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**VALUING THE BENEFITS AND COSTS OF HEALTH CARE PROGRAMMES:
WHERE'S THE 'EXTRA' IN EXTRA-WELFARISM?**

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Introduction

Within the field of health economics, economic evaluation has been defined as a method of “ . . . ensuring that the value of what is gained from an activity outweighs the value of what is sacrificed”¹ and hence incorporates both technical and value judgements². A considerable health economics literature has developed on alternative approaches to measuring the values of health care interventions that covers, *inter alia*, quality adjusted life years (QALYs), healthy years equivalents (HYE) and willingness to pay (WTP)³⁻⁶. The WTP approach is derived directly from welfare economic (WE) theory and hence is generally recognized to be conceptually appropriate for establishing individuals’ values from a welfarist perspective. However, there is continuing concern among some health economists about the appropriateness of the WE framework for analyzing alternative choices as they pertain to health⁷⁻¹⁴. As Weinstein and Manning¹⁵ note

“Extra-welfarists, and many decision-makers in the real world of health care, are more willing to accept an approach that considers outcomes equitably (as CEA using QALYs does), rather than to accept an approach in which choices are heavily influenced by ability to pay.” (p127)

These concerns have led in recent years to the development of an extra-welfarist (EW) framework in considering alternative approaches to the valuation of health care interventions and hence to the choice of method of economic evaluation^{7,8}. Similar to Sen’s EW framework¹⁶, social welfare depends on certain ‘characteristics’ of individuals. Where this framework is applied to health, evaluations of alternative health care interventions seek to assess the impact of each intervention on these particular characteristics.

In this paper we critically appraise the conceptual and empirical bases of the current applications of EW approaches to the economic evaluation of health care. We note that these applications go beyond the rejection of the WE approach and involve a departure from the notion of opportunity cost on which the economics discipline depends. In the next section we describe the rationale presented for the adoption of an EW framework in health. In section 3, we show how EW approaches in health invoke WE arguments to justify the importance of characteristics as a social welfare concept. We argue that a WE approach is sensitive to the levels of characteristics of individuals, and that failure to consider characteristics in the context of a WE approach risks overlooking the opportunity costs of decisions. Section 4 focuses attention on the empirical basis of EW approaches in health. We show that measurement of value under EW approaches in health rests on individuals’ marginal rates of substitution - a distinctively WE approach. In addition, aggregation of values under these approaches invoke the principles of utilitarianism and the compensation principle which represent special cases of the WE model. Section 5 considers a recent critique of both WE and EW approaches. The substance of this critique is shown to rest on limited applications of the WE framework as opposed to limitations in the framework itself. In the final section we argue that the concerns of proponents of EW approaches to health, as well as other critics of the WE approach, can be accommodated within a traditional WE framework in ways that respect the preferences of individuals and incorporate the economic concept of opportunity cost.

The conceptual basis of extra-welfarism

According to Culyer⁸, a WE approach to resource allocation in health care is inadequate as a method of analysing social welfare because, under the WE approach,

- 1) social welfare is a function of individual utilities, and
- 2) individual utilities are a function of the commodities (i.e., goods and services) consumed by the those individuals.

The EW approach to health involves relaxing these assumptions by allowing non-goods characteristics to be an important class of social welfare. According to Hurley¹⁴, the EW approach in health involves four steps: definition of a set of relevant characteristics of people; measurement of the level of deprivation among people with respect to those characteristics; assessment of the need for commodities to remove or reduce those levels of deprivation; comparison of alternative allocations based on the expected level of reduction in deprivation.

Separate ‘schools’ of thought have emerged among proponents of EW in health concerning the nature of relevant characteristics. Culyer argues that there are characteristics of people which are of inherent value *per se*⁸, while Culyer and Evans suggest that policies be evaluated based on the values that those responsible for policy attach to the characteristics of individuals⁹. In contrast, Mooney¹⁰⁻¹² adopts a ‘communitarian’ approach with the ‘community’ deciding what is important. Nevertheless both ‘schools’ share some common features - in particular:

a) *an individual’s utility function, being based on the utility that individual derives from ‘commodities’ does not, and, more importantly, cannot incorporate all elements relevant to the measurement of social welfare.* For example Culyer⁸ argues that

“Whereas welfarism holds that standards of living , efficiency of social arrangements and justice of distributions . . . are all to be evaluated in terms of individuals’ utilities, an extra-welfarist approach admits non-utility information about individuals into the process of comparing social states” (p89)

He goes on to use the example of a cripple who, he argues has “. . .special needs independent of his/her total or marginal utility”(ibid). In a similar way Mooney¹⁰ suggests that some individuals may not manage to desire adequately. He goes on to argue that the strength of a claim on resources is to be determined by the duty owed by society to the individual harmed, not by the bad feelings caused by the harm. In other words, individuals’ feelings about a how a particular use of resources might affect themselves are insufficient.

b) *instead, social welfare is determined by characteristics of people, with these non-utility elements not necessarily replacing measures of individuals' utilities but, rather, being seen as additional to those measures.* Culyer⁸ argues that the consideration of the characteristics of people under an EW approach “ . . . admits non-utility information about individuals into the process of comparing social states” (p89) which elsewhere⁷ he justifies on the basis of utility being “. . . concerned too much with mental and emotional responses, to commodities and characteristics of commodities, and not enough on what they enable you to do” (p. 15)⁷. However, according to Culyer⁸ “. . . this does not imply the complete ousting of ‘welfare’ with its usual normative connotations, but the use of both sets of ‘data’ to evaluate alternatives.” (p91). Similarly, Mooney argues that the problem with the WE approach is one of omission not commission and that external judgements about characteristics can replace or supplement utility-based measures of valuation¹¹. In this way, allocations of scarce resources for health are to be based on information about the key characteristics of individuals, which may or may not include information on individuals' utilities. Thus, the method used for the valuation of (or measurement of social welfare associated with) health care commodities (e.g., a particular health care intervention) must accommodate the effect of the commodity on these characteristics. Opportunity cost remains important, since there is still the notion that resources should not be wasted and, hence, these resources should be used in ways that maximise something, with the characteristic of ‘health’ being suggested as a possible maximand⁸.

A WE appraisal of the application of extra-welfarism in health

Characteristics and social welfare

Under EW in health, individuals' utilities are insufficient as a basis for measuring social welfare. However, the particular characteristics to be used in preference (or in addition) to utilities, and the way the information is to be considered alongside information on utilities remain unclear. Under a ‘decision-makers’ approach to economic evaluation¹⁷ the elements of the social welfare function as well as the weights attached to each element within the function are determined by decision-makers. Culyer and Evans⁹ are more prescriptive arguing that

“Normatively states of the world are judged to be better (*ceteris paribus*) when people are healthier than when they are not. Consequently effective health care is better than ineffective health care, where effectiveness is defined in terms of the impact of resources on health” (p247).

Elsewhere the normative importance of health as the focus of attention is justified on the basis of individuals' utilities. For example Evans argues¹⁸ that “It is health, as a status, rather than health care as a commodity, which is of value to its users” (p5) and that there is “. . . direct evidence (apart from introspection!) that health care *per se* . . . is not a direct (positive) argument in the utility function of the normal consumer”(p482)¹⁹. In other words, by reference to the utility function, a WE perspective is invoked to justify an EW approach in health and the adoption of health as the maximand. It is worth noting that the adoption of this maximand contrasts with Evans' earlier work with Williamson²⁰ on funding dental care, in which they argue that

“From a dentist’s point of view a patient is healthier with a full complement of natural teeth than with full dentures. The patient probably also prefers the former condition, but . . . optimal dental health is much more expensive than edentulousness, and it may be quite rational for an individual, *knowing the consequences*, to choose the latter state. . . A dentist may deplore the choice of poor dental health; but it is not clear that the government should compel the individual to choose good dental health - if the individual is in fact reasonably informed of the consequences of the choice. Yet justification of a public dental insurance plan on the grounds of encouraging dental care utilization amounts to just that - compelling patients to pay for additional care through taxes which in their private lives they have chosen not to purchase” (p 125).

In this case, the authors argue that the characteristic ‘health’ matters only in so far as it affects the individual’s (or patient’s) utility - a distinctively WE perspective. An EW perspective in which health is the maximand is, in contrast, seen as being flawed as a basis for determining the appropriate policy on dental care funding.

Three important elements of the EW approach are worth noting. First, whether one accepts Evans’ earlier WE argument or the more recent EW position, the underlying justification remains based on WE notions - in both cases it is what is in the individual’s utility function that matters.

Second, the normative position adopted by Culyer and Evans⁹ is likely to represent an empty box from an empirical perspective given the *ceteris paribus* conditions imposed. If health enters individuals’ utility functions in the way implied by these authors, individuals would unambiguously have greater utility under states of the world in which they are healthier than states of the world where they are less healthy *ceteris paribus*. One does not need an EW framework to support this position. However, it does seem that the normative basis for the EW argument presented by Culyer and Evans has to invoke a claim that the difference in individuals’ utilities emerging from that difference in health are, in some sense, ‘wrong’, i.e., individuals are not ‘desiring’ or valuing that difference in health ‘sufficiently’ or to the extent that an EW approach considers they should.

Third, interesting issues emerge where the *ceteris paribus* conditions are relaxed to consider the more realistic scenarios of alternative states of the world which differ **not only** in health. For example, the implementation of an ‘effective’ health care intervention affects not only the health of (some of) those individuals receiving the intervention but also affects non-health aspects of the individuals’ well being which might range from individually-focussed ‘commodities’ such as the lifestyle factors that are ‘given up’, to broader community-level phenomena such as the distributions of health and income in the community. It is not clear that anyone would necessarily prefer a state of the world where some people are healthier over one where they are less healthy without considering also the ways these other ‘characteristics’ differ between the two states of the world. Individuals may have good reason for not preferring ‘healthy’ options or supporting health-enhancing policies - the opportunity costs imply they are not in the individuals’ best interests^{21,22}. Under the EW approach, no consideration is given to the individual’s utility of the forgone alternatives even though this represents the opportunity cost of

such policies to the individual. In this way, individuals' own choices, even where these choices are an accurate representation of the individuals' utility-maximising positions (or best interests), can be violated in the interests of maximising health or some other EW measure of social (or extra-) welfare.

The extent to which non-health consequences or opportunity costs are 'considered' in an EW approach would seem to be determined by the extent to which the EW analyst, not the individuals, consider them to be important. So, for example, an EW approach might consider a situation where a proportion of the population continue to smoke, even though they understand that their behaviour represents an increase in risk of morbidity and mortality, as sub-optimal because the individuals' decisions about smoking are based on all elements of the individuals' utility functions, not just health. Under a WE perspective, policies concerned with smoking might look to find ways of making it in the individual's own interests to stop smoking, thus aligning individual and broader social objectives (e.g., those of some higher level policy elite). In this way, the objectives of the policy makers become social welfare objectives because the interests of individuals are key elements in understanding the cause of the current state of the world and planning interventions to move to a different state of the world. Because an EW approach rejects the notion of social welfare being based on the utilities of individuals, there is less motivation to consider smoking from the individual's perspective. What matters is they smoke, not why they find smoking to be in their own best interests. This rejection of individual utilities as the basis for social welfare judgements is not merely a rejection of the WE framework. By over-riding individuals' considerations of the opportunity costs of health it represents a rejection of basic foundations of the economics discipline. If health is to be the maximand and nothing else matters then the economics of health becomes indistinguishable from social and clinical epidemiology.

Determining what matters

We showed above that, under EW in health, the relevant characteristics for assessing social welfare are determined in accordance with a WE approach, i.e., health is a key characteristic because it is a direct argument in the **individual's** utility function. What matters is not what is produced by the intervention but whether **the individual** values what is produced. However, WE approaches are not confined to measuring individuals' values of the quantity of health improvement. Instead individuals' preferences among alternative programmes have been found to be sensitive to, *inter alia*, the *ex ante* levels of health²³⁻²⁶ and the processes used to deliver services^{27,28}. If the relevant set of characteristics are to be determined under a WE framework (i.e., justified on the basis of what is in the utility function) this implies that health improvement is merely one possible candidate for that set. Interestingly, Culyer⁸ notes that

“It seems unlikely that any extra-welfarist would assign zero weights to such factors as consumer choice, privacy, speed of service, hospital hotel service, and other factors that may be only remotely causally linked to health.” (p96)

In other words, the range of things that matter in determining claims to resources need not be confined to a single or small number of characteristics. But, the identification of what is to

count, as well as how it is to count, appears in Culyer's view to be determined not by individuals as incorporated in their utility functions, but, once again by the (preferences of the) analyst (i.e. the "extra-welfarist"). Elsewhere Culyer and Evans⁹ dismiss the preferences of economists as being of any particular importance in determining the criteria for measuring social welfare. Likewise, in his critique the WE approach, Rice¹³ argues that individuals need to be protected from their own foolishness (as defined, presumably, by someone who knows better), and hence cannot be left to make their own choices. But he also argues that individual utility may be greater where the individual's bundle of commodities results from the individual's own choices as opposed to where that same bundle is imposed on him by someone else.

Mooney¹¹ sees the effects on health, as opposed to the effects on individuals' utilities associated with any effects on health, as being the key characteristic to be measured for justifying allocations of scarce resources to health care. In other words the social welfare of increasing the health care budget is assessed in accordance with the anticipated health impacts of that budget. This begs the question of how choices between allocating resources to health care and to other activities can be compared - something which is normally accommodated within a WE framework. Is the opportunity cost of these budget changes confined to the forgone health effects of using the same resources in other activities? If not what will be the basis for comparing the social welfare of health care allocations with those for better education, better housing, improved public protection or increased private incomes?

In contrast, Mooney argues that health is not an adequate basis for deciding what to do with those funds (i.e., allocating resources **within** health care). Instead, characteristics such as the extent of self-induction of disease and the perceived social responsibility for disease are suggested as possible criteria for consideration in judging the strength of claims for scarce health care resources within a population¹⁰. This does not necessarily imply that health outcomes are unimportant, but that the social welfare associated with those outcomes is to be influenced by the social context of those outcomes.

Unlike Culyer, Mooney does not invoke WE justifications of the choice of characteristics for consideration. However, this distinction may be less real than apparent. For example, Mooney argues¹⁰ that communities would be asked what they want and whether, if there are diversities in individual preferences within communities, these differences are to count or not. In other words, community preferences would determine what counts presumably in a way which seeks to identify that state of the world under which community satisfaction is greatest. Neither the presence of sickness, the ability of health care to alleviate that sickness, nor the desire of the individual to be relieved from that sickness represents a sufficient claim. Instead the relevant consideration is whether the community considers it has a duty to that individual given the characteristics of the individual (e.g., extent of self induction, perceived social responsibility etc).

Elsewhere, Mooney¹¹ recognises that this approach involves risks to the well-being of population sub-groups within communities where communities are "wicked such as the community that was Nazi Germany". But he argues that the probability of a community being wicked would seem to

be less in a communitarian community and with respect to health and health care. This seems to imply that, in some sense, communitarian communities are by definition non-wicked and hence can be trusted to respect the interests of all members of the population. However by rejecting a WE approach, it is not clear how these interests would be accommodated. The ‘community’ would in some way determine what these interests are, independent of the sub-groups’ own utilities, based on the notion that the sub-groups are unable to desire whatever the ‘community’ believe they should desire. How does one decide whether a community is communitarian? Moreover, what approach to evaluation is to be used if a population is not (sufficiently) communitarian? Would a communitarian approach be appropriate for the population of Northern Ireland with its unbalanced sectarian division or for Canada with its substantial Francophone minority? Presumably these and other minorities could claim that they have special needs independent of the wishes of the greater community, or that the larger community does not manage to desire minority rights adequately. In other words, EW (or communitarian) arguments could be invoked to argue for something beyond extra-welfarism in health.

Unlike Culyer and other proponents of an EW framework in health, it seems that Mooney’s underlying concern is less with what is to count as social welfare in health care evaluations and more with how the utilities of different groups are to be weighted in assessing social welfare. Some individuals’ utilities will be weighted less than others because of their inability to desire particular ‘inputs’ to social welfare as much (or as little) as the community believes appropriate.

From concept to practice: the empirical basis of the EW framework in health

The EW proponents’ discomfort with the WE framework is perpetuated by the empirical problems encountered in measuring individuals’ utilities and aggregating utilities across individuals in order to compare states of the world. Strictly speaking, the aggregation problem is not a problem of the WE approach *per se*, but reflects the sum ranking assumption adopted in a *utilitarian* approach to measuring social welfare. As we show below, however, the EW approach in health faces the same underlying problems.

Methods of measurement

The WTP approach is based on WE theory and the economic concept of opportunity cost. It sets out to measure the maximum amount an individual is willing to forgo in return for the intervention under consideration. However, what has to be forgone at the margin, in order to be willing to pay a certain amount of money will depend, *inter alia*, on the level of wealth or ability to pay (ATP). Hence WTP will be greater among wealthier populations than among less wealthy populations *ceteris paribus*. Differences in WTP for an intervention may therefore represent differences in preferences for the intervention, differences in ATP or a combination of the two.

The EW approach introduces a non-utility view of quality of life defined in terms of relevant characteristics. Nevertheless, the approach still requires an index of measurement for combining these characteristics into a single unit. For example, Culyer⁸ proposes use of QALYs as a measure of the characteristic health. Several different approaches have been developed and used for measuring QALYs. A feature common to each approach is the use of the preferences of individuals in some form or another (e.g., time trade-off, standard gamble) to produce the QALY

measure. Hence, as Culyer notes, the EW approach uses utility theory to derive measures of characteristics. It invokes the notion of individuals being the best judge of their own welfare, with individuals' valuations being determined by the maximum sacrifice they are prepared to make, which, in turn, will depend on their ability to make sacrifices, at least as far as the 'weights' to be used in combining the different dimensions of health into the measurement of QALYs are concerned. But this is inconsistent with the EW approach in health which is based on concerns such as the 'special needs' of the cripple and the inability to desire adequately of some groups in the population. Suppose cripples systematically weight vision greater than mobility in a particular health measurement. Would EW proponents interpret this as an inability to desire mobility on the part of cripples and exclude these (or other) groups from the determination of the utility-based 'weights'? How would one determine whether a particular group is 'able to desire' and hence is eligible for inclusion in a survey sample? If eligibility requires desiring at a rate acceptable to the EW analyst do we need to bother measuring the values of individuals at all? In other words, any limitations associated with the use of individual utilities as a basis for social welfare measurement would seem to have implications for using individuals' utilities as a basis for determining the weights used for EW measures of social welfare.

Methods of aggregation

Once the relative values of the appropriate characteristics have been determined, for example in the form of a QALY measure, the EW approach involves 'scoring' each individual's QALYs and aggregating over all individuals. In this sense, there is an underlying assumption that the QALY represents a unit of health that is of equal value to society no matter who gets it. However, Culyer⁸ notes that, from an EW perspective, distributive value judgements could be incorporated into the analysis by weighting QALYs for different individuals or groups. In this case the weights applied to different dimensions of health are deemed to be acceptable but the 'health outcomes' measured by the application of these weights are deemed to generate more social welfare when they accrue to some population groups than when they accrue to others. Nevertheless, the EW approach involves a 'maximisation principle' with the summation of QALYs, whether weighted equally or in accordance with some other distributional considerations, being the basis of comparison between alternatives.

In many ways this maximisation principle corresponds to a welfarist approach in which what matters is total utility over all individuals - better known as utilitarianism. Moreover, concerns with distributional issues have led analysts to incorporate distributional weights into the aggregation of individual-based utility measures such as WTP²⁹ with the intention of maximising (total) weighted utility. But utilitarianism is just one special case of the WE approach and one that is inconsistent with the more general Pareto WE approach. Under the Pareto WE approach, interpersonal comparisons of utilities are not permitted in measuring social welfare. Hence the application of the utilitarian 'maximisation principle', whether based on utilities that are weighted equally or otherwise, is a violation of the Pareto WE approach. Instead, what counts is whether at least one individual is better off, in terms of the individual's utility, without any other individual being worse off, in terms of their utilities - an analytical strategy which involves no interpersonal comparisons. As a consequence, the EW approach in health invokes comparisons

between individuals, albeit from the perspective of the ‘decision-maker’ (whoever that may be), in a way that the Pareto WE approach avoids.

Under the maximisation principle, some individuals might be ‘worse-off’, but that does not matter. Instead EW and utilitarian approaches are concerned with total QALYs or utilities respectively, whether those measures be weighted equally or otherwise. A non-Paretian WE approach might also pursue the maximisation of utility aggregated over individuals based on the notion of the compensation principle³⁰. In particular, if total utility gained under programme A is greater than under programme B, then those who gain from A being implemented instead of B can compensate in full those who lose from A being implemented and still remain better off in terms of their individual utilities. In this sense, there is the potential for at least some individuals to have more utility while no individuals need to be left with less utility. However, to deem A better than B in terms of social welfare remains problematic because the compensation principle is concerned only with the *potential* for losers to be made no worse off. The empirical limitations of this approach are well illustrated in Reinhardt’s famous ‘punch in the nose’ example³¹. Under the compensation principle, me punching you on the nose represents an improvement in social welfare provided the utility I gain from punching you exceeds the utility you lose from being punched. Presumably not only proponents of EW in health find this example an unsatisfactory outcome of the application of the compensation principle.

But the normative basis of the EW approach in health is based on the same notion of potential compensation, albeit implicitly. The impact on total QALYs is used as a summary measure for the value of an intervention and as a basis of comparison between alternative resource allocations. Hence, in so far as a change does not lead to an unambiguous improvement in relevant characteristics (or QALYs) for all, we need to know if the QALYs gained exceed the QALYs lost. Me punching you on the nose might relieve my stress but increase your pain. Provided the QALYs gained from my stress relief exceed the QALYs lost by your pain the EW approach is left with Reinhardt’s ‘folly’. Proponents of the EW approach in health^{13,32} as well as others¹⁴ have exposed the limitation of the compensation principle without recognising the dependence of an EW perspective on the notions of interpersonal comparisons between characteristics of different individuals and social welfare depending upon the net effect of ‘winners’ and ‘losers’.

At a practical level, the monetary basis of the WTP measure used under a WE approach provides a mechanism by which compensation **can** occur. Under the EW in health approach this is not possible because the relevant characteristic by which states of the world are measured and compared, health (or QALYs), is not tradeable between individuals. I cannot transfer some of my stress relief to you in order to compensate your health for the pain from my punch. Compensation could occur through other means, such as money transfers. But under the EW approach, the adequacy of any transfers would be measured in relation to the health effects of those transfers, not my satisfaction with the amount transferred. In other words, compensation requires that I forgo money in a way that reduces some aspect of my **health**, but leaves me with a net health improvement, and that this money is used by you to produce additional **health** to leave

you with no net health deficit. By comparison, paying you money for the reduction in **utility** from the nose punch would appear to be straightforward¹.

It is important to emphasize that the WE approach is not necessarily dependent on either the maximisation principle (a feature of utilitarianism) or the compensation principle (a feature of the potential Pareto improvement criterion). These two approaches represent special cases of the more general WE approach. As such the EW-based approach might be more appropriately termed extra-utilitarianism, although, as we have shown above, it might be difficult to justify even this narrower title. The 'extra' in the current application of an EW approach in health would seem to be explained only by the list of additional assumptions that are required compared to a general WE approach.

Beyond extra welfarism in health

So far we have argued that the EW approach in health, far from offering anything extra to the WE approach, depends on several aspects of welfarism, some of which represent special cases within the broad WE framework. The usefulness of both WE and EW approaches has been challenged based on features that are shared by both¹⁴. The particular features of concern are consequentialism, uni-dimensionality and the failure to accommodate issues of justice. In this section we consider the extent to which such arguments are valid criticisms of the WE framework (Culyer has explored the validity of these challenges from an EW perspective elsewhere³²).

Welfare economics and non-consequential considerations

Hurley¹⁴ argues that under the WE framework an intervention can have only instrumental value for achieving a predetermined outcome. Hence WE approaches ignore matters of process and issues of duty or fairness. However the concepts of caring externalities³³ and utility from processes of care³⁴ represent ways of accommodating these considerations within the WE framework. For example, WTP was used to measure individuals' preferences for different processes used for health screening³⁵. Birch *et al.*²⁸ measured individuals' valuations for alternative methods for the restoration of carious teeth in children. In both cases individuals' willingness to trade off particular commodities (years at end of life in TTO, probability of survival in SG and wealth in WTP) in return for some other non-health 'commodity' were measured. In principle, therefore, the range of attributes to be considered is not limited by the measurement method. The preferences of the analyst may be implicit in the selection of the particular attributes included in the measurement scenarios. Whether individuals are confined to considering only these attributes, or whether they also consider other attributes (e.g., income consequences) remains a matter of much debate.

¹Of course, if all we ask of individuals is limited to the monetary compensation for being punched in the nose, the utilitarian approach and, as we have shown, the EW framework as well, will provide the ludicrous implications identified by Reinhardt (if you ask a silly question don't be surprised to get a silly answer). A more appropriate way of solving the problem might be to understand the nature of the benefit I get from punching you on the nose - maybe you interfered with my children - and to ask individuals about their WTP for a system of public order and protection which makes it illegal to interfere with children or to punch people on the nose. These 'upstream' issues seem to have been overlooked in the 'punch in the nose' example.

Although the concept of process utility has generally been confined to the delivery of services to date, there is no reason why this could not be extended to include the processes that determine the distribution of access to services within the WE framework. As Culyer³² notes

“Processes are also the consequences of decisions . . . and any that might affect welfare ought to command the attention of true Paretians.” (p. 368)

Recognition of the importance of process introduces the possibility that the value of the non health-enhancing (or non-consequentialist) aspects of the intervention, *e.g.*, amenities such as private accommodation and gourmet catering etc., may, at the margin, exceed the value of health improvements. This may not fit comfortably with an analyst, manager or even taxpayer, primarily concerned with the protection, promotion or restoration of health. Maybe this lies behind Hurley’s argument¹⁴ that the WE approach accommodates concerns about processes “. . . only to the extent that they impinge on utility”(p381). Where the individual’s utility function incorporates issues of process and distribution, what other concerns are there? It may be that analysts feel these matters are not ‘desired enough’ by individuals. But then we are back in the territory of the analysts’ preferences, or the weights given to different characteristics of decisions, being superior in some way to those of individuals.

The undue focus on consequences, Hurley argues, engenders an overemphasis of efficiency compared to equity. However efficiency and equity are not separable, competing elements^{19,36-38}. Efficiency is defined in relation to some, often implicit, equity statement. In so far as equity objectives are identified and specified, then an intervention that fails to reflect these concerns would, by definition, be inefficient. Any overemphasis of efficiency arises not from limitations in the capacity of the WE framework, but from the choices of the analyst. Research that explores preferences for programmes that redistribute health, or access to health care services, and willingness to forgo other commodities for these programmes²³⁻²⁶ represents an important contribution to dealing with these important issues under a WE framework, not evidence of the inadequacy of that framework.

Welfare economics and multiple objectives

Hurley¹⁴ claims that because both WE and EW frameworks are unidimensional (*i.e.*, concerned about only utility and health respectively) neither can give a complete and consistent set of rankings of interventions. He acknowledges that the welfarist approach is conceptually more conducive to accommodating multiple dimensions through the incorporation of arguments in the utility function. However, he argues that, empirically, this presents major problems where traditional methods of valuation such as WTP distort the valuation of some dimensions while ignoring other dimensions completely. We assume that the distortions in question pertain to the influence of individuals’ ability to pay on their WTP. However the distribution problem is not unique to WTP but affects many other methods of valuation³⁹. Researchers continue to explore ways in which the problem can be accommodated in order to avoid or reduce the impact of the problem⁴⁰. WTP can be used to measure and compare an individual’s preferences among alternative interventions within the context of prevailing distributions of wealth. Similarly the WTP question can be designed to meet the requirements of the problem facing decision-makers.

For example, where interventions are financed by prepayment or through taxation, WTP questions can be adopted that ask about willingness to pay additional prepayments or taxes⁴¹. The constraint lies not in the capacity of the WE framework, but in its empirical application.

Aggregation remains a problem, however. Although multiple objectives may be accommodated within an individual's utility function, as Hurley notes, comparison **between individuals** of those multiple objectives requires inter-personal comparisons of utility - for which there is no basis in Paretian WE theory. However, neither the Paretian WE model, nor the compensation principle require interpersonal comparisons. Under the former, social welfare is unambiguously improved only where at least one person's utility is increased while no other individual's utility is reduced - there is no attempt to compare utilities **between** individuals. Similarly, the compensation principle is based on **intra**-personal comparisons of utility only - the minimum compensation it would take to make sure the loser is no worse off (i.e., a net reduction in his or her utility) and whether payment of this compensation would leave the gainer better off (i.e., a net increase in his/her utility). There is no comparison of the levels or changes in utility of the two individuals.

A major contribution of the compensation principle is to identify the distribution of gains and losses expected or resulting from a policy or intervention and to enable analysts to examine whether the redistribution inherent in the policy systematically favours particular groups in society. Use of the principle is essentially concerned with contributing information to a decision-making process as opposed to replacing that process^{17,42}. But this is presented as a further limitation of the WE approach and further evidence of the problem of unidimensionality. For example, Hurley¹⁴ argues that

“It is not clear why an entire analysis should be structured to produce a single number which, in the end, is of only limited value as an aid to decision making.”

The notion of a 'basket of goods' approach has been presented as a practical way of dealing with the evaluation of different dimensions of outcomes⁴³. However this still requires that a decision-making process invokes some method of comparative valuation of the alternative 'baskets of goods'. Decision-makers might not choose to base that decision on individuals' values of those baskets. But how individuals feel about the 'baskets of goods' would seem to be an important consideration for decision-makers in considering the full implications of their decisions (*e.g.*, patient compliance with health care interventions and the public's acceptance of publicly-funded programmes). To ignore such information would seem to imply that decision-makers do not care about individuals' utility because they do not think it affects the implementation of the proposed programme.

It is important that political considerations of 'whose values count' be separated from the WE considerations of what those values are. It may be that some of the dissatisfaction among EW proponents and others is generated by opinions about the former as opposed to limitations of the measurement of the latter.

Welfare economics and justice

Hurley's third concern is that neither WE nor EW approaches adequately accommodate concerns about justice in either outcomes or the procedures used in producing those outcomes. So, for example, he notes that subjects' concerns with outcomes have been found to be influenced by the context in which those outcomes occur⁴⁴. But this implies that subjects might **prefer** a state of the world in which, for example, relief from pain and suffering is distributed more equally than one in which greater relief from pain is achieved but distributed less equally. Moreover, these contexts (*e.g.*, the decision-making processes used to allocate resources) might be a direct source of concern (*i.e.*, utility) to individuals.

Culyer⁸ argues that weights can be incorporated into an EW framework to reflect concerns with the distribution of consequences in a population not incorporated in the values derived under the EW methods. However distributional weights can, and have been, incorporated into WE approaches²⁹. The suggestion that EW approaches are more accommodating of distributional concerns¹⁴ is therefore odd.

It has been argued⁸ that the EW approach in health accommodates altruism in a way that WE approaches cannot because of the distinction made "between fulfilling one's selfish preferences and acting contrary (at least in part) to those preferences by adopting a set of moral rules that may constrain" (p93). However, it is difficult to see how one would constrain oneself without deriving utility from knowing one is "doing good". Do people derive no utility from such actions or the social conventions that determine these actions⁴⁵⁻⁴⁷? Are contributions and other forms of support for charities not affected in cases where charities are found to be misusing those funds? Is our willingness to constrain ourselves determined by our perceptions of goodness arising from the self-imposed constraints? Margolis⁴⁸ suggests that individuals have a higher set of 'preferences', or morals concerning 'doing' (or 'participation' utility) which interacts with another lower set of preferences concerned with 'getting' (or 'goods' utility). In this way, individuals derive utility from doing their duty and trade their time and resources expended on such activities at the margin *vis-à-vis* other uses of such resources. WE approaches have been used to incorporate these 'externalities' into valuation approaches in the context of the provision of specified health care services that the subject has no prospect of using personally but may be important to others⁴⁹.

We do not accept Hurley's argument that ". . . the welfare framework is essentially mute with respect to assessing distributional issues" or that "the extra-welfarist framework is more accommodating to distributional issues"¹⁴ (p386). In so far as individuals are concerned about distributional issues, either directly, or indirectly, this would be reflected in the utility they derive from the different states of the world. A WE framework which fails to incorporate considerations of distributional issues would necessarily fail to reflect these concerns in the valuations it generates. Once again, the problem seems to be more concerned with rigidity in the way the framework is applied as opposed to underlying limitations of the framework.

Summary

The purpose of this paper was not to challenge Sen's concept of extra-welfarism, but to critically appraise its development and application to the problem of resource allocation in health care. Attempts by researchers to identify the complexities of the valuation of health care interventions and their outcomes represent major contributions to health economics research. However methods have been developed to deal with many of these complexities that are compatible with the WE approach. Distributional issues can be accommodated into the framework as shown by the example of caring externalities³³ while the concept of process utility³⁴ permits the individual to express preferences over not only health consequences but also the circumstances associated with those consequences. The rejection of the WE model cannot, therefore, be based on the inability of the WE approach to include these features but appears instead to rely entirely on the rejection of individuals' own values of, and trade-offs between, these features. However, the proponents of the EW approach invoke arguments based on the primacy of individuals' preferences in justifying what matters in the delivery of health care services.

The EW arguments for over-riding individuals' preferences are not supplemented by an alternative theory of choice. On the contrary, the risk of paternalism and dictatorship are acknowledged but seemingly accepted. To ignore the well-being forgone by the individual in complying with someone else's preferences instead of their own is not only inconsistent with WE theory, it is non-economic since it represents a departure from the economic concept of opportunity cost. An EW approach in health therefore represents multiple sources of 'harm' to the individual as the utility of non-health commodities is ignored and the individual's right to choose is undermined. Members of socially deprived populations may behave or consume in ways that the rest of the population find difficult to accept. This may lead analysts to jump to conclusions that if only the socially deprived populations shared the same social circumstances as us, they would behave and consume like us. For example Hurley argues that

“Those born in poverty with no hope of escaping often adjust expectations rather than suffer a life of constantly short of aspirations.” (p 379)

This implies that these individuals have at sometime held different expectations, expressed in isolation of the poverty to which they were born. If this is so, these prior expectations could be used as the individuals' best interests. However, it seems more likely that not having known anything other than poverty, expectations have not been adjusted, but were always expressed within the constraint of existing opportunities. As a result, we can either move towards relaxing those constraints to uncover expectations free of the chains of poverty, or have some other body decide what their expectations 'should be'. Non-WE approaches to valuations seem to see the latter as a proxy for the former. But there is no reason to believe that if only the poor were not socially deprived, then they would behave or consume like the rest of us. Such an assumption implies that the poor have the same preference **map** as the rest of us. But we know little about the preferences of individuals outside the region of their current opportunities. Even if the preferences maps were identical for all individuals, imposing the marginal rate of substitution determined in the context of our opportunity sets need not be in the best interests of the poor given their different opportunity sets.

When attention is turned to issues of measurement, the methods adopted or presented under the EW approach in health are based on the central features of WE theory, i.e., value is established through the measurement of the maximum amount an individual is willing to sacrifice, whether that be measured in terms of money, expected life years or the risk of survival. Moreover, the EW approach in health does not avoid the difficulty of comparing ‘winners’ and their gains with ‘losers’ and their losses, and rests on the same compensation principle as the WE model. However, by rejecting the use of money as the numeraire and individuals as the source of valuation, the EW approach in health represents a further departure from reality in the evaluation of alternative uses of scarce resources. The determination of winners and losers from a particular decision is not related to individuals’ preferences for the different states of the world. Instead, the decision is based on some higher authority’s valuation of what is achieved and what is forgone and hence ignores the opportunity costs of resource allocation decisions. Moreover, health, unlike money, is not tradeable but is intrinsic to the individual. Thus, the aggregation of QALYs, or some other measure of health, cannot be justified on the basis of even the potential for all to be better off. The ‘winners’, in health terms, cannot compensate the ‘losers’, in health terms, no matter by how much the ‘winners’ gains exceeds the ‘losers’ losses.

Attempts to intervene effectively in the production of health in populations have been found to depend crucially on understanding individuals’ preferences in the context of their physical, social, cultural and economic circumstances, not by rejecting those preferences in favour of the more informed judgements of individuals outside of those contexts. For example, Syme⁵⁰ argues that, in considering responses to the increased prevalence of diseases among bus drivers in San Francisco, it might be more productive to consider the drivers’ opinions about the pressure of keeping to unreasonable schedules than to spend time and effort advising drivers about the need for them to use better postures and more healthy diets. Similarly, Oakley⁵¹ found that smoking among poor women in London was not the result of ignorance or addiction, but represented a coping strategy for the demands placed on them in their social circumstances. In both examples, the identification of individuals’ best interests is only uncovered by asking the individuals’ themselves. In other words the WE model based on individuals’ preferences, far from being a barrier to maximizing social welfare, may be the key to achieving such lofty goals.

The concerns underlying the application of the EW framework in health are real. However, proponents of EW in health have themselves been instrumental in developing a broader conceptualization of the WE approach to accommodate such challenges^{33,34}. Similar efforts to improve further the WE approach would appear to us to be the appropriate way to deal with the remaining problems. Given the dependence of the EW approach in health on WE methods, and the capacity of the WE framework to incorporate the concerns expressed by proponents of the EW approach in health, one might ask what is ‘extra’ in extra welfarism.

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