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Equity, Health, and Health Care

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Equity goals, such as equal treatment for equal need or equality of access, commonly take pride of place among the aims of health policy. But do these conceptions, or others derived from more fundamental philosophical systems such as those of the utilitarians or John Rawls, successfully capture the way in which the term equity is generally used? If not, is it possible to find some interpretation that can command a greater consensus? This paper answers no to the first question and yes to the second. It is argued that the standard conceptions of equity ignore the processes by which health states are determined and hence the extent to which they arise from factors beyond individual control. An alternative conception is proposed that directly incorporates these considerations.

KEY WORDS: equity; health; health care; justice.

INTRODUCTION

Health economist Uve Reinhardt has observed that there are currently three desiderata that universally dominate health goals: equity, provider freedom to price and practice, and budgetary and economic control. Quoting him with approval, fellow health specialists Gordon McLachlan and Alan Maynard (1982) continue, "the vast majority of the population would elect for equity to be the prime consideration" (p. 556), a view endorsed by yet another leading health economist, Gavin Mooney (1986, p. 145).

It is a testimony to the importance of equity in people's perceptions of the aims of health policy that so many economists are prepared to give it priority in this way over their traditional concern with efficiency. Yet this

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awareness of its importance is not reflected in the health economics literature, the bulk of which remains concerned with more traditional issues, such as supply incentives, cost effectiveness, or cost control.

It is of interest to speculate why this should be. Part of the answer undoubtedly lies in the intellectual history of the development of economics as a discipline, in which, at least in the 20th century, considerations of equity or social justice have generally played a minor role. Both a determinant and a consequence of this is the absence of anything approaching a consensus on the *meaning* of equity—in the health field or anywhere else. Equity is widely regarded as a term capable of an almost indefinite number of interpretations, dependent solely upon the values of the person using it at the time. This can be contrasted with the situation with respect to, say, efficiency, where something close to a consensus interpretation does exist (that of Pareto).

Such nihilism with respect to the search for consensus definitions of equity is partly unjustified—particularly with respect to health. There are in fact a limited number of interpretations that appear as possible guides for health policy (Le Grand, 1982, chaps. 2 and 3; Mooney, 1983), of which perhaps the most common are variants of the expressions "equal treatment for equal need," "equality of access," and, more rarely, "equality of health itself." What *is* missing from the discussion is any attempt to locate these or other interpretations in a wider philosophical framework. Is there a philosophical basis for considering, for example, equal treatment for equal need, equality of access, or equality of health as reasonable interpretations of equity? Are there occasions when inequity would persist even if one or other of these kinds of equality were achieved? If so, and we shall see there are indeed occasions where this might be so, is there any other basis on which we can construct an interpretation of equity that could serve as a guide to health policy? It is to these questions that this paper is addressed.

The paper opens with a brief discussion of the distinction between equity and equality: two concepts that are often confused and that need separation before the discussion proper can proceed. Then the concepts of equal treatment for equal need, equality of access, and equality of health, as the most prominent in the literature, are examined to see if they do offer acceptable interpretations of equity for health policy. This is followed by a brief discussion of the equity implications in the health context of two major philosophical theories of "justice"—that of the utilitarians and of John Rawls—to see if they can provide viable interpretations of equity. Finally another conception, relating equity to choice, is discussed. It is argued that this is more successful than the alternatives in capturing the way in which equity is conventionally used, and therefore has a greater potential to provide a consensus interpretation of the term that might be useful for health policy.

I must emphasize that I do not offer anything approaching a definitive treatment of these issues. The ideas and philosophies discussed contain a wealth of riches to which I cannot possibly do justice within the confines of a short paper. All I intend to do in the paper is to draw attention to the neglect of these fundamental issues in much of the health literature and to offer an indication of how the immense task of repairing that neglect might be overcome.

EQUITY AND EQUALITY

Equity and equality are almost homonyms and perhaps for that reason are often confused. But they do in fact have quite separate meanings. *Equality* is essentially a descriptive term, *equity* essentially a normative one. We can observe a particular distribution of, say, medical care; and we can decide from our observations whether that distribution is equal or unequal. (We cannot always describe or measure the extent of inequality that characterizes an unequal distribution by reference solely to observation; but that is a separate matter, as is argued shortly.) The presence or otherwise of equity, on the other hand, cannot be established by reference solely to the facts concerning a distribution. It is necessary to couple those facts with value judgments. Equity statements are statements of value; equality statements are statements of fact.

Those familiar with the literature following Atkinson's (1970) path-breaking article on inequality measurement may want to challenge this assertion. For in that literature it is argued that the measurement of inequality cannot be separated from the measurement of the overall loss in social welfare associated with that inequality; and since what constitutes social welfare is obviously normative, this could be taken to imply that inequality itself is normative.

But this inference would be incorrect. It arises from a confusion between the concept itself and its measurement. Any method of measuring inequality involves the use of some method of summarizing information concerning that distribution; and this inevitably leads to the emphasizing of some information, while suppressing other information. The choice of inequality measure therefore depends on the values the person making the choice places on the information emphasized by each measure, relative to that suppressed. So the selection of an inequality measure undoubtedly involves values. However, this in no way implies that inequality itself is normative; merely that the process of measuring it involves value judgments.

Given that there is no automatic link between equity and equality, we cannot assume that any particular policy aim is equitable, simply because it is egalitarian. Rather, it is necessary to examine the aim in question to see

whether its outcomes are consistent with equity. This we now do for three types of egalitarian goal in the context of health: equal treatment for equal need, equality of access, and equality of health.

EQUAL TREATMENT FOR EQUAL NEED

The aim that each individual with the same "need" for health care should receive the same treatment is of considerable intuitive appeal. This appeal in large part derives from its principal implication: that the distribution of medical care should be independent of the distribution of income, wealth, or any other form of economic or political power. For it does seem intrinsically unjust if, of two individuals with the same disease, one receives better treatment than the other simply because he or she is wealthier, better educated, or has more influential connections.

Now there are obvious difficulties in the interpretation of this conception in practice. What is meant by treatment? Does it refer to quantities of medical care (number of doctor consultations, hospital inpatient days, etc); to expenditures on that care (its resource costs); or to valuation (the value placed on treatment by the individuals concerned)? What is meant by need? The amount individuals want? Or their demand for treatment, as economists understand the term: that is, the amount of treatment they would purchase at the prevailing price? Or the treatment a "professional" would consider necessary in each case? If so, what professional: medical practitioners, social workers, hospital administrators? And so on.

Important as these questions are, they are not central to the concerns of this paper. (On the question of the measurement of "treatment" see, for example, Mooney, 1983; 1986, chap. 8; on interpretations of need, see Williams, 1978.) Instead, I want to ask whether equal treatment for equal need, however defined, is always consistent with equity; whether unequal treatment for equal need could some times be equitable and vice versa. In fact, it is relatively simple to think of cases where equal treatment might not be automatically equitable. We shall consider three, rather different, examples.

First, consider a case where, of two equally ill patients, one, due to superior physique, nutrition, or whatever, responds better to medical treatment than the other. Then equality of treatment results in inequality of the outcome of the treatment. In such cases, it might be considered more equitable to give more treatment to the patient with the relatively poor capacity for response. In response to that example, it could be argued that actually the two patients were not equally needy; that one in fact needed more treatment than the other to attain an equivalent improvement in health. Differential response does imply differences in need.

But the other examples are more difficult. For the second, suppose a drunken driver mounts the sidewalk and injures a child, before crashing and injuring himself. If emergency medical resources were limited, would we criticize a doctor who gave priority of treatment to the child? More to the point, would we not think that such an allocation was, in some sense, fair or equitable? By virtue of his actions, it could be argued that the driver had forfeited his claim to equality of treatment, at least in terms of equity. There may be other grounds for giving the driver treatment, such as compassion, or even perhaps efficiency (the driver may be, in other respects, a highly productive member of the community). But an allocation on these grounds would be rather different from one on the grounds of equity. Note that, in particular, compassion is not the same as equity; it is not compassionate to give people what the application of a principle of equity says they "ought" to have. A compassionate allocation involves giving people more than they ought to have according to some other criterion. The distinction is evident in the old proverb "Be just before you are generous."

The third example again concerns two individuals equally ill but this time each with the same capacity to respond to medical treatment. Each is offered the same opportunity to receive the necessary treatment; one chooses to take the treatment, but the other, because, say, he or she distrusts conventional medicine, prefers to rely on the body's own recuperative powers and does not take the treatment. Then there would not be equal treatment for equal need; but it is unlikely that many would regard that outcome as inequitable. The fact that the second individual had chosen not to receive the treatment seems to make the situation different in equity terms. A way out of the dilemma posed by this example is to argue that the focus for equity purposes should be upon equality of opportunity or access, rather than on equality of treatment. Individuals should have the same opportunity of treatment; whether they choose to avail themselves of that opportunity is up to them. However, this too presents difficulties, as we shall now see.

EQUALITY OF ACCESS

Equality of access can be defined as the requirement that individuals should face the same personal costs of receiving medical treatment (Le Grand, 1982, p. 15; 1986, p. 5; Mooney, 1986, p. 108). If one group of individuals are charged more than another, or they have to travel further, or they are required to wait longer for medical treatment, then that group faces a higher personal cost of treatment than the other and hence, according to this definition, there is inequality of access.

Equality of access and equal treatment for equal need are often confused. But they are rather different. As Mooney (1986) points out, access

to treatment is purely a supply-side phenomenon, whereas the amount of treatment actually received depends on the interaction of both supply and demand. So, as in the example already discussed, two individuals may face the same personal costs of treatment (and therefore have equal access to treatment); but one may choose to accept the treatment on offer, but the other may not. In such a case there would be equality of access, but not equality of treatment.

Equality of access, however, shares with equal treatment for equal need the problem of practical interpretation. How should "personal cost" be measured? Should it include losses due to the time involved in receiving treatment? If so, how should they be measured? More generally, is personal cost measured in terms of money, or in terms of the utility or satisfaction foregone? Is it access to health care that is important, or access to health itself? And so on.

But again it is not on this kind of question that I want to concentrate. Rather, it is on the more fundamental issue concerning the equity or otherwise of equality of access as a policy goal. Is such equality always equitable? Conversely, are inequalities in access always inequitable?

Again, it is relatively easy to think of cases where inequalities of access are not necessarily inequitable. To take just one example, suppose some wealthy individuals choose to buy a country house in a remote rural region. Do they have the right to expect the same access to top quality medical facilities as anyone else? Should expensive facilities be built in the region so as to bring their personal travel costs down to, say, those faced by the residents of an inner city area close to a teaching hospital? Or should helicopters be laid on for their special use at no charge (as they are under the British National Health Service for people living in the Scilly Isles)?

More generally, where people have a degree of choice over their situation and therefore over their access to medical or other facilities, any resultant inequalities in access do not seem to be necessarily inequitable. Here too, there is no automatic link between equity and equality.

EQUALITY OF HEALTH

Although, as we have noted there has been relatively little discussion of the meaning of equity in the context of health care, there has been even less, if any at all, of the meaning of the equitable distribution of health. What is a fair or just distribution of health? Should the aim of an equitable health policy be to equalize everyone's health states, so far as that might be possible? Should the aim be to promote equal access to health? Or are there rea-

sons why, on the grounds of social justice or equity, some people ought to have better health than others? These questions have been rarely addressed.

In some ways this is rather curious. To focus on the equitable distribution of health care rather than on that of health itself seems to be putting the cart before the horse. Presumably, our concern for the equity or otherwise of a particular distribution of health care must have its roots in a more basic concern for the health of the individual in receipt of such care. If that is the case, then the equitable distribution of health care can only really be equitable if it contributes to an equitable distribution of health. Establishing the meaning of the latter ought therefore to be logically prior to establishing the meaning of the former.

One possible justification for concentrating on equity in the context of health care than in the context of health is because the latter can be distributed or redistributed by acts of policy in a way that the former cannot. Thus since individuals' health is located within themselves it is impossible to take away someone's health and give it to someone else; that is, it is impossible to "redistribute" health. On the other hand, it is possible to redistribute health care facilities between individuals. Hence the latter is amenable to policies concerned with promoting equity in a way that the former is not. Therefore it makes more sense to talk of the equity or otherwise of the distribution of health care than of the distribution of health.

But this is not very compelling. While in one sense it is true that it is impossible to redistribute health, this does not mean that the distribution of health is insensitive to policy. For it is obviously possible to affect by policy many of the factors that *affect* health, such as nutrition, housing, and work conditions, and, or course, medical care itself. Moreover, the factors that affect the consequences of ill health are also amenable to policy: the distribution of spectacles, or of aids to the disabled, for example. Hence any evaluation of the relevant policies must involve an evaluation of their health outcomes; and if part of that evaluation concerns equity then it is essential to have a conception of what constitutes an equitable health outcome.

Perhaps a more convincing explanation of the absence of discussion concerning the meaning of equity in the context of health is that it is automatically presumed that here at least inequality means inequity. For instance, in the extensive literature on the extent and causes of inequalities in health there seems to be an unquestioned assumption that such inequalities are automatically unacceptable (see, for example, Black, 1980, p. 3).

But again consideration of some simple cases suggests that the link is by no means automatic. In the example used above, does the drunken driver, who mounts the sidewalk and knocks over a child but who is also injured himself in the accident, have an equal claim to full restoration to health as the child? Do heavy smokers who contract lung cancer have the same claim,

on equity grounds, to resources to restore them to full health (so far as that might be possible) as nonsmokers who contract the disease? Are drivers who refuse to put on seat belts, or motorcyclists who refuse to wear helmets, entitled to as much compensation in the event of an accident as those who do take those precautions? More generally, should not those who consciously and voluntarily assume health risks to undertake some activity solely of benefit to themselves bear the consequences if these prove adverse?

Obviously, there are major issues here (such as those concerning the extent to which people do actually make conscious and voluntary choices), issues to which I return later in the paper. But, for the moment, the examples are simply to illustrate the proposition that an equal distribution of health may not always—that is, in all situations and all times—be judged an equitable one.

It thus appears that none of the simple egalitarian formulations of equity do adequately capture the way in which the term is conventionally used. But what of more sophisticated philosophical systems: do they offer anything better? We now turn to two of these: utilitarianism and the maximin principle.

UTILITARIANISM

The goals of utilitarianism are commonly summarized in the phrase "the greatest happiness for the greatest number." Economists have generally interpreted this in terms of a decision rule requiring resources to be allocated so as to increase the sum of individuals' levels of happiness or utilities: to maximize aggregate utility.

The application of utilitarianism to specific policy situations involves many well-known difficulties, not the least of which are those concerned with measuring and comparing individual utilities. However, again it is not with these difficulties that I am concerned. Rather, it is with the notion of equity implicit in the principle.

The belief that utilitarianism has equity implications is widespread, particularly among economists. There are two possible reasons for this. First, the belief that utilitarian distributions are equitable may arise because that such distributions thought to be egalitarian in nature—and greater equality is identified with greater equity. Alternatively, it is possible to *define* equity in utilitarian terms. That is, a particular distribution is defined as equitable if it conforms to utilitarian principles—if it contributes to the greatest happiness for the greatest number. Applied to health or health care, a distribution of either would be equitable if it was the outcome of a process that maximized aggregate utility.

We have already seen that there is no logical connection between greater equality and greater equity. But, even if there were, there is no reason to

suppose that utilitarian distributions are necessarily equal. Nor is there any necessary connection between utilitarianism and equity even without going through the egalitarian route, at least in the way that the term is commonly used.

Both of these points can be illustrated by a simple example. Suppose, as is not implausible, that the greater an individual's economic resources, the better he or she is able to enjoy the fruits of good health. In more technical terms, suppose the marginal utility of health increases with income. Now consider two individuals currently equally healthy (or unhealthy), but one poor, through being brought up in a poverty-stricken environment with few opportunities of escape, and the other rich, again as a result of background. Then adoption of a utilitarian decision rule would require allocating health-promoting resources *away* from the poor individual (thus diminishing her stock of health) and towards the rich (thus increasing his). For, although the poor individual would lose utility as her health declined, this would be more than offset by the increase in utility for the rich individual as his health improved. Hence the net effect would be that the sum of their utilities would increase. (*Ceteris paribus,* the sum of their utilities would be maximized where their marginal utilities of health were equal. Redistribution of health-promoting resources would cease at that point.) In such a situation therefore, a utilitarian distribution of health would favor the rich; as such, it would neither be equal nor, I venture to suggest, in most people's judgment equitable.

Or consider the example used in the previous section of differential response to treatment. That is, suppose both individuals derived the same utility from health itself, but that their health states responded differently to a given level of health care. More specifically, because the rich individual was better fed and better housed than the poor one, when he fell ill he responded better to a given course of treatment than she did. Then, in a situation where both were equally ill, a utilitarian distribution of medical care would require allocating more care to the rich individual, thereby leading to a greater improvement in his health. Neither the distribution of health nor the distribution of health care would be equal; nor is it likely that either distribution would conform to most people's conception of equity.

These examples, by no means unrealistic ones, suggest that utilitarianism has little to offer us by way of equitable decision rules for distributing health or health care. Nor is this very surprising. For utilitarianism is not actually concerned with providing definitions of equity or indeed decision rules of any kind for distribution per se. Whatever distribution emerges from an application of utilitarian principles is simply a by-product of the maximization of the sum of individual utilities; it is not the result of a conscious application of some notion of equity or justice between individuals. In actu-

ality, the situation is quite the reverse: the fact that the focus of utilitarianism is on maximizing the sum of individual utilities implies that it is "supremely unconcerned with the interpersonal distribution of that sum" (Sen, 1973, p. 16).

RAWLS AND MAXIMIN

In his seminal *Theory of Justice* (1972), Rawls made several major contributions. These include his revival of the "social contract" as a means of validating principles of justice; the replacement of utility as an index of individuals' welfare by their consumption of "primary goods"; and the two principles of justice that he argued would be chosen in the initial position. Although all of these are in some way or another relevant to the discussion, space limitations dictate concentrating on the part that provides an interpretation of equity: the second of the two principles of justice, what is commonly termed the *maximin* principle. Even here, I cannot hope to do full justice to the richness of the extensive discussions surrounding this principle (including Rawls' own); I concentrate simply on the extent to which the principle conforms to commonly held conceptions of equity.

Rawls's full statement of the maximin principle (which he terms the *difference principle*) is as follows: "Social and economic inequalities are to be arranged so that they are both: (a) to the greatest benefit of the least advantaged, . . . , and (b) attached to offices and positions open to all under conditions of fair equality of opportunity" (1972, p. 302).

The application of this principle to health or health care seems to require that inequality in either health or health care could only be justified if such inequality operated to the benefit of the least advantaged. That is, an equitable distribution of health or health care is one that maximizes the welfare of those with the least—those with the minimum.

Now the first point to note is that Rawls himself would in all probability reject the application of his principle in this way. For one thing, although he includes "health and vigor" among his list of primary goods, they are for him "natural" goods that cannot be distributed in the same way as "social" primary goods, like income and wealth (1972, p. 62). For another, the maximin principle "is a macro-criterion and not a micro-criterion" (Rawls, 1974, p. 142); and therefore it might be argued that it cannot be sensibly applied to micro areas such as the distribution of health or health care. But neither of these arguments is very compelling. The first point applies only to health and not to health care; and even there, we have already noted that in fact the distribution of health is likely to be as susceptible to distributional policy as is the distribution of income and wealth.

With respect to the second point, as Nozick (1974, pp. 204-207) has pointed out, there is no convincing reason for separating micro from macro situations. If a principle of justice is applicable to one, then why should it be inapplicable to the other? It is an odd principle whose applicability is affected by the scale of the situation whose justice is to be assessed. Furthermore, what is a macrosituation or a microsituation? Why is the distribution of income macro whereas the distribution of health, arguably an even more important determinant of the distribution of overall welfare, micro?

In the absence of convincing answers to these questions, it seems legitimate to apply the principle to the problem of determining the appropriate allocation of health or health care. However, as with the other principles discussed, its application to the health area offers a number of theoretical and practical difficulties. For an instance of the former, are the least advantaged defined in terms of their overall consumption of primary goods or in terms of health (or health care)? That is, are inequalities in health justified when they help the least healthy members of the population or when they help those deprived in all respects? For an example of the latter, is it realistic to suppose that it is possible readily to distinguish those inequalities in health that benefit the least well-off from those that do not?

However, there is another kind of objection to Rawls that is more relevant to our concerns. It is that the notion of equity embedded in the maximin principle does not reflect the way in which the term is commonly applied.

As an example, consider the case discussed earlier of the drunken driver and the child. Suppose "least well-off" is defined in terms of material resources, and that the child comes from a richer household than the driver. Then a reasonable application of the maximin principle would require treating the driver before treating the child. Would this be regarded as equitable? Alternatively, suppose least well-off is defined in terms of health and the child is not quite as severely injured as the driver; should the driver receive priority? More generally, is it equitable to allocate health resources to those who are the least well-off, if at least in part, their being the least well-off was attributable to their own decisions?

To take another case, is it equitable that those who happen to be endowed with the skills for helping the least well-off (however defined) but who refuse to exercise those skills unless they are "bribed" to do so by, say, privileged access to health care facilities should receive the bribe? This would be required by the maximin principle; but it does not seem necessarily fair. Rawls himself says that we require "a conception of justice that nullifies the accidents of natural endowment and of social circumstance" (1972, p. 15); yet a distribution based on the maximin principle will reward such accidents, if, by accident, they happen to benefit the least well-off.

The discussion so far suggests that, as with the equality conceptions, neither the utilitarians or Rawls can offer us a fully convincing account of

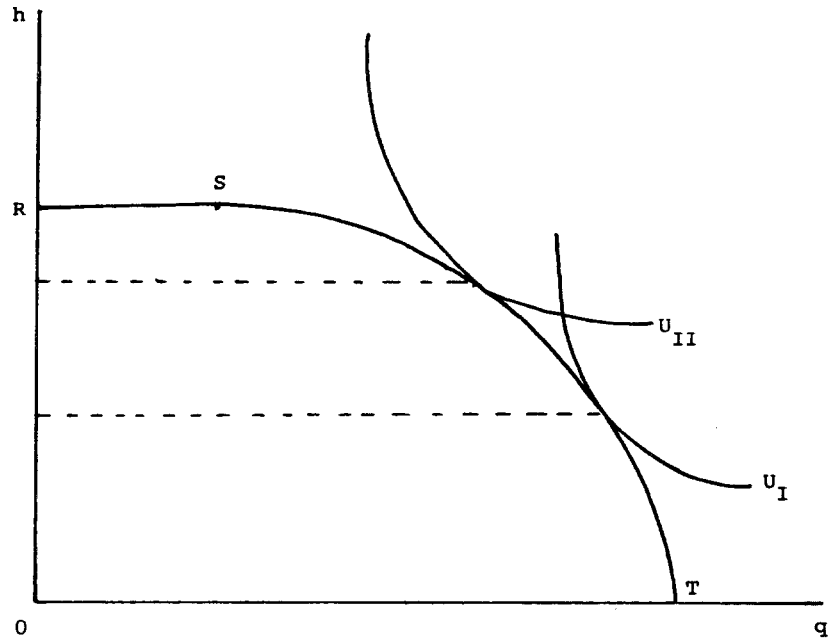

Fig. 1. Health and choice.

equity in the health case (or indeed in any other). In large part this is because they all are what Nozick calls "end-result" principles (1974, p. 153). That is, the equity or otherwise of a given distribution is determined by the application of value judgments to the facts about the distribution itself: the facts about the end result. However, our assessment of equity generally depends on the way in which that end state came about: its history. Simple observation of the fact that two individuals, say, have different health states is not sufficient to determine the equity or otherwise of that distribution. Rather, we need to know *why* they are in different states of health; what is the history of the distribution. What is needed, therefore, are *historical,* not end-result, principles.[2] The next section discusses such a principle.

EQUITY AND CHOICE

Elsewhere (Le Grand, 1984), I argue that the crucial facts about a distribution's history that determine our judgment concerning its equity or other-

[2]Other end-result principles of equity not discussed here but which raise the same kind of problems includes equity axioms (such as that of Sen, 1973) and the envy-free criterion (see, for example, Varian, 1974). For discussion of both of these in the general context of resource allocation, see Le Grand (1984), p. 43-44.

wise concern the extent that it arose through individuals' choices. Applied to health, if an individual's ill health results from factors beyond his or her control, then the situation is inequitable; if it results from factors within his or her control, then it is equitable.

The point can be illustrated as follows. Suppose a particular activity is known to have an adverse effect on health, especially if undertaken to excess. An obvious example would be smoking; others include heavy drinking, driving too fast, and working in a hazardous or stressful environment. Then there is a trade-off between health and the activity concerned.

This is illustrated by the frontier RST in Figure 1. On that diagram an individual's state of health, h (assumed to be measurable) is plotted along the vertical axis, and the quantity of the health-harming activity, q, along the horizontal axis. The horizontal section RS of the frontier reflects an assumption that indulgence in the activity only begins adversely to affect health after a certain level; the concave section ST the assumption that after that level it does so at an ever-increasing rate.

Now consider two individuals, I and II. Assume that both derive pleasure from the activity; that, if they did not know of its adverse health consequences and their only constraints were the price of the activity (relative to other prices) and their incomes, each would have undertaken a level of the activity greater than OT; but that in fact they both are fully aware of the effects on health, and therefore moderate their levels of the activity. Assume, too, that both derive satisfaction from good health, either directly or through its enabling them to obtain greater pleasure from other activities; however, suppose that individual I derives more pleasure at the margin from the activity, relative to that derived from health, than individual II. These assumptions are incorporated in the indifference curves U_I (for individual I) and U_{II} in the diagram.

It is apparent from the diagram that individual I's equilibrium level of the activity (the point at which U_I is tangent to RST) is greater than individual II's; and that, as a result his health is worse than hers. But this does not seem inequitable. Both were fully aware of the dangers involved; both were unconstrained in their choice by other factors; both have made informed decisions based on their own preferences. The results of those decisions are different, and that is reflected in disparities in their health states; but that is the outcome of their own decision, exercised over the same range of choices, and hence is not inequitable.

This notion can be expressed more formally by defining a distribution as equitable if it is the outcome of individuals making choices under equal constraints. That is, disparities in health states that arise from fully informed individuals exercising autonomous preferences facing the same range of choices over health and health-related activities are not inequitable; but disparities in health that can be directly related to differences in the constraints facing those individuals are inequitable.

Various aspects of this and other similar approaches to equity in a general context have been discussed elsewhere, including their overall merits and demerits (Dworkin, 1981; Le Grand, 1984), their relationship to efficiency (Archibald and Donaldson, 1979), and their application in the context of federal fiscalism (Aronson, 1977; Le Grand, 1975, 1977). Here I concentrate on some specific issues raised by its application in the health area.

Perhaps its chief merit concerns its ability to capture the essence of the term equity, at least as used in this context. Most of the examples used above to challenge the other conceptions of equity involved the presence or absence of choice. Thus the drunken driver, or the individual refusing proferred medical treatment, each had a degree of choice in their situation, which thereby did not automatically qualify as inequitable. On the other hand, those who, through factors beyond their control (such as family poverty), responded slowly to medical treatment seemed to have a good claim on equity grounds for more of the treatment than those who responded more quickly.

However, its application in practice does raise a number of problems. The first concerns the question of autonomous preferences and the status of the choices that result when those preferences are exercised. Ever since Grossman's (1972) pioneering work on the demand for health, health economists have accepted that health states can be modeled as the outcome of individuals exercising choices within constraints. But to social scientists and others less embued with the notion of economic man (and woman) such notions might appear preposterous. They might argue that no preferences are fully (or even partly) autonomous; they are simply the product of social and biological forces and hence are as much beyond individuals' control as the constraints they face. Hence autonomous choice does not exist; all disparities in health (or indeed in any other behavioral outcome, including health care) are therefore inequitable.

If this view is fully accepted, then indeed all health differences are unjust or unfair; and inequality in health is synonymous with inequity in health. However, fully to accept it involves a complete denial of free will; a momentous step with implications that stretch well beyond the concerns of health policy. Most health specialists would now, I think, agree that individuals have some degree of control over their health—although they would doubtless differ on the extent of that control. The question then becomes one of ascertaining the degree to which a particular outcome is the result of the constraints faced by an individual and to what extent the result of his or her preferences—a difficult task but not necessarily an impossible one.

However, there is one instance in the health case when the question of the autonomous nature of preferences is at its most acute. This concerns addiction. Much ill-health results form addictive behavior of one kind or another: smoking, drinking, overeating, hard drug abuse, and so on. Does

it make sense to ascribe free choice to addicts of whatever kind? Two individuals might have the same economic resources, face the same prices, and be exposed to the same health risks, but have different health states, due to the fact that one is addicted whereas the other is not; would this disparity be fair or not?

Some argue that it is perfectly fair. A noted left-of-center columnist in a quality British left-of-center newspaper recently argued that heavy drug-takers have no claim on the rest of us in terms of either compassion or justice; rather, as "cop-outs, possessors of outsize egos .... and domestic exploiters of the meanest kind, [they] should be treated with the contempt they deserve" (Jill Tweedie, *The Guardian,* Sept. 2, 1986).

But this is obviously extreme. Clearly the addict, once addicted, has little discretion over his or her behavior. Moreover, even the original decision to engage in potentially addictive activities may arise from differences in constraints: for instance, one of the reasons poor people are often heavy smokers is because they cannot afford less harmful ways of relaxation. Also, addiction is often the outcome of poor information concerning the relevant risks; in such cases, it would be hard to describe the outcome as one of fully informed choice.

The question of information concerning risks raises another issue. Suppose that smokers have a one-in-five chance of developing lung cancer, but that an individual made a free choice to smoke, but without knowing the health risks involved. Then it is quite clear that, if his health deteriorates as a result, he has an equity claim on health resources. His perceived choices were not the same as his actual choices; hence he made the wrong choice through no fault of his own.

However, now suppose he did know the risk. It would seem that he still has some claim in terms of equity. For in this situation, not every smoker develops cancer; indeed, 80% do not. The fact that he is in the 20% that do is not solely a question of choice but, at least in one sense, of bad luck. Hence his health in such a situation is in large part an outcome of a random "lottery" and thus beyond his control—except insofar as he chose to enter the lottery.

In such cases, it seems to me that the solution lies in a calculation of the expected value of the losses involved. So, if there is a 20% probability of acquiring a particular disease from an activity, then each person undertaking the activity is responsible for one-fifth of the costs of acquiring it, *whether or not* they actually acquire it. In practice, this outcome could be achieved by compelling any individual undertaking the activity concerned to take out an appropriate amount of insurance. Alternatively, a charge could be levied on the activity itself (for example, a tax on cigarettes), the revenue from which was used to compensate those who acquired the disease from undertaking the activity.

However, the problems for the conception posed by the existence of risk are broader than this. Almost every situation in which normal healthy individuals find themselves involves some risk to their health: driving, accidents in the home, contracting infections through contacts with others, etc. In that case, almost every case of ill health can be partly laid at the door of the constraints that individuals face and partly at the door of their autonomous preferences. In this situation, application of this principle in practice might have some absurd consequences: for instance, each hospital having to assess the extent to which prospective patients' ill health was the result of their preferences or the result of their constraints, before deciding whether to admit them (or how much to charge them).

Again, this difficulty can be resolved by mobilizing the idea of expected value. We can illustrate some of the arguments by use of a simple example. Suppose each individual in society faces an equal probability, p, in each year of contracting a disease with treatment costs, L. Suppose, further, that these are the only costs (either private or social) associated with the disease. Then equity would be achieved if each individual were charged an annual amount equal to the expected value of the loss, pL, and if all treatment were provided free at the point of use. The revenue raised through the charge would be used to meet the treatment cost for those unfortunate enough to contract the disease; if the correct estimates of p and L were used, then this revenue would be exactly sufficient to meet this cost.

As economists will recognize, the amount pL is the premium that would be charged in a perfectly competitive insurance market, with no transaction costs or moral hazard. (The other major problem for such markets, adverse selection, does not arise in this case because of the assumption that all individuals face identical risks.) Such a market would also be Pareto-efficient. It might therefore appear at first sight that the optimal policy in this situation would be to encourage such a market, thus achieving equity and efficiency simultaneously.

However, such an inference would be premature. There would be two groups still uninsured in such a market: the poor (or, more generally, those who could not afford the premium) and those who were not risk-averse. The exclusion of the first group clearly arises from their constraints; hence any losses they incur through the absence of insurance would be inequitable. The second group, the non-risk-averse, are more problematic. Because of the structure of their preferences they have chosen not to be insured. Hence it could be argued that any individual contracting the disease incurs losses that are in some sense voluntary, and therefore he or she has no equity claim.

However, as with the smoking example above, this would be incorrect. Such individuals have not chosen to bear the full cost of contracting the disease; rather, they have chosen to incur the risk of bearing that loss if they

do in fact contract the disease, since in part their subsequent losses would be due to bad luck, it would not necessarily be equitable for them to bear the full cost, L. It would be preferable, on equity grounds, for them to be brought into the same system as everyone else, namely, paying pL whether or not they contracted the disease and receiving any required treatment free.

Hence it seems as though we cannot rely on even a perfectly competitive insurance market to be equitable. A more equitable alternative would be for a government agency to levy a uniform charge on all individuals, regardless of their attitude to risk, with a provision for remitting that charge to the poor. That agency could also either provide treatment directly, or it could contract with private suppliers to do so. In addition, if it were established that some activities (such as smoking) did create greater health risks than others, then a special extra charge should be levied on those activities, at a level sufficient to generate enough revenue to finance the extra treatment costs.

Obviously, these ideas need further development. In particular, the model on which they are constructed is far from the real world. In that world, there are different diseases, each with different treatment costs and different risks of contracting them; not all losses are insurable or can be adequately compensated by cash payments; information is imperfect, as are the institutions that try to use the information. To include such complications and, more generally, to assess the implications of applying this conception of equity in the detailed formulation of policy towards all aspects of health and health care is a task beyond the scope of this paper. But it is hoped that enough has been said to indicate the lines along which such an endeavor might proceed.

CONCLUDING COMMENTS

The previous section of the paper offered a conception of equity that seems to capture the essence of the term more successfully than the other conceptions examined. Precisely how the conception should be implemented in practice has not been discussed in detail; that is a task for future work. However, an essential preliminary to the formulation of practical guides to policy is the establishing of their theoretical foundations; and that is the intended contribution of this paper.

A final comment. Nothing in this paper is meant to imply that equity in general, and this conception in particular, should be the sole aim of health policy. In practice, it is likely to be impossible to direct policy in such a way as to correct the effects of the operation of unavoidable circumstance without, on occasion, compromising other policy objectives, such as efficiency. Nor

would we want our health system to lack compassion; there are likely to be many occasions when, even if we feel someone's poor health is entirely the outcome of factors within their control, that we nonetheless would want them to receive as much treatment as anyone else.

But this does not invalidate the arguments of the paper. I am not claiming that equity should dominate all other considerations. Determining the distribution of health or health care that represents the "most desirable, all things considered" is likely to involve, where appropriate, trading off the achievement of equity against the achievement of other ends. But an essential preliminary to that activity is to formulate the ends themselves in as a precise a fashion as possible; it is to the part of that task involving equity that this paper has been addressed.

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