to the community served by the hospital, and thus enlist the recipients and politicians in crucial decision making processes on the delivery of health care.

Finally, is the model and its application fair? The answer to this lies partly in whether rationing can be considered as fair. It has been stated that "unfairness lies also in doing things until the money runs out"¹¹ and that "rationing becomes a morally acceptable option if the need is great enough and if other methods have been exhausted."³³ In our case the need had become acute, other methods were not sufficient to meet our requirements, and we could not wait for the ultimate cost saving benefits of the drug utilisation review programme to take effect. A method was therefore needed to provide a more equitable approach to this decision making process.

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Formulate, don't formularise

Cam Donaldson

Too often decisions about the allocation of scarce resources are being formularised (that is, crammed into formulas) rather than formulated (structured on the basis of thought). Those who use the formula of Bochner *et al* uncritically will be guilty of this. Many users of economic criteria, such as QALY league tables, also fall into this trap. The aim of this commentary is to outline, from an economic perspective, why this is a problem and what can be done about it.

Formularising hides subjectivity...

Clinicians and pharmacists are hard people. They are taught to think that subjectivity is "woolly." This leads to a desire to quantify all relevant considerations in a formula in the belief that this somehow makes things objective. This quantification goes on regardless of whether the elements of the formula overlap (as they do in the case of Bochner *et al*) and of whether it is in fact theoretically or practically relevant to combine these elements in the way formulas do. There is a failure to recognise that all resource allocation is (and must be) based on subjectivity, whether or not a formula is used. The will-o'-the-wisp pursuit of objectivity through formulas hides this fact in a way which is unhelpful.

... so let's formulate...

Without clear thinking, formulas can be constructed on arbitrary bases. In such cases decision making will not be improved. Less effort should go into fine tuning the elements of formulas and more into thinking about what their devisers were trying to achieve in the first place. In this regard, unmasking some of the arbitrary and subjective constructs of the formula of Bochner *et al* can help us discard some of the elements it contains. For instance:

- Is a cure for a high risk condition causing morbidity (with a score of 150) worth more than prolongation of life for a moderate risk condition (with score of 90)? (The formula says "Yes"; I say "probably not"; what does the reader think?)

"Less effort should go into finetuning the elements of formulas and more into thinking about what their devisers were trying to achieve."

- Of two new drugs which are otherwise equivalent, is drug A of higher priority than drug B because B's total costs are greater? (The formula says "Yes"; I say "No"; what does the reader think?)

In the first case too much emphasis is placed on "risk" and on "curing." In the second case, drug B may marginally increase costs over its already expensive alternative, while drug A could increase costs tenfold over its cheap alternative and still be valued higher than B. Total cost is distorting the result when it should not be counted at all. In both cases, progress can be made by thinking about the problem and

SAM TANNER

formulating it in terms of relevant criteria for maximising benefits for resources spent.

... and get our objectives sorted out

Although it is not clear, I think the authors are concerned with maximising benefits to patients with existing resources. If so, all that matters is whether the benefit per pound spent on treating a patient with condition X is greater or less than that for treating a patient with condition Y. If the returns from treating X are greater than for treating Y, some resources should be moved out of treating Y's and into treating X's. If a new drug becomes available to treat condition Y, the next question is whether the situation is altered. The only factors relevant to this from the Bochner *et al* formula are a reformulated version of the quality score (dropping the mortality/morbidity component) and some combination of two components of the cost score, the comparison with other treatments and the total cost per year. The quality of the information, as reflected in type of treatment, matters but only in so far as whether or not to defer a decision. To quantify the quality of information and add to it outcome before dividing by cost has no theoretical or practical justification. It is adding the "unaddable" and dividing the indivisible.

Conclusion

Purchasers and providers of health care everywhere need to recognise that, because of a lack of data, and even with good data, priority setting is about making judgments. Formulas based on arbitrary constructs, such as that of Bochner *et al* do not improve such decision making. In a complex world, economics is better used to help provide a framework for such judgments rather than as justification for the "quick fix" of formulas. Purchasers in particular need to grasp this nettle. Otherwise, services will continue to be provider dominated.

Health economists and health care professionals need to get together on these issues. They will then benefit from each other's skills, rather than each group developing formulas for the other group to criticise. As long as the twain never meet then neither of the twain shall have relevance to priority setting for maximum health gain to the community.

First consider the overall process of care

J C Petrie

The description of Bochner *et al*'s method deserves critical scrutiny as the subject of drug rationing raises important issues. The argument to ration drugs is based on the wish to obtain the greatest benefit for most patients for each dollar spent on drugs. This premise requires rigorous examination before local drug rationing is applied. Have the authors ensured that they have obtained full value for the money that they spend on drugs and on care services before implementing their rationing policy for drugs? In some health services, for each £100 spent on drugs as little as 15% of value may be obtained.

The price of individual drug entities is only one factor—and a minor factor—in the overall costs of the process of care. Should health professionals not act as advocates to ensure that essential drugs of an acceptable quality and quantity are available within the overall resources available? This approach requires the

development and monitoring of guidelines and local care protocols of affordable quality for the management and appropriate follow up of specific diseases to get full value for the money spent. Team work (including substitution), drug formularies, and the effective selection, procurement, and utilisation of drugs by informed health professionals have much potential to release resources that may be directed to purchase, and not ration, drugs.

In my opinion drug rationing should only be imposed if it has been clearly established that within the resources available for all health purposes the cost effective delivery of other aspects of care has been ensured. If rationing of drugs is to be implemented and individual patients denied potentially life saving expensive drugs, this health policy should be explicitly made known and debated with the public and (in the United Kingdom) with the purchasers. Are patients admitted to the Adelaide hospital aware that they are subject to drug rationing, and of the criteria? Can they choose to be admitted to another hospital in Adelaide? Is there informed consent? What is the legal position of the local managers, of the drug and therapeutic (medicines) committees, and of its members?

The issue is even more complicated. For example, the pharmacoeconomic arguments are complex. Neither patients, their families, other local hospitals—general or private—nor local practitioners seem to have been involved in the decisions to ration drugs. Uncritical acceptance and application of the principles behind the local judgments could lead to direct harm to individual patients.

The methodology to derive the scoring system also has to be carefully assessed and validated. Has the objectivity and reproducibility of this funding or ranking method been evaluated? The authors describe continuing change in the model. They concede that the cost factor becomes very difficult to manage at a particular point. Since this is the biggest problem in finding new money for new drugs, it poses a real problem for the model. Judgmental scoring systems, which have a qualitative element, are notoriously difficult to validate and interpret. Different observers

"Any decision to ration drugs is one that society must make through elected representatives."

value items differently. What evidence is there that the Adelaide expertise is reproducible, standardised, and objective? The authors face the problem of measuring quality in numerical mode, and manipulating judgmental pseudonumbers to reach debatable conclusions. They have not shown evidence of a clearly objective score. Nor have they produced results of the outcomes (mortality, quality, patient views, costs, present state of the formulary) of their policy.

In summary, I have difficulty with the premise of drug rationing in the absence of assurances that the services were otherwise well organised, appropriate, and in place. The ethical and legal implications of the moratorium on spending on drugs imposed by the management require further debate. I believe that there are problems with the present state of the methodology, in particular the strengths and weaknesses of potential approaches to qualitative and quantitative scoring systems and the pharmacoeconomic arguments. Any decision to ration drugs is one that society must make through elected representatives as choices have to be made. The decisions depend on expert advice. I am not confident of the rationale for rationing in Adelaide nor of the robustness of the "Adelaide model" as described.