



# Pharmaco-economics analysis, as a strategy on facilitating choices between health and non-health programs in the establishment of the national health care system

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**Abstract** Due to the significant boost in community expenditure with health topics, mainly regarding drugs, numerous countries, have already put into operation, or are in the process of arguing the adoption of actions to guarantee the excellence of health care provided to the population. One of the less risky strategies is the adoption of economic procedures applied to health, more specifically, pharmaco-economics analysis.

This paper aims to contribute to the dissemination of notions and techniques of economic study with a view to integrate these into strategy decisions of payment rationalization and the search for clinical effectiveness. It includes a literature review covering the category of expenses and reimbursement in health issues, the methodologies of pharmaco-economics revision, cost-minimization, cost-benefits, cost-effectiveness and cost-utility analysis, as well as its main characteristics, advantages, disadvantages and applicability.

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## 1. Introduction

Pharmaco-economics is a sub-discipline of Health Economics that associates clinical concepts of efficacy, safety and quality of various procedures in health care, with measures of economic cost.<sup>1</sup> A second, more specific definition is: ‘Pharmaco-economics is the description and analysis of the costs of drug therapy to health care system and society.’<sup>2</sup> Also, it could be defined as an “application of economic theory to pharmacotherapy” or “economic evaluation of drugs” or, it could be placed at the interface between two large traditional areas, health and economy.<sup>3</sup>

It is a tool that helps to select more efficient options (with a good cost/effect relationship) and could help in the distribution of health resources in a more just and balanced manner. Pharmaco-economics contributes to the rational use of medicines by incorporating cost to questions on safety, efficacy and quality of different medical therapies, and to the search for a better relationship between costs and results. While making use of the word “pharmaco” (drug) in its nomenclature, it presents tools that can be equally utilized for the consideration of medicines, health programs and even of governmental schemes, provided that the characteristics inherent to each application are observed.<sup>4</sup> In representing an area of intersection, “conflicts” are obvious due to the diverse forms on how health is measured. Conventionally, the professions associated to the health area are centered on distinctive ethics, according to which health has no price and a life saved justifies all attempts. Then again, the economy is under joined by the ethic of common safety or public ethics. The origin of these differences resides in the attitudes of each group regarding resource utilization, but both have a vision for the future that incorporates resource rationalization and improved care rendered in health issues.<sup>5</sup> Countries that have invested in the training and specialization of human resources to act at the economy/health interface have achieved higher rationalization rates in the process of management and quality of health services.<sup>6–8</sup>

## 2. How the government handles this good/cost effect relationship

Management of the health/illness course has required ever higher amount of incomes especially those spent for medicines, caused by different variables. Included in these variables are the development of new technologies, efforts to increase access to health systems, strategies for the promotion of new medicines directed at both the prescribing and the consuming

classes and also population aging and the consequent rise in chronic-degenerative diseases.<sup>5</sup>

In general, increases in public expenses with pharmaceuticals, tend to be higher than inflation or increases in Gross Domestic Product – GDP, leading to apprehension among governments.<sup>6,9</sup>

In this context, worldwide countries adapted different pharmaco-economics methods, for their health care policies, in order to be less damaging for their GDP.

The cost of defending U.S. malpractice claims is estimated at \$6.5 billion in 2001, only 0.46% of total health spending. The two most important reasons for higher U.S. spending appear to be higher incomes and higher medical care prices.<sup>10</sup> In the USA, health expenses surpassed 1.3 trillion dollars in 2000, reaching 2 trillion in 2006, a value equivalent to 16% of the GDP. According to projections, this percentage is set to increase to 20% by 2015.<sup>10</sup>

In the United Kingdom, the growth in health expenses is higher than in other sectors of the economy, although the NICE politics applied on healthcare system. In 2001 and 2002, expenses with health represented 17% of public expenditure, the greatest proportion since 1948.<sup>11,12,10</sup> Italy, has imposed since 1997 an economic analysis within the pricing and reimbursement of pharmaceuticals, although, this country is not benefiting from the best decisional process using pharmaco-economics measures.<sup>13,14</sup> The total expenditure with medicines increased 11% in 2005, reaching 24.8 billion dollars.<sup>15</sup> In the face of amplified operating cost and the need of at least preserving the value of health services, governments will be obliged to implement supporting financial measures including tax hikes, cut backs in other areas and charging consumers.<sup>16</sup> Medical drugs consume a considerable portion of the country’s resources, having a strong impact on overall health expenses.<sup>16</sup>

Adopting these less damaging strategies, such as the economic analysis during the process of choosing higher priority alternatives can supply information, helping managers compare alternatives and decide about the best option for their program needs, in a bid to associate rationalization of expenses to clinical efficiency. Clinical efficiency means maximal attention to quality and user satisfaction, with the least possible social costs.<sup>17</sup>

A lot of countries developed lately the politics on pharmaco-economics. For instance in Turkey, medical curriculums are being developed in a multidisciplinary approach focused on

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