

Cost Effectiveness: Economics in Health Care

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Abstract

Health care consume was first introduced in 1930's. The consumer movement in 1970's led to increase demand for accountability and for the provision of all medical services. An assessment or determination of the most efficient and least expensive approaches to providing health care and preventive medicine services. Accident prevention programs, immunization drives, and safe-sex campaigns are designed to reduce the number of patients who will suffer preventable illnesses

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One way is to measure health improvement in terms of the "quality-adjusted life year," or QALY. This number reflects how many years of life are gained as a result of an intervention, on average, per patient, per episode – and weights the extra years of life by how patients subjectively describe the quality of those years. Effectiveness and cost are always comparative, because one treatment or procedure is always compared to another.

Cost of Healthcare Services

- Increase in the price of new technology.
- Sophisticated diagnostic treatment.
- Increasing population need.
- New care facilities, regulation among hospital construction.
- Average length of hospital stay.
- Increase elderly norms.
- Less Salary.
- Lack of consumption in the healthcare field.

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- Higher survival leading to greater need for costly intensive or long term care.
- High cost of diagnostic health related equipment.

Economics in Health Care

- Compliance with budget.
- Compliance with staffing format.
- Healthcare hours per patient per day.
- Work load (Occupancy rates).

Cost effectiveness of professional health care activities to be carried out in each health delivery system as primary, secondary and tertiary levels.

For the Cost Effectiveness in Health Care the Following Activities to be Followed.

- Organization of health care services.
- Testing of specific health care interventions includes health personal roles, procedures and technological advance which used in various diagnostic tests.

Issues in Health Care Cost Containment

- cost of health care.
- The overcapacity of hospital.
- The unequal financing health care practices.
- cost of hospitalization.

According to WHO The Cost effective analysis: overview

- The growing use of cost-effectiveness analysis (CEA) to evaluate the costs and health effects of specific interventions is dominated by studies of prospective new interventions compared to current practice. This type of analysis does not explicitly take a sectoral perspective where the costs and effectiveness of all possible interventions are compared in order to select the mix that maximizes health for a given set of resource constraints. Much of the theoretical literature has taken a broader view of cost effectiveness, exploring its use in allocating a fixed health budget between interventions in such a way as to maximize health in a society.
- CEA of a wide range of interventions can be undertaken to inform a specific decision-maker. This person faces a known set of resource constraints (hereafter called a budget), a set of options for use in the budget, and a series of other (ethical or political) constraints. The set of constraints in this highly context-specific use of CEA for sectoral decision-making will vary tremendously from setting to setting.
- CEA of a wide range of interventions can be undertaken to provide general information on the relative costs and health benefits of different technologies or strategies which contribute through multiple channels to a more informed debate on resource allocation priorities. Such general information should be seen as only one input into the policy debate on priorities. Because it is not meant to provide a formulaic solution to resource allocation problems it need not be highly contextualized.
- For some decision-makers, the development of complex resource allocation models that explicitly incorporate a range of decision constraints and multiple objectives may be useful. But such efforts are information intensive, time consuming, costly and very often difficult to communicate to the full set of actors in any health policy dialogue. We believe that CEA can be most useful with more modest goals by focusing on the more general use of cost-effectiveness information to inform health policy debates without being completely contextualized. Moreover, sectoral CEA should identify current allocative inefficiencies as well as opportunities presented by new interventions.
- If one intervention is deemed more cost-effective than another in the context of a fixed budget, we

can say that it will yield more health benefit per unit of expenditure than that other option. However, the results of a cost-effectiveness analysis cannot indicate if an intervention is a good use of the health budget because the comparator may itself be inefficient relative to other feasible options.

Recommendations on Interventions in Regard with Cost Effectiveness

- Groups of interventions where there are major interactions in either costs or health effects should be evaluated together.
- Analysts should evaluate all interventions initially against the “null”, i.e. the situation that would exist if none of the set of interacting interventions were implemented.
- Interventions should be described in detail, which includes information on the setting, target population, time frame, regimen, and frequency of obtaining the intervention.
- All interventions should be evaluated under the assumption that they are implemented over a period of 10 years. However, costs and health effects related to the intervention should be followed for the duration of the lifetime of the beneficiaries. This could be varied by country analysts adapting the results or undertaking studies in their own settings.
- Resource use and health effects should be identified and valued from the societal perspective.

Several Possible Measures Due to the Inflation in Health Care Costs and Need to be Analysed

- The consumer price index (CPI) reflects the change in the cost to the average consumer of acquiring a fixed basket of goods and services. However, it is questionable if its determinants (i.e. choice of goods and services to include, and the weights used) are reflective of health costs as a whole. Moreover, the CPI is only appropriate if the price of the resource in question is changing at the rate of the general price inflation.
- The Gross Domestic Product (GDP) implicit price deflator is defined as the price index that measures the change in the price level of GDP relative to real output. It measures the average annual rate of price change in the economy as a whole. It also takes into account changes in

government consumption, capital formation, international trade and final household expenditure, and therefore covers virtually the whole economy. It is the broadest-based measure of inflation, and our recommended deflator for making health sector cost adjustments over time.

- The rate of wage inflation reflects the average annual increase in wages throughout the economy, or in specific sectors of the economy (e.g. public service). It is too narrow to be used as a general index of inflation.
- The rate of inflation of specific product groups reflects the rate of inflation for individual or groups of products, such as agricultural products, raw commodities and food. Some countries have an index of inflation for health goods and services, but not enough to recommend its use broadly.

Recommendations

- Ideally, analysts should follow the ingredients approach and collect and report information on the quantities and prices of the resources used in addition to total expenditures.
- The cost of providing health interventions should be included in the analysis as should the resources used up in seeking or obtaining an intervention (e.g. transport costs). It is recommended that Cost of scaling up interventions an important question that is facing many governments is the cost of scaling up interventions to achieve target coverage levels. As coverage expands into remote areas, the marginal costs of providing an intervention to each additional person usually increase. The cost of scaling up interventions, including economies and diseconomies of scale, should be taken into account. For this reason, WHO-CHOICE presents cost-effectiveness estimates of different interventions e.g. at coverage levels of 50%, 80% and 95%. This involved the development of price multipliers to provide a conversion factor for prices at different levels of coverage, and unit costs of outpatient visits to health facilities at different coverage levels. More detail of the methods used and results of this analysis are available from the WHO-CHOICE web site www.who.int/evidence/cea. WHO Guide to Cost-Effectiveness Analysis productivity gains and losses due to an intervention, including time costs of seeking or obtaining care, should be excluded from the CEA. Where they are believed to be particularly

important, they should be measured (rigorously) in physical units (e.g. time gains or losses) and reported separately.

- Transfer payments should not be included in CEA. However, any related administrative costs should be included.
- Costs of central administration and the education of health professionals can be regarded as existing or ongoing costs and should not be included in the analysis. This does not include training costs for a specific intervention, which should be included.
- Shadow pricing should be used to determine the economic costs of goods that have no market price or if market prices are believed to have major distortions.
- Prices of traded and non-traded goods should, in theory, be expressed in terms of a common numeraire, and we recommend using the world (international) price level to allow for comparability of results.
- The annual costs of capital investments can be approximated by their rental price where a rental market exists and works relatively well. But because this is often not the case, the preferred approach is to annualize them taking into account purchase value, resale value, interest rate and working life.
- Costs should be discounted at an annual rate of 3% in the base analysis. The sensitivity of the results to using a 6% rate should also be explored.
- Analysts should report the capacity utilization that drives their cost effectiveness estimates. WHO-CHOICE consistently uses 80% capacity utilization to obtain estimates of the cost-effectiveness of interventions if they are undertaken relatively efficiently.
- Prices should be adjusted to a common year using the GDP deflator where possible. If this is not available, the Consumer Price Index can be used.

Conclusion

There is consequently a pragmatic need for policy-makers to borrow and adapt results obtained in other settings and to generalize these to their own settings. Global estimates, however, have limited credibility among policy-makers in individual countries because of the diversity of cost structures, epidemiological profiles and starting conditions.

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