A Study Visit Report

UNPACKING THAILAND'S MEDICINES PRICING, REIMBURSEMENT POLICY, AND BENEFITS PACKAGE

A report by Health Intervention and Technology Assessment Program (HITAP)
4th-8th March, 2024, Nonthaburi, Thailand

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List of Acronyms and Abbreviations

APAC	Asia Pacific
API	Active Pharmaceutical Ingredient
CET	Cost-Effectiveness Threshold
CPI	Consumer Price Index
CSMBS	Civil Servants' Medical Benefits Scheme
DAC	Drug Advisory Committee
DCEA	Distributional Cost-Effectiveness Analysis
DOH	Department of Health
DRG	Diagnosis Related Group
DTC	Drug Therapeutics Committee
EE	Economic Evaluation
EU	European Union
FDA	Food and Drug Administration
FTA	Free Trade Agreements
GDP	Gross Domestic Product
GPO	Government Procurement Organizations
HBP	Health Benefit Package
HCA	Hospital Corporation of America
HTA	Health Technology Assessment
I$	International Dollars
ICER	Incremental Cost-Effectiveness Ratios
IMD	Index of Multiple Deprivation
IP	Intellectual Property
IPD	Inpatient Department
ISPOR	International Society for Pharmacoeconomics and Outcomes Research
KRT	Kidney Replacement Therapy
LMIC	Low-Middle-Income Countries
MAPDP	Maximally Allowable Purchasing Drug Price
MoC	Ministry of Commerce
NDP	National Drug Policies
NEML	National Essential Medicine List
NHSO	National Health Security Office
NICE	National Institute for Health and Care Excellence
NLEM	National List of Essential Medicines
NSDL	National Standard Drug List
OP	Outpatient
OPD	Outpatient Department
OTC	Over the Counter
PAHO	Pan-American Health Organization
PD	Peritoneal Dialysis
PICO	Population, Intervention, Comparison, and Outcome
PH	Philippines
PNF	Philippine National Formulary
PPA	Pricing and Patient Access
PPP	Purchasing Power Parities

QALY	Quality-Adjusted Life Years
R&D	Research and Development
SSS	Social Security Scheme
UC	Universal Coverage
UCBP	Universal Coverage of Benefit Package (UCBP)
UCS	Universal Coverage Scheme
UHC	Universal Health Coverage
UMIC	Upper-Middle-Income Countries
UNICEF	United Nations Children's Fund
US	Unites States
WHO	World Health Organization
WHO WPRO	WHO Western Pacific Regional Office
WHO-EML	World Health Organization's Essential Medicine List (WHO-EML)
WTP	Willingness to Pay

Acknowledgments

This report summarizes the sessions in the Medicines Pricing, Reimbursement Policy, and Benefits Package for Medicines in Thailand study visit, held on 4 – 8 March 2024 in Nonthaburi, Thailand. This study visit was organized by the Health Intervention and Technology Assessment Program (HITAP) under the aegis of the Ministry of Public Health and supported by the World Health Organization Western Pacific Regional Office (WHO WPRO). The study visit aimed to facilitate knowledge exchange and collaboration among participants.

The report has been prepared by Dimple Butani and Francis Carlo Panlilio from HITAP. We extend our sincere appreciation to all the participants from five countries including Bhutan, Brunei Darussalam, Malaysia, Mongolia and The Philippines for their active participation and engagement throughout the study visit.

Special thanks are also extended to the organizing team, as well as the rapporteurs and facilitators from HITAP, for their invaluable support and assistance in ensuring the smooth and well-coordinated execution of the event.

It is important to note that the findings, interpretations, and conclusions expressed in this report do not necessarily reflect the views of the funding or participating agencies.

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Executive Summary

The escalating healthcare expenditure in the Asia-Pacific (APAC) region has outpaced the growth of Gross Domestic Production (GDP), with a significant portion attributed to pharmaceutical costs. Ensuring affordability and accessibility of medicines is crucial for achieving Universal Health Coverage (UHC) and providing quality healthcare. Pricing policies play a vital role in regulating pharmaceutical prices, but many countries in the region lack adequate regulations, leading to unfair pricing practices. To address this, the World Health Organization (WHO) Western Pacific Regional Office (WPRO) collaborated with the Health Intervention and Technology Assessment Program (HITAP) to organize a study visit to Thailand.

Held from March 4th to 8th, 2024, in Nonthaburi, Thailand, the study visit aimed to share Thailand's approach to pricing medicines and facilitate cross-country learning. Participants from five countries engaged in discussions and presentations covering various aspects of medicine pricing policies, procurement mechanisms, and Health Technology Assessment (HTA). Key takeaways included the importance of evidence-based price negotiation, boosting domestic medicine production, and strengthening regional partnerships through pooled procurement.

The study visit highlighted the value of collaborative learning and knowledge exchange in addressing common challenges. Participants recognized the need to institutionalize HTA and develop robust processes for evidence generation. The importance of transparent pricing policies and stakeholder collaboration was emphasized in ensuring equitable access to affordable healthcare.

The study visit provided valuable insights and strategic takeaways for countries in the APAC region to develop effective pricing policies and strengthen their healthcare systems. By learning from each other's experiences and fostering regional coordination, countries can work towards achieving UHC and improving healthcare outcomes for all.

Figure 1. Photo of all participants who attended the 5-day Pricing Study Visit

I. Introduction

Healthcare expenditure in the Asia-Pacific (APAC) region has seen a remarkable surge in the past two decades, surpassing the growth of the region's GDP (1). This escalation in health spending has predominantly burdened the public sector, especially in Low-Middle-Income Countries (LMIC) and Upper-Middle-Income Countries (UMIC), which strive to achieve Universal Health Coverage (UHC). A substantial portion of this expenditure can be attributed to pharmaceutical costs, which now constitute a quarter of all health spending in the APAC region (1).

Ensuring affordable and accessible medicines is crucial for equitable healthcare access, disease management, and financial protection for individuals. Prioritizing affordable medicines and implementing pricing policies to ensure accessibility can significantly advance UHC and deliver quality healthcare to all. Pricing policies are defined as a set of written principles or requirements for managing the prices of pharmaceutical products agreed or adopted by a public institution (e.g., a government authority), a group of purchasing organizations, or individual health (2). However, several countries within the APAC region have unregulated pharmaceutical markets. Coupled with the rising cost of medicines, there is a pressing need for regulations and reforms in pharmaceutical pricing policies to contain the unfair pricing of medicines due to inadequate competition.

Many countries are establishing medicine pricing mechanisms to regulate pharmaceutical prices or in the process of reforming existing ones (3, 4). Recognizing this need, the World Health Organization (WHO) Western Pacific Regional Office (WPRO) has engaged with the Health Intervention and Technology Assessment Program (HITAP) to learn about Thailand's approach to pricing medicines, including relevant mechanisms and frameworks. Acknowledging the importance of learning from other countries' experiences and addressing common challenges, a five-day study visit was held for participants from member states of the WHO WPRO and Bhutan.

Held from 4th to 8th March 2024 at the Grand Richmond Hotel, Nonthaburi Thailand, the study visit brought together 18 participants from five countries, including individuals from mid-senior levels working in some capacity for the Ministries of Health of respective countries (Annex 1). A pre-study visit survey was conducted to assess participants' needs, helping tailor the agenda to their requirements (Annex 2).

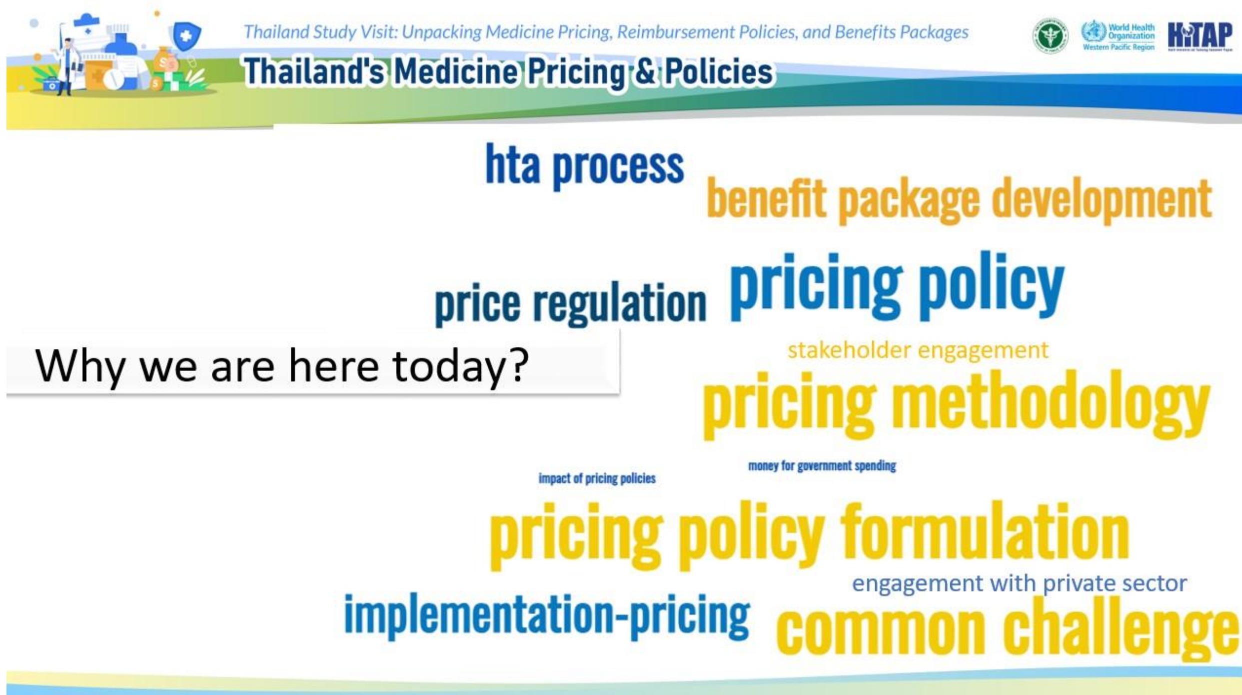

Figure 2. Pre-study visit survey to assess why, what, and how of learnings from the study visit.

The objective of this study was twofold:

1. To share knowledge and learn about Thailand's approach to pricing medicines, including mechanisms, frameworks, engagement with different stakeholders, and regulations within the context of UHC.
2. To apply lessons learned to develop pricing policies in countries and facilitate cross-country learning and regional initiatives on strengthening the health system through medicines policy.

This report serves as a record of the study visit, capturing the key discussions, insights, and solution ideas put forth by participants. The insights gained from this study visit will contribute to the development of robust and effective strategies for pricing medicines, including mechanisms and relevant frameworks.

Day 1: Thai Health System & Medicine Policies Demystified

The day aimed to familiarize participants with the Thai health system, covering its history, structure, functions, and pricing policies. Dr. Yot Teerawattananon, Founding Leader of HITAP, kicked off the day with opening remarks, emphasizing active participation and the importance of knowledge exchange. Dr. Supasit Pannarunothai, Director of the Centre for Health Equity Monitoring Foundation in Thailand, provided an overview of the Thai health system. Dr. Cha-oncin, an Associate Professor at Mahidol University, led a session on Pricing Policies for Medicines in Thailand. Following this, participants engaged in a knowledge-sharing session, presenting their respective countries' health systems, challenges, and prospects in alignment with a predefined format.

II. Overview of the Thai Health System

Dr. Supasit Pannarunothai presented on Thailand's UHC policy development, tracing its historical evolution and highlighting key features. He emphasized that Thailand's health reforms have undergone a long journey, driven by political, social, and research-led movements. Before 2002, Thailand's health coverage was fragmented, with various schemes targeting different population groups, including the tax-financed Civil Servants' Medical Benefits Scheme (CSMBS) for public employees, the contributory Social Security Scheme (SSS) for private employees, and others. This fragmented system created disparities in access to healthcare and coverage levels across the population. The landmark decision in 2002, the National Health Security Act, introduced innovative payment models such as capitation and Diagnosis Related Group (DRG) payments, leading to the establishment of the Universal Coverage Scheme (UCS) covering all Thai citizens not included in either CSMBS or SSS.

Figure 3. Dr. Supasit Pannarunothai, Director, Centre for Health Equity Monitoring Foundation, Thailand

Regarding health delivery, Thailand prioritizes a primary care system with robust referral enforcement mechanisms, particularly through the UCS managed by the National Health Security Office (NHSO). While individuals under CSMBS have freedom of choice in healthcare providers, they are predominantly limited to public health facilities to ensure standardized care and cost-effectiveness.

The financing of healthcare is diversified across different insurance schemes. The UCS exclusively employs capitation, DRG, and fee-schedule mechanisms, with limits on balanced billing to mitigate out-of-pocket expenses. The SSS adopts inclusive capitation and DRG payments for specific risk groups, while the CSMBS utilizes DRG for inpatient care and a fee-for-service model for outpatient services. These methods introduce various incentives for providers, incentivizing efficiency and cost-consciousness. For instance, additional payments are made for specific high-

cost diseases or procedures and financial incentives given for in-time reporting of utilization data and other desired provider behaviors, such as quality improvement.

Payment strategies are determined based on prioritizing the utilization of services, such as favoring Kidney Replacement Therapy (KRT) over Peritoneal Dialysis (PD) and ensuring free choice in dialysis options. It was emphasized that continual monitoring of the healthcare system by designated groups is essential to ensure effectiveness and equity.

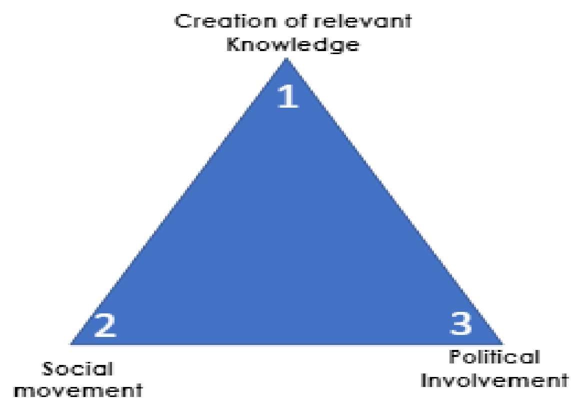

Figure 4. The Triangle that moves the mountain and health system reform movement!

During the Q&A, it was highlighted that participating countries face their own unique challenges. Mongolia, for instance, grapples with limitations on the increase of knee surgeries and overutilization, while the Philippines encounters difficulties in payment methods. In Malaysia, Social Health Insurance payments are made by employers, the government, and employees. Reference to the UK health system is made for monitoring the feasibility and efficiency of utilization. Queries arise regarding the limitations of payments in a system of free choice.

Key Takeaways:

- This session emphasized the vital role of research-driven healthcare reform, alongside social and political movements, in shaping policies.
- Effective national reforms require identifying and nurturing health policy leaders to mobilize resources.
- Thailand's UHC policy operates under a complex yet adaptable framework with three key payers.
- Political dynamics and public preferences shape healthcare initiatives, necessitating ongoing stakeholder engagement.
- Addressing future healthcare challenges demands capable individuals to conduct essential research and drive system development.

Policies on Medicines in Thailand

During the session, Assoc. Prof. Dr. Cha-oncin Sooksriwong provided insights into Thailand's drug systems UHC covering various medication types such as traditional, modern, over the counter (OTC) household remedies, and dangerous drugs categorized as prescription or pharmacist controlled. Drug procurement methods for UHC include capitation for Outpatient Department (OPD) services with in-house drug procurement and DRG; and global budget mechanisms for Inpatient Department (IPD) services, facilitated by the NHSO. High-cost interventions, such as those for rare diseases, involve centralized procurement and financing through DRG and global budget funding. Additionally, project-based funding supports prevention and health promotion services, including childhood vaccination initiatives and programs targeting healthy lifestyles, diabetes, and smoking cessation.

The development of national drug policies began in the early 1980s to address pharmaceutical challenges, such as low local production, irrational drug use, and high prices. Despite four National Drug Policies (NDPs), dependence on imported medicines remains high. This prompted a nationwide survey led by Dr. Sookriwong's team aimed at reassessing the situation and impact of interventions leading to a draft Medicine Pricing Policy 2024.

Figure 5. Dr. Cha-oncin Sooksriwong, Associate Professor, Faculty of Pharmacy, Mahidol University, Thailand

Discussions during the Q&A session explored various challenges and policy options, including the establishment of price negotiation boards, methods for determining pricing decisions, and the role of government procurement organizations (GPOs) in facilitating fair pricing mechanisms, with insights from participating countries like Indonesia, Bhutan, and the Philippines providing valuable comparative perspectives.

Key Takeaways:

• Maximally Allowable Purchasing Drug Price (MAPDP) serves as a cost containment strategy for public procurement.

• Various price-setting methods are utilized, depending on market competition and medicine category.

• Pricing policies in Thailand have led to a decrease in both generic and innovative medicine prices over time, with international comparisons showing significant affordability.

• Challenges and opportunities persist in Thailand's medicine system, requiring adaptation by all stakeholders to enhance access to essential drugs while reducing unreasonable usage.

Country Presentations

Health System and Medicine Pricing in Malaysia

In Malaysia, the health system operates with a dichotomous approach, with public healthcare funded through general revenue and employee contributions, while private healthcare relies on out-of-pocket payments. The MADANI medical scheme offers free treatment for minor ailments at private clinics. The Malaysian national medicine policy ensures the availability, accessibility, affordability, and quality of medicines for the population by updating the National Essential Medicine List (NEML) every 2-3 years. The procurement process involves indirect price regulation for public sectors and a free pricing policy for the private sector, with efforts to enhance transparency and active price negotiation. Although Health Technology Assessment (HTA) is not yet official, discussions during the Q&A session highlighted the need for capacity building in negotiation and stakeholder commitments to drive healthcare reform.

Figure 6. Ms. Nazariah Binti Haron, Senior Principal Assistant Director, Pharmaceutical Services Divisions, Ministry of Health, Malaysia

Health System and Medicine Pricing in the Philippines

The Philippines implements UHC to provide healthcare coverage to 96% of the population. The Philippine National Formulary (PNF) is regularly updated based on recommendations from the Food and Drug Administration (FDA). The procurement process is decentralized and involves competitive bidding, with the Price Negotiation Board overseeing negotiations for Department of Health (DOH)-owned health facilities. However, challenges such as limited HTA capacity and high price differentials persist. The way forward includes proposals to improve HTA linkage and capacity building for price negotiation, along with amendments to expand the scope of price negotiation to all health facilities under the UHC Act.

Figure 7. Dr. Roberto L. Balaoing, Senior Social Insurance Specialist, Standards Monitoring Department, Philippine Health Insurance Corp, Philippines

Health System and Medicine Pricing in Mongolia

Mongolia's public health insurance system focuses on resource mobilization, pooling, and single-purchasing mechanisms. While over 4,000 drugs are registered, there is no centralized procurement or pricing policy. The future direction aims to establish pool procurement to reduce medicine prices and procure medicines from international organizations. During the Q&A session, discussions centered on pricing reimbursement sharing and the frequency of updating the National Essential Medicine List (NEML), highlighting the importance of evidence-based pricing strategies.

Figure 8 Ms. Gantuya Ganbold, Senior officer, Department of Policy and planning, General Authority for Health Insurance, Mongolia

Health System and Medicine Pricing in Brunei Darussalam

Brunei Darussalam's health system sees government expenditure accounting for over 90% of total health spending. The National Standard Drug List (NSDL) is updated biennially and is deliberated upon by the Drug Advisory Committee (DAC) and Drug Therapeutics Committee (DTC). However, challenges include the absence of HTA and a pricing policy, leading to high prices and limited vendor monitoring. The future direction includes plans for HTA implementation and establishing a pricing policy to improve vendor compliance and ensure affordability. Discussions during the Q&A session emphasized the need for collective price negotiation and addressing the influence of big pharmaceutical companies on pricing in smaller countries.

Figure 9. In picture presenting: Ms. Siti Ajar binti Haji Yusop, Acting Chief Executive Officer, Department of Medical Services, Brunei Darussalam

Health System and Medicine Pricing in Bhutan

Bhutan's health system predominantly relies on public financing, with cost-plus pricing techniques employed for medicine pricing. The country faces challenges in registration and pricing, with efforts underway to revise guidelines and enhance expert assessment processes. Discussions revolved around referencing prices, the use of the Purchasing Power Parity (PPP) index in negotiations, and the effectiveness of national pricing surveys in controlling prices, underscoring the importance of evidence-based pricing strategies for ensuring affordability and accessibility of medicines.

Figure 10. Mr. Pempa, Ministry of Health, Royal Government of Bhutan, Bhutan

Country	Population (year 2022)[1]	GDP/Capita (USD; year 2022)[2]	Income Classification	Challenges
Bhutan	770,276	3,833	Lower Middle Income	Health System Challenges: • Lack of healthcare laws and regulations • Insufficient tertiary healthcare facilities • Sustainability of health financing • Shortage of health human resource • Small market size affecting access to medical products • Tendering system for national bidders only • Only one pharmaceutical manufacturer in the country and they produce only a few items Regulatory Challenges: • No policies or frameworks in place for the regulation of pharmaceutical prices
Brunei Darussalam	440,002	37,152	High Income	• Lack of HTA in decision-making • Absence of pricing policy • Use of products not registered locally due to vendor's non-compliance with regulatory requirements, despite products registration in at least one of the benchmark's countries • Lack of vendor monitoring system to oversee performance e.g. frequent supply delays, change in brands
Malaysia	32.5 million	11,134	Upper Middle Income	• The Ministry of Health lacks authority to mandate price declaration or display • The Price Control and Anti-profiteering Act 2011 (Act 723) regulates normal goods, including medicines, and is overseen by the Ministry of Domestic Trade and Cost of Living • Strong pushback from industry to sharing price information
Mongolia	3.4 million	4,121	Lower Middle Income	• Absence of pricing policy leading to high medicine prices • No HTA • Absence of a centralized procurement
The Philippines	109,035,343 million	3,621	Lower Middle Income	• PH has limited capacity to do HTA which is needed for DOH/ PhilHealth funding • Lack of price negotiation capability (Price Negotiation Board) • Limited scope of the price negotiation mandate (covers only DOH- owned healthcare facilities) • Sourcing of international price data • High price differentials compared to relevant international markets

Table 1. Health System Challenges in Medicine Pricing & Policies Across Countries

[1] The World Bank, World Development Indicators (2022). Population, total Retrieved from: https://data.worldbank.org/indicator/SP.POP.TOTL

[2] The World Bank, World Development Indicators (2022). GDP per capita Retrieved from: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

Day 2: A Deep Dive into Pricing Policies, Procurement, and Implementation

On the second day, the session commenced with an Introduction to Health Economics by Siobhan Botwright, Senior Associate at HITAP. This session focused on how the application of health economics concepts enables countries to achieve their objectives of saving lives and enhancing quality of life within existing constraints such as workforce, budget, and capacities. This was followed by an interactive exercise. Following this, three esteemed professors, who have been directly or indirectly involved in Thailand's development of the National List of Essential Medicines, provided insights into different pricing policies. Assoc. Prof. Rungpetch Sakulbumrungsil from the College of Pharmacy Administration of Thailand presented the landscape of "Medicine Pricing and Policies in Thailand". Asst. Prof. Khunjira Udomaksorn from the Prince of Songkla University delved into the "Pricing Mechanism of Medicines" and shared her experiences. Assoc. Prof. Nusaraporn Kessomboon from Khon Kaen University focused on "Strengthening the Domestic Pharmaceutical Industry in the Era of Free Trade". Subsequently, a one-hour panel discussion moderated by Dr. Yot Teerawattananon addressed live questions from the audience, addressing their specific problems and how the lessons learned from pricing policies could assist them.

III. Pricing Policies and Mechanisms

Introduction to Basic Health Economics

Attendees from Bhutan, the Philippines (PH), and other countries discussed their practices regarding Economic Evaluation (EE) for medicine pricing. While some nations, like Bhutan, rely on threshold analysis due to a lack of negotiation power, others, like the PH, incorporate EE to recommend prices and negotiate with stakeholders, as exemplified in vaccine procurement cases.

Figure 11. Ms. Siobhan Botwright, Senior Associate, HITAP, Thailand

The importance of cost-effectiveness calculations, including Quality-Adjusted Life Years (QALYs) and Incremental Cost-Effectiveness Ratios (ICERs), was emphasized to compare different technologies. Standardized thresholds reflecting payer willingness to pay were discussed, highlighting the need for negotiation when ICERs fall between supply and demand thresholds.

Overview of Pricing Policies Along the Supply Chain and Patient Access Framework

Dr. Rungpetch Sakulbumrungsil provided an overview of pricing policies and patient access frameworks in Thailand's healthcare system. The discussion covered pathways for medicine access, pricing strategies, and reforms ensuring affordability, equity, and quality. Thailand employs comprehensive price control mechanisms throughout the supply chain, regulating consumer, provider purchasing, reimbursed, and ex-factory prices.

Figure 12. Dr. Rungpetch Sakulbumrungsil, Associate Professor, College of Pharmacy, Thailand

The National List of Essential Medicines (NLEM) guides drug reimbursement and promotes rational medication use. For non-NLEM priority drugs, the NHSO negotiates with manufacturers for separate reimbursement or direct provision to hospitals. Government hospitals also negotiate directly for lower prices. Once listed on the NLEM, a maximum allowable cost is set, ensuring compliance with acquisition cost rules for public providers. Strategies like pool purchasing, volume-based negotiation, and tenders are utilized to secure the lowest prices. Differentiated pricing strategies consider factors like incremental benefit, unmet medical needs, and public health importance for generic and patented drugs. Negotiation tactics for patented drugs include confidential agreements, risk sharing, discounts, rebates, and targeting sub-populations.

The Pricing and Patient Access framework (PPA) aligns with six key objectives: Rational use of Essential Medicines, Equity, Quality, Supply Security, Sustaining Innovation, and Maximizing Access. Each country prioritizes these objectives differently. In Thailand, equity is paramount under the Thai UCS, aiming for equal access regardless of income, demography, or disease type. Universal Coverage (UC) emphasizes access to needed medicines over investments in novel drug research and development. The successful implementation of PPA reform involves many key steps. First, securing buy-in from stakeholders is crucial. This entails engaging and convincing them of the reform's benefits. Raising awareness among stakeholders about the reform's objectives is also essential. Additionally, instituting organizational changes may be necessary, such as establishing new processes like HTA. Lastly, capability building through training and development programs is vital to ensure stakeholders have the skills needed for effective implementation. These steps are crucial for a smooth and efficient transition to the reformed system.

Key Takeaways from discussion:

- **Regulation for Price Transparency:** Thailand has implemented regulations to ensure transparency in pricing within the healthcare sector. Private hospitals are required to declare the prices of products on their websites and the Ministry of Commerce's (MoC) website. The government sets the median price for products through the NLEM committee, regulating public hospital acquisitions. However, private hospitals can still purchase products at prices above the median. It's crucial to strike a balance in setting prices—not too low to deter manufacturers but reasonable enough to ensure affordability for healthcare providers and patients.
- **Maximum Price Setting Process:** Thailand's pricing committee utilizes local data from across the country to establish maximum prices for generic drugs. For high-cost medications, they may also consider pricing strategies implemented in other countries to ensure fair and sustainable pricing within the Thai healthcare system.
- **Relationship with the Pharmaceutical Industry:** The Thai FDA has been working to improve its relationship with the pharmaceutical industry. This collaborative approach fosters a mutually beneficial relationship where both parties engage in dialogue and cooperation, contributing to better regulation and access to medicines for the population.

Price Setting Mechanisms and Negotiations for the National List of Essential Medicines (NLEM)

Dr. Khunjira Udomaksorn elaborated on the pricing mechanism used in Thailand to ensure optimal pricing policies. Initially, high-cost medicines with superior efficacy and safety undergo economic evaluation for potential inclusion in the NLEM. Once an ICER is determined, a price threshold analysis is done based on the Thai willingness to pay threshold (WTP) which is further used for price negotiation. The negotiated price is then enforced as the MAPDP, ensuring public hospitals procure the product at this rate. Negotiation leverage stems from the NHSO's volume of purchases. Reimbursement mechanisms range from closed-ended to open-ended payments.

Negotiations prioritize *affordability*, alongside budget impact, supply security, and rational drug use. Two types of selection policies for negotiating price, "One Drug" or "One Price" policy, are used, supported by evidence from price data and historical reports. Additionally, tools like budget impact analysis and reference pricing aid in negotiating prices. The setting of reimbursement prices primarily operates through fixed fee schedules for outpatient (OP) referral, OP disability, and OP emergency care. However, challenges like price variation and visit splitting led to alternative policies, such as standardizing prices for generics and adopting a two-tier reimbursement system. The reimbursement price formula integrates standard cost with median and reference prices, incentivizing hospitals effectively. Despite persisting challenges, Thailand's pricing mechanisms aim to balance affordability, accessibility, and quality of care, evolving to meet healthcare needs efficiently.

Figure 13. Dr. Khunjira Udomaksorn, Associate Professor, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Thailand

Key Takeaways from open discussions:

- **Direct Negotiation with Manufacturers:** Thailand's approach differs from Bhutan's as Thailand negotiates directly with pharmaceutical manufacturers. This direct engagement allows for more efficient and effective pricing discussions, ensuring that agreements align closely with the needs and budgetary constraints of the healthcare system.
- **Composition of the Price Negotiation Working Group:** The working group typically includes clinicians specializing in relevant fields, pharmacists from affiliated hospitals, representatives from academia, and NHSO representatives. The negotiation process involves consensus-building within the group, followed by meetings with manufacturers. Subsequent negotiations typically span 30-45 days.
- **Criteria for Choosing One Drug/One Price Policy:** The decision on whether to implement a one drug/one price policy depends on specific cases. However, there is a growing trend towards adopting “One Drug Policy” more frequently to streamline pricing strategies.

Technical Aspects: Impact of Free Trade Agreements (FTAs) on Domestic Policy Instruments, Guidelines for Impact Assessment, Policy Coherence

Dr. Nusaraporn Kessomboon discussed the impact of Free Trade Agreements (FTA) on domestic pharmaceutical policies, highlighting challenges and strategies for maintaining policy coherence amidst evolving trade agreements. In Thailand, the largest pharmaceutical company is government-run, with a focus on enhancing research and development (R&D) from new generics to modified drugs and new chemical entities. However, in recent years there has been an increasing trend of importing medicines and declining local production. Additionally, there is a significant import value specially for orphan drugs, which prompts plan for concentrate on active pharmaceutical ingredient (API) manufacturing for orphan drugs and exporting the same.

The Government Pharmaceutical Organization (GPO) in Thailand operates under the Ministry of Finance and aims to generate profit. Thailand adheres to the minimum standards of intellectual property (IP) protection outlined in the TRIPS agreement, providing 20 years of monopoly. However, the country is unwilling to accept extended IP protection beyond this standard, despite pressure from countries and regions like the United State (US) and Europe (EU).

Figure 14. Dr. Nusaraporn Kessomboon, Associate Professor, Faculty of Pharmaceutical Sciences, Khon Kaen University, Thailand

International trade agreements, such as FTA, impact local manufacturing. Strategies employed by countries like the US and EU include post-marketing surveillance, data exclusivity, market exclusivity, and extensions for pediatric studies and new indications.

Policy coherence across different supply chain levels is crucial, with challenges stemming from data and information inconsistencies and differing priority objectives. Moving forward, there's a need to transform the objectives of the national drug policy from a health system approach to a pharmaceutical industry approach to secure medicines for future health needs and ensure an adequate supply of essential medicines.

Panel Discussions

Participants engaged in a comprehensive dialogue, covering topics ranging from negotiating with manufacturers to the ramifications of FTA on local markets. The primary challenge centered around adapting policies to address the rising costs of medicines. Key themes included incentivizing local manufacturers, government efforts to promote sustainability, and the intricacies of pricing regulations and reimbursement policies. Key takeaways from the discussion:

- *Incentivizing Local Manufacturers*: While countries acknowledge the advantages of incentivizing local manufacturers, a common hurdle, especially for smaller nations like Bhutan and Mongolia, is the procurement bias towards international manufacturers due to their lower prices.
- *Government Incentives*: Include leveraging government entities like GPO, implementing tax reductions or establishing tax-free zones, and incentivizing R&D.
- *Promoting Innovation*: Fast-tracking product listings through innovation incentives can encourage local manufacturing and mitigate the cost of medicines.
- *Promoting the Use of Generics*: Encouraging the use of generics can be achieved by establishing reimbursement rates for first generics from local manufacturers and fostering fair competition in the market.

Figure 15. Dr. Nusaraporn Kessomboon, Dr. Khunjira Udomaksorn, and Dr. Rungpetch Sakulbumrungsil during the Moderated Panel Discussion

Day 3: Unlocking Health Technology Assessment for Evidence-Informed National List of Essential Medicine

The day commenced with a site visit to the NHSO's office, where participants were acquainted with the structure of Thailand's only health insurance payer and the process of making evidence-informed decisions. Ms. Waraporn Suwanwela, Deputy Secretary-General of the NHSO, delivered the introductory remarks, followed by a lecture by Mrs. Surangrat Jiranantanagorn. Subsequently, Mrs. Sarita Srimaroeng, Deputy Director of the Consumer Protection Service Unit at the NHSO, presented on the Call Center for Consumer Protection, which was followed by a walking tour of the Call Center and the GPO pharmacy shop. In the second half of the day, Dr. Dimple Butani, Senior Associate at HITAP, introduced the participants to the Thai NLEM, covering its criteria, structure, and governance. The day concluded with a lecture from Dr. Yot Teerawattananon, focusing on decision-making for pharmaceutical coverage. The session included interactive exercises and introduced concepts such as coverage with evidence development and threshold analysis for medicine pricing.

IV. Utilizing Health Technology Assessment for Universal Health Coverage (UHC)

Development of Non-Pharmaceutical Benefit Package

Mrs. Surangrat Jiranantanagorn provided insights into the historical development of the Health Benefit Package (HBP) in Thailand. The HBP encompasses a range of health services or products covered by health insurance schemes, tailored to local contexts and feasibility to ensure access to essential medical services and products, including pharmaceuticals, non-pharmaceuticals, and vaccines. The session predominantly delved into the evolution of HBP for non-pharmaceutical services.

Figure 16. Participants at the National Health Security Office (NHSO)

In 2002, Thailand passed the National Health Security Act, guaranteeing every individual access to quality and efficient public health services. Subsequently, a subcommittee was established in the early 2000s to oversee the selection of appropriate medical services for inclusion in the HBP under the UCS. This initiative led to a pilot project for a Universal Coverage of Benefit Package (UCBP) from 2009 to 2016. The project laid the groundwork for the establishment of the NHSO, tasked with managing budgets, and funds, processing payments to service providers, and analyzing health information. The UCBP extends coverage to the entire population under various health insurance schemes in Thailand, including the SSS, the CSMBS, and the UCS. It offers a comprehensive range of health services, encompassing health promotion, diagnosis, treatment, and prognosis. However, certain services such as cosmetic surgery, organ transplantation, and those in the research and development stage are not covered. The government budget allocated is the 'National Health Security Fund' comprising the capitation

budget, budget for other services in addition to the capitation budget, and other ad-hoc additional budget.

The core principles guiding the design of the UCBP include systematic, evidence-informed, and participatory approaches. Decision-making processes involve topic nomination, selection, assessment (utilizing HTA and budget impact analyses), and final decision-making, with involvement from various stakeholders to encourage deliberation. Additionally, a "Green Channel" facilitates the urgent consideration of topics related to emerging diseases, outbreaks, and critical health issues.

Furthermore, the discussion addressed existing limitations and challenges. These include variations in the level of understanding of topics among different stakeholder groups, leading to vague nominations, and limited human resources for conducting HTA, resulting in a constraint on the number of topics that can be assessed.

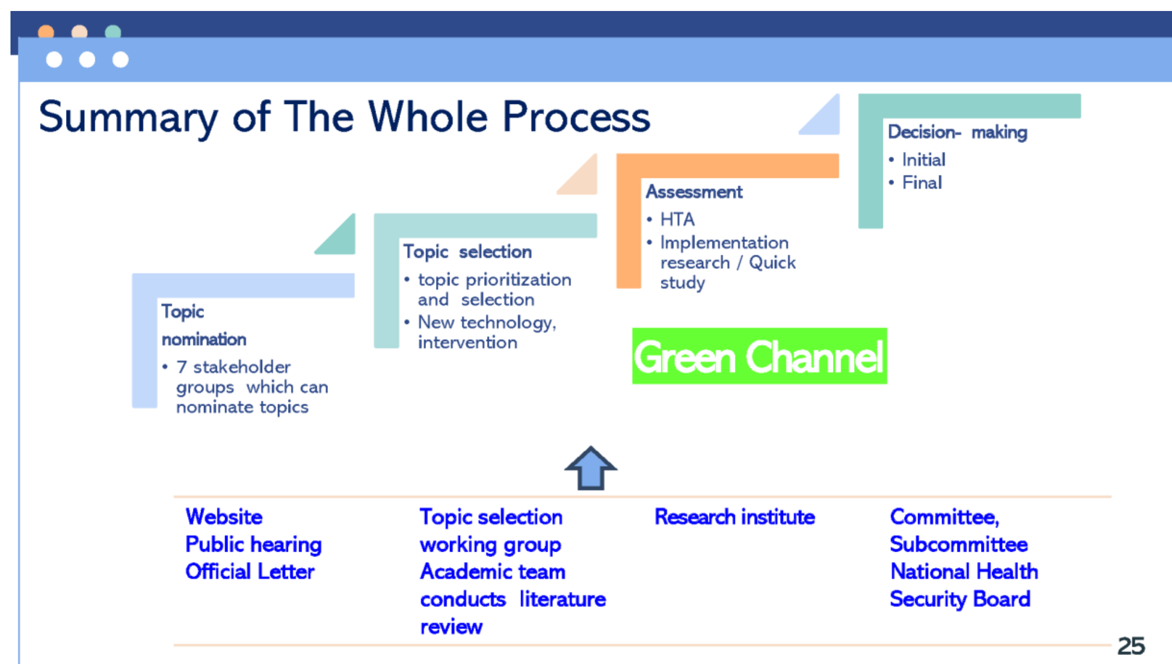

Figure 17. Summary of Designing Thailand's Health Benefits Package

Development of Pharmaceutical Benefit Package

Dr. Dimple Butani provided a comprehensive overview of the development, structure, and governance of Thailand's pharmaceutical benefit packages, specifically the NLEM. The NLEM serves as a reimbursement list for all three health coverage schemes in the country, encompassing drugs, vaccines, radioactive substances, and disinfectant agents.

The concept of a pharmaceutical benefit package, that started with the adoption of the WHO's Essential Medicine List (WHO-EML) in the early 1980s, has undergone four revisions to date. Dr. Butani emphasized the primary objective of the NLEM, which is to establish a framework for the rational utilization of pharmaceuticals, guided by the principles of a sufficiency economy. Medicines

included in the list must be evidence-based, demonstrating clear benefits that outweigh risks, with proven cost-effectiveness aligned with economic conditions and societal ability to pay.

The core principles of the NLEM revolve around three main aspects:

- Revision: Periodic revisions are conducted based on contemporary evidence, considering safety, efficacy, cost-effectiveness, and equity among different demographic groups. These revisions aim to ensure alignment with the prevailing healthcare landscape, societal needs, and economic conditions in Thailand.
- Update: Transparency, up-to-dateness, reasonableness, participatory, and evidence-based processes characterize the update mechanism. Stakeholders are provided opportunities to share their opinions during the selection process, and all relevant documents are made publicly available.
- Utilization: The NLEM serves as a reference for prescribers, patients, and the medical supply chain to promote rational drug use, optimize drug utilization, and maximize cost-effectiveness while ensuring access to high-cost drugs when necessary.

Currently, the NLEM comprises over 800 drug lists with more than 1000 dosage forms, covering all three public health schemes in the country.

Country Profile: Thailand [3]							
Population (million)	Income Level	GDP	Income per capita	Health Expenditure (%GDP)	Public expenditure on health (% of current health expenditure)	Current health expenditure per capita (current USD)	Life expectancy at birth
71.6	Upper Middle Income	505.9 billion	7,066.19	4.36%	70.36%	305.09	79

Table 2. Country Profile: Thailand

Decision-making process for providing affordable essential medicines in Thailand

Dr. Yot Teerawattananon facilitated this session using a participatory approach, introducing various exercises for participants to wear the decision-making hat and navigate different situations and

Exercise Overview: The first exercise was an interactive group activity focused on making coverage decisions on medicinal products. Participants were tasked to be part of the National Medicine Committee. Six policy options were offered but if they were to be implemented, they would require $965 million whereas the government budget available is only $500 million.

[3] The World Bank, World Development Indicators (2022). Thailand Country Profile. Retrieved from: https://data.worldbank.org/country/thailand?view=chart

scenarios. The aim was to cultivate an understanding of the diverse perspectives that must be considered when making equitable decisions.

As different groups deliberated and made decisions on which benefit package to include if they were to restrict themselves to government health benefits, the importance of incorporating societal values beyond mere effectiveness, cost, and cost-effectiveness became apparent. Participants

Exercise Overview: The second exercise participants were taught how they could borrow other countries' evidence particularly that from cost-effectiveness studies to apply to their own country setting. The aim of this exercise was to help them familiarize themselves with using conversion rates through the PPP and adjusting that to their country setting and to present year.

The steps outlined involved checking the Population, Intervention, Comparison, and Outcome (PICO) of the study to find comparability with their own research questions. Subsequently, converting the ICER and product cost to International Dollars (I$) using PPP in the study year. Following this, converting the ICER and product cost to the local currency in the study year and adjusting the Consumer Price Index (CPI) to the present value of the ICER and product cost in the local currency. Finally, comparing with the Cost-Effectiveness Threshold (CET) rounded up the process.

emphasized that while principles such as equity, fairness, transparency, and inclusiveness in the decision-making process are crucial, ensuring their implementation poses challenges. Often, real-life situations call for evidence-informed decisions rather than relying solely on evidence-based ones. Furthermore, involving stakeholders during the evidence generation phase, as demonstrated by Thailand's theory of change for HTA, is deemed crucial.

Key takeaways highlighted the utility of this approach, particularly for countries with limited human resource capacities. However, caution is advised regarding the transferability of health economic evaluations, underscoring the reliance on local studies for more reliable information. It was concluded that more dependable information for coverage decisions and price negotiation could be generated through local studies.

Dr. Teerawattananon concluded the session by illustrating how HTA evidence was utilized to negotiate prices in Thailand. Currently, medicines with an ICER exceeding the Thai CET of 160,000 THB (5000 USD) are excluded from the benefits package list. However, in special cases where additional social, ethical, or equitable considerations arise, ICER evidence is employed for price negotiations. For instance, although an HTA for Gaucher's Type 1 disease deemed imiglucerase not cost-effective, a cost-sharing model was negotiated. This arrangement allowed the inclusion of the imiglucerase to NLEM. For the initial five patients, costs were shared equally between the manufacturer and the government, with the manufacturer covering the entire treatment costs for subsequent patients identified. This case highlighted the government's consideration of social and ethical factors, underscoring the multifaceted nature of decision-making processes.

Day 4: Navigating Equity, Ethics and Emerging Issues & Unveiling the Impact of Health Technology Assessment

The fourth day started with a session by Professor Richard Cookson which offered insights into healthcare decision-making processes, drawing on lessons from the UK's approach and emphasizing considerations for equity in pharmaceutical price negotiation. Following his presentation, participants engaged in exercises at practical application of equity into decision making as well as debate on efficiency vs equity. In the afternoon, Dr. Pritaporn Kingkaew, Head of Research Unit at HITAP, provided a comprehensive overview of HTA and its crucial role in decision-making within the healthcare system. This session was followed by Dr. Wanrudee Isaranuwatchai, Program Leader at HITAP who provided insights into ongoing and emerging issues for medicines policy.

V. Equity, Ethics, and Ongoing Issues

Equity and Pricing Policies in the UK

Professor Richard Cookson's session provided valuable insights into healthcare decision-making processes, particularly focusing on lessons learned from the UK's approach and considerations for equity in pharmaceutical price negotiation. Key points from the session include:

Figure 18. Dr. Richard Cookson, Professor, Centre for Health Economics & Equity in Health Policy (Equipol) Research Group, United Kingdom

The establishment of independent organizations like the National Institute for Health and Care Excellence (NICE) in the UK was driven by the need for national guidance on medication dispensing and ensuring equitable access to medicines. Over time, decision-making processes have evolved to incorporate evidence-informed approaches, stakeholder consultations, and considerations of societal values.

The UK employs a cap on sales growth for pharmaceutical companies, previously known as the Pharmaceutical Price Regulation Scheme, now renamed the Voluntary Pharmaceutical Price Agreement. The government maintains an arm's length approach to pricing decisions, allowing independence in decision-making.

Equity considerations play a crucial role in pharmaceutical price negotiations, with organizations like International Society for Pharmacoeconomics and Outcomes Research (ISPOR) and Hospital Corporation of America (HCA) addressing healthcare challenges specific to different regions. Challenges in coordination, including time zone differences, necessitate leveraging regional networks for efficient communication and collaboration.

Factors influencing price negotiation include productivity, family spillover effects, financial protection, severity of disease, and the value of hope. The Equity Efficiency Impact Plane serves as a conceptual tool to analyze the impact of pricing decisions on both cost-effectiveness and reducing health inequalities, guiding decision-makers in balancing efficiency and equity considerations.

The session also discussed the importance of considering severity of disease and equity in healthcare decision-making processes, emphasizing the need to minimize disparities in life expectancy to prevent growing inequalities and potential social unrest.

In discussions, the topic of whether moral and ethical factors such as disability and low income should be deliberately monitored in healthcare decision-making processes was raised. Additionally, the distinction between health inequality and inequity, as well as the factors involved in health equity beyond wealth, were explored.

Distributional Cost-Effectiveness Analysis (DCEA) Web-tool

Exercise Overview: Participants were asked to use a tool developed by Prof. Cookson to analyze health equity, originally developed in the UK but adaptable for various regions with specific prevalence data.

Participants went through the process of producing and interpreting a "triage" Distributional Cost-Effectiveness Analysis (DCEA) using the web-based simple DCEA Calculator for health interventions in England. The exercise was developed by Richard Cookson, in collaboration with James Koh and Paul Schneider, utilizing a tool they collectively created. The aim is to offer a quick assessment of the potential health inequality impact of a new intervention, using an illustrative example of a drug for sickle cell disease.

The process involves step-by-step instructions to input data into the calculator, estimating incremental costs and health benefits across five quintile groups of the English population based on the Index of Multiple Deprivation (IMD), where IMD1 represents the most disadvantaged group and IMD5 the least. Producing the basic illustrative example takes only a few minutes, but interpreting the results may require more time depending on the depth of analysis desired.

Assessing the Impact of NLEM:

Dr. Pritaporn Kingkaew's session provided a comprehensive overview of HTA and its crucial role in decision-making within the healthcare system. HTA is a formal and transparent process that evaluates the value of health technologies throughout their lifecycle, aiming to ensure equitable, efficient, and high-quality healthcare.

The assessment framework of HTA considers various dimensions of value, including intended and unintended consequences compared to existing alternatives. This assessment can occur at different stages, such as pre-market, market approval, and post-market, and involves evaluating factors like pricing, value-added, and overall value for money.

Figure 19. Dr. Pritaporn Kingkaew, Head of Research Unit, HITAP, Thailand

Examples presented during the session demonstrated the application of HTA in different disease contexts, ranging from breast cancer to colorectal cancer and lymphoma. These examples showcased how pricing strategies, market competition, and managed entry agreements can influence the affordability and accessibility of essential medications.

Furthermore, the session highlighted various types of outcomes evaluated in HTA, including economic, clinical, and humanistic outcomes, emphasizing the importance of considering diverse factors when assessing the value of a health technology.

Policy recommendations emphasized the utility of health economic evaluation, particularly for technologies with high costs and low outcomes. Additionally, the importance of investing in HTA monitoring and evaluation to strengthen the HTA process was underscored, along with the necessity of robust data systems for tracking HTA impact and ensuring transparency in healthcare access and pricing information.

Participants were encouraged to consider their specific aims and objectives for impact assessment, as well as available data sources when applying HTA in their contexts. This reflective approach prompts individuals to ask pertinent questions regarding the goals of their assessments and the availability of data necessary for informed decision-making.

Ongoing and emerging issues for medicines policy:

Exercise Overview: Following the morning discussions, participants were divided into two groups and tasked with a decision between prioritizing efficiency or equity. They were provided with instructions to:

1. Take a blank piece of paper, write their name, and indicate their choice between efficiency and equity.

2. Prepare and engage in a debate centered around their group's chosen priority, discussing their respective perspectives and arguments.

The debate moderated by Assoc. Prof. Wanrudee Isaranuwatchai and Prof. Cookson, centered around the funding of the ABC vaccine and its implications for preventing infections in children, considering both cost-effectiveness and health inequality aspects. With ABC infection posing significant health risks, including meningitis and pneumonia, particularly among children under five years old, the vaccine's effectiveness is acknowledged. However, its high price limits widespread use in many areas.

Figure 20. Dr. Wanrudee Isaranuwatchai, Director & Associate Professor, HITAP, Thailand and University of Toronto, Canada

Team Equity advocates for funding the ABC vaccine, stressing the importance of protecting children from life-threatening infections and reducing health inequality. They argue that prioritizing vulnerable populations aligns with principles of fairness and social justice in healthcare, emphasizing equitable access to protection against ABC infections.

On the other hand, Team Efficiency expresses concerns about the cost-effectiveness of the vaccine. They argue that allocating funds toward purchasing other vaccines may yield greater overall benefits, highlighting the potential trade-offs involved. While acknowledging the risk of infection for children in lower-income groups if the vaccine is not funded, they prioritize maximizing the allocation of resources to interventions with the highest long-term benefits.

Additional issues around funding high-cost medicines by establishing special pathways for reimbursement were discussed.

Day 5: Learnings, Lessons, and Strategic Takeaways for Nations on the Rise

The final day began with Dr. Murat Ozturk from the Pan-American Health Organization (PAHO) discussing pooled procurement, focusing on PAHO's Revolving Fund, which facilitates pooled procurement of vaccines and essential medicines at lower prices. Participants learned how member states contribute to the fund, enabling them to acquire vaccines at significantly reduced costs. In discussions, challenges and solutions related to pooled procurement were explored, particularly in light of the COVID-19 pandemic. Countries shared experiences and strategies, highlighting the importance of accurate demand forecasting, technology selection, and transparency in pricing. The session also included group exercises where participants identified common challenges in health technology procurement and proposed solutions. Key themes included shortages, high prices, and legal barriers, with pooled procurement emerging as a viable approach to address these challenges.

The day concluded with role-play scenarios representing various countries, each highlighting key learnings and proposed actions. Key takeaways emphasized the importance of HTA, transparent pricing policies, and stakeholder collaboration in ensuring equitable access to affordable healthcare.

VI. Lesson Sharing for Pooled Procurement

Dr. Murat Ozturk, a representative from Pan-American Health Organization (PAHO), discussed pooled procurement with the participants. The session opened with PAHO's Revolving Fund, which comprises of two mechanisms: one for vaccines and another for essential medicines. Established in 1979 by member states, its purpose is to facilitate pooled procurement to obtain lower prices. The fund is primarily financed by government contributions, with 95% of procurements funded in this manner. Remarkably, PAHO's pooled procurement enables member states to acquire vaccines at prices 2-3 times cheaper than comparable countries, with even greater reductions for those requiring smaller volumes.

Figure 21. Online presentation: Dr. Murat Ozturk, Supply Chain Advisor, PAHO, United States

Initiating a pooled mechanism necessitates harmonizing planning among member states and reaching agreements on the products to be procured. The term "Revolving Fund" originates from its initial seed money provided by select countries, including the US and Brazil. Member states contribute a fee to PAHO for utilizing its services, which accumulates over time, hence the term "revolving."

PAHO leverages its consolidated demand from 41 member states to negotiate procurement agreements with suppliers. Challenges in implementing pooled procurement arise in countries with robust existing regulatory systems, whereas those lacking such systems can cooperate more readily.

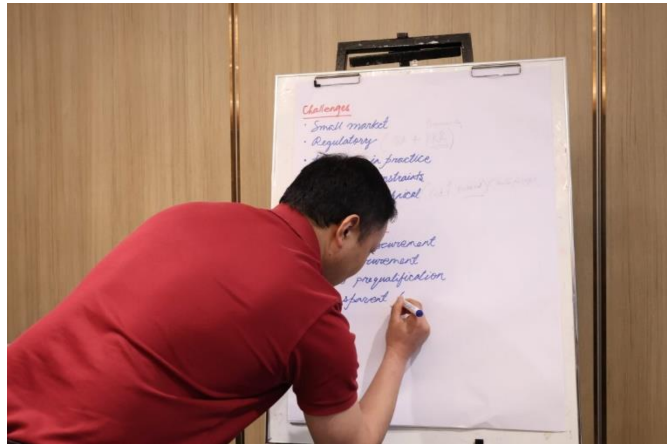

Figure 22. Workshop activity: Mr. Karma Jurmin, Sr. Program Officer, Ministry of Health, Royal Government of Bhutan, Bhutan

Amidst the COVID-19 pandemic, several issues surfaced. Brunei Darussalam faced challenges in accessing medicines through its affiliation with Gavi, while the US government's high bidding led to vaccine shortages, eventually resolved through donations to COVAX. The Philippines encountered supply shortages and logistical hurdles, prompting discussions on potential collaborations with PAHO or international procurement agents. Mongolia, recently embracing pooled procurement, began collaborating with UNICEF and WHO representatives for procurement assistance.

Additional discussion points raised were the importance of accurate demand forecasting, challenges in technology selection for pooled purchases, and the need for transparency in purchase prices among countries. Encouraging local vaccine production emerged as a strategy for accessing products at lower costs. A consensus among participants on the significance of international partnerships, identifying champions within their own countries and the region, and building technical capacity for effective procurement and negotiation was achieved.

Presentation of Findings from Group Exercises

Group 1:

- Identified challenges similar across countries, particularly in small nations like Brunei Darussalam and Bhutan.
- Both countries expressed skepticism about pooled procurement, citing concerns over cost and clearance barriers.
- Recognized the need to address common challenges collectively while tailoring solutions to specific national contexts.

Group 2:

- Discussed solutions to challenges identified, including lack of technical capacity, high prices, production issues, and absence of pricing policies.
- Proposed pooled procurement as a viable approach to address these challenges by leveraging collective bargaining power and economies of scale.

- Suggested that pooled procurement could mitigate challenges related to small market sizes and lack of expertise in negotiation.

Group 3:

- Advocated for starting with pooled procurement within individual countries before expanding to international collaboration.
- Highlighted the importance of open information sharing between countries and leveraging agreements with international organizations like UN agencies.
- Emphasized considering manufacturing proximity when engaging in pooled procurement to optimize supply chain efficiency.

Key Themes and Challenges Identified:

- Shortages and wastage due to unpredictable demand.
- Limited availability of registered products or reliance on unregistered alternatives.
- High prices, particularly for low-volume or single-source products.
- Lack of expertise in price negotiation.
- Legal and regulatory barriers including national laws, product specifications, and regulatory requirements across different countries.

The group exercise highlighted the importance of collaborative approaches like pooled procurement in addressing common challenges in health technology procurement. While acknowledging country-specific nuances, participants agreed on the potential benefits of pooling resources and expertise to optimize procurement processes and improve access to essential health technologies.

VII. Lesson Learned

Synthesis of Lessons Learned and Future Plans

For the last session, participants engaged in role-play scenarios representing various countries, including Brunei Darussalam, Mongolia, Malaysia, Bhutan, and the Philippines. Key learnings emerged from each scenario as shown in table 2:

Country	Key Learning
Bhutan	• Addressed issues of limited budget and expensive medicines due to lack of pricing policy. • Expressed the intention to involve HITAP in developing solutions to pricing and procurement challenges. • Proposed a plan to the cabinet for action steps, indicating government commitment to addressing pricing and procurement issues.
Brunei Darussalam	• Acknowledged the need for a robust pricing policy due to budget constraints. • Highlighted the importance of HTA for evaluating new drugs and setting evidence-based prices. • Emphasized the necessity of a transparent process involving stakeholders and public input. • Outlined key steps for implementing HTA, including establishing criteria, conducting horizon scanning, and monitoring and evaluation.
Malaysia	• Explored challenges faced by patients in accessing affordable medication in the private sector. • Discussed plans to enhance price transparency and learn from Thailand about pricing transparency. • Considered options like private-public pooled procurement to negotiate better prices and improve access to medication.
Mongolia	• Recognized barriers like supply shortages and technical capacity limitations. • Learned about the benefits of establishing an HTA agency and proposed it to the ministry. • Need to identify medical professionals, particularly pharmacists, as potential candidates for building HTA capacity. • Underlined the importance of commitment from decision-makers for successful implementation of HTA.
Philippines	• Demonstrated perseverance in negotiating prices to improve access to healthcare services. • Utilizing HTA evidence to negotiate prices and promote domestic production

Table 3. Key learnings from each country representative

Overall, the role-play exercises underscored the significance of HTA, transparent pricing policies, and stakeholder collaboration in ensuring equitable access to affordable healthcare. Additionally, the exchange of experiences and the offer for participants to attend further conferences in Thailand fostered international cooperation and knowledge sharing in healthcare policy.

Figure 23. Group Photo with participants

V. Conclusion and Key Takeaways for the Future

This study visit provided a valuable platform for countries with diverse geographies, economies, and health systems to come together and explore medicine pricing policies. Over five days, representatives from five countries engaged in discussions, identifying unique challenges as well as common hurdles and solutions.

For instance, landlocked countries like Bhutan, Mongolia, and Brunei Darussalam face difficulties in negotiating prices with manufacturers due to monopolies and limited local pharmaceutical production capacity. Consequently, they rely heavily on external pharmaceutical companies, which diminishes their negotiating power. This can be tackled by increasing domestic production by establishing mechanisms incentivizing the manufacturers or even having pooled procurement mechanisms. All recognized the need to institutionalize HTA and begin capacity building in this area. While each country's implementation process may vary, Brunei Darussalam suggested starting with an HTA study on the most pressing health issue with significant economic burdens. Malaysia faces a distinct challenge as its existing health system lacks transparency in medicine price setting. Addressing this would require significant government commitment and policy updates. The solution that participants proposed utilizing the HTA agency to enhance negotiating power. Similarly, the Philippines has limited HTA capacity, and much of the price negotiation scope is confined to government-owned facilities. Using HTA evidence in negotiations was highlighted as beneficial not only for managing prices but also as an impact assessment tool for the HTA process.

Overall, the study visit underscored the value of bringing together experts from Thailand to share their experiences and learnings. It became evident that no single solution fits all, but sharing experiences can pave the way for finding solutions collaboratively. All participants agreed on the importance of similar knowledge-sharing experiences to address common problems, build capacity, facilitate knowledge translation through networks like HTAsiaLink, and foster regional coordination.

Key Takeaways:

1. Establishing robust processes and mechanisms for evidence generation
2. Prioritizing evidence-based price negotiation
3. Encouraging industry participation through incentives
4. Boosting domestic medicine production
5. Strengthening regional partnerships through dialogue on pooled procurement
6. Institutionalizing HTA
7. Identifying champions of health
8. Learning from different countries' experiences

Evaluation

A feedback form was distributed to participants via a QR code displayed on screen throughout the five-day event and at its conclusion. The overall response rate for the study visit was 71%, with 15 out of 21 participants providing feedback. 73. 3% of participants were 100% satisfied whereas 26.67% reported 80% satisfaction on the overall conduct of the study visit. Notably, sessions that received the highest praise included the Deep Dive into Thailand's Medicine Pricing Policy, the site visit to the NHSO, the Decision-making Process for Providing Affordable Essential Medicines, and the Development and Impact Assessment for NLEM.

Regarding suggestions for improving the execution of the study visit, while overall satisfaction was high, a few participants recommended breaking the visit into multiple series, visiting Thailand's FDA, organizing more similar study visits for continued learning, and enhancing the physical setup of the venue. In terms of future requests for HITAP to build capacity, participants expressed interest in information sharing on price negotiation processes and techniques, economic evaluation methods including measuring QALY, Incremental Cost-Effectiveness Ratios ICER, and budget impact, as well as topics such as implementing and setting up HTA and a detailed workshop on monitoring and evaluation of HTA, pooled procurement, and price transparency.

For future collaboration and continued partnerships, participants suggested similar lesson-sharing sessions and hands-on training in their own respective countries. They also proposed maintaining engagement through email and webinars, as well as collaborating on initiatives to further enhance capacity building and knowledge exchange.

Annex

Annex 1. Participant List

Name	Affiliation	Country
Siti Ajar binti Haji Yusop	Department of Medical Services	Brunei Darussalam
Lubna binti Haji Abdul Razak	Department of Policy and Planning	Brunei Darussalam
Lenny Marliani binti Haji Ramli	Department of Pharmaceutical Services	Brunei Darussalam
Nazariah binti Haron	Pharmacy Practice and Development Division Pharmaceutical Services Divisions, MOH	Malaysia
Wan Nor Ashikin binti Wan Ibrahim	Pharmacy Practice and Development Division Pharmaceutical Services Divisions, MOH	Malaysia
Rosliana binti Rosli	Pharmacy Practice and Development Division, Pharmaceutical Services Divisions, MOH	Malaysia
Amarjargal Choijoo	Ministry of Health	Mongolia
Gantuya Ganbold	Department of Policy and planning, General Authority for Health Insurance under the Ministry of Health	Mongolia
Alimaa Demberel	Department of Medicine Supply, Medicines and Medical Devices Regulatory Agency	Mongolia
Sarah May Obmana	Policy Planning and Evaluation Unit, HTA Philippines	Philippines
Patrisha Quema	Pharmaceutical Division, Department of Health	Philippines
Vanesa Obera	Pharmaceutical Division, Department of Health	Philippines
Merla Rose D. Reyes	Benefits Development and Research Department, Philippine Health Insurance Corp	Philippines
Roberto L. Balaoing	Benefits Development and Research Department, Philippine Health Insurance Corp	Philippines
Lkhagvadorj Vanchinsuren	World Health Organization Western Pacific Regional Office (WHO WPRO)	Philippines
Karma Jurmin	Health Intervention & Technology Assessment Division Department of Health Service Ministry of Health	Bhutan

Pempa	Health Intervention & Technology Assessment Division Department of Health Service Ministry of Health	Bhutan
Sangay Choden	Bhutan Food and Drug Administration (BFDA)	Bhutan
Loden Jamtsho	BFDA	Bhutan
Som Bdr. Darjee	BFDA	Bhutan
Ngawang Dema	United Nations Development Programme, Bhutan Country Office	Bhutan

Annex 2. Lecturers

Name	Affiliation	Country
Dr. Yot Teerawattananon	Health Intervention and Technology Assessment Program	Thailand
Dr. Supasit Pannarunothai	Centre for Health Equity Monitoring Foundation	Thailand
Dr. Cha-oncin Sooksriwong	Faculty of Pharmacy, Mahidol University	Thailand
Rungpetch Sakulbumrungsil	Faculty of Pharmaceutical Sciences, Chulalongkorn University	Thailand
Nusaraporn Kessomboon	Faculty of Pharmaceutical Sciences, Khon Kaen University	Thailand
Khunjira Udomaksorn	Faculty of Pharmaceutical Sciences, Prince of Songkla University	Thailand
Siobhan Botwright	Health Intervention and Technology Assessment Program	Thailand
Dr. Wanrudee Isaranuwatchai	Health Intervention and Technology Assessment Program	Thailand
Dr. Pritaporn Kingkaew	Health Intervention and Technology Assessment Program	Thailand
Richard Cookson	Centre for Health Economics & Equity in Health Policy (Equipol) Research Group	United Kingdom
Murat Hakan Ozturk, Ph.D	Pan American Health Organization / World Health Organization	United States

Annex 3. Agenda

Day 1 Monday, 4th March, 2024		
Time	**Agenda items**	**Responsible person(s)**
9:00 – 9:30	Welcome and Ice Breaker	Dimple Butani
9:30-10:00	Overview of Study Visit and Align Expectations	Dr. Yot Teerawattananon
10:00 – 11:00	Introduction to the Thai health system	Dr. Supasit Pannarunothai

11:00 – 11:15	**Coffee break**	
11:15 – 12:30	Introduction to policies on medicines in Thailand	Dr. Cha-oncin Sooksriwong
12:30 – 13:30	**Lunch break**	
13:30 – 15:00	Knowledge Exchange Session: Strengthening Health Systems for Medicines Pricing	All participants
15:00-15:15	**Coffee Break**	
15:15-16:00	Knowledge Exchange Session: Strengthening Health Systems for Medicines Pricing	All participants
16:00 – 16:30	Recap, questions, and plan for the next day, Feedback survey	HITAP/Participants

UHC- Universal Health coverage, HITAP- Health Intervention & Technology Assessment Program

Day 2 **Tuesday, 5th March, 2024**		
Time	**Agenda items**	**Responsible person(s)**
9:00 – 9:30	Recap of Day 1	HITAP
09:30-09:50	Overview of Pricing policies along the supply chain and patient access framework	Aj. Rungpetch Sakulbumrungsil
09:50-10:20	Price setting mechanisms and negotiations for NLEM, Procurement tools	Aj. Khunjira Udamksorn
10:20-10:30	**Coffee Break**	
10:30-11:00	Technical aspects: Impact of FTAs on domestic policy instruments, Guidelines for impact assessment, Policy coherence between different stakeholders	Aj. Nusaraporn Kessomboon
11:00-12:00	Moderated Panel discussion Price acquisition tools, Role of Global Procurement Offices in countries	Dr. Yot Teerawattananon
12:00-13:00	**Lunch Break**	
13:30-14:30	Introduction to Basic Health Economics	Siobhan Botwright
14:30-15:00	Overview of the exercise	Siobhan Botwright
15:00-15:15	**Coffee Break**	
15:15 – 16:15	Hands-on Exercise	Siobhan Botwright, Manit Sittimart and Dimple Butani
16:15 – 16:30	Recap, questions, and plan for the next day	HITAP/Participants
17:30 onwards	**Dinner at The RiverHouse 1953**	

Day 3 **Wednesday, 6th March, 2024**

Time	Agenda items	Responsible person(s)
7:30 a.m.	Travel to NHSO	All Participants
9:00 – 10:30	Utilizing Health Technology Assessment for Universal Health Coverage in Thailand- Focus on Benefit package	Mrs. Surangrat Jiranantanagorn Expert, Policy Advocacy Unit, NHSO
10:30-11:30	Site Visit at NHSO	All Participants
11:30 – 12:30	**Lunch**	
12:30 – 13:45	**Arrive at the Venue & Coffee Break**	
14:00 – 14:45	Development of Pharmaceutical Benefit Package	Dimple Butani
14:45-16:00	Decision-making process for providing affordable essential medicines in Thailand	Dr. Yot Teerawattananon
16:00-16:15	**Coffee Break**	
16:00-16:30	Q&A and Recap	HITAP & Participants

NHSO- National Health Security Office, HTA- Health Technology Assessment, UHC- Universal Health Coverage

Day 4 **Thursday, 7th March, 2024**		
Time	**Agenda items**	**Responsible person(s)**
9:00 – 9:30	Recap from Day 3	Dimple Butani
9:30-11:00	Equity and Pricing Policies in the UK	Prof. Richard Cookson
11:00 – 11:15	**Coffee Break**	
11:15-12:30	DCEA Web-tool	Prof. Richard Cookson
12:30 – 13:30	**Lunch**	
13:30-14:30	Assessing the Impact of NLEM	Dr. Pritaporn Kingkaew
14:30 – 15:15	Ongoing and emerging issues for medicines policy	Assoc. Prof. Dr. Wanrudee Isaranuwatchai
15:15 – 15:30	**Coffee break**	
15:30 – 16:30	Panel Discussion – Ethics, Equity, and Other	Assoc. Prof. Dr. Wanrudee Isaranuwatchai Prof. Richard Cookson
17:30 onwards	**Dinner**	

NLEM- National List of Essential Medicine, HITAP- Health Intervention and Technology Assessment Program, DCEA- Distributional Cost-Effectiveness Analysis

Day 5 **Friday, 8th March, 2024**		
Time	**Agenda items**	**Responsible person(s)**

8:30 – 9:00	Recap	Dimple Butani
9:00 – 10:30	Lesson sharing for Pooled Procurement	Murat Ozturk, PAHO
10:30-10:45	**Coffee Break**	
10:45-12:30	Group Exercise	Annapoorna and Dimple
12:30 – 13:30	**Lunch**	
13:30 – 15:00	Present the findings Synthesis & plan for future	Moderated by: Assoc. Prof. Dr. Wanrudee Isaranuwatchai
15:15-15:30	**Coffee Break**	
15:15 – 15:30	Closing Remarks	Assoc. Prof. Dr. Wanrudee Isaranuwatchai, HITAP

Annex 4. Organizing team

Name	Affiliation	Country
Saudamini Dabak	Head, International Unit, HITAP	Thailand
Dimple Butani	Senior Associate, International Unit, HITAP	Thailand
Francis Carlo Panlilio	International Cooperation Officer, International Unit, HITAP	Thailand
Kanokwan Kammong	Senior Coordinator, International Unit, HITAP	Thailand
Sarita Kitmoke	Coordinator, International Unit, HITAP	Thailand
Thapana Senrat	Information Technology Officer, HITAP	Thailand
Serah Carolyn Grace	Communication Officer, HITAP	Thailand
Wittawat Chatchawanpreecha	Communication Officer, HITAP	Thailand

Annex 5. Pre-Study Visit Survey Response

Background

A pre-workshop survey was sent to 17 participants from five Asian countries

Questions implemented:

1) Background information- Age, Education, Work experience, position, organization and current role

2) What specific knowledge they seek from the pricing study visit and;

3) How they intend to apply findings from this study visit to their country

15 responded – Bhutan (3), Brunei (3), Malaysia (3), Mongolia (3), and the Philippines (3)

Organization	Count
Ministry of Health	5
Pharmaceutical Services Programme, MOH	3
HTA Division	2
Medicine and Medical devices Regulatory Agency	1
General authority for health insurance	1
Department of Health	1
PhilHealth	1

Malaysia- Participant Background

Name	Age	Position	Work Experience (in years)	Organization	Current Role	Education Qualification
Nazariah Binti Haron	47	Senior Principal Assistant Director	22	Pharmaceutical Services Programme, MoH	**Drug Pricing matters** – monitoring, and implementation of National Medicine Policy goals by ensuring- transparency, affordability & informing policy formulation	Master in Clinical Pharmacy
Dr. Rosliana Rosli	46	Senior Principal Assistant Director	21	Pharmacy Practice & Development Division, Pharmaceutical Services Programme, MoH	**Secretariat for National Essential Medicines Lists (NEML)-** To update NELM every 2-3 yrs as per WHO EML. To ensure the availability & affordability of essential medicines	Doctor of Philosophy (PhD)
Wan Nor Ashikin Binti Wan Ibrahim	42	Senior Principal Assistant Director	18	Pharmaceutical Services Programme, MoH	**Monitoring medicine prices** through annual surveys*, managing price databases, price evaluation and price negotiations	Bachelor of Pharmacy (Hons.)

What specific knowledge they are seeking ?

1. Gain in-depth knowledge of reimbursement policies, regulations, and available medicines benefit packages.
2. Understand the **frameworks for UHC and engagement with different stakeholders**
3. Learn from Thailand's experience in **implementing price transparency** in the **private sector**.
4. Understand **government assistance for local medicine production**.
5. **Understand the impact** of medicine pricing policies and universal health coverage (UHC) on affordability, accessibility, and the well-being of the healthcare and pharmaceutical industries.
6. **Identify common issues and challenges** in formulating and implementing medicine pricing policies.
7. Explore the reimbursement process in Thailand and compare it to Malaysia's Skim Perubatan Madani* for the B40 group's Acute Primary Care Services.

How they intend to apply the knowledge upon return to their country?

1. **Aligning with Health White Paper Goals**: The insights gained will support Pillar 3 of the Health White Paper for Malaysia, ensuring comprehensive and affordable health services for the population. This includes developing a benefit package financed by a dedicated health fund, managed by a not-for-profit strategic purchaser.
2. **Benchmarking Pricing Policy**: Utilize shared best practices to benchmark pricing policy, aiming to enhance medicine affordability and accessibility in Malaysia.
3. **Improving Price Setting Mechanisms**: Insights into price setting mechanisms and reimbursement pricing will guide in establishing better indicative prices for procurement negotiations and future reimbursement schemes.
4. **Strengthening Medicines Selection Process**: To enhance the process of medicines selection for Malaysia's National Essential Medicine List (NEML), contributing to the development of a pharmaceutical benefits package.
5. **Developing Pricing Policy Framework**: With the acquired experience and knowledge, aim to formulate key recommendations and a comprehensive framework for pricing policies in Malaysia.

Mongolia- Participant Background

Name	Age	Position	Work Ex. (in years)	Organization	Current Role	Education Qualification
Ms Alimaa Demberel	33	Officer of the Medicine Price and Procurement	10	Medicine and Medicine Device Regulatory agency	-	Bachelors in Pharmacy
Ms Gantuya Ganbold	43	Senior Officer, Department of Policy and Planning	12	General Authority for Health Insurance	In charge of cost payment methods, determines the list of discounted drugs, drug unit prices, and the rate of discount from the insurance fund.	Masters in Public Administration
Dr Amarjargal Choijoo	54	Senior Expert	26	Ministry of Health	Work for medicine regulations and Medicine Pricing	Pharmacist

What specific knowledge they are seeking ?

1. Learn from the experience of other countries in revising the list of essential medicines eligible for discounts from the Health Insurance Fund.
2. Understand the specific methodology for health insurance discounted drugs, including drug pricing and determining the discount percentage from insurance funds.
3. Gain knowledge on price regulations in Thailand and the Health Technology Assessment (HTA) process for selecting medicines for reimbursement.

How do they intend to apply the knowledge upon return to their country?

- Law of Medicine and Medical Device is under revisions- Since 2016, a working group (WG) has been set to revise the law. This WG identified- that provisions on the regulation of drug prices need to be added to this law. The training will help with:

1. Contribute to revising the Law of Medicine and Medical Device by drafting **regulations on drug pricing** based on learnings from other countries.
2. Apply insights from other countries on **revising the national list of essential medicines** and providing drug price discounts for health insurance funds.
3. **Share acquired knowledge and skills** with colleagues, conduct research and implement trial initiatives.
4. **Develop a policy document** on regulating medicine pricing and HTA.

Brunei Participant Background

Name	Age	Position	Work Ex. (in years)	Organization	Current Role	Education Qualification
Lubna Razak	49	Research Officer	20	Ministry of Health	Focal person for Health technology Assessment	PhD Behavioral Sciences
Lenny Marliani Hj Ramli	39	Head of Pharmacy Procurement section	15	Department of Pharmaceutical Services Ministry of Health	Responsible for purchasing around 500 pharmaceuticals for all government health facilities. Negotiating prices, and price comparisons from international prices. Provide data for cost containment and efficiency improvements	Master of Pharmacy
Siti Ajar Haji Yusop	51	Acting Chief Executive Officer	28	Ministry of Health	Responsible for ensuring sustainability in health spending for the government	First Degree

What specific knowledge they are seeking ?

1. To learn more about establishing medicines pricing mechanisms in Thailand and other countries.
2. To increase knowledge of **experiences and common challenges faced when implementing medical policies.**
3. To learn about the **pricing policies formulation and benchmark against other countries.**
4. To learn more about **Economic Evaluation.**

How do they intend to apply the knowledge upon return to their country?

1. Continue to **strengthen networks among participants** and **identify potential areas of collaboration**
2. **Develop plans or reflect** on the implications of lessons learned for my country
3. **Propose key recommendations** for Brunei to our upper management, incorporating lessons from the study visit

Philippines- Participant Background

Name	Age	Position	Work Ex. (in years)	Organization	Current Role	Education Qualification
Sarah May Obmana	27	Supervising Health Program Officer	4	Department of Science and Technology - HTA Division	Supervise HTA recommendations for reimbursement decisions	Bachelors in Industrial Pharmacy
Vanesa Obera	44	Supervising Health Program Officer, Head of Pricing Unit	23	Pharmaceutical Division of the Department of Health	To implement the law specifically about affordability	Masters degree
Roberto L. Balaoing	54	Senior Social Insurance Specialist	17	PhilHealth	Performance monitoring policies of accredited healthcare providers.	Doctor of Dental Medicine

What specific knowledge they are seeking ?

1. Understanding **how to integrate HTA** with medicines **pricing and benefit package development**.
2. Exploring other countries' policies and experiences regarding medicines pricing.
3. Learning from **Thailand's actions in addressing various challenges encountered**.
4. Acquiring insights into **pricing policies to facilitate the development of effective monitoring policies**.

How do they intend to apply the knowledge upon return to their country?

1. Implement process innovations to **enhance the integration of HTA, medicine pricing, and benefit package development**.
2. Directly apply learnings to the **proposal of a new medicine pricing policy**.
3. **Propose amendments to the Cheaper Medicines Act** based on acquired knowledge.
4. Share acquired learnings with colleagues to enrich their understanding and foster knowledge exchange.

Bhutan- Participant Background

Name	Age	Position	Work Ex. (in years)	Organization	Current Role	Education Qualification
Som Bdr. Darjee	57	Program Analyst, Member of Pricing Committee	38	Ministry of Health	Work in quantification division – Cost estimation for medical supplies	Diploma in Clinical Pharmacy
Pempa	32	Senior Program Officer	8	HITAD, MOH	Work for HTA division	BMLT
Karma Jurmin	42	Senior Program Officer	21	Ministry of Health	Work for health financing division	MPH

What specific knowledge they are seeking ?

1. Gain insights into value for money for government spending efficiency.
2. Learn about price negotiations, threshold determination, sustainable financing, and healthcare services and product pricing.

How do they intend to apply the knowledge upon return to their country?

1. To compare the prices with various organization
2. To be able to understand procurement of health technologies, HTA and sustainable health financing

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1. OECD, Organization WH. Health at a Glance: Asia/Pacific 20222022.
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3. Law on Medicine and Medical Device under review [press release]. The UB Post2020.
4. Loh YSL, Siah AKL, Koh SGM, Cheong WL, Su TT. "What's up with price controls?" Stakeholders' views on the regulation of pharmaceutical pricing in Malaysia. PloS one. 2023;18(12):e0291031.