

Differences and Similarities of Health Economic Evaluation for Medical Technologies by HTA Bodies

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BACKGROUND

- Health technology assessment (HTA) of pharmaceuticals has been performed for some time. In recent years, HTA organisations have also started to assess medical technologies (devices, diagnostics, digital health technologies) (MTs) to a greater extent.¹ As a result, MT companies may be required to provide different types of evidence such as health economic models that were previously not required.
- However, the assessment of MTs by HTA organisations is still developing, with no current consensus as to process and methods.² Therefore, HTA process and methods for MTs and the types of evidence considered can vary globally and within countries.
- In addition, information on HTA process and requirements for MTs is not always clearly available. Therefore, it can be difficult for MT companies to work out what is required.
- In particular, the requirements for economic evaluations vary between HTA bodies, making planning for submissions difficult for MT companies.

OBJECTIVE

- To identify HTA processes and requirements for MTs globally.
 - More specifically, we sought to explore health economic evaluation of MTs by HTA organisations in different countries.

METHODS

- We developed an online survey requesting information on the selection process, general submission process, and types of evidence considered part of the clinical and economic assessment of MTs.
- The survey was sent to 55 organisations worldwide in spring 2023.
- The survey requested information on the topics of economic systematic literature review (SLR), types of economic evaluations, willingness-to-pay (WTP) thresholds, perspectives used, and the discount rates used for future costs and outcomes.
- Quantitative and qualitative data pertaining to health economic evaluation were obtained and collated in Excel for further analysis.

RESULTS

- Of the 55 HTAs contacted, 17 responded (30.9% response rate). The completion rate was 27.3%.
- Of the 17 responders, 12 confirmed that they assessed MTs, 3 stated they did not assess MTs, and 2 declined to participate.
- The responses identified the differences and similarities in the types of evaluation metrics used by various HTA organisations during the assessment.
- 9 of 12 organisations consider economic SLR evidence, with review of economic evaluations most common (Table 1).
- 10 of 12 organisations considered economic evaluations of some form (Table 2).
- Perspectives in economic evaluation also vary among perspectives on societal issues, healthcare systems, individual patients, specific institutions, and target groups of specific services.
- Discounting rates varies by country and between the discounting for cost and outcomes. Some HTAs discount equally between cost and outcomes.
- Not all HTA organisations reveal their WTP thresholds.
- Tunisia uses a flexible WTP threshold, and Japan uses a range of ¥5 million to ¥10 million per quality-adjusted life-year.

Table 4. Discounting Rates for Costs and Outcomes

Country	HTA	Discount rate for costs	Discount rate for outcomes
Canada	CADTH	5%	5%
Denmark	DEFACTUM	NA	NA
Denmark	DHTC	3.5%	3.5%
Finland	FinCCHTA	0%-3%	0%-3%
Germany	G-BA	NA	NA
Japan	C2H, NIPH	2%	2%
Norway	Nye Metoder	4%	4%
Spain	AQuAS	NR	NR
Sweden	TLV	3%	3%
Tunisia	INEAS	NR	NR
UK: England	NICE	NA	3.5%
US	AHRQ	NA	NA

NR = not reported.

CONCLUSIONS

- Economic assessment is linked to national contexts.
- Understanding key differences and similarities among HTA processes of priority stakeholders will be essential if MT companies are to demonstrate economic benefits efficiently, to achieve market-access objectives for MT.

Table 1. HTA Organisations Considering Economic SLRs and the Topics Covered

Country	HTA organisation	Economic SLR	Topics		
			Utility	Health resource use/cost	Economic evaluations
Canada	CADTH	✓	✗	✗	✓
Denmark	DEFACTUM	✓	✓	✓	✓
Denmark	DHTC	✓	✓	✓	✓
Finland	FinCCHTA	✓	✗	✓	✓
Germany	G-BA	✗	NA	NA	NA
Japan	C2H, NIPH	✗	NA	NA	NA
Norway	Nye Metoder	✓	✓	✓	✓
Spain	AQuAS	✓	✓	✓	✓
Sweden	TLV	✗	NA	NA	NA
Tunisia	INEAS	✓	✓	✓	✓
UK: England	NICE	✓	✓	✓	✓
US	AHRQ	✓	✗	✓	✗

AHRQ = Agency for Healthcare Research and Quality; AQuAS = Agency for Health Quality and Assessment of Catalonia; C2H = Center for Outcomes Research and Economic Evaluation for Health; CADTH = Canadian Agency for Drugs and Technologies in Health; DHTC = Danish Health Technology Council; FinCCHTA = Finnish Coordinating Center for Health Technology Assessment; G-BA = Federal Joint Committee; INEAS = National Authority for Evaluation and Accreditation in Health; NA = not applicable; NICE = National Institute for Health and Care Excellence; NIPH = National Institute of Public Health; TLV = Dental and Pharmaceutical Benefits Agency; UK = United Kingdom; US = United States.

Table 2. Type of Economic Evaluations Conducted by HTAs

Country	HTA	Economic evaluations considered	Type of economic evaluation					
			CUA	CEA	CBA	CMA	PCA	BIA
Canada	CADTH	✓	✓	✓	✓	✓	✓	✓
Denmark	DEFACTUM	✓	✓	✓	✓	✓	✓	✓
Denmark	DHTC	✓	✓	✓	✗	✓	✗	✓
Finland	FinCCHTA	✓	✓	✓	✗	✓	✗	✗
Germany	G-BA	✗	NA	NA	NA	NA	NA	NA
Japan	C2H, NIPH	✓	✓	✗	✗	✗	✗	✗
Norway	Nye Metoder	✓	✓	✓	✗	✓	✗	✓
Spain	AQuAS	✓	✓	✓	✗	✗	✗	✓
Sweden	TLV	✓	✓	✓	✓	✓	✓	✗
Tunisia	INEAS	✓	✓	✓	✓	✓	✓	✓
UK: England	NICE	✓	✗	✓	✗	✓	✗	✓
US	AHRQ	✗	NA	NA	NA	NA	NA	NA

BIA = budget-impact analysis; CBA = cost-benefit analysis; CEA = cost-effectiveness analysis; CMA = cost-minimisation analysis; CUA = cost-utility analysis; PCA = price comparison analysis.

Table 3. Perspectives Used in Economic Evaluations

Country	HTA	Societal	Healthcare system	Individual patient	Institutional	Target group of specific services
Canada	CADTH	✗	✓	✗	✗	✗
Denmark	DEFACTUM	✓	✓	✗	✓	✗
Denmark	DHTC	✓	✗	✗	✗	✗
Finland	FinCCHTA	✓	✓	✓	✗	✗
Germany	G-BA	NA	NA	NA	NA	NA
Japan	C2H, NIPH	✗	✓	✗	✗	✗
Norway	Nye Metoder	✗	✓	✗	✗	✗
Spain	AQuAS	✓	✓	✗	✗	✗
Sweden	TLV	✓	✗	✗	✗	✗
Tunisia	INEAS	✓	✓	✓	✓	✓
UK: England	NICE	✓	✓	✗	✗	✗
US	AHRQ	NA	NA	NA	NA	NA

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