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A note on the relative importance that people attach to different factors when setting priorities in health care

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Abstract

Objective To explore whether and to what extent people wish to give differential priority when asked to choose between providing health care treatment for different individuals or groups, on the basis of a range of factors, ranging from health gain to the number of dependants a person has.

Design A sample of people resident in York self-completed a questionnaire.

Setting The City of York.

Participants Twenty-three members of the general public and 29 undergraduate students.

Main outcome measures The relative importance of factors that people think should be taken into account when choosing between providing health care treatment for individuals or groups.

Results The results suggest that health gain and the consequences for health without treatment are two of the most important considerations.

Conclusions A sample of the general public and undergraduate students wish to take account of a number of personal characteristics when setting priorities in health care.

Introduction

A scarcity of health care resources means that priorities have to be set. An important consideration when setting priorities is the expected health benefits from treatment. As health is a function of both length of life and quality of life, the quality-adjusted life-year (QALY) has been developed in an attempt to combine the value of these attributes into a single index number. But

benefits are not the only consideration, and other factors (such as age) might also be important when choosing between alternative uses of resources. This paper begins by categorizing these factors and then discusses some of the empirical evidence (i.e. people's preferences) relating to them. Following this, the results from a small-scale study, designed to elicit preferences over the range of possible factors, are presented. A number of important methodological issues

are then discussed and a future research agenda is identified.

What factors might matter when determining priorities?

Health economists have often asserted that resources should be directed towards interventions that yield low-cost QALYs and away from interventions that yield high-cost QALYs, thus implying that one objective of the health care system should be to maximize the number of QALYs gained.¹ However, concern has been expressed about the fairness of this approach. For example, Harris² warns that QALY maximization may lead to unacceptable discrimination against the elderly, the infirm, and other vulnerable groups in society with lower than average capacity to benefit from treatment.^{3,4}

Resource allocation decisions might then be informed by a number of considerations in addition to health gain. For example, Hadorn⁵ contends that people want to devote considerable resources to improving the health of seriously ill people, and in particular to those facing an immediate risk of death. He suggests that there is a conflict between cost-effectiveness and the 'Rule of Rescue' defined as the 'powerful human proclivity to rescue endangered life'. Nord⁶ suggests that the no-treatment profile more generally is an important consideration in its own right. In developing the 'fair innings' argument, Williams⁷ suggests that the number of QALYs a person gains over a lifetime should also be taken into account. This would involve giving greater priority to a younger person over an older one even if their expected benefits from treatment were identical.

There might also be a range of 'lifestyle' characteristics by which the health gains received by one person might be weighted differently to those received by someone else. These could include the extent to which an individual is considered to be responsible for his own health, the degree to which he is informed about the health-related consequences of certain activities, the extent to which those activities are entered into voluntarily, etc.⁸ In addition to

lifestyle characteristics, there are other potentially important personal characteristics. For example, a person who has close family or friends who are dependent upon them might be given priority over someone else who has not. Somebody with rare skills (e.g. a heart surgeon) might be given greater priority than someone else without those skills. Or priority might be given to someone who is deemed to have a greater claim, either through having previously been deprived (i.e. to compensate them) or as a result of having previously contributed a lot to society (i.e. to reward them). Finally, the length of time a person has spent waiting for treatment may be viewed as relevant.

In summary, then, there are at least seven factors that might matter when setting health priorities:

1. health gain;
2. the no-treatment profile;
3. the previous health profile;
4. lifestyle 'choices';
5. the impact on others;
6. claims based on compensation or reward;
7. time spent waiting for treatment.

What is the empirical evidence relating to these factors?

In order to identify the relevant literature, a search was carried out using various databases, including EconLit, Medline, Sociological Abstracts and PsycLIT. The search drew upon the methodology of systematic reviews, developed by the NHS Centre for Reviews and Dissemination at the University of York. The key terms used were health, efficiency, equity, trade-off, justice and fairness.

Many studies, especially those conducted by health economists, have looked at the extent to which people are willing to trade-off health gain for the other factors. For example, the empirical evidence currently available suggests that people are willing to sacrifice health gain in order to give priority to those with the worst *no-treatment profile*.⁹ In the context of organ transplantation, Skitka and Tetlock¹⁰ observed that

the most important allocation criterion was levels of need (as defined in terms of the no-treatment profile). In the choice between identified patients, Cookson and Dolan¹¹ observe that people simultaneously combine a number of rationing principles, one of the most important of which is found to be a broad 'rule of rescue'.

There is evidence to suggest that health gains to the young are weighted more highly than those to the old, suggesting that the *previous health profile* is also important.^{1,12,13} However, it is often difficult to tell how much of the preference for the young is due to the benefits to the young being greater (or being perceived to be greater) and how much is due to the young having lived for less time. The former explanation is consistent with the health maximization rule while the latter is consistent with the 'fair innings' argument.

There is also evidence that many people wish to give less priority to those who are considered to be in some way responsible for their ill health. Williams¹ found a general willingness to discriminate against those who have not taken care of their health. Charny *et al.*¹⁴ found that many respondents felt that addressing variations arising from factors outside the control of the individual were a more urgent priority than addressing variations that result from personal choices, such as smoking and 'heavy' drinking. Both Bowling¹² and Jowell *et al.*¹⁵ found that about 40% of people support discrimination against smokers. However, although Dolan *et al.*¹⁶ found that there was a majority view in favour of discriminating against those whose ill health is considered to be partly self-inflicted, this view provoked considerable discussion and dissent.

There is evidence that people wish to discriminate in favour of those with dependants. Williams¹ found some support for discrimination in favour of those looking after elderly relatives or young children. Charny *et al.*¹⁴ found that saving the life of a middle-aged person was preferred to saving the life of an elderly person, as it was assumed that the former was likely to have greater responsibilities. Dolan

*et al.*¹⁶ found that people were willing to give higher priority to those with young children and Neuberger *et al.*¹⁷ demonstrate that the general public believe priority should be given to parents of younger children.

There is less evidence relating to claims based on compensation or reward. Charny *et al.*¹⁴ found that some of the respondents who chose to give higher priority to elderly people did so because they believed that a significant purpose of the NHS was to compensate for inequalities elsewhere in society. In addition, although a number of respondents argued that the employed or higher social class person was of more value to society than the unemployed or lower social class person, others argued that the unemployed person or the person from a lower socio-economic class already suffered disadvantage, which either should not be aggravated by the NHS or should be positively compensated for by it. Mooney *et al.*¹⁸ asked respondents whether they would target a given health gain at a population of lower socio-economic status. About half of the respondents chose to do so and about half chose to treat populations of higher and lower socio-economic status equally. Finally, there is evidence that people want to take into account the length of time patients have been waiting for treatment.^{17,19}

A study to look at the relative weight given to each factor

This brief review of the literature shows that all seven factors outlined above are relevant to decisions about how to allocate health care resources. However, drawing specific conclusions from the literature about the relative weight given to one equity criterion as compared to another is difficult because none of studies asked respondents to consider all of the criteria simultaneously. As Sassi *et al.*²⁰ point out, 'we currently lack information on how different combinations of these factors affect responses'.

In order to say something tentative about how people weight each of the criteria, a small-scale study was conducted in which respondents were

asked to rank in order of importance seven questions that could be asked to help determine a patient's priority; and then to assign a weight to each (where the total weight summed to 100%). The sample comprised a representative sample of 23 members of the general public who met for about 2 hours (in groups of five or six) to discuss issues relating to fairness in health care. At the end of the discussion, respondents were given a questionnaire that was completed on an individual basis. In order to ensure a representative sample, every eighth person on the electoral register in three wards in York was contacted and invited to participate, and then selected for participation on the basis of information on a broad range of characteristics obtained from their reply slips. The questionnaire was also completed by a sample of 29 undergraduate economics students who had already discussed issues relating to distributive justice as part of a final year undergraduate course in health economics.

Table 1 shows that both samples consider the expected benefits from treatment and the consequences for health without treatment to be the two most important considerations. Table 2 shows that, overall, as much weight is given to these considerations as to the other six. Interestingly, and perhaps as would be expected, a greater proportion of the economics students ranked the benefits from treatment as the most important consideration; assigning benefits significantly more weight than do the general public. The other noticeable difference between the samples is that the general public ranked the length of time spent waiting for treatment significantly higher and assign it about twice as much weight as the students. Overall, the results suggest that the consequences for health (with and without treatment) are considered to be the most important criteria: 79% of respondents have one of these criteria ranked first. Given the preliminary nature of this study, these results should be treated as merely illustrative and

Table 1 Ranking of each characteristic

Possible questions that could be asked	Public (<i>n</i> = 23)		Students (<i>n</i> = 29)		Overall (<i>n</i> = 52)	
	Mean rank	% First	Mean rank	% First	Mean rank	% First
What are the benefits from treatment?	2.12*	26	1.32*	45	2.02	37
What will happen without treatment?	2.09	43	1.72	41	1.88	42
What is the previous health profile?	4.30	0	4.31	0	4.88	0
What are the causes of current ill health?	4.10	22	4.46	7	4.10	13
What is the impact on others?	5.47	0	5.11	3	5.50	2
Are there claims based on compensation/reward?	7.22	0	6.19	0	7.06	0
How long have they been waiting for treatment?	3.17*	9	5.07*	0	3.23	4

*Significantly different ranking (Spearman's rank, $P < 0.05$) given by the two groups.

Table 2 Mean weight for each characteristic

Possible questions that could be asked	General public (<i>n</i> = 23)	Economics students (<i>n</i> = 29)	Full sample (<i>n</i> = 52)
What are the benefits from treatment?	20.58*	32.82*	26.65
What will happen without treatment?	26.05	29.60	27.75
What is the previous health profile?	9.30	6.64	7.88
What are the causes of current ill health?	11.86	9.61	10.62
What is the impact on others?	9.05	7.85	8.37
Are there claims based on compensation/reward?	7.16	5.37	6.20
How long have they been waiting for treatment?	16.00*	8.12*	12.50

*Significantly different weight (Mann-Whitney U , $P < 0.05$) given by the two groups.

future studies should be designed to test the robustness of the findings.

Discussion

The empirical studies referred to in this paper have demonstrated that people are concerned with both a fair and efficient allocation of resources. However, the range of different samples and study designs used does not facilitate comparability across studies and does not allow many detailed conclusions to be drawn. Some of the problems that prevent comparability result from the problems associated with the quantification of psychosocial values in health. Most worryingly, it has been shown that irrelevant changes in question ‘framing’ (at least so far as economic theory is concerned) can sometimes dramatically change the stated preference of respondents. For instance, simple wording changes (from describing outcomes in terms of lives saved to describing them in terms of lives lost) can lead to very different preferences.²¹ This suggests that people may not have well-defined preferences but rather that they ‘rely on a limited number of heuristic principles which reduce complex tasks ... to simpler judgmental operations’.²² For example, it has been shown that people estimate future losses and gains in relation to the anchor points which they start from, and experience greater disutility at losses

than utility at equivalent gains. That is, people evaluate the same bundle of goods differently from different reference points. Studies show that once a person comes to possess a good they immediately value it more than before they possessed it and that respondents often give greater weight to the losses of one group as compared to an equivalent gain to another group. Moreover, the effects of this loss aversion have been found to be greater where an *action* is required to move away from the anchor point.²³

Such findings have important implications for future research into public preferences regarding the distribution of health. Sassi *et al.*²⁰ present two ways forward. One is to develop precise quantitative equity weights to be applied to the results of all cost–utility analyses (CUA) (the comparison of costs with benefits in the form of utility values – see Box 1 for a full definition of CUA). The other is to tabulate within each CUA study the benefits according to different population sub-groups in order to allow policy makers to determine the equity weights. The authors point out many of the methodological problems associated with developing an algorithm to account for all relevant criteria and argue that ‘defining a social welfare function would involve extremely complex measurements that are far beyond the reach of existing studies of individual and collective values’ (see Box 1 for a definition of the SWF). They, therefore,

Box 1 Definitions of terms used in the paper

With quality-adjusted life-years (QALYs) both the quality and quantity of the years of life a person is expected to have are assessed.

QALY maximization involves the aggregation of the numbers of QALYs gained.

The *rule of rescue* argues in favour of treating those whose life expectancy without treatment is low.

The *no-treatment profile* argues in favour of giving priority to those whose health without treatment is poor.

The *fair innings argument* suggests that the expected number of QALYs a person gains over a lifetime should be taken into account.

Cost–utility analyses (CUAs) are a special form of cost-effectiveness analysis, in which the costs per unit of utility (units that relate to a person’s well-being) are calculated. The most commonly used unit of utility is QALYs. The additional costs of a treatment are compared with the utility gained as a result of the treatment (e.g. cost per QALY).

The social welfare function (SWF) is a tool used by economists to balance the competing objectives of efficiency and equity.

recommend that 'table of effects' approach that 'would entail presenting essential information on the effects of health interventions in different population groups to decision makers who would ultimately apply their own values and trade offs and make decisions accordingly'.

However, it is our contention that a recommendation that lies somewhere between the two extremes would be a more sensible one. That is, to suggest that preference elicitation studies seek to determine the broad (but certainly not precise) equity weights that people would like to see incorporated into decision-making and then allow the policy makers to exercise discretion around the weights given to specific sub-groups in specific contexts. The objective of *equity weighting* is to correct for unacceptable inequalities in health that might exist between various social groups. Specifically, health economists and others could provide potentially more policy-relevant information if they focused their efforts on establishing the contextual factors that might make one attribute relatively more important in one decision and relatively less so in another. It might be that more than one methodology is required in order to gain a better understanding of people's preferences and of the heuristics they use in order to generate responses. The triangulation of results from open-ended focus groups, semi-structured interviews and structured questionnaires represents a promising avenue for future research.

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