

PERSPECTIVES OF ECONOMICS IN MEDICINE

Pages with reference to book, From 271 To 273

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Abstract

Economic appraisal has not been a popular activity in medicine. This attitude is largely due to ignorance and scepticism rather than criticism towards the subject of health economics. Good decision making requires input of good information. This is particularly true for health services where resources are limited and demand is infinite. Application of principles of economics not only means cuts in services or saving in expenditure. It attempts to analyse a given situation pragmatically, looks for alternatives and generates option. Thus, professionals can come up with solutions with which society can be best served. This also helps busy physicians to maintain professional competence and to enhance skill as well as advance research in medicine (JPMA 36: 1986).

INTRODUCTION

The relationship between economic development and health is a two way interaction. Economic development can influence health levels. In this context the reduction in mortality in Europe in the eighteenth and nineteenth century is a mentionable example. Similarly, improved health level can influence the economic level of a nation. Improved childhood survival leads to a greater entry into labour force and physical fitness ensures minimum loss of working days in case of economically active age group¹. In Pakistan there is an alarming growth rate despite a very high infant mortality rate; or increasing prevalence of ischaemic heart diseases in addition to infectious diseases, are perhaps the significant social indicators showing phenomena of both development and lack of infra structure. Recently, clinicians have also shown a keen interest in the study of health economics because it can influence their medical decisions when a question of allocation of resources arises. In addition concepts of economics are diverting the attitudes of professionals from institutional model of medicine towards problem oriented model, where costing of diseases is done on the basis of loss of life, invalidism, working years lost and expenditure incurred on treatment rather than confining to aetiology, pathology or side effects of a drug. Therefore, application of health economics is not only concerned with critical analysis but also is a creative activity.

Let us try to define and understand few concepts of health economics before reviewing the subject in depth.

SEMANTICS IN HEALTH ECONOMICS

"Health economics" is study of allocation of health goods to the people and measures which are measurable and attempts to identify those which are not measurable. Health like education is a public good and aims to provide benefit to the society. Since government is the main purchaser because it offers services to patients at a subsidized cost; and supplier of it as 60-70% of funding for health services is provided by government, therefore, scope, size, and variety of health goods in public hospitals are determined by the government and not by the consumer.

In case of health industry the service providers (doctors) control the health market because they generate the demand of services by prescribing treatment and ordering diagnostic procedures. Another interesting feature is that doctors also supply the services (goods) such as hospital beds and operation

theaters. On top of these the consumer (patient) due to lack of medical knowledge not in a position to decide about treatment in a given situation because question of life and death is involved. For example, in case of bleeding peptic ulcer, the patient cannot decide whether surgery is the treatment of choice or conservative 'management' will be good for him. It is true that the patient can exercise option and his consent is required in most of the cases though not always, as in a life threatening situation.

Furthermore, the patient may decide to choose doctor "A" instead of doctor "B", or he may get his treatment in a private hospital instead of going to a public hospital.

This is not an identical situation where a consumer can decide to buy a blue car of brand "Y" instead of a yellow car of brand "X" or to go for a bicycle instead of a car. The patient on the other hand is really dependent on competent medical advice. He cannot elect to use vincristine, say, for treatment of his headache or get his tooth extracted or his gall bladder removed for the headache. The patient can however exercise his option in the light of alternative treatments suggested to him, but he is not really competent enough to prescribe his own treatment.

"Efficiency" is to do with the use of facilities and "efficacy" is the use of facilities in ideal conditions.

"Effectiveness" is the use of facilities under average conditions i.e. in the community as a whole.

"Cost-analysis" is to isolate the cost component of health services delivery i.e. isolate factors of production or direct cost (e.g. hotel costs, labour charges, pharmacy, laboratory services, and other ancillary services). It does not include social cost or indirect cost i.e. cost of morbidity and mortality averted. This also attempts to measure change (out-come) as a result of intervention².

"Cost-effectiveness Analysis" (CEA) is conducted when a particular procedure has to be performed at any cost but option of how to use the procedure is rather flexible. Cost-effectiveness is to deal with technical efficiency: for example, is dialysis or transplantation the better treatment for end-stage renal disease? Another example is, the programme for control of tuberculosis. Whether the programme should be limited to the detection of active cases or should focus on immunization of high risk individuals. It is applied in cases when cost of a programme can be measured in terms of money while expected return of a programme can be adequately measured in terms of improvement of health state i.e. number of cases detected or disease absentees. Its utilization has been found in renal diseases, mental health and early disease detection programmes. However, it does not indicate whether something is worth doing in case when both costs and desired results are known, nor does it show how much to do. As these questions require value judgement and values are on benefit side i.e. cost benefit analysis.

"Cost-benefit analysis" (CBE) is an organized consideration of advantages and disadvantages of alternative policy options. This analysis is about allocative efficiency: Whether it is better to use in one way than other e.g. to relieve renal disease or heart disease. Another example is whether it is better to start immunization of children or to launch a programme for cancer of breast. This analysis is to measure the benefit and whether or not the benefit outweighs the cost? The CBE focuses on why to do a programme whereas CEA is concerned with how to do a programme.

Benefit measurement is a major issue in CBA. Health can be a biological function of cells or a social phenomenon. To decide about individual's state of health is a technical judgement (Clinicians view) as well as consumers perception of health which varies from individual to individual. CBE is a sensitive analysis as certain risk factors associated with a programme may become out-dated and thus the whole analysis may breakdown.

NEED FOR ECONOMIC EVALUATION

History of medical practice is full of therapies and technologies whose efficacy has not been adequately tested and their impact on cost were great e.g. practice of gastric freezing during the 1960s was not efficacious and consumed large sums of money before it was abandoned. Similarly, cost-effectiveness analysis suggest that coronary artery bypass surgery for multiple vessels, coronary angiography in definite angina, and treatment of severe hypertension all are relatively cost-effective whereas screening for coronary disease using radionuclide scanning or angiography and treatment of borderline

hypertension are substantially less cost-effective³.

It has been found that nearly half of a developing country's health budget is spent on purchase of drugs. No doubt drugs play an important role in health care and especially in primary care. On the other hand if less than half of this amount is spent on community education, supply of safe water and screening programmes, the benefits are going to be for more and to many people. Similarly it has been seen that, in general, tablet form of drug is least expensive, followed by oral liquids, and then injectables. For example, the same dose of useful antibacterial on a UNICEF list is four times more expensive in liquid form than in tablet form. Although liquids are often recommended for small children., most tablets can be dissolved in water or crushed and added in food. There is also less wastage in dispensing and repacking tablets than liquids.

Another interesting anomaly observed is that cost of treatment in the professorial units in the developed societies is three times more than that in the ordinary hospitals. This is perhaps due to preferences and tastes; and ordering of too many diagnostic procedures all without any apparent difference in recovery of a patient or reduction in complications. The above notion is also true for the third world to a greater extent.

Given the limited resources available, the question is not whether one million, ten million or hundred million rupees is more than a life is worth but whether we are allocating our resources among the competing medical practices in the manner that will provide the greatest possible health benefit for the society as one man's provision could be other man's deprivation.

WHY PROFESSIONALS PREFER COSTEFFECTIVE ANALYSIS

Clinicians readily accept the principle of cost-effective analysis but are less happy about cost-benefit analysis because this requires explicit evaluation of benefits. Such comparison calls for a monetary value to be ascribed not only to material benefits such as earning capacity but also to gains such as years of quality adjusted life, the relief of pain, or the resolution of anxiety and uncertainty. Ascribing value to such intangible factors calls for judgement and clinicians may disagree about the value.

However, advantage of cost-benefit analysis is that it becomes clear how much weight is attached to such value judgements as distinct from more readily ascertainable gains.

SCEPTICISM ABOUT ECONOMIC APPRAISAL

Professionals often suspect that economic perspective are cloaks for cuts in services or savings in expenditure⁴. Whereas economic appraisal is study of identifying, organizing and presenting information required for a clinical decision to be made. It is more of a creative activity than merely a critical process; and thus ultimately can help in improving professional skill and advance research in medicine.

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