

The Future of Health Technology Assessment in Low- and Middle-Income Countries

Javier Guzman, Victoria Y. Fan & Peter Baker

To cite this article: Javier Guzman, Victoria Y. Fan & Peter Baker (2023) The Future of Health Technology Assessment in Low- and Middle-Income Countries, Health Systems & Reform, 9:3, 2400399, DOI: [10.1080/23288604.2024.2400399](https://doi.org/10.1080/23288604.2024.2400399)

To link to this article: <https://doi.org/10.1080/23288604.2024.2400399>



© 2024 The Author(s). Published with license by Taylor & Francis Group, LLC.



Published online: 28 Oct 2024.



Submit your article to this journal [↗](#)



Article views: 355





View related articles [↗](#)



View Crossmark data [↗](#)

The Future of Health Technology Assessment in Low- and Middle-Income Countries

Javier Guzman ^a, Victoria Y. Fan^a, and Peter Baker ^b

^aCenter for Global Development, Global Health Program, Washington, DC, USA; ^bCGD Europe, Global Health Program, London, UK

ABSTRACT

In recent decades, low- and middle-income countries (LMICs) have turned to health technology assessment (HTA) to prioritize health care interventions in pursuit of universal health coverage. HTA has demonstrated its value through significant cost savings, as shown by Thailand and Brazil, where HTA processes facilitated substantial government savings and drug price reductions. Despite these successes, many LMICs still struggle with insufficient capacity to conduct HTA or incorporate its findings into policy decisions. Only 53 percent of countries surveyed by the World Health Organization (WHO) have a legislative requirement to consider HTA results in coverage decisions. The COVID-19 pandemic highlighted the need for efficient health expenditure, prompting LMICs to seek greater value for money by investing in cost-effective interventions. To achieve this, countries will need to change the way they use HTA in the future, accounting for three important elements: agile leapfrogging past traditional HTA methodologies, aid localization to enhance country ownership and accountability, and regional collaboration to overcome common limitations such as data scarcity and limited local capacity. By addressing these elements, LMICs can optimize health spending, improve health outcomes, and ensure sustainable financing for health care systems, ultimately strengthening global health security and resilience.

KEYWORDS

Health economics; Health technology assessment; low- and middle income countries; priority setting

In recent decades, several low- and middle-income countries (LMICs) have sought to establish national priority-setting systems using health technology assessment (HTA) to inform decisions about which health technologies and services to provide, to whom, and at what cost.

One of the most compelling use cases of HTA is its contribution to significant cost savings. For instance, Thailand's HTA processes were estimated to have saved the government upward of 188 million USD by supporting price negotiations and strategic purchasing.¹ Similarly, in Brazil, the government secured discounts of about 30% on oncology drugs approved for reimbursement from 2019 to 2022, by leveraging HTA.

Yet many countries still lack the capacity to conduct HTA or fail to use HTA assessments to inform policy decisions. Only 53% of the countries surveyed by the World Health Organization (WHO) in 2020–21 reported a legislative requirement to consider HTA results in coverage decisions, and only 39% of the countries surveyed reported a link between their decisions on health benefits package coverage and an HTA process.² In the absence of HTA, coverage decisions are more likely to be based on political or otherwise *ad hoc* logic, which may result in coverage of less cost-effective interventions over more cost-effective interventions.

In a challenging macroeconomic climate following the COVID-19 pandemic, many LMICs are struggling to maintain, let alone increase, current levels of domestic health expenditure—and there is a renewed interest in achieving greater value for money by investing in the design of health benefit packages.³ To do so, countries can consider establishing regional or national priority-setting systems using HTA. HTA is a potent tool to enhance the allocative efficiency or the optimal distribution of health spending in LMICs. However, amidst evolving geopolitical circumstances and advancements in technologies, countries will need to change the way they use HTA in the future to ensure value for money, accounting for three important elements: leapfrogging, aid localization, and regionalization.

Agile Leapfrogging Past Traditional Approaches

LMICs have an opportunity to leapfrog their use of HTA in making coverage decisions and designing health benefits packages without the resources and costs of traditional HTA. LMICs need not adopt the same approach to institutionalizing HTA as was done in high-income countries (HICs), regarding the goals pursued and methodologies used. With budget constraints

CONTACT Javier Guzman,  jguzman@cgdev.org,  Center for Global Development, Global Health Program, 2055 L St NW, Washington, DC 20036, USA

© 2024 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

and an increasing array of health technologies available, LMICs can use HTA to define and revise health benefits packages in whole—as is already the case in Argentina.⁴ This contrasts with how HICs have historically used HTA, mainly focusing on coverage decisions at the margin—deciding whether to include or exclude new health technologies from an already comprehensive set of benefits shortly after market entry.

Additionally, LMICs are likely to employ adaptive methodologies aimed at reducing the time, capacity, and data required for HTA. This adaptation holds promise in addressing challenges encountered by LMICs, such as the extensive list of technologies awaiting evaluation, the urgency in making funding decisions, the lack of demand for evidence, limited data availability and skilled professionals, inadequate funding, and the paucity of technical and/or institutional capacity to execute traditional or “full” HTA processes. While adaptive approaches might be seen by some as a second-best approach compared to “full” HTA, in practice, these approaches may be more agile and efficient in terms of resources required to conduct HTAs.

Adaptive HTA methodologies may learn from the adaptation of methodologies for standard treatment guidelines, which proved to be an efficient alternative to the labor-intensive approach of developing guidelines *de novo* or from scratch. The ADAPTE framework, a systematic approach to adapting guidelines produced in one setting for use in a different cultural and organizational context, was initially published in an environment of skepticism.⁵ However, adapting clinical guidelines is now fully embedded in the GRADE methodology—the most widely adopted approach for developing and presenting evidence summaries and for making recommendations—with over 100 organizations worldwide endorsing it.⁶

Aid Localization

The current trend of providing funds directly to local institutions will shape how health priority-setting systems are built or strengthened, particularly as localization is combined with other major shifts in the global health architecture. This includes a more prominent focus on building health systems, in addition to buying health commodities; joint approaches to reduce fragmentation and minimize the operational burden on countries; and incorporation of new goals, such as increased regional manufacturing in LMICs.

Localization has the potential to put country governments in the driver’s seat as it promotes greater ownership and accountability. It can help build institutions to conduct and use HTA, which is essential to support an orderly move away from vertical programs. Localization may foster a more balanced relationship with technical assistance

providers from HICs, and stronger south-to-south collaborations and learning exchanges, which might help to prevent brain drain from southern to northern institutions. As local institutions receive increased funding, training arrangements, and partnerships with international networks, such as the international Decision Support Initiative, a network created in 2013 to expedite HTA institutionalization in Asia and Africa, are likely to evolve, with partners from HICs taking on a different role and responding to the needs identified by local institutions.

However, challenges such as absorptive capacity and legal complexities may hinder the pace and extent of localization efforts. For example, HIC HTA expert institutions might find it difficult to adjust their processes and justify receiving funding from, and reporting to, LMIC institutions. Similarly, donors might struggle to adapt their metrics of success as institution-building requires time and resources, and monitoring and evaluation systems are often inadequately defined to measure progress. Further, the design and implementation of localization and whether it supports nonprofit or private organizations or government itself remain unclear; for localization of priority-setting to be effective, it will be necessary to build coalitions and capacity in support of agendas set by national leadership.⁷

Regional Over National Agencies for HTA

Rather than establish HTA agencies as HICs did in the 1990s, LMICs may instead develop more flexible approaches based on regional collaborations. Regional approaches are in vogue, particularly after the COVID-19 pandemic which highlighted the lack of international cooperation with extensive “vaccine nationalism,” manifested by vaccine hoarding by high-income countries. Vaccine nationalism remains one of the greatest promises that regional cooperation can help to address through mutual trust and partnership.

More importantly, however, regionalization has the potential to tackle common limitations at the country level, such as a scarcity of quality data, inadequate local capacity, absence of legal frameworks, limited formal institutional structures, and health system fragmentation. Regional agencies, such as the Africa Centres for Disease Control and Prevention (CDC), and other regional and subregional public and private pooled procurement mechanisms⁸ can play larger roles in developing capabilities to procure health products on behalf of all African countries—a function that would benefit from HTA and that has, to date, been carried out from Geneva, rather than Addis Ababa.

Regionalization also has the potential to reduce barriers to entry and lower the costs of setting up HTA bodies. While HTA bodies are very cost-effective—estimates from India show a return on investment of 9:1⁹—they are not cheap. For instance, the Thailand HTA agency has an annual budget of approximately 3 million USD,¹⁰ whereas the India HTA agency has an annual budget of approximately 24 million USD.⁵ The establishment and development of Africa CDC thus has the potential to achieve economies of scale in priority-setting.

Regionalization is not unique to LMICs, as it offers the economies of scale and scope that large countries, such as Brazil, India, and China, already benefit from. In 2021, the European Council and the European Parliament adopted regulations to facilitate joint assessments by the European Union's national HTA bodies on the clinical effectiveness and safety of new health technologies. Similarly, five European countries—Belgium, the Netherlands, Austria, Luxembourg, and Ireland—have collaborated under the “Beneluxa initiative” to jointly assess value for money and negotiate prices for health technologies. Moreover, the UK's National Institute for Health and Care Excellence and seven other HTA agencies from HICs have recently formed a partnership to explore work sharing, horizon scanning, and science and methods development. Lessons from these exercises in HICs may inform regionalization in lower-income countries.

Conclusion

Policy makers in LMICs should consider three key elements when deploying HTA to inform priority-setting: agile leapfrogging past traditional HTA methodologies, localization to enhance country ownership and accountability, and regional collaboration to overcome barriers like data scarcity, funding, and capacity limitations. Doing so will not be easy as novel methods are still under development; aid localization continues to be resisted by donors and global health initiatives; legal frameworks are sparse and do not support effective regional coordination mechanisms; and country health systems are diverse. In the long term, addressing these elements will be worthwhile and can help optimize health spending, improve health outcomes, and ensure sustainable health care financing.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Funding

The authors reported funding from the Bill and Melinda Gates Foundation [OPPI202541, INV-003239].

ORCID

Javier Guzman  <http://orcid.org/0000-0002-3013-0602>

Peter Baker  <http://orcid.org/0000-0001-9028-9976>

References

1. Tangcharoensathien V, Limwattananon S, Patcharanarumol W, Thammatacharee J, Jongudomsuk P, Sirilak S. Achieving universal health coverage goals in Thailand: the vital role of strategic purchasing. *Health Policy Plann.* 2015;30(9):1152–61. doi:10.1093/heapol/czu120.
2. Health Benefit Packages - A visual summary. www.who.int. n.d [accessed 2024 Jul 5]. <https://www.who.int/data/stories/health-benefit-packages-a-visual-summary>.
3. Norheim OF, Watkins DA. The role of HTA for essential health benefit package design in low or middle-income countries. *Health Syst Reform.* [2023 Dec 31];9(3):2273051. doi:10.1080/23288604.2023.2273051.
4. Alcaraz A, Alfie V, Gonzalez L, Virgilio S, Garcia-Marti S, Augustovski F, Pichon-Riviere A. Evidence-informed update of Argentina's health benefit package: application of a rapid review methodology. *Int J Technol Assess Health Care.* 2022;38(1). doi:10.1017/S0266462322000034.
5. Fervers B, Burgers J, Haugh M, Latreille J, Mlika-Cabanne N, Paquet L, Coulombe M, Poirier M, Burnand B. Adaptation of clinical guidelines: literature review and proposition for a framework and procedure. *Int J Qual Health Care.* 2006;18(3):167–76. doi:10.1093/intqhc/mzi108.
6. Siemieniuk R, Guyatt G. What is GRADE? *BMJ best practice.* n.d [accessed 2024 Jul 15]. [https://bestpractice.bmj.com/info/us/toolkit/learn-ebm/what-is-grade/#:~:text=GRADE%20\(Grading%20of%20Recommendations%2C%20Assessment,for%20making%20clinical%20practice%20recommendations](https://bestpractice.bmj.com/info/us/toolkit/learn-ebm/what-is-grade/#:~:text=GRADE%20(Grading%20of%20Recommendations%2C%20Assessment,for%20making%20clinical%20practice%20recommendations).
7. Fan VY, Guzman J, Baker P. Introduction to the Special Issue on “building institutions for priority setting in health. *Health Syst & Reform.* 2023;9(3). doi:10.1080/23288604.2024.2377891.
8. Nemzoff C, Chalkidou K, Over M. Aggregating demand for pharmaceuticals is appealing, but pooling is not a panacea: cgd note. (WA) (DC): Center for Global Development; 2019.
9. Grieve E, Bahuguna P, Gulliver S, Mehndiratta A, Baker P, Guzman J. Estimating the return on investment of health technology assessment India: cgd note. (WA) (DC): Center for Global Development; 2023.
10. Teerawattananon Y, Vishwanath Dabak S, Culyer A, Mills A, Kingkaew P, Isaranuwatthai W. Fifteen lessons from fifteen years of the health intervention and technology assessment program in Thailand. *Health Syst Reform.* 2023;9(3). doi:10.1080/23288604.2024.2330974.