

Welfarism and Extra Welfarism in Healthcare : Which is More Appropriate for Resource Allocation Decisions in Health?

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Abstract

As cost of health care is increasing around the world, resource allocation decisions need to be taken on the basis of explicit theoretical concepts. Health economics as an area of study specializes in guiding decision-makers to make correct decisions in allocating health care resources. Cost-benefit analysis and cost-utility analysis are two types of economic evaluation, which are used in taking decisions regarding healthcare. However, they are based on two different theoretical foundations, and so, it is imperative that the correct economic evaluation method is identified. While cost-benefit analysis (CBA) measures both costs and outcomes in monetary terms, cost-utility analysis measures outcomes in terms of a particular metric called quality adjusted life years (QALYs). CBA is based on the idea of welfare economics, while CUA is based on the idea of extra-welfarism. This paper described the theoretical foundation of both these methods and also highlighted the strengths and weaknesses of using both the methods. Finally, the paper concluded by arguing for the usage of extra-welfarist economic concepts in resource allocation decisions in health care.

Keywords : health economics, economic evaluation, welfarism, extra-welfarism

JEL Classification : A12, A23, I10, I18

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Health economics as an area of study is based on the fact that one is trying to make the most optimum use of scarce resources. Economic evaluation of healthcare sets the scene for understanding how one can do one's best in using these scarce resources. Economic evaluation works within the parameter of a normative framework as one has to take judgement calls in the allocation of resources (Morris, Devlin, Parkin, & Spencer, 2012). Any economic analysis which involves value judgement is called normative economics, and in health care, a lot of value judgements are involved. This because implicitly, one tries to increase the benefits of one healthcare intervention in comparison with another.

Two of the main types of economic evaluation are cost benefit analysis (CBA) along with cost utility analysis (CUA) (Palmer, Byford & Raftery, 1999). Both the types of evaluation compare two or more different health interventions with respect to costs and outcomes. However, one main difference lies in the way the outcomes are measured. The dissemblance occurs because of the way the two approaches are theoretically structured. While CBA has its basic tenets on the concept of "welfarism," CUA derives its basis from the concept of "extra-welfarism" (Drummond, Sculpher, Torrance, O'Brien, & Stoddart, 2005).

This article seeks to answer the theoretical framework underlying these economic evaluation techniques and how they differ from each other in their basic mechanisms. Also, the article tries to find what does welfare

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economics entail, the limitations of it, and does extra-welfare economics answer these limitations. Finally, it weighs up both the theories and remarks on the appropriate tool for resource allocation in health care settings.

Cost-Benefit Analysis and Welfarism

Welfarism is considered to be the conventional way to take decisions on resource allocation and economic evaluation. It is a consistent and rigorous analysis of what society thinks of any set of arrangements simply on the basis of the utility that individuals' gain (Morris et al., 2012). The main idea of welfare economics is to give a comparative assessment via value judgements of whether some positions or conditions are more desirable than others (Boadway & Bruce, 1984). Why some states are more desirable than others is explicitly stated in a normative framework by welfare economics. Normative economics has the innate concept of value judgements, and cost-benefit analysis enable a decision maker to undertake these value judgements by contrasting the costs with the intended outcomes of a programme in monetary values. For projects pertaining to health, this means that one places monetary values on intangible benefits like any enhancement in mental or physical health and well-being of a person. Brainstorming new concepts and ideas led to the evolution of a plethora of tools at the disposal of health managers and economists and as a general term, economic evaluation came to the forefront (Robinson, 1993a).

(1) Characteristics of Cost-Benefit Analysis (CBA) :

(i) At the most basic level, CBA entails measuring all inputs, that is, costs and all the programme outcomes or consequences in the same monetary unit and then comparing the incremental benefits against the incremental costs. This helps in comparison of different programmes and helps in making decisions regarding their feasibility.

(ii) The benefits that are considered here are the increased satisfaction or utility that a person derives from the programme.

(iii) The problem arises when one needs to put monetary values to human life (Weinstein & Fineberg, 1980). Drummond et al. (2005) said there are three methods to do this task: human capital approach, revealed preferences, and willingness to pay principle (WTP). The human capital approach uses market salary or wage rates and quantifies the benefits in terms of the healthy time produced. However, prominent economists like Mishan (1971) criticized this concept of being not in sync with welfare economics. This is because he believed that the human capital approach offered a myopic view of the utility gained by a person only in terms of labour costs. What is of more relevance is what people are willing to sacrifice or pay to consider having the programme. The revealed preferences and WTP methods look into the whole scenario through the lenses of welfare economics. These two methods are based upon individual preferences of the people in terms of money versus health and what they are willing to trade off and pay for their health.

There are traditionally three arguments given by Morris et al. (2012) in support of the distinct approach of welfare economics :

(i) **Individualism** : The choices made by individuals to maximize their utility is considered to be the only relevant information required for welfare economics. Societal welfare is only a mere by-product of the decisions made by individuals to maximize their utilities.

(ii) **Consequentialism** : Welfare economists are not concerned with the process behind the allocation of resources. Rather, they are more concerned with whether the consumption of different goods and services have improved utility.

(iii) Decision Rule - Pareto Principle : Pareto principle is at the centre of welfarism by providing the basis for value judgement. Pareto principle aims to make a person well off without making another one worse off. CBA, which follows this principle, believes that an individual is the best judge of his/her and not society. Also, the Paretian principle gives a basis for ranking goods according to the benefits (utilities) obtained from each and then judge and rank them relative to each other (Morris et al., 2012). Hence, CBA postulates that a program or a strategy will enhance welfare of the society if the intended benefits through the program exceed the costs involved. In calculating the intended costs and benefits, one must be careful in calculating the indirect costs and benefits alongside the direct ones (McIntosh, Clarke, Frew, & Louviere, 2010). CBA epitomizes a good example of marginal analysis (Folland, Goodman, & Stano, 2013). Therefore, the decision rule says that when marginal social benefit corresponds to marginal social cost, a marginal social optimum is reached.

(2) The Problem with Pareto Principle : Even though this principle seems uncontroversial, it is deemed rather weak as it is uncontentious (Morris et al., 2012). Also, for all purposes, this principle is not useful in real-life situations as conferring resources to one group by taking away from another is not really pragmatic. Johannesson and Jönsson (1991) claimed that welfare economics would not be able to give any practical guidance for resource allocation by limiting itself to the Pareto principle.

Hence, Kaldor and Hicks gave a compensation principle which basically sums up the monetary benefits and losses, and if the net sum is positive, then the intervention is taken up and vice versa (Zweifel, Breyer, & Kifmann, 2009). Theoretically, the beneficiaries compensate those who are worse off and still be well off themselves. Again, this point is debatable as arguably, it is not very practical to implement (Morris et al., 2012).

Fundamentally, CBA appears straightforward and simple, but in practice, it is arduous to apply. The challenges lie in identifying what are the costs and benefits, which of them are relevant, what are the third-party effects, how to assign monetary values, and how to predict these costs and benefits over a prolonged period. Controversies also abound in fixing discount rates that are used for calculating the discounted future rates for health outcomes and costs (Folland et al., 2013).

Cost-Utility Analysis and Extra-Welfarism

If we go outside the comfort zone of welfare economics, and question if there is some other way of evaluation, which has very different principles, will it give us a better base for decision making? One way of doing this is called “extra-welfarist”. Cost-utility analysis (CUA) basically discards the welfare economist's notion of utility and questions whether people actually make rational decisions. CUA is a very special and useful type of cost-effectiveness analysis (CEA) that is used to decide which healthcare interventions can be undertaken under a definitive health budget. Here, input is measured in terms of costs (monetary units like dollars or pounds) and outcomes in terms of per additional QALYs obtained (quality adjusted life years). It can be considered as an aggregate index of the improvements in expectancy of life and quality of life in relation to health (Hammitt, 2002).

(1) Characteristics of Cost-Utility Analysis :

- (i)** CUA considers the input as money and the outputs as natural units of health, which is quite a contrast to CBA.
- (ii)** Here, health or outcomes are measured in QALYs which uses valuation and assigns weights to the values.
- (iii)** QALYs are considered same across different individuals, irrespective of who gains or loses.
- (iv)** The decision rule used for implementation of this technique is called dominance or cost-utility ratio. Brouwer, Culyer, van Exel, and Rutten (2008) highlighted how extra-welfarism can tackle the questions unanswered by the welfare economics framework :

(i) In contrast to the welfarist view of only individual utility as a relevant outcome, QALYs used in CUA permit some more indicators like the improvement in health, satisfaction of patients, and so forth to be incorporated in measuring the benefits.

(ii) In welfare economics, only the affected individual has the right to value the relevant outcomes. But extra-welfarism allows other people also the right to value these relevant outcomes. It may include an expert, the person in charge of the evaluation process, or any randomly selected representative sample from the public.

(iii) Even though welfarism sometimes does permit weighting of utilities of an individual, extra welfarism incorporates it at a fundamental level.

(iv) Extra welfarism allows comparisons to be made explicitly between persons in terms of health, unlike welfarism, which only allows limited comparability of the individual's utilities through the social welfare function.

As we can see, the extra in extra-welfarism signifies that alongside utility, health is also taken into account (Brouwer et al., 2008). But Mooney and Russell (2003) criticized that in practice of applied extra-welfarism, health is actually substituting utility instead of complementing it.

(2) Sen's Capability Approach : A famous economist, Amartya Sen directly attacked the very basis of welfare economics terming it to be very narrow in its focus. He argued that to simply concentrate on utility of individuals was too myopic. He said that the quality of utility, that is, 'functionings' and 'capabilities' of people to improve their personal goals needed to come into reckoning (Sen, 1979). Functionings mean what a person is or does, and capability means what his or her ability is to do things irrespective of their choice to do it.

The pivotal concept for using Sen's capabilities in making decisions about health care is that this approach provides an appropriate normative framework (Sen, 1993). Culyer (1989, 1990) attempted to use Sen's ideas (Sen, 1982) to provide a theoretical understanding of extra-welfarist ideas. The extra-welfarist perspective borrows two facets of Amartya Sen's theory: the importance given to functionings and the community's viewpoint. So, in a way, QALYs can be considered to incorporate what Sen meant by capabilities (Cookson, 2005).

Tool for Resource Allocation in Health : Welfarism or Extra - Welfarism?

If the decision maker is within the boundaries of a fixed budget, and the plan is to use the limited resources judiciously for getting the maximum possible health gain, the cost utility analysis provides a good way for allocating the scarce resources. Cost utility analysis is considered to be the most sophisticated tool available to health economists when it comes to allocating resources (Robinson, 1993b). CUA also helps to allocate resources optimally when the competing programmes have different kinds of outcomes and by comparing the QALYs gained for the amount spent (Drummond et al., 2005). However, the problem arises when there is insufficient data to compare alternative programmes, and in health care, most of the time, a formal budget allocation exercise is conspicuous by its absence. In this kind of a situation, CBA has an advantage over CUA when there is a decision to be made about allocating resources. Theoretically, CBA can answer questions related to allocative efficiency, while CUA is more suitable for addressing questions of productive efficiency (Palmer et al., 1999). This is due to the fact that CBA provides information of both the inputs and outputs in monetary terms and can determine which of the different goals are worth achieving. CUA can only tell about incremental gain in QALYs but not whether the program is worth taking up (Drummond et al., 2005). But then the question arises, why CUA and in extension, extra-welfarism is put on such a pedestal by health economists and policymakers in resource allocation matters?

Health economists like Bala and Zarkin (2000) made the point that in evaluating public projects, it is a good attribute to maintain consistency with welfare economics. Welfare economics shows the net benefits of a project to the society. In a similar way, willingness-to-pay can be considered to be wider in perspective than extra-welfarist approaches as it incorporates the willingness to pay for extra benefits that they receive in addition to the life years extended (Olsen & Smith, 2001).

However, the supporters of extra-welfarism (Brouwer et al., 2008) highlight many deficiencies in the welfarist approach. The welfarist perspective makes it impossible to compare interpersonal gains in utility (Bleichrodt, 1997). Hence, it is not useful for coming up with health policies where resources are allocated in a way that reduce health inequalities. QALYs can overcome this problem as it explicitly addresses this aspect quantitatively. In addition, this method of extra-welfarism tends to avoid the willingness to pay problem. This is because it addresses the problem inherent with the willingness to pay concept, that is, people with higher income will have higher willingness to pay (Coast, Smith, & Lorgelly, 2008).

The advantage of using QALYs in making decisions regarding resource allocation is that options are made explicit among the various competing patient groups. Policymakers have an increasingly arduous task tackling resource constraints and the need to have their priorities clear about the expenditure for new drugs and technologies that claim to improve the health of people. QALYs and in this sense, extra-welfarist views provide the necessary dossier for commissioners to deal with the predicament of allocating resources to maximize health benefits of society as a whole (Phillips & Thompson, 2009). However, one of the main criticisms of QALYs that people have is that the methodology functions in a linear way by simply adding the quality and quantity of life saved. Increments are added up linearly, irrespective of the situation of the patient (Dolan, Shaw, Tsuchiya, & Williams, 2005). An 80-year-old person suffering from cancer and a 30-year-old having some form of neoplasia need to be dealt in a different way, but QALY does not necessarily view them differently.

Although extra welfarism has a different theoretical background when compared to welfarism, but in terms of health, the assessment of different social welfare characteristics is according to welfarist approach (Birch & Donaldson, 2003). One can argue that health is an important aspect which improves an individual's utility. Nevertheless, welfarist avenues are not restricted to gauging only the improvement in individual's health. If the pertinent attributes are to be assessed through the lenses of welfare economics, it simply means that improvement in health is just one plausible candidate for that gamut of attributes. Broadly, the number of things claiming a part of the resources does not have to be restricted to just one or a few attributes (Culyer, 1989). Culyer also mentioned that what the individuals prefer in terms of their utility does not matter, but what really is of importance is the decision of some external authority which is the tenet of extra-welfarism. Similarly, Mooney and Russell (2003) and Rice (2001) argued against the choices made by an individual and accused welfarism to be too restrictive.

Even within the parameter of the extra-welfarism framework, there is enough leeway for envisaging other ways of allocating resources within health care. To achieve the most optimum appropriation of resources, one may think of providing a minimum health or capability level to the maximum number of people rather than maximizing total health level of the population with an index like QALYs (Coast, 2009).

Policy Implications

In a country like India, where health resources are limited and providing basic healthcare for all is a problematic issue, decisions made explicitly on economic evaluation of the best healthcare methods available can go a long way in providing efficient healthcare. Also, this kind of exercise can help policy makers to make an informed decision of where not to spend money in healthcare.

Conclusion

For health economists and policymakers, healthcare evaluation is very important. Both welfarism and extra-

welfarism have been developed with the aim of providing a robust tool to take resource allocation decisions. The tenet of welfarism as emphasized by cost-benefit analysis needs the measurement of all possible costs and benefits of the project in monetary terms. But controversies arise as a lot of times, physical market is absent in healthcare, and so, it is problematic to assign values to the outcomes. Another point of controversy is the issue of how to account for future costs and outcomes to indemnify the dissimilarity from current values. But the most onerous task for CBA is plausibly one of attaching monetary values to human life.

The other school of thought is that of those health economists who have an inclination for the extra-welfarist approach. They point out that the willingness-to-pay principle is faulty and unacceptable. CUA has the advantage of offering a more practical interpretation than CBA. CUA averts the problem of putting monetary values to human lives by the usage of QALYs.

But this method of QALY has seen a fair amount of deliberation in recent times. The questions that have been asked about the QALY approach has ranged from its methodology to its theoretical framework of extra-welfarism (Mehrez & Gafni, 1989). Questions have also been asked about extra-welfarism not incorporating all health benefits in an equitable manner (Brazier, Roberts, & Deverill, 2002). However, presently, for matters related to resource allocation in health, policymakers veer towards the usage of QALYs and there is a constant emphasis on addressing the challenges to its theoretical framework. Hence, extra-welfarism can be considered to be the appropriate method for resource allocation in health.

Limitations of the Study and Scope for Further Research

The study does not describe other methods of economic evaluation like cost consequence analysis and cost minimization analysis. Another limitation of the study is that it does not take into account other important health utility measures like disability adjusted life years (DALYs) and healthy-years equivalent (HYE). New research should aim at developing tools to capture Sen's capability approach and overcome the limitations of QALYs. Another area of research can be in health technology assessments from both welfarist and extra-welfarist perspectives and compare the two results to find out if theoretical perspectives make a difference in real-life health care consumption.

References

- Bala, M. V., & Zarkin, G. A. (2000). Are QALYs an appropriate measure for valuing morbidity in acute diseases? *Health Economics*, 9 (2), 177-180. DOI: 10.1002/(SICI)1099-1050(200003)9:2<177::AID-HEC497>3.0.CO;2-2
- Birch, S., & Donaldson, C. (2003). Valuing the benefits and costs of health care programmes: Where's the 'extra' in extra-welfarism? *Social Science & Medicine*, 56 (5), 1121-1133.
- Bleichrodt, H. (1997). Health utility indices and equity considerations. *Journal of Health Economics*, 16 (1), 65-91.
- Boadway, R. F., & Bruce, N. (1984). *Welfare economics*. New York: Basil Blackwell Inc.
- Brazier, J., Roberts, J., & Deverill, M. (2002). The estimation of a preference-based measure of health from the SF-36. *Journal of Health Economics*, 21 (2), 271-292.
- Brouwer, W. B. F., Culyer, A. J., van Exel, N. J. A., & Rutten, F. F. H. (2008). Welfarism vs. extra-welfarism. *Journal of Health Economics*, 27 (2), 325-338. doi: 10.1016/j.jhealeco.2007.07.003

- Coast, J., Smith R. D., & Lorgelly, P. (2008). Welfarism, extra-welfarism and capability: The spread of ideas in health economics. *Social Science & Medicine*, 67 (7), 1190-1198. doi: 10.1016/j.socscimed.2008.06.027
- Coast, J. (2009). Maximisation in extra-welfarism: A critique of the current position in health economics. *Social Science and Medicine*, 69 (5), 786 - 792. doi: 10.1016/j.socscimed.2009.06.026
- Cookson, R. (2005). QALYs and the capability approach. *Health Economics*, 14 (8), 817 - 829. DOI: 10.1002/hec.975
- Culyer, A. J. (1989). The normative economics of health care finance and provision. *Oxford Review of Economic Policy*, 5 (1), 34 - 58. doi: 10.1093/oxrep/5.1.34
- Culyer, A. J. (1990). Commodities, characteristics of commodities, characteristics of people, utilities, and the quality of life. In S. Baldwin (Ed.), *Quality of life. Perspectives and policies* (pp. 9 - 27). London: Routledge.
- Dolan, P., Shaw, R., Tsuchiya, A., & Williams, A. (2005). Qaly maximization and people's preferences: a methodological review of the literature. *Health Economics*, 14 (2), 197 - 208.
- Drummond, M.F., Sculpher, M.J., Torrance, G.W., O'Brien, B.J., & Stoddart, G. L. (2005). *Methods for the economic evaluation of health care programmes*. New York : Oxford University Press, 07-14.
- Folland, S., Goodman, A. C., & Stano, M. (2013). *The economics of health and health care* (7th ed.). New Jersey : Pearson Education Inc.
- Hammitt, J. K. (2002). QALYs versus WTP. *Risk Analysis*, 22 (5), 985-1001.
- Johannesson, M., & Jönsson, B. (1991). Economic evaluation in health care: Is there a role for cost-benefit analysis? *Health Policy*, 17(1), 01-23. doi:10.1016/0168-8510(91)90114-D
- McIntosh, E., Clarke, P., Frew, E.J., & Louviere, J.J. (2010). *Applied methods of cost-benefit analysis in health care* (pp. 40-41). London : Oxford University Press.
- Mehrez, A., & Gafni, A. (1989). Quality-adjusted life years, utility theory, and healthy-years equivalents. *Medical Decision Making*, 9 (2), 142 - 149.
- Mishan, E.J. (1971). Evaluation of life and limb : A theoretical approach. *Journal of Political Economy*, 79 (4), 687-706. DOI: <http://dx.doi.org/10.1086/259784>
- Mooney, G.H., & Drummond, M.F. (1982). Essentials of health economics: Part I - What is economics ? *British Medical Journal*, 285 (1), 949-950. doi: <http://dx.doi.org/10.1136/bmj.285.6346.949>
- Mooney, G., & Russell, E. (2003). Equity in healthcare: The need for a new economics paradigm? In A. Scott, A. Maynard, & R. Elliott (eds.), *Advances in health economics*. Chichester, UK : John Wiley & Sons, Ltd. doi: 10.1002/0470867922.ch11
- Morris, S., Devlin, N., Parkin, D., & Spencer, A. (2012). *Economic analysis in health care* (2nd ed). West Sussex : Wiley.
- Olsen, J. A., & Smith, R. D. (2001). Theory versus practice: A review of 'willingness-to-pay' in health and health care. *Health Economics*, 10 (1), 39 - 52.
- Palmer, S., Byford, S., & Raftery, J. (1999). Types of economic evaluation. *British Medical Journal*, 318 (7194), 1349. doi: <http://dx.doi.org/10.1136/bmj.318.7194.1349>
- Phillips, C., & Thompson, G. (2009). *What is a QALY?* Retrieved from <http://www.medicine.ox.ac.uk/bandolier/painres/download/whatis/qaly.pdf>

- Rice, J. K. (2001). Poverty, welfare, and patriarchy: How macro-level changes in social policy can help low-income women. *Journal of Social Issues*, 57 (2), 355 - 374. doi: 10.1111/0022-4537.00218
- Robinson, R. (1993a). Cost utility analysis. *British Medical Journal*, 307 (6908), 859 - 862.
- Robinson, R. (1993b). Economic evaluation and healthcare what does it mean? *British Medical Journal*, 307 (6905), 670-673.
- Sen, A. (1979). Personal utilities and public judgements: Or what is wrong with welfare economics? *The Economic Journal*, 89 (355), 537-558.
- Sen, A. (1982). *Choice, welfare and measurement*. Cambridge, MA: Harvard University Press.
- Sen, A. (1993). Capability and well-being. In M. C. Nussbaum (ed.), *The quality of life*. Oxford: Clarendon Press.
- Weinstein, M.C., & Fineberg, H.V. (1980). *Clinical decision analysis*. Philadelphia : Saunders.
- Wonderling, D., Gruen, R., & Black, N. (2005). *Introduction to health economics* (pp. 17-18). London : Oxford University Press.
- Zweifel, P., Breyer, F., & Kifmann M. (2009). *Health economics* (2nd ed). New York : Springer Science and Business Media.