

# Communicable Diseases WATCH



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## FEATURE IN FOCUS

### World Tuberculosis Day 2025

Reported by Dr HUANG Shan-shan, Senior Medical and Health Officer, Tuberculosis and Chest Service, CHP.



The World Health Organization (WHO) has designated March 24 of each year as World Tuberculosis Day to raise public awareness and knowledge about tuberculosis (TB) and encourage global efforts to combat TB together. This year's theme, **Yes! We Can End TB: Commit, Invest, Deliver**, highlights the urgency of ending TB.

### Global Situation of TB

TB, caused by *Mycobacterium tuberculosis* (MTB), primarily affects the lungs, though other organs can also be involved. It remains a significant global health issue. According to the WHO's Global Tuberculosis Report 2024, about 10.8 million people fell ill with TB in 2023, which resulted in 1.25 million deaths, making it one of the top ten causes of death worldwide<sup>1</sup>.

Transmission occurs primarily through airborne particles generated when an infectious TB patient coughs or sneezes. The spectrum from TB infection (TBI) to active TB disease is complex. TBI is asymptomatic and non-contagious but can progress to TB disease if left untreated<sup>2</sup>. Approximately one-fourth of the global population have been infected with MTB (TBI), with only 5-10% of these individuals developing TB disease in their lifetime, usually within the first five years after initial infection. Household contacts of laboratory confirmed pulmonary TB cases could have a higher risk of TB disease. In addition, a number of vulnerable groups are at a higher risk of progression to active diseases after primary infection, including people living with human

immunodeficiency virus (HIV), patients on tumor necrosis factor (TNF) inhibitors, receiving dialysis or preparing for an organ or haematological transplant, and patients with silicosis.

Emerging threats like rifampicin-resistant TB (RR-TB) and multidrug-resistant TB (MDR-TB) complicate management. The estimated annual cases of MDR/RR-TB remained stable at about 400 000 in 2023, and the number was relatively stable during 2020 to 2023<sup>1</sup>.

### Local Epidemiology

In Hong Kong, TB incidence has declined significantly over the past few decades. In 2024, a total of 3 239 TB cases and 169 TB-related deaths were notified to the Department of Health (DH). The notification rate has been decreasing to 43.0 per 100 000 in 2024, which represented a significant drop compared to the rate of over 100 cases per 100 000 about two decades ago (Figure 1). However, Hong Kong continues to face demographic challenges such as population aging. Certain populations, including the elderly (Figure 2) and individuals with immunosuppressive conditions, exhibit higher rates of infection.

Local surveillance data shows that 51% of all TB cases in 2022 affected individuals aged 65 and above, indicating the impact of an aging population on TB epidemiology<sup>3</sup>. A significant proportion of the cases resulted from reactivation of latent infections rather than new infections, highlighting the need for effective management of latent TB infection in vulnerable groups<sup>4</sup>.

The rate of MDR/RR-TB in Hong Kong has remained at a low level (less than 1% of all culture-confirmed cases), with no reported cases of extensively drug-resistant TB (XDR-TB) in 2024.

### TB Control in Hong Kong

When TB disease develops, it can mimic other respiratory conditions. A high index of suspicion is necessary for patients with persistent cough, haemoptysis, weight loss, fever, or night sweats. Diagnosis is typically confirmed by compatible chest X-ray findings and positive sputum testing results (bacteriological and/or molecular). More advanced assessments like CT scans and bronchoscopy may also be utilised as needed.

First-line anti-TB treatment under directly observed therapy (DOT) remains crucial. Previously, RR-TB and MDR-TB cases were associated with treatment failure or poor outcomes, but the development of new drugs and the use of repurposed agents in recent years have shown promising results. Locally, an 80% treatment success rate has been achieved for MDR/RR-TB cases. However, the risk of drug resistance emerging from neighboring regions poses ongoing challenges.

In addition to medical management, TB and Chest Service integrates public health strategies, including contact tracing, provision of latent TB treatment, and community education to promote awareness and reduce stigma associated with TB. Furthermore, the DH collaborates with local and international organisations to strengthen TB research and surveillance capabilities. Continued research into novel diagnostics, vaccines, and treatment regimens remains essential for addressing the evolving landscape of TB<sup>5</sup>.

### Conclusion

The future of TB management in Hong Kong hinges on a proactive and adaptive response to the dynamic challenges posed by this ancient yet endemic disease. Early identification of active TB cases and prompt initiation of anti-TB treatment remain the mainstay of TB control. Furthermore, collaboration among healthcare providers and researchers is crucial for advancing TB prevention, diagnosis, and treatment strategies. Researches on development of novel TB vaccine are ongoing, which may help to reduce the burden of TB disease in the future. Let's work together to end the TB epidemic and create a future free of TB!

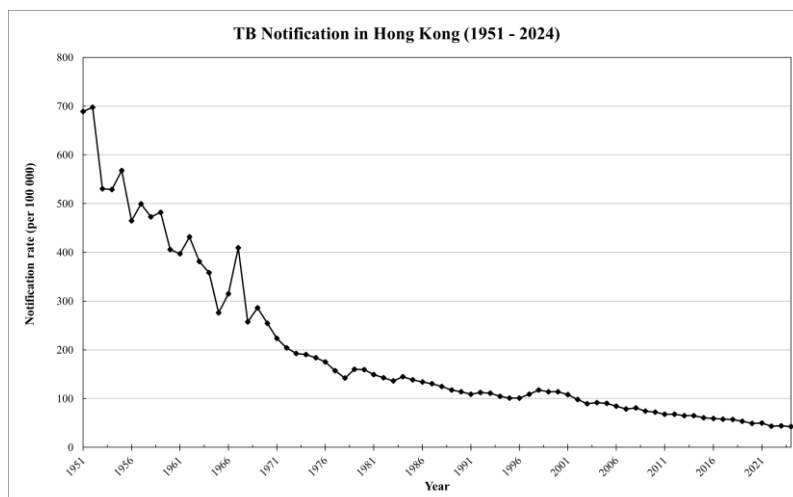


Figure 1 – TB notification rate in Hong Kong (1951 to 2024).

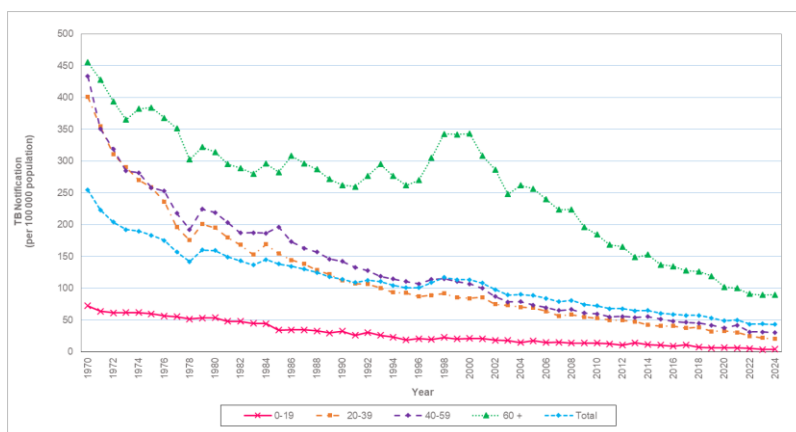


Figure 2 – Age-specific TB notification rates (1970 to 2024).

For more information about tuberculosis, service and figures, please visit the website of TB and Chest Service ([https://www.info.gov.hk/tb\\_chest/en/index.htm](https://www.info.gov.hk/tb_chest/en/index.htm)).

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## Review of Legionnaires' Disease in Hong Kong in 2024

*Reported by Dr WONG Shun Lok, Medical and Health Officer, Respiratory Disease Section, Surveillance Division, Communicable Disease Branch, CHP*

In 2024, the Centre for Health Protection (CHP) of the Department of Health recorded a total of 135 cases of Legionnaires' disease (LD), comprising 113 local and 22 imported cases, translating to an incidence rate of 1.79 per 100 000 population. While there was an increase in imported cases in 2024, the number of local cases was comparable with that in 2023 (Figure 1). About two-thirds (63.7%) of the local cases were recorded in the summer and autumn months between June and November 2024 (Figure 2).

### Clinical and epidemiological characteristics

Among the 135 cases, their ages ranged between 37 and 97 years (median: 69 years), with 94.8% aged 50 years or above. Males were disproportionately affected, with a male-to-female ratio of 4.4:1. The majority (118 cases, 87.4%) had at least one underlying medical condition such as diabetes, heart diseases, chronic lung disease, immunosuppression, etc. About 50% of the cases were either current smokers or ex-smokers.

For the clinical presentations, fever (87.4%), cough (81.5%), and shortness of breath (60.0%) were the most common presenting symptoms. All cases developed pneumonia and required hospitalisation. 42 cases (31.1%) required intensive care and eight cases died of LD (case fatality rate 5.93%). For laboratory diagnosis, 93 (68.9%) and 40 (29.6%) cases were initially diagnosed by the urinary antigen test (UAT) and polymerase chain reaction (PCR) of respiratory specimens respectively. One case was diagnosed by both UAT and PCR and the remaining case was diagnosed by culture.

Geographically, the locally acquired cases resided in 18 different districts throughout Hong Kong (Figure 3). No clustering was detected except two cases residing in the same building with onset of symptoms within six months (May 20 and October 31, 2024 respectively). One of these two cases was tested positive for *Legionella pneumophila* serogroup 1, whereas the other case was tested positive for *Legionella pneumophila* non-serogroup 1. Environmental investigations were carried out in the building and its vicinity. Water samples collected from the water tank of the building, a cooling tower, and the patients' homes were below the action level. Disinfection of the water tank and cooling tower was performed and no further cases were recorded.

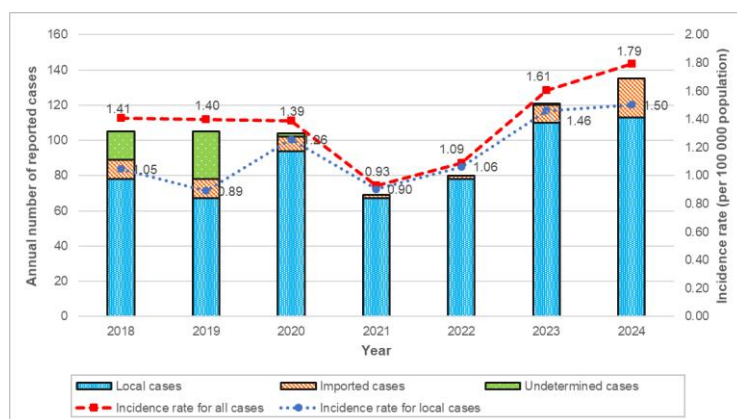


Figure 1 – Annual number and incidence rate of reported LD cases, 2018 – 2024.

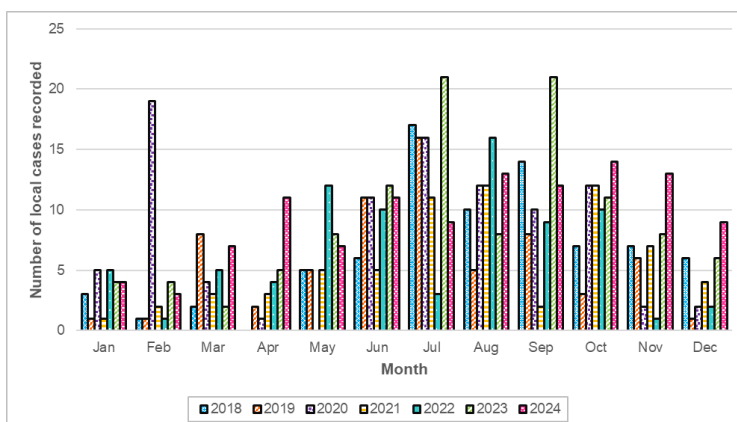


Figure 2 – Monthly number of reported local LD cases, 2018 – 2024.

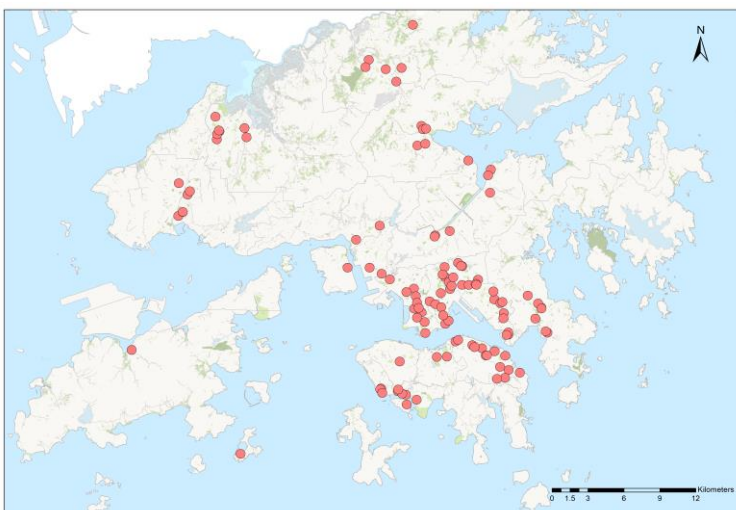


Figure 3 – Geographic distribution of the residential places of the 113 locally acquired LD cases (Source: Communicable Disease Information System).



In addition, environmental investigations and sampling from potential sources were carried out for sporadic cases in healthcare and institutional settings, including two nosocomial cases and one case in a correctional institution who had stayed in the institutions during the whole incubation period. The two nosocomial cases involved one public hospital and one private hospital respectively, where the results of the water samples collected from the concerned wards were below the action level for *Legionella pneumophila* serogroup 1. The respective hospitals carried out disinfection of their water systems, and no additional cases were identified subsequently. Regarding the case in the correctional institution, one water sample collected from a water dispenser was tested positive for *Legionella pneumophila* serogroup 1, with identical sequence based type with the patient's clinical specimen, indicating that the water dispenser was the source of infection. The institution was advised to perform thorough cleansing and disinfection, and no further cases were reported.

Regarding the 22 imported cases recorded in 2024, the places of infection included Mainland China (17), Thailand (two), Indonesia (one), Malaysia (one) and the United Arab Emirates (one). Among them, a cluster of five cases linked to tour groups to Foshan was recorded. They participated in a three-day tour to Foshan during November 7 to 9 and November 15 to 17 respectively. The tours stayed at the same hotel in Foshan. The CHP had notified the Guangdong health authority to carry out investigations and control measures.

## Discussion

LD is primarily caused by the *Legionella* bacteria, which are commonly found in aqueous environment and grow well at warmer temperatures (20°C to 45°C). In recent years, an increasing trend of incidence rates of LD has been observed globally, with reported rates in Australia, Europe and the United States ranging from 2.25 to three per 100 000 population, as compared to about 1.79 in Hong Kong<sup>1,2,3,4</sup>. Similar to the global situation, an increasing trend of LD has also been observed in Hong Kong in recent years, which could be partially attributable to environmental factors like climate change and demographic factors like population ageing. For instance, the annual mean temperature in 2024 reached 24.8 degrees, making it the warmest year on record<sup>5</sup>. Population ageing also causes an increase in the susceptible high-risk population. The proportion of elderly persons aged 65 or above in the population increased from about 15% in 2014 to 23% in 2024<sup>6</sup>.

In Hong Kong, most of the local LD cases reported in 2024 were sporadic cases without epidemiological linkage. Other than the above-mentioned cases associated with hospitals and institutions, no definite sources of infection in the community were identified through epidemiological and environmental investigations for other cases during the year.

In 2024, there was an increase in the number of imported cases. Globally, travel exposure and hotel accommodations are recognised risk factors for LD, with travel-associated LD (TALD) constituting roughly 20% of reported LD cases worldwide<sup>7,8,9</sup>. While numerous TALD cases seem to be sporadic, clusters and outbreaks have been linked to hotels and cruise ships. The most common sources of infection in hotels are water distribution systems and cooling towers<sup>10</sup>.

To prevent LD, awareness among the public, tourist accommodation owners and property management is equally important. Proper operation and maintenance of well-designed artificial water systems is essential. Members of the public, especially immunocompromised persons, should implement preventive measures to mitigate the risk of LD infection. Members of the general public are advised to purge water outlets and showers prior to use in accommodations that have not been recently utilised to eliminate stagnant water in the pipes. Further information regarding LD is available at the CHP website ([https://www.chp.gov.hk/en/view\\_content/24307.html](https://www.chp.gov.hk/en/view_content/24307.html)).

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## JOURNAL PUBLICATION HIGHLIGHTS

### COVID-19 infection control practices in designated quarantine hotels in Hong Kong SAR (China), 2020–2022: key elements in preparing for the next pandemic<sup>1</sup>

*Dr Edmond MA, Dr Hong CHEN and Dr SK CHUANG, Infection Control Branch and Communicable Disease Branch, CHP*

The Centre for Health Protection (CHP) of the Department of Health conducted a retrospective review of the infection control practices in designated quarantine hotels (DQHs) in Hong Kong during the COVID-19 pandemic. The study reviewed the protocols and procedures of converting an ordinary hotel into a DQH; the infection control training provided to hotel staff and compliance monitoring; and intra-hotel outbreak investigations and control measures.

From December 2020 to October 2022, there were 30 to 68 DQHs operating, with a total of 842 510 inbound travellers undergoing mandatory quarantine in DQHs. Adequate ventilation systems, mandatory mask-wearing when opening guest room door, and proper environmental disinfection were found to be key factors in preventing intra-hotel transmission. Only 10 clusters of intra-hotel transmission were reported involving 28 guests and two staff. Prompt epidemiological investigation of outbreaks followed by swift actions have shown to be effective in controlling the extent of intra-hotel outbreaks.

By ensuring early identification and isolation, the use of DQHs successfully delayed transmission from imported cases to local communities, and thereby providing a window period for the community to build up immunity through vaccination. Lessons learned from Hong Kong's DQH operations provide valuable insights for future pandemic preparedness.

### Rebound of Antibiotic Use and Respiratory Infections After Resumption of Normalcy From COVID-19 in Hong Kong<sup>2</sup>

*Dr Edmond MA, Mr Enoch HSU, Mr Vincent CHOW, Ms Tracy CHOW, Dr KH KUNG, Dr Albert AU and Dr Hong CHEN, Infection Control Branch and Communicable Disease Branch, CHP*

The CHP investigated the impact of the COVID-19 pandemic on antibiotic use and respiratory infections in Hong Kong by comparing the levels before (2014-2019), during (2020-2022), and after the pandemic (2023). The study analysed the annual wholesale antibiotic supply data during peri-pandemic periods. The trends of respiratory diseases were also examined, through the data of relevant statutory notifiable diseases and sentinel surveillance on influenza-like-illness (ILI) during the study period. A 27.2% reduction in antimicrobial use was observed during the pandemic, but a rebound to 89.5% of pre-pandemic level was recorded in 2023. Similarly, a rebound in incidences of infections including scarlet fever, pneumococcal infections, tuberculosis, pertussis and ILI was observed in 2023 following a reduction during the pandemic.

This study demonstrated the link between antimicrobial use and respiratory infections, with the post-pandemic rebound in antimicrobial use likely due to the resurgence of respiratory infections after lifting of public health and social measures. Notably, the level of antimicrobial use has not returned to the pre-pandemic level. This could be due to the sustained effects of non-pharmacological interventions such as mask wearing and hand hygiene.

The findings highlight the need for continued disease surveillance and antimicrobial use monitoring, in order to understand the long-term effects of the COVID-19 pandemic and public health measures on infections and antimicrobial use. It is recommended to closely monitor the antimicrobial resistance patterns due to the changes in disease epidemiology and antimicrobial utilisation.

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#### NEWS IN BRIEF

##### Two possible cases of sporadic Creutzfeldt-Jakob disease

The Centre for Health Protection (CHP) of the Department of Health (DH) recorded two possible cases of sporadic Creutzfeldt-Jakob disease (CJD) on February 25 and March 13, 2025 respectively.

The first case involves a 47-year-old female with no significant past medical history presented with progressive dementia, depressive mood, unsteady gait, and catatonic features that began in October 2024. She was admitted to a public hospital on

January 18, 2025. During her hospital stay, she developed status epilepticus, necessitating intubation and transfer to the Intensive Care Unit for further management. MRI and cerebrospinal fluid analyses revealed features suggestive of CJD. However, electroencephalogram did not display the typical CJD features. Her overall condition was serious, and she had no known family history of CJD. Additionally, no risk factors for iatrogenic or variant CJD were identified.

Another case affects a 66-year-old male, also with no significant past medical history, presented with progressive dementia, unsteady gait, visual disturbances, and akinetic mutism beginning in January 2025. He was admitted to a public hospital on February 17, 2025. Cerebrospinal fluid analysis suggested features consistent with CJD, while the electroencephalogram did not exhibit the typical CJD features. His condition remained stable, and he had no known family history of CJD. No risk factors for iatrogenic or variant CJD were identified.

### A local sporadic case of *Streptococcus suis* infection

On March 22, 2025, the CHP recorded a local sporadic case of *Streptococcus suis* infection affecting a 68-year-old retired woman with underlying illnesses living alone in Sai Kung. She developed fever and myalgia on March 17 and was admitted to a public hospital on March 19 for drowsiness. Her blood was cultured positive for *Streptococcus suis*. She was treated with antibiotics and her condition was stable. According to information from her relatives, she might have handled raw pork during food preparation within the incubation period. Otherwise, there was no other known exposure to livestock, farm, abattoir, or recent wound before onset of her symptoms.

### DH launches official WeChat account

DH is thrilled to announce the launch of its official WeChat account.

This new channel enables the community to stay informed about our work from execution of statutory functions to health promotion, disease prevention, and curative and rehabilitative services, as well as getting access to the latest and important health updates.

To join the channel, search for "HKSARDH" on WeChat or scan the QR code to follow and share the information on our WeChat account. The content is available in Chinese.

The DH is also enhancing its outreach with an official YouTube channel, Facebook page, Instagram account, and the DH Mobile App.

With all these communication channels, we hope we can stay connected to build a healthier Hong Kong ahead.

