

# An Economic Evaluation of Health Technology Assessment in India

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**Abstract**—Over the past decades, the rising cost of health care has increased the importance of HTA to support decisions about the utilization of resources. Questions have been raised as to whether the allocation of resources has led to an optimal gain in total health at population level. It is a cause of serious concern since the Health Budget in India is very meager in comparison to International Budget allocation, these results in out of pocket situation to many patients which are uninsured and falling below the poverty line. Development of Health technology Assessment can solve this problem by utilizing the direct investments to be pooled into the healthcare budget, which can result in the maximum utilization of resources to the patients. This is the time of need to develop effective HTA system from the Govt. of India, which can only resolve the catastrophic out of pocket situations. In this study, we would be highlighting the current position of HTA in India, the critical need felt by Indian for the effective. The goal of HTA is to provide objective, valid and reliable information to implement the results of research in daily practice and to provide input for decision-making concerning health policies.

**Keywords:** Health Technology Assessment(HTA), Poverty Line, Out of Pocket (OOP).

## 1. INTRODUCTION

The International Network for Agencies in Health Technology Assessment (INAHTA) has provided the following description of HTA: “technology assessment in health care is a multidisciplinary field of policy analysis. It studies the medical, social, ethical, and economic implications of development, diffusion, and use of health technology”

The newly founded society for Health Technology

Assessment International (HTAi) defines HTA 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”

Health technology assessment (HTA) is a form of policy research that examines short- and long-term consequences of the application of a health-care technology. Properties assessed include evidence of safety, efficacy, patient-reported outcomes, real-world effectiveness, cost, and cost-effectiveness as well as social, legal, ethical, and political impacts.

## 2. HTA SYSTEM IN INDIA

In India, currently there is no formal national HTA program, although there have been isolated attempts by a few groups in this direction. NICE International, an arm of National Institute for Health and Clinical Excellence, UK has held two workshops on evidence based medicine approaches for sensitization about HTA, and the need for clinical guidelines for policy makers and senior clinicians in Southern Indian states.

In a transitional economy such as India, where chronic and non-communicable diseases represent a major public health challenge, choices related to the allocation of healthcare resources are difficult. Health technology assessment methodology offers an equitable and transparent framework, within which these challenging decisions can be made.

## 3. RESEARCH QUESTIONS AND METHODOLOGY

The Study describes how tools such as these can be utilized in the development of the Indian healthcare sector, and what considerations are necessary to allow them to be deployed effectively in the context of challenges particular to India. These issues have been discussed at a workshop on the potential for HTA in India, organized by the Public Health Foundation of India and the South Asia Network for Chronic Disease. Articles were sourced from Published and unpublished literature, articles and available materials from Government publications.

## 4. OUT OF POCKET SITUATION (OOP)

The predominance of OOP payments in the Indian healthcare sector has implications for the application of any nascent HTA initiatives. Experience in countries where HTA is a well-established methodology, such as Canada and the UK, suggests that irrespective of the identity of payers—be they government, insurance companies or private individuals—there is a growing reluctance to pay the high prices associated with new healthcare technologies. Health authorities are demanding increasingly robust demonstrations of the

incremental value of novel interventions over the established standards of care. Payers agree to fund the new technologies only when manufacturers have provided sufficient evidence of 'value for money', which may be defined differently in different countries. It is likely that suppliers of healthcare technologies to the Indian market will have to address these concerns in the future, even if the burden of evidence is less exacting to begin with.

## 5. OBJECTIVES OF THE HTA

It is prime objective of HTA to ensure provide value for money to the patients. HTA depends on the outcome research as during healthcare treatment there can be various hurdles like social, institutional objectives, financial constraints that can result in inefficient utilization of the resources. There are numerous innovations but very few of them actually benefit the patients. There is urgent need to identify this research work and get their IPR so that the actual benefit reaches to the patients.

## 6. ECONOMIC EVALUATION OF HTA

Health technology assessment and Pharmaco- economics are very well developed in the developed nations like UK, US, Argentina and Canada. The effective Health technology assessment system ensures the timely delivery of latest technology and innovations to the community. Even after low Budget allocation in India, the Health technology assessment system will ensure fair deals to the patient.

In the developing world, budget constraints are more likely to preclude the provision of any new interventions above a threshold level of expenditure, regardless of the potential return on that investment.

Second, the demographics of many developed nations in the world are stable and the populations of Healthcare consumers are well characterized. Taking into account India's rapid population growth, it Becomes clear that the annual cost of providing any new technology is far from static.

Health technology assessment for pricing and reimbursement decisions According to an estimate published in 2007, it costs US\$1.3 billion to bring a new drug to market and the cost of failure in drug development programs has forced prices to unprecedented high levels. There is a need to strike balance between developments of Inventions and delivery to the patients... The criteria for determining whether a drug will be included on the NLEM are as follows:

- Essentiality of drugs: that is, those on the NLEM considered to satisfy the public health priorities of the Indian population
- Market-based pricing: the previous system involved a labor-intensive calculation of price, based on complex and variable cost data; market based pricing uses publicly available data to ensure a simple, transparent process

- Control of formulation prices only: to ensure more specific price controls of the medicines used by the consumer/prescribed by the physician.

Furthermore, there will be a fixed ceiling price, below which manufacturers can place their products, to retain competition in the market. The ceiling price will be calculated according to a formula based on the price and strength of the reference formulation, as given in the NLEM. Previously, drug price controls for the Indian market were based on the market share of individual products, defining a minimum profit margin and featuring a cost-based pricing formula.

The concept of the reference formulation echoes the system of HTA in developed countries such as France, where assessment of the incremental value of a new agent compared with the standard of care is used to determine pricing and reimbursement, within a comprehensive market access framework.

Pharmaceutical pricing in India could mirror this approach, if a rigorous clinical and economic evaluation, in the form of HTA, was allied to the proposed reference pricing system. This would enable new treatments across a range of therapy areas to be assessed according to the same procedures, followed by a transparent and consistent system for the determination of prices.

HTA can solve numerous medical queries and problems. According to this broad understanding of health technologies, it is obvious that decisions on health technologies are an important part of the everyday business of health services design, management, and delivery in any health system. Health policy-making concerns the application of health technologies both in and on the system and in regards to both clinical and health system policies.

HTA is urgent requirement in a developing country like India, in which large populations are deprived from basic health care facilities. Development of strong HTA as in place in developed countries can go a long way in providing the maximum utilization of health care benefits to people.

An HTA assessment is only useful when it is able to provide sufficient date and at the same time hastens the process of providing access to new research and development to the patients. This is very critical as in present scenario it is happening that even after the discovery of the innovations; it is taking long time to reach the healthcare system. If the technology is taking long time, it is clear-cut indication that the current system is ineffective. Henceforth, there is strong requirement of HTS system, which will fasten the process and save number of lives.

An ideal HTA system should be transparent, effective, systematic, and unbiased. THE HTA system should be able to provide strong guidelines and able to develop effective assessment of all disease treatment. Different countries have varied climate, cultural background, and priorities and

therefore, HTA system should be unique for any country. Pharmacoeconomics principles support the model of development of HTA system. Various Pharmacoeconomics tools such as cost-effectiveness measures provide the basis for the development of new methods and techniques for the assessment.

Assessment model should take into criteria each and every factor such as cost, effectiveness, utilization of resources, need of the time, social status, economic background etc. Various Health Awareness programs at the National level must be started to initiate the development of strong HTA model. Novel techniques and innovation should be incorporated into the HTA model after adequate verification and checking the effectiveness level.

Development of strong HTA Model will not only assist in the development of decision making in the healthcare, but also support the transparency in the treatment of same type of disease in different patients. Maximization of strong HTA system will lead to 100% utilization of existing sources.

## 7. CONSIDERATIONS FOR HEALTH TECHNOLOGY ASSESSMENT IN INDIA

Economic evaluation of the benefits of a new technology is based not only on health gain versus monetary expenditure required, but also on its effect on the quality of life of the treated population. Furthermore, it is clear that HTA system in various countries are very validated and developed. There is vast cultural and demographic difference between developed nations and developing nations like India.

In India, pediatric and geriatric care are given due importance and large funds are allocated in the family for that, whereas in developed nations the budget are more directed towards the earning and potential members, which lies in the 20-40 age group.

In a review of the quality of existing Pharmacoeconomic studies carried out in India, Desai et al. recommended a standardized set of guidelines for these studies, and improved pharmacoeconomic education to produce skilled professionals who can produce high-quality research. There are lots of hurdles in the development of effective for health technology assessment in India ranging from, lack of professional experts, non-effective reporting system, low budget allocation.

## 8. RECOMMENDATION

The health technology assessment in India should ensure following objectives:-

- Appraise health interventions and technologies efficiently and transparently
- Develop systems and mechanisms to promote the management of health technology as well as appropriate health policy determination
- Distribute research findings and educate the public in order to make the best use of the results. Professor David

Banda, an expert in the development of international HTA programs, identifies the following priorities for the establishment of a sustainable HTA infrastructure:-

- Interest and commitment from government policy makers
- Ability and willingness to commit public money to HTA
- Support from important stakeholders
- Scientific capability
- Ability to review the literature and search the internet
- Involvement of educators (HTA training program)
- Consideration of workable options, for example, national agency, network, coordinating agency
- A coherent and effective health policy structure—Regulation, payment, and the like.

The advent of economic evaluation in healthcare does not mean that future healthcare decision-making will be free of political manipulation or sociological pressures. Other considerations such as total budget size, equity, social solidarity, and protection against catastrophic health expenditure will continue to play a role in the healthcare sector in Asian countries.

However, it is clear that HTA has a role to play in decision-making concerning the future of Indian healthcare provision. As noted by Virgil, 'health is the greatest wealth'; economic productivity and prosperity depend on a healthy population. Although healthcare expenditure may be seen as an economic burden, this philosophy underlines the need to view spending on healthcare as an investment in the long term economic wellbeing of the population. Indian policymakers can make informed choices as to the most productive use of investments in the health and wellbeing of the nation, by employing rigorous methodologies such as HTA.

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