to 105 years (median 74 years). Majority of the cases and deaths (73% and 87% respectively) were elders aged 65 years or above (Table 3). About 18% affected persons aged 50-64 years, which was lower than 26% in the 2018/19 season while both seasons were predominated by the same virus type. The corresponding figures in 2017 summer season predominated by influenza A(H3) and 2017/18 winter influenza seasons predominated by influenza B were 15% and 20% respectively. Nonetheless, most of the deaths (87%) still affected elders aged 65 years or above. The cumulative incidences of severe cases and deaths were 42.8 and 26.9 cases

per million population respectively, which were lower than the corresponding figures in 2018/19 winter influenza season (92.8 and 55.0 cases per million population respectively). Similarly, the incidences across the age groups in this season were also found to be lower than those recorded in 2018/19 winter season (Table 4). About 85% of the elders aged 65 years or above had pre-existing chronic medical diseases in this season, and most of them (59%) were not known to have received the 2022/23 SIV.

Table 3 - Age distribution of adult severe/fatal cases recorded in 2023 influenza season.

Age group in years	Number of severe cases (including deaths) (%)	Number of deaths (%)
18 – 49	24 (9%)	5 (3%)
50 – 64	50 (18%)	18 (10%)
≥65	200 (73%)	149 (87%)
Total	274	172

Table 4 - Cumulative incidences of adult severe influenza cases (per million population) by age groups in 2023 influenza and 2018/19 winter influenza seasons (both predominated by influenza A(H1N1))

Age group in years	Severe case (including death)		Death	
	2018/19 winter	2023	2018/19 winter	2023
18 – 49	18.5	7.8	1.8	1.6
50 – 64	85.4	27.6	23.3	9.9
≥65	291.2	130.8	233.0	97.5
Total	92.8	42.8	55.0	26.9

Regarding the paediatric cases of influenza-associated severe complications and deaths, 3 cases (including 2 deaths) were recorded in this season, which was lower than the range of 19 to 24 cases (1 – 3 deaths) recorded during the major influenza seasons from 2017 to 2019. The cases involved two girls and a boy, and their ages were 19 months, 13 year and 17 year respectively. Two of them enjoyed good past health, and all did not receive the 2022/23 SIV. The cumulative incidence of the children aged 0 to 17 years was 3.2 cases per million population, much lower than the range of 18.7 to 23.2 cases per million population recorded during the major influenza seasons in 2017 to 2019.

In summary, the 2023 influenza season in Hong Kong from April to May was short and mild, which started few months later than the usual winter influenza seasons (January to March/April). It was predominated by influenza A(H1N1) viruses, which also predominated in the Mainland, Guangdong and Macao during the upsurges of influenza activities within the same period. The peaks of influenza detections, influenza-associated hospitalization, ILI outbreaks as well as the cumulative incidence of severe influenza cases were all lower than the three major influenza seasons prior to the COVID-19 pandemic. However, the influenza-associated hospitalization rate of the children group of age 6 to 11 years was higher than that recorded in the 2018/19 season (2.65 versus 2.00 per 10,000 population) while most ILI outbreaks reported in this season involved primary schools.

General Public's Knowledge, Attitude and Practice Survey on Antibiotic Resistance 2022

By Dr. Grace TSOI, Medical and Health Officer and Dr. Billy CH HO, Senior Medical and Health Officer, Infection Control Branch, CHP.

As formulated in the second *Hong Kong Strategy and Action Plan on Antimicrobial Resistance (2023 -2027)*¹ launched in November 2022, the Centre for Health Protection (CHP) of the Department of Health conducts regular survey to monitor the trend of general public's knowledge, attitude and practice (KAP) on antibiotic resistance and assess the effectiveness of interventions. This was the second round of its kind and the last round was conducted in 2016/17². The full report on *General Public's Knowledge, Attitude and Practice Survey on Antibiotic Resistance 2022* (the Survey), was published by CHP (Figure 1) on April 13, 2023 at <https://www.chp.gov.hk/en/static/106705.html>.

The target population of this telephone survey was non-institutional Hong Kong residents aged 15 or above who could speak Cantonese, Putonghua or English (excluding foreign domestic helpers). The survey was conducted from September 7, 2022 to October 6, 2022 through landline and mobile telephone interviews via random sampling. The questionnaire was developed by revising the one used in previous survey, which was based on the questionnaire in WHO's *Antibiotic resistance: Multi-country public awareness survey*³ published in year 2015 and modified by taking into account local contexts. Sample size of 1,076 successful interviews (493 from landline numbers and 583 from mobile numbers) was achieved with a combined response rate of 32.7%.

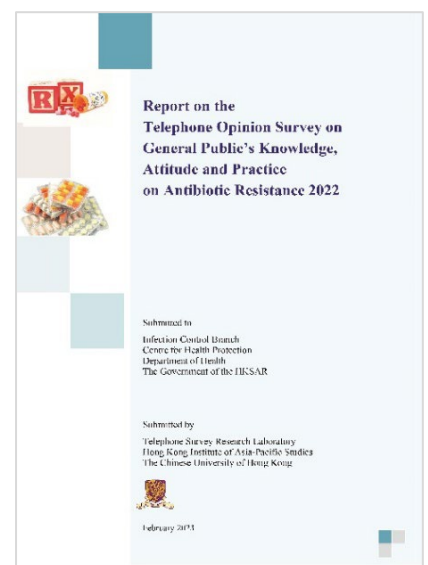


Figure 1— Report on the telephone Opinion Survey on general Public's Knowledge, Attitude and Practice on Antibiotic Resistance 2022

Key findings of the Survey included the followings:

- ✧ Knowledge
 - ❖ Among those last taken antibiotics prescribed by doctors, only 20.6% reported that they had noticed the health advice (e.g. disinfect and cover all wounds) on antibiotic medicine bag.
 - ❖ A large proportion of respondents have heard of the respective terms of superbugs (超級細菌) (81.4%), and antibiotic resistance (抗生素耐藥性) (76.0%) in either Chinese or English.
 - ❖ Less than half of all respondents (49.7%) correctly answered that cold and flu should not be treated by antibiotics.
 - ❖ Less than half of respondents (44.1%) correctly answered that bacteria which were resistant to antibiotics could be spread from person to person.
 - ❖ Less than half of the respondents (42.7%) correctly understood that raw or undercooked ready-to-eat (RTE) foods such as salad and sashimi were more easily contaminated by drug-resistant bacteria than cooked food, with the younger respondents showing an even lower rate (32.7%) of correct understanding.
- ✧ Attitude
 - ❖ When a doctor’s initial assessment indicated that antibiotics are not needed, the vast majority of respondents (96.4%) would accept the doctor’s advice to observe for a few more days or to wait for the diagnostic test result before deciding whether to prescribe antibiotics or not.
 - ❖ The majority of respondents (66.3%) wished their doctor to share decision making on antibiotics prescription with them.
- ✧ Practice
 - ❖ Among those respondents who had ever taken antibiotics, a vast majority of them (95.4%) reported their last taken antibiotics were prescribed by doctors.
 - ❖ Among respondents (21.6% of all respondents) who reported that they had consulted a doctor (for cold or flu) in the past 12 months, majority (97.2%) did not request antibiotics during that consultation.

Response of the same questions asked in both 2022 and 2016/2017 round of Survey were compared and the results were tabulated as below.

	2016/17	2022
Consulted doctors for cold/flu in last 12 months	59.7%	21.6%
Antibiotics last taken within 1 year	48.1%	26.1%
Wished doctors to share decision making on antibiotics prescription	76.0%	66.3%
Agreed with the statement: “Cold and flu could not be treated with antibiotics.” (<i>correct</i>)	37.3%	49.7%
Agreed with the statement: “It is okay to buy the same antibiotics, or request them from a doctor, if you were sick and they helped you get better when you had the same symptoms before.” (<i>wrong</i>)	93.1%	79.0%
Agreed with the statement: “People should not keep antibiotics and use them later for other illnesses.” (<i>correct</i>)	83.5%	61.7%

This Survey was conducted amidst the COVID-19 pandemic in year 2022, when people in Hong Kong were practicing stringent infection control measures e.g. mask wearing, hand hygiene, social distancing, etc., leading to drastic decrease in other respiratory tract infections in the community. This might explain the substantial drop in the percentage of respondents having consulted doctors for cold/flu (from 59.7% to 21.6%); and taken antibiotics (from 48.1% to 26.1%) in the preceding year.

There was some improvement in public’s knowledge on AMR, as reflected by a higher percentage of correct answer on the statement “cold and flu could not be treated with antibiotics” despite the absolute figure (49.7%) was still low. Besides, we also found a lower percentage of respondents considered that it was okay to buy the same antibiotics or request them from a doctor if you were sick and they helped you get better when you had the same symptoms as before (from 93.1% to 79.0%).

However, knowledge deficit was identified, particularly in the older age group which generally has a lower level of understanding on correct use of antibiotics. For example, less respondents from older age group in 2022 Survey correctly understood that they should not keep antibiotics to be used later for other illnesses.

To further publicise the Survey findings, a press release⁴ and a letter-to-doctors⁵ were also issued on 13 April 2023. Health promotion activities including radio interview and publicity through different media were conducted to enhance public awareness of appropriate antibiotic use and infection control measures. CHP also collaborated with professional bodies including Hong Kong Medical Association, Hong Kong Academy of Medicine, Hong Kong Private Hospitals Association and Hong Kong College of Family Physicians to promulgate survey findings and to solicit assistance from doctors on patient education on AMR through their network to their members, and the publications. Doctors were encouraged to order hard copies of health education materials to disseminate AMR-related information and messages during clinical encounters (Figure 2).

Antibiotics to cure infection also kill the normal bacteria in your body and put you at risk of acquiring superbugs.

To protect you and your family, you should:

1. Practise frequent hand hygiene
2. Eat or drink only thoroughly cooked and boiled items
3. Disinfect and cover wounds
4. Wear mask when you have respiratory symptoms
5. Young children with illness should minimize contact with other children



Figure 2 – Antibiotic Cue Card to alert patients on tips when taking antibiotics

For further information about AMR, please visit the CHP thematic website at <https://www.chp.gov.hk/en/features/47850.html>.

References

- ¹ Centre for Health Protection. Hong Kong Strategy and Action Plan on Antimicrobial Resistance (2023 – 2027). Available at: <https://www.chp.gov.hk/en/features/104142.html>. Accessed on June 16, 2023.
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NEWS IN BRIEF

An imported case of psittacosis

On May 25, 2023, Centre for Health Protection (CHP) of the Department of Health recorded an imported case of psittacosis affecting a 55-year-old male with good past health living in Tuen Mun. He had fever, cough and shortness of breath since April 28. He attended the Accident and Emergency Department (AED) of Tuen Mun Hospital on May 12 and was admitted for management. The diagnosis was pneumonia and he was treated with antibiotics. Sputum collected on May 18 was tested positive for *Chlamydia psittaci* DNA by polymerase chain reaction. His condition was critical. He had stayed in Meizhou, Guangdong during the whole incubation period. According to his family, there was a bird nest on the ceiling of patient's house in Meizhou and they noticed bird droppings occasionally fell from it. He did not keep any pets. His household contacts in Hong Kong remained asymptomatic.

Two sporadic cases of necrotizing fasciitis caused by *Vibrio vulnificus* infection

CHP recorded two sporadic cases of necrotising fasciitis caused by *Vibrio vulnificus* infection on May 30 and June 7, 2023 respectively.

The first case affected a 68-year-old retired man with chronic diseases including diabetes, hypertension and hyperlipidaemia. He presented with fever and painful swelling on right leg on May 27 and was admitted to Yan Chai Hospital on May 28. Clinical diagnosis was necrotising fasciitis of right leg. Urgent debridement and above-knee amputation were performed. His condition deteriorated rapidly and he succumbed on June 2. Tissue fluid grew *Vibrio vulnificus*. Before symptom onset, he sustained a puncture injury at his right leg by a shrimp when he shopped at a wet market in Tsuen Wan on May 26. His family member also recalled he had pre-existing wounds over both legs. He did not consume any uncooked seafood. There was no history of recent travel.

The second case affected a 74-year-old retired woman with history of hypertension. She lived with her family in Sai Kung. She presented with left leg swelling on June 4 and was admitted to a public hospital on June 5. Clinical diagnosis was necrotising fasciitis of left leg. Emergency excisional debridement of wound was done on both June 5 and June 7, and the left leg fascia wound culture grew *Vibrio vulnificus*. Her condition improved after treatment and she is now in stable condition. Before symptom onset, she sustained a puncture injury at her left leg by the fin of a fish she bought at a wet market in Sai Kung on June 4. She did not consume any uncooked seafood. There was no history of recent travel.