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Advancing Equitable Access to Medicines in Southeast Asia: A Comprehensive Policy Analysis of the 2025 Regional Position Paper

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ABSTRACT

The Southeast Asia region faces persistent challenges in ensuring equitable access to affordable, quality medicines despite decades of economic growth and health system advancements. This article provides a comprehensive policy analysis of the "Advancing Equitable Access to Medicines in Southeast Asia" position paper released by the Southeast Asia Access to Medicine Working Group following the February 2025 Bangkok Summit and April 2025 New Delhi consultations. The analysis examines the paper's conceptual framework that redefines access as a patient-centered continuum, evaluates its recommendations across five core pillars; governance, digital health, health technology assessment, innovative financing, and public-private partnerships and assesses implementation feasibility within ASEAN's diverse contexts. Findings reveal that while the position paper offers transformative strategies emphasizing regional harmonization and community engagement, successful implementation requires navigating significant challenges including regulatory fragmentation, varying institutional capacities, sustainable financing mechanisms, and political economy constraints. The analysis employs health systems frameworks and political economy analysis to identify critical success factors for translating policy recommendations into measurable improvements. The article concludes that realizing equitable access demands sustained political commitment, institutionalized cross-sector collaboration, adaptive governance frameworks, and robust monitoring systems. The study contributes to policy discourse by identifying critical research gaps including the need for context-specific implementation metrics, longitudinal impact assessment frameworks, and participatory governance evaluation tools.

Keywords: Access to Medicines, Digital Health Equity, Health Policy Analysis, Regional Harmonization, Southeast Asia

1. Introduction

Access to affordable, quality-assured medicines remains one of the most formidable challenges facing health systems in Southeast Asia (SEA). Despite remarkable economic growth—with the region's GDP increasing more than fivefold since 2000 and significant investments in healthcare infrastructure—millions across ASEAN member states continue to face insurmountable barriers to obtaining essential treatments (Rahman et al., 2018). The inaugural Southeast Asia Access to Medicine Summit, held on 18 February 2025 in Bangkok, Thailand, and subsequent consultations during the World Health Summit Regional Meeting in New Delhi on 27 April 2025, brought together an unprecedented coalition of policymakers, industry leaders, academics, patient advocates, and healthcare professionals to confront these persistent challenges.

The position paper emerging from these historic convenings represents a significant milestone in regional health policy discourse. It articulates a comprehensive vision for transforming access to medicines across

ASEAN member states and India, reflecting shared health challenges and unprecedented opportunities for cross-border collaboration. According to World Health Organization and ASEAN Secretariat, the document emerges at a critical juncture when the region grapples with the convergence of multiple pressures: the lingering effects of the COVID-19 pandemic, accelerating demographic transitions with rapidly aging populations, rising non-communicable disease burdens, climate-related health threats, persistent infectious disease challenges, and fundamental shifts in global health financing landscapes.

Despite the significance of this policy document, several critical research gaps persist in the literature. First, there is limited empirical analysis of how regional policy frameworks translate into national-level implementation across Southeast Asia's heterogeneous health systems. Second, existing studies have not adequately examined the political economy dynamics shaping access to medicine reforms, particularly regarding stakeholder interests and institutional incentives. Third, the literature lacks comprehensive assessment tools for measuring progress in equitable access that account for contextual diversity. Fourth, minimal attention has been paid to the integration of community voices in policy evaluation frameworks. Fifth, there is insufficient comparative analysis of digital health readiness and its implications for access equity across different country contexts. This study addresses these gaps by providing a systematic policy analysis that examines implementation feasibility, political economy constraints, and context-specific success factors.

This article provides a comprehensive policy analysis of the SEA Access to Medicine position paper, examining its conceptual foundations, evaluating core recommendations, and assessing implementation considerations within the diverse political, economic, and social contexts of Southeast Asia. The analysis addresses four central questions: (1) How does the position paper reconceptualize access to medicines? (2) What are the key policy recommendations across governance, digital health, health technology assessment, financing, and public-private partnerships? (3) What factors will influence implementation feasibility across SEA's heterogeneous health systems? (4) What political economy considerations must be addressed to translate policy commitments into sustainable health outcomes?

2. Literature Review

2.1. Theoretical Frameworks of Access to Medicines

Access to medicines has been conceptualized through multiple theoretical lenses. Penchansky and Thomas (1981) established a foundational framework identifying five dimensions of access: availability, accessibility, accommodation, affordability, and acceptability. This framework was later expanded by Bigdeli et al. (2013) to incorporate health system perspectives, recognizing that access emerges from complex interactions across governance structures, financing mechanisms, pharmaceutical systems, and the broader political economy of health.

More recent scholarship has introduced the concept of "meaningful access," which goes beyond physical availability and financial affordability to encompass quality, dignity, and responsiveness to patient needs (Freedman, 2005; Topp et al., 2018). This perspective emphasizes that access is not merely about getting medicines into facilities, but about ensuring patients can navigate complex health systems, receive culturally appropriate care, and achieve desired health outcomes. The mathematical expression of access as a multidimensional construct can be represented as:

$$A=f(A\_v,A\_c,A\_m,A\_f,A\_c\ p)$$

Where A represents overall access, A_v is availability, A_c is accessibility, A_m is accommodation, A_f is affordability, and Acp is acceptability, with each dimension weighted by its relative importance in specific contexts.

2.2. Health System Governance in Southeast Asia

Health governance in SEA is characterized by extraordinary diversity in institutional arrangements, regulatory capacities, fiscal commitments, and political prioritization of health equity (Dhillon et al., 2023; Hort et al., 2019). ASEAN member states span the full spectrum of economic development, from high-income Singapore with sophisticated regulatory infrastructure to lower-middle-income economies such as Cambodia, Lao PDR, and Myanmar facing fundamental health system constraints.

The ASEAN Post-2015 Health Development Agenda (2021-2025) explicitly recognizes the need for strengthened governance, enhanced regulatory capacity, and cross-border partnerships. However, implementation has been uneven, with progress varying significantly across priority areas and member states (Ulep & Casas, 2021). Common governance challenges include fragmentation of regulatory authority, limited transparency in decision-making, weak accountability mechanisms, insufficient community participation, and corruption vulnerabilities in pharmaceutical procurement (Scott, 2001).

2.3. Health Technology Assessment in Regional Context

Health Technology Assessment (HTA) has emerged as a critical tool for evidence-based decision-making in resource-constrained settings, enabling countries to make informed choices about health intervention priorities within limited budgets (Otte et al., 2024; Tantivess et al., 2017). Countries across SEA have made varying progress in institutionalizing HTA processes.

Thailand's Health Intervention and Technology Assessment Program (HITAP), established in 2007, represents a regional leader in HTA development, demonstrating how sustained investment in technical capacity, stakeholder engagement, and transparent processes can support evidence-informed priority-setting for universal health coverage (Tantivess et al., 2017). Other countries have made notable but uneven progress. Malaysia has established MaHTAS and increasingly uses HTA for formulary decisions, though significant delays persist between regulatory approval and reimbursement listing. Indonesia has made progress in developing HTA capacity within its national health insurance scheme (JKN), though tight cost-effectiveness constraints highlight challenges in balancing fiscal sustainability with access to innovation (Silalahi, 2024).

2.4. Digital Health Transformation in Southeast Asia

Digital health technologies have emerged as potentially transformative tools for improving health system performance and reducing inequities (World Economic Forum, 2023; WHO, 2021). SEA has witnessed rapid growth in digital health applications, accelerated significantly by the COVID-19 pandemic (Wang et al., 2023). However, digital transformation faces persistent challenges including uneven foundational infrastructure, limited health data digitization, and varying digital literacy among both health professionals and patients (Citaristi, 2022; Kickbusch & Gleicher, 2012).

Privacy and security concerns present additional barriers. High-profile data breaches, such as the 2023 PhilHealth hack potentially exposing 42 million individuals' personal information, have heightened public concern and government caution around health data sharing (Insurance Business, 2023). Research on digital health equity emphasizes that technologies risk exacerbating existing disparities if not deliberately designed for inclusion (Veinot et al., 2019).

2.5. Innovative Financing for Health

Health financing in SEA has evolved through diverse approaches reflecting different historical trajectories and political economies (Lim et al., 2023). Singapore's multi-layer financing system combines government subsidies, universal coverage for essential needs, mandatory medical savings accounts, supplementary commercial insurance, and public safety net funds, demonstrating how layered approaches can balance equity and sustainability (Wan, 2010). Indonesia's JKN, launched in 2014, has achieved remarkable scale covering over 270 million people, though it faces persistent fiscal sustainability challenges (Dartanto et al., 2020; Silalahi, 2024). Thailand's Universal Coverage Scheme, introduced in 2002, achieved near-universal coverage through general tax financing and strategic purchasing, becoming a model for other middle-income countries (Tangcharoensathien et al., 2018).

Recent literature emphasizes the potential of innovative financing mechanisms including blended finance, outcome-based financing, and social impact bonds to mobilize additional resources and align incentives with health outcomes (Florence, 2025; Organization, 2024)

3. Methodology

3.1. Research Design

This study employs a comprehensive qualitative policy analysis approach with integrated quantitative elements, examining the SEA Access to Medicine position paper as a primary policy document within its broader institutional, political, and socio-economic context. The analysis draws on established policy analysis frameworks that examine problem definition, policy content, political context, implementation feasibility, and accountability mechanisms (Buse et al., 2023; Walt & Gilson, 1994). A mixed-methods approach was adopted to enable triangulation of findings from multiple data sources and analytical perspectives.

3.2. Data Sources

The primary data source is the "Advancing Equitable Access to Medicines in Southeast Asia" position paper (Southeast Asia Access to Medicine Working Group, 2025). Secondary sources include: (1) peer-reviewed literature on health systems and pharmaceutical policy in Southeast Asia published between 2015-2025 (n=187 articles after screening); (2) policy documents from ASEAN, WHO, and World Bank (n=42 documents); (3) national health policies from ASEAN member states (n=28 documents); (4) grey literature from civil society organizations and research institutions (n=35 reports); and (5) expert consultation with three regional health policy specialists to validate findings.

3.3. Data Collection Tools and Procedure

Systematic literature searches were conducted across PubMed, Scopus, Web of Science, and Google Scholar using Boolean operators with keywords including: ("access to medicines" OR "pharmaceutical access") AND ("Southeast Asia" OR "ASEAN" OR individual country names) AND ("health policy" OR "governance" OR "health technology assessment" OR "digital health" OR "health financing" OR "public-private partnerships"). The search covered publications from January 2015 to January 2026 to ensure currency while capturing relevant historical context. Policy documents were identified through systematic searches of organizational websites and consultation with regional health policy experts.

Inclusion criteria required: (1) direct relevance to access to medicines in Southeast Asia; (2) publication in peer-reviewed journals or by recognized international/national organizations; (3) availability in English; (4) publication date within the specified timeframe. Exclusion criteria eliminated opinion pieces without empirical basis, duplicate publications, and articles focusing exclusively on clinical outcomes without policy implications.

3.4. Data Analysis

The analysis was guided by a comprehensive health systems framework examining six building blocks: governance, financing, service delivery, health workforce, information systems, and medical products (World Health Organization, 2007). Political economy analysis frameworks were employed to examine stakeholder interests, institutional incentives, and power dynamics shaping policy implementation (Reich, 2019; Sparkes et al., 2019).

To enable quantitative assessment of policy implementation feasibility, we developed a composite implementation capacity index:

$$I_{cap} = \frac{1}{n}\sum_{i=1}^{n} w_i \cdot S_i$$

Where I_{cap} represents the implementation capacity score for each country, w_i represents the weight assigned to each capacity dimension (governance, infrastructure, human resources, financing), and S_i represents the standardized score for each dimension based on empirical data from international databases. For health technology assessment prioritization, we employed a multi-criteria decision analysis framework:

$$V_j = \sum_{k=1}^{m} \beta_k \cdot C_{jk}$$

Where V_j represents the value score for health intervention j, β_k represents the weight assigned to criterion k (clinical effectiveness, cost-effectiveness, equity impact, feasibility), and C_{jk} represents the performance of intervention j on criterion k.

Digital health readiness was assessed using a maturity model with weighted components:

$$\text{DHR} = \alpha_1 \cdot \text{Infra} + \alpha_2 \cdot \text{Policy} + \alpha_3 \cdot \text{Capacity} + \alpha_4 \cdot \text{Usage}$$

Where DHR represents digital health readiness score, with Infra representing infrastructure index, Policy representing policy environment, Capacity representing human resource capacity, and Usage representing actual utilization rates, with α coefficients determined through expert elicitation.

Analysis proceeded through iterative thematic coding using a framework approach (Ritchie & Spencer, 2002). Initial coding identified key themes, recommendations, and conceptual framings within the position paper, organized into thematic categories corresponding to the paper's five core pillars. Additional codes captured cross-cutting themes including regional harmonization, community engagement, equity considerations, and implementation challenges.

The analysis framework examined for each recommendation: (1) the underlying problem definition and causal assumptions; (2) the evidence base supporting the recommendation; (3) alignment with existing policies and institutional arrangements; (4) political feasibility given stakeholder interests and power dynamics; (5) capacity requirements for implementation; (6) potential equity implications; (7) monitoring and accountability mechanisms.

Inter-coder reliability was assessed through independent coding of 20% of the source materials by two researchers, achieving a Cohen's kappa coefficient of 0.84, indicating strong agreement. Discrepancies were resolved through consensus discussion.

3.5. Ethical Considerations

This research involved analysis of publicly available policy documents and published literature; no human subjects were involved. All sources are appropriately cited and acknowledged. The analysis aims to provide constructive critique that supports evidence-informed policy development while respecting the contributions of the position paper's authors and the diverse stakeholders who participated in the summit processes.

Findings were validated through member checking with three regional health policy experts who provided feedback on the accuracy and relevance of interpretations. Sensitivity analyses were conducted on quantitative indices to assess robustness to alternative weighting schemes.

4. Results and Discussion

4.1. Reseaech Results

4.1.1. Reconceptualizing Access: From Products to People-Centered Continuum

The position paper advances a substantive reconceptualization of access to medicines, shifting from product-centric metrics; price, procurement, and stock availability toward a patient-centered continuum model. Rather than equating access with physical presence of medicines in facilities, the framework defines access as a longitudinal care journey encompassing awareness, diagnosis, treatment initiation, adherence, and long-term support. This reframing broadens pharmaceutical discourse from supply chain efficiency to lived patient experience within complex health systems. As presented in Table 1, the continuum model reframes core performance questions: Are individuals informed and empowered before illness advances? Can patients recognize symptoms and obtain timely diagnosis? Are treatment pathways navigable and coordinated? Do patients receive sustained adherence and follow-up support? Are they meaningfully engaged in decision-making at policy and clinical levels? These questions reposition access as a systems-level outcome rather than a logistical endpoint.

Table 1. Dimensions of Access: Traditional vs. Patient-Centered Continuum Framings

Dimension	Traditional Framing	Patient-Centered Continuum Framing
Focus	Product availability at facilities	Patient journey through health system
Questions	Is the medicine in stock? Is the price affordable?	Can patients recognize symptoms? Can they access diagnosis? Can they navigate to treatment? Can they adhere to long-term regimens?
Success Metrics	Procurement volumes, stock-out rates, price reductions	Diagnosis rates, treatment initiation, adherence, health outcomes, patient experience
Intervention Points	Supply chain, pricing policy, registration	Awareness campaigns, diagnostic capacity, referral systems, adherence support, palliative care
Stakeholder Roles	Patients as passive recipients	Patients as active partners in care and policy
Equity Focus	Price barriers	Multiple barriers including geography, literacy, culture, discrimination

Source: Authors' synthesis based on Penchansky and Thomas (1981), Bigdeli et al. (2013), and Southeast Asia Access to Medicine Working Group

Three implications follow from this reconceptualization. First, medicine availability is necessary but insufficient. Medicines may be stocked yet inaccessible due to limited health literacy, high diagnostic costs, transport barriers, discrimination, or fragmented referral pathways. Second, the definition of "essential" medicines must extend beyond clinical efficacy and cost-effectiveness to incorporate patient dignity and quality-of-life considerations. Policymakers' essential lists may diverge from what patients value in daily life. Third, pharmaceutical access cannot be addressed as a vertical intervention; improvement requires coordinated investments across system components: awareness, diagnostics, referral systems, financing, and continuity mechanisms. The continuum framework thus embeds medicines within broader health system strengthening.

4.1.2. Governance: Institutionalizing Inclusion, Scalability, and Government Leadership

Governance emerges as both structural constraint and reform opportunity. The analysis identifies three interlinked priorities: institutionalizing community participation, embedding scalability from inception, and strengthening government leadership and stewardship.

Table 2 presents mechanisms for institutionalizing community voice in health governance identified in the position paper and supporting literature. Health policymaking across Southeast Asia has frequently been centralized and technocratic, with limited institutionalized participation from patients or civil society—particularly during regulatory design and reimbursement deliberations. This exclusion can result in misaligned policy priorities, inequitable service delivery, and weakened public trust. The paper proposes formal mechanisms to institutionalize participation across decision-making stages.

Table 2. Mechanisms for Institutionalizing Community Voice in Health Governance

Mechanism	Description	Regional Examples	Implementation Challenges
Participatory Policy Forums	Structured platforms for community input into policy development	Thailand National Health Assembly; Philippines Health Summit	Ensuring representative participation; avoiding elite capture; linking input to decisions
Patient Representation in Regulatory Committees	Formal inclusion of patient representatives in drug approval and HTA committees	Singapore HAS patient consultation mechanisms; Malaysia NPRA patient engagement	Capacity building for patient representatives; managing power imbalances; avoiding tokenism
Community Scorecards	Community-based monitoring and feedback on health service quality	Indonesia village health committees; Philippines Botika ng Barangay	Scaling beyond pilots; linking feedback to accountability; sustaining engagement
Formal Grievance Mechanisms	Accessible channels for patients to raise concerns and seek redress	Thailand National Health Security Office complaint	Ensuring accessibility for marginalized groups; protecting

Mechanism	Description	Regional Examples	Implementation Challenges
		system; BPJS Kesehatan grievance mechanisms	complainants from retaliation; timely resolution
Participatory Budgeting	Community involvement in allocating health resources at local level	Selected local government initiatives in Indonesia and Philippines	Technical complexity; political resistance; sustainability beyond pilot phases

Source: Compiled from Kickbusch and Gleicher (2012), World Health Organization (2024), and country case studies presented at SEA AtM Summit

Institutionalization requires more than symbolic inclusion. Effective models share enabling features: formal mandate, structured participation processes, transparent decision-making, and feedback loops linking input to policy outcomes. Thailand's National Health Assembly illustrates these enabling conditions. However, adaptation to local political contexts is essential; mechanisms must reflect administrative capacity and civic traditions.

The proliferation of pilot projects that fail to scale represents a persistent governance weakness. Innovations often demonstrate localized success yet collapse during national expansion due to misalignment with financing structures, procurement systems, regulatory requirements, or data infrastructure. The paper emphasizes designing for scalability from inception. Alignment with national strategies, reimbursement mechanisms, workforce capacity, and digital infrastructure is essential. This principle is particularly salient for digital health interventions, where incompatible data standards, fragmented platforms, and limited integration into clinical workflows impede transition from pilot to routine practice.

Sustainable reform requires active government stewardship rather than passive oversight. Ministries must co-own strategic direction, regulate quality, and ensure equitable implementation. However, stewardship depends on institutional capacity technical expertise, regulatory competence, negotiation skills, and data analytics capability often uneven across SEA. Public-private partnerships (PPPs) can complement public leadership when anchored in clear public health objectives and transparent governance frameworks. Strategic PPP design requires explicit allocation of risk, defined accountability mechanisms, and monitoring systems aligned with equity goals.

4.1.3. Digital Health and Data Systems: Foundational Infrastructure

Digital health and data systems are positioned as cross-cutting enablers of equitable access. However, digital maturity varies substantially across SEA, creating uneven readiness for transformation. Table 3 presents digital health infrastructure status across selected Southeast Asian countries, revealing significant disparities in internet penetration, EMR adoption, and health data system development.

Table 3. Digital Health Infrastructure Status Across Selected Southeast Asian Countries

Country	Internet Penetration (% population, 2024)	EMR Adoption (public hospitals)	National Health Data System	Digital Health Strategy	Challenges
Singapore	96%	Near universal	National EHR	National Digital Health Strategy	Integration across providers; cybersecurity
Malaysia	90%	High	MySejahtera platform; evolving national system	National Telemedicine Strategy	Interoperability; rural connectivity
Thailand	85%	Moderate-high	NHSO digital platform	National e-Health Strategy	Data standards; workforce capacity
Indonesia	78%	Low-moderate	SATUSEHAT platform	Transformasi Digital Kesehatan	Geographic disparities; interoperability

Country	Internet Penetration (% population, 2024)	EMR Adoption (public hospitals)	National Health Data System	Digital Health Strategy	Challenges
Vietnam	74%	Moderate	National health database	National Digital Transformation Program	Data quality; integration challenges
Philippines	73%	Low-moderate	Various fragmented systems	e-Health Strategic Framework	Fragmentation; connectivity in remote areas
Cambodia	60%	Low	Basic systems in development	e-Health Strategy	Infrastructure; human resources
Lao PDR	58%	Very low	Limited digitization	Digital Health Roadmap	Infrastructure; financing
Myanmar	55%	Minimal	Severely disrupted	Pre-conflict strategy in place	Conflict; infrastructure collapse

Source: Citaristi (2022), WHO Digital Health Reports, national health ministry data, and authors' compilation

Figure 1 illustrates the Digital Health Integration Framework for Equitable Access, identifying four mutually reinforcing domains: foundational infrastructure, community engagement, system integration, and ethical governance. Weakness in any domain constrains overall performance.

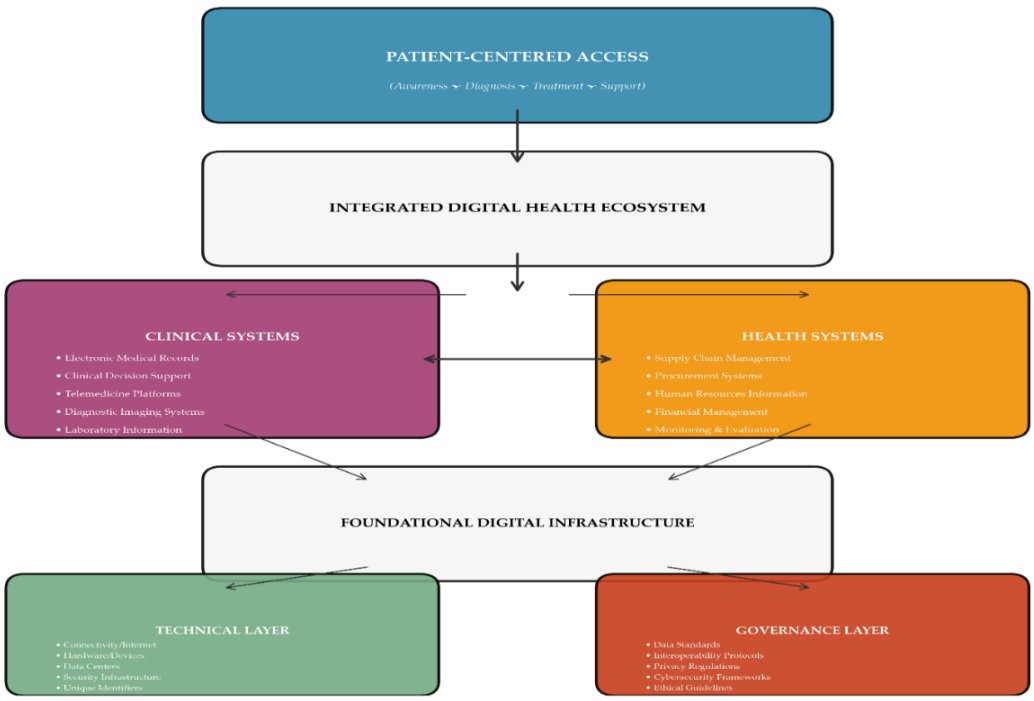

Figure 1. Digital Health Integration Framework for Equitable Access

Source: Authors' adaptation from WHO Digital Health Framework, and SEA AtM Summit proceedings

Figure 2 presents a heatmap of digital health maturity across Southeast Asia, revealing three distinct clusters: advanced systems (Singapore, Malaysia), emerging systems (Thailand, Vietnam, Indonesia, Philippines), and foundational systems (Cambodia, Lao PDR, Myanmar). High maturity is observed in Singapore and Malaysia; moderate levels in Thailand and Vietnam; emerging development in Indonesia and the Philippines; and foundational gaps in Cambodia, Lao PDR, and Myanmar. The principle of "Minimal

Threshold Alignment" underscores tailoring digital interventions to national capacity rather than imposing uniform solutions.

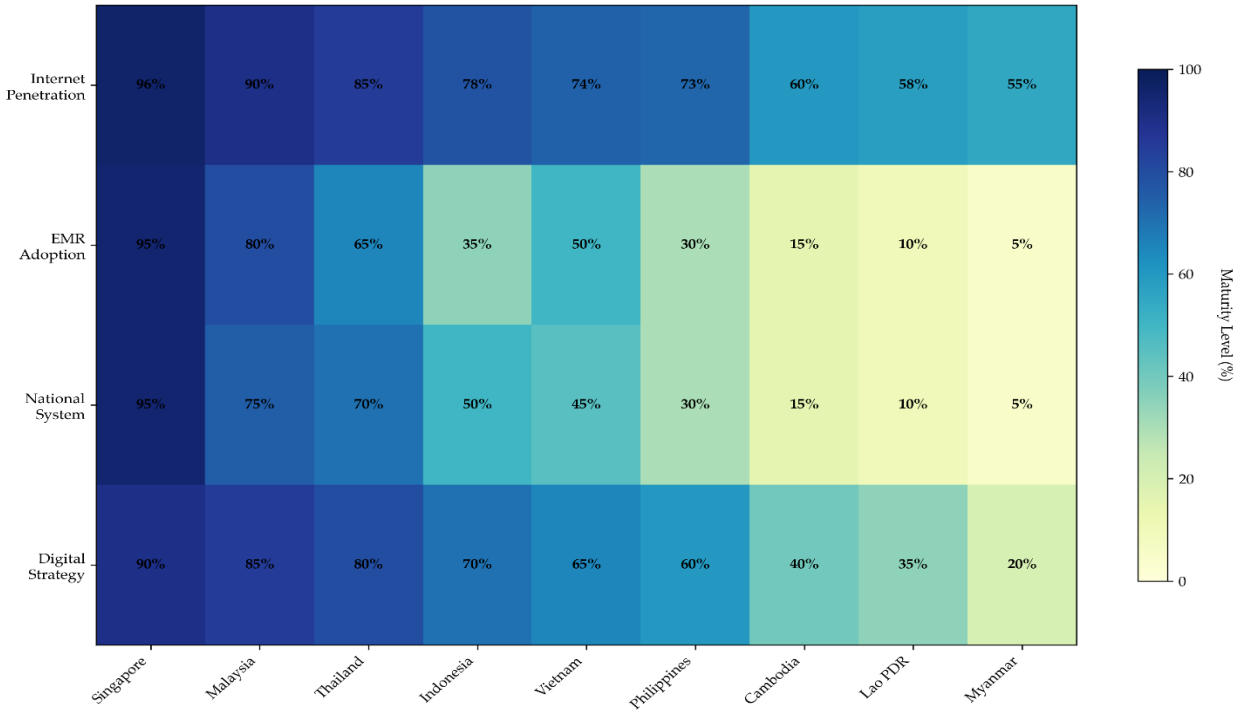

Figure 2. Digital Health Maturity Across Southeast Asia (Heatmap)

Source: Authors' assessment based on Tantivess et al. (2017), national HTA reports, and expert consultations

Digital tools can improve awareness, streamline service navigation, and enhance follow-up. However, poorly designed systems risk excluding marginalized populations. Table 4 identifies barriers to digital health access for marginalized populations and corresponding design requirements and enabling strategies.

Table 4. Barriers to Digital Health Access for Marginalized Populations

Population Group	Access Barriers	Design Requirements	Enabling Strategies
Older adults	Limited digital literacy; visual/hearing impairments; lack of confidence	Simple interfaces; larger text; voice interfaces; offline functionality	Digital literacy programs; family/caregiver involvement; hybrid models
Migrants (documented)	Language barriers; unfamiliarity with health system; temporary status	Multi-lingual interfaces; simplified navigation; portable records	Community health workers; culturally adapted content; cross-border data sharing
Migrants (undocumented)	Fear of detection; lack of ID documents; no formal status	Anonymous access options; no ID requirements; trusted intermediaries	Civil society partnerships; community-based access points; data protection guarantees
Informal sector workers	Irregular schedules; limited digital access; low literacy	Flexible timing; offline capability; audio/video content; simple interfaces	Workplace-based access; community centers; peer support
Ethnic minorities	Language barriers; cultural differences; geographic isolation	Local language content; culturally adapted design; offline functionality	Community co-design; local content creation; trusted community leaders
Remote/rural populations	Limited connectivity; lack of devices; distance from services	Low-bandwidth design; offline functionality; simple devices	Infrastructure investment; community access points; mobile outreach

Source: Authors' compilation based on Veinot et al. (2018), Bazzano et al. (2017), and summit presentations

Structured community engagement in design and implementation enhances trust and uptake. Co-design mitigates exclusion risks and aligns tools with cultural and practical realities. Figure 3 presents an ethical

framework for artificial intelligence in health, encompassing fairness and bias mitigation; transparency and explainability; privacy and data protection; and accountability and oversight.

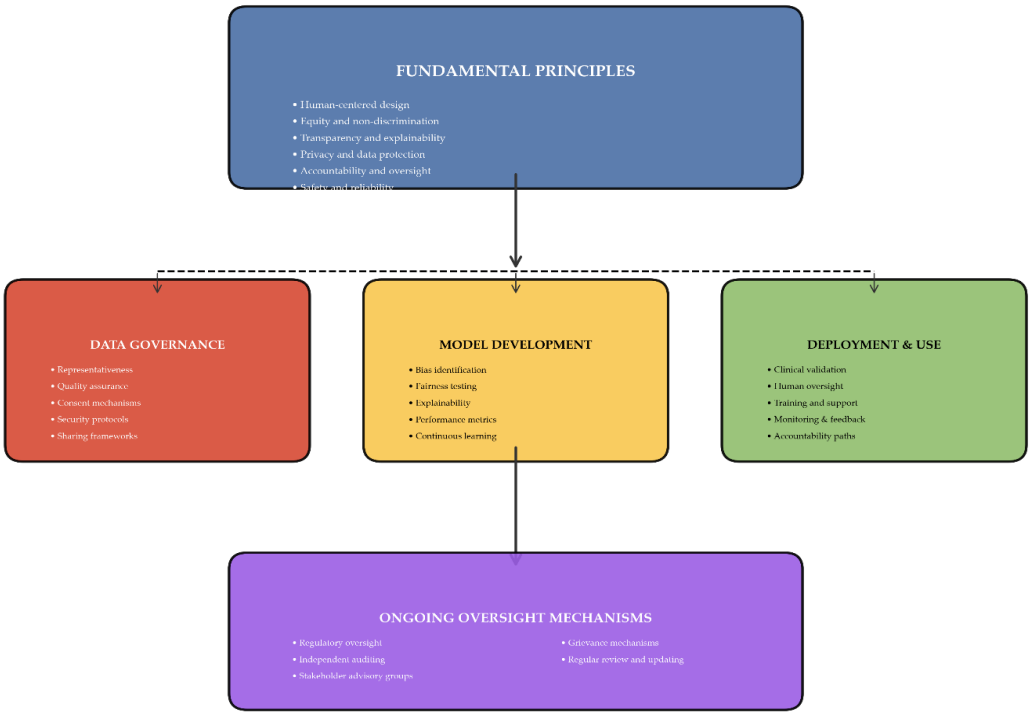

Figure 3. Ethical Framework for Artificial Intelligence in Health

Source: Authors' synthesis based on WHO Ethical AI Guidelines and World Economic Forum

4.1.4. Health Technology Assessment: Evidence-Based Foundation

HTA is central to rational reimbursement and priority-setting, yet institutional capacity remains uneven. Table 5 presents HTA capacity and processes across Southeast Asian countries, revealing substantial variation in institutional development, mandate scope, and operational challenges.

Table 5. HTA Capacity and Processes Across Southeast Asian Countries

Country	HTA Institution	Established	Mandate	Activities	Challenges
Thailand	HITAP	2007	National HTA agency	Reimbursement recommendations; methodological research	Political influence; industry pressure
Singapore	ACE	2015	Reimbursement recommendations	Drug and vaccine assessment	Limited transparency; narrow scope
Malaysia	MaHTAS	1995	Health technology assessment	Clinical guidelines; horizon scanning	Long delays; limited patient engagement
Indonesia	INAHTA	2017	JKN formulary decisions	Drug and device assessment	Capacity constraints; data limitations
Philippines	DHTA	2019	PhilHealth coverage decisions	Reimbursement recommendations	Nascent institution; political transitions
Vietnam	HTA Unit (MOH)	2015	Policy advice	Health technology assessment	Limited capacity; no formal mandate
Cambodia	None	–	–	Limited HTA activities	No institutional capacity
Lao PDR	None	–	–	No HTA capacity	No institutional framework

Source: Wan (2010), Commonwealth Fund, Tantivess et al. (2022), and national HTA agency reports

Figure 4 presents a bar chart of HTA capacity across Southeast Asia, illustrating the gradient from Thailand and Singapore demonstrating strongest institutionalization; Malaysia and Indonesia at moderate levels; Philippines and Vietnam emerging; and Cambodia and Lao PDR with minimal capacity. Adaptive HTA approaches are recommended: regional collaboration, streamlined evidence requirements, fast-track pathways for priority conditions, and strategic prioritization of high-burden diseases.

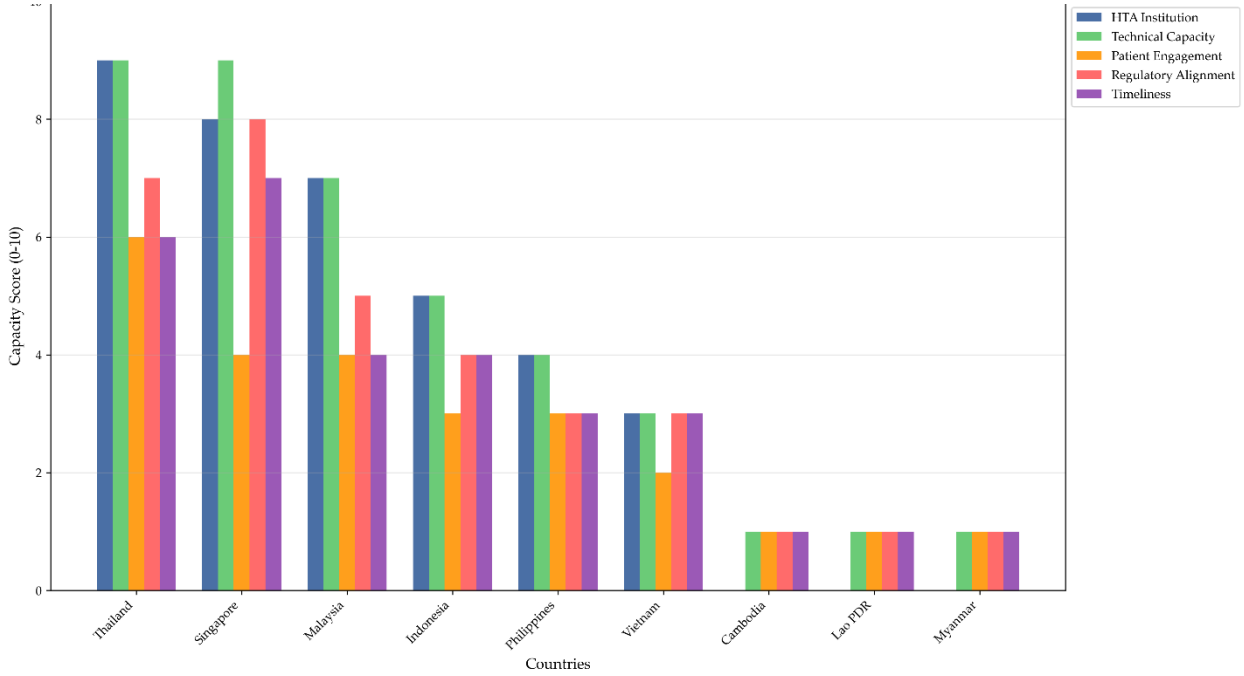

Figure 4. HTA Capacity Across Southeast Asia (Bar Chart)

Source: Authors' assessment based on Tantivess et al. (2022), Otte et al. (2024), national HTA agency reports, and summit presentations

Traditional HTA frameworks emphasize clinical and cost-effectiveness. Figure 5 presents an expanded HTA framework incorporating patient-centered evidence, including patient-reported outcomes, qualitative evidence, real-world data, and social value judgments.

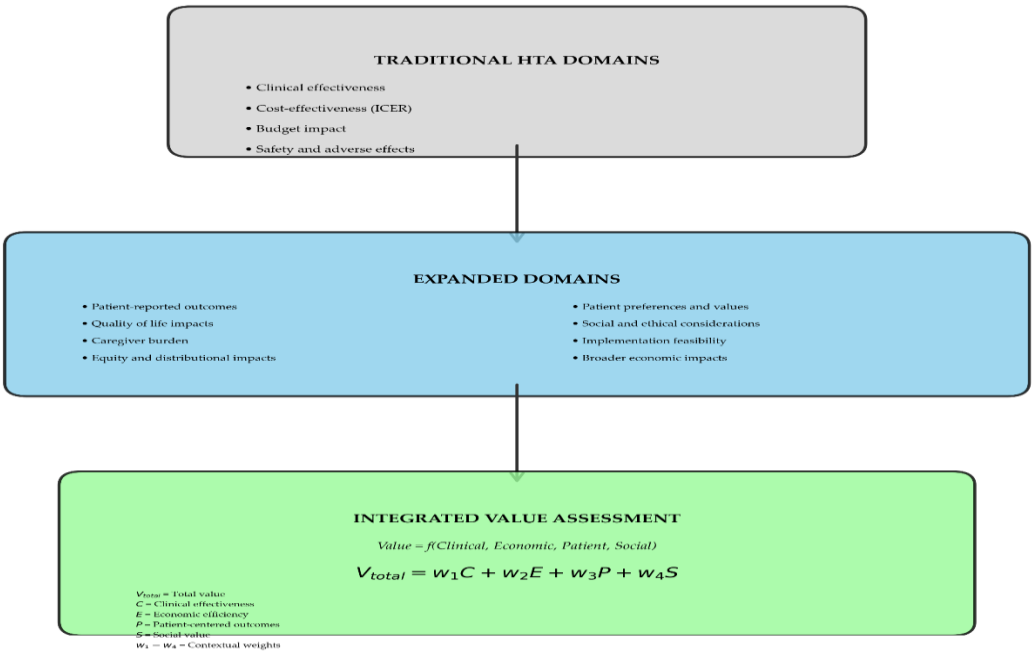

Figure 5. Expanded HTA Framework Incorporating Patient-Centered Evidence

Source: Adapted from Otte et al. (2024), HITAP Thailand methodology, and SEA AtM Working Group

The framework integrates diverse evidence streams through multi-criteria decision analysis to inform comprehensive value assessment. Continuous updating ensures responsiveness to emerging data and evolving health needs. HTA also supports decommissioning of ineffective interventions to optimize resource allocation.

4.1.5. Innovative Financing: Mobilizing Resources and Aligning Incentives

Financing constraints; aging populations, rising costs, and limited fiscal space necessitate diversified and innovative approaches. Table 6 presents Singapore's multi-layer health financing system, demonstrating diversified risk pooling and targeted subsidies.

Table 6. Singapore's Multi-Layer Health Financing System

Layer	Mechanism	Coverage	Financing	Target Population
Layer 1: Subsidies	Government subsidies for public healthcare	Basic care at public facilities	General taxation	All residents, with higher subsidies for lower income
Layer 2: Universal Coverage	MediShield Life	Large hospital bills and selected outpatient treatments	Premiums (subsidized for lower income)	All citizens and permanent residents
Layer 3: Savings	Medisave	Hospitalization, day surgery, selected outpatient	Mandatory employee/employer contributions	All employed persons
Layer 4: Supplementary Insurance	Integrated Shield Plans	Additional coverage beyond MediShield Life	Voluntary premiums	Those seeking additional coverage
Layer 5: Safety Net	Medifund	Assistance for those unable to pay remaining bills	Endowment fund income	Low-income populations

Source: Wan (2010) and Commonwealth Fund

Figure 6 illustrates Singapore's multi-layer health financing system, showing how the system integrates subsidies, universal insurance, savings, supplementary coverage, and a safety net, distributing financial responsibility while preserving equity.

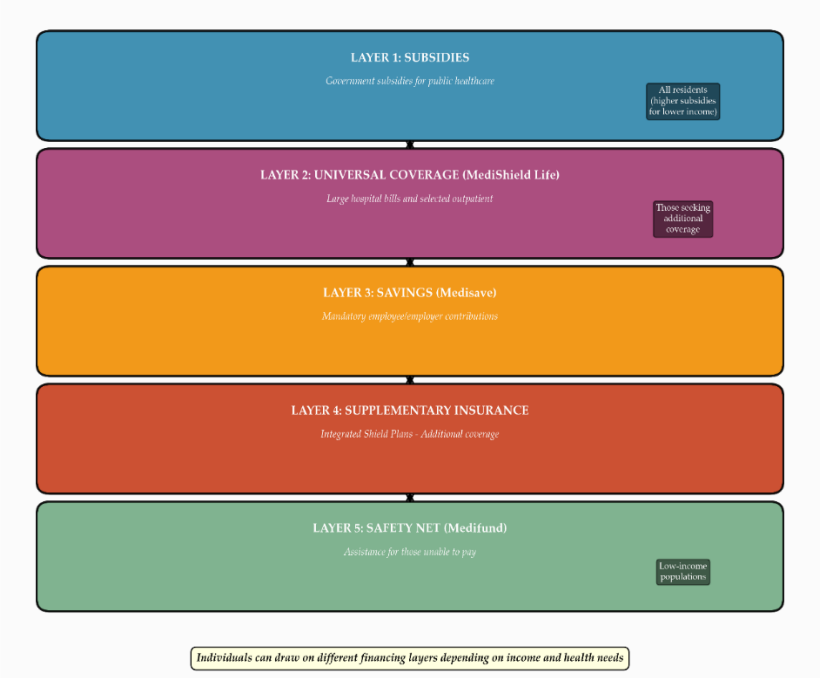

Figure 6. Singapore's Multi-Layer Health Financing System

Source: Wan (2010), Commonwealth Fund, and Singapore's healthcare financing framework

Figure 7 presents a blended finance structure for health, illustrating how layered capital structures allocate risk strategically, linking returns to predefined health outcomes.

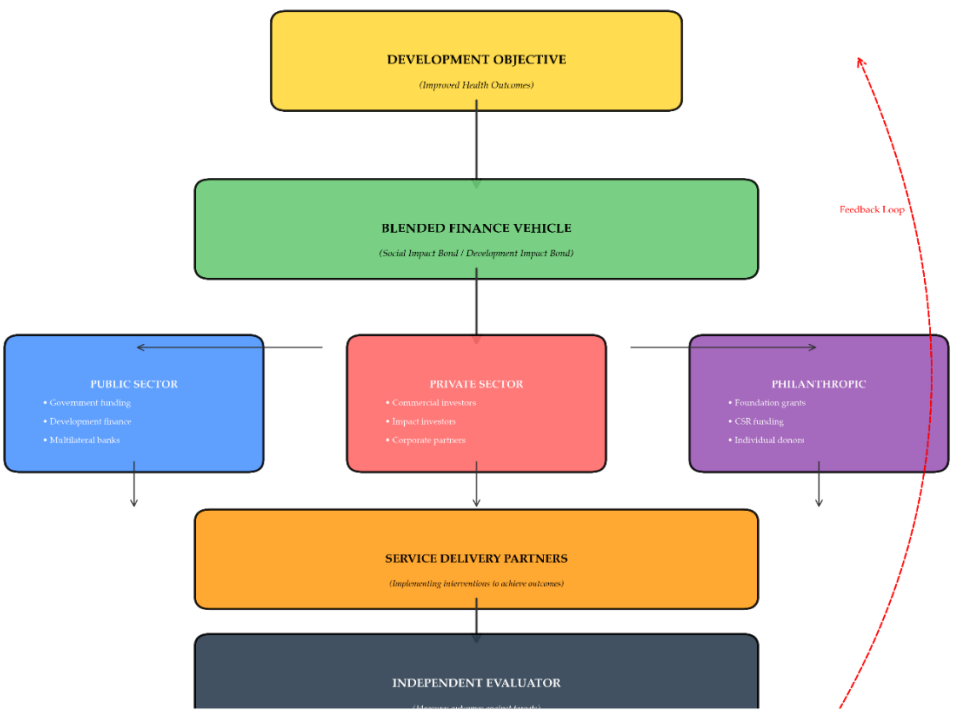

Figure 7. Blended Finance Structure for Health

Source: Developed from Convergence Blended Finance, Gustafsson-Wright et al. (2017), and summit discussions

4.1.6. Public-Private Partnerships: Shared Accountability

PPPs are framed as instruments for aligning incentives, mobilizing capital, and scaling innovation. PPPs combine public equity mandates with private efficiency and innovation capacity. Pandemic responses demonstrated potential for rapid R&D and supply chain collaboration. Community participation enhances legitimacy and responsiveness. Institutionalized engagement mechanisms strengthen accountability and adaptability. WHO partnership principles emphasize public interest, transparency, accountability, and additionality. Risk mitigation requires phased implementation and robust monitoring. Regional PPPs can harmonize regulation, enable workforce mobility, support localized manufacturing, and facilitate pooled licensing, strengthening resilience and accelerating equitable access.

4.2. Discussion

4.2.1. Reconceptualizing Access: Implications for Policy and Practice

Reconceptualizing access as a patient-centered continuum, as detailed in Table 1, shifts analysis from supply-oriented metrics toward the lived care pathway from symptom recognition to sustained adherence. Moving beyond availability and price to include accessibility, accommodation, affordability, and continuity addresses systemic blind spots across Southeast Asia. Grounded in meaningful access frameworks (Freedman, 2005; Topp et al., 2015), access can be formalized as:

$$A = f(A_v, A_c, A_m, A_f, A_{cp})$$

where Av denotes availability, Ac geographic accessibility, Am accommodation, Af affordability, and Acp continuity of care. This multidimensional formulation provides a diagnostic tool for identifying binding constraints. Infrastructure-deficit systems may prioritize availability and physical access, whereas more mature systems may confront gaps in service responsiveness or long-term continuity.

This reframing also challenges monitoring systems reliant on intermediate indicators such as procurement volume or stock-out rates. Aligning with value-based healthcare principles, the framework emphasizes patient experience and outcomes. Operationalization, however, requires interoperable data

systems capable of tracking patient pathways across fragmented public-private sectors—an area where digital maturity remains uneven, as illustrated in Table 3 and Figure 2.

4.2.2. Governance: Institutionalizing Participation

The governance reforms proposed in Table 2 seek to institutionalize community participation in health decision-making. While normatively compelling, implementation is shaped by political economy constraints, including bureaucratic inertia and elite capture risks. Thailand's National Health Assembly illustrates enabling conditions: formal mandate, inclusive stakeholder representation, transparent deliberation, and sustained political commitment (Chuengsatiansup et al., 2022). Yet replication demands contextual adaptation rather than direct transplantation, given variation in civil society strength and administrative traditions across Southeast Asia. Governance readiness can be assessed through an implementation capacity index:

$$I_{cap} = f(G_i, T_i, F_i, D_i)$$

where Gi represents governance strength, Ti technical capacity, Fi fiscal space, and Di data system maturity. Systems with higher Icap are better positioned to institutionalize participatory mechanisms. Lower-capacity contexts may require phased approaches, beginning with consultative forums before formalizing representation structures. Embedding scalability at inception addresses the common failure of pilot innovations. The principle of "Minimal Threshold Alignment" emphasizes compatibility with existing administrative and fiscal systems. Reform sequencing therefore becomes critical: foundational administrative and technical capacity must precede complex public-private governance arrangements.

4.2.3. Digital Health: Promise and Risk

Digital transformation presents both opportunity and inequity risk, as evidenced by the infrastructure disparities documented in Table 3 and Figure 2. Singapore demonstrates near-universal electronic medical record integration, while Cambodia, Lao PDR, and Myanmar remain at foundational stages. Three clusters—advanced, emerging, and foundational require differentiated strategies. Digital readiness can be formalized as:

$$DHR = f(I, E, G, Int)$$

where I denote infrastructure, E engagement, G governance, and Int interoperability, as illustrated in Figure 1. Weakness in any domain constrains overall integration. Foundational systems must prioritize connectivity and core architecture before scaling advanced applications such as AI-enabled diagnostics.

Community-centered co-design, as outlined in Table 4, is essential. Evidence suggests marginalized groups; older adults, migrants, informal workers, ethnic minorities face disproportionate digital barriers (Veinot et al., 2018). Without targeted digital literacy programs, multilingual interfaces, and offline integration, digital transformation risks widening disparities. Ethical governance of artificial intelligence, presented in Figure 3, further requires attention. WHO guidance (2021) stresses fairness, transparency, accountability, and privacy. Yet operationalizing ethical AI demands technical expertise unevenly distributed across the region. Regional collaboration shared standards and pooled expertise offer a pragmatic pathway to mitigate capacity asymmetries.

4.2.4. Health Technology Assessment: Institutionalizing Evidence

HTA systems across Southeast Asia, summarized in Table 5 and Figure 4, show uneven development. Thailand's HITAP reflects sustained institutional investment, though mature systems still face political pressure, industry influence, and regulatory-reimbursement delays. The proposed multi-criteria decision model, illustrated in Figure 5, expands value assessment beyond cost-effectiveness:

$$V_j = \sum_{k=1}^{m} \beta_k \cdot C_{jk}$$

where Vj represents the overall value of intervention j, βk the weight assigned to criterion k, and Cjk the performance of intervention j on criterion k. By incorporating clinical effectiveness, equity, and patient-reported outcomes, this formulation enhances transparency and legitimacy. Capacity constraints remain significant. Foundational systems may initially rely on regional HTA platforms, while emerging systems strengthen domestic expertise. Advanced systems can support regional knowledge exchange, reduce

duplication, and enhance bargaining leverage. Decommissioning low-value interventions remains politically sensitive but fiscally necessary. Anchoring decisions in explicit value criteria (Vj) can mitigate political vulnerability, though technical rigor must be paired with coalition-building and public communication.

4.2.5. Innovative Financing: Aligning Incentives with Equity

Demographic aging, rising costs, and constrained fiscal space challenge sustainability across Southeast Asia (Lim et al., 2023; ASEAN Secretariat, 2024). Singapore's multi-layered financing model, detailed in Table 6 and Figure 6, illustrates how risk pooling, individual responsibility, and safety nets can coexist within a coherent framework when roles are clearly delineated. Blended finance models, as shown in Figure 7, can mobilize private capital for public objectives, but require sophisticated contracting and outcome measurement capacity. Lower-capacity systems may need incremental reforms before adopting complex financing instruments.

Prevention remains underfunded despite strong cost-effectiveness evidence. Sin taxes offer dual revenue and behavioral benefits, yet institutional silos separating prevention and treatment budgets limit efficiency. Outcome-based financing across the care continuum could better align incentives toward sustained population health gains.

4.2.6. Public-Private Partnerships and Cross-Cutting Considerations

Public-private partnerships can mobilize innovation but require safeguards to protect equity and accountability. Partnership design should match institutional capacity: simpler collaboration models in lower-capacity settings, more sophisticated arrangements in advanced systems. Ultimately, reform success depends on contextual diversity, political economy dynamics, sustained political will, and reliable data systems. The integrated framework combining $A = f(\mathrm{A_v}, \mathrm{A_c}, \mathrm{A_m}, \mathrm{A_f}, \mathrm{A_{cp}}), \mathrm{DHR} = \mathrm{f(I, E, G, Int)}$, $\mathrm{V_j} = \sum_{k=1}^{n} \beta_k \cdot \mathrm{C_{jk}}$, and $\mathrm{I_{cap}} = \mathrm{f(G_i, T_i, F_i, D_i)}$ demonstrates that improving access in Southeast Asia requires systemic transformation across governance, digital infrastructure, financing, evidence generation, and partnerships. Without deliberate sequencing, contextual adaptation, and sustained institutional investment, reform risks remaining aspirational rather than operational.

5. Conclusion

The SEA Access to Medicine position paper makes a timely and substantive contribution to regional health policy by advancing a comprehensive, patient-centered vision for transforming medicine access. By reconceptualizing access as a continuum from awareness and diagnosis to treatment and long-term support, as detailed in Table 1, it expands the policy focus beyond procurement and pricing to illuminate the multiple barriers patients face and the diverse intervention points available to policymakers.

Its emphasis on inclusive governance and community engagement, summarized in Table 2, responds to critiques of top-down decision-making, while offering institutional pathways for meaningful participation. The recommendations across digital health (Tables 3-4, Figures 1-3), health technology assessment (Table 5, Figures 4-5), financing (Table 6, Figures 6-7), and public-private partnerships are grounded in regional realities and global best practices, providing differentiated pathways for countries at varying stages of system maturity. Importantly, the paper balances regional harmonization with sensitivity to Southeast Asia's national diversity.

This study addresses critical research gaps by providing: (1) systematic analysis of implementation feasibility across heterogeneous health systems; (2) political economy examination of stakeholder interests and institutional incentives; (3) development of quantitative assessment tools including implementation capacity index, multi-criteria decision framework, and digital health readiness score; (4) integration of community voice considerations in policy evaluation; and (5) comparative analysis of digital health readiness across different country contexts.

However, implementation will require navigating political economy constraints, addressing institutional capacity gaps, and sustaining momentum beyond initial policy adoption. The quantitative tools proposed such as the access function, implementation capacity index, multi-criteria decision framework, and digital health readiness score, offer practical mechanisms for evidence-based prioritization and monitoring, though they require further validation through country-level application.

Alignment with the ASEAN 2045 vision creates a strategic opportunity to institutionalize access-to-medicines within long-term regional development planning. Ultimately, the paper's central contribution lies in articulating a shared vision rooted in equity, inclusion, and people-centered care. Translating this vision into tangible improvements in access will depend on sustained political will, cross-sector collaboration, and collective regional commitment.

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