New IMPACT Guideline to help doctors on rational prescription of antimicrobials

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This article was published on 30 Jun 2025 at www.hkmj.org.

This version may differ from the print version.

Hong Kong Med J 2025;31:Epub
https://doi.org/10.12809/hkmj255183

The Centre for Health Protection (CHP) of the Department of Health launched the 6th edition of the Interhospital Multi-disciplinary Programme on Antimicrobial ChemoTherapy (IMPACT) Guideline at the Infectious Disease Forum on 19 June 2025, where key updates were presented to healthcare professionals.[1] The latest edition encompasses global and local antimicrobial resistance (AMR) trends and provides updated guidance on antimicrobial use, including dosing, adverse reactions, empirical treatment of common infections, targeted therapy for known pathogens, surgical prophylaxis, and antibiotic allergy management. A new section on Outpatient Parenteral Antimicrobial Therapy highlights key considerations for this treatment modality. The Guideline also includes a list of calculators to facilitate the clinical management of various infections such as streptococcal pharyngitis, pneumonia, acute pancreatitis, sepsis, and pleural effusions (Light's criteria). In addition, healthcare workers can access the antibiograms from both public and private hospitals to check resistance patterns of common bacterial isolates including *Escherichia coli*, *Klebsiella* species, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Haemophilus influenzae*, *Enterococcus* species, and *Acinetobacter* species. These updates address evolving AMR patterns with the latest clinical evidence to ensure the judicious use of antimicrobials.

Since its inaugural edition in 1999, the IMPACT Guideline has served as a vital resource for managing infections in hospitalised patients. The development of an e-book and mobile application has improved accessibility. Since its release in 2013, the mobile app has been downloaded over 52 000 times, including by users overseas (Fig 1). In this edition, Editors and Associate Editors, including clinical microbiologists and infectious disease specialists, have revised the content based on international guidelines, up-to-date scientific research, local epidemiology, and surveillance data. The IMPACT Guideline is a collaborative effort involving the Centre for Health Protection (CHP) of the Department of Health, Li Ka Shing Faculty of Medicine and the Carol Yu Centre for Infection of The University of Hong Kong, Faculty of Medicine at The Chinese University of Hong Kong, the Hong Kong Medical Association, and the Hong Kong Private Hospital Association. It serves as a critical tool for optimising antimicrobial use across both public and private healthcare sectors and is a key component of the Government's Hong Kong Strategy and Action Plan on Antimicrobial Resistance 2023-2027.[2]

The Guideline has become one of the cornerstones in implementing antimicrobial stewardship programmes in public hospitals and could serve as a key reference for enhancing similar programmes in private hospitals. The CHP has been tracking antimicrobial supply as a proxy for consumption through surveillance data collected from licensed wholesale traders. A significant reduction in the overall defined DID (daily dose per 1000 inhabitants per day) was observed during the three pandemic years (2020-2022), with a reduction of 27.2% compared to the pre-COVID baseline, probably due to a decrease in respiratory infections.[3] However, a rebound in DID was noted beginning in 2023, particularly in the private sector following the resumption of normalcy.[3] The CHP has also been monitoring antimicrobial consumption according to the World Health Organization (WHO)'s AWaRe categorisation, namely Access, Watch and Reserve. This categorisation, based on resistance risk and medical importance, aims to improve appropriate antibiotic use. According to the WHO, "Access" antibiotics can be used freely, "Watch" antibiotics require caution, and "Reserve" antibiotics are considered for last-resort cases. The WHO advocates for "Access" antibiotics to comprise at least 60% of total antibiotics consumed, reserving

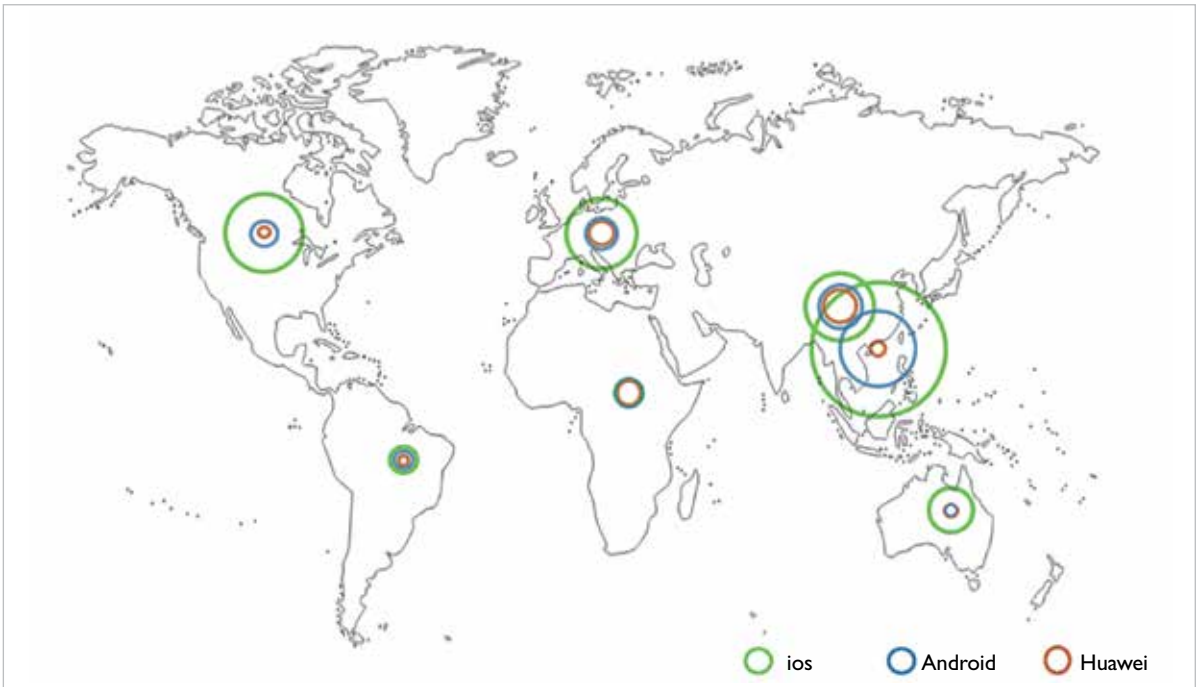

FIG 1. Distribution of IMPACT mobile application downloads by location
The size of each bubble is proportional to the number of downloads of the IMPACT mobile application
Abbreviation: IMPACT = Interhospital Multi-disciplinary Programme on Antimicrobial ChemoTherapy

"Watch" and "Reserve" antibiotics for specific, indicated conditions. In Hong Kong, the proportion of antimicrobial use in the "Access" group has met the WHO target of 60% since 2020 (Fig 2). Furthermore, the "Watch" group (lower resistance potential) decreased from 40.3% in 2016 to 34.6% in 2024, indicating relatively fewer prescriptions of broad-spectrum antibiotics.

Nevertheless, we should not become complacent about the problem of AMR. A recent global study estimated that 4.71 million deaths were associated with bacterial AMR, including 1.14 million deaths directly attributable to it.[4] The same study forecasts that an estimated 1.91 million deaths attributable to AMR and 8.22 million deaths associated with AMR could occur globally by 2050. These projections do not yet account for the possible delayed negative impact of the COVID-19 pandemic on AMR.[5] The WHO has reported that approximately 75% of COVID-19 patients received antibiotics, despite only 8% having bacterial co-infections, based on data from 450 000 patients across 65 countries from January 2020 to March 2023.[6] Locally, it has been estimated that AMR-related infections in Hong Kong between 2020 and 2030 could result in 18 433 excess deaths and incur an economic cost of US$4.3 billion.[7] The CHP surveillance data suggest an upward trend in various multidrug resistant pathogens, including carbapenem-resistant *Escherichia coli*, vancomycin-resistant Enterococcus, and *Candida auris*, which have further strained our hospitals.[8,9] The local threat of AMR is severe, underscoring the need for robust antibiotic stewardship. While it takes approximately 10 to 15 years to develop a new antibiotic, resistance can emerge in much shorter timeframes. At the 79th United Nations General Assembly High-Level Meeting on AMR held in September 2024, global leaders approved a political declaration committing to a clear set of targets and actions, including reducing the estimated 4.95 million annual deaths associated with bacterial AMR by 10% by 2030.[10] The declaration also aims for at least 70% of antibiotics used in human health globally to belong to the WHO "Access" group, emphasising the critical need for coordinated efforts to preserve our ability to treat infections and sustain the healthcare system. We urge all doctors, both in the public and private sectors, to prescribe antibiotics only when clinically indicated and to choose appropriate agents based on established clinical guidelines, such as the IMPACT Guideline.

Author contributions

All authors contributed to the editorial, approved the final version for publication, and take responsibility for its accuracy and integrity.

Conflicts of interest

All authors have disclosed no conflicts of interest.

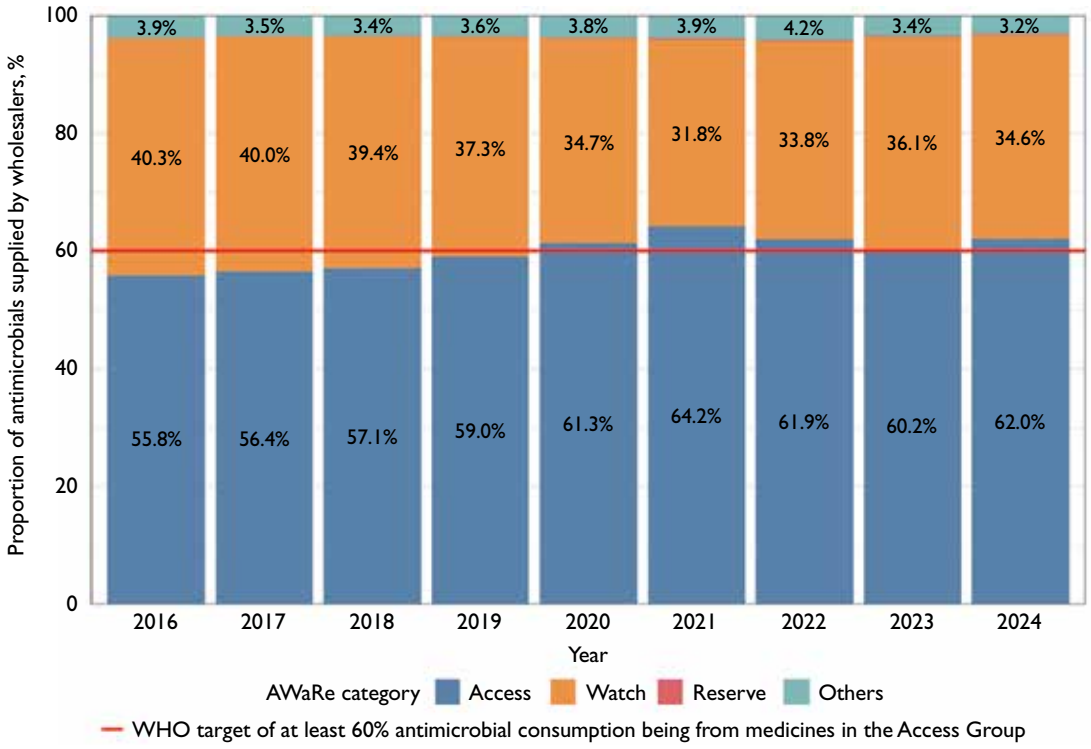

FIG 2. Antimicrobial utilisation: distribution by AWaRe category

The World Health Organization (WHO) AWaRe Classification divides antibiotics into three categories to promote appropriate use, based on their resistance potential and medical significance. "Access" antibiotics are intended for routine, widespread use; "Watch" antibiotics require careful monitoring due to a higher risk of resistance; and "Reserve" antibiotics are designated for last-resort situations. Developed by the WHO, this system aims to optimise antibiotic stewardship and help prevent antimicrobial resistance

Funding/support

This editorial received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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