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Prioritizing health care : is "health" always an appropriate maximand?

PRIORITISING HEALTH CARE:

IS 'HEALTH' ALWAYS AN APPROPRIATE MAXIMAND?

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ABSTRACT

In recent years, a few health economists have begun to question the ethical underpinnings of the standard practice of QALY maximisation as a ubiquitous decision rule in the allocation of health care resources. Prominent among these is Erik Nord, who conjectures that QALY maximisation discriminates against the chronically ill and disabled when prioritising between different individuals (or groups of individuals) for life-extending interventions. Nord has recommended that life years gained should always be given a weight equal to one in these circumstances. This article reports an experiment designed as an initial attempt at eliciting some of the thought processes employed by people when they prioritise life-saving health care interventions between patients who differ only in respect of the presence or absence of a disability. The results show that, in the priority setting contexts used, a majority of the respondents perceived the relative health status of the different patients as irrelevant, providing some tentative support for Nord's argument.

Keywords: Priority setting; QALY maximisation; worth; rights; fair innings; qualitative analysis

INTRODUCTION

In health economic research, it has become standard practice to seek to maximise health gain inside the budget constraint. With specific reference to health economic evaluation, it is now broadly accepted that we should aim to maximise quality-adjusted life years (QALYs) with available resources. This approach, however, is in some circumstances questionable, and its broad acceptance, given the increasing impact of health economic recommendations in practical decision making settings, is worrying.

In recent years, Erik Nord, Magnus Johannesson and Alan Williams have proposed and debated a number of ways in which health outcomes might best be considered when distributed across people for the purpose of health care priority setting.[1-3] Their debate was initiated by previous writings by Nord and colleagues[4,5] and a review of Nord's writings by Williams.[6] In briefly summarising their views, it is logical to begin with Nord, who conjectures that in some circumstances health care priority setting on the basis of QALY maximisation will require the decision maker to implicitly, but *unjustly*, attach a higher 'worth' or 'value' to some people's lives over others.[2] It is important to note that Nord states that his argument only applies when setting priorities (for life-extending health care interventions) between *different* patients with different levels of functioning. When setting priorities between different *interventions* for the *same* patients, QALY maximisation *may* remain a relevant decision criterion.

To illustrate his critique of the QALY maximisation approach as a ubiquitous health care decision rule, Nord asks us to consider people with chronic or disabilitating conditions (it is important to note that these health states must be perceived as better than death by those concerned); for example, a wheelchair-bound person. Of course, as Nord argues, most people, possibly due to considerations of convenience or ease of living one's life, would prefer to be fully abled than disabled. Consequently, through standard health state value elicitation exercises, we would expect people to place a relatively high personal *health state* value on being fully abled, compared to being disabled. If these values are then used to calculate QALYs, then the otherwise fully abled will be assigned more post treatment QALYs than the disabled, purely by virtue of being free from disability. But Nord contends that these values should not be used

in choosing *between* fully abled and disabled people for life-extending interventions (with all other things, such as current age and post-treatment life expectancy, being equal). This is because, when deciding who should live longest (or, indeed, live at all), we are implicitly placing a value on people's *lives*. We are thus making a moral judgment on how much their life is worth to them - i.e. on how much they *value* their life, and, if we consider side effects important,[7] on how much their life is worth to their family, friends and society in general.

If we accept Nord's argument, the QALY maximisation approach, when used in setting priorities for life-extending interventions between *different* individuals (or groups of individuals), will unjustly discriminate against the chronically ill and disabled. To counter this effect, Nord *et al.* have recommended that, in these circumstances, life years gained should always be given a weight equal to one, irrespective of the health state of the individual.[5] Johannesson argues that this approach is problematic in that it can conflict with individual preferences.[1] For example, an individual with a chronic health state with a QALY value of 0.4 may prefer to live for one year in full health than two years in their current health state. Nord *et al.*'s suggested rule would, according to Johannesson, reverse this preference. However, this particular problem only arises if Nord *et al.*'s rule is applied to priority setting between different interventions for the *same* patient(s); as mentioned earlier, Nord intends his arguments to apply to only those circumstances where we have to choose between *different* patient(s).[2,4]

Nonetheless, Johannesson proposes an interesting method, which could be applied to all health care prioritisation decisions, and could resolve the problem of discrimination against the chronically ill and disabled. The method generates identical *weighted* QALY gains where the same *relative* change in expected QALYs has occurred, irrespective of the total number of expected *unweighted* QALYs on offer. The weights to be attached to the QALY gains are calculated by:

(Average expected number of QALYs for the group)/

              (Expected number of QALYs for the individual)   (1)

The weighted QALY gains for an equal extension of life would, with all else equal, be identical for the fully abled and chronically ill or disabled. However, it is possible that Johannesson's formula is merely a mathematical exposit that conveniently encompasses Nord's concern without internalising the real, underlying reasons for why people may find it unacceptable to discriminate against the chronically ill and disabled in the manner prescribed by QALY maximisation. Whether we ought to allocate according to convenient mathematical rules or attempt to get to grips with the underlying reasons for people's preferences is a point to which we will later return.

In commenting on the ideas of Nord and Johannesson, Williams rejects the notion that health status may be an irrelevant consideration in publicly funded life-extending health care decision making.[3] Williams argues that we may choose to 'compensate' the chronically ill and disabled for their misfortune, and chastises both Nord and Johannesson for rejecting the 'fair innings' argument, which requires the consideration and redress of lifetime inequalities in health to be a main driver of health care priority setting.[8] It is important to note that there are two types of fair innings argument: that which is concerned with life-expectancy and that which is concerned with quality-adjusted life expectancy. Williams prefers the quality-adjusted approach, and that is the approach adhered to throughout this article. The quality-adjusted fair innings argument allows that those who have always been (and are expected to always be) in a state of relative poor health be given priority over those who have always been (and are expected to always be) in better health (all other things being equal).

To summarise, simple QALY maximisation would lead us to prioritise individuals in relatively good health, the Nord and Johannesson rules imply that we ought to be indifferent between individuals with different levels of health, and the fair innings argument might well prescribe that we prioritise those who are chronically ill or disabled. The objective of this article is to report the results of a small experiment designed as a preliminary test of whether any of these perspectives best reflects the decisions and thought processes employed by people when prioritising between patients who differ only in respect of the presence or absence of a disability.

METHODS

Respondents

The study was undertaken in November-December 2002. Twenty-five respondents, all of whom were either academic staff or students, were recruited. Clearly, the respondents did not comprise a representative subgroup of society, but this was not the intention. Rather, the intention was to elicit preferences from a relatively educated subgroup, most of whom have a knowledge of health policy issues and are thus familiar with arguments concerning why it is necessary to prioritise health care services. This is not because it was considered that the preferences of a relatively educated subgroup were of more 'value' than those of anybody else in society, but as a first attempt at eliciting some of the thought processes that underlie the preferences across the types of context used in this study, it was thought that the answers given by a relatively educated subgroup *might* provide a more insightful starting point.

As an incentive to participate, the respondents were told that they would each be allocated a number. They were informed that when all had been interviewed, a number between 1 and 25 would be randomly selected and the respondent who had been allocated the selected number would win £100. The expected value of participating was thus £4.

Fourteen of the 25 respondents were academic staff, ten were postgraduate students, and one was an undergraduate student. Fifteen were female, 14 were aged 16-30 (the remainder were aged 31-45), 20 had a social science background (with a further three 'science', one 'humanities' and one 'other') and 14 were familiar with decision theory. The respondents were of a variety of different nationalities.

Design

Each respondent attended an individual face to face interview in which they were presented with a questionnaire which took, on average, approximately 30 minutes to answer. The questionnaire comprised three practice questions and nine main

questions. One of the practice questions and three of the questions in the main questionnaire involved a test of the lottery equivalents elicitation method,[9] and will not concern us in this article. Therefore, of relevance to the study reported here are two of the practice questions and six of the main questions.

Each respondent was taken through the practice questions to ensure that they understood their tasks. They were free to ask questions during the practice session. Before answering the practice questions the respondents were informed that although the questions are highly abstract, they should try to imagine that they were answering the questions for real. Moreover, the respondents were informed that there are no right or wrong answers to any of the questions. The order in which the nine main questions (and thus the six main questions relevant to this study) were presented was randomised across respondents so as to reduce the possibility of ordering effects. After completing the practice questions, the respondents were required to answer the main questions without asking any questions. During the process of answering the main questionnaire, the respondents were free to return to previous questions in order to revise their answers.

The questions that form the focus of the study reported here were of two different types. Examples of these types of question (which replicate two of the questions that appeared in the main questionnaire) are given as Figures 1 and 2.

[Insert Figures 1 and 2]

Figure 1 is a standard gamble question, where the respondents were asked to imagine that they themselves are blind. The respondents were asked to indicate on a scale of 0-100% the minimum chance of treatment success they would require to accept a treatment that could restore their sight (but that could also cause their death) over the certainty of remaining blind for their remaining life expectancy. Strictly speaking, the respondents' indifference probabilities between treatment and no treatment are required to calculate their standard gamble values for health states, but I have observed when conducting previous pilot studies that people sometimes have a problem understanding the concept of indifference. Therefore, the respondents' stated minimum chance of treatment success is used as an approximation of the probability

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that would render them indifferent, which has the effect of generating answers at, or very marginally above, the upper boundary of the range of indifference. After normalising 'fully sighted' and 'immediate death' with values of one and zero, respectively, the respondents' standard gamble values for the health state 'blind' are given by their minimum stated required chances of treatment success, after converting these percentage chances into probabilities. The respondents were also asked to write down the reasons for their answers.

Figure 2 is defined as a 'priority setting' question. In this question, the respondents were asked to imagine that they are medical doctors and were required to state whether they would prioritise a blind patient or a fully sighted patient - or be indifferent between the two - when both patients require, but only one can receive, a life-saving treatment. Rather than being asked to imagine that they are medical doctors faced with scarce resources and therefore choices over *individual patients*, the respondents could have been asked to imagine that they are health policy makers faced with scarce resources and therefore choices over *groups of patients*. However, in that the intention was to get the respondents to think about choices where the only observable difference between the 'alternatives' was the presence or absence of a disability, it was thought that the problem of choosing between individual patients or between groups of patients would be the same. The doctor's perspective was chosen as it was felt that the respondents would more easily be able to imagine being placed in the doctor's situation as a social decision maker over patients for which s/he is responsible. As can be observed in Figure 2, other than with respect to vision, the two patients are assumed to be identical. Again, after indicating their choice, the respondents were asked to write down the reasons for their answers.

In the main part of the questionnaire, these two types of question were repeated with the exception that the health state 'blind' was replaced by the health states 'deaf' and 'paralysed from the waist down'. There was therefore a standard gamble question and a priority setting question for each of these three health states (hence the six questions in total). In the practice session, the standard gamble question asked the respondents to imagine that they were 'without the use of one of their arms' and the priority setting question used 'curvature of the spine' as the 'disabilitating' health state. A copy of all questions used in the study is available on request.

RESULTS

Quantitative results

The quantitative results are summarised in Table 1.

[Table 1]

In the table, the answers that each individual respondent gave to the standard gamble and priority setting questions for all three health states considered in the main part of the questionnaire are listed. If the answers of an individual respondent are consistent with simple QALY maximisation across both types of question, then s/he ought to choose patient B in the priority setting question if s/he assigns a standard gamble value < 1.00 to the health state under consideration. This is because Patient B would then be expected to generate more post-treatment QALYs than Patient A in the priority setting question, given that patient B is assumed to be in full health after treatment, and full health has a QALY value of 1.00. Consider the results for Respondent 1 for the health state, blind. A value of 0.80 for 'blind' is elicited from the answer that this respondent gave to the standard gamble question. But the respondent then expressed indifference between treating Patients A and B in the priority setting question, despite the fact that a standard gamble value of 0.80 implies that the blind Patient A would be expected to generate only four-fifths of patient B's post-treatment QALYs.

One may argue that indifference between the two patients in the priority setting question is at least consistent with QALY maximisation if the respondent assigns a value of 1.00 to the 'intermediate' health state in the standard gamble question: this was the case for six respondents for 'blind' (respondents 3, 6, 9, 11, 13 and 22), seven respondents for 'deaf' (respondents 3, 6, 9, 11, 13, 21 and 22), and five respondents for 'paralysed' (respondents 3, 6, 9, 11 and 13). Nonetheless, the answers of only one respondent for blind and death (respondent 12) and three respondents for paralysed

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(respondents 12, 17 an 18) appear indisputably in favour of QALY maximisation on the basis of these results.

The most frequently observed pattern of answers was for a respondent to assign implicitly a value of < 1.00 in the standard gamble question and then express indifference between the two patients in the priority setting question (16 of the 25 respondents expressed this pattern for blind; 15 for both deaf and paralysed). This pattern is consistent with Nord's arguments presented earlier[2]; i.e. that in standard health state value elicitation exercises, people might well place a lower personal *health state* value on being in less than full health (possibly due to the relative convenience of being in full health), but they would not want the presence or absence of chronic or disabilititating health states to determine the allocation of life-saving operations between other people. Moreover, the weighting method proposed by Johannesson[1] presented in Eq. (1) is consistent with these preferences.

Of the viewpoints considered in this article, only the fair innings argument allows for the preferences of those respondents who gave implied standard gamble values of < 1.00 for blind, deaf and paralysed and prioritised Patient A in the priority setting question. The fair innings principle combines consideration of patients' life experiences before treatment and their future expected health gain due to the treatment. Therefore, on the basis of the quantitative results alone it is not possible to determine the extent to which the respondents conformed with the principle, because the patient prioritised (i.e. A, B or indifferent) will depend on how the respondents balanced past experience with future gain (more will be said below regarding the performance of the fair innings principle with respect to the qualitative results). Nonetheless, those who chose patient A prioritised a patient who had lived his or her life in a relatively poorly valued health state, possibly as a form of compensation mechanism that is intrinsic to the fair innings argument. However, for each of the three intermediate health states, only respondents 5 and 7 answered in this way.

Unsurprisingly, given the individual data presented above, the aggregated data appear to lend support to Nord's arguments. The respondents, at the mean and median, valued all of the intermediate health states less than full health in the standard gamble

questions, and yet at least 20 of the 25 respondents were indifferent between patients A and B in all of the priority setting questions.

Qualitative results

The explanations that people gave for their answers to the standard gamble questions, when given at all, were not particularly insightful, and generally related to their perceptions of the severity of each of the intermediate health states, rather than the motivations induced by the construct of the standard gamble design. This lack of qualitative insight vis-à-vis the standard gamble may be due to the possibility that people find it difficult to place into words the underlying 'drivers' behind their answers to these types of questions. Nonetheless, the use of the standard gamble is appropriate for the purpose of the study reported in this article, in that we are merely using the elicited values as a check to see if the respondents 'value' intermediate health states less than full health in risky health care-related scenarios. We are therefore only interested in the ordinal properties of the values. There is quite conclusive evidence that the standard gamble is internally biased[10-12] and is therefore inappropriate for eliciting cardinal health state values. Indeed, the few useful comments that the respondents made did suggest that their answers to the standard gamble questions may have been biased in particular directions.

For example, when valuing blind and deaf it was occasionally noted that death is a very severe outcome of the gamble, which may have produced some insensitivity in the answers that in turn would have caused an upward bias on the standard gamble values for these health states. Moreover, one respondent was unwilling to take any chance of death because he felt that, at some point in the future, the treatment would develop to the point where no risk of death would be involved, which would also upwardly bias his standard gamble values. A factor that may serve as a downward bias on the values is that the construct of the standard gamble, and the hypothetical nature of the questions, may induce people to make a trade-off with death that they would not be willing to make in real-world circumstances.

A factor mentioned by eleven, ten and five respondents when valuing blind, deaf and paralysed, respectively, was that because the questions ask them to assume that they have experienced being in these states of health since birth, they felt that they would have adapted to these health states or would not know what life was like without being in these health states. Although this factor does not necessarily bias their answers (because in this study we are interested in preferences concerning long-term disabilities), for many of the respondents it may have generated higher standard gamble values than if the same health states had been assumed for shorter periods of time. The effect of using shorter periods of chronic ill health or disability on the answers to both the standard gamble and the priority setting questions is a subject for future investigation.

The explanations that the respondents gave for their answers to the priority setting questions are summarised in Table 2.

[Insert Table 2]

It can be observed in Table 2 that the explanations of those who prioritised Patient A or Patient B were indeed consistent with the compensation criterion of the fair innings argument or QALY maximisation, respectively. For the large majority who were indifferent between the two patients, three main explanations were identified, although, admittedly, many of these explanations may be to some extent interrelated.

The main 'indifference-inducing' explanation across all three health states was that of preferring equal rights to treatment, regardless of health status. Health status was therefore perceived to be an irrelevant consideration by the respondents who offered this explanation in the context of the specific priority setting questions used in this study, which resonates with Nord's arguments. Those respondents who expressed indifference because they could not detect any difference in the 'worth' of the two individuals also acted in accordance with Nord's views. The qualitative difference between the 'rights'-based and 'worth'-based perspectives is that it is possible that those who hold the former view would prefer non-discrimination in priority-setting even if they perceive individuals to be of differential 'worth'; however, the extent to which the respondents concurred with this possibility was not measured in the study.

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The treatment 'outcome'-based explanation was of two types: those respondents who would not prioritise treatment across patients who had the same post-treatment life expectancy (which is consistent with Nord's view if he allows prioritisation on the basis of life-years gained), and those who explicitly considered health status to be irrelevant if it could not be influenced by the health care intervention (which, it could be argued, is perhaps inconsistent with Nord's view, because in slightly differently constructed decision contexts to the ones used in this article, it would leave open the possibility of prioritising those patients with the greatest health status gain, however marginal that gain may be).

It is worth reiterating that the fair innings argument combines consideration of patients' life experiences before treatment and their future expected health gain as a consequence of treatment. If the respondents who expressed indifference in the priority setting questions had balanced these two factors against each other and given them equal weight, then the fair innings argument would explain their answers. Indeed, one respondent who expressed indifference (the respondent who stated that A and B would 'value' the treatment equally), may have been motivated as such, because he initially noted in the practice session that the priority setting question was a balance between equity and efficiency. However, on the whole, there is very little qualitative evidence to suggest that the respondents considered either compensation or future health gain as relevant in answering the priority setting questions, and it is therefore unlikely that the reasoning employed by the indifference-expressing respondents was consistent with the underlying criteria of the fair innings principle.

There was also no evidence that the respondents processed their priority setting choices in the manner indicated by the Johannesson weights (Eq. (1)). It is therefore likely that these weights are something of a mathematical convenience that, if adopted, may often lead to decision rules that are consistent with people's preferences, but do not encompass the reasoning that people employ in reaching their decisions.

DISCUSSION

As expected, the findings of this article show that most respondents appear to value disabilities less than full health in standard gamble questions. However, when asked to choose between two people for a life-saving intervention - of whom one person otherwise has good pre-treatment and good expected post-treatment health, and the other person has and always will have a particular disability (but both have the same life expectancy following treatment) - a large proportion of respondents did not wish to prioritise either patient for the life-saving intervention. If only one of the two patients can be treated, these respondents would prefer to allocate the intervention through some random device. This 'dominant' preference pattern (i.e. standard gamble values for the intermediate health states < 1.00 and indifference in the priority setting questions) is inconsistent with QALY-maximisation, but is seemingly consistent with arguments made by Nord and colleagues,[2,4,5] particularly in light of the respondents' qualitative explanations for their indifference, which for the majority, focused upon equal rights to treatment regardless of disability or the irrelevance of health status in considerations of human 'worth'. For these specific contexts, therefore, Nord *et al.* may be right in recommending that life years gained should always be given a weight equal to one, irrespective of the health state of the individual.[5]

When comparing the answers given to the standard gamble questions to those given to the priority setting questions we can therefore conclude that a preference for relatively good *personal* health status does not necessarily translate to a *societal* preference for prioritising different people for life-saving interventions on the basis of their differential health states. This is because fundamentally different reasoning processes are often induced in the two types of choice. Personal preferences involve choice merely for oneself; societal preferences involve choosing *between* people, a conceptual parameter that may make it more stark that, in many contexts, health, though convenient when good, is perhaps of only very marginal importance - if important at all - to living a worthwhile life. It is also worth noting that the standard gamble questions involve only a *risk* of death for oneself, whereas the priority setting questions involve *certain* death for one of the patients, which is also likely to drive many of the respondents' answers in a particular direction. Therefore, different considerations, such as equal rights to life-extending health care, come into play when

choosing between patients, and these considerations may take lexicographic precedence over consideration of the patients' relative health status.

However, we have to ask ourselves whether we ought to take these preferences into account in our adopted social decision rule. Are people expressing indifference merely as a means of evading a difficult decision? In order to answer this question more concretely, further investigation is perhaps required, although it was my impression when conducting the interviews that the respondents engaged seriously with what was being asked of them and answered the priority setting questions as genuinely as they could. The fact that all of the respondents gave coherent and consistent qualitative explanations for their priority setting answers also implies that they did not express indifference merely for convenience.

A caveat of the study is that the sample size is quite small and highly unrepresentative of the general public. Similar studies with larger sample sizes and more in-depth qualitative analyses that allow people to reflect on the implications of their answers might prove insightful. Nonetheless, with the sample of relatively educated people used in this study, most with knowledge of the issues surrounding health care priority setting, I conjecture that their broad consensus in expressing indifference in the priority setting questions would be an opinion that is representative of the UK population as a whole, and that they would not radically alter their answers following a period of reflection.

Despite any claim that health status ought to be an irrelevant consideration when choosing between patients for life-extending interventions (with all else equal), it is important to reiterate that there are likely to be many health care priority setting contexts where health status is generally deemed to be a highly relevant consideration - for example, when priority setting between different interventions for the *same* individual or group of individuals, or when priority setting non-life extending interventions between *different* individuals, or perhaps, in terms of the fair innings principle, in considerations of intergenerational equity. Attempts at eliciting values for health states, and at improving the methods by which to elicit such values, thus remains an important research agenda.

The main message from this article is that different contexts internalise different conceptual parameters, which in turn induces people to adopt different ethical principles across the different contexts. The search for a technical decision rule to apply to all circumstances may prove elusive. It is therefore possible that those who propose an 'overarching' health care decision rule are attempting to say too much, and that they perhaps ought to be searching for the specific context(s) that are most relevant for the application of their ideas.

ACKNOWLEDGEMENTS

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Table 1
Quantitative results

Respondent	Blind		Deaf		Paralysed[a]	
	SGQ[b]	PSQ[c]	SGQ	PSQ	SGQ	PSQ
1	0.80	Ind[d]	0.90	Ind	0.60	Ind
2	0.60	Ind	0.70	Ind	0.60	Ind
3	1.00	Ind	1.00	Ind	1.00	Ind
4	0.95	Ind	0.95	Ind	0.50	Ind
5	0.50	A	0.50	A	0.50	A
6	1.00	Ind	1.00	Ind	1.00	Ind
7	0.60	A	0.85	A	0.62	A
8	0.95	Ind	0.97	Ind	0.80	Ind
9	1.00	Ind	1.00	Ind	1.00	Ind
10	0.70	Ind	0.75	Ind	0.75	Ind
11	1.00	Ind	1.00	Ind	1.00	Ind
12	0.70	B	0.70	B	0.55	B
13	1.00	Ind	1.00	Ind	1.00	Ind
14	0.90	Ind	0.98	Ind	0.90	Ind
15	0.70	Ind	0.80	Ind	0.70	Ind
16	0.95	Ind	0.97	Ind	0.95	Ind
17	0.80	Ind	0.90	Ind	0.10	B
18	0.90	Ind	0.90	Ind	0.75	B
19	0.95	Ind	0.95	Ind	0.65	Ind
20	0.20	Ind	0.65	Ind	0.40	Ind
21	0.90	Ind	1.00	Ind	0.90	Ind
22	1.00	Ind	1.00	Ind	0.97	Ind
23	0.98	Ind	0.97	Ind	0.96	Ind
24	0.80	Ind	0.80	Ind	0.80	Ind
25	0.01	Ind	0.80	Ind	0.50	Ind
Median	0.90		0.95		0.75	
Mean	0.796		0.882		0.74	
Range	0.99		0.50		0.90	
SD[e]	0.256		0.136		0.236	
Number Ind		22		22		20

[a]Paralysed from the waist down
[b]SGQ = Standard gamble question
[c]PSQ = Priority setting question
[d]Ind = Indifferent
[e]SD = Standard deviation

Table 2
Qualitative results of the priority setting questions

| Explanation	No. respondents offering the explanation		
	Blind	Deaf	Paralysed[a]
For prioritising patient A:			
A has been ill since birth / A is more unfortunate	2 (8%)	2 (8%)	2 (8%)
For prioritising patient B:			
B has the most to gain / survival of the fittest / B would have a better post-treatment quality of life	1 (4%)	1 (4%)	3 (12%)
For expressing indifference:			
'Rights'-based arguments: A and B have an equal 'right' to treatment / will not discriminate on the basis of physical handicap / physical handicap is irrelevant to the decision / discriminating on the basis of physical handicap is immoral	12 (48%)	11 (44%)	11 (44%)
'Worth'-based arguments: A and B may be equally happy or satisfied / A and B are equally 'valued' individuals (e.g. equally productive)	4 (16%)	5 (20%)	4 (16%)
Treatment 'outcome'-based arguments: A and B are expected to live an equal length of time after treatment / treatment does not improve health status	4 (16%)	4 (16%)	4 (16%)
A and B would 'value' the treatment equally	1 (4%)	1 (4%)	1 (4%)
"No difference identified" between A and B	1 (4%)	1 (4%)	-

[a]Paralysed from the waist down

Figure 1
A typical standard gamble question

Imagine that you were born without the sense of sight; that is, you are, and always have been, totally blind. On visiting your doctor, s/he informs you that there is a new cure for your blindness, but the treatment entails a risk. There is a chance that the treatment could kill you, but the size of this chance is unknown.

Therefore , if you take the treatment there is a chance that you will be fully sighted for your remaining life expectancy, but there is also a chance that you will die more or less immediately. If you do not take the treatment, you will be completely blind for your remaining life expectancy. The diagram below summarises your options:
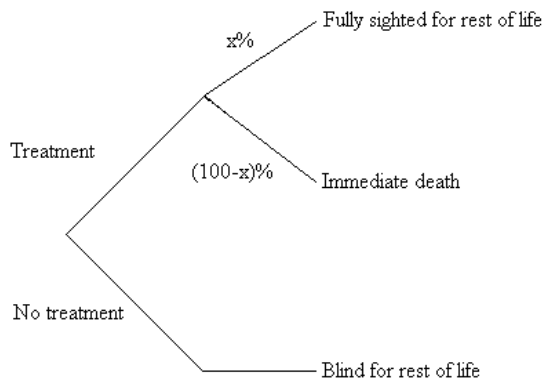
Please mark on the scale below the minimum chance of treatment success (that is, the minimum x) you would require in order for you to accept the treatment.
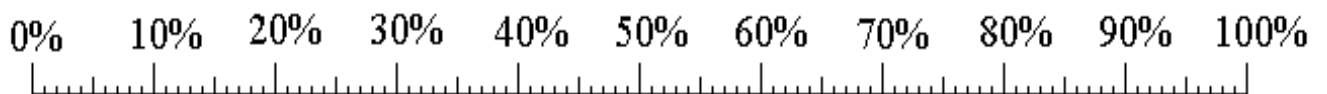
Please explain your decision:

Figure 2
A typical priority setting question

Imagine that you are a medical doctor. You are deliberating over the case notes of two patients on your patient list. Call these Patient A and Patient B.

Patient A has been blind since birth. Patient B is fully sighted. In all other respects the two patients are identical. Both patients have an identical illness, which has nothing to do with Patient A's blindness. Without treatment, the illness is fatal and, if untreated, will cause death for both patients within the next two weeks.

However, there is a treatment for the illness. The treatment is risky and can in itself cause death, but there is also a chance that it will eradicate the fatal illness and return the patients to their usual states of health for their remaining life expectancies. The post treatment life expectancy is the same for both patients.

Unfortunately, the treatment is expensive. Your budget is such that you can only afford to treat one of the two patients. Who would you decide to treat (please circle):

1. I would treat patient A.

2. I would treat patient B.

3. I am indifferent between the two patients, and would choose through some random device (e.g. by tossing a coin).

Please explain your decision: