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The Rule of Rescue

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Abstract

Jonsen coined the term ‘Rule of Rescue’ in 1986 to describe the imperative people feel to rescue identifiable individuals facing avoidable death. In this paper we explore the tension between this tendency and conventional cost-effectiveness analysis, where the latter uses the QALY as the unit of effectiveness. We conclude that the standard gamble, time trade-off, and other measures of individual utility, do not measure all relevant utility associated with the change in health states brought about by a health program. This is so because, *inter alia*, the utility from the Rule of Rescue is ignored. If the Rule of Rescue is indeed quantitatively significant and if there is a desire to incorporate an individual perspective in the evaluation of health programs then, we argue, existing measurement techniques are defective, even in principle.

Concerning the moral status of the Rule of Rescue, we argue that there is a tension between two principles. If the total social utility gained from the Rule of Rescue, including the utility gained from having reinforced within the community the belief that life is valuable and worth great effort to preserve, outweighs the utility sacrificed by not putting resources to the best alternative use, then the Rule of Rescue would be justifiable from a utilitarian point of view. On the other hand, fairness requires that we do not discriminate between individuals on morally irrelevant grounds, and being ‘identifiable’ – being in a context that evokes the ‘Rule of Rescue’ response in others – does not seem to be a morally relevant ground for discrimination. We conclude by observing that utilitarians can make their case stronger by distinguishing between cases where the societal demand for rescue measures is contrived by media coverage, and cases where it is not. Discrimination against anonymous individuals is more objectionable in the former cases than in the latter.

Keywords: Rule of Rescue; Standard gamble; Time trade-off; Person trade-off; Utilitarianism; Fairness.

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The Rule of Rescue

1 Introduction

Why do we mount expensive searches – for sailors lost at sea, for example – when the likelihood of finding those missing is slim? (Creadon, 1997). Why do we offer critically ill patients intensive care, when the likelihood of it being effective is negligible? (Osborne and Evans, 1994, pp779). Why do some patients receive a second or third heart or liver transplant, when first-time recipients have a higher one-year survival rate? (Ubel *et al*, 1998, pp276–9). Is it possible to justify such practices when there are better uses for our resources? One consequence is that these practices manifest a psychological imperative that is hard to resist: namely, the urge to rescue identifiable individuals facing avoidable death, without giving too much thought to the opportunity cost of doing so. Jonsen dubbed this the 'Rule of Rescue' (Jonsen, 1986, pp172–4).

We begin in section 2 by drawing a more detailed picture of the 'Rule of Rescue' (RR). In particular, we consider how it differs from the preference for treating the most severely ill, and consider the circumstances in which it typically operates. For example, does it apply only to interventions aimed at averting death, or can it be a factor when death is unavoidable? In section 3 we distinguish four possible sources of utility arising from a health intervention, including the utility derived from the RR. The distinction is important to avoid the error of concluding that the RR cannot exist because it does not arise from one of the more commonly recognized sources of utility. In section 4 we draw out three important consequences of the RR. First, the standard gamble, time trade-off, and other measures of individual utility, do not measure all relevant utility associated with the change in health states brought about by a health program, because they ignore the utility from the RR. Second, while the person trade-off has the potential to capture the utility of the RR when it is applied to the actual improvement in which we have an interest, it will not measure true utility unless individuals judge health improvements to others as the same as health improvements to themselves. There is some reason to doubt that this will happen. Third, if the utility from the RR is significant, we cannot infer the value of a health state improvement by subtracting the value of health states before and after the change even if an instrument such as the person trade-off correctly measures the true value of the RR. In section 5 we consider the moral status of the RR and note that public acts of rescue reinforce the belief that life is valuable, and worth great effort to preserve. If the total social utility gained when this source of utility is included outweighs the utility sacrificed by not putting resources to the best alternative use, the RR would be justifiable from a utilitarian point of view. In section 6, however, we note that it is possible to impugn the RR on the issue of fairness, because fairness requires that we do not discriminate between individuals on morally irrelevant grounds, and being 'identifiable' does not seem to be a morally relevant ground for discrimination. We also distinguish between those cases where the societal demand for rescue measures is not contrived – for example, by media coverage – and those cases where it is so contrived, and conclude that unfairness is more patent in the latter cases, and less so in the former.

2 What is the rule of rescue?

There is little uniformity of meaning attached to the term 'Rule of Rescue' in the relevant literature. Typically, those influenced by the RR are shocked by the desperate circumstances of a particular individual, and feel a strong obligation to render assistance. It represents: 'a perceived duty to save endangered life where possible' (Bochner *et al*, 1994, pp901); 'the sense of immediate duty that people feel towards those who present themselves to a health service with a serious condition' (Nord *et al*., 1995b, pp90); 'an ethical imperative to save individual lives even when money might be more efficiently spent to prevent deaths in the larger population' (Doughety, 1993, pp1359); 'the powerful human proclivity to rescue a single identified endangered life, regardless of cost, at the expense of many nameless faces who will therefore be denied health care' (Osborne and Evans, 1994, pp779). The RR is more complex than these quotes would suggest, however, and its true nature is most clearly seen in contrast with other tendencies, some of which it resembles and from some of which it differs.

According to Hadorn (1991a, 1991b, 1996), the RR played an important role in the Oregon priority-setting exercise. In 1990 the Oregon Health Services Commission produced a priority list of health services. It ranked some 1,600 condition-treatment pairs, for example, 'medical therapy for hypoglycaemic coma,' 'septoplasty/repair/control of haemorrhage for life-threatening epistaxis,' 'stabilization for open fracture of the ribs and sternum'. Rankings were based on the expected outcomes with and without treatment, the duration of the treatment effect, quality of life assessed on a scale calibrated by Oregon residents, and the cost of the treatment. The initial list drew highly critical public reactions due to the counter-intuitive ordering that resulted, especially concerning life-saving treatments. For example, dental caps for pulp or near pulp exposure were assigned a higher priority than surgical treatment for ectopic pregnancy (salpingectomy/salpingoophorectomy), and splints for temporomandibular joint disorder were ranked higher than appendectomies for appendicitis (Hadorn, 1991a, pp2219). A revised list was produced a year later that saw all treatment of life-threatening conditions placed in a separate high-priority category. As Hadorn observed: 'any plan to distribute health care services must take human nature into account if the plan is to be acceptable to society. In this regard there is a fact about the human psyche that will inevitably trump the utilitarian rationality that is implicit in cost-effectiveness analysis: people cannot stand idly by when an identified person's life is visibly threatened if rescue measures are available' (Hadorn, 1991a, pp2219).

Whatever the explanation for the counter-intuitive ordering of Oregon's initial list,[1] the RR is clearly at odds with CEA as ordinarily understood, and in particular with that form of CEA which uses the quality-adjusted life year or QALY as the measure of effectiveness. In its simplest form the QALY represents a year of life that has been weighted, or discounted, by an index of the quality of life. By convention, full health has a weighting of 1 and death has a weighting of zero.

[1] Hadorn argues that Oregon's initial method was fundamentally flawed, and that CEA is inherently incapable of producing results free of unpalatable consequences (Hadorn, 1991a). Eddy argues that the failure was largely technical rather than being due to any inherent features of CEA, and that the measure of benefit used was 'probably inappropriate for its intended use' (Eddy, 1991, p2138). Nord similarly argues that the instrument used for assessing the quality of life – the quality of well being (QWB) instrument – would result in perverse rankings in part because of its use of a simple rating scale to assign utility scores (Nord, 1993b).

So, for example, if a year of life on hospital dialysis is considered to be worth only 60 per cent as much as a year of normal health, other things being equal, then 20 years of life on dialysis would be equivalent to $20 \times 0.60 = 12$ QALYs. In conventional CEA it is only the change in the length and quality of life that are of importance and QALYs combine these two dimensions of outcome. QALYs therefore provide a (conceptually) simple method for prioritizing health care: all else equal, the lower the cost of a QALY the greater the value for money offered by a programme or treatment, and thus the higher a priority it should be. But the RR conflicts with this logic. Decisions influenced by the RR show a strong tendency to disregard CEA when this is necessary to save an identifiable individual facing avoidable death. Allocative efficiency – maximizing utility per unit cost – is simply not the only, or even the major, factor when someone's life is visibly endangered.

Prima facie, the RR may appear equivalent to according importance to severity of illness. Conventional CEA does not accord any weight to severity *per se*. The more severely ill will be accorded priority over the less severely ill if, and only if, this coincides with treatments producing the greatest health gain overall. However, several studies reveal that people are often prepared to sacrifice health gains in order to benefit the worst off, prompting suggestions that conventional CEA might need to be expanded to include a wider range of community values, including the independent importance of severity (Nord *et al*, 1993; Nord, 1993a; Nord *et al*, 1995a; Ubel *et al*, 1996; Nord, 1996; Pinto, 1997; Nord *et al*, 1999; Nord, 1999).

However, this preference for treating the most severely ill is a different sentiment from that underlying the RR. The force of the RR – the emotional responses it elicits from others – may vary with the age and personality of the endangered individual, the amount of television or newspaper exposure they can gain, how attractive or articulate they are, and so on. Thus a young construction worker trapped in a collapsed trench, a child who has fallen through a frozen lake, a sailor lost at sea, or an attractive kidnap victim, will evoke strong emotional reactions, and a correspondingly strong urge to rescue, especially if their tearful relatives appear on television. But an anonymous patient in a medical ward, even if their situation is no less dire, will not be thought to have a special claim on resources – that is, a claim exceeding what would be justified by a conventional cost-effectiveness analysis. In Hadorn's words, since such an individual is 'unidentified' and thus not 'visibly threatened' there is no opportunity for 'human nature' or the 'human psyche' to 'trump the utilitarian rationality' of CEA. So there is more to the RR than a preference for treating the most severely ill.

If saving lives is considered to be of *overriding* importance in health care it is not difficult to justify the RR. Harris holds that: 'Each person's desire to stay alive should be regarded as of the same importance and as deserving the same respect as that of anyone else, irrespective of the quality of their life or its expected duration' (Harris, 1985, pp101). From this perspective, any use of public resources to save a life is justified, so long as more lives are not lost in the process. But giving absolute priority to life-saving in health care has implications few would accept. For example, completely eradicating a painful and debilitating disease that affects large numbers of people, provided it was non-fatal, would be ranked a lower priority than postponing the death of one individual for a few months, if that is what that individual wanted. Contrary to this, a large number of studies reveal that people are willing to trade some life-saving interventions for other health services. For example, the 'time trade-off' technique for eliciting strength of preference for a health state requires people to nominate the percentage of their own life they would be willing to sacrifice to increase its quality. While some people will not trade life at all, the majority express a preparedness to do so, and no author has reported a universal refusal to trade. Similarly, using the 'person trade-off' technique, several studies have investigated the number of lives people would

sacrifice to gain particular improvements in the quality of life of others, when their own life is not among those at stake. Again, most people are prepared to trade life for quality of life in this hypothetical situation. (See, for example, Torrance, 1986 and Brazier *et al*, 1999.)

While the RR attaches special value to interventions aimed at averting death, it is an instance of a more general tendency to extend special consideration to those facing death, whether or not death can be averted. Even when they are equally effective in purely medical terms, for example, palliative measures for patients with terminal conditions – patients at the end of life – have a value not possessed by palliative measures provided to other patients. Palliative care for patients with terminal conditions receives extra weight because it is offered in the face of death, not because it will avert death (Menzel *et al*, 1999, pp10; Loomes and McKenzie, 1990, pp96). Consistent with this, Hadorn observes that when the Oregon Health Services Commission was developing its final priority list of health services, palliative care for terminally ill patients, including hospice programs and pain medication, was ranked relatively high (Hadorn, 1991b, pp12). So while the RR applies primarily to patients facing avoidable death, it can also apply to patients facing *un*avoidable death, though in the latter case the felt duty is to rescue someone from pain and suffering, rather than from death.

Finally, while the RR attaches added weight to interventions in the face of death, it can also be a factor when life is not endangered (Hadorn, 1991a, pp2219). For example, children with physical deformities or disfigurements are sometimes flown from poor countries to wealthier countries for treatment. Their plight evokes the same 'shock-horror' reaction as a sailor lost at sea or a trapped miner, and the same tendency to disregard, or underestimate, the value sacrificed by not putting resources to the best alternative use. So the RR can also be a factor when an individual is not facing death.

3 Utilitarianism and the rule of rescue

The RR is at odds with conventional CEA because it violates the impartiality that is implied in the usual assessment of benefits and costs in CEA. It places extra value, implicitly, on rescuing *identifiable* individuals. If we are influenced by the RR we are inclined to help *this* person or *these* people.

We favour those who are in *conspicuous* need without giving a great deal of thought to others, perhaps more numerous, who could also benefit from our help, but who are not present or not known – merely 'statistical lives'.[2] It is an interesting question then whether the RR can be justified from a utilitarian point of view. In this respect it is important to note the different possible sources of utility arising from a health intervention. In general terms there are four such sources:

1. The utility gained by the individual from the health state improvement (measured, for example, in QALYs).

[2] It is worth noting that there is legal backing for the RR. 'The mining company which refuses to spend money on saving the trapped men may be liable not only civilly but also criminally for a wrongful omission to save one towards whom it stands in a special relation of duty' (Fried 1969, p1418). This may be so even if the company has invested large sums of money on measures designed to prevent such disasters, and if holding the company liable means that less money can be spent on safety equipment, with the result that more lives will be lost in the long-run.

2. The utility gained by the individual from the knowledge that an attempt to help has been made (Rule of Rescue).

3. Society's utility from the health state improvement.

4. Society's utility from the knowledge that an attempt to help has been made (Rule of Rescue).

The utility under (1) and (3) derives from the health state improvement itself. (1) includes the individual's ability to live a longer life and/or achieve a better quality of life. (3) is a conventional externality: the individual who is restored to better health can return to work, look after dependents, and, possibly, enhance the well-being of others by the fact of their cure and existence. By contrast, the utility under (2) and (4) derives from knowing that an attempt has been made to help – that is, the utility from the RR. The utility gained by the individual from this source (2) is likely to be comparatively small, firstly because only one individual is affected, and secondly because the individual will derive their primary benefit from their improvement in health. But, since the effect expressed under (4) may be experienced by the entire population, it is potentially significant. It includes the enhanced feeling of security derived from knowing that one lives in a compassionate society, where those in desperate need are not ignored. This is consistent with Scarre's view that belonging to a community that cares for the needs of each constituent member – more precisely, the belief that one lives in such a community – is a source of utility (Scarre, 1996, pp154).

There is, at first glance, a paradox in including (4). Since this utility arises from the attempt to help – from the intervention – and not from any health gain or other direct source of utility itself, it is not derived from the public applying utilitarian principles. That is, maximizing utility may require decision-makers to factor in utility derived from the application of non-utilitarian reasoning. But this is not a paradox at all. The fact that individuals obtain utility is an empirical matter and not a normative judgement. If individuals derive utility from applying non-utilitarian principles, either explicitly or implicitly, then that utility must be taken into account.

4 Three consequences

If the utility derived from the RR is quantitatively significant, then three consequences follow.

Consequence 1

The standard gamble, time trade off, and other measures of individual utility, do not measure all relevant utility associated with the change in health states brought about by a health program. This is so because the utility from the RR – U^{RR} – is ignored. For example, with the orthodox standard gamble (SG) the subject is offered two alternatives. Alternative 1 is a treatment with two possible outcomes. With probability *p* the patient is returned to normal health and lives for the remainder of his or her life; with probability (1-*p*) the patient dies immediately. Alternative 2 is the certainty of living in the health state being evaluated for the remainder of the subject's life. Probability *p* is varied until the respondent is indifferent between the two alternatives. The probability at this point is taken to represent the utility index. For some economists the SG is the gold standard (eg Torrance, 1986). However its status as a gold standard depends upon the validity of the von Neumann-Morgenstern axioms, which have been subject to serious theoretical

and empirical criticism.[3] The relevant point at present, however, is that the SG does not capture U^{RR} – that is, the utility under (2) and (4). The SG quantifies the strength of a person's preference for a health state and the (dis)utility associated with the state. It does not consider the urgency arising from the context of the treatment; nor does it capture the utility derived by one person from the rescue of another.

With the orthodox time trade-off (TTO) the subject is offered two alternatives – alternative 1 (the health state, *S*, to be evaluated) for time *t* (often the life expectancy of the individual with the chronic condition) followed by death; and alternative 2, which is healthy life for a lesser period of time *x* followed by death. Time *x* is varied until the respondent is indifferent between the two alternatives at which point the utility value for state *S* is given by U = *x/t*. For some, this is the preferred technique as it most directly exposes the subject to the trade-off between life and quality of life (Mooney and Olsen, 1994; Richardson, 1994). Others have argued for its use primarily for practical reasons (simplicity and the statistical properties of survey results) (Dolan *et al*, 1996). Again, however, the utility under (2) and (4) – that is, U^{RR} – is not included. The orthodox time trade-off ignores the context and the effect of the choice upon others' utility.

The first consequence of the existence of the RR can be illustrated with the help of Figure 1. The vertical axis shows three health states – normal health (N), death (D), and an intermediate state (A), which have the utility scores of U(N) = 1; U(D) = 0; and U(A) = *a*, calculated using either the SG or TTO.

Let	U(XY)	=	the utility derived from a move from U(X) to U(Y)
	U_x^{RR}	=	the utility arising from the RR commencing in health state X

Consequence 1 can then be stated symbolically as follows:

U(A1)	=	$U(1) - U(A) + U_A^{RR}$
if U_A^{RR}	>	0
then U(A1)	>	U(1) - U(A)

Since the left-hand side of the final expression exceeds the right-hand side, the value of the improvement from health state A to normal health cannot be obtained from the SG or TTO. This result would suggest that the inferred value of a health program that returned a patient from health state A to normal health – that is, the value obtained by subtracting the value of health states before and after the change – would be less than the value obtained by direct

[3] If U is the utility of the health state, then at this point U = *p*. U (full health) + (1-*p*) U (death). Since U (full health) = 1 and U (death) =) then U = *p*. Strictly, this arithmetic simplifies the true situation. To eliminate the probability from the equation and to re-interpret it as an index number the von Neumann-Morgenstern assumption of linear transformation under risk is required. From this, the equation U = *p*. U (full health), which still involves a probability, may be transformed by dividing each side by the fraction *p*. This produces U/*p* = U (full health), an equation that has eliminated probability. From this U = *p*, where *p* is now a *fraction* not a probability. If the assumption that preferences are invariant under linear transformation is untrue, then the relationship between the probability *p* and the true index of utility is unclear.

measurement, if this included the utility derived from the RR. More generally, this result casts doubt on the validity of inferring results concerning the total benefit to society from the utility of individual health states.

Consequence 2

Consequence 1 established that if U^{RR} is significant we cannot infer the value of a health improvement by subtracting the value of health states before and after the change, if these values are derived from the SG or TTO. But even if an instrument such as the PTO correctly measures the true value of the RR, we cannot infer the value of a health improvement by subtracting the value of health states before and after the change. (For a description of the PTO see Consequence 3.) Consider again the case represented in Figure 1, and assume now that the utility scores have been determined by the PTO technique.

$$U(A1) \neq U(01) - U(0A)$$

$$U(1) - U(A) + U_A^{RR} \neq [U(1) - U(0) + U_0^{RR}] - [U(A) - U(0) + U_0^{RR}]$$

$$U_A^{RR} \neq U_0^{RR} - U_0^{RR} = 0 \qquad \ldots (1)$$

The logic here assumes that the utility arising from the RR depends only upon the initial health state. This may oversimplify the RR. It is unlikely that a health care program would be valued very much if there were no benefits at all – that is, if services were provided in the knowledge that they were useless. So it seems reasonable to postulate that U^{RR} depends not only upon the utility of the initial health state, but also upon the magnitude of the improvement in health. Thus, if a programme increased utility from U(X) to U(Y) then one possibility is that U_x^{RR} is directly proportional to the increase in utility:

$$U_x^{RR} = k[U(Y) - U(X)] \qquad \ldots (2)$$

Note that this assumption does not reinstate the conclusion that the benefit of an intervention is equal to the change in the health state utility – that is, the utility experienced by the patient. U^{RR} is experienced by the community and is proportional – not equal – to the change in individual utility. Substituting equation (2) in equation (1), which defines the utility gain U(A1), we get

$$k[U(1) - U(A)]\, R_A^{RR} \neq k(U(1) - U(0))\, R_0^{RR} - k(U(A) - U(0))\, R_0^{RR}$$

where R_X^{RR} is the baseline utility derived from the RR – that is, the utility gained by intervening to help an individual in state X, regardless of the magnitude of the health improvement. Setting U(0) = 0 and U(1) = 1 (the conventional anchor points) and simplifying:

$$(1 - U(A))\, R_A^{RR} \neq R_0^{RR} - U(A)\, R_0^{RR}$$

$$R_A^{RR} < R_0^{RR}$$

Since the right-hand side exceeds the left-hand side, this reverses the previous results. Equation (2) only represents the special case in which U^{RR} is directly proportional to the change in utility. More generally U^{RR} is likely to be some function of the two health state utilities, and a function that probably varies with the context of the 'rescue' and with the individual characteristics of the patient/beneficiary. The special case represented by equation (2) simply illustrates the important

conclusion that the extent of the error introduced by the RR into inferred measurements is an empirical issue that can be illustrated but not quantitatively determined by logical argument.

Consequence 3

Behind the RR is the desire to change an individual's circumstances. Hence, the RR can only be captured by a technique that measures the *change* in utility associated with a health program or treatment. With the person trade-off (PTO) respondents are asked to compare two options each involving health improvement for a different number of people. The number of people in one option is varied until the two options are considered to be equally desirable. The relative utility of the health improvements can then be inferred from the size of the two groups. For example, preventing the death (U = 0) of ten people who will then remain in a poor health state A, may be valued as highly as saving the life of *x* people and restoring them to full health (U = 1). In this case 10 (U(A) - 0) = *x* (1-0) or U(A) = *x*/10. Nord, in particular, has argued for the use of this technique (Nord, 1996; 1999).

This technique involves an impersonal trade-off between two groups. When it is applied to the actual improvement in which we have an interest, it will capture the utility of the RR, if the subjects interviewed have a tolerable capacity to imagine the plight of individuals in life-threatening situations. At the same time, however, it changes the perspective in the evaluation of individual utility. Respondents are not asked to evaluate the improvement to their own health. Rather, they are asked to compare two options involving different groups of people. Hence, the PTO will not measure true utility unless individuals judge health improvements to others as the same as health improvements to themselves. Survey results cast some doubt upon this (Richardson and Nord, 1997).

The third consequence implies that, for utilitarians, the gold standard for measuring the benefit of a health program affected by the RR will, as a minimum, require information from two sources. First, there must be an assessment of the individual utility gained by those obtaining a direct health benefit from the program and, second, the size of the social benefit arising from the RR must be obtained from the community. In practice, this would probably require a two-stage interview procedure. In the first stage the size of the individual utility gain would be assessed (using the SG or the TTO), and in the second the social benefits arising from the RR would be quantified (employing the PTO).

This is, in fact, what has been advocated by Nord *et al* (1999). However, the latter authors envisage a second-stage assessment of 'social value' in which a cross-section of the population takes account of the size of individual utility gains but may choose to over-ride or discount these benefits and substitute their (well informed) social valuation of the program. From a strictly utilitarian viewpoint this would be unacceptable. For utilitarians, individual utility should be fully respected, and the second stage of a gold standard procedure should aim to capture the individual (dis)utility experienced by members of the society who are not direct program beneficiaries.

It was argued earlier that the RR is related to, but distinct from, the severity of a health state. This has important implications for measurement. The factors that result in the RR are quintessentially 'psychological' in the sense that they are affected not only by the objective circumstances of a person's health state – their pain, physical and mental suffering – but are shaped by the circumstances in which these occur. These contextual factors result in an intensification of the affect of the suffering upon others who are observing it either directly or

indirectly through media reports. Consequently, the strength of the (dis)utility associated with the RR depends upon circumstances that are extraneous to the immediate health state: factors such as the cause, timing, and location of the event; the perceived unfairness or unluckiness of the circumstances; and the empathy that the individual personal characteristics of the patient/victim can evoke. The effects of these types of factors are not well understood and, indeed, are generally ignored (possibly, as discussed below, reflecting an unstated judgement that such factors *should not* be considered). It is certainly not possible, at present, to include them in a generic, decomposed health state instrument such as the EQ5D, QWB, HUI, 15D or AQoL. This implies that such generic instruments are, at best, useful for measuring 'stage one' individual utility.

Further, because these determinants of the RR are extrinsic to the health state, the stage-two measurement of social value must include a careful statement, not only of the health state, but also of the relevant elements of the context of the proposed intervention. To date there has been little examination of such issues.

5 The normative issue

We turn now to the question of whether or not the RR is morally defensible. We noted that underlying the RR is the desire to help an *identified* individual – someone who has managed to come to the attention of the public, usually in a dramatic way. As Pence observes, the RR 'states that the patient who manages to get 'rescued' by media attention (such as a photogenic child in liver failure whose parents get him on television) is the patient who will get the scarce organ' (Pence 1998, pp270). This is contrary to conventional CEA, which does not distinguish between 'identified' and 'unidentified' individuals, but it does not follow that the RR is morally indefensible. First, from a psychological point of view, the RR is understandable. To abandon an identified person to death when they could be saved appears a heartless decision, and to symbolize a lack of concern for human life. Most people would find it difficult to 'stand idly by when an identified person's life is visibly threatened if rescue measures are available,' as Hadorn put it, and would find it equally distressing to witness others fail to render assistance in this way. Often it is appropriate to deal with people as abstractions – as taxpayers, voters, purchasers, and so on. But as Fried observes (1969, pp1430): 'often too we encounter people as actual persons, and there it seems we have the occasion, the opportunity to show our deeper humanity'.[4]

But there is more than just psychological support for the RR. There is considerable social value in reinforcing acts of compassion undiluted by considerations of cost (provided the cost is not excessive). We previously noted Harris' view that: 'Each person's desire to stay alive should be regarded as of the same importance and as deserving the same respect as that of anyone else, irrespective of the quality of their life or its expected duration.' Although giving absolute priority to life-saving in health care has implications few would accept, it is probably true that people obtain benefit from the belief that they are living in a caring and humane society, and that the observation of heroic attempts to save life reinforces this. Eddy points out that one of the main criteria for applying the term 'Rule of Rescue' to an intervention is 'high symbolic value' (1994, pp1795). Again, this is not a paradox. Although preserving life at all cost is incompatible with CEA, the lesson that life-saving rescues convey – that life is precious, and worth great effort to preserve – can be a source of social utility. The community can gain utility from observing the

[4] It should be noted that Fried does not accept this 'personalist argument', and instead supports the preference for saving lives in present peril by distinguishing between different ways of dying (1969, pp1433–37).

application of principles that are, prima facie, non-utilitarian. But this is a fact, not a normative judgement, so there is no real paradox. [5]

Fried is sceptical about the cogency of this argument – which he calls 'the symbolic value argument' (1969, pp1425). The problem is, the money for rescues that reach beyond conventional CEA must come from somewhere. If the total budget allocated to saving lives is not increased, then the money must be diverted from programs aimed at saving 'merely statistical lives.' The result then will be that the greatest number of lives is not saved in the long-run. If the total budget allocated to saving lives is increased, then the money must be diverted from programs aimed at improving quality of life. But since the rescues reach beyond conventional CEA, the result in this case will be that 'more lives are saved, but less of value is accomplished' (Fried 1969, pp1425). As Fried is aware, the important question is whether the reduction in overall lives saved (on the first interpretation) or the reduction in quality of life (on the second), is outweighed by the 'high symbolic value' of the rescues – that is, by the utility gained from the public demonstration that life is precious, and worth great effort to preserve. It is quite probable that many people receive satisfaction from the belief that they live in a caring society and, as a consequence, the importance of the 'symbolic value' may well add more to the quality of life of the entire society than the reduction in the quality of life of a limited number of patients deprived of some health services. But this is an empirical question, the answer to which is unclear.

Hare distinguishes between two levels of moral thinking: the intuitive and the critical (Hare 1981, Part I). At the intuitive level we rely on prima facie principles that have the virtues of generality and simplicity, such as the Bible's Ten Commandments: 'Thou shalt not kill,' 'Thou shalt not steal,' and so on. Moral thinking cannot remain at this level, however, because such principles have exceptions, and may generate conflicting duties (particularly when novel situations arise). Nevertheless, such principles are useful in emergency situations, when there is not enough time to make complex calculations, or when acting contrary to our own immediate self-interest may be difficult. In the same way, the RR might be justified as a valuable *prima facie* principle or 'rule of thumb'. A general disposition in the community to act on the principle, 'If someone's life is visibly threatened, render assistance (without giving too much thought to the opportunity cost),' may do more to increase social welfare in the long-run than its absence. At any rate, it is likely to do so given the world as we find it, where selflessness, courage, and so on, are sometimes in short supply and, consequently, remaining acts of selflessness are of particular value both because of their scarcity and through their positive contribution to the preservation of a type of social environment which promotes long-run well being.

6 Discussion

However, these points supporting the RR must be tempered by the thought that it discriminates on morally dubious grounds. Of course, it is sometimes justifiable to discriminate between

[5] Rescues also provide hope, and this can be a further source of utility. Nord *et al* (1995b) and Menzel *et al* (1999) point out that hope of treatment is itself something that people value. Studies reveal that people are often prepared to forego a more cost-effective use of resources in order to preserve the hope of treatment for everyone: ' a limited number of treatments offered to patients in a health state creates a rational basis for hope: no matter what health related event occurs respondents know there is a chance of treatment and hope is a rational basis for utility' (Nord *et al*, 1995b, p90). The RR might be justified on a similar basis: it ministers to the hope that, should great misfortune fall, there is a chance of receiving help, even if it is not justified on a purely cost-effective basis.

individuals and groups, if the grounds for discrimination are morally relevant. The problem is, it is difficult to see the discrimination inherent in the RR as defensible in this way, at least on occasion. As Hadorn notes, the RR typically comes into play when the life of an 'identified' individual is 'visibly threatened' and rescue measures are available. In the case of anonymous individuals, by contrast, there is no opportunity for 'human nature' or the 'human psyche' to override the 'utilitarian rationality' of CEA. But being *identified* – being able to attract television or newspaper coverage, for example – does not seem to be a morally relevant criterion for discrimination. After all, those anonymous individuals killed in car crashes on dangerous intersections, or who quietly die from preventable cancers in hospital wards, are no less real than the trapped miner or lost sailor whose life is 'visibly threatened', and their families will grieve no less for their deaths. Arguably then, the RR can be criticized on the grounds of fairness, because fairness requires that we do not discriminate between people on morally irrelevant grounds, and being 'identified' does not seem to be a morally relevant ground.

Utilitarians are not without a response to this criticism however. If we consider two patients with identical prognosis, and focus on the utility gained by each individual from an equivalent improvement to their health, it may seem unfair to favour one over the other. But from a societal perspective – that is, taking into consideration utility source (4) in section 3 – these cases may not be identical. Treatment of one patient more than the other may increase social utility by reinforcing the belief that citizens are living in a caring and humane society. The medical equivalence of the two patients does not preclude the possibility that extra benefit may be derived from treating one rather than the other. If this is so, is it really unfair to give priority where the greatest benefit is gained? Utilitarians will appeal to considerations such as the following. 'To be sure, there is a sadness in discriminating against anonymous individuals. But some form of discrimination must occur unless everything technically possible is done for every patient. To avoid this impossible scenario we must discriminate on the basis of prognosis, cost, or some other criterion. Hence, the existence of discrimination is not enough to rule out an action.' Opponents of utilitarianism, with a more robust concept of fairness, will concede this, and yet insist that being 'identified' is not a morally relevant criterion. Such critics will insist that fairness cannot be identified with maximizing utility. 'Giving preferential treatment to those who by dint of their personality or circumstances are able to attract media attention – those whose plight is deemed 'newsworthy' – may do most to maximize social utility, but it is unfair. People should not be disadvantaged in the competition for health care because they cannot attract publicity.'

It is important in confronting this problem to distinguish between cases where the societal demand for rescue is not contrived, for example, by media coverage, and those cases where it is so contrived. In cases of the first type, the demand for action may well be a result of widespread empathy with those who are suddenly facing a shocking and unanticipated crisis, such as a car accident or heart attack at a premature age. The urge to rescue in such situations reflects an awareness that any citizen may face a similar crisis, and an understanding that the patient and the patient's family have not had the normal time for psychological adaptation to the situation. In such cases the RR may justify a systemic response going well beyond what would be justified by a conventional measurement of costs and individual medical benefits.

In cases of the second type, where the public demand for action is largely contrived by media attention, the charge of unfairness seems more justified. Why should those who are lucky enough or sufficiently manipulative to attract media attention be thought to have a claim on resources exceeding what would be justified on a conventional cost-effectiveness basis? Even here, however, it must be acknowledged that, if media attention has focused on a particular

individual's plight, the response to that situation may well affect society's self-perception. As Hadorn points out, the media coverage given to an individual denied access to life-saving treatment would result in 'continual societal discomfort and shame' (Hadorn 1991a, pp2219). At the very least, it must be conceded that it would be wrong to ignore actions that will remove such obstacles to the achievement of well-being – particularly when this is achieved by the promotion of concern for others.

This argument will be mitigated in part, but not in full, by the fact that if these contrived benefits occur too regularly – if the media over-exposes the population to sensational medical crises – then the very basis of the benefit will be offset as people realize the unfairness of media-based priorities in the health sector. Nevertheless, to the extent that this does not occur, it may well still be desirable to promote the self-perception of being a caring and humane society by responding to the manipulated demand and accepting the inevitability of some media-based priorities. Utilitarians will justify this by pointing out that in this way social welfare may be maximized overall.

7 Conclusion

What should our response be if the utility arising from the public demonstration that life is precious, and worth great effort to preserve, is thought *not* to exceed the disutility arising from the unfairness to some individuals of this policy? In this case there can be agreement between the utilitarian and non-utilitarian. Non-utilitarians can reject the RR on the grounds that it unfairly discriminates against anonymous individuals. And utilitarians can maintain that the 'utilitarian rationality' of CEA should, indeed, trump the RR. If the RR is rejected for either of these reasons, it would amount to a recognition of the fact that, sadly, we cannot provide all care in all circumstances. There will however be occasions – and probably numerous occasions – when the logic of simple CEA, and the injunction not to discriminate unfairly against anonymous individuals, will be overridden by 'human nature' – that is, by 'the powerful human proclivity to rescue a single identified endangered life.' Importantly, accepting this as an unavoidable reality is consistent with a policy of opposing instances of unfairness when they arise, and also with a general utilitarian approach to health care allocation.

References

Bochner F, Martin ED, Burgess NG, Somogyi AA & Garry MH 1994, 'Controversies in treatment: how can hospitals ration drugs?', *British Medical Journal*, Vol 308, No 6933, pp901–5, 907–8.

Brazier J, Deverill M, Green C *et al* 1999, 'A review of the use of health status measures', *Economic Evaluation Health Technology Assessment*, Vol 3, No 9, pp1–161.

Creadon M 1997, 'The ocean denied', *Time*, Vol 149, No 3 (January 20).

Dolan P, Gudex C, Kind P *et al* 1996, 'The time trade-off method: results from a general population study', *Health Economics*, Vol 5, pp141–54.

Dougherty CJ 1993, 'Review of economics and ethics in health care: the hippocratic predicament: affordability, access and accountability in American medicine,' by RM Caplan, *The New England Journal of Medicine*, Vol 328, No 18, pp1358–59.

Eddy DM 1991, 'Oregon's methods: did cost-effectiveness analysis fail?', *Journal of the American Medical Association*, Vol 266, No 15, pp2136.

Eddy DM 1994, 'From theory to practice: principles for making difficult decisions in difficult times,' *Journal of the American Medical Association*, Vol 271, No 22, pp1792–98.

Fried C 1969, 'The value of life,' *Harvard Law Review*, Vol 82, No 7, pp1415–37.

Hadorn DC 1991a, 'Setting health care priorities in Oregon: cost-effectiveness meets the rule of rescue', *Journal of the American Medical Association*, Vol 265, No 17, pp2218–25.

___ 1991b, 'The Oregon priority-setting exercise: quality of life and public policy', *Hastings Center Report*, Vol 21, No 3, pp11–16.

___ 1996, 'The Oregon priority-setting exercise: cost-effectiveness and the rule of rescue, revisited', *Medical Decision Making*, Vol 16, No 2, pp117–9.

Hare RM 1981, *Moral Thinking: Its Levels, Method and Point*, Oxford: The Clarendon Press.

Harris J 1985, *The Value of Life*, London and New York: Routledge.

Jonsen, AR 1986, 'Bentham in a box: technology assessment and health care allocation', *Law, Medicine and Health Care*, Vol 14, pp172–4.

Loomes G & McKenzie L 1990, 'The scope and limitations of QALY measures' in *Quality of Life* ed S Baldwin, C Godfrey & C Propper, London and New York: Routledge.

Menzel P, Gold MR, Nord E, Pinto-Prades J-L, Richardson J & Ubel P 1999, 'Towards a broader view of values in cost-effectiveness analysis of health', *Hastings Center Report*, Vol 29, No 3, pp7–15.

Mooney G & Olsen JA 1994, 'QALYs: where next?', in A McGuire, P Fenn & K Mayhew eds, *Providing Health Care: The Economics of Finance and Delivery*, Oxford: Oxford University Press.

Nord E 1993a] 'The trade-off between severity of Illness and treatment effect in cost-value analysis of health care', *Health Policy*, Vol 24, pp227–38.

___ 1993b, 'Unjustified use of the quality of wellbeing scale', *Oregon Health Policy*, Vol 24, pp45–53.

___ 1996, 'Health state index models for use in resource allocation decisions', *International Journal of Technology Assessment in Health Care*, Vol 12, No 1, pp31–44.

___ 1999, *Cost-Value Analysis in Health Care*, Cambridge: Cambridge University Press.

Nord E, Richardson J & Macarounas-Kirchmann K 1993, 'Social evaluation of health care versus personal evaluation of health states: evidence on the validity of four health state scaling instruments using Norwegian and Australian surveys', *International Journal of Technology Assessment in Health Care*, Vol 9, pp463–478.

Nord E, Richardson J, Street A, Kuhse H & Singer P 1995a, 'Maximising health benefits vs egalitarianism: an Australian survey of health issues', *Social Science and Medicine*, Vol 41, No 10, pp1429–37.

Nord E, Richardson J, Street A, Kuhse H & Singer P 1995b, 'Who cares about cost? Does economic analysis impose or reflect social values?', *Health Policy*, Vol 34, pp79–94.

Nord E, Pinto JL, Richardson J, Menzel P & Ubel P 1999, 'Incorporating societal concerns for fairness in numerical valuations of health programmes', *Health Economics*, Vol 8, pp25–39.

Osborne M & Evans TW 1994, 'Allocation of resources in intensive care: a transatlantic perspective', *The Lancet*, Vol 343, pp778–80.

Pence GE ed 1998, *Classic Works in Medical Ethics*, Boston, Massachusetts: McGraw-Hill.

Pinto JL 1997, 'Is the person-trade-off a valid method for allocating health care resources?', *Health Economics*, Vol 6, pp71–81.

Richardson J 1994, 'Cost-utility analyses: what should be measured?', *Social Science and Medicine*, Vol 39, pp7–21.

Richardson J & Nord E 1997, 'The importance of perspective in the measurement of quality adjusted life years', *Medical Decision Making*, Vol 17, pp33–41.

Scarre G 1996, *Utilitarianism*, London: Routledge.

Torrance GW 1986, 'Measurement of health state utilities for economic appraisal', *Journal of Health Economics*, Vol 5, No 1, pp1–30

Ubel PA, Arnold RM & Caplan AL 1998, 'Rationing failure: ethical lessons of retransplantation' in *Classical Works in Medical Ethics* GE Pence ed, Boston, Massachusetts: McGraw-Hill, pp270–84.

Ubel P, Scanlon D, Loewenstein G & Kamlet M 1996, 'Individual utilities are inconsistent with rationing choices: a partial explanation of why Oregon's cost-effectiveness list failed', *Medical Decision Making*, Vol 16, pp108–19.