Research article Available online www.ijsrr.org ISSN: 2279–0543

International Journal of Scientific Research and Reviews

Health Technology Assessment: Current Status and Future Challenges in India

Rashi Tomer*, Megha Dabas, and S. K. Gupta

Department of Clinical Research, Delhi Pharmaceutical Sciences and Research University, New Delhi

ABSTRACT

Universal Health Coverage (UHC) is the need of an hour for India and Health technology assessment can be a potent solution for this. It is essential for making universal health coverage sustainable and effective.HTA will provide a transparent, consultative process of decision making that is based on evidences and provides inputs to policymakers for providing universal health services that are affordable, appropriate and effective.HTA is urgent requirement in our country where large populations are deprived from basic health care facilities. And it comes into a picture for providing "Value for money" to the patients.

The creation of the HTAIn led by DHR is a landmark development towards evidence-based health policy making in India and will lead India to have a robust Universal Health Coverage programme. It aims to evaluate the available evidences regarding cost and clinical effectiveness of a health interventions that will help in reducing the OOP expenditure of patients and maximizing coverage.It ensures greater reach of health programmes in terms of coverage by minimizing cost and accessibility in terms of inclusion of cost for awareness and acceptability.

Country that is home to one-sixth of the global population, improving the health of the Indian population will have a resounding impact, not only for India, but for global health in general.

KEYWORDS: Health technology assessment, India, current status, future challenges, HTA, HTAIn

***Corresponding author:**

Rashi Tomer

Department of Clinical Research,

Delhi Pharmaceutical

Sciences and Research University,

New Delhi

INTRODUCTION:

Health technology assessment is a multidisciplinary process that summarizes information about the medical, economic, social, organizational, legal and ethical issues related to the use of health technology in a systematic, transparent, unbiased and robust manner.[1]

HTA is defined as "research based, practice-oriented assessments of relevant available knowledge on the direct and intended consequences of technologies, as well as the indirect and unintended consequences"[2]HTA tells us whether current intervention strategies represent an efficient use ofscarce resources, and which of the potential interventions that may be implemented should beprioritized.[3]Therefore, it provides an internationally accepted and structured approach to formthe basis for evidence-based priority setting and policy decisions.[1]

Table 1: Three phase model of HTA

Regulation	Assessment	Management
Safety	Clinical effectiveness	Procurement
Performance (devices)	Ethics	Selection
Efficacy (drugs)	Social issues	Training
	Organizational	Use

Aim of HTA

It aims to "globalize the evidence, localize the decision", and therefore, involves to 2 steps. -the 1st comprises a systematic synthesis of the global evidence base (i.e. systematic reviews).- the 2nd involves an appraisal of this evidence within a local or jurisdictional context, engaging local experts and decision makers who play important roles in the dissemination and utilization of the intervention. It may also include an examination of intervention's potential impact on the higher population and policy levels.

Purpose of HTA[1,4]

Thepurpose of HTA is to inform decision makers about what is known and what is not known about a technology, with a goal of creating policies that gets the right treatment to the right patient at the right time at the right cost, given the trade-offs.

Through the HTA process, an in-depth understanding of the strengths and weaknesses of the new technology emerge.

Approaches used in HTA:[1,4]

1. HTAemployes the principle of **Clinical effectiveness** that describes the ability of a technology to achieve a clinically significant impact on a patients's health status.

2. It also employs the principle of **Cost effectiveness** that is identified by economic evaluation to identify the most cost effective health technology. It involves the analysis of alternative courses of action in terms of both their cost and consequences.
3. **Budget impact analysis**:[5,6] it aims to quantify the true stakeholder cost over a short period of time for all eligible patients to receive the new technology.

Main purpose of HTA is to inform technology related policy making in health care, and thus improve the uptake of cost-effective new technologies and prevent the uptake of technologies that are doubtful value for health system.

Scope of HTA in India

The dominance of private health-care sector in India and meagre Health Budget increases the out-of-pocket (OOP) expenditure for health-care needs. The OOP spending in India is much higher than other similar countries like Thailand, China and Sri-lanka. Many families are driven below the poverty line every year due to large medical expenditure: a term known as 'catastrophic payments.'[7,8] The Twelfth Five Year Plan of India sets out the agenda for improving the availability, quality and affordability of health services to initiate the move towards Universal Health Coverage (UHC).Recently, The Government of India unveiled the largest health insurance scheme in the world, the *Ayushman Bharat- Pradhan Mantri Jan Aarogya Yojana*[5] targeting 100 million poor families for insurance coverage to assure the availability of free and comprehensive primary healthcare services of up to INR 500 000 per annum. Operationalizing UHC will require optimal utilization of existing resources to ensure that the greatest amount of health is bought for every rupee spent.[3,6]

Therefore, it is required that decisions on resource allocation are policy relevant and evidence informed. This requires a systematic process for generating policy-relevant evidence that can inform policy decisions regarding health resource allocation, i.e. clinical effectiveness studies, cost-effectiveness studies, budget impact studies, as well as ethical, social and political feasibility studies. This systematic and comprehensive process falls under the broad umbrella of health technology assessment (HTA).Such mechanism reduces inappropriate delivery of care, inappropriate practices and avoids long-term sequelae of inappropriate intervention and reduces waste of financial resources and the associated opportunity cost.[9]

CURRENT STATUS OF HTA

Considering the recommendations of the12th Plan Working Group on Health Research government of India has decided to set up country's first HTA agency, the `Health Technology

Assessment in India (HTAIn) for evalauation and appropriateness and cost effectiveness of the available and new health technologies in India.[10]

The HTA in India (HTAIn) previously known as Medical Technology Assessment Board (MTAB) was set up under the Department of Health Research (DHR), by Ministry of Health and Family Welfare (MoHFW), to help GOI (Governement of India) in evidence-informed decision-making in healthcare.[11]

HTAIn has been given the responsibility to conduct health technology assessment studies for the requests coming from Central and State health ministry that includes systematic literature reviews, economic evaluations, primary costing as and when required, and measuring and valuing the health outcomes pertaining to that health technology.

Areas in which HTA could be applied in the Indian context include, drug pricing, development of clinical practice guidelines and prioritizing interventions that represent the greatest value withina limited budget. [12]

HTAIn has started functioning congruously in January 2017 in DHR.HTAIn is now more than 1½ year old and there are more than 25 HTA topics under process, it is crucial to record all the information properly and systematically.HTAIn being a central government programme will bring such studies under a broader umbrella, where these studies will be more policy driven.

HTAIn structure[10,11]

It consists of a DHR in-house Secretariat, Technical Appraisal Committee (TAC), Technical Partners (TP) and Regional Resource Hubs.

Work flow of HTAIn:

- User department(s) give HTA topic(s) to the Secretariat.
- The topics are prioritized and allocated to an appropriate TP/ Resource Hub to conduct the HTA study.
- HTA proposals as well as the outcome of the study is appraised by the TAC and stakeholders.
- Thereafter, outcome is forwarded to the User Department. Secretariat is the point of co-ordination for TAC, TP and User Department.

Objectives of HTAIn[10,11]

- Maximizing health in the population, reducing out of pocket expenditure (OOP) and reducing inequity.
- To support the process of decision making in health care at the central and state policy level by providing reliable information based on scientific evidence.

- Develop systems and mechanisms to assess new and existing health technologies by a transparent and inclusive processes.
- To appraise health interventions and technologies based on available data on resource use, cost, clinical effectiveness and safety.
- To collect and analyse evidence in a systematic and reproducible way and ensure its accessibility and usefulness to inform health policy.
- Disseminate research findings and resulting policy decisions to educate and empower the public to make better informed decisions for health.

FUTURE CHALLENGES

Establishing HTA in India brings with it several challenges that need to be recognized and addressed. The vast and complex Indian healthcare system presents a challenge in itself.

- Gross deficiency in the capacity to undertake HTA studies in India. Moreover, there is limited human resource capabilities in health economics and mathematical modelling, requiring considerable investment in skill-building.[3]
- To ensure technical rigour and methodological and process consistency across all TPs.[1,8]
- Lack of data on the costs of delivering health care services and the lack of a quality-of-life tariff for the Indian population.[1,8]
- It relates to the ethics and transparency of systems, particularly in relation to conflicts of interest.
- For some, HTA is perceived as a hurdle to the introduction of innovative technology into the health system. In this perspective HTA is sometime classified as the “fourth hurdle” after the assessment of safety, efficacy and quality that are part of the regulatory requirements in many countries.The term “fourth hurdle” is most commonly used in relation to the coverage of new drugs, where it becomes increasing evident that not only cost-effectiveness but also budget impact is an important dimension in decision making.[1,8]
- It offers critical information on technology solutions but to date, most HTA applications have been developed for high income countries with relatively well-established planning and regulatory systems in place.[1,8]
- India is a large country with significant variations between states and union territories and it would be very challenging to show that the HTA results are nationally representative and relevant to all constituencies, particularly as policy formulation and implementation occurs at the state level.[5]

CONCLUSION

HTA is essential for making universal health coverage sustainable and effective. HTA will provide a transparent, consultative process of decision making that is based on evidences and provides inputs to policymakers for providing universal health services that are affordable, appropriate and effective.HTA is urgent requirement in our country where large populations are deprived from basic health care facilities. And it comes into a picture for providing "Value for money" to the patients. Formalising a system of HTA in India is a promising step in promoting the optimal utilization of existing resources to ensure that the greatest amount of health is bought for every rupee spent and extending adequate healthcare services to the population towards the goal of UHC.The creation of the HTAIn led by DHR is a landmark development towards evidence-based health policy making in India and will lead India to have a robust Universal Health Coverage programme. Maximization of strong HTA system will lead to 100% utilization of existing sources.

REFERENCES:

1. World Health Organization. Health Technology Assessment of Medical devices. WHO medical device technical series.2011; 1-39.
2. Singh S. An Economic Evaluation of Health Technology Assessment in India. International Journal of Basic and Applied Biology.2015; 2:464-466.
3. Rao N, Downey L et al. Priority -setting, the Indian way. Journal of global health.2018;8(2).
4. ICER. Guide to understanding Health Technology Assessment. Institute for Clinical and Economic Review.2018; 1-12.
5. Dabak S, Pilasant S et al. Budgeting for a billion: applying health technology assessment (HTA) for universal health coverage in India. Health Research policy and System.2018;16:1-7.
6. World Health Organization. Health interventions and Technology Assessment Global Mapping Tool.
7. Dang A, Vallish. Can Health Technology Assessment (HTA) provide a solution to tackle the increasing Health-care expenditure in India. Indian Journal of Public Health.2016;60:138-141.
8. PrinjaS, Downey L et al. Health Technology Assessment for Policy Making in India: Current Scenario and Way Forward. PharmacoEconomics Open.2017;2:1-3.
9. Downey L, Mehndiratta A et al. Institutionalizing health technology assessment: establishing the Medical Technology Assessment Board in India. BMJ Global Health.2017; 1-4.
10. Department of Health and Research. Health Technology Assessment in India. 2019.

11. Jain S, Rajshekar K et al.Department of Health and Research. Health Technology Assessment (DHR-HTA) database: National prospective register of studies under HTAIn. Indian journal of medical research.2018;148:
12. Hass B, Pooley J et al. Health technology assessment and its role in the future development of the Indian healthcare sector. Perspective in Clinical Research. 2012;3(2):66-72.