Enhancing cost-effectiveness considerations in the adoption of new drugs in Hong Kong

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Introduction

Pharmacoeconomic evaluation (PE) is a subfield of health technology assessment (HTA) economics that assesses the costs and benefits of new drugs and technologies within the context of limited resources.[1] It aims to support an evidence-based, value-driven decision-making process for patients, healthcare payers, and society.[2] Many developed countries have adopted PE as an essential element of HTA in national policies for evaluating new drugs and technologies within their healthcare systems.[3-5] In the United Kingdom, the National Institute for Health and Care Excellence, the All Wales Medicines Strategy Group, and the Scottish Medicines Consortium utilise PE in their clinical decision making.[6] Generally, new drugs with a cost-effectiveness ratio below the threshold of £20 000 to £30 000 per quality-adjusted life-year gained are considered cost-effective and are more likely to be included in the drug formulary.[7]

Hong Kong has gained global recognition for its rigorous yet flexible pharmacy management policy, which encompasses clinical trials, regulatory affairs, and drug enlistment. Recent policy reforms in these areas underscore the city's aspiration to become a Health and Medical Innovation Hub. In alignment with this vision, the Hong Kong Hospital Authority (HA) is considering the enhancement of PE analysis in the drug enlistment process. This initiative holds great potential to shape a more comprehensive drug evaluation process and generate synergies with other healthcare reforms.

Despite the implementation of HTA within the HA,[8] there is a scarcity of studies evaluating its processes, stakeholder engagement, and levels of satisfaction. To address this gap, we leveraged the opportunity presented by the 23rd Asian Conference on Clinical Pharmacy, held in Hong Kong on 25 July 2024, to conduct a pre-workshop survey assessing stakeholder perspectives on the current HTA system. This was followed by a roundtable discussion involving a diverse group of stakeholders who reviewed and commented on the survey results.

This perspective article first summarises the findings of the pre-workshop survey, followed by a presentation of key insights from the roundtable discussion, focusing on: (1) key factors for implementing the PE process in Hong Kong, and (2) major barriers and challenges to its implementation.

Summary of pre-workshop survey

Prior to the workshop, an online survey was distributed to all 33 confirmed participants (10 hospital pharmacists, 7 researchers/academics, 5 policymakers, 4 physicians, 4 pharmaceutical industry representatives, and 3 patient advocates) to gather their views on: (1) healthcare cost analysis in drug evaluation; (2) implementation of the PE process; and (3) scope of healthcare costs in the PE process. Informed consent was obtained from all participants prior to the survey.

Healthcare cost analysis in drug evaluation

A total of 21 responses (63.6%) were received, including 10 hospital pharmacists, four physicians, three patient advocates, two pharmaceutical industry representatives, and two researchers/academics. The majority (n=14, 66.7%) indicated moderate to high familiarity with the current drug evaluation process, defined as a score of 5 or above on a 7-point Likert scale. Nearly all respondents (n=20, 95.2%) agreed

or strongly agreed that the HA should consider not only treatment costs when evaluating a drug's benefits and costs, but also potential cost savings or expenditures in other clinical services resulting from the treatment.

Implementation of the pharmacoeconomic evaluation process

From the survey responses, the five most important factors identified for implementing a comprehensive PE process in the Hong Kong healthcare system were:

- potential impact on the overall HA budget (n=16, 76.2%);
- alignment with Hong Kong's overall healthcare system priorities (n=14, 66.7%);
- data infrastructure and availability (n=14, 66.7%);
- stakeholder engagement (n=13, 61.9%); and
- potential impact on the drug access timeline (n=12, 57.1%).

Other key considerations included adopting a pilot implementation approach to refine the process (38.1%) and ensuring compatibility with the existing drug evaluation process (33.3%). Additional comments emphasised the importance of considering both local and global market factors in the evaluation process. Some suggested enabling patient choice for private healthcare, supported by allocated government resources, to ensure an efficient healthcare system and optimal resource allocation.

Five key barriers or challenges were noted regarding the implementation of a comprehensive PE process, including:

- lack of expertise and resources to conduct analyses (n=15, 71.4%);
- resistance from stakeholders (n=12, 57.1%);
- difficulties in data collection and integration across the healthcare system (n=12, 57.1%);
- concerns about the subjectivity and transparency of the evaluation process (n=11, 52.4%); and
- lack of alignment with the existing drug evaluation process (n=11, 52.4%).

Other barriers included uncertainty regarding appropriate methodologies and frameworks (n=10, 47.6%) and the absence of a clear definition for costing individual items.

To engage and collaborate with key stakeholders to ensure fair and valuable evaluation, the following were identified as the five most commonly suggested measures:

- establishing a multi-stakeholder advisory committee to guide framework development (n=15, 71.4%);
- monitoring and addressing concerns raised by different stakeholder groups (n=13, 61.9%);
- providing training and educational programmes to build understanding and support (n=12, 57.1%);
- demonstrating the real-world impact and added value of expanded assessments (n=11, 52.4%); and
- conducting focused stakeholder consultations and feedback sessions (n=9, 42.9%).

An additional suggestion was to include local pharmacogenomic experts to ensure a fair HTA evaluation. The majority of respondents (n=14, 66.7%) agreed or strongly agreed that flexibility should be allowed in the presentation format of healthcare cost analysis, whereas two disagreed (9.5%). Similarly, 66.7% (n=14) agreed or strongly agreed that the HA should provide clear written communication to the applicant to explain the decision.

Design of the workshop and roundtable discussion

A total of 39 invitations were extended to the same group of participants. Of those invited, 33 participants (84.6%) attended the workshop. The 4-hour programme included two educational sessions: the first on "Basic Concepts and How to Implement PE" and the second on "Deeper Dive into Healthcare Costs". After each presentation, participants were divided into four groups for roundtable discussions. Guided discussion questions had been prepared to facilitate discussion. The guideline questions in the first roundtable discussion included: (1) What key factors should the Hong Kong healthcare system consider when implementing a more comprehensive PE process? (2) What do you see as the key barriers or challenges that the HA may face in implementing a more comprehensive PE process? In the second roundtable discussion, participants were asked to share their views on cost considerations in the PE process, as well as possible next steps for Hong Kong to establish a comprehensive PE process. Each group shared its discussion points; this was followed by reflection and a summary after each session. Each group summarised its points in an online document, which was made accessible to all participants.

Summary of roundtable discussion

Three key messages were identified as essential for establishing a comprehensive PE process in Hong Kong: (1) transparency; (2) capacity building; and (3) data infrastructure.

Transparency

Transparency is essential for the PE process. This includes access to relevant data—particularly cost data—and clarity regarding the PE methods used, such as model design (eg, budget impact analysis vs general PE analysis), as well as the inclusion of healthcare and indirect cost data in the model.

Transparent frameworks are needed to guide the use of robust methods and effective analysis, enabling evidence-based evaluation to support national decision making within limited resources. This framework should be co-developed through shared decision making among a range of stakeholders, including health policymakers, academics, patients, clinicians, the pharmaceutical industry, and insurers. A lack of transparency and open discussion among stakeholders may create resistance to implementing the PE process. These factors underscore the need for capacity building across all stakeholder groups.

Capacity building

Capacity building is also critical to ensure an effective and sustainable PE system. Comprehensive PE requires a team of health economists working at both macroeconomic and microeconomic levels. Currently, there is a limited pool of experts and manpower available to conduct PE analyses. Hong Kong lacks an independent organisation dedicated to PE analysis, unlike other developed countries, which have institutions such as the National Institute for Health and Care Excellence (United Kingdom), the Pharmaceutical Benefits Advisory Committee (Australia), and the Canadian Agency for Drugs and Technologies in Health (Canada). Most health economists involved in PE research in Hong Kong are based in academia or government. These experts already have existing responsibilities within their institutions, which may lead to workload burdens and delays in PE processing. Strengthened capacity building is therefore essential to support and enhance the PE process. The incorporation of PE analysis into drug enlistment decision making would potentially affect multiple stakeholders, including patients (access to drugs), clinicians (prescribing decisions), insurers (co-payment policies), the pharmaceutical industry (marketing), and academics (PE research). It is important that all stakeholders understand the function and implementation of the PE framework and process. Without a robust and transparent process supported by adequate expertise, tensions and controversies may arise.

Data infrastructure

Pharmacoeconomic evaluation requires various data, including costs (drugs, clinical events, and illness-related costs), real-world clinical outcomes, and patient-reported outcome data (eg, quality-adjusted life years). In Hong Kong, an electronic health database managed by the HA contains useful data sources to support PE analysis. However, the database has limitations, such as a lack of itemised costs, socio-economic data, lifestyle factors, and qualitative or quantitative information from interviews, validated self-reported questionnaires, or quality of life assessments.[9] Additionally, most available clinical and health utility data originate from Western or non-Chinese populations, either from clinical trials or quantitative studies. These data may not be applicable or relevant to the Hong Kong population. It is thus important for Hong Kong to develop a systematic data infrastructure that includes cost data and supports effective implementation of the PE process.

Conclusion

The intention to enhance PE analysis within the drug enlistment process is a positive initiative. It holds considerable potential to shape a more comprehensive drug evaluation system and create synergies with other healthcare reforms. However, strategies must be considered to strengthen transparency, capacity building, and data infrastructure. The following short- and intermediate-term goals could be considered:

- hosting open forums and roundtable discussions to promote the exchange of perspectives on the comprehensive PE process in Hong Kong, thereby improving transparency and supporting capacity building;
- enhancing data infrastructure through assessment of diagnosis-related group cost itemisation and calibration, and through development of health utility databases specific to Hong Kong; and
- training PE professionals in Hong Kong via short-term courses, diploma and certificate programmes in PE, regular webinars with overseas experts, and patient empowerment initiatives to improve public understanding of PE.

This article summarises key factors for Hong Kong to consider when implementing PE processes in healthcare decision making, as well as potential barriers and challenges, based on the pre-workshop survey and roundtable discussion involving various stakeholders. Transparency, capacity building, and data infrastructure are three major themes to securing a comprehensive PE process in Hong Kong. Continued efforts are required to address these areas. The insights have laid the groundwork for future discussions and considerations regarding the implementation of PE processes in Hong Kong.

Author contributions

Concept or design: VWY Lee.
Acquisition of data: VWY Lee.
Analysis or interpretation of data: VWY Lee.
Drafting of the manuscript: VWY Lee.
Critical revision of the manuscript for important intellectual content: All authors.

All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

Conflicts of interest

As an editor of the journal, HHF Loong was not involved in the peer review process. Other authors have disclosed no conflicts of interest.

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