

Communicable Diseases

WATCH



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FEATURE IN FOCUS

Review on *Mycoplasma pneumoniae* infection in Hong Kong

Reported by Dr Katie LAI, Medical and Health Officer, Respiratory Disease Section, Surveillance Division, Communicable Disease Branch, CHP

A recent increase in activity of *Mycoplasma pneumoniae* infection had been reported in Mainland China, as well as South Korea and Europe (including Denmark, France, Ireland, the Netherlands, Norway, and Sweden) in the latter half of 2023. The Centre for Health Protection (CHP) of the Department of Health closely monitors the situation of respiratory infections in Hong Kong through multiple surveillance systems, including laboratory testing, hospital admissions, and outbreak data. Below we reviewed the local activity of *M. pneumoniae* infection in recent years.

M. pneumoniae infection can occur at any time of the year. Historical data showed that cyclical high activity of *M. pneumoniae* was recorded every few years, with the last period of high local activity occurring in 2016 and 2019. The latest local surveillance data showed increased activity of *M. pneumoniae* during September to December 2023, but the level was lower than the peak levels in 2016 and 2019.

According to the Hospital Authority (HA) data, the majority of *M. pneumoniae* associated admissions to public hospitals were cases aged below 18 years. In 2016 and 2019, increased paediatric *M. pneumoniae* associated admissions were recorded with an annual total of about 1 600–1 700 episodes, as compared to fewer than 1 000 episodes in 2017–2018 and 2020–2022. Of note, between April 2020 and 2022, only few admissions were recorded likely due to stringent control measures related to COVID-19. In 2023, the annual total number of paediatric admission was about 700. The weekly paediatric admissions was maintained at a low level of 0–5 from January to July. The activity increased since early August and the weekly admission fluctuated at an elevated level between 20–40 from September to December, at a level lower than 50–80 recorded in the peak months of 2016 and 2019 (Figure 1)

Regarding outbreak notifications, except for a relatively high number (total 19) of outbreaks recorded in year 2019, the number of outbreaks recorded from 2016 to 2023 ranged from 0–4 per year (Figure 2). In 2023, there were four *M. pneumoniae* outbreaks recorded in November, affecting two primary schools and two special schools, and no reports in the rest of the year.

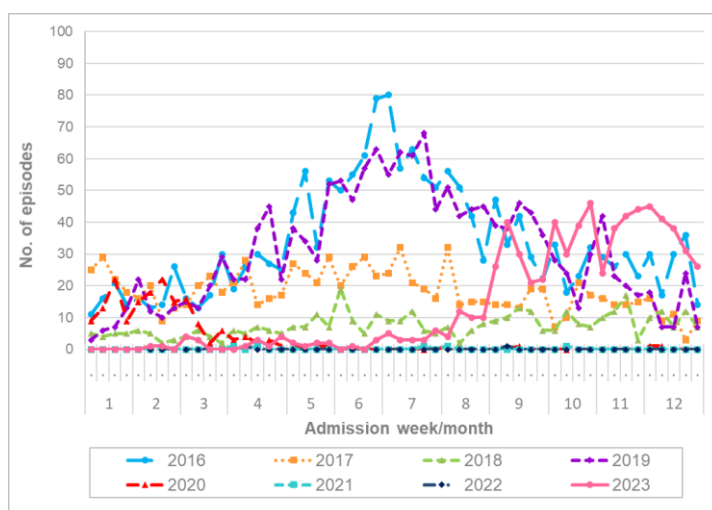


Figure 1 – Weekly number of paediatric (age <18 years old) *M. pneumoniae* associated admissions to public hospitals under HA, 2016–2023.

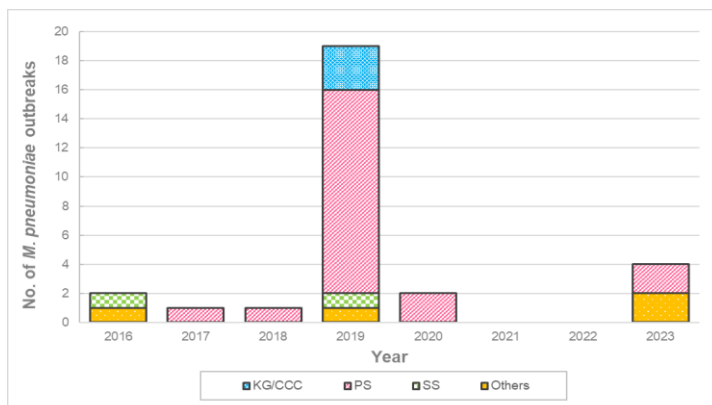


Figure 2 – Annual number of *M. pneumoniae* outbreaks, by type of institution, 2016–2023.

Remark: KG/CCC: Kindergartens/child care centres; PS: Primary schools; SS: Secondary schools; Others: Other institutions such as special schools and residential child care centres.

The monthly positive percentage as tested by the Public Health Laboratory Services Branch (PHLSB) among respiratory specimens of patients with clinical diagnosis of community-acquired pneumonia ranged from below 5% to 20% in 2016-2022. In 2023, the percentage increased since August from less than 1% to about 5% in December (Figure 3a).

Similarly, the weekly positive percentage among paediatric patients as tested by the HA laboratories has started to increase since August 2023. It fluctuated between about 2% and 4% from September to December (Figure 3b).

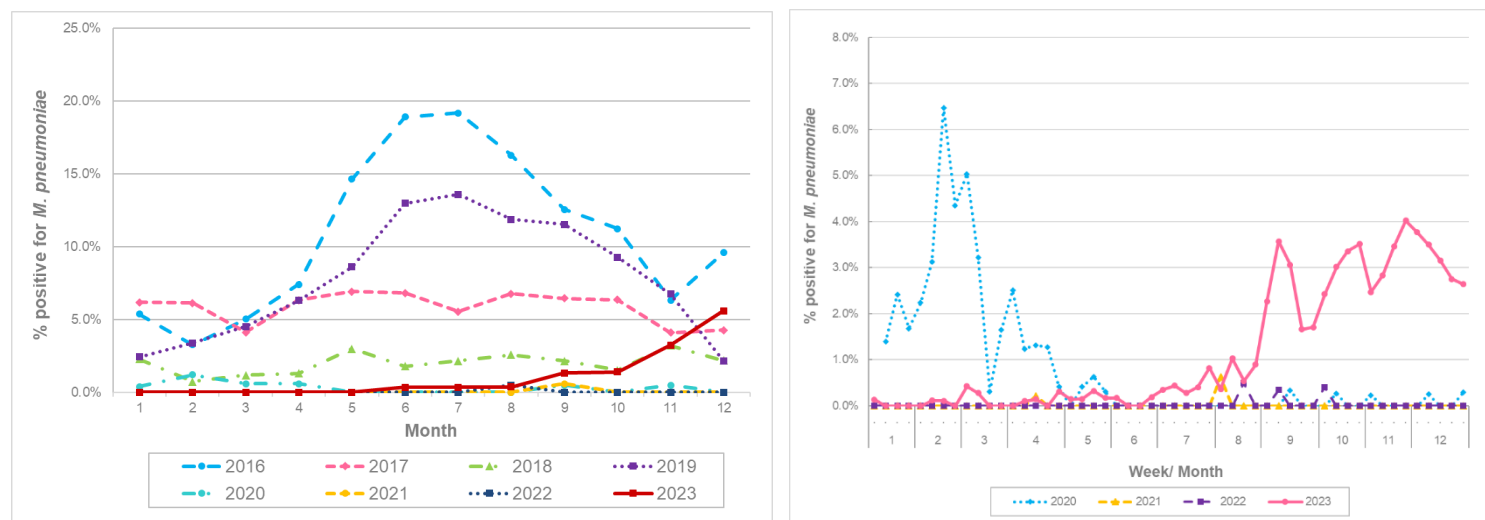


Figure 3 – (a) Monthly percentages tested positive for *M. pneumoniae* among clinical specimens by PHLSB, 2016-2023 (left); (b) Weekly percentages tested positive for *M. pneumoniae* among paediatric clinical specimens by the multiplex PCR system by HA, 2020-2023 (right).

In summary, there was cyclical increase in activity of *M. pneumoniae* in 2023 locally, during September to December, but the level was lower than the peak activity in years 2016 and 2019. Respiratory infections are generally more active in the winter and constitute a huge public health burden. As further lowering of temperature and increased travel during holidays create favourable conditions for the circulation and transmission of respiratory pathogens, a winter surge of respiratory infections in the community is anticipated. CHP continues to closely monitor the activity of respiratory infections, and members of the public are urged to remain vigilant against respiratory infections.



Facts on *M. pneumoniae* and health tips

The bacterium *M. pneumoniae* commonly causes mild infections of the respiratory system presenting with mild upper respiratory tract symptoms, in particular children and adolescents, but 5-10% of infected patients can develop atypical pneumonia. Most people recover from mild infections spontaneously, while pneumonia or severe infections can be treated with antibiotics. It was observed that about 30-70% of paediatric respiratory specimens tested positive for *M. pneumoniae* by PHLSB were macrolide resistant in 2019.¹

To prevent respiratory infections including influenza, COVID-19 and *M. pneumoniae*, members of the public should maintain good personal, hand, and environmental hygiene at all times. Persons with respiratory symptoms, even if the symptoms are mild, should wear a surgical mask, refrain from work or attending classes at school, avoid going to crowded places, and seek medical advice promptly. They should perform hand hygiene before wearing and after removing a mask. High risk persons are reminded to wear a surgical mask when visiting public places, and the public should also wear a surgical mask when taking public transportation or staying in crowded places.

As many respiratory pathogens, including influenza viruses, are expected to be active with community transmission during the winter, while vaccination is safe and effective in preventing seasonal influenza and COVID-19, members of the public, especially high-risk groups, are highly advised to receive vaccination as soon as possible. In general, most of upper respiratory infections do not require antibiotic treatment. Proper use of antibiotics following doctor's advice is important to prevent antimicrobial resistance.

Reference

¹ Detection of *Mycoplasma pneumoniae* in respiratory specimens in 2019. Available at: <https://www.chp.gov.hk/en/statistics/data/10/641/642/6827.html>

Review of Mpox in Hong Kong

Reported by Ms Wendy CHIU, Scientific Officer; Dr Wenhua LIN, Senior Medical and Health Officer, Communicable Disease Surveillance and Intelligence Section, Surveillance Division, Communicable Disease Branch, CHP

After our previous report¹ on the global and local situation of mpox (also known as monkeypox), Hong Kong has recorded a wave of mpox cases in the second half of 2023. We report the latest local situation of mpox and update the recent trend of the multi-country outbreak of mpox.

Local situation

As of January 13, 2024, a total of 54 mpox cases has been recorded in Hong Kong, including 44 locally acquired and 10 imported infections since it was made statutorily notifiable on June 10, 2022 (Figure 1). There was a remarkable upsurge in the number of mpox cases from July to September 2023. After reaching a peak of 21 cases in August 2023 (19 locally acquired and 2 imported infections), a downtrend of mpox cases was observed with only three cases recorded in November 2023 and none from December 2023 to January 13, 2024.

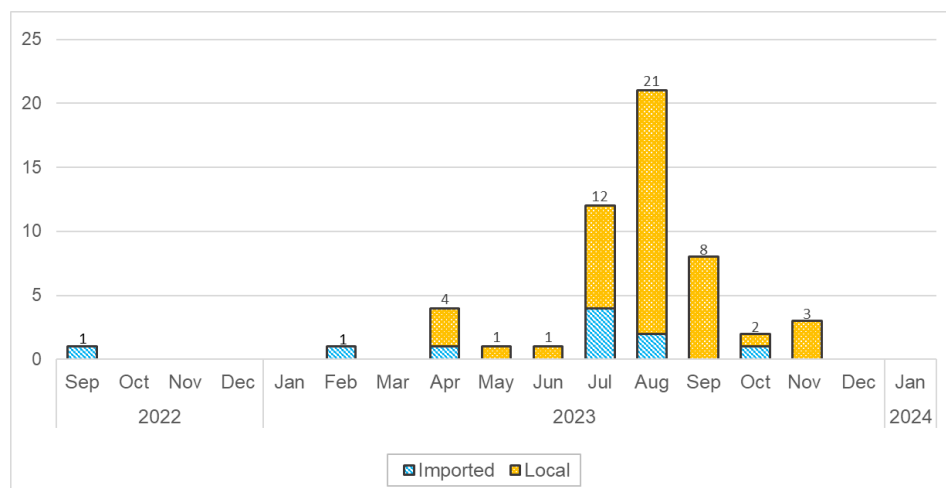


Figure 1 – Confirmed mpox cases in Hong Kong by notification month (as of January 13, 2024).

All 54 cases were men, aged from 20 to 59 years with a median age of 37 years. Among them, 48 cases (88.9%) were ethnic Chinese (Table 1). Most cases (81.5%) acquired the infection locally. Over 95% of them involved males engaging in men who have sex with men (MSM) or bisexual behavior, and over 90% of cases admitted having sex with strangers during the incubation period. Among the 54 cases, 38.9% of them were persons living with human immunodeficiency virus (HIV) (29.6% were known HIV carrier and 9.3% were newly diagnosed HIV-positive after admission for the mpox episode). The commonest presenting symptoms were rash affecting genital area (79.6%) and non-genital areas (44.4%). Around half (46.3%) presented with systemic symptoms defined as fever, malaise, headache or muscle pain. The clinical conditions of all cases were stable. Only two cases required mpox treatment with antiviral drug tecovirimat and none required intensive care. No death related to mpox had been recorded. More than half of cases (57.4%, 31 cases) did not receive mpox or smallpox vaccine, and among them about 80.6% (25 cases) presented with systemic symptoms, suggesting that vaccination may reduce the severity of the mpox symptoms.

Table 1 – Mpox cases recorded in Hong Kong as of January 13, 2024.

Parameter		Number of cases	%
Ethnicity	Chinese	48	88.9
	Non-Chinese	6	11.1
Importation status	Local	44	81.5
	Imported	10	18.5
Sexual orientation	MSM	45	83.3
	Bisexual	7	13.0
	Heterosexual	2	3.7
HIV status	HIV positive	21	38.9
	HIV negative	29	53.7
	Unknown	4	7.4
Vaccination	Unvaccinated	31	57.4
	1 dose Mpox vaccine	4	7.4
	2 doses of mpox vaccines or equivalent	19	35.2

The main route of mpox transmission was through sexual contact. Epidemiological investigation revealed three clusters involving a total of six cases. Each cluster involved two persons who met via geospatial apps or sauna. No definite epidemiological linkage could be found among the other 48 cases, but the majority of cases were engaging in MSM behaviors with anonymous sex partners who met via geospatial apps, suggesting transmission among these high-risk individuals. As many cases refused to disclose or engaged in sexual activities with unidentifiable sex partners, traditional epidemiological investigation and contact tracing were difficult and even impossible to carry out.

Since the first mpox case reported in September 2022, the Government has activated the alert response level under the Preparedness and Response Plan for Monkeypox. Despite the overall downward trend in recorded cases, there is still risk of ongoing transmission among the high risk individuals locally. Members of the public are urged to heighten vigilance against mpox

and avoid close physical contact with persons suspected of contracting the disease. Overseas studies have shown that mpox vaccination can prevent infection and reduce the severity of infection^{2,3,4,5}. High-risk individuals are urged to receive mpox vaccination early. For more information on mpox and related vaccination programme, please visit the Centre for Health Protection (CHP)'s thematic webpage at www.chp.gov.hk/en/features/105683.html.

Multi-country outbreak of mpox

Although the World Health Organization (WHO) announced that the multi-country outbreak of mpox that occurred since 2022 no longer constituted a Public Health Emergency of International Concern on May 11, 2023, the WHO issued standing recommendations⁶ for the multi-country outbreak of mpox and continued to monitor the global risk. From January 1, 2022 to November 30, 2023, a total of 92 783 laboratory-confirmed cases and 660 probable cases have been reported to the WHO, including 171 deaths⁷. A monthly average of 828 cases were reported globally from June to November 2023. There were 906 cases reported in November 2023, with the recent resurgence of mpox in the Region of Americas (308 cases, 34.0%) and the European Region (259 cases, 28.6%).

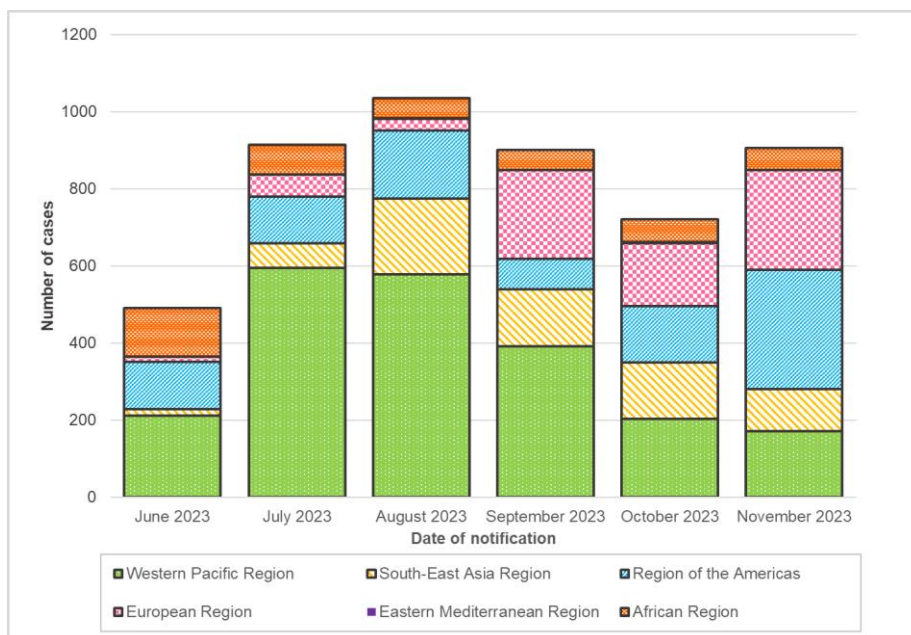


Figure 2 – Epidemic curve of monthly number of confirmed mpox cases in WHO regions from WHO, May 1 – November 30, 2023⁷. (data as of November 30, 2023).

According to the WHO, the number of cases reported in the Western Pacific Region was declining from August 2023 as shown in Figure 2, with 172 cases reported in November 2023 (a total of 2 760 cases reported from 2022 to November 2023). A low level of mpox transmission was observed in the Western Pacific and new mpox cases have been reported from China, Viet Nam, Singapore, Japan, Republic of Korea and Malaysia in November 2023. The WHO assesses the long-term mpox risk for the general population in countries not affected prior to the current outbreak as low. However, the risk for gay men, bisexual men, other MSM, trans and gender diverse people, and sex workers, is assessed as moderate.



Tips for prevention of mpox infection

To reduce the risk of mpox infection, members of the public should implement the following preventive measures:

- ✦ Avoid close, skin-to-skin contact with sick people or people with a rash that looks like mpox;
- ✦ Avoid contact with objects and materials that a person with mpox has used, such as eating utensils or cups, bedding, towels, or clothing;
- ✦ Seek medical advice promptly for any suspicious symptoms;
- ✦ Sexually active people are advised to have safer sex and maintain a mutual monogamous relationship with an uninfected partner and avoid casual sex; and
- ✦ High-risk individuals are also urged to receive mpox vaccination early.

References

- ¹ Communicable Disease Watch. 2023 Apr 16:19(3). Available at: https://www.chp.gov.hk/files/pdf/cdw_v19_3.pdf
- ² Marta Bertran, MSc et al. Effectiveness of one dose of MVA–BN smallpox vaccine against mpox in England using the case-coverage method: an observational study. March 13, 2023. Available at: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(23\)00057-9/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(23)00057-9/fulltext)
- ³ Nicholas P. Deputy, Ph.D. et al. Vaccine Effectiveness of JYNNEOS against Mpox Disease in the United States. June 29, 2023. N Engl J Med 2023; 388:2434-2443. DOI: 10.1056/NEJMoa2215201. Available at: <https://www.nejm.org/doi/full/10.1056/NEJMoa2215201>
- ⁴ Alexandra F. Dalton, PhD et al. Estimated Effectiveness of JYNNEOS Vaccine in Preventing Mpox: A Multijurisdictional Case-Control Study — United States, August 19, 2022–March 31, 2023. Available at: <https://www.cdc.gov/mmwr/volumes/72/wr/mm7220a3.htm>
- ⁵ Patrick C. Eustaquio, MD et al. Epidemiologic and Clinical Features of Mpox in Adults Aged >50 Years — United States, May 2022–May 2023. Available at: <https://www.cdc.gov/mmwr/volumes/72/wr/mm7233a3.htm>
- ⁶ Standing recommendations for mpox issued by the Director-General of the World Health Organization (WHO) in accordance with the International Health Regulations (2005) (IHR) [https://www.who.int/publications/m/item/standing-recommendations-for-mpox-issued-by-the-director-general-of-the-world-health-organization-\(who\)-in-accordance-with-the-international-health-regulations-\(2005\)-\(ihr\)](https://www.who.int/publications/m/item/standing-recommendations-for-mpox-issued-by-the-director-general-of-the-world-health-organization-(who)-in-accordance-with-the-international-health-regulations-(2005)-(ihr))
- ⁷ WHO. Multi-country outbreak of mpox, External situation report#31 – 22 December 2023. Available at: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-31---22-december-2023>

NEWS IN BRIEF

A cluster of imported Dengue fever related to a school tour returning from Thailand

On December 6, 2023, The Centre for Health Protection (CHP) of the Department of Health identified two epidemiologically linked cases of imported dengue fever affecting one secondary student and his teacher who both returned from a recent school trip from Thailand with activities such as hiking and water sports in outskirts. Active case finding by means of phone interview and self-administered questionnaires as well as offering serological testing to tour group participants identified further three epidemiologically linked cases. Collectively, the cluster affected four students and one teacher. They presented with fever (5), rash (4), myalgia (4), malaise (2) and vomiting (1). Five tested positive for dengue virus IgM and three tested positive for NSI antigen. All remained in stable condition. Three required hospitalisation and all have been discharged.

Pest Control Advisory Section of the Food and Environmental Hygiene Department and Port Health Division of CHP were notified to take necessary action as deemed necessary. Education Bureau was also informed to alert schools to stay vigilant, and take into account infectious disease outbreaks, particularly the situation of regions where mosquito-borne diseases are endemic, into their risk assessment when planning overseas trip in future.

Three sporadic cases of Creutzfeldt-Jakob Disease

CHP recorded three sporadic cases of Creutzfeldt-Jakob Disease (CJD) on December 28, 2023, January 10, 2024 and January 12, 2024 respectively.

The first case involved a 59-year-old male with underlying illnesses. He presented with rapid cognitive decline with gait and visual disturbance in September 2023 and was admitted to a public hospital on October 11, 2023. He was found to have cerebellar ataxia, reduced visual acuity, myoclonus and akinetic mutism. Findings of the electroencephalogram (EEG), magnetic resonance imaging (MRI) of the brain and cerebrospinal fluid were compatible with CJD. He was classified as a probable case of sporadic CJD.

The second case involved a 61-year-old female with underlying illnesses. She presented with progressive limb weakness in November 2022 with rapid deterioration in cognition and memory in March 2023. She also had unsteady gait, dysphasia and dysarthria. She was admitted to a public hospital on May 23, 2023 after fall with head injury. EEG and MRI of the brain were compatible with CJD. She was classified as a probable case of sporadic CJD. She deteriorated further and succumbed on August 5, 2023.

The third case involved a 74-year-old female with underlying illnesses. She developed unsteady gait with vertigo and visual disturbance in November 2023 and was admitted to a public hospital on December 13, 2023. Findings of the EEG and MRI of the brain were both compatible with CJD. She was admitted again on January 6, 2024 with increased confusion, decline in short-term memory and inability to recognise family. 14-3-3 assay in cerebrospinal fluid was found positive. She was classified as a probable case of sporadic CJD.

All cases had no known family history of CJD and no risk factors for either iatrogenic or variant CJD were identified.