

## **Could health economics lead to killing people, and is that what we want from health services?**

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**Abstract** Resulting primarily from the work of health economists, QALY maximisation is increasingly adopted as the principal or even only objective in determining which treatments should be provided and to whom. However, as has been widely debated, including by health economists themselves, this raises a number of issues relating to equity, justice and social solidarity and can and does result in denying potentially life-saving treatment. But, could this approach result in endorsing compulsory euthanasia? And, whether or not it could lead to this extreme, is maximising (population) QALY gain the sole or even principal objective of healthcare systems or should it be?

Following an exploration of what could prevent a policy which allows individuals to die through failure to treat progressing to compulsory euthanasia for those whose cost-per-QALY is deemed too high, this paper considers other possible objectives of healthcare systems. Not only equity of access, fair financing and responsiveness, but also the less frequently cited objective of protection from catastrophic risks, uncertainty and insecurity - a need to trust and know that health services will be there when needed - are explored. It concludes that health (or QALY) maximisation is probably inappropriate as the sole or even principal objective of curative/personal health services. Despite its many attractions including being quantifiable and conforming to various economic theories, not only can it have undesirable consequences, it also diverts attention from less easily quantifiable objectives of equity, fairness and the often neglected need for trust, security and certainty.

### **Introduction**

Obviously, killing people is wrong. Luttrell (1999: 1709) states that "...it has been clear for many years that a doctor who actively takes steps to end the life of one of his or her patients is acting illegally and is potentially guilty of murder..." But reinstating the opening "Although" and adding the second clause "there has been much less clarity about the relatively common decision to withdraw or withhold life prolonging medical treatment" reminds us that the position is by no means clear cut. The case in October 2004, where a hospital was seeking permission against the parents' wishes not to resuscitate Charlotte Wyatt, a one-year-old born at 24 weeks gestation with profound handicaps and an extremely poor prognosis, raised publicly many of the agonising and difficult issues involved in such cases.

This paper aims to prompt discussion and debate, rather than present final or definitive arguments and conclusions. After exploring when it is permissible to kill someone, it addresses whether the current pursuit of health gain maximisation, as the principal or even sole objective of the health service, could influence life and death decisions in a way that clearly overrides the wishes of society, even to the extent of endorsing compulsory 'euthanasia'. It then asks simply, what are or should be the objectives of publicly-mandated healthcare systems.

### **When is it permissible to kill someone?**

Many debates in medical ethics are relevant, but it is possible here to touch only on some of the issues and arguments. Relatively non-controversial is the right, accepted in many

countries, of mentally competent adults to refuse treatment. More controversial is the withdrawal of treatment from non-mentally competent adults, even when in a persistent vegetative state (PVS).<sup>1</sup> Possibly less controversial is assisted suicide or voluntary euthanasia for the mentally competent – legal in some countries, but a criminal offence in others. However, at the far more controversial extreme is compulsory or involuntary ‘euthanasia’. Could or should compulsory ‘euthanasia’, whether for mentally competent adults or those deemed not mentally competent, ever be accepted?

Under the heading ‘Basic Principles’, which “express the general values underlying rules in the common morality” and “can function as guidelines for professional ethics”, Beauchamp and Childress (2001:12) present four commonly-quoted clusters of moral principles:

- (1) *respect for autonomy* (a norm of respecting the decision-making capacities of autonomous persons),
- (2) *non-maleficence* (a norm of avoiding the causation of harm),
- (3) *beneficence* (a group of norms for providing benefits and balancing benefits against risks and costs),
- (4) *justice* (a group of norms for distributing benefits, risks, and costs fairly).

It could be argued that the principle of autonomy would rule out compulsory ‘euthanasia’ for mentally-competent adults. But, unless we assume autonomy overrides all the other principles,<sup>2</sup> it is necessary to look further.

Compulsory ‘euthanasia’ could, of course, result either from an act of commission – actively killing someone – or from an act of omission – failing to treat, or even to feed. These could, respectively, violate the principles of non-maleficence and beneficence.

To what extent does beneficence imply a duty to act? According to Beauchamp and Childress (2001:165), beneficence requires taking “positive steps to help others, not merely refrain from harmful acts”. This relates to what they term “Obligatory Beneficence”: but does that imply an absolute degree of obligation? No, according to Beauchamp and Childress (2001:170), who argue that a poor swimmer seeing someone drowning is not obliged to risk their life attempting to save that person. However, they continue, “If the passer-by does nothing (eg fails to alert a nearby lifeguard) the failure to help is morally culpable.”

Beauchamp and Childress (2001:165) combine two principles: *positive beneficence* which “requires agents to provide benefits” and *utility* which “requires that agents balance benefits and drawbacks to produce the best overall results” and which, they claim, is itself an “extension of the principle of positive beneficence”. “To be appropriately beneficent”, they continue (p.166), “generally requires that one determine which actions produce an amount of benefit sufficient to warrant their costs”. From this qualified beneficence they go on to state the conditions “apart from special moral relationships, such as contracts or the ties of family or friendship”, which **all** need to be satisfied for person X, assuming they are aware of the relevant facts, to have “a determinate obligation of beneficence toward person Y” (p.171):

1. Y is at risk of significant loss of or damage to life or health or some other major interest.
2. X’s action is needed (singly or in concert with others) to prevent this loss or

<sup>1</sup> However, this might become even more controversial following Sample’s (2006) report of doctors communicating with a patient in PVS.

<sup>2</sup> The example of Leslie Burke (Dyer, 2005), who lost his legal fight to prevent doctors withdrawing his artificial nutrition and hydration (ANH) if they were unable to communicate with him, suggests it does not.

damage.

3. X's action (singly or in concert with others) has a high probability of preventing it.
4. X's action would not present significant risks, costs, or burdens to X.
5. The benefit that Y can be expected to gain outweighs any harms, costs, or burdens that X is likely to incur.

Of course, these conditions refer to the duty of individuals, which is not necessarily identical to the duty of society. Nevertheless, these conditions point to the considerable scope for debate especially in relation to costs and burdens and the potential implications of approaches associated with health-gain maximisation, a form of utilitarianism.

### **Maximising Health or Health Gain**

There is considerable support for maximising (population) health or health gain being the principal or even sole objective of healthcare systems. According to Lauer et al (2004) "population health [is] the defining goal of the health system", with Dolan (2001:65) adding that it is "widely accepted that a principal objective of government expenditure on health care is to generate health". This is reinforced by Culyer (1997:667), who argued that "The principal objective of the NHS ought to be to maximise the aggregate improvement in the health status of the whole community", continuing that there "can be no doubt that a principal objective of the NHS is to maximise health". Williams (1995:223) challenged the reader to consider whether, under the Rawlsian 'Veil of Ignorance', they "would choose a set of rules which would maximise the health of the community as a whole, as measured in QALY terms, and, if not, why not?" Gafni and Birch (2002:185) refer to "meeting the needs of NHS decision-makers in terms of maximising health gains from the resource committed to the NHS".

The 2000 World Health Report (WHO, 2000:21) asserts that "Better health is unquestionably the primary goal of a health system" and is "of course the *raison d'être* of a health system, and unquestionably its primary or defining goal", adding that "if health systems did nothing to protect or improve health there would be no reason for them" (p.23). However, this might be a case of circular definition as WHO (2000:1) defines "Health systems" as consisting "of all the people and actions whose primary purpose is to improve health".

The hegemony of health gain is reinforced by a Lancet (2006:1394) editorial, advocating "the necessity of some form of rationing to make the best use of limited funds", in which it unquestioningly equates 'best use' with cost-effectiveness.

### ***Adverse effects of health gain maximisation***

Aside from the many technical problems related to defining and measuring QALYs (or alternative measures), the pursuit health-gain maximisation has a number of consequences, including denial and its impact on equity, fairness and justice.

It is widely accepted that NICE recommendations employ a threshold of £30,000 per QALY (Evans et al, 2004), meaning that treatments or drugs with a higher cost per QALY are not recommended unless there are 'special reasons'.<sup>3</sup> Although such 'special reasons' have included the absence of alternative treatments as well as effective lobbying, the result can still be that life-saving or life-prolonging treatment may be denied on cost-effectiveness grounds, even where no alternative exists. More starkly, people can be allowed to die because they are

<sup>3</sup> Of course, it is much more complex than this, as illustrated by the debate in *Health Economics, Policy and Law* (2007) 2(2).

judged to expensive to treat.

At a less emotional level, many critics point to the negative impact of health-gain maximisation on equity. A common definition of equity in healthcare is: “equal access for equal need” and its corollary “greater access for greater need” (Mullen, 1999:12). The concept of ‘need’ for healthcare is itself complex, being equated with, for example, ability to benefit, initial health state (the amount of ill-health), and the amount of healthcare needed to achieve equality of health, with only the former consistent with maximising health gain.

In a simple illustration, with the important caveat that it is not strictly appropriate to consider individual cases, take the example of two individuals (A and B) both of whom would benefit from treatment costing the same amount. The treatment would move A from 0.3 to 0.6 and B from 0.6 to 1.0, both maintained for 10 years.<sup>4</sup> Who should get priority? Treating B produces more **Health Gain**. However, A has a lower **Initial Health State** (is worse off). Further, treating A would equalise **Health Status**.

Equity is also compromised by ‘double jeopardy’, which discriminates against people with a pre-existing disability because their potential QALY again is, *ceteris paribus*, lower than for a person who can be restored to full health (Mullen & Spurgeon, 2000:42).

In another equity scenario, A and B achieve the same QALY gain from treatment, but A costs more to treat than B. On a health-maximisation decision rule, priority should go to B. But what if Female A costs more to treat than Male B for biological reasons, or non-English-speaking A costs more than B because they need an interpreter? Thus, maximising health gain could result in systematic discrimination against, say, minority ethnic groups, occupants of poorer housing needing in-patient stays rather than day surgery, or inhabitants of sparsely populated locations. Would this, which Harris (1997:672) argues runs counter to the principle of protecting “the life and health of each citizen impartially”, be acceptable? If not, supporters of health-gain maximisation would retort that the result would be greater overall suffering and less aggregate health gain – or, more emotively, be “expensive in terms of death and suffering” (Mooney, 1989:149).

### ***Individual v Collective***

A variant of the equity argument arises when considering the individual versus the collective. Inherent in health-gain maximisation is indifference between health gain achieved through a small increase for a large number of people and that achieved through a large (even life-saving) increase for a small number.<sup>5</sup> Thus, a small gain, say 0.1 for 10 years for 11 people (even starting from 0.9) is valued higher than a gain of 1 (life saving) for 10 years for one person. Combining quality-of-life with length-of-life is, according to advocates, a major strength of QALYs, but a source of criticism from others. Taurek (1977:308) argues, “Suffering is not additive in this way. The discomfort of each of a large number of individuals experiencing a minor headache does not add up to anyone's experiencing a migraine.”<sup>6</sup> Further, in a rather macabre example, Menzel (1990:15) points out that the sacrifice of an individual “to extract vital organs and save four or five other people by transplant” would “raise average life expectancy”, ie increase health gain and also increase the number of lives saved.<sup>7</sup>

Doyal (1995) concludes we should be concerned that allocating resources to maximise aggregate health gain can override the interests of the individual. Bull (1991:38) argues that

<sup>4</sup> The issue of discounting health is ignored here in the interests of simplicity.

<sup>5</sup> Indeed PTO is used as a method of valuing health states.

<sup>6</sup> However, in an exchange worth consulting, Parfit (1978) takes on Taurek and disputes this argument.

<sup>7</sup> An interesting article by Hill (2005) explores why such action would not be ethical, even in some fairly extreme circumstances.

prioritisation or selection for treatment on the basis of QALY maximisation conflicts with our “duty to care for all who suffer from ill health”. As Lockwood (1988:45) puts it, the principle “to each according to what will generate the most QALYs” is potentially in conflict with “to each according to his need”.

Hadorn (1992:1454) suggests that utilitarianism faces obstacles when it meets the ‘rule of rescue’, which he defines as “the strong human proclivity to provide aid to identified victims of illness or accident”. Advocates of health maximisation argue ‘society’ must overcome its instincts – its sympathy for the named individual – and proceed with setting priorities to maximise health gain. But why is healthcare different? As Fleck (1992:1608) observes, if a mine accident occurs, “virtually no expense [is spared] in a rescue”, even if it is likely to be futile.

### ***Statistical Lives***

The ‘rule of rescue’ arises, it is often claimed, because the public are more sympathetic to a named individual in trouble than to unknown statistical individuals. “A named person who is dying now is more visible than an unnamed person dying in the future” (Welch and Larson 1988:173). Weale (1979:186) cites numerous examples where decisions placed higher valuations on identified lives in immediate danger, than on unknown lives in future danger, which he terms the “statistical lives paradox”. However, Jenni and Loewenstein (1997) found that whether a victim was identified or anonymous did not have a statistically significant effect on respondents’ rating of their importance.

### ***Risk and Certainty?***

It is possible, however, that the individual versus collective debate is influenced not only by the fact that identified ‘individuals’ attract sympathy, but also by the degree of risk and certainty associated with outcomes. It might thus prove inappropriate to treat such risk and uncertainty merely as numerical inputs to the computation of QALY gain.

In many countries, mass vaccination is advocated even where a small number of individuals will be severely damaged by the vaccine. The very low risk of severe injury is considered to be outweighed by the much higher risk of the possibly life-threatening disease against which the vaccination is given. But, Mullen and Spurgeon (2000) ask, would a vaccination programme, with the same net health gain, be advocated if it was known in advance which specific individuals were going to suffer severe damage from the vaccine but it was impossible to exclude any individual. If the answer is no, is that because the sufferers are identified individuals, or is it because the original very low risk of severe injury for everyone is now a 100% certainty for a few and 0% risk for the many? – “Inequality of Risk” (Mullen, 2004a). The research by Jenni and Loewenstein (1997:253), cited above, supports the latter explanation, concluding “the major cause of the identifiable victim effect is the relative size of the reference group compared to the number of people at risk. Identified victims constitute their own reference group, 100% of whom will die if steps are not taken to save them.” In our second scenario, those at risk also constitute 100% of the reference group – the group of individuals known to be going to suffer severe damage.

Further, can results based on computations of probabilities applied to individuals be compared with those for populations? Take two cases. In the first, a prevention programme, for a population of 10,000, against a disease which reduces quality of life from 1.0 to 0.8 for one year and which has 1% probability of occurrence in any year, produces a health gain of 20 QALYs each year. In the second, an individual has a 10% chance of surviving for 20 years in perfect health with treatment, but without treatment will die immediately. Can that treatment be deemed to produce 2 QALYs (20x0.1) (and if so are they commensurate with the QALYs above?). On a strict computation, if the costs were the same, say £100,000, the

cost/QALY for the prevention programme would be £5000 but for the individual's treatment would be £50,000. Is it legitimate to compare ratios in that way, since for the individual there is a 100% probability of dying without treatment? And would any resulting decision be different if the probability of cure were 1% or 0.1%?

### Compulsory 'Euthanasia'

Having explored some of the concerns which arise from the pursuit of health-gain maximisation, including letting people die through failure to treat, even where they wish that treatment and there is a finite probability of success, i.e. 'letting die' through omission (withholding treatment) (top RH quadrant in Figure 1), we now ask whether that policy could progress logically to compulsory 'euthanasia' for those whose cost-per-QALY is deemed too high, i.e. 'causing death' through commission? (Bottom RH quadrant).

	Patient wishes to die	Patient does not wish to die
Beneficial Treatment withheld	Yes - most Countries	Yes - in some Countries if cost/QALY too high (& patient unable to pay)
Active Termination of Life	Yes - in a few Countries	Could it happen if their cost/QALY is too high?

Figure 1

In other words, could pursuit of health-gain maximisation, which can lead to refusing to provide, on the grounds of cost, life-saving/prolonging treatment wanted by mentally competent adults, lead logically to compulsory 'euthanasia' for both the mentally competent and mentally incompetent – on the grounds that they are too expensive to allow to live?<sup>8</sup> That is, is entry to the fourth quadrant feasible and does health economics make it more likely?

### What could prevent entry to the fourth quadrant?

What could prevent the transition, from failing to save a life on the grounds of cost/QALY, to taking a life on the same grounds? The main candidates appear to be non-maleficence, beneficence, statistical lives and the 'acts and omissions doctrine'. These will be examined in turn.

Non-maleficence would appear to prevent killing someone for their organs. But it is not an absolute principle. According to Beauchamp and Childress (2001:168) obligations of beneficence can "sometimes *override obligations of non-maleficence*" citing the example of producing a "major benefit by causing a minor harm". Further, non-maleficence does not appear to prevent withholding life-saving treatment on the grounds of cost.

The beneficence principle evokes Harris's question (1985:48) 'What is society's obligation to care for and protect its citizens?' As noted earlier, Beauchamp and Childress qualify the obligation of beneficence by weighing benefits against harms, costs and burdens. At a societal level, can those benefits, burdens, costs and harms be fed into a cost-

<sup>8</sup> A leaked government document prompted the response that "Doctors' leaders have strongly denied that the financial costs of caring for coma patients should ever form part of a decision on whether to keep them alive." (Observer, 2005)

effectiveness ratio and justify withholding life-saving treatment on the grounds of cost? If yes, why should these principles logically stop the deliberate ending of a life because it is deemed too expensive?

Could the Statistical Lives paradox prevent progression from withholding treatment to active killing? As discussed earlier, actions such as mass vaccination might be undertaken even if there is a small probability that some, as yet unidentified, individuals will be harmed or even killed by the vaccine. Would a 'mirror' of the 'Rule of Rescue', which prioritises treating an individual in immediate danger over saving unidentified 'statistical' individuals, deem that whilst killing unspecified 'statistical' individuals might be acceptable under certain circumstances, this should not extend to killing an identified individual? However, whilst this argument might be accepted by adherents of the rule of rescue, it would not satisfy the tenets of unconstrained utilitarianism which are used to justify withholding treatment from an identified individual.

Is the distinction between Omission (failure to save life) and Commission (actively ending life) sufficient to prevent the latter? Asking whether it is "worse to kill someone than not to save his life", Glover (1977:92) states that "the 'act and omissions doctrine' claims that, in certain contexts, failure to perform an action, with certain foreseen bad consequences of that failure, is morally less bad than to perform a different action which has the identical foreseen bad consequences". However, Glover (1977:94) continues, we ought to reject this doctrine. After critical examination of some of the reasons why people hold it, which he finds less impressive than appear initially, he argues that the view "that an act and deliberate omission with *identical* consequences [ie with no differences in side effects] can vary in moral value should be rejected". As a consequence, he claims (1977:116) "...the arguments against killing are equally good arguments in favour of saving lives". Turning that around suggests that, if society considers it justifiable to fail to save a life (which could be saved), it might be justifiable to terminate a life, *ceteris paribus*.

Harris also blurs the distinction between act and omission. He discusses (1985:82) Involuntary Euthanasia, which "occurs whenever such a decision [to kill another person] is implemented against the express wishes of the individual..." He goes on to claim that in healthcare "By far the most massive administration of non-voluntary and involuntary euthanasia is or is a result of government policy or action" (Harris, 1985:85), citing "...areas of health care where lack of resources has caused avoidable deaths..." He claims that "thousands ... have died as a direct and avoidable consequence of decisions taken by government about which they are not consulted, and to which they certainly do not consent. This is the real problem of euthanasia..." Elsewhere, Harris (1985:53) sees failing to act as 'commission' "...where we decide not to treat someone knowing that they will die or suffer as a consequence, or decide not to rescue someone knowing that they will die or suffer as a consequence, then their death or suffering is, in either case, a consequence of our decision". Does this blurring of omission and commission suggest that entering that fourth quadrant is possible? Could the pursuit of QALY maximisation lead to killing people judged too expensive to be allowed to live?

### **Impact of Healthcare on Population Health**

Before proceeding further, an apparent paradox arising from using population health-gain maximisation as an objective should be explored. Many authorities assert that (curative/personal) healthcare is not a major determinant of population health status. For example, Evans (1994:4) states that "the availability of such [medical and other health care] services – or their lack – cannot begin to explain observed differences among the health of populations". Reporting from a recent study, Roos *et al* (2006:125) warn that "investments in

health care should never be confused with, or sold as, policies whose primary intent is to improve population health". But, can this be interpreted to mean that healthcare is useless? No, according to Evans (1994:4), who notes that there is "still a very real and important role for medical and other care services in preserving life, relieving suffering, and maintaining or restoring function" and Roos *et al* (2006:108), who add that "it is clear that individual patients benefit greatly from medical interventions". Nevertheless, Roos *et al* (2006:108) report that such benefits "do not seem to be reflected in the benefits that populations receive from health care investments".

Thus we have the paradox. Undoubtedly public health and some preventative interventions can affect the overall health of the population, but the same is not true for curative/personal health services.<sup>9</sup> Thus maximising population health appears an inappropriate objective for such services.

### **Challenges to health gain maximisation**

The classical utilitarian position is not without challenge (see, for example, Oliver 2007). However, as Jonsen (1986:174) notes, appeals to alternative criteria "carry little weight probably because they lack the force of quantification that is the strength of utilitarian arguments". Maynard *et al* (2004) claim that "Society is clearly not concerned only with efficiency and using NHS budgets to maximise improvements in population health." Similar views are found elsewhere. For example, the final report from the Swedish Parliamentary Priorities Commission (1995:107) stated: "It is the Commission's opinion that optimisation of cost-efficiency must be subordinated to the principle of need and solidarity." Surveys which suggest that maximising health gain alone is not widely accepted as the sole objective and there is evidence of a willingness to trade health gain for equity, reinforce this view. Lindholm *et al* (1996) carried out a pilot study of the equity-efficiency trade-off among politicians and found that at least two-thirds were prepared to accept a lower aggregate health gain in exchange for increased equity. Nord *et al* (1995), in a survey of the public in Australia, found little general support for utilitarianism, with results generally in favour of egalitarianism. An official policy document for Scotland talks about the "twin aims of health gain and reduced inequality" (SSS 1999:para 85).

However, even where empirical evidence suggests that maximising health gain is not an important objective, this can be met with disbelief. In response to criticism that the country rankings in the 2000 World Health Report were sensitive to the weights employed, Lauer *et al* (2000) ran sensitivity analyses, allowing countries to 'choose' their weights, which were imputed from each country's current performance. However, in the model which allowed "complete freedom to choose...over one-third of countries (70 of 191) assign[ed] a zero weight to four of the five indicators". This, Lauer *et al* (2004) conclude, "means they assign a low or zero weight to population health, the defining goal of the health system", which they claim "does not have face validity".

Some advocates of QALY maximisation recognise the failure to incorporate equity, but stress the need to trade equity against health gain. For example, Maynard (1996:1499) concedes that society "may be prepared to forgo efficient health gains in order to behave 'fairly'" but adds that if "health gains are to be sacrificed to achieve fairness" both that concept must be defined and the resulting reduction in health-gain monitored. Mooney *et al* (1992:9) stress that those procuring healthcare will need "to form a view about what weight it will attach to equity concerns relative to those of efficiency". Further, WHO (2000:55) claims "a concern for distribution implies a willingness to sacrifice some overall health gains".

<sup>9</sup> The term 'curative/personal health services' is used here to distinguish personal and/or curative (often medical) services from population-based interventions both by healthcare and non-healthcare sectors of the economy.



If equity and maximising health or health gain ( $\text{Max } \Sigma h_i$ ) are to be traded, how could this be done? Should there be equity weights ( $\text{Max } \Sigma e_j h_{ij}$ )? Perhaps equity should be added ( $\text{Max } (\Sigma h_{ij} + e_j)$ ). Possibly any incorporation of equity should be subject to a minimum level of aggregate health or health gain ( $\Sigma h_i$ ) or subject to a minimum level of individual health gain ( $h_i \geq h_{\min}$ ). Clearly this is not unproblematic.

Treating health-gain maximisation as the 'gold-standard' objective, with other objectives being pursued at its expense, is demonstrated elsewhere. Musgrove (1999), in addition to the 'central' cost-effectiveness, identified eight criteria for healthcare, classified into three groups: Efficiency; Equity or Ethical; and Political. However, each of the eight additional criteria is assessed according to its compatibility with cost-effectiveness and, in a proposed decision tree for determining "public resource allocation to health care" (Musgrove, 1999:220), only interventions which pass final filters of 'contributory insurance being appropriate' or 'cost-effectiveness' arrive at the decision "finance publicly".

Such treatment of health-gain maximisation as the 'gold-standard' can lead to playing down the importance of alternative objectives, some of which are explored below.

### **What are or should be the objectives of Health Services?**

#### ***Equity***

Equity is commonly cited and has been discussed above. However, it is important here to distinguish between equality or equity of health (status) and equity in healthcare, as defined above. The former faces the same paradox as health maximisation itself. Roos et al (2006:121) report that their results "suggest that medical care is the wrong policy tool if the objective is to reduce inequalities in the health of a population.", adding that "investments in health care should never be confused with, or sold as, policies whose primary intent is to improve population health or to reduce inequalities in health" (Roos et al, 2006:125).

#### ***Efficiency***

Some commentators add a separate efficiency objective. However, this is not unproblematic and, in any case, some equate health-gain maximisation with efficiency. Further, Reinhardt (1997:17) claims the "relative efficiency of alternative health systems....simply cannot be judged in abstraction from the specific goals that society posits for its health system", returning us to the question of what are those goals or objectives.

#### ***Social Solidarity***

Social solidarity is frequently cited as an objective of healthcare systems. According to Maarse and Paulus (2003:588) "Solidarity commonly refers to a type of social agreement between individuals and groups to share common risks, to take care of each other in times of hardship or illness, and so forth." However, it might be under threat. According to Reinhardt (1997:73) "...the most fundamental question confronting health-policy makers in Canada and in Europe is how long they will be able to hold the nations' health systems to the principle of social solidarity that has hitherto guided these systems. Bluntly put, the question is whether families comfortably ensconced in the upper third of the nation's income distribution will continue to be willing to help finance for families in the lower third quite the luxury and technical sophistication of health care that families in the upper third would like to purchase for themselves. A related question is to what extent chronically healthy people should be made to subsidize chronically sick people."

#### ***Responsiveness***

WHO (2000:22) adds "responsiveness to people's expectations in regard to non-health

matters”, to its primary goal of health systems ‘health’, to reflect “the importance of respecting people's dignity, autonomy and the confidentiality of information”. WHO (2000:24) claims “**responsiveness** [is] intrinsically valuable” but stresses it is not a measure of how the system responds to health needs...but of how the system performs relative to non-health aspects, meeting or not meeting a population’s expectations of how it should be treated by providers of prevention, care or non-personal services (WHO, 2000:31). The importance of responsiveness is echoed by Jacobs et al, (2006:26) who state: “Quite apart from health gain, patients in developed countries are becoming increasingly vocal in demanding that health care should be responsive to concerns over and above the health outcomes resulting from treatments.” They note: “This concern with the 'patient experience' covers issues as diverse as promptness, autonomy, empowerment, privacy and choice” and argue it should be “incorporated into any efficiency analysis”.

### ***Fair Financing***

WHO (2000:22) also add the goal of “fairness in financial contribution”, noting that “because healthcare can be catastrophically costly and the need for it unpredictable, mechanisms for sharing risk and providing financial protection are important”. According to WHO (2000:35) “**Fair financing** in health systems means that the risks each household faces due to the costs of the health system are distributed according to ability to pay rather than to the risk of illness”. WHO further notes that “Paying for health care can be unfair in two different ways. It can expose families to large *unexpected* expenses, that is, costs that could not be foreseen and have to be paid out of pocket at the moment of utilization of services rather than being covered by some kind of prepayment. Or it can impose *regressive* payments, in which those least able to contribute pay proportionately more than the better-off.” The ideal, WHO (2000:36) continues, “is largely to disconnect a household’s financial contribution to the health system from its health risks, and separate it almost entirely from the use of needed services”.

There appear to be two aspects of fair financing. Firstly, insurance against the unexpected (the catastrophic risk), which in effect constitutes cross-subsidy from the healthy to the sick. Secondly, redistribution: “by assuring that each form of prepayment – through taxes of all kinds, social insurance, or voluntary insurance – is progressive or at least neutral with respect to income, being related to capacity to pay rather than to health risk” (WHO, 2000:35) – in effect cross-subsidy from the rich and healthy to the poor and sick or, as Reinhardt (1997:56) puts it, sharing the “fiscal burden of ill-health”.

### ***Risk and Uncertainty***

It was suggested earlier that risk and relative risk are important in determining healthcare priorities. Risk in healthcare is usually considered in respect of financing (as above), with insurance being the classic approach to dealing with uncertainty. But healthcare insurance faces many well-known difficulties, including the fact that actuarially-fair insurance would be risk-related leading to higher premiums for those in poorer health. WHO (2000:4) suggests that whilst health somewhat resembles other forms of human capital, it “differs from them in crucial respects” and, as observed above, “is subject to large and unpredictable risks, which are mostly independent of one another [and] cannot be accumulated as knowledge and skills can”. These features, WHO (2000:4) asserts, “are enough to make health radically unlike all other assets which people insure against loss or damage, and are the reason why health insurance is more complex than any other kind of insurance. If a car worth US\$ 10 000 would cost \$15 000 to repair after an accident, an insurer would only pay \$10 000. The impossibility of replacing the body, and the consequent absence of a market value for it, precludes any such ceiling on health costs”. Clearly there is a contradiction between the objective of 'insuring

against catastrophic financial risk' and denying care because it is (expensive and) not cost-effective (from a population health point of view).

The question of how to deal with risk adequately remains and we should also ask where risk occurs in respect of health and healthcare. The debate on risk often stops at the risk of incurring (catastrophic) healthcare costs, but other risks include loss of income through illness, also often addressed by insurance, and the risk of ill health itself, which raises a multitude of interesting debates outside our scope here.

### ***Security, Trust and Confidence***

It could be argued there is a further aspect of risk – that of healthcare not being there when needed. There appears, however, to be relatively little explicit focus on this aspect. Some notable exceptions include the Irish Department of Health and Children (2001:8), which sets out its Vision of “A health system that is there when you need it, that is fair, and that you can trust”, Zaleski (2006) in Poland reporting among goals for 2010 “Patients recover trust in PHCS<sup>10</sup> and feeling of safety”, and Goold (1998:688) who suggests that, whilst “the object of trust...[between patients and health plans]...may include health and well-being [it] will be heavily weighted toward “being there” in the event of a catastrophic event...” Oliver (2007:102) also addresses the issue of ‘security’, both in terms of healthcare coverage generally and in suggesting that most people would prefer to prioritise a new treatment for a currently untreatable disease over a new treatment for another disease for which treatment already exists, even though the former is less cost-effective, “in order to provide the security of knowing that some form of public sector intervention will be provided if one were to suffer from either of these conditions”.

Mechanic (1998:662) defines trust as “the expectation that individuals and institutions will meet their responsibilities to us”. Much of the literature on trust in healthcare concerns the patient-doctor relationship. However, healthcare policies and organisation are affecting that relationship. Mechanic (1996) argues that in US managed care, such trust is challenged by the “growth of for-profit medicine”. As “provider organisations seek to become more efficient and to reduce expenditures, they introduce incentives that make professional rewards dependent on withholding care” (Mechanic, 1996:178) and “When significant proportions of the individual doctor's income depend on meeting goals of reduced utilization”, the credibility of the doctor's role as the patient's agent is threatened (p.179).

There is evidence that overall trust in publicly-mandated systems is also under threat. Van der Schee et al (2007:57) suggest that the “health care system supposedly influences public trust in two ways: through institutional guarantees and through the actual availability of good quality health care”. However, in their study in Germany, the Netherlands and the UK, they found that the level of trust/confidence<sup>11</sup> in “Macro level policies” (ie those relating to restricted supply of healthcare facilities, long waiting lists and other forms of rationing) was rated, on average, far lower than the level of trust/confidence in any other aspect (relating mainly to individual providers).

Of course, there are a number of reasons why healthcare might not be there when needed. Firstly, finance could be available but the needed care is not available or is difficult to access, including difficulties arising from too much choice (Edwards, 2005), especially when the sick have to take responsibility for securing care, rather than being provided with ‘care-in-kind’. Secondly, no finance is available to pay for needed care. This could arise from inability to pay, ‘insurance’ failure, the care being considered too low a priority, not being cost-effective

<sup>10</sup> Public Health Care System

<sup>11</sup> As the authors explain in some detail, there were difficulties over appropriate translations of terminology. Consequently, “in this study we use 'confidence' as an equivalent of trust” (van der Schee et al 2007:64)

even if clinically efficacious, or being outside the health scheme. Thirdly, there might be differential availability of needed care geographically, even within a single healthcare system, arising from inequitable distribution of physical resources or geographical variations in finance and priorities. According to O'Neill (2002:15) "in the UK mistrust is said to have been caused....by worries created by geographically erratic availability for certain forms of medical treatment...."

The requirement for trust, confidence and security that healthcare will be there when needed appears often ignored. Clearly it is partly addressed by the insurance aspect of 'Fair Financing' to deal with catastrophic risks, but the trust aspect is often not articulated clearly. 'Responsiveness' is "not a measure of how the system responds to health needs" (WHO 2000), and so does not embrace the need for trust and security. Thus trust, confidence and security that health services will be there when needed can be added as a separate objective. Again, there is a clear contradiction between this and a policy denying care because it is (expensive and) not cost-effective (from a population health point of view).

This contradiction can be illustrated by the case of a hypothetical fatal disease which is totally curable at a cost of £1,000,000 per victim. The probability of contracting this disease in any year is 1 in 1,000,000 and thus each member of the population pays £1 per year into a 'pool' (insurance). When someone else gets the disease, would/should the reaction be to deny that person treatment because it is not cost-effective (there is not sufficient health gain for the £1,000,000), or would/should it be to say 'I'm glad it wasn't me, but I am happy the sufferer has been treated and I am happy to have the security of knowing that had it been me I would have been treated'?

But does this mean there should be a right to healthcare? Whilst O'Neill (2002:150) would argue no, she does state that "it is not unreasonable to think that rich and technically advanced societies can and ought to construct institutions that do a lot to reduce premature mortality, to compensate for many of the effects of injury and disability and to meet many basic needs, and that support for effective institutions with these aims is required of all".

### **A possible 'Objective Set' for personal/curative health services?**

From the arguments above, a tentative 'objective set' for healthcare services can be proposed, which includes the following:

- to relieve suffering and promote health and security of individuals (ih);
- to minimize (catastrophic) risk (mr);
- to promote trust and provide security and certainty healthcare will be there when needed (tsc);
- to ensure equity and fairness in access to healthcare (ef); and
- to be responsive as defined by the WHO (cr).

Although most of these appear somewhere in many listings of objectives of health services, 'trust, security and certainty' appear vastly under-emphasised in the literature and debates.

Can or should these five categories/objectives be combined into a single objective function, possibly with the form:  $\text{Max } f(\text{ih, mr, tsc, ef, cr})$

If yes, appropriate measures and indices are needed. Clearly developing such measures and indices would be difficult, if not impossible, with the last possibly being the easiest. There is also the question of the appropriate functional form, which could surpass in difficulty problems surrounding functional forms for prioritisation formulae (Mullen, 2003:2004b). In addition, the list is extremely unlikely to be exhaustive, resulting in zero 'weighting' of excluded objectives. There is also a severe danger of being pseudo-scientific and pseudo-

objective. Quantification and numbers are compelling and have power to mislead. Thus, it might be safer not to attempt to quantify the elements, still less to combine them, but rather to retain them as a conceptual ‘objective set’ – but would that help health economics?

However, there do appear to be two very clear implications. QALY maximisation should probably be excluded, not only as the primary or sole objective, but also even as an objective for determining policies and priorities, apart from the specific case of choosing between alternative treatments for the same group. Secondly, if it is retained, using it as the ‘Gold Standard’ and trading other objectives against it, for example, asking how much health gain should be sacrificed in favour of equity, should be avoided.

## Conclusions

Does quantitative analysis make entering that fourth quadrant any more likely? Is not the problem just one of deciding, “Who shall live when not everyone can live” (Beauchamp & Childress 2001:252)? with different ethical approaches having different outcomes and possibly different implications. Or do quantitative approaches (specifically utilitarian maximising health gain) bring a new dimension? There appears to be a real danger that substituting a whole range of ethical considerations by the single ethical approach of utilitarianism, could lead apparently logically to killing those whose lives cost too much per QALY.

This, coupled with the fact that curative/personal services have little effect on population health, suggests that maximising population health, despite its many attractions (not least, being deemed measurable), does not appear appropriate as an, let alone the sole or principal, objective of curative/personal health services.

So, what are or should be the objectives of healthcare systems? The ‘Objective Set’ tentatively proposed here, not only covers the more commonly mentioned objectives of equity, fairness, promoting individual health, minimising (the effects of) catastrophic risk and responsiveness, but also stresses the important, but often ignored, objective of trust, confidence and security that health services will be there when needed.

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