iMACE Conference 2026 Report

Health Economics, Technology Assessment and Clinical Guidelines: A Belated Dialogue in Hong Kong

iMACE Institute for Medical Advancement and Clinical Excellence
醫學實證與臨床卓越研究所

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About This Report

This report captures the key insights, discussions and strategic outcomes of the inaugural IMACE Conference 2026. Organised by the Institute for Medical Advancement and Clinical Excellence (IMACE), an independent and professional-led platform initiated by the Government of the Hong Kong Special Administrative Region, the flagship event took place on 16 May 2026 (Saturday) at the Run Run Shaw Hall of the Hong Kong Academy of Medicine Jockey Club Building *(please refer to Appendix I for Conference Programme Rundown)*. We were honoured that Professor Chung-mau LO, BBS, JP, Secretary for Health, joined us as our Guest of Honour to mark this momentous occasion.

Under the theme "Health Economics, Health Technology Assessment and Clinical Guideline Development: A Belated Dialogue in Hong Kong", the conference brought together distinguished experts from the United Kingdom alongside healthcare professionals, academics, policymakers and industry leaders from Hong Kong's public and private sectors. As healthcare systems worldwide confront the challenges of rising costs, technological innovation and increasing complexity, Hong Kong stands at an important juncture - one where an informed, multipartite dialogue is urgently needed.

The primary objectives of the conference and, by extension, this report are to:

- Advance Evidence-Based Decision-Making: Explore the current challenges and opportunities within Hong Kong's healthcare ecosystem to open a new chapter in data-driven policy and clinical decision-making.
- Examine Systemic Interactions: Analyse the latest trends in health economics and technology assessment, and evaluate how clinical guideline development can unlock their full potential.
- Shape the Future of Local Healthcare: Foster collaboration and open exchange to strengthen Hong Kong's position as a regional leader in health and medical innovation and to inspire continued excellence across the sector.

The invaluable contributions of the following distinguished speakers and experts from the National Institute for Health and Care Excellence (NICE) of the United Kingdom and across the fields of health economics, health technology assessment, and clinical guideline development in Hong Kong have been highlighted in this report. Their insights shaped an engaging and thought-provoking programme designed to support critical evaluation of emerging technologies and promote reflection on the financial sustainability of Hong Kong's healthcare system.

- **Professor David Makram BISHAI (Moderator)** - *Clinical Professor | Division Head | Division of Health Economics, Policy and Management | School of Public Health | LKS Faculty of Medicine | The University of Hong Kong*
- **Mr. Frank Ling-fung CHAN, JP** - *Assistant Director of Health (Drug) | Department of Health | The Government of the Hong Kong Special Administrative Region*
- **Dr. York Yat-ngok CHOW, GBS, SBS, JP (Moderator)** - *Chief Medical Officer and Corporate Advisor | AIA International Limited*
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- **Dr. FUNG Ying, JP** - *Controller, Regulatory Affairs | Department of Health | The Government of the Hong Kong Special Administrative Region*
- **Ms. Ann GREENWOOD** - *Adviser | NICE Advice | National Institute for Health and Care Excellence (NICE)*
- **Dr. William Shiu-wei HO, JP** - *Former Chairman | The Hong Kong Private Hospitals Association*
- **Dr. Hon David Tzit-yuen LAM (Moderator)** - *Legislative Council Member (Medical and Health Services) | Hong Kong Special Administrative Region*
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- **Mr. Hugh McGUIRE** - *Senior Adviser | NICE International | National Institute for Health and Care Excellence (NICE)*
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- **Dr. Michael Lap-gate WONG** - *Director (Quality and Safety) | Hospital Authority*
- **Professor Eng-kiong YEOH, GBS, JP (Moderator)** - *Research Professor | Director, Centre for Health Systems and Policy Research | The Jockey Club School of Public Health and Primary Care | Faculty of Medicine | The Chinese University of Hong Kong*
- **Professor Benjamin Hon-kei YIP** - *Associate Professor | The Jockey Club School of Public Health and Primary Care | Faculty of Medicine | The Chinese University of Hong Kong*
- **Professor Peter Pok-man YUEN** - *Dean, College of Professional and Continuing Education | Department of Management and Marketing | The Hong Kong Polytechnic University*

(Listed in alphabetical order by surname; for biographies of speakers and panellists, please refer to Appendix II)

Leading up to the conference, the IMACE hosted a three-day Capacity Building Workshop (13–15 May 2026) led by NICE Senior Adviser, Mr. Hugh McGUIRE and Adviser, Ms. Ann GREENWOOD. The sessions drew on practical experiences from NICE, enabling participants to explore how international clinical guideline methodologies can be effectively adapted to Hong Kong's healthcare context *(please refer to Appendix III for details)*.

I would like to take this opportunity to express my sincere gratitude to the members of the Organising and Programme Committee below for their efforts and dedication in making this conference possible.

- **Dr. Kellie Pui-sheung SO** - *Head, Health Promotion Branch | Department of Health | The Government of the Hong Kong Special Administrative Region*
- **Professor Clement Chee-yung THAM** - *Chairman | Department of Ophthalmology and Visual Sciences | Faculty of Medicine | The Chinese University of Hong Kong*
- **Professor Martin Chi-sang WONG** - *Editor | Hong Kong Academy of Medicine*
- **Dr. Tony King-hang HA** - *Director (Strategy and Planning) | Hospital Authority*
- **Professor Victoria Wing-yee WONG** - *Director | HKU Health System | LKS Faculty of Medicine | The University of Hong Kong*
- **Ms. Yuk-sim CHAN** - *Head of Community Network | Primary Healthcare Commission*
- **Dr. Kenneth Hing-lim TSANG** - *Chief Executive Officer | Gleneagles Hospital Hong Kong | The Hong Kong Private Hospitals Association*

(Listed in alphabetical order by institution)

Last but not least, on behalf of the Organising and Programme Committee, I would like to extend our sincere appreciation to the Secretariats of the IMACE and the HKAM for their highly professional services and to all the conference attendees for their support. We hope this report will serve as a lasting record of the key insights emanating from the conference while providing the momentum for continued collaboration, innovation and clinical excellence across Hong Kong's healthcare system.

Professor Gilberto Ka-kit LEUNG
Chairman
IMACE Conference 2026 Organising and Programme Committee
Convenor
Institute for Medical Advancement and Clinical Excellence

About Institute for Medical Advancement and Clinical Excellence

Established on 8 May 2025, the Institute for Medical Advancement and Clinical Excellence (IMACE) is an independent and professional-led platform initiated by the Government of the Hong Kong Special Administrative Region to develop evidence-based clinical guidelines and explore the feasibility of devising service quality and efficiency standards for public and private healthcare sectors. The IMACE serves to drive clinical excellence and improve the quality of practice of the healthcare sector, thereby further promoting the development of Hong Kong into an international health and medical innovation hub.

The IMACE comprises seven founding members from both the public and private healthcare sectors in Hong Kong, including the Hong Kong Academy of Medicine, the Department of Health, the Faculty of Medicine of The Chinese University of Hong Kong, the Hospital Authority, the LKS Faculty of Medicine of The University of Hong Kong, the Primary Healthcare Commission and The Hong Kong Private Hospitals Association. To uphold the principle of professional autonomy, the Health Bureau has funded the operation of the IMACE without joining its discussions.

By advancing best practices, the IMACE promotes professional exchange among healthcare personnel, and facilitates their understanding and use of the latest technologies in their daily practice. The relevant clinical guidelines and standards also serve as public education tools to facilitate informed and effective communications between doctors and patients.

IMACE Governing Board

The IMACE operates through a comprehensive governance framework designed to ensure strategic oversight, operational efficiency, ethical standards, public accountability and stakeholder engagement across all organisational functions. The Governing Board provides strategic direction and oversight for the IMACE. The Governing Board also oversees three separate Committees, each with a specialised function. The Committee on Clinical Protocols and Guidelines develops, reviews, and updates IMACE Recommendations, ensuring alignment with international standards and Hong Kong's healthcare needs with the assistance of different topic-specific Task Forces. The Committee on Administration and Operations oversees Secretariat functions, including corporate services, finance, human resources, information technology and risk management. The Committee on Partnership and Communications implements strategies to build partnerships, engage stakeholders, provide public education, and enhance the IMACE's visibility and impact. Complementing this structure, the IMACE has established a growing pool of external experts engaged on a project basis to contribute specialised expertise in evidence synthesis, guideline drafting and health economic evaluation.

Currently, five Task Forces have been established to develop clinical guidelines: Dyslipidaemia Management, Management of Stable Coronary Artery Disease: Percutaneous Coronary Intervention (PCI), Proton Beam Therapy (PBT), Focused Ultrasound Technique (Histotripsy), and Surveillance Colonoscopy.

For more details, please refer to the IMACE website: www.imace.org.hk.

Convenor

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Immediate Past President
Hong Kong Academy of Medicine

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Executive Summary

It is widely recognised that achieving high-quality, sustainable healthcare in the modern era requires more than advances in clinical science alone. The rapid evolution of medical technologies, changing patient expectations, demographic ageing and increasing fiscal constraints have also given rise to significant challenges and uncertainties regarding how healthcare systems should govern the adoption of innovations, allocate finite resources, and ensure consistent standards of care. This report contains expanded abstracts of the inaugural IMACE Conference 2026, which was conducted on 16 May 2026 (Saturday) at Run Run Shaw Hall, 1/F, Hong Kong Academy of Medicine Jockey Club Building. The conference attracted a total of 275 attendees and brought together perspectives from regulation, service delivery, academia and policy to examine health economics, health technology assessment (HTA) and clinical guideline development as interconnected pillars of a modern healthcare system.

The conference comprised four sessions — Plenary Lectures, Health Economics, Health Technology Assessment, and Clinical Guideline Development — each followed by a panel discussion. Across these sessions, speakers explored how evidence-based frameworks, economic reasoning and governance mechanisms can collectively support better clinical outcomes, more efficient use of resources and stronger system sustainability. The discussions highlighted that healthcare decision-making cannot be addressed through isolated policy domains; rather, it requires coordinated approaches that integrate regulatory oversight, technology assessment, economic evaluation and clinical practice guidance within a coherent system architecture.

The first plenary theme focused on regulation as an enabler of safe innovation and system-level assurance. Modern medical device regulation must adopt a risk-based and lifecycle approach, recognising that technologies including AI-enabled systems carry varying degrees of risk and require continuous oversight beyond initial market entry. Regulation performs a preventive function, reducing system failures, enabling traceability and supporting accountability across the supply chain. A key issue identified was that regulation must evolve alongside innovation, particularly as AI introduces risks such as bias, limited explainability and cybersecurity vulnerabilities, necessitating stronger validation and human oversight mechanisms.

The second plenary theme addressed technology adoption as a value-driven, rather than novelty-driven, process. It was highlighted that rapid technological advancement creates pressure for early adoption, often before long-term outcomes and system impacts are fully understood. While innovation can improve diagnostic accuracy, treatment precision and system efficiency, it may also increase complexity and cost if not carefully selected. There is an urgent need for disciplined decision-making frameworks — particularly health technology assessment — to ensure that adoption decisions are aligned with patient benefit, system sustainability and equity rather than mere responses to commercial or societal pressure.

The third plenary theme examined clinical governance and unwarranted variation in practice, particularly in the private healthcare sector. It was noted that differences in governance structures between public and private sectors, especially the considerable autonomy of private practitioners, can lead to variability in care driven by patient demand, financial incentives or outdated practices. A central challenge is that clinical guidelines alone are insufficient to change behaviour; effective governance requires credentialing, audit, peer review, and clinical leadership to translate evidence into practice.

The plenary panel discussion extended these themes by situating them within broader system challenges, including healthcare financing, workforce sustainability, and the shift towards primary care and prevention. Clinical excellence depends on the alignment of multiple system components, and improvements in care cannot be achieved through guideline development alone without corresponding reforms in financing, service delivery, and governance.

The Health Economics session focused on the fundamental principle that healthcare systems must make

explicit choices under conditions of resource scarcity. A key theme was the role of opportunity cost in decision-making, whereby allocating resources to one intervention inevitably limits the ability to fund others. Economic evaluation methods, including cost-effectiveness analysis and the use of measures such as Quality-Adjusted Life Years (QALYs), were presented as tools to evaluate value and support consistent decision-making.

However, cost-effectiveness analysis alone cannot capture the full complexity of healthcare value. Decisions must also reflect social priorities, equity considerations, and broader societal benefits. This multidimensional understanding of value becomes particularly important in contexts where high-cost innovations compete for limited public funding. The discussion therefore underscored the need for explicit value frameworks to guide prioritisation and ensure transparency in decision-making.

At a systemic level, significant challenges in Hong Kong's healthcare financing model were identified, including increasing pressure from high-cost therapies, gaps in long-term care provision, and rising utilisation within private insurance systems. These issues suggest that sustainability cannot be achieved through incremental adjustments alone, but requires broader reforms in resource allocation, payment incentives, and integration across health and long-term care services. The session also highlighted the importance of strengthening primary care and prevention as a means of improving system efficiency and reducing in-hospital care demand.

The health economics panel discussion reinforced that transparent priority-setting and public trust are essential to sustainable healthcare systems. Decisions about what to fund, and for whom, are inherently sensitive and potentially politicised and must be supported by clear processes, consistent methodologies, and effective communication. The panel also highlighted the increasing cost pressures associated with new technologies and pharmaceuticals, and the need for stronger governance mechanisms in both public and private sectors to ensure appropriate utilisation and affordability.

The Health Technology Assessment (HTA) session highlighted that HTA serves as the operational bridge between evidence, policy, and clinical practice. By integrating clinical effectiveness, safety, economic and ethical considerations, HTA provides a structured framework for evaluating whether new technologies should be adopted and under what conditions. A key issue is the need to balance timely access to innovation with the risks of premature adoption and financial unsustainability. HTA enables this balance through systematic, multidisciplinary assessment processes.

The importance of adopting a lifecycle approach to HTA was emphasised, encompassing horizon scanning before adoption, rigorous appraisal during decision-making, and continuous monitoring using real-world evidence after implementation. This approach allows healthcare systems to adapt decisions over time as new evidence emerges. A particularly important concept was de-adoption, whereby low-value or outdated technologies are systematically removed to free resources for higher-value interventions.

The HTA panel discussion further explored key operational challenges, including limited local capacity, data constraints, and the need for specialised expertise. It also highlighted the growing importance of real-world evidence in informing regulatory and policy decisions, as well as the need to manage potential conflicts between commercial interests and public value. The panel positioned IMACE as a potential "super-connector" capable of integrating evidence across stakeholders and supporting data-driven, transparent decision-making processes.

The Clinical Guideline Development session addressed the issue of translating evidence into consistent and actionable clinical practice. Speakers emphasised that modern guidelines must move beyond static documents to become dynamic, continuously updated systems that incorporate new evidence and real-world experience. The development of high-quality guidelines requires rigorous methodologies, multidisciplinary collaboration and sustained resources, all of which present ongoing challenges in the local context.

A key theme was the importance of localisation of guidelines. While international frameworks provide a valuable foundation, differences in healthcare systems and patient populations necessitate adaptation to

local conditions. At the same time, guidelines must remain advisory in nature, supporting clinical decision-making without replacing professional judgement.

The clinical guideline panel discussion focused on the implementation gap between evidence and practice. It was recognised that publication of guidelines does not automatically lead to changes in clinical behaviour. Effective implementation requires clinical leadership, peer influence, institutional governance, and engagement with both public and private sectors. The discussion also highlighted the importance of building institutional credibility through methodological rigour, transparency, and stakeholder engagement.

Another significant issue raised was the sustainability of IMACE itself. With limited staffing and reliance on voluntary contributions from experts, the organisation faces challenges in scaling its activities and maintaining long-term output. Addressing these constraints will be critical to ensuring that guideline development, HTA and advisory functions can be sustained over time.

Across all sessions and panel discussions, there was broad agreement on several key principles that should underpin the development of Hong Kong's healthcare system. These include the importance of adopting a lifecycle approach to technology assessment and guideline development, integrating clinical and economic evidence, ensuring transparency in decision-making, strengthening governance across both public and private sectors, and building institutional capacity to support implementation.

Hong Kong's healthcare system is entering a critical phase of transition. As the system responds to demographic change, technological complexity and fiscal pressure, the integration of regulation, health economics, HTA and clinical guideline development will be essential in achieving a healthcare model that is not only innovative, but also equitable, efficient and resilient. The IMACE will play a significant role in shaping professional standards and supporting evidence-based practice. By providing locally relevant, independent and methodologically robust recommendations, IMACE can help make trade-offs explicit, reduce unwarranted variation and support more consistent, transparent and sustainable healthcare decisions.

Acknowledgements

The success of the inaugural conference was made possible through the visionary leadership of our founding members and institutional representatives, the invaluable insights shared by our moderators and speakers, and the enthusiastic participation of our distinguished guests, industry partners and fellow healthcare professionals. We would like to extend our sincere gratitude to the Health Bureau of the Government of the Hong Kong Special Administrative Region and Professor Chung-mau LO, BBS, JP, Secretary for Health, for funding, guidance and support.

Founding Members of the IMACE:

- Department of Health, The Government of the Hong Kong Special Administrative Region
- Faculty of Medicine, The Chinese University of Hong Kong
- Hong Kong Academy of Medicine
- Hospital Authority
- LKS Faculty of Medicine, The University of Hong Kong
- Primary Healthcare Commission
- The Hong Kong Private Hospitals Association

(Listed in alphabetical order by institution)

Representatives of Founding Member Institutions:

- **Dr. Ronald Man-kin LAM, JP -** *Director of Health | Department of Health | The Government of the Hong Kong Special Administrative Region (represented by Dr. FUNG Ying, JP, Controller, Regulatory Affairs, Department of Health, The Government of the Hong Kong Special Administrative Region, on the conference day)*
- **Professor Philip Wai-yan CHIU -** *Dean, Faculty of Medicine | The Chinese University of Hong Kong (represented by Professor Samuel Yeung-shan WONG, Associate Dean (Education), Faculty of Medicine, The Chinese University of Hong Kong, on the conference day)*
- **Professor Philip Kam-tao LI -** *President | Hong Kong Academy of Medicine (represented by Professor Clement Chee-yung THAM, Vice-President (Education and Examinations), Hong Kong Academy of Medicine, on the conference day)*
- **Dr. Libby Ha-yun LEE -** *Chief Executive | Hospital Authority*
- **Professor Chak-sing LAU -** *Dean, LKS Faculty of Medicine | The University of Hong Kong*
- **Dr. Fei-chau PANG -** *Commissioner for Primary Healthcare | Primary Healthcare Commission*
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(Listed in alphabetical order by institution)

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- **Dr. York Yat-ngok CHOW, GBS, SBS, JP** - *Chief Medical Officer and Corporate Advisor | AIA International Limited*
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(Listed in alphabetical order by surname)

HKAM and IMACE Secretariats:

- **Mr. Aaron Cheng -** *Chief Executive Officer | Hong Kong Academy of Medicine*
- All other supporting staff

Photo Highlights


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A Belated Dialogue
in Hong Kong


iMACE Conference 2026
Health Economics, Technology Assessment and
Clinical Guidelines: A Belated Dialogue in Hong Kong
16 May 2026 (Sat)


Session 2 : Health Technology Adoption
Panel Discussion
Navigating Healthcare Innovations


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Speakers and Presentations

Plenary Lectures

From Regulation to Clinical Excellence: Advancing Hong Kong's Medical Device Regulatory Regime to Support Safe Innovation in Healthcare

Dr. FUNG Ying, JP

Controller, Regulatory Affairs
Department of Health
The Government of the Hong Kong Special Administrative Region

Introduction and Regulatory Mandate

In an era characterised by rapid medical innovation, the regulation of medical devices has become an essential component of healthcare governance. Medical device regulation serves as a system-level safeguard that supports clinical confidence, protects patients and enables responsible innovation. In the context of Hong Kong's evolving healthcare landscape, the regulatory regime provides the foundation through which new technologies can be introduced into clinical practice with appropriate assurance of safety, quality and performance.

Regulation is often invisible until something goes wrong - during device recalls, safety alerts or adverse events. However, the preventive function of regulation lies precisely in reducing the likelihood of such failures and ensuring safeguards are in place when such situations arise. By subjecting medical devices to defined requirements before and after market entry, the regulatory system protects both individual patients and the wider healthcare system from avoidable harm, wasted expenditure and disruption to clinical services.

Risk-Based Regulation and Supply Chain Accountability

A core principle of Hong Kong's medical device regulatory approach is proportionality. Medical devices range from low-risk products such as dressings to high-risk implantable devices, diagnostic systems, software, and artificial intelligence-enabled technologies. A risk-based framework ensures that regulatory scrutiny is calibrated according to the potential consequences of device failure. This allows lower-risk products to be managed efficiently while ensuring that high-risk technologies receive more rigorous oversight.

The framework also establishes accountability across the supply chain. Manufacturers, importers, distributors and local responsible persons each carry obligations in ensuring that medical devices placed on the market meet appropriate standards. Traceability and clear responsibility allow timely corrective action when safety issues arise.

Medical Device Administrative Control System

The Medical Device Administrative Control System, known as MDACS, has operated in Hong Kong since 2004. Although voluntary and transitional in nature, MDACS forms the foundation of Hong Kong's current medical device oversight. It prepares industry, healthcare providers and the public for a future statutory regime while aligning local requirements with international standards of safety, quality and performance.

MDACS adopts a total lifecycle approach. Before market entry, devices are classified according to risk and assessed through listing mechanisms. After market entry, oversight continues through adverse event reporting, safety alert monitoring, recalls, investigations and remedial actions. This lifecycle model recognises that device safety can only be addressed by managing it across the whole lifecycle, not a single point in time. Real-world use may reveal issues that were not apparent during pre-market evaluation, making continuous surveillance essential.

The definition of a medical device within this framework is sufficiently broad to reflect modern healthcare practices. It includes products intended for use on human beings for specific medical purposes such as diagnosis, treatment, monitoring or investigation, where the primary mode of action is not pharmacological, immunological or metabolic. This definition covers not only traditional medical devices, but also intangible products such as software.

Digitalisation, Procurement Alignment, and Collaborative Oversight

Recent developments have strengthened the practical operation of MDACS. Digital infrastructure, including the Medical Device Information System, supports listing applications, digital certificates, and adverse event reporting. Public sector procurement policies have also increased the significance of MDACS listing, with healthcare institutions giving preference or priority to listed devices in relevant purchasing decisions.

Regulation does not operate in isolation. Collaboration with industry, academia, and international harmonisation bodies ensures that real-world experience feeds directly into the framework. Oversight is not imposed from above; it is co-created, keeping regulation connected to the realities of healthcare delivery.

Artificial Intelligence Medical Devices

Artificial intelligence medical devices represent a major frontier for regulation. AI-enabled technologies are increasingly applied in screening, diagnostic imaging, robotic surgery, radiotherapy planning, rehabilitation and clinical decision support. The use of AI in these applications may improve precision, efficiency and access, but they also introduce novel risks relating to bias, hallucination, explainability and cybersecurity.

Bias in training data may affect performance across different patient populations. Hallucination can lead to inappropriate system outputs, while limited explainability may make it difficult for clinicians to understand how the system reaches certain conclusions. Cybersecurity vulnerabilities may compromise patient safety and data integrity. Regulatory safeguards under MDACS therefore require validation, documentation, risk management and transparency regarding intended use and limitations.

Current international regulatory practice underscores the critical role of human oversight in the use of AI-enabled medical devices. AI may assist clinical judgement, but it does not replace professional responsibility. Clinicians must remain accountable for interpreting outputs, applying judgement and ensuring that patient care remains safe and appropriate.

Future Development Towards Statutory Regulation

Hong Kong is progressing towards a statutory medical device regulatory regime. The future framework is expected to replace voluntary listing with mandatory registration and will fall under the purview of the Hong Kong Centre for Medical Products Regulation, scheduled to be established by the end of 2026. This transition will provide stronger assurance, clearer accountability and greater alignment with international regulatory standards. Meanwhile, regulatory clarity and agility are being enhanced through measures such as expedited pathways and stakeholder engagement, with a view to facilitating clinicians' earlier access to innovative medical devices.

Conclusion

Medical device regulation is the foundation for clinical excellence and the safety net for clinicians. By combining risk-based assessment, lifecycle surveillance, digital infrastructure, and supply chain accountability, Hong Kong's regulatory framework supports safe innovation while protecting patients and healthcare resources, and aligns with international best practices. As technologies become more complex, particularly with the rise of AI-enabled devices, the capacity to regulate proportionately and adaptively will be central to Hong Kong's future healthcare development, signified by the impending introduction of a statutory regime on medical devices.

Plenary Lectures

Technology Adoption, Innovation and Evidence-Based Healthcare

Dr. Libby Ha-yun LEE

Chief Executive
Hospital Authority

Introduction and System Transformation

Healthcare systems are increasingly required to respond to rising demand, constrained resources and rapid technological change. Within this environment, technology adoption has become a central element of system transformation. However, technological advancement alone does not guarantee better care. The value of innovation depends on whether it improves patient outcomes, strengthens efficiency, supports equity and can be implemented sustainably.

The strategic objective is therefore not simply to introduce more technology, but to integrate appropriate technologies into healthcare systems in ways that make care more seamless, resilient and future-ready. Technology should be understood as a means to achieve healthcare goals rather than an end in itself. Its purpose must be defined by clinical need, public benefit and system value.

Technology as an Enabler of Better Care

Technology can support healthcare systems by improving diagnostic accuracy, enabling more precise treatment, streamlining workflows and facilitating better coordination across care settings. It may also help address the widening gap between increasing service demand and limited manpower or financial resources.

Nevertheless, the adoption of technology must be purposeful. Without clear intent, innovation may increase complexity, generate additional costs and fail to deliver measurable improvement. A disciplined approach requires healthcare leaders to assess whether a technology produces tangible benefits to patients and the public, whether it improves efficiency and whether it contributes to health equity.

Invest-to-Save and Value-Based Innovation

The concept of "invest to save" reflects the possibility that carefully selected technologies may generate long-term benefits through reduced duplication, fewer complications, improved productivity and better outcomes. However, this requires careful prioritisation. Not every new product or intervention should be adopted simply because it is innovative or commercially available.

Value-based innovation requires attention to both clinical and system outcomes. A technology should be assessed according to its real-world contribution to patient benefit, cost-effectiveness, affordability and scalability. The central question is not whether a technology is advanced, but whether it is useful, efficient and equitable within the healthcare system.

Commercial Pressure and Adoption Risk

The speed of technological development presents a significant challenge. New medical devices, diagnostics, digital tools, drugs and treatment models are entering the market at increasing pace. In many cases, evidence on long-term outcomes, comparative effectiveness and cost-efficiency may still be incomplete when pressure for adoption emerges.

Commercial promotion may further intensify this pressure. Industry stakeholders may market products to clinicians, patients and advocacy groups, while public expectations may generate demands for early adoption. Although patient voices are important in healthcare decision-making, equity must not be confused with market-driven pressure, and financial sustainability remains a legitimate policy concern.

Premature adoption may expose patients to uncertain benefits and impose avoidable costs on the healthcare system. Conversely, excessive delay may prevent patients from accessing beneficial technologies. The central challenge is to distinguish genuine value from novelty, and evidence-based adoption from promotional momentum.

Health Technology Assessment and Evidence-Based Practice

Evidence-based medicine remains the foundation of quality healthcare. In the context of rapid innovation, Health Technology Assessment provides a structured process for evaluating whether technologies should be adopted, for whom, under what conditions and with what safeguards.

HTA considers clinical effectiveness, safety, economic implications, organisational impact and wider consequences for the healthcare system. It acts as a bridge between research and policymaking by translating complex evidence into practical guidance for decision-makers and practitioners.

The importance of HTA is particularly clear where new technologies appear promising but evidence remains incomplete. A systematic and multidisciplinary assessment process helps ensure that adoption decisions are transparent, accountable and aligned with public interest.

Independent Evaluation and the Role of IMACE

Independent evaluation is essential where healthcare institutions are simultaneously purchasers, providers and users of technology. Without independent assessment, adoption decisions may be shaped by operational pressures, commercial influence or short-term institutional considerations.

IMACE has the potential to support Hong Kong by providing independent, evidence-based recommendations on technologies and interventions. Its guidance can help clinicians interpret complex evidence, support institutions in making adoption decisions and strengthen public confidence in the fairness and rationality of healthcare choices.

Although such guidance may not be formally binding, it may carry professional significance. Where recommendations become recognised standards of reasonable care, departures from them may require clear and defensible justification.

Conclusion

Innovation has the potential to transform patient care, diagnosis, treatment and outcomes. However, its value depends on disciplined adoption, robust evidence and sound governance. A healthcare system that adopts technology wisely must identify innovations that deliver genuine benefit, create clear pathways for implementation and maintain sustainability. The aim is not technological expansion for its own sake, but better care through purposeful, evidence-based and equitable innovation.

Plenary Lectures

The Context of Clinical Governance in Private Hospitals

Dr. William Shiu-wei HO, JP

Former Chairman
The Hong Kong Private Hospitals Association

Introduction and Local Relevance of Clinical Guidelines

In a healthcare environment already rich with international and professional guidelines, the central issue is not the absence of guidance, but whether available recommendations are sufficiently applicable to Hong Kong's local clinical context. Guidance from international organisations and specialist societies provides an important evidence base; however, differences in healthcare financing, institutional structure, patient expectations and professional practice mean that overseas recommendations cannot always be applied directly without local interpretation.

The value of IMACE therefore lies in its ability to develop evidence-based recommendations that are tailored to Hong Kong. Its role is not to duplicate existing guidelines, but to address areas where local practice demonstrates significant and unwarranted variation, where new technologies or treatments require careful evaluation, and where locally relevant standards may support better clinical governance.

Public and Private Sector Governance Context

Clinical governance operates differently across the public and private healthcare sectors. In the public sector, clinical staff are generally employed within structured departmental hierarchies, and patient care is delivered through institutional systems of supervision, protocols, internal restrictions, audits and benchmarking. These mechanisms create clearer lines of accountability and allow healthcare organisations to manage clinical practice through formal governance structures.

The private sector presents a different governance environment. Many doctors practise as visiting medical officers and retain substantial professional autonomy. Patients are often primarily regarded as the doctors' own patients rather than the institution's patients. This model provides flexibility and professional independence, but it also creates challenges for standardisation, monitoring and accountability.

In private healthcare, clinical decision-making may also be influenced by factors less prominent in the public sector. These include patient demand, insurance coverage, out-of-pocket affordability, doctor income, return on investment considerations and the availability of a wider range of drugs, implants, equipment and procedures. The result is a more complex governance landscape, where hospitals must protect patient safety and quality while respecting professional autonomy.

Unwarranted Variation in Clinical Practice

A major concern in this context is unwarranted variation in clinical practice. Variation is not inherently inappropriate, as clinical judgement must account for individual patient circumstances. However, variation becomes problematic when it reflects outdated knowledge, personal preference, defensive medicine, commercial incentives or insufficient attention to evidence.

This issue is particularly important in the private sector, where wider treatment options and stronger consumer influences may create greater variability in care. Patients may request interventions they have encountered through media, advertising or personal networks, while doctors may adopt practices based on habit, perceived patient expectations or risk avoidance. Locally authoritative guidance can help address these pressures by providing a clearer benchmark for reasonable, evidence-based care.

Clinical Governance Mechanisms in Private Hospitals

The governance framework for private hospitals includes requirements relating to medical advisory structures, quality management, risk management, complaints handling and clinical research. However, broad regulatory requirements must be translated into practical institutional systems if they are to influence day-to-day clinical behaviour.

At St. Paul's Hospital, clinical governance is supported through detailed credentialing and privileging arrangements. Doctors applying for privileges are required to provide evidence of training, experience and relevant qualifications. Professional indemnity coverage is reviewed to ensure alignment with the scope of practice requested. Approval is not automatic, and the hospital retains discretion to grant, restrict, suspend or remove privileges where necessary.

Specialty-based Clinical Advisory Committees provide another layer of governance. These committees bring together senior clinicians to advise on standards, evaluate new technologies and procedures, and support peer-based decision-making. This peer component is important because governance decisions affecting independent practitioners are more likely to be accepted when they are informed by respected clinical expertise.

Information systems also contribute to governance by matching admission or procedure bookings with doctors' approved privilege profiles. Clinical audits, mortality and morbidity reviews, educational reminders and advisories provide additional mechanisms for monitoring performance and improving practice. Nursing staff also play an important role in patient safety, particularly where they are empowered to report concerns or intervene when clinical practice may compromise patient interests.

New Technology and Procedure Approval

The introduction of new technologies and procedures requires structured assessment. Applications should include evidence on clinical benefits and risks, anticipated case volume, training and experience requirements, setting requirements and implications for nursing and supporting staff. Such information allows expert committees and hospital management to consider whether adoption is clinically justified, operationally feasible and consistent with patient safety.

This process reflects a broader principle of clinical governance: innovation should not be introduced solely because it is available or commercially attractive. It should be subject to clinical scrutiny, evidence review and institutional accountability.

Antibiotic Use as an Illustration of Governance Challenges

The challenge of translating evidence into practice was illustrated through antibiotic use for a procedure where routine prophylactic antibiotics were not recommended for uncomplicated cases. Although evidence-based recommendations were available and an advisory had been issued to relevant doctors, subsequent audit showed persistent use among some visiting practitioners.

This example demonstrates the limits of guideline dissemination alone. Non-compliance may arise from inattention to advisory messages, disagreement with evidence, defensive medicine, longstanding habit or insufficient regard for the harms of unnecessary treatment. These harms include side effects, antimicrobial

resistance and avoidable costs borne by patients or insurers.

Improving practice therefore requires more than written guidance. It requires audit, feedback, peer influence, direct professional engagement and clinical leadership. In some cases, one-to-one discussion with individual practitioners may be necessary to understand reasons for variation and promote change.

Role of IMACE in Supporting Clinical Governance

IMACE can strengthen clinical governance by providing local, authoritative and independent recommendations. Such guidance may be particularly useful where overseas guidelines are perceived as less applicable to Hong Kong. Local recommendations can support hospitals in developing internal standards, assist clinicians in explaining treatment decisions, and help patients better understand the indications, benefits and risks of interventions.

Public education is also important. In private healthcare, patient expectations can influence clinical decisions. Clear and accessible guidance can support informed choice by helping patients distinguish between interventions that are evidence-based and those driven primarily by preference, publicity or perceived novelty.

Conclusion

Clinical governance in private hospitals requires a careful balance between professional autonomy and institutional accountability. Guidelines are an important part of this framework, but they are not sufficient on their own. Effective governance depends on credentialing, privileging, advisory committees, audit, peer review, staff empowerment, patient education and strong leadership.

Within this context, IMACE has a valuable role in reducing unwarranted variation and strengthening evidence-based practice in Hong Kong. Its recommendations can provide a locally relevant benchmark for clinical decision-making, support institutional governance and ultimately contribute to safer, more consistent and higher-quality care.

Plenary Lectures

Panel Discussion

Current Practice and Future Frontiers

Moderator

Dr. Hon David Tzit-yuen LAM
Legislative Council Member (Medical and Health Services)
Hong Kong Special Administrative Region

Professor Gilberto Ka-kit LEUNG
Convenor
Institute for Medical Advancement and Clinical Excellence

Dr. FUNG Ying, JP
Controller, Regulatory Affairs
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Dr. Libby Ha-yun LEE
Chief Executive
Hospital Authority

Dr. Fei-chau PANG
Commissioner for Primary Healthcare
Primary Healthcare Commission

Dr. William Shiu-wei HO, JP
Former Chairman
The Hong Kong Private Hospitals Association

Scope of Discussion

The panel reiterated the central purpose of the conference: to consider how evidence-based guidance, regulatory development, economic evaluation and clinical governance can support a healthcare system facing demographic change, rising chronic disease burden, increasing technological complexity and growing fiscal pressure. Rather than treating these issues as separate policy domains, the discussion demonstrated that they are closely connected. Clinical guidelines may influence standards of care, variation of practice and healthcare burden; decisions about technology adoption may give rise to concerns about affordability, financial sustainability and equity; and decisions about financing may shape future provision of care across hospitals, primary care and community settings.

IMACE and NICE: Different Origins, Different Authority

The discussion began with a comparison between the IMACE and the National Institute for Health and Care Excellence (NICE) in the United Kingdom. NICE was described as having emerged in a healthcare context where uneven service provision, sometimes referred to as the "postcode lottery", created the need for nationally consistent recommendations. In contrast, Hong Kong does not face the same degree of regional variation within the public sector. This difference in historical context is important in understanding the respective mandates of the two organisations.

Another major distinction concerns authority. NICE recommendations may carry binding consequences in certain circumstances, particularly where recommended technologies are expected to be funded by the National Health Service. The IMACE does not possess equivalent statutory authority. Its recommendations are advisory rather than binding. Nevertheless, advisory guidance can still be influential. By providing locally relevant, evidence-based recommendations, the IMACE may shape professional behaviours and public expectations, support institutional governance and promote more consistent standards of care.

This distinction clarified the role of the IMACE in Hong Kong. It is not intended to determine funding decisions in the same way as NICE. Rather, its value lies in developing guidance that reflects local clinical needs, healthcare structures and resource realities. In this respect, the IMACE may contribute to improving service standards and patient welfare even without formal binding power.

Guidelines, Customary Practice and Reasonable Standards of Care

A significant part of the discussion examined the relationship between clinical guidelines and standards of care. This raised an important distinction between customary professional practice and evidence-based practice.

Customary practice reflects what responsible peers commonly do in clinical settings. It is descriptive in nature and has traditionally played an important role in legal and disciplinary assessment. Evidence-based guidance, by contrast, is normative. It reflects what ought to be done based on the best available evidence.

In Hong Kong, customary professional standards remain highly relevant in legal proceedings and Medical Council inquiries. A practitioner who deviates from a guideline may not necessarily be found negligent if his or her practice is supported by a responsible body of professional opinion. However, as local evidence-based guidance becomes more widely accepted, it will have greater influence on professional practices and patient expectations. Where a practitioner departs from recognised guidance, clear documentation and a defensible rationale may become increasingly important.

The discussion therefore highlighted that guidelines should not be understood as rigid rules that eliminate clinical judgement. Rather, they provide a structured reference point for good practice. Their purpose is to improve consistency and transparency while preserving appropriate professional discretion.

Healthcare Financing, Workforce and the Future of the Hospital Authority

The panel then moved to the sustainability of Hong Kong's public healthcare financing and delivery model. The Hospital Authority's expenditure structure was discussed in relation to growing public healthcare costs, staff expenditure and the need to prepare the system for an ageing population with rising chronic disease burden.

A key issue was the high proportion of expenditure devoted to staff costs. Workforce remains central to service delivery, yet the system continues to face shortages of healthcare professionals. The panel recognised that salary is only one factor affecting recruitment and retention. Public sector practice also offers multidisciplinary teamwork, training opportunities, advanced technologies and a strong professional mission. These features remain important in attracting and retaining staff within the public healthcare system.

The financing model itself was also considered. Hong Kong's public healthcare services remain heavily subsidised, and any adjustment to fees and charges is socially sensitive. Nevertheless, the current model continues to raise questions about long-term sustainability. A more differentiated approach to co-payment may be explored, where patients with greater ability to pay contribute more, while those with limited means remain protected. Such reform would require careful design to preserve the safety-net function of the public system while promoting more appropriate use of services.

The discussion also touched on whether funding should move towards per-capita models or be linked more closely to outcomes and value. This reflected a broader concern that public healthcare funding must evolve from simply supporting service volume to supporting efficient, equitable and outcome-oriented care.

Primary Healthcare, Prevention and Economic Measurement

The role of health economics in primary healthcare was another important theme. Primary care and prevention are widely recognised as essential to future system sustainability, yet their economic value is often difficult to quantify.

Unlike hospital-based interventions, which may have clearer disease-specific outcomes, primary care frequently aims to improve general health, prevent disease progression and support whole-person care over time. The benefits of prevention may take years to appear and may be distributed across different parts of the healthcare system. This makes measurement challenging.

The discussion highlighted the need for better indicators and agreed methods for assessing the value of primary healthcare. Without credible measures, it is difficult to demonstrate the economic return of prevention, screening, chronic disease management and community-based care. Clinical guidelines and economic analysis may therefore help build consensus around what outcomes should be measured and how investment in primary care should be evaluated.

The boundary between hospital services and primary care was also explored through the example of rehabilitation. Some rehabilitation, such as intensive rehabilitation after stroke or acute cardiac events, may remain more appropriately delivered as an extension of hospital services. Once patients are stable, however, maintenance rehabilitation and longer-term functional support may be suitable for community or primary care settings. This requires clearer service delineation and stronger collaboration between the Hospital Authority and community-based providers.

Innovation, Medical Device Regulation and Safety Assurance

The panel also addressed how Hong Kong should balance access to innovative technologies with safety, efficacy, affordability, and cost-effectiveness. Medical device regulation was discussed in relation to rapidly

evolving technologies, including AI-enabled devices, healthcare robots, automation and devices used in areas where medical and cosmetic practice may overlap.

The discussion noted that Hong Kong's regulatory environment has developed through multiple channels. Professional practice is regulated by statutory bodies such as The Medical Council of Hong Kong; medical devices are governed through device-specific frameworks; and healthcare facilities are subject to legislation covering private healthcare institutions. Together, these mechanisms provide complementary layers of safety assurance.

The regulation of laser and intense pulsed light devices illustrated the complexity of defining boundaries between medical and non-medical practice. Debates over who may use certain devices, and under what conditions, reflect broader questions about patient safety, professional competence, device risk, and stakeholder consensus. The future statutory medical device regime is expected to strengthen oversight by introducing clearer mechanisms for registration and control.

While the current framework defines medical devices as products intended for use on human beings for specific medical purposes, a special listing mechanism is in place to capture products that pose significant risk but do not fit neatly within traditional definitions. A robust regulatory framework would help reduce the risk of regulatory gaps as technologies evolve.

Clinical Guidelines and Governance in Private Healthcare

The final part of the discussion returned to the role of clinical guidelines in private healthcare. Implementation challenges were considered from the perspective of private hospitals, where doctors often practise with substantial autonomy and may move between institutions.

Guideline implementation in such settings depends heavily on clinical leadership and peer influence. Written advisories alone may not change behaviour. Clinicians are more likely to change practice when respected peers demonstrate that evidence-based approaches are safe, effective and professionally acceptable. Clinical champions therefore play an important role in translating guidance into practice.

The discussion also acknowledged the tension between clinical governance and business considerations in private hospitals. Historically, private hospitals may have been viewed primarily as platforms for doctors to provide services. Increasingly, however, they are expected to take a more active role in ensuring quality, safety and accountability.

Governance measures such as audit, peer review, complication monitoring, privileging and peer assistance programmes can help address underperformance. Some practitioners may resist such measures or choose to practise elsewhere, but strong governance requires institutions to prioritise patient safety and clinical standards. Where practitioners respond constructively, mentoring and peer assistance can improve both clinical performance and patient outcomes.

Conclusion

The panel discussion brought together the main themes of the conference under the practical lens of Hong Kong's current and future healthcare needs. The IMACE's advisory role differs from NICE's statutory influence, but its potential importance lies in shaping local standards, strengthening professional reasoning and supporting evidence-based practice.

The discussion also reinforced that clinical excellence requires more than the publication of guidelines. It depends on sustainable financing, appropriate workforce models, credible measures for primary care, robust regulatory systems, and strong governance across both public and private sectors. As Hong Kong prepares for an ageing population, rising chronic disease burden and accelerating technological change, the future challenge will be to translate evidence into practice in ways that are clinically credible, financially sustainable and publicly trusted.

Session 1: Health Economics

How NICE Considers Healthcare Economics and Resource Impact in Clinical Guideline Development in the UK

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Introduction and Institutional Context

In publicly funded healthcare systems, clinical guideline development cannot be separated from questions of affordability, value and implementation. The presentation outlined how the National Institute for Health and Care Excellence (NICE) incorporates health economics and resource impact assessment into clinical guideline development in England. The session provided an international reference point for IMACE by demonstrating how clinical evidence, economic evidence and committee judgement can be integrated into a structured decision-making process.

NICE operates within the National Health Service (NHS), a tax-funded system with finite resources. This institutional context requires explicit consideration of opportunity cost. Money spent on one intervention cannot be spent on another. As a result, every recommendation carries consequences beyond the individual technology or treatment being considered.

Opportunity Cost and the Rationale for Health Economics

The rationale for health economics is grounded in the need to make trade-offs visible. Funding a new cancer drug may reduce resources available for mental health services. Choosing a high-cost treatment that produces only modest additional benefit may displace lower-cost interventions that could benefit more people. Such choices are unavoidable in a system with limited resources.

This approach is not intended to replace clinical judgement. Rather, it provides a framework for understanding the broader consequences of clinical recommendations. A treatment may be clinically effective, but the additional benefit must be considered alongside the additional cost and the value that could have been produced through alternative uses of the same resources.

The requirement to consider economics is embedded at several levels in the UK system. The NHS Constitution emphasises best value for taxpayers' money and the fair, effective and sustainable use of finite resources. NICE's own principles require committees to consider both the costs and benefits of interventions. Government expectations also reinforce the need to promote clinical access while ensuring effective use of available resources.

Economic Evidence in Guideline Development

NICE clinical guidelines are developed through evidence reviews. Clinical effectiveness reviews are complemented by reviews of cost-effectiveness evidence. The process follows similar principles: the review question is defined, literature searches are conducted, evidence is critically appraised, data are extracted and findings are presented to the guideline committee.

The committee plays a central role. Recommendations are not based on clinical evidence or economic evidence alone but by committee interpretation of both. The guideline committee must understand the evidence sufficiently to judge whether an intervention should be recommended, and if so, under what circumstances. For this reason, committee members are supported to develop sufficient health economic literacy to interpret the evidence and apply it appropriately.

Where high-quality economic analysis already exists and is relevant to current practice, further de-novo modelling may not be necessary. Where evidence is incomplete, de-novo modelling may be undertaken to estimate longer-term costs and outcomes to inform committee decisions.

Types of Economic Evaluation

Different types of economic evaluation support different forms of decision-making. Cost-minimisation analysis is used when two interventions produce equivalent outcomes and the main issue is which option costs less. Cost-effectiveness analysis compares costs with outcomes measured in natural units, such as life years gained or symptom-free days. Cost-utility analysis uses the Quality-Adjusted Life Year, or QALY, as the outcome measure and is generally preferred by NICE because it allows comparison across diseases, populations and settings.

Cost-benefit analysis converts both costs and outcomes into monetary terms, while cost-consequences analysis presents costs and outcomes separately as a form of balance sheet. Each method has different implications for how committees interpret evidence and make decisions.

QALYs, ICERs and Value for Money

The QALY is central to NICE's preferred approach. It combines quality of life and length of life into a single measure of health gain. One year in perfect health is equivalent to one QALY, while time spent in poorer health states is assigned a lower value. These values reflect population preferences regarding different health states.

This approach allows committees to compare interventions that affect patients in different ways. For example, one treatment may improve survival but reduce quality of life through side effects, while another may offer better quality of life with less survival benefit. QALYs provide a common metric for weighing such differences.

The incremental cost-effectiveness ratio, or ICER, compares the additional cost of an intervention with the additional health benefit it provides. In practical terms, it estimates the cost per additional QALY gained. This enables committees to consider whether the added benefit of a new intervention is worth the additional cost when compared with current practice.

The concept of value for money was illustrated through a football analogy. A team that spends heavily does not necessarily achieve the best performance, while another team may achieve stronger results with fewer resources (i.e. lower levels of spending). Similarly, in healthcare, the most expensive intervention is not necessarily the best value, and lower cost does not automatically mean poorer performance. Value depends on the relationship between resources used and outcomes achieved.

Economic Modelling and Committee Judgement

Models bring together information on clinical effectiveness, resource use, unit costs, test accuracy, survival, disease progression and quality of life. They may take the form of decision trees, which follow a treatment pathway, or Markov models, which allow patients to move between health states over time.

No single clinical trial can usually capture all relevant long-term costs and outcomes. Modelling therefore allows committees to consider the likely consequences of different options over a broader time horizon.

However, models depend on assumptions. Where data are uncertain or unavailable, assumptions must be made and tested. Economic evaluation is therefore not a mechanical exercise; it requires transparency, interpretation and judgement.

Resource Impact and Implementation

An understanding of the cost-effectiveness of an intervention alone is not sufficient. An intervention may represent good value over time but still require substantial upfront investment. Resource impact assessment explores the budgetary and capacity implications of implementing recommendations. This includes the cost of new equipment, workforce training, service redesign or additional clinical capacity.

NICE usually considers resource impact over a five-year planning horizon, reflecting the practical cycle of budget allocation. The assessment examines both financial cost and service capacity. This ensures that recommendations are not only evidence-based, but also feasible within real-world healthcare systems.

Conclusion

The NICE approach demonstrates that health economics can support clinical guideline development by making trade-offs explicit and strengthening the link between evidence, value and implementation. For IMACE, the key lesson is that guideline development should consider not only whether an intervention works, but also whether it represents good value, whether assumptions are transparent, and whether recommendations can be implemented sustainably within the healthcare system.

Session 1: Health Economics

Financing Health and Long-Term Care in Hong Kong: Challenges and the Way Forward

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Introduction and Financing Context

The financing of health and long-term care represents one of the most important structural challenges for Hong Kong's healthcare system. While health economics is often associated with cost-effectiveness analysis at the level of individual interventions, a broader macroeconomic perspective is equally necessary to assess how healthcare systems are funded, how resources are distributed, and how services can remain sustainable over time.

Hong Kong's healthcare system has long operated through a two-pillar structure. The public sector, funded mainly through taxation, provides highly subsidised hospital and specialist services. The private sector, funded largely through out-of-pocket payment and private insurance, provides a substantial share of outpatient and elective care. In financial terms, both pillars are sizeable, with each accounting for a major share of total healthcare expenditure. However, the sources of healthcare financing remain relatively limited. Hong Kong has no compulsory social health insurance, no medical savings account system (comparable to Singapore), no long-term care insurance, and only a modest role for donations.

Existing Pressure Points in the Public System

Several pressure points are increasingly visible within the current system. Expensive self-financing drugs remain a major concern, particularly for cancer patients and patients with rare conditions. Some of these drugs may be clinically effective and potentially life-saving, yet remain financially difficult for patients who do not qualify for assistance schemes and lack adequate private insurance coverage.

Dental care is another significant gap. Public dental services are largely limited to emergency treatment, pain relief and extraction, while private dental care can be costly and is often not covered by insurance. With an ageing population, this gap is likely to become more prominent.

Long waiting times for non-urgent procedures also continue to affect access. Although waiting times may have improved in some clusters, patients at the longer end of waiting lists may still face delays measured in years rather than months. This is particularly concerning for procedures such as joint replacement or cataract surgery, where prolonged waiting can substantially affect quality of life.

Long-term care presents an even deeper structural challenge. The shortage of subsidised residential places, variable quality among private homes, and long waiting lists create pressure not only on elderly persons and families, but also on acute hospitals. When long-term care capacity is inadequate, patients often remain in acute care settings longer than necessary, increasing costs and reducing hospital efficiency.

Limits of Additional Public Funding

Although additional public funding may appear to be the natural response to these problems, fiscal realities make this difficult. Hong Kong's workforce has been declining, reducing the base of taxpayers available to support future public expenditure. At the same time, government budget deficits and competing fiscal demands limit the scope for large-scale expansion of tax-funded healthcare spending.

Past attempts to introduce alternative financing mechanisms, including compulsory health insurance or medical savings accounts, have not been implemented after public consultation. The Voluntary Health Insurance Scheme represents one of the few reforms that proceeded, but voluntary private insurance alone has not fundamentally resolved pressure on the public system.

Private Insurance and Cost Escalation

Recent analysis of private health insurance claims provides important insight into cost trends. Comparing pre- and post-COVID periods, total claims increased substantially, with inpatient claims rising especially sharply. The increase was driven not only by higher prices, but more so by increased claim frequency. This suggests that utilisation patterns may have changed after the pandemic.

Plan design appears to matter. Claims involving panel providers tend to have lower average bills than those involving non-panel providers, while group plans appear less costly than individual plans. Conditions frequently claimed in private hospitals include digestive system diseases and procedures such as endoscopy, as well as conditions such as viral warts and ear disorders. These patterns raise questions about whether private insurance is always protecting against major health risks, or whether it is also financing a large volume of relatively lower-severity claims.

Rising claims have contributed to premium increases. If premiums continue to rise, affordability will become a growing concern. This may reduce the ability of private insurance to relieve pressure on the public system, particularly if older people drop out of private insurance precisely when their healthcare needs increase.

Greater Bay Area Opportunities

The Greater Bay Area offers potential opportunities for addressing some service gaps. Dental care, long-term care, imaging, health checks, optometry and access to certain drugs may be available at lower cost across the boundary. For some patients, cross-border care may therefore become a practical response to gaps or high prices in Hong Kong.

However, such development requires a proper governance framework. Cross-border healthcare cannot rely on price advantages alone. It requires systems for registering eligible providers, recognising professional credentials and facility standards, managing malpractice liability and dispute resolution, protecting patient data, and ensuring continuity of care through shared protocols and quality metrics. Without these safeguards, lower cost may come at the expense of safety, accountability and continuity.

Improving Efficiency Within Hong Kong

A central reform direction is to improve efficiency within Hong Kong. Allocative efficiency requires resources to be directed towards areas that generate the greatest benefit. At present, public spending remains heavily concentrated in hospitals, while primary care, prevention and long-term care receive comparatively less attention. International comparisons suggest that Hong Kong's public spending on primary healthcare is relatively low.

Strengthening primary care may reduce avoidable hospital admissions and allow resources to be redirected towards higher-value services. If patients who do not require inpatient care can be treated

safely in ambulatory or community settings, hospital pressure can be reduced and resources used more effectively.

Technical efficiency also requires reform of payment incentives. Block grants may create perverse incentives because hospitals that attract more patients through better services do not necessarily receive additional resources, while poor service may reduce demand without reducing funding. Payment models where money follows patients, or systems using diagnosis-related groups, diagnosis-intervention packages, global budgets, capitation and pay-for-performance, may better align resources with activity, quality and outcomes.

Private Sector Reform and Long-Term Financing

The private sector also requires efficiency improvement. Insurance plans should be redesigned to provide stronger protection for major illnesses while maintaining affordability. Greater use of co-payments or deductibles for less serious conditions may help control premiums and preserve insurance for high-cost, high-impact needs.

Longer-term reforms may include redesigning voluntary insurance so that premiums are more stable across the life course, reducing the incentive for older people to leave private insurance when they need it most. The introduction of long-term care insurance may also require serious consideration, given the scale of unmet need and the consequences of inadequate long-term care for the acute hospital system.

Conclusion

Hong Kong's healthcare financing challenges cannot be resolved by a single measure. Additional tax funding is constrained, new compulsory financing mechanisms remain politically difficult, and private insurance alone has not relieved public system pressure. A more sustainable approach requires better allocation of public resources, stronger primary and long-term care, improved payment incentives, redesigned insurance products, carefully governed Greater Bay Area collaboration, and a more integrated view of health and long-term care financing. The central challenge is not only to find more money, but to ensure that existing and future resources are used more wisely.

Session 1: Health Economics

Informing Resource Allocation Decisions in Hong Kong: The Role of Economic Evaluation in Driving Efficiency and Sustainability

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Introduction and Resource Allocation Context

Healthcare systems across the world are facing a widening gap between increasing demand and finite resources. In Hong Kong, this challenge is intensified by population ageing, the growing burden of chronic disease, rising expectations from the public, rapid technological development and increasing availability of high-cost interventions. The expansion of artificial intelligence, targeted therapies and advanced diagnostics will further increase the number of technologies competing for public funding.

At the same time, the global research and development pipeline is highly concentrated in areas such as oncology and rare diseases, where commercial returns are expected to be the greatest. While these innovations may bring important benefits, they also challenge publicly funded health systems. No health system can afford every intervention that offers some degree of benefit. Explicit priority setting is therefore essential.

Priority Setting as Distributive Justice

Priority setting is not simply a technical exercise. It is a matter of distributive justice because it determines how health benefits, financial burdens and access opportunities are distributed across society. Decisions must therefore begin with a clear understanding of what the healthcare system is trying to produce and distribute fairly.

Several competing principles may shape prioritisation. One approach may give priority to prevalent conditions affecting large numbers of people. Another may focus on historically neglected groups, such as patients with rare diseases. A further approach may prioritise technologies that produce the greatest benefit for individual patients, while another may emphasise interventions that generate the largest gains in population health.

These choices cannot be resolved without defining the concept of value. Value becomes the organising principle through which clinical, economic and social benefits can be brought together.

Characterising Value in Health

Value in healthcare is multidimensional. From a clinical perspective, value concerns whether an intervention improves the health of the individual patient. It is usually assessed through objective clinical outcomes, such as survival, symptom control or disease progression.

From an economic perspective, value shifts from the individual patient to the population. The central question becomes whether adopting a new intervention improves overall population health compared with alternative uses of the same resources. This introduces the concept of opportunity cost. Every dollar

spent on one patient or technology is a dollar that cannot be spent elsewhere in the healthcare system.

From a social perspective, value may include considerations beyond health gains. These may include financial protection for families, equity, productivity, dignity, social wellbeing and the consequences of illness on households and communities. These broader values may sometimes justify funding interventions that are not strictly cost-effective, but the justification should be explicit and transparent.

Cost-Effectiveness and Opportunity Cost

Cost-effectiveness analysis is often misunderstood as a comparison between cost and effect. More precisely, it compares the health gained from adopting a new intervention with the health that could have been produced if the same resources had been allocated elsewhere in the system.

The main estimate to inform efficient allocation decisions is the incremental cost-effectiveness ratio, or ICER, which expresses the additional cost required to gain an additional unit of health benefit, commonly measured in life years or Quality-Adjusted Life Years. The conclusion whether a new alternative is cost-effective or not is based on the comparison between the ICER and a number called cost-effectiveness threshold. The threshold should reflect the marginal productivity of the health system: how much health can be produced by spending a marginal additional unit of resources elsewhere in the health system.

If a new intervention is cost-effective, this means that the health produced by adopting it is expected to be greater than the health that would have been produced by alternative allocation of the same resources. In that situation, funding the intervention can be justified on the grounds of distributive justice, assuming the system's objective is to maximise health with available resources.

If the system provides coverage to a technology that is not cost-effective, the immediate consequence is population health losses. This does not necessarily mean that it should never be funded. However, if it is funded, the decision should be justified by reference to broader social values, and alternative access mechanisms should be considered before paying the full market price.

Health Technology Assessment as an Institutional Process

Health Technology Assessment provides the institutional process through which value can be systematically evaluated. HTA is a multidisciplinary process that assesses clinical, economic, organisational and social implications of health technologies. Its purpose is to support decisions that promote an equitable, efficient and high-quality health system.

Robust HTA requires more than technical analysis. It requires institutional arrangements, stable governance, clear methods, technical expertise and consistency over time. At the centre of any HTA system is an explicit value framework. Such a framework defines which attributes of value should be considered, which sources of data should be used, and which methods should be applied to characterise value.

For Hong Kong, defining this value framework is essential. Without a clear framework, decisions about new technologies may become inconsistent, difficult to justify or overly influenced by commercial and political pressure.

Strategic Purchasing and Managed Entry Agreements

Economic evaluation is also central to strategic purchasing. The global pharmaceutical pipeline contains thousands of products, many concentrated in oncology and rare diseases. This trend is likely to increase pressure on healthcare budgets and create greater uncertainty around affordability and value.

Managed entry agreements provide one mechanism for responding to this challenge. These agreements redistribute financial or performance risk between payers and manufacturers. Some agreements are

financial, involving pricing or budget arrangements. Others are outcome-based, linking payment to whether agreed clinical results are achieved.

HTA is the cornerstone of such agreements because it clarifies expected value, uncertainty and the conditions under which access should be granted. Managed entry agreements should not be understood merely as price discounts. They are instruments for managing financial risk, uncertainty and value production in circumstances where payers and manufacturers must reach a negotiated agreement.

Implications for IMACE

The implications for IMACE are significant. IMACE's mission includes optimisation of healthcare resources and consideration of cost-effectiveness. The key policy question is whether economic evaluation should inform only health technology assessment and formulary decisions, or whether it should also be incorporated into clinical guideline development.

If cost-effectiveness is applied, it must be applied correctly. Additional clinical benefits should be compared with the true opportunity cost to the healthcare system. Where technologies are not cost-effective but are still recommended, the rationale should be stated clearly in terms of social value. Alternative access mechanisms, including managed entry agreements, should also be explored.

Conclusion

Economic evaluation provides a structured way to make resource allocation decisions more transparent, fair and sustainable. It does not remove the need for judgement, nor does it reduce healthcare decisions to cost alone. Rather, it clarifies the trade-offs involved in funding one intervention over another.

For Hong Kong, the development of explicit value frameworks, robust HTA processes and strategic purchasing mechanisms will be increasingly important as healthcare demand and technological possibilities expand. Within this landscape, IMACE can play a meaningful role by supporting recommendations that reflect clinical benefit, economic value, social priorities and long-term system sustainability.

Session 1 : Health Economics

Panel Discussion

Sustainable Quality Care for Hong Kong

Moderator

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Scope of Discussion

The discussion reinforced a central message of the conference: sustainable quality care requires more than clinical evidence alone. It also requires transparent priority-setting, credible economic analysis, appropriate governance, and public trust. Healthcare systems must decide not only what works, but also what should be funded, how resources should be distributed, and how difficult decisions can be explained to professionals, patients and the public.

Guidelines, System Priorities and the Role of NICE

The discussion began by considering the experience of NICE in the United Kingdom. NICE's role was framed around the production of guidance for the health and care system in England. With a substantial library of clinical, public health and social care guidelines, as well as many technology appraisal recommendations, NICE cannot update all guidance continuously. Prioritisation is therefore essential.

The selection of topics for update is guided by the needs and priorities of the health and care system. This means that guideline development is not a purely academic exercise. It must respond to the practical challenges facing the system, such as weight management, cardiovascular disease, maternal and child health, and other priorities identified in National Health Service planning.

This approach has direct relevance to Hong Kong. As the IMACE develops its own body of guidance, it will need to consider not only where evidence exists, but also where local guidance can make the greatest contribution to improving patient outcomes, service standards, resource use and public confidence. Prioritising guideline topics is itself a strategic act, because it signals which clinical and system issues require urgent attention.

Technology, Drugs and the Changing Cost Structure of Healthcare

A recurring concern was the growing share of healthcare expenditure associated with technologies, drugs and non-staff costs. While staff expenditure remains a major component of public healthcare spending, the increasing cost of new technologies and pharmaceuticals is reshaping the financial profile of healthcare systems.

This trend is expected to become more prominent as innovation accelerates. New diagnostics, devices, targeted therapies, AI-enabled tools and advanced medicines will continue to place pressure on healthcare budgets. The challenge is not simply whether Hong Kong can access these innovations, but whether it can adopt them in a way that produces meaningful health benefit and remains financially sustainable.

Health economics therefore becomes central to technology adoption. New interventions should be assessed not only by whether they are scientifically advanced or clinically promising, but also by whether they deliver sufficient benefit relative to their cost and opportunity cost. This is particularly important where public and private expenditure overlap, and where patients may bear significant out-of-pocket costs.

Private Insurance, Clinical Governance and System Stewardship

The discussion then turned to the private sector and the implications of recent insurance claims data. Rising private insurance claims, increasing inpatient utilisation and frequent claims for relatively low-risk or potentially discretionary procedures raise concerns about affordability and sustainability.

Private insurers often function as third-party payers. They pay claims based on bills submitted by providers but may have limited ability to assess whether each clinical decision was necessary, appropriate or evidence-based. This creates a governance challenge. Unlike public systems, where clinical protocols and institutional controls may be more direct, private financing depends heavily on provider behaviour, professional self-governance and institutional clinical governance.

The discussion therefore highlighted the importance of clinical governance in the private sector. Hospitals, procedure centres and professional communities all have roles in ensuring appropriate use of services. Where procedures fall into grey areas of indication, or where claims are driven by defensive practice, patient demand or commercial incentives, stronger professional standards and clearer guidance may help reduce inappropriate utilisation.

This also points to the importance of government stewardship. System sustainability cannot be achieved by private actors alone. Healthcare financing, private insurance, hospital governance, primary care, long-term care and professional regulation are interconnected. Reform may require cross-bureau coordination and a whole-system approach, particularly because long-term care sits outside the health sector but directly affects hospital utilisation.

Long-Term Care and the Link with Acute Healthcare

Long-term care was identified as a critical part of healthcare sustainability. Inadequate long-term care capacity can result in patients remaining in acute hospitals longer than necessary, increasing costs and reducing system efficiency. International and Mainland experiences suggest that investment in long-term care may reduce acute healthcare expenditure by preventing avoidable admissions or prolonged hospital stays.

This reinforces the need to view health and long-term care as parts of the same ecosystem. If long-term care is underfunded or poorly coordinated, pressure is displaced onto hospitals. Conversely, better long-term care financing and service design may improve patient flow, reduce acute care costs, and provide more appropriate support for elderly persons and families.

Applying Cost-Effectiveness at Different System Levels

The discussion also explored how cost-effectiveness principles apply beyond national systems. Economic evaluation is often discussed at the level of whole health systems, but the same logic may apply to subsystems with defined budgets. Where a hospital, programme, disease fund or benefit plan has a fixed budget and produces health outcomes, it is possible to consider its marginal productivity and the opportunity cost of allocating additional resources to new interventions.

This concept is important for Hong Kong because the healthcare system contains multiple layers of decision-making. Resource allocation occurs not only at the government level, but also within the Hospital Authority, individual clusters, hospitals, formularies, service programmes and insurance schemes. Economic evaluation can therefore inform decisions at different levels, provided that the relevant budget, population and outcomes are clearly defined.

However, economic evaluation is only one part of decision-making. A technology that is not cost-effective may still be funded because of broader social values, such as equity, severity of illness, rarity of disease, protection of vulnerable groups or support for strategic innovation. The key requirement is that such reasons should be explicit rather than implicit.

Cost-Effectiveness, Health Technology Assessment and Policy Decisions

A distinction was made between cost-effectiveness analysis and Health Technology Assessment (HTA). Cost-effectiveness analysis provides information on whether an intervention produces sufficient health benefit relative to its cost and opportunity cost. HTA provides a broader decision-making space in which additional considerations, including social values, feasibility, equity and system priorities, can be incorporated.

This distinction is important because resource allocation decisions are rarely purely technical. They often involve political, social and ethical considerations. Decisions about funding cancer drugs, rare disease

treatments or high-cost technologies may generate public concern, particularly where some patient groups receive access while others do not.

A credible system must therefore establish in advance how value will be defined, which evidence will be considered, and how decisions will be made. Explicit value frameworks, transparent processes and consistent methods can help ensure that decisions are more understandable and defensible, even when they remain difficult.

Trust, Transparency and Public Acceptability

A major theme emerging from the discussion was trust. Priority-setting is inherently sensitive because it involves trade-offs. Some interventions will be funded, while others may not be. Some patients will gain access, while others may face delay or exclusion. Technical analysis alone is insufficient if stakeholders do not trust the process.

The experience of NICE illustrates the importance of transparency and communication. Even where stakeholders disagree with a decision, they are more likely to accept it if they understand how it was made, what evidence was considered, and how they may challenge or comment on the process. Similarly, the Latin American experience discussed during the panel highlighted the use of legal and institutional frameworks to define HTA processes, data sources and value attributes.

For Hong Kong, this lesson is particularly important. Healthcare decisions involving cost, access and prioritisation must be explained clearly. Stakeholders need confidence that decisions are not arbitrary, politically driven or commercially influenced. Trust depends on transparent methods, consistent processes, meaningful engagement and clear communication.

Implications for the IMACE

The discussion concluded with important implications for the IMACE. If the IMACE is to contribute meaningfully to sustainable quality care in Hong Kong, it will need to determine how health economics should be incorporated into its work. This may include cost-effectiveness considerations in clinical guideline development, HTA-informed recommendations for technologies, or broader guidance on value-based care.

IMACE does not need to replicate NICE or the experience in Chile. Hong Kong's healthcare structure, legal environment, financing arrangements and institutional needs are different. However, the IMACE can learn from international experience by adopting transparent processes, explicit value frameworks and clear methods for incorporating evidence, economic analysis and stakeholder perspectives.

Its contribution may be particularly valuable in making trade-offs visible. By explaining why certain interventions are recommended, why others require caution, and how resource implications should be considered, the IMACE can help support more rational and publicly defensible decision-making.

Conclusion

The panel discussion highlighted that health economics is not merely about cost containment. It is about making better decisions in a world of finite resources. Sustainable quality care requires healthcare systems to consider clinical effectiveness, cost-effectiveness, affordability, opportunity cost, equity and implementation capacity together.

For Hong Kong, the next stage will require stronger government stewardship, better integration of health and long-term care, more effective private sector governance, transparent priority-setting and explicit value frameworks. The IMACE can play an important role in this landscape by helping translate evidence and economic reasoning into practical, locally relevant guidance that supports trust, fairness and long-term sustainability.

Session 2: Health Technology Adoption

The Application and Role of Health Technology Assessment in Public Sector

Dr. Michael Lap-gate WONG

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Hospital Authority

Introduction and Definitional Framework

In modern healthcare systems, public sector decision-makers face a continuous influx of sophisticated medical innovations alongside strict budgetary constraints. Navigating this environment requires evidence-based frameworks that can systematically evaluate new interventions to ensure they deliver tangible clinical value. At the core of this methodology is Health Technology Assessment (HTA).

Dr. Wong has cited HTA as "a multidisciplinary, systematic evaluation of health technologies." The four foundational pillars of HTA are: clinical effectiveness – to rigorously investigate whether a given technology works as intended under real-world conditions; safety profile – to critically evaluate the safety profile of the intervention to minimise patient risk and enhance overall treatment outcomes; economic viability – appraise the economic footprint to determine if the technology offers true value for money and represents an efficient use of public funds, and; ethical and social impact – assess the broader societal implications, with a particular focus on preserving health equity and ensuring fair access across diverse patient populations. Rather than examining a single medical technology, HTA utilises a comprehensive approach built upon four main analytical pillars aforementioned. The primary operational role of HTA is to serve as a functional bridge, translating complex scientific research into practical, everyday clinical applications and policy choices.

Macro-environmental Headwinds in the Public Sector

When applying in the public healthcare sector in Hong Kong, a triadic relationship among balancing innovation, ensuring quality, and achieving sustainability has to be considered. Public sector is obliged to avoid both the premature adoption of unverified methods and the delayed deployment of genuine breakthroughs. HTA establishes a structured pathway to evaluate emerging technologies for public adoption. By enforcing a rigorous assessment of clinical effectiveness, HTA protects patient safety and optimises health outcomes. The process of HTA accelerates patient access to critical, life-saving treatments while fostering value-based innovation by rewarding developments that offer clear improvements over existing standards. Because public resources are finite, health systems must optimise resource allocation. HTA provides administrators with the predictive data needed for long-term strategic planning, enabling them to manage budget impacts, evaluate local affordability, and direct funding toward highly cost-effective interventions.

In the world of stormy innovations in healthcare, Hong Kong does not face the exponential challenges alone. Internationally, geographical volatility that threatens supply chains, alongside incredibly rapid innovation cycles. At the national level, regulatory constraints on international trade and cross-border procurement procedures limit our ability to participate in National Centralized Drug Procurement or to procure directly from mainland suppliers. Regionally, evolving regulatory landscapes — such as new listing requirements for medical devices — add additional considerations. Dr. Wong stated a constant struggle

in capacity constraints, evidence scarcity, and the lack of specialised expertise in local healthcare sector, which may only be alleviated with the multidisciplinary approach of HTA.

The Assessment Ecosystem: A Four-Stage Workflow

To address the multi-tiered challenges, Dr. Wong introduced the Hospital Authority's Mechanism for the Safe Introduction of New Procedures and Technology (HAMSINP), a trusted framework established in 2001, rooted from the ASERNIP-S system in Australia. It provides a risk-calibrated, multidisciplinary review that clearly differentiates established service from experimental research. Among all of the core values to uphold, patient safety and efficacy remain paramount in the framework.

To maintain scientific integrity and operational transparency, HTA in Hospital Authority operates within a formalised assessment ecosystem divided into four sequential stages. Firstly, the process begins at the frontline of care through Clinical Input, where practicing clinicians initiate applications for new health technologies based on unmet clinical needs observed in patient populations. Secondly, this triggers Professional Advice, wherein independent clinical and specialist committees perform an initial review of the application, analysing the primary clinical implications, potential risk levels, and relevance to the existing healthcare framework. Thirdly, the core analytical work is conducted under Managerial Input by a dedicated Technology Office. This specialised unit performs a rigorous, evidence-based HTA, executing comprehensive literature reviews, health economic modelling, cost-effectiveness analyses, and budget impact projections. Finally, during the Implementation stage, localised subject teams take over to plan and monitor outcomes, ensuring that the technology is integrated smoothly into clinical pathways while gathering real-world data to evaluate actual performance against original HTA projections.

Bridging the Operational Gap: Agile Intelligence

To remain a top-notch position in the industry, the term "agile intelligence" was introduced highlighting actions beyond mere applications but proactively conduct strategic horizon scanning and pipeline monitoring to anticipate what is coming. Contemporary HTA frameworks are moving away from static, single-point evaluations toward a modernised approach focuses. The channels to propel this initiative start with conducting budget impact analysis and financial planning to integrate real-time health economic data to generate dynamic financial forecasts. This capability helps public health systems predict compounding expenditure trajectories and implement sustainable, long-term funding strategies aligning with clinical needs. Next, the framework guides the authority to navigate the formulary and medical devices list by managing official procurement registries to balance cost controls with equitable access. Agile HTA provides the objective evidence needed to negotiate managed access agreements, risk-sharing contracts, and value-based pricing models with manufacturers, ensuring that high-cost innovations can be added to public formularies without compromising fiscal stability. In essence, these processes represent a cyclical closed-loop governance of system value realisation, evolving around budget planning, procurement and implementation, operational use and optimisation, and decommissioning and de-adoption of certain technologies.

Dr. Wong brought the highlights to the strategic imperative of "de-adoption", which indicates retiring a technology that is deemed inapplicable to modernised local context. By using HTA to continuously re-evaluate technologies, technologies that are obsolete or superseded are identified and authorities may actively disinvest in them. Releasing the clinical bandwidth and financial capacity tied up in legacy care is the primary lever to accommodate high-value innovations in the future.

Future Horizons of HTA

Putting forward the example of digital pathology in the lens of HTA, Dr. Wong concluded the importance of continuous monitoring and surveillance on innovative healthcare technologies, alongside the value-based partnerships to collaborate across sectors and regions. By systematically evaluating interventions across clinical, safety, economic, and ethical dimensions, HTA protects public health systems from the financial strains of low-value care while establishing a clear, accelerated pathway for meaningful innovation. Mitigating international and internal pressures requires a highly structured assessment ecosystem that pairs clinical insights with independent economic evaluations. Ultimately, transitioning toward agile intelligence and proactive horizon scanning ensures that HTA remains a robust tool for achieving equitable, cost-effective, and highly sustainable public health delivery.

Session 2: Health Technology Adoption

Regulatory Modernisation of Drugs

Mr. Frank Ling-fung CHAN, JP

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Introduction and Constitutional Mandate

In an era characterised by accelerated scientific discovery and shifting geopolitical dynamics, the management of public health infrastructure requires proactive regulatory adaptation. Mr. Chan, as an assistant director of health in relation to drug regulations, shared his insight regarding the rapid advancement in pharmaceutical industry in governmental perspective. To sufficiently equip for the vigorous innovation in the industry, an increasing number of regulatory authorities in high maturity levels was established to enhance the capacity in governing quality medical products.

To fulfil this constitutional duty, the Department of Health is spearheading a comprehensive paradigm shift. This strategic overhaul aims to transition Hong Kong from a secondary evaluator of pharmaceutical products to a primary evaluator. By establishing a robust internal capacity to assess drug safety, efficacy, and quality, Hong Kong is transforming its regulatory framework to accelerate patient access to cutting-edge medical advancements, promote biotechnology research and development (R&D), and solidify its standing as an international hub for biomedical innovation.

Shifting of Research & Development Ecosystem in China

Over the past decade, China has implemented a series of regulatory reforms that have reshaped its pharmaceutical landscape. The global medical R&D ecosystem has undergone a notable geographical and technological realignment. Between 2015 and 2025, the Chinese Mainland enacted an extensive series of regulatory policies designed to foster domestic pharmaceutical innovation, including Chinese and Western medicines, alongside novel medical devices. This committed legislative incentive has successfully transitioned China's pharmaceutical sector from a manufacturing-based industry into a powerful incubator for first-in-class and advanced therapy medicinal products. As a result, global pharmaceutical pipelines are increasingly populated by therapies originating from the Asia-Pacific region, necessitating localised regulatory systems capable of evaluating these complex products efficiently.

Hong Kong's Competitive Advantages and Strategic Vision

While witnessing the policy movement in the Chinese Mainland, the HKSAR government actively navigates and repositions Hong Kong in the era of technological advancement and regulatory excellence. Hong Kong possesses a unique set of institutional and economic attributes that position it to act as a pivotal gateway within this changing ecosystem. As China's only common law jurisdiction which provides a familiar and reliable legal environment for international business, the city features world-class research units and a well-respected clinical trial infrastructure. These assets offer a stable and internationally recognised investment environment and robust intellectual property rights enforcement. Leveraging these internal strengths, a highly efficient regulatory system is established over the years, as evidenced by an efficient

clinical trial certifications systems, substantial registration and licensing volume for pharmaceutical products, Chinese medicine, and their respective traders. Nevertheless, Mr. Chan emphasised the "One Country, Two Systems" policy is the cornerstone of Hong Kong's institutional strength enabling the competitive advantages sufficiently demonstrated in the global stage of healthcare delivery.

The challenges and opportunities faced by Hong Kong are reaffirmed in The Chief Executive's 2023 Policy Address, formally articulating a strategic vision to establish Hong Kong as a premier international health and medical innovation hub. The Policy Address reassured the forthcoming establishment of the Hong Kong Centre for Medical Products Regulation (CMPR), facilitating the registry of R&D and medical innovation of launching new drugs.

Systemic Evolution: the establishment of CMPR

The CMPR is developed to be a leading internationally renowned medical products regulatory authority, driving excellence and innovation. The Centre aims to achieve the ambitious vision through three strategic pillars: driving regulatory excellence by building a world-class, science-based regulatory framework, promoting medical product innovation by creating a predictable and efficient pathway for new products, and deepening national and international collaboration to ensure a connected and contributing partner in the regional and global health community. It will integrate and build upon the expertise of our existing units: the Drug Office, the Chinese Medicine Regulatory Office, and the Health Sciences and Technology Office. Ultimately, CMPR targets a high-achieving goal to evolve into a standalone, renowned regulatory authority to enhance coordination and efficiency in healthcare delivery, similar to other major agencies around the world.

Milestone in Pharmaceutical Regulatory: from Secondary to Primary Evaluation

To transit systematically toward independent primary evaluation, the HKSAR government implemented a structured, multi-phase evolutionary pathway. Under the historical framework, the registration of a new drug in Hong Kong often hindered the domestic availability of innovative therapies that had only secured approval in their country of origin, calling for a dire need to expand Hong Kong's capacities in appraising drug safety and quality.

The novel "1+" mechanism, launched in 2023, allows Hong Kong to be more proactive in approval of applications of new drugs for life-threatening or severely debilitating diseases which is supported with local clinical data and scope of application recognised by local relevant expert. The success of this mechanism lay in attracting more novel drugs around the world for local use. As of April 2026, a total of 21 new drugs have been approved under the "1+" mechanism, in which 7 of them have been listed in the Hospital Authority Drug Formulary. Moving forward, our goal is to strengthen our evaluation capabilities, further enhance the software and hardware infrastructure and cultivate talent development, advancing towards primary evaluation.

Operational Roadmap, Digital Infrastructure, and Future Milestones

The full implementation of the primary evaluation standard is governed by a long-term roadmap spanning 2026 to 2030, carefully managed to ensure institutional stability and capacity growth into specific phased approach. To support this timeline, the Department of Health is executing a comprehensive capacity-building strategy. Key focus areas include recruitment campaigns to build multidisciplinary expert teams, continuous professional training, and collaborative work-sharing initiatives with international regulatory counterparties.

Furthermore, the transition is underpinned by a deep modernisation of Hong Kong's regulatory information technology infrastructure. This includes transitioning to the Electronic Common Technical Document (eCTD) standard to align with global electronic submission formats. Additionally, the Department is developing

an advanced electronic registration platform, rolling out structured protocols and clinical guidelines, and exploring the integration of artificial intelligence (AI) to optimise internal evaluation workflows, increase assessment capacity, and shorten review cycles.

Institutional Benefits and the "Super-Connector" Paradigm

The sharing was concluded by highlighting the establishment of the CMPR and the deployment of a primary evaluation framework offer clear institutional and systemic benefits. The transition from a secondary, reference-dependent regulatory model to an independent primary evaluation framework represents a well-coordinated response to a changing global healthcare ecosystem. On a broader geopolitical scale, this regulatory modernisation empowers Hong Kong to fulfil the strategic role of a "super-connector" within international health systems.

Session 2: Health Technology Adoption

From Passive Purchasing to Evidence-Informed Priority Setting: Operating Value Across the Technology Lifecycle in Hong Kong

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Introduction of a Cyclical Approach of Health Technology Assessment

In modern public health infrastructure, managing resource allocation effectively requires transitioning away from static procurement methods. Local healthcare systems face compounding pressures driven by rapid technological innovation, an ageing demographic, and an explosion of high-cost advanced therapy medicinal products. Professor Yip extended the discussion of Health Technology Assessment (HTA) through the lens of how evidence supports informed decision making before adoption, during appraisal, and after adoption through real-world learning.

HTA is a structured, multidisciplinary process designed to appraise the clinical, economic, and social value of health interventions. Rather than restricting HTA to a one-off assessment at the point of market entry, true systemic optimisation requires a continuous, lifecycle-oriented approach. From evidence to action, an effective healthcare system is dynamic and requires continuous engagement and adaptation before adopting a health technology. The three-step process included: proactive scanning of unmet healthcare needs prior to adoption; transparent comparisons of various treatment options during appraisal, and; build a system that learns from real-world experience to monitor outcomes after adoption of certain health technologies. This closed loop enables a healthcare system to strategically choose, adopt, and reassess technologies across the full lifecycle to maximise health returns, safeguard public funds, and build a resilient healthcare ecosystem.

Phase 1: Before Adoption – Proactive Scanning and Topic Prioritisation

Proactive horizon scanning, in contrary to reactive approach, acts as an early warning mechanism in identifying critical resources gap. Prior to setting foot in the HTA cycle, researchers should systematically forecast the epidemiology and disease trajectories in the foreseeable future, followed by the substantive acquisition of data from either clinical or pipeline intelligence addressing the potential unmet needs. In consideration of local context, compatibility of health technologies has to be assessed, taking staffing capacity, workflows, and affordability thresholds into account. This foresight profoundly impacts the healthcare system by closing the information gap, facilitating a symmetrical negotiation between payers and companies, strategically and fiscally planning and allocating resources towards the unmet needs, and testing the system readiness in potential challenges.

International precedents of proactive screening include the US AHRQ Horizon Scanning System, and Singapore's clinician-led Agency for Care Effectiveness (ACE) in Asia. Hong Kong has accumulated sufficient building blocks such as Hospital Authority's electronic health records, Department of Health's population surveys, and HKU's horizontal scanning project SCAN2030. The critical challenge lies in a centralised Needs Assessment & Prioritisation Hub. Professor Yip proposed that independent upstream body such as IMACE is more than reasonable to explicit the role of topic prioritisation and translate it into actionable HTA evaluation pipeline.

Phase 2: During Appraisal – Comparative Evidence and Evaluative Lenses

At the appraisal phase, comparative analysis forms the technical core of HTA. Quantifiable evidence remains the key drive to objectively compare among various treatment options, of which Professor Yip briefly shed light on the concept of statistical analyses allowing cross-disease comparative evaluation (e.g., incremental cost-effectiveness ratio and quality-adjusted life years), alongside with systematic reviews and meta-analyses as cornerstone to synthesise global data, and head-to-head comparisons of randomised controlled trials as gold standard. Above all, evidence must be grounded to local context using real-world data from Hong Kong to ensure applicability to existing system. Fundamentally, needs of evidence and appraisal outcome are heavily dictated by the evaluative lens applied: provider perspective focuses primarily on affordability within a delivery of a specific product, or societal perspective focuses on broad disease burdens, whole-pathway value, cross-sector economic effects, and long-term patient outcomes across the wider community.

Phase 3: After Adoption – Translating Real-World Evidence (RWE) into Policy

Post-marketing surveillance is crucial because clinical trials frequently intrinsically have limitations to reflect real-world evidence (RWE), such as inability to accurately simulate real-world conditions under controlled environments, poor real-world adherence, underestimation of adverse events, heterogeneity in patient characteristics, and limited long-term outcomes. More importantly, trials compare against placebo which most often inadequately inform clinicians about real-world clinical use against other treatment options. Professor Yip further highlighted the importance of RWE with three examples from the US, Europe, and China, illustrating how RWE changed the perspective commonly known.

Nevertheless, translation from evidence to clinical practice remains a long-standing challenge to healthcare system. Despite a rising volume of peer-reviewed publications, difficulties in challenges lie in methodological variability across local studies, an opaque institutional translation pathway, standardisation in prescribing behaviours, and the lack of an officially recognised advisory body to systematically synthesise findings.

Institutional Vision: IMACE as a Super-Connector

To close these operational gaps, IMACE can act as a dedicated, independent advisory entity to commit in the lifecycle of HTA. By providing authoritative, population-specific benefit-risk evaluations, IMACE can deliver transparent decision support for formulary inclusion in public and private hospitals, clinical guideline updates, and proactive post-market surveillance.

Importantly, it was noted that institutional influence does not depend on formal power. Drawing on international ranking and evaluation systems, IMACE's influence can stem from the quality of its evidence assessments, impartial and consistently applied decision criteria, transparency in its methodology, and the credibility it is designed to build over time through rigorous, population-specific evaluations. By acting as an analytical "super-connector", IMACE would bridge and add value to existing entities, including public and private healthcare sectors, patient groups, insurance companies, and even database development in the Greater Bay Area.

The Future Evidence Pipeline

Ultimately, the transition toward a mature, value-driven health system requires the construction of a formalised "Future Evidence Pipeline" for Hong Kong. This pipeline connects six distinct operational stages in a continuous loop: identifying unmet needs, proactively scanning the horizon, performing rigorous comparisons, executing strategic decisions, monitoring real-world performance, and driving continuous quality improvement.

By positioning IMACE as a central integrator within this pipeline, Hong Kong can move past fragmented, passive procurement practices. Synthesising clinical, economic, and real-world evidence across the technology lifecycle ensures that healthcare funding is directed toward high-value interventions, safeguarding system sustainability and maximising public health benefits.

Session 2 : Health Technology Adoption

Panel Discussion

Navigating Healthcare Innovations

Moderator

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Scope of Discussion

During the panel session entitled Navigating Healthcare Innovations, moderated by Professor David Makram BISHAI, panellists Dr. Michael Lap-gate WONG, Mr. Frank Ling-fung CHAN, JP, and Professor Benjamin Hon-kei YIP engaged in an academic dialogue concerning the strategic evolution of health systems. Centred on the thematic paradigm of transitioning "from evidence to real-world evidence (RWE)", the discourse evaluated how the IMACE can cultivate a sustainable healthcare ecosystem through independent, data-driven health technology assessments (HTA).

Retrospective Reflections: Counterfactual Value of Long-Term HTA Implementation

The moderator initiated the discussion by questioning what structural and operational realities Hong Kong would be dealing with differently today had IMACE been established twenty years ago.

Panellists discussed the possibility of having a significantly more efficient public healthcare system today had systematic evaluations been instituted earlier. If an entity like IMACE had implemented HTA processes two decades ago, it would have actually accelerated the introduction of a wider array of new drugs into Hong Kong. They reasoned that market entry is highly dependent on predictable standards; because drug prices drop due to competition. Having a clear mechanism and standardised evaluative pathways twenty years ago would have incentivised the pharmaceutical industry to proactively introduce innovative treatments into the local market far sooner.

Expanding the Evaluative Lens: Horizon Scanning and Social Determinants of Health

The moderator asked whether horizon scanning is constructed too narrowly. He asked if health systems are missing the macro-level "big picture" by focusing horizon scanning exclusively on emerging drugs and medical devices, while putting aside broader social determinants of health, such as housing quality, climate change, migration, and population displacement.

In response, panellists highlighted the critical convergence between traditional clinical evidence and RWE. They noted that the solution to capture this broader picture lies in understanding how regulatory entities operate, as regulators increasingly rely on RWE to continuously monitor the real-world effectiveness and safety profiles of products post-market. Panellists suggested that IMACE could serve a vital systemic function by analysing and sharing genuine RWE, clinical indications, and safety perspectives. They agreed that providing this integrated empirical data offers a good starting point for regulatory bodies to balance clinical efficacy with broader public health realities.

Institutional Governance: Managing Conflicts of Interest and System Differentiation

The moderator asked how IMACE could handle the inevitable friction between private-sector drug manufacturers' commercial interests and the welfare of patients, how IMACE would tangibly improve the lives of citizens within a mixed healthcare economy.

Panellists observed that the Hong Kong regulatory system is currently undergoing a structural transformation. Historically, regulatory offices focused strictly on verifying the baseline safety and quality of medical products. Today, however, regulators must act as facilitators and promoters of innovation, a shift that requires thinking completely outside the traditional bureaucratic box. Modern regulation must balance multiple objectives: providing economic and financial incentives that attract pharmaceutical investment to Hong Kong, while simultaneously ensuring that highly efficacious and innovative products are delivered to satisfy patient needs.

To achieve this equilibrium, panellists recommended that IMACE expand its operational focus beyond the development of standard clinical practice guidelines to include formal cost-effectiveness evaluations of health innovations. Furthermore, panellists differentiated IMACE's methodology from that of the Hospital

Authority (HA). They explained that while the HA's formulary evaluation is fundamentally admission-dependent, disease-dependent, and drug-oriented, IMACE operates on an entirely distinct axis. IMACE focuses instead on clinical assessments that look holistically at the disease pathway and the broader care continuum. Because its mandate is care-oriented rather than drug-oriented, IMACE does not merely target the newest or most expensive commercial treatments, thereby mitigating industry-driven conflicts of interest.

Knowledge Translation and Capacity Building: Cultivating System "Champions"

The moderator introduced an operational challenge regarding policy implementation, referencing an observation made by Dr. William Shiu-wei HO, JP that private medical practitioners do not always adhere strictly to centralised clinical guidelines. Instead, private clinicians are far more responsive to peer networks and localised clinical leaders. Based on this premise, the moderator questioned whether health systems need to actively deploy clinical "champions" across every hospital cluster to drive guideline compliance.

Panellists acknowledged this behavioural reality and explained that the HA is already planning to address this through targeted human capital investments and professional training. HA intends to send select clinical and administrative staff to undergo formal training in HTA and health economics. The objective is to cultivate internal experts who can subsequently diffuse this specialised knowledge across daily clinical and administrative operations.

When the moderator further questioned whether the systematic tracking of RWE could be used to identify which hospital clusters are acting as effective champions and whether their prescribing trends are reasonable, panellists affirmed the utility of data-driven benchmarking. They noted that the HA has successfully used data metrics as Key Performance Indicators (KPIs) to make transparent comparisons across different hospital clusters. This comparative data ensures that nurses, administrators, and physicians are aligned toward identical clinical outcomes. Panellists concluded that HTA processes should adopt this exact same data-driven methodology to incentivise institutional behaviour change.

Technical Expertise, Institutional Branding, and the Avoidance of "Rationing" Pitfalls

The moderator questioned who would be responsible for training these professionals in and giving them a career ladder and verifying their readiness.

Panellists affirmed that academia possesses a critical, foundational role in executing this capacity-building mandate. Citing international examples like Fudan University, panellists explained that IMACE's institutional objectives should explicitly encompass both high-level policy recommendations and public education.

This educational focus tied directly into a question from the moderator regarding institutional branding. The moderator pointed out that HTA branding may encounter political pitfalls, noting that in the United States, HTA faces intense public opposition because it is frequently perceived as a mechanism for restrictive healthcare rationing rather than a tool for patient assistance. He asked how IMACE could intentionally structure its branding to avoid becoming synonymous with healthcare restriction.

Unlike public healthcare providers such as the HA, which operate under finite budgets and face public backlash when they cannot afford to offer prohibitively expensive treatments, IMACE operates as an entirely independent entity. To build long-term reputation and institutional recognition, panellists insisted that the assessment criteria must be completely transparent so that the public understands the exact scientific basis of every HTA decision. Consequently, IMACE is in an exceptional position to communicate impartially with the public.

The "1+" Mechanism and the Critical Role of Independent Raw Data Assessment

The moderator steered the discussion toward Hong Kong's expanding regional role, describing the jurisdiction as an emerging "clearing house" for medical regulation. Under the newly implemented "1+" regulatory mechanism, pharmaceutical products can leverage Hong Kong's clinical endorsement to gain streamlined access to both Chinese Mainland markets and broader Southeast Asian markets. The moderator explicitly asked the panellists what operational risks or structural worries regarding this rapid expansion.

From a strict regulatory standpoint, panellists noted that the risk is not inherently a failure of regulatory safety protocols, but rather a severe deficit in localised expertise and human resources, as current capacity is heavily reliant on the clinical assessments of other jurisdictions. Panellists concluded that addressing this technical deficit requires structural capacity building, including establishing specialised medical research frameworks (such as CMPR) and temporarily appointing international experts from foreign jurisdictions to mentor local professionals and rapidly scale up domestic analytical capacity.

Linearity of IMACE Development and Decommissioning

In the final phase of the session, a question from the floor highlighted that at early phase of development, there are things to be achieved without tangible resources, such as needs assessment in society and building a constructive culture. Despite HA having incomparable resources with abundant personnel, resource prioritisation is the key. This led the discussion towards the often-neglected phase of decommissioning health technologies. HTA is not strictly restricted to evaluating expensive new drugs or hardware equipment; rather, it encompasses the evaluation of clinical interventions, protocols, and medical procedures as a whole. The turnover of health technologies is inevitable to keep the healthcare system sustainable by systematically assessing the timing of retiring health technologies.

Another question from the floor questioned how evaluators can best balance methodological efficiency with long-term strategic value when compiling evidence for HTA, asked by a clinical guideline developer in Singapore. Panellists acknowledged that this balance is exceptionally difficult to achieve. They explained that the task remains highly challenging because it requires a substantial, continuous volume of multi-dimensional data. Consequently, to address immediate clinical pressures and system urgency, it is often significantly more efficient to utilise a provider perspective. Because provider-level cost and clinical data are readily accessible within existing institutional frameworks, adopting this narrower perspective allows a lean HTA body to generate highly agile, actionable evidence for immediate healthcare decision-making.

Session 3: Clinical Guideline Development

Clinical Guideline Development and Lessons Learned Over 25 Years

Ms. Ann GREENWOOD

Adviser
NICE Advice
National Institute for Health and Care Excellence (NICE)

Core Purpose and Foundational Goals

Ms. Greenwood, an adviser for NICE Advice, provides a comprehensive look into the National Institute for Health and Care Excellence (NICE), detailing its core purpose, historical development, ongoing system transformation, and future strategies for evidence-based healthcare optimisation within the National Health Service (NHS). As a pivotal institution in the UK medical landscape, NICE's evolution underscores a transition from rigid periodic evaluation toward a highly integrated, dynamic, and lifecycle-oriented approach to clinical practice guidelines.

NICE functions primarily to help medical practitioners and healthcare commissioners deliver the highest standard of care to patients in a timely manner, while ensuring value for the taxpayer. The organisation achieves this dual mandate through phased operational approaches: identify and focus on the unmet needs of the targeted populations; produce useful and usable guidance for healthcare professionals by upholding rigorous evidence-based methodologies; and effective implementation strategies to ensure best practice for optimal clinical outcomes.

The Evolution and Transformation Matrix

Established in 1999 amid vigorous policy challenges and systemic variance across the UK health sector, NICE has evolved over the 25 years since its creation. The current strategic shift is driven by the rapid transformation of the broader health and care landscape. While its foundational purpose remains unaltered, Ms. Greenwood highlighted four core values defining modern and future NICE guidance, that is to be high quality and timely, relevant to existing situations, usable by stakeholders to guide decision making, and impactful to maximise tangible outcomes across the healthcare system.

The fruits of years of transformation at NICE are a systematic and structured guidance development process – from scoping to development, and from stakeholder consultation, quality assurance and to updating guidance. Over the years, NICE's perspective in considering the lifecycle of guidance has altered, but not its commitment to rigour. Ms. Greenwood elaborated that guidance development is regarded as a continuous, cyclical "guidelines ecosystem", rather than the traditional static product. This whole lifecycle model integrates data collection, synthesis, dissemination, and clinical adoption in an unbroken loop. The importance of continuous evidence surveillance to support guidance updates was emphasised. Echoing the core values of NICE, ongoing surveillance of the latest evidence, adapting to changing healthcare needs while being consistent and transparent in guidance development ensures usability of the guidance. By constantly tracking real-world clinical performance and newly emerged evidence, NICE ensures that the UK healthcare system remains sustainable.

This structural framework targets priority clinical areas where evidence matures quickly and that are impactful to society. Recent priorities of the guideline suites include women's and reproductive health, cardiometabolic conditions, cancer, and mental health. Ms. Greenwood used the example of the NICE

guidance on chronic heart failure in adults, published in 2018 and updated in 2025, to illustrate how the lifecycle approach can contribute to reducing preventable deaths and hospitalisation by expanding treatment options.

Strategic Sourcing and Topic Prioritisation

To deepen the discussion, Ms. Greenwood dived into details of topic prioritisation. To guarantee that NICE focuses exclusively on high-value initiatives, a central Prioritisation Board acts as the institutional gatekeeper. This board merges multi-disciplinary internal expertise with direct patient and public representation, exchanging critical information with other administrative bodies.

Potential guideline topics are captured from a diverse array of intelligence pipelines, including national policy directives, and the National Institute for Health Research (NIHR) Innovation Observatory. Once identified, prospective topics must pass a strict two-stage filtering process: Stage 1 (System Fit & Feasibility): evaluates whether the topic falls within NICE's remit, aligns with an explicit health and care need, features sufficient available scientific evidence, and addresses an urgent patient access issue; Stage 2 (Holistic System Impact): analysing budget impact, broader system capacity, overall population impact, evidence quality, mitigation of health inequalities, and environmental/institutional sustainability.

This methodology actively ensures the topic chosen matches current clinical needs and coordinates production with actual system capacity, while retiring obsolete or redundant entries. NICE is currently consulting on improvements to the two-stage process.

Surveillance Mechanisms and Modern Implementations

To sustain this ecosystem where ongoing surveillance aligns with prioritised topics, a dual-track strategy is in place: reactive monitoring of system intelligence and safety metrics (such as warnings issued by the Medicines and Healthcare products Regulatory Agency) alongside proactive tracking of active, mid-stage clinical trials.

Examples were given to showcase how prioritisation and surveillance work in parallel to meet societal demands, with publication of guidelines related to women's health (including menopause, ovarian cancer, and fertility problems), cancer care (including surveillance for suspected cancer and kidney cancer), and cardiometabolic disorders (including hypertension and type 2 diabetes in adults).

Furthermore, usability is being systematically revolutionised by embedding technology appraisals directly into overarching clinical guidelines. Instead of requiring clinicians to read separately published material, NICE uses visual pathway summaries and localised data tables to provide an integrated, singular point of reference in the clinical guideline.

Systemic Deliverables Ligating Clinical Practice

Ms. Greenwood concluded by stating that "guidance only matters if it is used", highlighting the tight cohesion between guidance and clinical practice. Decades of reforming and refining NICE's approach to clinical guidelines has led the UK to the highly modernised whole-lifecycle framework delivering clear, scalable benefits across the healthcare paradigm. Nevertheless, Ms. Greenwood highlighted that accelerating evidence evaluation facilitates expanded access to proven treatments, and healthcare professionals must stay vigilant in the ever-changing challenges ahead.

Ultimately, these evolving development and evidence surveillance models successfully identify vital opportunities to broaden treatment demographics, drastically refine clinical decision-making, and phase out low-value, cost-inefficient care packages. This ongoing institutional refinement ensures the UK healthcare system retains the agility required to make optimal healthcare selections and extract maximum health benefits for the public.

Session 3: Clinical Guideline Development

Clinical Guidelines Development: Perspective From HKAM

Professor Clement Chee-yung THAM

Vice-President (Education and Examinations)
Hong Kong Academy of Medicine

Clinical Guidelines Development: Perspective from HKAM

The Hong Kong Academy of Medicine (HKAM), together with its Colleges, has played an important role in developing clinical practice guidelines in Hong Kong. These guidelines help doctors and other healthcare professionals make more consistent, evidence-based decisions. HKAM brings together clinician specialists, trainees, academics, and policymakers to build shared standards across different specialties.

Clinical practice guidelines are increasingly important because healthcare is becoming more complex. There is now a huge amount of medical information and evidence, growing public expectations, and differences in how care is delivered. Clear and well-developed guidelines help reduce unnecessary variation in practice, while still allowing doctors to use their professional judgment. In this way, guidelines support both quality of care and professional standards.

From Expert Opinion to Evidence-Based Guidance

In the past, many guidelines were based mainly on expert opinion and personal experience. This approach was practical, but it was not always transparent or consistent. As medicine became more specialised and patient safety became a greater focus, it became clear that a more systematic approach was needed.

A major improvement has been the use of systematic reviews and formal methods to assess evidence. These methods help guideline developers judge how strong the evidence is and how confident they can be in each recommendation. Hong Kong has often adapted international frameworks, rather than creating everything from scratch. This saves time and resources, while still allowing local experts to adjust recommendations to fit local needs. HKAM has supported this work closely with its Colleges, and has helped strengthen public and professional trust in the process.

A Practical Example

Professor Tham used the Guidelines on Procedural Sedation as an example. These guidelines were adopted in both public and private healthcare settings, and were recognised under the Private Healthcare Facilities Ordinance. This example showed how HKAM can support quality assurance, promote collaboration across specialties, and help turn guidance into real practice. It also offers a useful model for future work.

Current Challenges

Despite this progress, guideline development remains challenging. Different groups may use different methods, which can make guidelines harder to compare. Developing high-quality guidelines also takes substantial time, expertise, and administrative support, and much of the work depends on voluntary contributions from busy clinicians. Updating guidelines regularly is another major challenge, especially as medical knowledge advances rapidly.

Looking Ahead

Hong Kong should continue to adapt international guideline frameworks for local use, while also building more local guidelines based on its own population demographics and unique healthcare system. Because Hong Kong has its own disease patterns, service structure, and cultural context, local recommendations are often necessary.

Hong Kong needs a trusted shared platform where different stakeholders can work together to develop evidence-based guidelines that suit local needs. Better and more consistent guidelines can support fairer use of healthcare resources, reduce unnecessary differences in care, and help the system plan more effectively for future challenges.

Session 3: Clinical Guideline Development

Must Clinical Guidelines Be Followed ALWAYS?

Professor Gilberto Ka-kit LEUNG

Convenor
Institute for Medical Advancement and Clinical Excellence

Introduction and Definitional Framework

Professor Leung, Convenor of the IMACE, explored the complex legal and systemic relationships between Clinical Practice Guidelines (CPGs) and the legal standard of care in medical practice. A central point of discussion within this paradigm is the role and legal authority of CPGs. As healthcare delivery adapts to an environment characterised by rapidly evolving scientific evidence, structured institutional frameworks, and stringent economic considerations, the question of whether deviating from established guidelines constitutes substandard care – or conversely, whether slavish adherence guarantees legal immunity – remains a critical point of analysis. Using landmark legal precedents and policy challenges, the presentation emphasises that CPGs are fundamentally advisory tools intended to assist – not replace – professional clinical judgment.

To evaluate this dynamic, it is necessary to first establish the foundational definition of a CPG. Citing the Institute of Medicine's (IOM) 1990 definition, CPGs are defined as "systematically developed statements created to assist healthcare practitioners and patients in making decisions about appropriate healthcare for specific clinical circumstances". The aim of developing a CPG is to improve quality of care, bridge research with practice, and reduce unnecessary variations in clinical practice. Fundamentally, the core ethos of a CPG is to compile and synthesise the best available evidence to inform optimal clinical practice. They are conceptually designed to augment, rather than replace, the individualised professional judgment of the attending clinician.

The Legal Standard of Care: Customary Standards vs Evidence-Based Benchmarks

From a jurisprudential perspective, establishing medical negligence requires the satisfaction of three core legal criteria: the existence of a duty of care, a demonstrable breach of that duty, and direct causation linking the breach to the patient's injury. Within this triadic framework, the role of CPGs is frequently examined to determine what constitutes the objective "legal standard of care". To understand how courts utilise these documents, a distinction must be drawn between an evidence-based standard, typified by a CPG and a customary standard of care.

The concept of customary standard was solidified in *Bolam v Friern Hospital Management Committee* in 1957. The *"Bolam test"* dictates that a medical practitioner is not guilty of negligence if they act in accordance with a practice accepted as proper by a responsible and reasonable body of medical opinion, even if other practitioners hold a differing view. This legal benchmark was subsequently refined by *Bolitho v City & Hackney Health Authority* in 1997, which introduced a judicial qualification: the body of medical opinion relied upon must withstand logical analysis, and its conclusions must be risk-defensible. Consequently, the customary standard is fundamentally descriptive, focusing on what is accepted and practiced by a peer group within the profession, provided that opinion has a logical basis. It is a descriptive "what is done" test.

On the contrary, CPGs represent a normative, evidence-based standard dictating what "ought to be done" in clinical practice according to the relevant scientific evidence at the material time. This conceptual divergence explicated that common law courts do not automatically equate a breach or fulfilment of a CPG with a definitive legal conclusion. Instead, the courts often treat CPGs as "hearsay" evidence. While CPGs were frequently used to support legal arguments and expert opinions, a CPG does not automatically constitute the legal standard of care, nor can it replace oral expert testimony. At court hearings or disciplinary proceedings, the legal weight assigned to any given CPG is contingent upon the specific facts of the case, the methodologies used to create the guideline, and the institutional authority of the issuing body. For instance, CPGs issued by the IMACE are advisory in nature.

Judicial Evaluations of Guideline Deviation and Clinical Justification

Through a series of critical common-law case studies, the presentation outlined how courts treated deviations from and adherence to guidelines. The standard for assessing such departures from CPGs is informed by the Scottish precedent *Hunter v Hanley (1955)*, which established a rigorous three-part test to determine liability when a practitioner deviates from normal practice. To prove negligence under this doctrine, it must be established that a standard or normal practice exists, that the defender failed to adopt that practice, and crucially, that the course of action chosen by the practitioner was one that no professional of ordinary skill would have taken if acting with ordinary care. On occasions, deviation from CPGs may be deemed legally acceptable if it is backed by clinical justification and supported by peer expert opinion.

This third criterion provides the legal framework for justified clinical deviation, allowing room for individualised patient care and professional discretion. Courts recognise that CPGs are generalised population-based recommendations that may not fully account for the comorbidities, specific contraindications, or unique physiological presentations of an individual patient. This justifies the use of CPGs as a "starting point" in standardisation of care while not depriving clinicians from professional judgement.

Macro-Economic Realities and Sustainable Healthcare Frameworks

The closing segment shifts to the broader economic reality of modern healthcare, reflecting on the future development of Hong Kong's health economic pathway in ensuring return for investment while affording healthcare innovations. Realistic goals related to the promulgation of territory-wide CPGs may include the reduction of significant and unwarranted variations of clinical practice and the adoption of the "optimal targeting" approach in the use of costly treatments. Organisations like the IMACE must rely on strategic principles such as maintaining transparency and legitimacy in the absence of absolute legal powers, protecting impartiality of medical experts, mastering the art and politics of making recommendations, and driving patient empowerment and public education, in the larger scheme in achieving sustainable healthcare in Hong Kong.

Session 3 : Clinical Guideline Development

Panel Discussion

From Evidence to Real World Practice

Moderator

Professor Eng-kiong YEOH, GBS, JP
Research Professor
Director, Centre for Health Systems and Policy Research
The Jockey Club School of Public Health and Primary Care
Faculty of Medicine
The Chinese University of Hong Kong

Ms. Ann GREENWOOD
Adviser
NICE Advice
National Institute for Health and Care Excellence (NICE)

Professor Clement Chee-yung THAM
Vice-President (Education and Examinations)
Hong Kong Academy of Medicine

Professor Gilberto Ka-kit LEUNG
Convenor
Institute for Medical Advancement and Clinical Excellence

Scope of Discussion

Moderated by Professor Eng-kiong YEOH, GBS, JP, the panel session From Evidence to Real-World Practice brought together Ms. Ann GREENWOOD, Professor Clement Chee-yung THAM and Professor Gilberto Ka-kit LEUNG to examine the operational, structural and strategic pathways necessary for IMACE to establish localised clinical guidelines.

Institutional Evolution and Regulatory Structure: Insights from International Precedents

The moderator opened the dialogue by inviting Ms. Ann GREENWOOD to share the historical challenges encountered during the development of the National Institute for Health and Care Excellence (NICE) in the United Kingdom, and how those insights might inform IMACE's trajectory.

Panellists discussed how the remit of NICE steadily expanded over the years since its inception in 1999, taking on an increasingly broad portfolio of health technology assessment and clinical practice guidelines. Ms. Greenwood observed that a major structural issue during NICE's growth trajectory was the segregation of working programmes and resources which generated systemic inconsistencies extending even to clinical terminologies. In the subsequent development, the issues were resolved and NICE was able to build sustainable growth, there is a need to gain recognition and build its reputation through a strong network of collaborators. Panellists advised that for IMACE to achieve sustainable growth, there is a need to gain recognition and build its reputation. They emphasised that NICE's global reputation rests entirely on the robustness and transparency of its methodologies and evaluation processes. Consequently, panellists recommended that IMACE establish a rigorous methodological framework early on and actively engage a diverse array of stakeholders to cultivate a strong institutional reputation.

The Imperative for Localised Clinical Guidelines and Implementation Barriers

The moderator shifted the focus toward the functional necessity of local guidelines, raising the question why a jurisdiction like Hong Kong needs to invest in creating its own clinical frameworks rather than simply adopting established international standards.

Panellists agreed that direct adoption of internationally available guidelines was problematic due to contextual differences. They noted that health systems differ substantially across several critical parameters, including localised disease patterns, health system financing, health care delivery models and legal infrastructures. Therefore, international guidelines need to be adapted for the local context.

Furthermore, panellists discussed the implementation of clinical guidelines, observing that reluctance from frontline practitioners to adhere to guidelines is a global phenomenon. They agreed that local guidelines carry a higher degree of specificity and cultural relevance, making them far more applicable for local practitioners. Panellists also noted that the clinical context varies significantly between the public and private healthcare sectors, which meant that guidelines would need to be developed with representatives from both sectors to ensure their applicability to enable system wide adoption.

Methodological Design: Integration versus Isolation of Clinical Guidelines

A question from the floor raised a practical question regarding guideline architecture, asking whether IMACE should design highly integrated guidelines — such as a single framework combining interconnected chronic conditions like diabetes and hypertension — or maintain separate, disease-specific guidelines. The panellists pointed out that while integration is theoretically desirable, implementation is exceptionally complex as medical practice is organised around individual specialities. The discussion extended to discuss the existing initiatives within Hong Kong's healthcare infrastructure to address this challenge, highlighting that the Primary Healthcare Commission has been actively developing reference frameworks

designed to comprehensively cover the dynamics changes of primary healthcare ecosystem. However, panellists clarified that it is not IMACE's immediate intention to consolidate all related clinical conditions into a single, massive document. They suggested that while cross-disease clinical pathways must be acknowledged, maintaining focused, digestible documentation is structurally preferred to avoid overwhelming practitioners during the implementation phase.

Retrospective Analysis: The Counterfactual of Institutional Foresight

The moderator posed a reflective counterfactual question to the panel, asking if they could turn the clock back in starting guidelines development, whether they would alter their original approach or adopt an entirely different strategy.

Panellists agreed that their current environment context was an excellent juncture to reflect on experiences in instituting clinical guidelines and what lessons could be learnt. Earlier efforts assumed that clinical guidelines would be automatically adopted. Experience has shown that guidelines development is a dynamic process that needs to be updated with new knowledge and adapted to changing practice settings to achieve system wide adoption and compliance. The discussion deepened to deliberate how implementation science could enable the development of implementation strategies in different domains that would facilitate behavioural changes for adoption of clinical guidelines.

Strategic Forecasting: Staffing Deficits and Operational Sustainability

The moderator concluded the session by asking the panellists to forecast the most significant operational challenges that IMACE will face in the coming years.

An immediate thought from Professor Leung was the issue of human capital and staffing sustainability as the most critical bottleneck threatening the organisation's long-term viability. Professor Leung revealed that IMACE currently operates with an exceptionally lean team of only twelve individuals, a figure that encompasses both administrative staff and the secretariat. While the organisation successfully utilises various specialised committees, these rely heavily on medical practitioners who participate on a strictly voluntary basis. Panellists appreciated that while this volunteer-dependent operational model is sufficient for producing the first few initial sets of clinical guidelines, it is fundamentally unsustainable over a longer time horizon. As the volume of guidelines expands, the workload required to continually update existing documents and respond to external stakeholder feedback will increase exponentially. Panellists concluded that IMACE cannot rely indefinitely on its current board configuration and volunteer model. To survive the transition into a mature regulatory body, the institute must focus on establishing formal, institutionalised alignments with external parties and securing a dedicated, sustainable pool of professional health economics and clinical appraisal expertise.

Discussion and The Way Forward

The IMACE Conference 2026 provided a comprehensive examination of how healthcare systems can respond to the growing complexity arising from technological innovation, demographic change and fiscal constraint. Discussions across all four sessions reinforced that no single policy instrument or single party would be sufficient to address these challenges. Rather, the conference highlighted the need for a coherent, integrated system in which regulation, health economics, health technology assessment (HTA), and clinical guideline development operate as interconnected, jointly dependent and necessarily multilateral components of effective healthcare governance.

From Regulatory Assurance to System-Level Governance

The plenary discussions established that regulation serves as the foundational layer of healthcare governance, particularly in enabling safe innovation. The evolution of Hong Kong's medical device regulatory regime, including the Medical Device Administrative Control System (MDACS), reflects a shift towards risk-based and lifecycle-oriented oversight, ensuring that safety and performance are monitored both before and after market entry.

However, a critical limitation of regulation is its inherently protective rather than allocative orientation. While regulation ensures that technologies meet minimum standards of safety and quality, it does not help determine whether and how they should be adopted within the healthcare system. Resource-intensive options with narrow applicability and/or modest utility are prime examples. The limitations of regulation alone becomes even more apparent in the context of AI-enabled technologies, where risks such as bias, limited explainability and cybersecurity vulnerabilities require continuous monitoring and human oversight.

The broader implication is that regulation must be integrated with downstream decision-making frameworks, particularly HTA and economic evaluation, to ensure that safe technologies are also clinically appropriate, cost-effective and aligned with system priorities. Without such integration, there is a risk of system inefficiency being obscured or even perpetuated by regulatory success.

Reframing Innovation: From Adoption to Value Realisation

A widely acknowledged notion that had emerged was the need to reframe innovation as a value-driven process rather than a technology-driven one. While innovation can enhance diagnostic accuracy, treatment precision and system efficiency, it can also increase cost and complexity if adopted without sufficient evidence or system readiness. It was further emphasised that technology adoption should not be a binary decision but a continuum, requiring careful consideration of timing, patient selection, affordability and scalability. The concept of "invest-to-save" highlighted that some technologies may generate long-term system benefits, but only when supported by appropriate implementation pathways and governance structures.

At the same time, commercial pressures and rising patient expectations may create incentives for premature adoption. This tension highlights the importance of independent, evidence-based evaluation, particularly through HTA, to distinguish genuine value from mere novelty. The analytical focus must therefore shift from asking "What is new?" to "What will deliver measurable benefit relative to its cost and alternatives?"

Health Economics and the Reality of Trade-offs

The Health Economics session provided a rigorous framework for understanding resource allocation as a process of explicit trade-offs. The concept of opportunity cost — where funding one intervention limits the ability to fund others — was consistently emphasised as central to sustainable healthcare systems. However, purely technical economic evaluation has its limitations. While cost-effectiveness analysis (e.g. using QALYs and ICERs) provides a structured method for comparing interventions, it cannot fully capture broader dimensions of value such as equity, social impact, financial protection and societal preferences. The fundamental policy tension so created may include, for example,:

- efficiency-focused decisions may maximise population health outcomes; whereas
- equity-focused decisions may prioritise vulnerable or high-need groups.

The discussions therefore underscored the need for explicit value frameworks, whereby the criteria for decision-making are transparent and systematically applied, taking into consideration a wide range of cultural, ethical, historical and other societal factors; otherwise, decisions would risk being, inconsistent, politically influenced, unjustifiable and ineffective in implementation.

At a macro level, the financing discussions revealed structural vulnerabilities in Hong Kong's healthcare system, including reliance on a tax-funded public sector, increasing demand for high-cost therapies, and insufficient long-term care capacity and planning. The interaction between these factors reinforces that sustainability challenges are deeply systemic and cannot be addressed through isolated policy adjustments.

Health Technology Assessment as the Operational Bridge

HTA emerged as a central pillar in translating evidence into policy and practice. It is not merely a technical exercise, but a multidisciplinary and institutional process integrating clinical effectiveness, safety, economic evaluation and social considerations.

A key analytical advancement put forth during the Conference was the transition from static to lifecycle-based HTA, encompassing:

- horizon scanning and needs assessment before adoption;
- structured appraisal during decision-making; and
- continuous monitoring through real-world evidence after implementation.

This closed-loop model enables healthcare systems to adapt decisions over time, rather than relying on one-off assessments. The concept of and readiness for de-adoption is particularly significant, as it recognises that sustainability depends not only on adopting high-value technologies, but also on systematically removing low-value or outdated interventions.

The discussions also highlighted operational challenges, including limited local capacity, restricted data sharing and the need for specialised expertise. These constraints suggest that the effectiveness of HTA depends not only on methodology, but also on institutional capability, training and talent acquisition, data infrastructure, a shared conducive mindset and a suitably enabling legal framework.

The Evidence–Practice Gap and Clinical Behaviour

A persistent and critical issue identified across all sessions was the gap between evidence and real-world clinical practice. Despite the availability of guidelines and evidence, variation in practice remains significant, particularly in the private sector where governance structures are less uniform and more multifactorially guided when compared with those in the public sector. For instance, variation in antibiotic use, despite clear guidance, may be driven (and justified) by:

- professional autonomy;
- patient demand and expectations;

- financial and insurance-related incentives;
- defensive medicine and habitual practice.

A change in behaviour is unlikely to be brought about by means of the dissemination of established evidence alone as clinical behaviour is shaped as much by social and institutional factors as by science itself. Instead, it requires a broader governance framework, encompassing:

- credentialing and privileging systems;
- audit and feedback mechanisms;
- peer review and clinical advisory committees;
- clinical leadership and "champions".

Evolving Role and Limits of Clinical Guidelines

The Clinical Guideline Development session provided an analysis of the role of guidelines within healthcare systems. Guidelines are increasingly viewed as dynamic, continuously updated tools within a lifecycle framework, rather than static documents.

At the same time, their advisory nature remains fundamental. From a legal and professional perspective, guidelines do not, and should not, replace clinical judgement. Despite an apparent shift towards greater deference towards scientifically informed, evidence-based standards in some jurisdictions, the legal standard of care is still, by and large, determined by "customary practice" (i.e., what a reasonable and responsible body of medical opinion would consider as reasonable). As such, although clinical guidelines can potentially reduce unwarranted variation and improve consistency, their impact would ultimately depend on acceptance, relevance and implementation.

The importance of localisation was also strongly emphasised. International guidelines cannot be directly applied without adaptation to Hong Kong's healthcare system, patient population and resource constraints. Local credibility is therefore essential for uptake and influence.

System Sustainability and Structural Reform

Across all sessions, sustainability emerged as a cross-cutting systemic challenge. Key structural issues identified include:

- ageing population and rising chronic disease burden;
- increasing cost of technologies and pharmaceuticals;
- workforce shortages;
- insufficient long-term care capacity.

These factors interact to create pressure on hospital services and overall system efficiency. For example, inadequate long-term care capacity leads to prolonged hospital stays, increasing costs and reducing throughput. They call for a system-wide reform, including:

- strengthening primary care and prevention;
- improving integration between health and long-term care;
- reforming payment and financing models to align incentives with value;
- enhancing efficiency in both public and private sectors.

IMACE as a System Integrator

A defining theme of the Conference was the emerging role of IMACE as a "super-connector", based on its:

- multipartite composition;
- methodological rigour and objectivity;
- transparency in decision-making;

- independence from commercial and institutional pressures;
- credibility built through consistent, evidence-based outputs;
- focus on the local context;
- preparedness for stakeholder engagement and public education.

IMACE's potential role lies in integrating clinical, economic and real-world evidence, supporting more collaborative and coherent decision-making among stakeholders. By focusing on disease pathways and system-level value rather than individual products, IMACE can provide a broader perspective to complement existing institutional roles. Concerted efforts are needed to address certain inherent constraints, including limited organisational capacity, reliance on voluntary contributions, which may affect its ability to scale and sustain its functions over time.

Conclusion

The IMACE Conference 2026 highlighted that the key challenge for Hong Kong is not about how to develop more clinical guidelines or adopting innovation, but how to integrate these into a coherent, value-driven system. Clinical excellence depends on alignment across regulation, HTA, health economics and clinical practice, supported by strong governance and effective implementation. Achieving this will require making explicit trade-offs, strengthening the translation of evidence into practice, and building institutional capacity. In this context, IMACE can play a pivotal role as a trusted, independent integrator, supporting consistent, transparent and sustainable decision-making across the healthcare system.

Building on the discussions and analysis that had emerged, several strategic directions could be identified for the development of IMACE and the sustainable advancement of the local healthcare system.

Establish an Integrated Lifecycle Evidence Framework

Hong Kong should move towards a formalised lifecycle approach linking horizon scanning, HTA, guideline development and real-world evidence. This would create a continuous "evidence pipeline" supporting adaptive decision-making and system learning.

Develop Explicit Value Frameworks

Clear and transparent value frameworks should be established to guide decision-making. These should integrate clinical outcomes, cost-effectiveness, equity and societal considerations, ensuring that trade-offs are explicit, defensible and accepted.

Strengthen Implementation and Clinical Governance

Efforts should focus on bridging the "evidence–practice gap" through stronger governance mechanisms, including audit systems, peer review, and the development of clinical leadership and champions across both public and private sectors. Stakeholder engagement and public education must be strengthened and should be indispensable, not optional.

Build Capacity in HTA and Health Economics

Sustained investment is required in technical expertise, data infrastructure and training, including partnerships with academic institutions and international organisations, to support robust HTA and economic evaluation.

Enhance System Efficiency and Integration

Reforms should prioritise primary care, prevention and long-term care integration, alongside payment models that align incentives with value and outcomes rather than service volume.

Strengthen IMACE as a Trusted Connector

IMACE should focus on building credibility through methodological rigour, transparency and stakeholder engagement, positioning itself as a trusted source of independent advice and a key integrator within the healthcare system.

Appendix I: Conference Programme Rundown

Time	Activity/ Topic	Speaker
08:15 – 09:00	**Registration and Networking**	
09:00 – 09:20	**Opening Session**	
	Welcome Remarks	**Professor Gilberto Ka-kit LEUNG** *Convenor* *Institute for Medical Advancement and Clinical Excellence*
	Keynote Address by Guest of Honour	**Professor Chung-mau LO, BBS, JP** *Secretary for Health* *Health Bureau* *The Government of the Hong Kong Special Administrative Region*
09:20 – 10:35	**Plenary Lectures** **Dr. Hon David Tzit-yuen LAM (Moderator)** *Legislative Council Member (Medical and Health Services)* *Hong Kong Special Administrative Region*	
	From Regulation to Clinical Excellence: Advancing Hong Kong's Medical Device Regulatory Regime to Support Safe Innovation in Healthcare	**Dr. FUNG Ying, JP** *Controller, Regulatory Affairs* *Department of Health* *The Government of the Hong Kong Special Administrative Region*
	Future-proof Hospital Services and the Adoption of New Technologies	**Dr. Libby Ha-yun LEE** *Chief Executive* *Hospital Authority*
	The Context of Clinical Governance in Private Hospitals	**Dr. William Shiu-wei HO, JP** *Former Chairman* *The Hong Kong Private Hospitals Association*
	Panel Discussion: Current Practice and Future Frontiers **Dr. Hon David Tzit-yuen LAM (Moderator)** *Legislative Council Member (Medical and Health Services)* *Hong Kong Special Administrative Region* **Professor Gilberto Ka-kit LEUNG** *Convenor* *Institute for Medical Advancement and Clinical Excellence* **Dr. FUNG Ying, JP** *Controller, Regulatory Affairs* *Department of Health* *The Government of the Hong Kong Special Administrative Region* **Dr. Libby Ha-yun LEE** *Chief Executive* *Hospital Authority* **Dr. Fei-chau PANG** *Commissioner for Primary Healthcare* *Primary Healthcare Commission* **Dr. William Shiu-wei HO, JP** *Former Chairman* *The Hong Kong Private Hospitals Association*	
10:35 – 10:50	**Break**	
10:50 – 12:10	**Session 1: Health Economics** **Dr. York Yat-ngok CHOW, GBS, SBS, JP (Moderator)** *Chief Medical Officer and Corporate Advisor* *AIA International Limited*	
	How NICE Considers Healthcare Economics and Resource Impact in Clinical Guideline Development in the UK	**Mr. Hugh McGUIRE** *Senior Adviser* *National Institute for Health and Care Excellence (NICE)*
	Financing Health and Long-Term Care in Hong Kong: Challenges and the Way Forward	**Professor Peter Pok-man YUEN** *Dean, College of Professional and Continuing Education* *Department of Management and Marketing* *The Hong Kong Polytechnic University*
	Informing Resource Allocation Decisions in Hong Kong: The Role of Economic Evaluation in Driving Efficiency and Sustainability	**Professor Manuel Antonio ESPINOZA** *Associate Professor* *Division of Health Economics, Policy and Management School of Public Health* *LKS Faculty of Medicine* *The University of Hong Kong*

Time	Activity/ Topic	Speaker
10:50 – 12:10	**Panel Discussion: Sustainable Quality Care for Hong Kong** **Q&A**	
12:10 – 13:30	**Lunch**	
13:30 – 14:50	**Session 2: Health Technology Adoption** **Professor David Makram BISHAI (Moderator)** *Clinical Professor* *Division Head* *Division of Health Economics, Policy and Management* *School of Public Health* *LKS Faculty of Medicine* *The University of Hong Kong*	
	The Application and Role of Health Technology Assessment in Public Sector	**Dr. Michael Lap-gate WONG** *Director (Quality and Safety)* *Hospital Authority*
	Regulatory Modernisation of Drugs	**Mr. Frank Ling-fung CHAN, JP** *Assistant Director of Health (Drug)* *Department of Health* *The Government of the Hong Kong Special Administrative Region*
	From Passive Purchasing to Evidence-Informed Priority Setting: What Would It Take for Hong Kong?	**Professor Benjamin Hon-kei YIP** *Associate Professor* *The Jockey Club School of Public Health and Primary Care* *Faculty of Medicine* *The Chinese University of Hong Kong*
	Panel Discussion: Navigating Healthcare Innovations **Q&A**	
14:50 – 15:10	**Break**	
15:10 – 16:30	**Session 3: Clinical Guideline Development** **Professor Eng-kiong YEOH, GBS, JP (Moderator)** *Research Professor* *Director, Centre for Health Systems and Policy Research* *The Jockey Club School of Public Health and Primary Care* *Faculty of Medicine* *The Chinese University of Hong Kong*	
	Clinical Guideline Development and Lessons Learned Over 25 Years	**Ms. Ann GREENWOOD** *Adviser* *NICE Advice* *National Institute for Health and Care Excellence (NICE)*
	Clinical Guidelines Development: Perspective From HKAM	**Professor Clement Chee-yung THAM** *Vice-President (Education and Examinations)* *Hong Kong Academy of Medicine*
	Must Clinical Guidelines Be Followed ALWAYS?	**Professor Gilberto Ka-kit LEUNG** *Convenor* *Institute for Medical Advancement and Clinical Excellence*
	Panel Discussion: From Evidence to Real World Practice **Q&A**	
16:30 – 16:45	**Closing Session**	
	Closing Remarks	**Professor Clement Chee-yung THAM** *Vice-President (Education and Examinations)* *Hong Kong Academy of Medicine* **Professor Gilberto Ka-kit LEUNG** *Convenor* *Institute for Medical Advancement and Clinical Excellence*

Appendix II: Biographies of Speakers and Panellists

Dr. FUNG Ying, JP

Controller, Regulatory Affairs
Department of Health
The Government of the Hong Kong Special Administrative Region

Dr. Fung, MBChB, MPH, JD, is a specialist in community medicine with extensive experience in legislative development and law enforcement across public health regulation, covering tobacco control and healthcare professionals, products, and facilities. She currently serves as Controller for Regulatory Affairs in the Department of Health, HKSAR Government, where she oversees the department's regulatory functions.

Dr. Libby Ha-yun LEE

Chief Executive
Hospital Authority

FANZCA, FHKCA, FHKAM (Anaes), Dip Pain Mgt (HKCA), MPH (HK), FFPH, FHKCHSE, FACHaSM, FRACMA

Dr. Lee is the Chief Executive of the Hospital Authority (HA), the Hong Kong Special Administrative Region (HKSAR) since August 2025. She leads a workforce of about 90 000 and manages 43 hospitals and institutions across the territory, delivering a comprehensive range of public healthcare services to the people in Hong Kong.

Before assuming this role, Dr. Lee served as the Under Secretary for Health in the Health Bureau of the HKSAR, where she assisted the Government in setting health policy objectives and priorities, and in formulating policy and legislative initiatives.

A registered anaesthesiologist by profession, Dr. Lee began her career in healthcare administration in 2008. Early in her administrative tenure, she served as the Head of Patient Safety and Risk Management in the HA, leading initiatives to identify clinical risks through incident management and establishing organizational annual risk registration exercise to guide corporate risk-reduction strategies.

She further developed her operational expertise as the Deputizing Hospital Chief Executive of the Buddhist Hospital, and later as the Hong Kong East Cluster Chief Executive, overseeing the operations of a network of hospitals.

Dr. Lee was subsequently appointed the Director of the Strategy and Planning Division, where she was responsible for formulation of corporate strategy, development of operational and service plans, co-ordination of community and primary care services, as well as planning and delivery of capital works projects to enhance the HA's healthcare infrastructure.

Dr. Lee holds a master's degree in public health from the University of Hong Kong as well as a number of professional qualifications. She has contributed to various professional bodies, including serving as Council Member for the Hong Kong College of Anaesthesiologists and the Hong Kong College of Community Medicine.

Dr. William Shiu-wei HO, JP

Former Chairman
The Hong Kong Private Hospitals Association

Chief Medical Executive, St. Paul's Hospital, Hong Kong
Former Chief Executive, Hong Kong Hospital Authority
Past Chairman, Hong Kong Private Hospitals Association
Past President and Hon. Fellow, Hong Kong College of Community Medicine

Dr. William Ho was trained as a specialist in general surgery in Queen Elizabeth Hospital. Following establishment of the Hong Kong Hospital Authority, he switched career to healthcare management. In 1995, he was appointed Hospital Chief Executive of Kwong Wah Hospital. From 1999 to 2005, he served as the Chief Executive of the Hospital Authority, managing 40 public hospitals and 50,000 staff. In 2006, he joined the Tung Wah Group of Hospitals as Chief Executive. Thereafter, he taught as Honorary Professor of Public Health, and helped to start a new Master's program in health services management in The Chinese University of Hong Kong. He was also instrumental in helping the City University of Hong Kong in establishing its veterinary school as Senior Consultant. In 2012, Dr. Ho was appointed the Medical Superintendent, and currently Chief Medical Executive of St. Paul's Hospital. He became Chairman of the Hong Kong Private Hospitals Association from 2018 to 2024.

Dr. Fei-chau PANG

Commissioner for Primary Healthcare
Primary Healthcare Commission

Dr. PANG Fei Chau is the current Commissioner for Primary Healthcare, the Government of the Hong Kong Special Administrative Region Health Bureau. He is the president of the Hong Kong College of Community Medicine. Dr. Pang is an experienced health service executive and has been the Head of Human Resources of the Hospital Authority to provide strategic advice and leadership to the HR function of over 40 public hospitals. He was appointed as the member of the Elderly Commission of the Government of the Hong Kong Special Administrative Region between 2015-2019.

Mr. Hugh McGUIRE

Senior Adviser
NICE International
National Institute for Health and Care Excellence (NICE)

Hugh is a Senior Adviser within the NICE International and NICE Advice team. Hugh leads technically on the NICE International services, with specialist knowledge of guideline development. He also contributes to NICE International's strategic objectives and the delivery of different international engagements through workshops, educational seminars, and international consultancy projects. He has extensive experience in delivering these services at both a national and international level.

Hugh holds an MSc in Health Psychology from the University of Westminster and is a Certified INGUIDE Training Instructor (https://inguide.org/). Before joining NICE, he worked in various roles in guideline development and for Cochrane.

Professor Peter Pok-man YUEN

Dean, College of Professional and Continuing Education
Department of Management and Marketing
The Hong Kong Polytechnic University

Professor Peter P. Yuen is Dean of the College of Professional and Continuing Education (CPCE) of The Hong Kong Polytechnic University (PolyU). He is also Professor in the Department of Management and Marketing of PolyU. He received his Bachelor of Arts degree in Cellular and Molecular Biology and Master in Business Administration degree from the State University of New York at Buffalo, and his Doctor of Philosophy degree in Health Economics from the University of Birmingham. He is a founding Fellow of the Hong Kong College of Health Services Executives, and an Honorary Fellow of the Australian College of Health Services Management. Professor Yuen's research involves public policy formulation and evaluation, and health services management. He is also the Co-Editor-in-Chief of *Public Administration and Policy*, an Editorial Committee member of *Asia Pacific Journal of Health Management.*

Professor Manuel Antonio ESPINOZA

Associate Professor
Division of Health Economics, Policy and Management
School of Public Health
LKS Faculty of Medicine
The University of Hong Kong

Professor Manuel Espinoza is an Associate Professor in the Division of Health Economics, Policy and Management at the School of Public Health, and the School of Governance and Policy (by courtesy), at the University of Hong Kong. He is a medical doctor with advanced training in epidemiology, biostatistics, health economics, and economics, holding multiple MSc degrees and a PhD in Economics.

Over the past 15 years, Professor Espinoza's academic work has focused on health technology assessment (HTA) and health economics, particularly economic evaluation and priority setting in health systems. His research addresses methodological challenges related to heterogeneity and equity in economic evaluation, the development of value frameworks for health decision making, policy impact analysis, and applied economic evaluation.

Professor Espinoza has extensive experience as a consultant for international organizations, including the World Bank, the Inter-American Development Bank, the United Nations Office of Project Services, and the Center for Global Development. Through this work, he has contributed to the design and updating of health benefit plans in Argentina, Honduras, the Dominican Republic, and Chile; conducted policy impact analyses in Belize and Chile; and supported the implementation of strategic purchasing mechanisms for high-cost technologies in Mexico and Chile. He has held leadership roles in international scientific societies including ISPOR and HTAi, and is currently Editor-in-Chief of *Value in Health Regional Issues*.

Dr. Michael Lap-gate WONG

Director (Quality and Safety)
Hospital Authority

Dr. Wong is currently the Director of Quality and Safety of the Hospital Authority (HA). Under his leaderships, the Quality & Safety Division oversees the quality standards, patient safety, clinical incident management, patient relations management, healthcare technology assessment, disasters response and infection control for the public hospitals under HA.

Dr. Wong is a specialist in haematology & haematological oncology, and has also attained fellowship qualification in pathology. Prior to his current appointment, he has been the Chief Manager (Cluster Performance) in Head Office, Chief Manager of Kowloon West Cluster, Deputy Hospital Chief Executive of the North Lantau Hospital and Deputy Hospital Chief Executive (Operation) of Princess Margaret Hospital.

Mr. Frank Ling-fung CHAN, JP

Assistant Director of Health (Drug)
Department of Health
The Government of the Hong Kong Special Administrative Region

Mr. Frank Chan is a registered Pharmacist in Hong Kong since 1992, He obtained Bachelor degrees in Pharmacy and in Chinese Medicines in 1990 and 2003 respectively.

He used to work as pharmacist in hospitals and community pharmacy, and has been working in the drug regulatory control aspects in the Department of Health of more than 30 years. His current position is the Assistant Director of Health (Drug) and the Chairmen of the five executive committees related to clinical trial, registration and licensing control of pharmaceutical products under the Pharmacy and Poisons Board. His regulatory background covers inspection and licensing of retailers, wholesalers, and manufacturers; evaluation of pharmaceutical product registration and clinical trial certification; implementation of pharmacovigilance, risk management and communication, import and export controls on medicines, and drug procurement.

Professor Benjamin Hon-kei YIP

Associate Professor
The Jockey Club School of Public Health and Primary Care
Faculty of Medicine
The Chinese University of Hong Kong

Dr. Benjamin Yip is an Associate Professor at the CUHK JC School of Public Health and Primary Care, where he leads research in health economics, real-world evidence, and biostatistics. His work integrates electronic health records and population databases across Hong Kong, the Nordic countries, and the Greater Bay Area to generate clinically and policy-relevant evidence for health technology assessment. He has served as principal investigator or co-investigator on 38 competitive grants totalling over HK$200 million, with publications in The Lancet, JAMA Psychiatry, and Value in Health, and ranks among the top 2% of the world's most cited scientists. He is President-Elect of the ISPOR Hong Kong Chapter and actively contributes to HTA and economic evaluation methodology discussion in the Asia-Pacific region.

Ms. Ann GREENWOOD

Adviser
NICE Advice
National Institute for Health and Care Excellence (NICE)

Ann is involved in the main advisory services provided by NICE Advice. She has over 15 years' experience at NICE, including working on multi-agency initiatives supporting access to innovative technologies, and writing evidence generation plans to support health technologies. Before joining NICE, Ann worked in regulatory affairs in the pharmaceutical industry and in consultancy for over 10 years. Ann has a BSc in Microbiology from the University of Liverpool and an MSc in Exercise and Nutrition Science from the University of Chester.

Professor Clement Chee-yung THAM

Vice-President (Education and Examinations)
Hong Kong Academy of Medicine

Professor Clement CY Tham is the Vice-President (Education and Examinations) of the Hong Kong Academy of Medicine, and a Past President of the College of Ophthalmologists of Hong Kong.

Prof. Tham is a Specialist in Ophthalmology, and the Chairman and SH Ho Professor of Ophthalmology & Visual Sciences at The Chinese University of Hong Kong.

Prof. Tham is a key leader in international ophthalmology. He has been the Secretary General and CEO of the Asia-Pacific Academy of Ophthalmology (APAO) since 2013. Over 120,000 ophthalmologists are practicing in the countries and regions represented by the 36 APAO Member Societies, which is over 51% of the total number of ophthalmologists in the world. Prof. Tham is the Secretary General of the Academy of Asia-Pacific Professors of Ophthalmology (AAPPO).

Prof. Tham is the immediate past Treasurer of the International Council of Ophthalmology (ICO), the largest ophthalmic professional society in the world with more than 180 national, regional, and subspecialty Member Societies from around the world.

Prof. Tham is a renowned clinician scientist and key opinion leader in Glaucoma. Based on a PubMed-based algorithm, he is placed by Expertscape in the top 1% of scholars publishing on Glaucoma over the past 10 years. Prof. Tham is the President of the Asia-Pacific Glaucoma Society, and the Founding President of the Hong Kong Glaucoma Society.

Professor Gilberto Ka-kit LEUNG

Convenor
Institute for Medical Advancement and Clinical Excellence

Professor Gilberto Leung is Immediate-Past President of the Hong Kong Academy of Medicine (the "Academy"), having served as Vice-President (Education and Examinations) from 2016-20 and President from 2021-24.

He graduated from the Medical College of St. Bartholomew's Hospital, University of London, in 1992. During postgraduate training, he was awarded the Hallett Gold Medal by the Royal College of Surgeons of England and the J. Douglas Miller Medal in Neurosurgery by the Royal College of Surgeons of Edinburgh. He joined the University of Hong Kong ("HKU") in 2005 where he obtained his MS, PhD and MD degrees.

He holds an LLB from the University of London and an LLM in Medical Law and Ethics with Distinction from the University of Edinburgh and is Co-Director of the Centre for Medical Ethics and Law at HKU. He helped establish the Academy's Professionalism and Ethics Committee which he co-chaired from 2019-25.

He previously served as Chairman of the Hospital Authority Central Committee on Trauma Service; Region XVI Chief of the Advanced Trauma Life Support Program of the American College of Surgeons; and Associate Dean of his medical faculty at HKU.

He is currently Tsang Wing-Hing Professor in Clinical Neuroscience and Director of the School of Clinical Medicine at HKU; an Executive of the Research Council of the Health Bureau; a Board Member of the International Association of Medical Regulatory Authorities; and Convenor of the Institute for Medical Advancement and Clinical Excellence (IMACE). He practises as an Honorary Consultant Neurosurgeon at Queen Mary Hospital.

Appendix III: Capacity Building Workshop

Photo Highlights

Overview

The IMACE Capacity Building Workshop marked an important stage in IMACE's organisational development. Following IMACE's earlier engagement with National Institute for Health and Care Excellence (NICE) in the United Kingdom, where discussions centred on the strategic and governance-level aspects of clinical guideline development, this workshop shifted the focus from observation to application. It enabled participants to consider how established international approaches to guideline development may be adapted to Hong Kong healthcare context.

The workshop was led by NICE international, Mr Hugh McGUIRE, Senior Adviser and Ms Ann GREENWOOD, Adviser, who shared their practical experience from NICE. The three-day workshop was not only designed to strengthen IMACE's methodological and operational capacity in clinical guideline development, but also to engage a broad range of local stakeholders, including leaders, practitioners, scholars, and regulators in the development process.

The sessions explored the full pathway from evidence-informed decision-making to implementation, surveillance, and resource considerations. The workshop adopted a deliberately interactive format, encouraging participants to raise practical questions and engage in discussion on how NICE's methodologies and experience could inform IMACE's emerging processes.

This multidisciplinary setting reflected the inherent nature of guideline development as a collaborative process that depends on robust evidence, expert judgement, transparency, stakeholder engagement, and contextual adaptation to local healthcare realities.

Day 1 — Establishing the Foundations

Guideline Review, Secretariat Capacity and Committee Decision-Making

Starting with the Purpose of a Guideline

A central lesson from Day 1 was that guideline development should begin with a clear answer to a fundamental question: why is this guideline needed? A guideline should not be developed simply because a topic is clinically important or because evidence exists. It should be developed because there is a clearly defined problem to address.

Such problems may arise from variation in clinical practice, uncertainty in decision-making, inconsistent application of overseas guidance, gaps in local recommendations, differences between public and private sector practice, or the need to support more sustainable models of care. The discussions highlighted that, although guidelines often appear clinical in nature, they frequently serve broader system purposes such as promoting standardisation, improving resource use, strengthening professional accountability, and enhancing public confidence.

The workshop emphasised that a guideline cannot solve every related issue at once. A focused guideline, developed in stages where necessary, is more likely to be completed, understood and implemented. This principle is particularly relevant for IMACE establishing itself as a credible organisation developing guidelines and recommendations.

The Secretariat as the Engine of the Process

The role of the Secretariat emerged as one of the most important themes of the day. Rather than being viewed as a purely administrative function, the Secretariat was presented as the central coordinating force that holds the guideline development process together. Its value lies in structuring complex evidence, guiding committees to focus on the most relevant questions, and ensuring that decisions are systematically documented and translated into clear, usable recommendations.

The discussion also clarified the complementary relationship between committee expertise and Secretariat support. Committee members contribute clinical experience, service insights, patient perspectives, and professional judgement, while the Secretariat provides the methodological rigour and process management required to synthesise these inputs into a coherent and defensible guideline. This bridging role is particularly critical when evidence is complex, incomplete, or not directly applicable to the local context.

For IMACE, this has clear institutional implications. As the organisation develops, the consistency, quality, and credibility of its guidance will depend heavily on the strength of its Secretariat. Investment in technical expertise, robust process frameworks, and effective facilitation will be essential to support committees in moving from broad clinical concerns to focused, evidence-informed, and implementable recommendations.

Scoping and Review Questions

The importance of scoping was repeatedly reinforced throughout the session. Scoping defines the boundaries of a guideline by clarifying the questions it will address, as well as those it will not. This distinction is critical for managing expectations and ensuring that the work remains focused and feasible.

The workshop highlighted that many downstream challenges arise when review questions are not

adequately specified at the outset. Early decisions regarding population, setting, applicability of evidence, outcomes of interest, and areas of uncertainty shape the entire evidence review process. When these elements are defined clearly, transparently, and prospectively, the resulting recommendations are easier to justify and more likely to gain acceptance among stakeholders.

A clear distinction was also drawn between evidence reviews for guideline development and academic systematic reviews. While academic reviews often prioritise comprehensiveness and may take considerable time to complete, guideline evidence reviews must balance rigour with practicality while inherently proportionate, timely, and decision-oriented. The objective is not to review all available evidence, but to identify and synthesise the most relevant evidence needed to inform clear, defensible, and implementable recommendations.

Implementation, Consultation and Trust

Day 1 also emphasised that guideline development must be closely linked to implementation from the beginning. A guideline that is technically robust but poorly communicated or impractical to apply may have limited real-world impact. Effective implementation depends not only on the quality of evidence, but also on accountability, professional acceptance, and ease of use in practice.

Stakeholder consultation was highlighted as a critical mechanism for both strengthening guidance and building legitimacy. Rather than being viewed as a procedural requirement or a potential source of criticism, consultation provides an opportunity to identify issues early, understand the perspectives and concerns of end users, and demonstrate transparency in the development process.

For IMACE, building trust will be an ongoing priority. This will require clear and consistent methodologies, well-defined processes, meaningful stakeholder engagement, and visible responsiveness to feedback. IMACE's influence will depend not only on the technical quality of its outputs, but also on the credibility, transparency, and reliability of its processes, and the confidence these inspire among professionals and stakeholders.

Committee Development and Chairing

The day concluded with an evening session on the induction of topic expert committee members, which reinforced the importance of clearly defined roles, effective chairing, and constructive participation. The session emphasised that successful guideline committees require more than subject-matter expertise; they also depend on shared expectations, adequate preparation, transparent management of interests, and a structured approach to discussion and decision-making.

Particular emphasis was placed on the relationship between the Chair and the Secretariat. Effective chairing plays a critical role in ensuring that all committee members contribute meaningfully, that discussions remain focused within the agreed scope, and that evidence is interpreted in a consistent and transparent manner. It also supports the constructive management of differing views, enabling disagreements to be addressed openly and systematically.

For IMACE, this highlighted the importance of supporting both committee chairs and members not only with high-quality technical evidence, but also with clear processes for deliberation, consensus-building, and the development of recommendations.

Day 2 — Translating Evidence into Guidance

Recommendation Drafting, Rationale, Portfolio Management and Implementation

Guideline Development as a Managed Programme

A key message from the session was that guideline development requires disciplined programme management. NICE's experience demonstrated that producing high-quality guidance is not the work of a single committee or team, but a coordinated effort across the full development pathway. This includes ensuring that evidence is interpreted rigorously, recommendations are drafted clearly, implementation is considered early, and the final output remains credible, consistent, and usable.

As the guideline portfolio expands, informal coordination becomes insufficient. A structured and managed process is required to define roles and responsibilities, align timelines, coordinate consultation, support quality assurance, and maintain consistency across related topics. For IMACE, this highlights the importance of building not only technical expertise, but also operational infrastructure. Effective guideline development will depend on systems that combine strong methodology with reliable, repeatable processes that can be monitored and continuously improved over time.

Evidence Review and Committee Deliberation

The session also reviewed the core components of evidence review, including how evidence is identified, appraised, synthesised, and assessed for certainty. Structured approaches such as GRADE were introduced as tools to help committees understand different dimensions of uncertainty, including risk of bias, inconsistency, indirectness, and imprecision.

Importantly, the discussions reinforced that evidence alone does not automatically translate into recommendations. Committees must interpret evidence in the context of clinical judgement, patient values, feasibility, cost-effectiveness, equity considerations, and the broader healthcare system. The Secretariat plays a central role in this process by presenting evidence in a clear and structured way and supporting committees in understanding the implications of different decision options.

For IMACE, this highlighted a critical principle: evidence review should be designed to inform decisions, rather than overwhelm committees with technical detail. The value of evidence synthesis lies in enabling committees to reach transparent, reasoned, and implementable recommendations that are grounded in both evidence and contextual realities.

Writing Recommendations Clearly

A substantial part of Day 2 focused on recommendation wording. Clear writing was presented as essential to implementation. Recommendations should be concise, direct, active and unambiguous. They should make clear what action is recommended, for whom and under what circumstances.

The workshop highlighted that guidance is increasingly accessed digitally. Users may search, scan and read selectively rather than reviewing a document from beginning to end. This makes clarity, structure and plain language especially important. Technical terms may be necessary, but they should be used carefully and explained where appropriate.

Recommendation wording also communicates strength. Terms such as “must”, “offer” and “consider” carry different implications. “Must” is generally reserved for legal duties or situations where failure to act may have serious consequences. “Offer” reflects a strong recommendation while preserving patient choice. “Consider” indicates that an option should be actively considered, often where the evidence is less certain or individual circumstances are especially relevant.

For IMACE, this discussion was particularly relevant because recommendations may need to be communicated in both English and Chinese. A consistent terminology framework will be important to ensure that strength of recommendation, professional expectation and patient choice are preserved across languages.

Rationale and Impact Sections

The concept of “rationale and impact” was presented as a key communication tool. These sections explain why a recommendation was made and how it may affect practice, services or resources. They help bridge the gap between the recommendation itself and the detailed evidence review.

This is important because many users will not read lengthy technical documents. A concise rationale allows clinicians, managers, patients and stakeholders to understand the reasoning behind a recommendation, including the evidence considered, uncertainties, committee judgement and practical implications.

For IMACE, rationale and impact sections could strengthen transparency and acceptance. They would help users understand not only what is recommended, but why it is recommended and what changes in practice may be expected.

Portfolio Management, Prioritisation and Updating

The afternoon session addressed the management of the guideline portfolio. NICE’s experience demonstrated that organisations must make strategic and ongoing decisions about which topics to prioritise, when guidance should be updated, and when existing guidance should be consolidated or withdrawn.

Prioritisation was presented not only as a technical exercise, but as a matter of institutional stewardship. It requires careful judgement about where guidance can add the greatest value to the health system, taking into account clinical need, feasibility, and longer-term sustainability. Such an approach helps ensure that limited organisational resources are directed towards areas where guidance is most likely to have meaningful impact.

Updating was discussed as a shift from fixed review cycles to active surveillance. Rather than updating every guideline after a set period, surveillance identifies where new evidence, safety signals, policy changes or system intelligence may affect existing recommendations. This allows updates to be proportionate and responsive, and better aligned with changes in practice.

Implementation and the Translation Gap

Day 2 concluded with a strong focus on implementation. The discussions highlighted the well-recognised gap between evidence and practice, where guidance may take many years to influence routine care. Publication alone is therefore insufficient to achieve meaningful impact.

Implementation requires more than dissemination; it depends on sustained engagement, practical support and the ability to understand whether guidance is changing practice. This may involve professional partnerships, implementation tools, resource impact support and communication approaches tailored to different users. These measures help users understand what needs to change and how change may be achieved in practice.

For IMACE, implementation will need to take into account Hong Kong's dual public–private healthcare system. Guidance must therefore be applicable across diverse care settings and credible to a wide range of professional groups. This underscores the importance of early and meaningful stakeholder engagement, as well as the development of guidance that is not only evidence-based, but also practical, implementable, and responsive to local service realities.

Day 3 — Measuring Impact and Value

Quality Standards, Indicators and Health Economics

Quality Standards: From Guidance to Improvement Priorities

The day began with discussion on quality standards and their role within the broader guideline framework. While clinical guidelines provide comprehensive, evidence-based recommendations for practice, quality standards serve a distinct but complementary function by identifying measurable priority areas for improvement. They are typically derived from strong guideline recommendations and expressed as clear, action-oriented statements outlining what high-quality care should achieve.

Quality standards do not replace clinical guidelines. They sit alongside them and help translate evidence-based recommendations into practical improvement priorities for providers, practitioners and service users. They are particularly valuable in areas where there is known variation in care, limited uptake of guidance, or inconsistent implementation.

Each quality statement is accompanied by measures that may assess structure, process or outcome. Structure measures consider whether appropriate systems and services are in place, process measures assess whether recommended care is being delivered, and outcome measures evaluate whether care results in improved patient outcomes.

For IMACE, the discussion highlighted an important strategic consideration: not all guideline recommendations need to be converted into quality standards. Instead, a selective, prioritisation-based approach should be adopted, identifying those recommendations most suitable for translation into measurable and actionable improvement priorities.

Indicators and Performance Measurement

The session then turned to indicators and their role in performance measurement. Indicators are evidence-informed measures used to understand, compare, and improve healthcare systems, and may support quality improvement, accountability, and performance frameworks. Compared with quality standards, indicators require more precise specification and a stronger focus on data feasibility.

A well-designed indicator requires clear definition of its key components, including the numerator, denominator, exclusions, time window, and data source. In addition, it must meet established criteria such as importance, alignment with the evidence base, robustness of specification, feasibility of data collection, acceptability to stakeholders, and an acceptable risk of unintended consequences.

The workshop showed that converting a recommendation into an indicator can be more complex than it first appears. Terms such as “reviewed”, “current diagnosis”, “offered treatment” or “at risk” may seem clear in clinical language but require precise operational definition for measurement. Without such definitions, data extraction and performance comparison may be unreliable.

Data Feasibility and Measurement Burden

A key lesson from the session was that effective measurement is fundamentally dependent on data availability and quality. Where data are not routinely collected, are inconsistently coded, or are difficult to extract, even clinically important indicators may prove impractical in practice. As such, existing electronic

health records, coding structures, data fields, and business rules become critical considerations in the development of robust and usable indicators.

The workshop also highlighted the risks associated with over-measurement. An excessive focus on indicators may introduce administrative burden, encourage "box-ticking" behaviour, and shift attention towards what is easily measurable rather than what is most meaningful for patient care. This concern is particularly relevant in primary care settings, where patients often present with multimorbidity and where the quality of care may not be adequately captured through single-disease measures.

For IMACE, these insights suggest that indicators should be developed in a selective and purposeful manner. They should be closely linked to high-quality evidence, feasible to measure within existing data systems, aligned with system priorities, and subject to ongoing review to identify and mitigate any unintended consequences.

Learning from the Quality and Outcomes Framework

The UK Quality and Outcomes Framework was discussed as an example of a voluntary pay-for-performance scheme in general practice. It has contributed to improved coding, better data quality and more structured long-term condition management. However, it has also raised concerns about box-ticking, single-disease focus, limited support for multimorbidity and distortion of professional priorities.

This experience illustrates that indicators require lifecycle management. Indicators may become less useful when achievement is uniformly high or when variation has narrowed. Retiring indicators is therefore part of responsible stewardship. However, removal may reduce recorded quality, and it may not always be clear whether this reflects poorer care or simply changes in documentation.

For Hong Kong, the lesson is that measurement systems must be designed carefully. Indicators should support improvement, not merely compliance. They should also recognise the complexity of real-world care, especially in patients with multimorbidity.

Health Economics and Economic Evaluation

The afternoon session focused on health economics. Economic evaluation was presented as a systematic approach to comparing alternative interventions in terms of both their costs and their outcomes. Within the guideline context, health economics supports committees in assessing whether clinically effective interventions also represent an appropriate and efficient use of limited healthcare resources.

Different forms of economic evaluation were introduced, including cost-minimisation analysis, cost-effectiveness analysis, cost-utility analysis, cost-benefit analysis, and cost-consequences analysis. Among these, cost-utility analysis, typically using Quality-Adjusted Life Years (QALYs), was highlighted as NICE's preferred approach, as it enables comparisons across different diseases, populations, and types of interventions.

The concept of the incremental cost-effectiveness ratio (ICER) was also discussed. ICER compares the additional cost of an intervention with the additional health benefit it delivers, relative to existing practice. This provides a structured basis for committees to assess whether the added benefits of a new intervention justify its additional cost compared with existing practice.

Health Economic Modelling

The workshop introduced the role of economic modelling in decision-making. Models are used when long-term costs and outcomes cannot be observed directly from available clinical studies. They may combine evidence on effectiveness, baseline risk, resource use, unit costs, quality of life, disease progression and survival.

Decision trees and Markov models were discussed as common model structures. Decision trees are suitable for simpler pathways with defined decision points, while Markov models allow patients to move between health states over time and are often used for chronic or progressive conditions.

The discussions emphasised that models depend on assumptions. Different analysts may produce different results using similar evidence because of differences in structure, parameter selection and interpretation. Committee involvement, sensitivity analysis, validation and transparent reporting are therefore essential.

Perspective, Time Horizon and Local Applicability

Economic evaluation requires decisions about perspective, time horizon and applicability. The perspective determines which costs are included, while the time horizon determines how far into the future costs and benefits should be considered. These choices are especially important for chronic diseases, preventive interventions and conditions where benefits may emerge over many years.

Local applicability was an important consideration. Economic evidence from other jurisdictions may be informative, but costs, clinical pathways, service structures and patient populations may differ. IMACE will therefore need to consider when international evidence can be adapted and when local analysis is necessary.

Equity was also noted as an increasingly important consideration in economic evaluation. Recommendations should consider not only average value for money, but also how benefits and burdens are distributed across different population groups.

Reflections for IMACE

The IMACE Capacity Building Workshop highlighted that guideline development is both a technical and institutional endeavour. High-quality guidance requires a coherent process that connects evidence, deliberation, transparency, implementation and continuous learning.

IMACE's credibility will depend not only on the content of its recommendations, but also on how those recommendations are developed. Transparent methods, clear consultation processes, visible responses to feedback and consistent quality assurance will be essential for building accountability.

The workshop also reinforced the need for IMACE to develop a model suited to Hong Kong. NICE offers valuable experience, but Hong Kong's healthcare system has its own public-private dynamics, financing arrangements, data infrastructure, professional culture and policy environment. The appropriate path is therefore not direct replication, but thoughtful adaptation.

Several themes emerged as particularly important for IMACE's future development. Guideline work should begin with a clear statement of purpose, supported by a strong Secretariat, clear recommendation wording, transparent explanation of rationale and early attention to implementation. Health economics, quality standards and indicators should be incorporated where they add value and where the necessary evidence, data and capacity are available.

The workshop represented a practical step in translating international experience into Hong Kong's local context. Through the guidance of Mr Hugh McGUIRE and Ms Ann GREENWOOD, participants were able to examine not only what NICE does, but why its processes matter and how similar principles may support IMACE's development. As IMACE continues to build its guideline programme, the lessons from the workshop provide a strong foundation for producing guidance that is rigorous, transparent, locally relevant and implementable.

Participants

No.	Name	Affiliated Organisation
1.	**Professor Gilberto Ka-kit LEUNG**	*Institute for Medical Advancement and Clinical Excellence*
2.	**Professor Clement Chee-yung THAM**	*Hong Kong Academy of Medicine*
3.	**Dr. Raymond Wai-man LEUNG**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
4.	**Dr. Esther Yee-tak YU**	*Primary Healthcare Commission*
5.	**Prof. Wai-keung LEUNG**	*LKS Faculty of Medicine, The University of Hong Kong*
6.	**Dr. Dennis Tak-loi KU**	*Hospital Authority*
7.	**Dr. Ho-lim LAU**	*Hong Kong College of Physicians*
8.	**Professor Victoria Wing-yee WONG**	*LKS Faculty of Medicine, The University of Hong Kong*
9.	**Professor Benjamin Hon-kei YIP**	*Faculty of Medicine, The Chinese University of Hong Kong*
10.	**Professor David Makram BISHAI**	*LKS Faculty of Medicine, The University of Hong Kong*
11.	**Professor Joseph Edgar BLAIS**	*LKS Faculty of Medicine, The University of Hong Kong*
12.	**Professor Jianchao QUAN**	*Primary Healthcare Commission*
13.	**Mr. Ben Ying-ho SZETO**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
14.	**Dr. Chun-kit HUNG**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
15.	**Dr. Shirley Hiu-ching LO**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
16.	**Dr. Hong-lam CHAN**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
17.	**Dr. Lorna Hong-wa CHAN**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
18.	**Dr. Eunice Hon-sze WONG**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
19.	**Dr. Gary Ho-wan YING**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
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21.	**Dr. Jacky Man-leung WANG**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
22.	**Dr. Sze-yui CHEUNG**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
23.	**Dr. Tsz-wai CHAN**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
24.	**Dr. Richo Wing-ho CHU**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
25.	**Mr. Ivan Yin-hong KUNG**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
26.	**Ms. Yuen-yan TSUI**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
27.	**Dr. Rachel Yung-kiu CHEN**	*Department of Health, The Government of the Hong Kong Special Administrative Region*
28.	**Professor Juliana Nga-man LUI**	*Faculty of Medicine, The Chinese University of Hong Kong*
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30.	**Dr. Yin-yee LEUNG**	*Hospital Authority*
31.	**Dr. Kiki Sze-nga LIU**	*Primary Healthcare Commission*
32.	**Dr. Leo Hiu-yeung WONG**	*Primary Healthcare Commission*
33.	**Mr. Kurtus Ting-wai LO**	*Primary Healthcare Commission*
34.	**Ms. Cheryl Wai-yin LAI**	*Primary Healthcare Commission*
35.	**Dr. Winnie Wan-chi WONG**	*Primary Healthcare Commission*
36.	**Miss Elaine Wing-ling MAK**	*Primary Healthcare Commission*
37.	**Dr. Yannie Oi-yan SOO**	*The Hong Kong Private Hospitals Association*

Rundown

<table>
<tr><th>13 May 2026 (Wed)</th><th>14 May 2026 (Thu)</th><th>15 May 2026 (Fri)</th></tr>
<tr><td>Guideline Review and Secretariat Training (11:00 am – 5:30 pm)
Function Room 1, 2/F, Hong Kong Academy of Medicine Jockey Club Building
1. Internal review of IMACE's draft guidelines and role of Guideline Secretariat
2. Presenting complex information to guideline committees</td><td>UK Visit Recap (9:30 am – 1:00 pm)
Function Room 1, 2/F, Hong Kong Academy of Medicine Jockey Club Building
1. Introduction to guideline development
2. How to draft recommendations: experience from NICE
3. How to draft the rationale and impact sections: experience from NICE</td><td>Developing Indicators (9:30 am – 1:00 pm)
Lim Por Yen Lecture Theatre, G/F, Hong Kong Academy of Medicine Jockey Club Building
1. Developing NICE Indicators
2. Case study – Prioritising indicator, Indicator Development, Indicator Testing</td></tr>
<tr><td>Lunch break (1:30 pm – 2:30 pm)</td><td colspan="2">Lunch break (1:00 pm – 2:00 pm)</td></tr>
<tr><td>3. Supporting Committee to draft recommendations
4. Developing statements and measures in areas with evidence of lack of uptake, inappropriate implementation, emergent areas of practice
5. Quality Assuring guidelines, Drafting the quality standard
6. Quality standard-Validation and consistency checking</td><td rowspan="2">Clinical Practice Guideline Development (2:00 pm – 5:30 pm)
Function Room 1, 2/F, Hong Kong Academy of Medicine Jockey Club Building
1. Clinical Practice Guidelines-related methodologies and processes
2. Putting guidance into practice
3. Updating guidelines (including surveillance of a guideline portfolio)
4. Upgrading guidelines
5. Managing a guideline portfolio
6. Adapting Health Technology Assessment for inclusion in guidelines</td><td rowspan="2">Health Economics (2:00 pm – 5:00 pm)
Lim Por Yen Lecture Theatre, G/F, Hong Kong Academy of Medicine Jockey Club Building
1. Reviewing cost effectiveness evidence
2. Framing the decision problem and conceptualising a model
3. Decision trees
4. Health economic model data – health utilities
5. Model validation</td></tr>
<tr><td>Committee Development Session (6:00 pm – 8:00 pm)
Function Room 2, 2/F, Hong Kong Academy of Medicine Jockey Club Building
1. Managing a committee meeting
2. Capacity Building for Topic Expert Committee members</td></tr>
</table>

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