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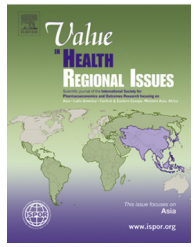

Importance of Economic Evaluation in Health Care: An Indian Perspective

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ABSTRACT

Health economic studies provide information to decision makers for efficient use of available resources for maximizing health benefits. Economic evaluation is one part of health economics, and it is a tool for comparing costs and consequences of different interventions. Health technology assessment is a technique for economic evaluation that is well adapted by developed countries. The traditional classification of economic evaluation includes cost-minimization, cost-effectiveness analysis, cost-utility analysis, and cost-benefit analysis. There has been uncertainty in the conduct of such economic evaluations in India, due to some hesitancy with respect to the adoption of their guidelines. The biggest challenge in this evolutionary method is lack of understanding of methods in current use by all those involved in the provision and purchasing of health care. In some countries, different methods of economic evaluation have been adopted for decision making, most commonly to address the question of public subsidies for the purchase of medicines. There is limited evidence on the impact of health insurance on the health and economic well-being of beneficiaries in developing countries. India is currently pursuing several strategies to improve health services for its population, including investing in government-provided services as well as purchasing services from public and private providers through various schemes. Prospects for future growth and development in this field are required in India because rapid health care inflation, increasing rates of chronic conditions, aging population, and increasing technology diffusion will require greater economic efficiency into health care systems.

Keywords: economic evaluation, health economics, health technology assessment.

Introduction

The Indian health care sector is one of the fastest growing industries and is expected to grow at a compound annual growth rate of 17% during the period 2011 to 2020 to touch US $280 billion. It is expected to rank among the top three health care markets in terms of incremental growth by 2020 [1]. Spending on health care in India was an estimated 5% of gross domestic product in 2013 and is expected to remain at that level through 2016. Total health care spending in local currency terms is projected to rise at an annual rate of more than 12%, from an estimated $96.3 billion in 2013 to $195.7 billion in 2018. Although this rapid growth rate will reflect high inflation, it will also be driven by increasing public and private expenditures on health [2].

As per the World Health Organization (WHO), in countries such as India, people who pay for their health care services suffer "catastrophic costs." While millions suffer and die in absence of access or inability to afford medical care, many others suffer because they end up paying through debts, selling assets, and so forth [3]. Citizens' expectations for health care are becoming high in developing countries such as India, where people are becoming accustomed to better standards. People now demand latest treatments, timely, affordable care, and a range of choices. They are better informed than ever about their health and their treatment options. They are prepared to take some responsibility for their own health, but broadly they do not want to have to pay a lot more than they already are for their health care [4].

However, the proportion of insurance in health care financing in India is very low. The extent of coverage and the type of coverage are key issues related to insurance penetration. Only around 10% of the population is covered through health financing schemes. Selection criteria by suppliers often restrict the poor (and more likely to be ill) from affordable prepayment schemes. Many patients in India have been forced below the poverty line because of health care expenditure. Nearly 40% of Indians who were hospitalized in 1995-1996 fell into debt on account of paying for hospital expenditures, with nearly a quarter falling below the poverty line as a result. The risk of falling into poverty when hospitalized ranged from 17% in Kerala to double that in Uttar

Conflict of interest: The authors have indicated that they have no conflicts of interest with regard to the content of this article.

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http://dx.doi.org/10.1016/j.vhri.2015.11.005

Pradesh and Bihar [5,6]. The voluntary health insurance market, which is estimated at Rs 4 billion ($86.3 million) currently, is growing fast. Industry estimates put the figure at Rs 130 billion ($2.8 billion) [7]. It is, therefore, a challenge for health care providers to promote health using improved and cost-effective modalities for the prevention, diagnosis, and therapy of various diseases and aliments.

The goal of any health care intervention is to improve health with available preventive measures, treatments, and medical procedures [8]. The variation in health services provision across the country, along with increasing health care expenditure, accentuates the need for effective utilization of health care resources. Although economics in general provides a framework to allocate scarce resources among competing ends, health economics specifically deals with the allocation of resources in improving health. Health economics is a branch of economics that examines as well as evaluates issues related to efficiency, effectiveness, and value of resources in health and health care. Potential uses of economic evaluation include the development of public reimbursement lists, price negotiation, the development of clinical practice guidelines, and communicating with prescribers [9]. Such evaluations are important in understanding economic aspects of health and disease and limitations to the procurement of adequate health care [10].

A health care service often relies on complex technologies directed to serve medical and public health purposes. The development and adoption of these technologies are costly, which has led to increased health care costs. In addition, access to health technology is one of the most distinct differences between the rich and the poor [11]. The economic evaluation embedded in health technology assessment (HTA) has become increasingly important as a tool to assess and compare health benefits and costs of different treatments [12]. HTA and outcomes research are widely used to prioritize interventions that represent the most effective use of resources among many competing options in the developed world.

Health Technology Assessment

Every new technology that is supposed to be implemented in society usually goes through predefined phases of assessment to prove its worth. For health care evaluation, HTA bodies have been established to provide guidance on which technologies should be used in societies with given resource constraints [13]. It has emerged as a national-level formal process that does influence priority setting and is now considered to be a successful mechanism to deal with health care priority issues [14]. The International Network for Agencies in Health Technology Assessment 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” [15].

HTA consists of appraisals using well-established evaluative techniques of systematic review, meta-analysis, clinical trials, epidemiology, and economic evaluation including the application of incremental cost-effectiveness ratios [16]. HTA is usually undertaken by specialized agencies or national organizations. In the United States, the Agency for Healthcare Research and Quality and the United Kingdom's (UK) HTA program guided by the National Institute for Health and Clinical Excellence (NICE) [17]. In the United Kingdom, the National Institute for Health and Care Excellence has been successful in going beyond HTA by providing clinical guidance, care pathways, and implementation plans in a legally binding manner [18].

Among low- and middle-income countries, there are established HTA programs in several countries including Brazil, Mexico, China, South Korea, and Thailand [19]. In India, states such as Kerala began discussions with established HTA agencies such as the National Institute for Health and Care Excellence from other countries; however, there is to date no formal national HTA program in India [20,21]. An initiative has been taken by the Society of Pharmacoeconomics and Outcomes Research (ISPOR) India to draft guidelines on the basis of a study of international guidelines and ISPOR. A core committee with experts from industry and academia was entrusted with the task to prepare its first draft, to be circulated among the public for wider consultations. Following this, the decision core group of experts had several meetings and deliberations and decided to place the guidelines on the ISPOR India Web site for further comment and review.

The National Health Systems Resource Centre (NHSRC) was established in 2007, under the National Rural Health Mission of Government of India. The NHRSC eyes to improve health outcomes by facilitating governance reform, health systems innovations, and improved information sharing among all stake holders at the national, state, district, and subdistrict levels through specific capacity development and convergence models. The NHSRC is also a WHO collaborating center for Priority Medical Devices & Health Technology Policy. The NHSRC currently consists of eight divisions—Community Processes, Public Health Planning, Human Resources for Health, Quality Improvement in Healthcare, Healthcare Financing, Healthcare Technology, Health Informatics, and Public Health Administration. Public Health Planning is one of the practice areas of the NHSRC encompassing both health systems and health programs. The function of this practice area includes developing health plans and programs responsive to the needs of the population, but it is also vital for budgeting and resource allocation in a systematic and equity-sensitive manner. The first compendium of HTA—an evidence-based approach to technology-related policy making for Indian health care—was launched at the 4th International Health Technology Assessment Fellowship in Chennai in August 2014. The compendium highlights the most essential health technologies required today for responding to India’s disease burden. This compendium of HTA was jointly developed by the NHSRC, New Delhi, and the WHO Country Office for India. This HTA compendium is an outcome of the fellowship program organized by the NHSRC and WHO India in 2012-2013. This unique fellowship brings together engineers, researchers, health care professionals, industry experts, and government to form a vibrant and fertile innovative ecosystem for HTA. Over the last 2 years, more than 200 professionals have been trained under the HTA fellowship program. The compendium is a critical step toward identifying and consequently filling the technology gaps in the public health sector [22,23].

Techniques of Economic Evaluation

Health care can be seen as an immediate product, in the sense of being a means to the end of improved health. To prioritize and allocate scarce resources in an efficient way, an analytical tool is required, which is able to put into perspective the costs and benefits of implementing one project instead of another, thereby creating a basis for decision making. Economic evaluation is such an analytical tool for decision making because it involves both a cost side and a benefit side, which are being evaluated against each other. The cost side is composed of costs that are involved in the establishment and implementation of the project in question. In addition, in principle the marginal cost and not the average cost is determined because it is the cost that arises