HTA39

Artificial intelligence applications in health technology assessment across Asia-Pacific: a targeted review of use cases, adoption barriers, and opportunities

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Background

HTA in Asia-Pacific faces unique pressures: compressed evaluation timelines, multilingual evidence bases, limited health economics workforce, and rising submission volumes. AI tools offer potential solutions, yet adoption within APAC HTA evaluation workflows remains poorly characterised.

This review focused specifically on the use of AI within HTA evaluation workflows: evidence screening, synthesis, economic modelling, and decision support.

This is distinct from two related but different domains: the HTA evaluation of AI-based health technologies (e.g., AI diagnostics assessed by HTA bodies), and AI use in clinical settings (e.g., genomic profiling platforms).

This review aimed to:

- Map current AI tool adoption within HTA evaluation workflows across eight APAC markets
- Identify region-specific barriers to AI integration in HTA
- Assess priority opportunities for efficiency gains

Methods

Search strategy:

- PubMed, Embase, ISPOR/HTAi presentations, HTA agency websites, grey literature
- Time frame: 2019–2026

Markets (n=8):

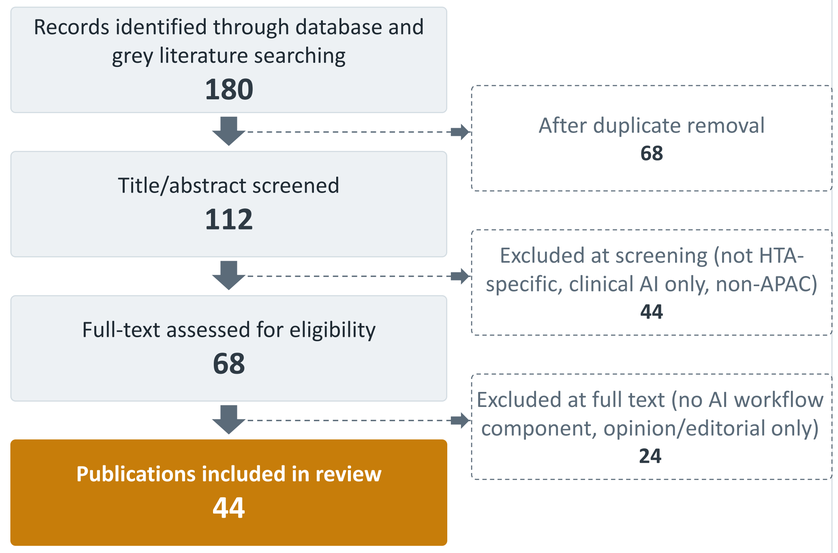
- Australia, China, India, Japan, Singapore, South Korea, Taiwan, Thailand

Data extracted:

- AI tool adoption within HTA evaluation workflows
- Region-specific implementation barriers
- Efficiency opportunities

Analytical framework:

- Findings assessed against the ISPOR GenAI Working Group framework (Fleurence et al., Value Health 2025;28(2):175-183), covering three domains: systematic literature reviews, real-world evidence generation, and health economic modelling



Results

AI readiness across APAC HTA bodies

Market	HTA body	Digital infrastructure relevant to AI	AI within HTA evaluation workflows
Australia	PBAC / MSAC	2024 HTA Methods Review incorporated digital evidence standards and data quality frameworks	Most advanced in APAC; digital evidence standards established, though no AI-specific submission guidance published
China	NHSA	200+ drugs evaluated annually in compressed NRDL cycles; massive evaluation volume	No AI-assisted evaluation frameworks despite scale that would benefit from automation
India	HTAIn	Limited digital infrastructure; emerging AI healthcare startup ecosystem	No AI policy; HTA body itself still in capacity-building phase
Japan	Chuikyo / C2H	NDB claims database covers 125M+ beneficiaries; C-CAT demonstrates structured clinical data architecture (57,084 genomic profiles, clinical use not HTA)	Infrastructure amenable to AI integration; no AI guidance for HTA submissions
Singapore	ACE	Horizon scanning system evaluates AI health technologies (5 of 20 in-depth evaluations were AI diagnostics, 2020-2023); HTAsiaLink 2025 AI plenary co-hosted	Evaluates AI as a health technology through HTA, but does not use AI within its own evaluation workflows
South Korea	HIRA / NECA	National claims analytics covering 50M beneficiaries; AI Basic Act enacted Jan 2026 with risk-based classification	Infrastructure amenable to AI integration; no AI guidance for HTA submissions
Taiwan	CHPTA	Newly established HTA centre; NHI NGS reimbursement launched May 2024	No AI policy; centre still building foundational HTA capacity
Thailand	HITAP	Expanding research mandate to digital health and data science since 2024; PMAC 2025 AI presentation	Exploratory engagement; no operational AI integration in HTA processes

Key finding: **No APAC HTA body has published formal guidance on AI-assisted evidence submissions, compared with NICE (UK), CDA-AMC (Canada), and INESSS (Quebec) globally.**

Global context

Agency	AI in HTA evaluation status
NICE (UK)	Position statement on AI in evidence generation; HTA Lab piloting GenAI in economic modelling (collaboration with Estima Scientific and Value Analytics Labs); AI transparency checklist in development
CDA-AMC (Canada)	Published evaluation instrument for assessing AI-powered screening tools used in HTA evidence generation
INESSS (Quebec)	Deployed GPT-4-based publication screening tool internally for HTA evaluations
ISPOR	ELEVATE-GenAI reporting guidelines published July 2025; GenAI Working Group framework covering SLR, RWE, and economic modelling
HTAi	2025 Global Policy Forum dedicated to AI in HTA; white paper with priority recommendations published January 2026
All 8 APAC bodies	**No formal guidance on AI-assisted evidence submissions**

Limitations

- Targeted review methodology; a systematic search may identify additional relevant sources
- Non-English grey literature and internal agency documents may be underrepresented
- Rapidly evolving field; findings reflect the landscape as of March 2026
- Published policies may not fully reflect informal agency practices or pilot initiatives not yet publicly documented
- APAC HTA bodies at early stages of development (HTAIn, CHPTA) may have limited published activity to assess

APAC-specific barriers

Barrier 1: Data privacy fragmentation

At least seven distinct privacy regimes govern the eight markets reviewed: Japan APPI, China PIPL, South Korea PIPA, India DPDPA, Singapore PDPA, Taiwan PDPA, and Australia Privacy Act. Each imposes different requirements for cross-border data transfer, impeding multi-market AI model training and validation. No data-sharing agreements exist between APAC HTA bodies.

Barrier 2: Multilingual evidence challenge

HTA submissions across the region involve at least seven languages (Japanese, Korean, Mandarin, Thai, Hindi, Malay, English). Current AI screening and extraction tools are predominantly trained on English-language corpora, with limited validation for Asian languages. No validated multilingual AI tools exist for HTA-specific evidence processing tasks.

Barrier 3: Workforce and expertise gap

Health economics AI expertise is disproportionately concentrated across the region. Analysis of AI-in-HTA publication patterns (Komoda et al., 2025) found 72% of global output from three Western countries, with minimal APAC contribution. Within APAC, Japan, South Korea, and Australia account for the majority of HEOR AI research activity. No regional AI-HTA training programme or capacity-building initiative exists.

Priority development areas

Based on the identified gap between existing digital infrastructure and absent AI-HTA policy across APAC, three priority areas for development were identified:

Priority 1 **Multilingual literature screening tools**

Automated evidence screening adapted for APAC languages represents the highest-impact near-term opportunity. The multilingual challenge is unique to APAC's multi-market HTA landscape and is not addressed by existing English-language AI tools being developed for European and North American agencies.

Priority 2 **Cross-market economic model adaptation**

AI-assisted adaptation of pharmacoeconomic models across APAC's heterogeneous health systems spanning Japan's single-payer NHI, South Korea's social insurance, China's tiered NRDL, Thailand's explicit cost-effectiveness threshold system, and India's fragmented public coverage could improve consistency and reduce time-to-submission for multi-market filings.

Priority 3 **Indirect treatment comparisons from fragmented real-world data**

Machine learning approaches for network meta-analysis using fragmented APAC real-world data sources could address a critical evidence gap where head-to-head trials are absent, particularly for products seeking simultaneous reimbursement across multiple APAC markets.

Conclusions

- No APAC HTA body has published formal AI guidance for evidence submissions, a significant gap compared with NICE, CDA-AMC, and INESSS globally
- Despite this policy gap, select markets (South Korea, Japan, Australia) possess digital data infrastructure amenable to AI integration
- Compressed evaluation timelines and workforce constraints make AI-assisted HTA particularly valuable in the APAC context, yet multilingual and regulatory fragmentation requires APAC-tailored solutions rather than direct adoption of Western tools
- Manufacturers preparing multi-market APAC HTA submissions should not assume AI-generated evidence accepted by European agencies will meet APAC requirements

Regional priorities: Development of multilingual AI screening tools, cross-border HTA data standards, and a coordinated APAC approach to responsible AI integration addressing transparency, reproducibility, and algorithmic bias alongside efficiency gains

Implications

For APAC HTA bodies:

- Develop formal position statements on AI-assisted evidence submissions
- Establish regional coordination (building on HTAsiaLink) for shared AI-HTA validation standards
- Invest in multilingual AI tool development and workforce training

For pharmaceutical manufacturers and CROs:

- Anticipate divergent AI-readiness across APAC markets when planning multi-country submissions
- Do not assume AI-generated evidence accepted by NICE or other European agencies will be accepted by APAC bodies
- Engage proactively with APAC HTA bodies on AI evidence standards before formal guidance emerges

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Disclosures & contact

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