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Evaluating Mental Health Care : The Role of Economics

by

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Abstract

In this paper there is an attempt to demonstrate the relevance of economics to the provision of mental health care and to describe how one technique in the economist's toolkit should be applied in this field if the objective of policy is to use society's scarce resources efficiently.

The relevance of economics to the provision of mental health care derives from the fact that the resources available to provide this service are inevitably limited. Choices must be made between competing uses of these resources. Every decision on what mental health care is to be provided for whom and where, involves the sacrifice of benefits from discarded options. Making the best use of the available resources requires comparing the costs and benefits of alternatives. At present this is seldom done when decisions on the provision of mental health care are taken.

Economic appraisal is a technique for collecting information on the costs and benefits of competing uses of resources. A description of the principles of economic appraisal, as applied to mental health care, is provided and the complexities of measuring the costs and outcomes of alternative care packages are explored. The reluctance of policy makers to use these techniques leads to treatment choices being made on the basis of guesses and rhetoric rather than scientific knowledge. Most aspects of care of the mentally ill, both in institutions and the community, have yet to be evaluated: it cannot be demonstrated that existing or proposed policies are efficient. Such behaviour wastes society's scarce resources and does not enhance the welfare of patients.

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EVALUATING MENTAL HEALTH CARE: THE ROLE OF ECONOMICS

Introduction

For three decades policy advocates have been pressing for the transfer of patients from large institutions to community care. Official policy has supported this advocacy (e.g. DHSS 1976). The rhetoric of advocates and the good intentions of Government policy-makers has led to little substantive change in provision: the large majority of publicly funded care is still provided in institutions (Gray et al, 1988).

Despite the slow rate of change in the provision of mental health care, the current belief amongst most policy-makers appears to be that community care is preferable to institutional care. The evidence to support this belief is largely absent. A major policy change is being implemented with little systematic evaluation of its costs or its benefits to patients and their carers.

A search of the literature has revealed seven UK studies of the costs and effects of some mental health care options (O'Donnell et al, 1988). These studies are an inadequate basis on which to formulate policies which economise the use of society's scarce resources and provide demonstrably good care outcomes for patients.

The purpose of this paper is to analyse the relevance and role of economic analysis in evaluating mental health care options, to explain the nature of the economic techniques available to evaluate these options and to describe the steps that have to be taken to identify the costs and effects of competing mental health policies. A companion paper indicates the limitations of the small stock of existing studies in this area. (O'Donnell et al, 1988).

1. What is the Relevance of Economics to Mental Health Care?

1.1 Scarcity, rationing and opportunity cost

The resources available to provide mental health care will always be insufficient to satisfy the needs of every individual with a mental illness, requiring that choices be made between treating different patients and treating the same individuals using different techniques, personnel and locations. Every decision to provide an individual with a particular treatment has a cost equal to the benefit foregone from using the resources in alternative ways: there is no such thing as a free lunch because every decision involves an opportunity cost (the giving up of the benefits of discarded options). One person's benefit is the next person's cost.

The problems of scarcity and opportunity cost must be recognised if the best use is to be made of the available mental health care resources. Economics confronts the problem of scarcity, it can be used to consider choices between competing uses of scarce resources and consequently may be helpful in achieving the most effective deployment of the available mental health care resources.

One response to this claim that economics can be useful in considering the provision of mental health care is to argue that economics can be made irrelevant simply by providing more resources and so removing the scarcity problem from mental health care. Such a response would be naive. Making more resources available would certainly ameliorate the problem of scarcity within mental health care but it is unlikely that any society could afford to make sufficient resources available to completely remove the problem. Scarcity within society as a whole implies a scarcity of resources within the mental health sector, some needs of individuals with a mental illness will always remain unmet. Choices will always have to be made. The

research and policy problem is what information should be used to inform choices between competing options?

1.2 How is mental health care rationed?

Within the NHS, clinicians have the greatest control over the rationing of mental health care resources. They decide who receives what, where and when. These decisions determine how particular patients are treated and how mental health care resources are allocated between competing uses.

1.3 Informing rationing decisions with cost and effectiveness data

The rationing role of doctors is not immediately apparent, simply because the costs of each decision they make are not directly observable, as they would be if resources were allocated in the market. It is this implicit nature of the rationing carried out by the medical profession, which can result in the most effective use not being made of the resources available. Without the costs of each action being explicit, there is a danger that consideration will not be given to whether the benefits of any particular course of treatment exceed the benefits which would have resulted from an alternative use of the resources. There can be little hope that mental health care will be provided efficiently, that is, the maximum benefit achieved from the resources available, as long as there is no attention given to the costs and benefits of alternative claims on resources.

That doctors should remain responsible for rationing mental health care resources is not being questioned. Rather, the point to be emphasised is that clinicians currently ration mental health care and if the best use is to be made of the resources available to provide this service, then

these decisions must be made with reference to more information than is currently considered. Economic appraisal is a method of assisting the decision making process by collecting information about the costs and benefits, and so efficiency, of alternative claims on resources. Rationing mental health care on the basis of this knowledge, rather than, at best, using evidence of the relative effectiveness of alternatives or, at worst, mere beliefs about relative effectiveness, should enable a greater quantity and quality of mental health care to be provided from a given amount of resources.

1.4 The limitations of economic appraisal

Economic appraisals of mental health care must be carried out more often so that the opportunity costs and effects of competing treatment options are identified and measured more extensively. However, the power of the technique should not be exaggerated: it is a decision aiding, and not a decision making tool. The first reason for this is that economic efficiency is only one criterion on which decisions about the allocation of resources can be made. The decision maker is likely to be concerned with the distributional impact of each alternative as well as their relative efficiency. The second reason why economic appraisal should not be expected to replace the decision maker is that it may not be possible to summarise the relative efficiency of alternatives. This is likely in evaluations of mental health care in which all costs and benefits cannot be measured commensurably. The decision makers must then use all of the information on the costs and benefits of the alternatives, made available by the evaluation, to decide how the available resources are to be deployed, and in doing so they will be forced to make explicit their judgements of the relative importance of the different costs and benefits.

2. Types of Economic Appraisal

2.1 Introduction

Economic appraisal is not a single technique but may take a number of forms. The question being considered will determine the particular type of appraisal suitable. A technique which is adequate to compare the efficiency of caring for mentally ill individuals in alternative locations is not necessarily sufficient to consider if care in either location is worthwhile at all, i.e. whether benefits are greater than the costs. The types of appraisal differ only in the measures of outcome employed, the principles of costing, outlined below, are the same for all the techniques.

2.2 Cost only studies

Some evaluations only collect information on the costs of alternative programmes of care (e.g. Cassell, 1972). The results of such studies are of little use to decision makers trying to achieve the most efficient allocation of mental health care resources, since efficiency involves making the most effective use of the available resources and not minimising the cost of mental health care. Knowing what treatment is the cheapest, without having information on relative effectiveness, is not helpful, since this alternative may also be the least effective. To be of greatest value economic evaluations of mental health care must collect information on both costs and effectiveness.

2.3 Cost effectiveness analysis

Cost effectiveness analysis, the technique most frequently used in the economic evaluation of health care, involves the measurement of outcomes as well as costs but it does not require that a value be placed on outcome, only that it be measured in physical units, along a single dimension e.g.

life years gained. The cost per unit of outcome can then be calculated and compared across programmes, as long as the indicator is a valid measure of outcome for each programme. The problem with this approach is that the outcome measure is likely to be accurate only for services for individuals suffering from very similar conditions. In fact, the technique is usually used to compare the efficiency of alternative treatments/care for a single condition. The restrictions on the choices which can be considered using cost effectiveness analysis are therefore severe.

2.4 Modified cost effectiveness analysis

The economic evaluations of mental health care have mostly adopted a modified form of cost effectiveness analysis, measuring outcome along a number of dimensions rather than a single one (Glass and Goldberg, 1977). Using this modified form of cost-effectiveness analysis to compare the efficiency of alternative services requires comparing, separately, costs and each dimension of outcome. The most efficient alternative will then only be apparent if one dominates on costs and every dimension of outcome. If one option is both the most effective and the most expensive then it is impossible to conclude from a cost effectiveness analysis what is the most efficient alternative. In order to consider whether the extra effectiveness of a programme compensates for its extra cost it is necessary to carry out a cost utility, or cost benefit, analysis.

2.5 Cost utility analysis

In both cost utility analysis and cost benefit analysis the evaluation of options involves the measurement outcome, as well as a value being given to it. In the former the value of outcome is expressed in terms of utility and in the latter outcome is valued in monetary units. Utility may be

measured by individuals' preferences for different states of health e.g. quality adjusted life years (QALYs) (Drummond et al, 1987). The relative efficiency of programmes of health care may then be compared in terms of their cost per QALY produced, the alternative with the lowest cost per QALY is the most efficient. Because efficiency is summarised in a single figure of 'cost per QALY', the cost utility analysis technique has the advantage of being able to identify the most efficient alternative when one programme is both the most costly and most effective. If that programme also has the lowest cost per QALY produced, then it is the most efficient, since it can achieve the greatest output from a given amount of resources.

By measuring outcome in a common denominator, such as the QALY, the technique potentially allows the efficiency of treatments for a variety of conditions to be compared. However, it is likely to take a long time for a single outcome measure to be developed which is a sensitive measure of the outcome of all programmes within the health sector. The technique will not inform on all choices to be made within the health care budget but may be used to assess the relative efficiency of programmes for broadly similar conditions e.g. acute illness, mental illness, mental or physical handicaps. To date cost utility analysis has only been used narrowly in the appraisal of acute care (Boyle et al, 1983, Gudex 1986, Williams, 1985). Work is required to examine whether it is possible to develop a utility measure of outcome for a range of mental health services, which would allow the efficiency of these services to be compared. Such work would involve identifying descriptors of mental health e.g. symptoms, social functioning, and describing different levels of health within each of these descriptors. The final stage would involve developing techniques which could be used to elicit, from a sample of individuals, their relative values for different combinations of (mental) health descriptors.

2.6 Cost benefit analysis

Cost benefit analysis can be used to consider whether a particular action is worthwhile to society per se and so informs on any of the resource decisions faced in the provision of care for the mentally ill. This implicitly involves comparing a particular service for the mentally ill with the alternative of doing nothing for those individuals. The technique requires that all the costs and benefits of a project to society be identified and these measured commensurably, usually in monetary units. The net benefit to society of any claim on resources can then be calculated by subtracting total costs from total benefits. Projects with a positive net benefit will raise the welfare of society if undertaken and the total welfare of society can be maximised by choosing the alternatives which return the greatest net benefits.

Whilst cost benefit analysis is the most powerful form of economic appraisal, it is also the most elusive. It is often extremely difficult, and sometimes inappropriate, to place a monetary value on all costs and benefits and this is certainly the case in evaluations of mental health care. It is not obvious that an attempt should be made to place a monetary value on effects, such as, the impact of a service on the quality of life of patients and their carers. The difficulty of carrying out a cost benefit analysis of health care provision is indicated by the fact that no such evaluation has ever been conducted.

3. Methodology of Economic Evaluation: Measuring Costs and Benefits

3.1 Introduction

The brief description of the different types of economic appraisal in Section 2 provides a flavour of what economic evaluation of health care is, a more complete picture of how an economic evaluation of mental health care should be carried out and what difficulties can be expected to arise in doing this will now be described. The objective is to answer the following questions: what costs and benefits should be included in an evaluation of mental health care and how should these be measured and valued? (further elaboration of this approach can be found in Drummond, 1980 and Drummond, Stoddart and Torrance, 1987). It is hoped that this will dispel any misconceptions, which may still be held, perhaps by members of the medical profession, that the economist is only concerned with the cost to the Exchequer and the impact on national income of any programme of care for individuals with a mental illness, and not with the benefit to those individuals arising from this care.

3.2 What are the opportunity costs of care?

3.2.1 The identification of costs

The economist takes the societal perspective in identifying the costs and benefits of an action. The relevant costs of any particular programme of care for the mentally ill are not only the financial burden on the Local Authority or NHS but also the costs incurred by voluntary organisations, informal carers, the patients themselves and, indeed, all sectors of society. Failure to include all of the cost implications from a societal perspective can result in misleading conclusions. As Weisbrod (1983) has pointed out, if the costs falling on each sector of society are not identified, it may be wrongly concluded that there has been a reduction in the magnitude of costs when the burden of costs has merely shifted from one sector to another, with no reduction in total costs. A number of evaluations of mental health care may have reached such misleading conclusions due to the adoption of a narrow perspective (e.g. May 1971; Glick, 1974; Karon-Vandenbos, 1976; Wykes, 1982).

The evaluator working from a societal perspective is required to collect information about the efficiency of a particular project but it is often valuable to study the costs and benefits from other perspectives in order to assess its distributional impact, or to consider the likelihood that a project will be implemented regardless of its overall impact on efficiency. Both Mangen et al (1983) and Jones et al (1980) calculated, in addition to the societal cost and benefits, the public expenditure costs of each of the alternatives they considered. These figures are useful, since in times of fiscal restraint the programmes of care which are least expensive to the Treasury may stand a greater chance of being implemented, irrespective of the societal and efficiency implications. By collecting information on both the public expenditure and efficiency implications of

treatment alternatives, any sacrifice of the latter in order to minimise public expenditure costs can be made explicit.

3.2.2 The measurement of costs

When measuring the costs of a programme of care it is the extra resources required, or saved, by the introduction of that particular alternative which must be measured. Often the alternatives being evaluated will not be whether a particular service for persons with a mental illness should be provided at all, but whether the size of the service should be expanded or contracted. For example,the question considered may be whether the provision of community care should be expanded and institutional care contracted, by discharging individuals from hospital to community provision. In such circumstances, the costs measured should be those which change with alterations in the size of each service. These changes in resource use are measured by marginal costs, i.e. the cost of an additional unit of output, not average costs, i.e. total costs divided by total output. In part, this is because using average costs does not allow for variations in the intensity with which the resources currently employed are being used. For example, if a hostel in the community has spare capacity, the additional cost of caring for more individuals in that hostel may be small, since the resources already available can be used more intensively. Using average costs would overestimate the cost of raising the level of activity since this would assume there was no spare capacity.

The savings to a hospital of discharging individuals also cannot be measured by average costs because expenditures on items such as administration, heating and lighting, maintenance, all included in average costs, will not decline proportionately with the discharge of patients. Marginal costs allows for both spare capacity and the sensitivity of the

components of total cost to variations in the scale of provision (for a more detailed discussion of the principles and practicalities of measuring the costs of community care see Shiell and Wright, 1988).

Most studies acknowledge the superiority of marginal costs but few actually measure them, reflecting the difficulty of estimating marginal costs and the convenience of average costs, which are more accessible from accounts. Despite this difficulty, an attempt should be made to estimate marginal costs when the alternatives being considered involve changes in the scale of provision. Marginal costs may be approximated, for example, Dick et al (1985) used average staff ward costs as a proxy for marginal costs. This would probably provide quite a good estimate of the marginal costs of inpatient care, since staff costs tend to be the most sensitive to changes in the level of activity.

3.2.3 The valuation of costs

The cost of a programme of mental health care is equal to the benefit forgone from alternative uses which the resources could have been put to, i.e. the opportunity cost. In costing a programme, therefore, resources should be valued at the price which would be required to keep them in their existing use, rather than allow them to be used in their next best way. Fortunately the price paid for a good in the market often reflects its opportunity cost, but adjustments must be made to market prices when they have been distorted (e.g. by indirect taxes; government subsidies; in non-competitive markets; or fixed or managed exchange rates).

Opportunity costs are not always synonymous with financial costs. For example, income support for a mentally ill person has no real resource consequences, it is merely a transfer of resources among members of

society. Fortunately no evaluations of mental health care have fallen into the trap of counting transfer payments as costs. They have been included in the studies which calculated the public expenditure consequences of projects and Weisbrod et al (1980) used transfer payments as a proxy for expenditure on food, heating, and other items of consumption.

Not all financial costs represent opportunity costs, and similarly not all opportunity costs involve cash transactions. Examples of the latter are the provision of voluntary and informal care for mentally ill individuals. Given the societal perspective adopted, the costs incurred by these sectors are relevant to an evaluation. Imputing values for these resource uses is, nonetheless, difficult. The approach taken should be to decide whether an opportunity cost is incurred.

In costing voluntary care the main methodological question to answer is whether volunteers are offering their services for one particular use, or for a multiplicity of tasks. In the first case the voluntary effort has no alternative use and can be treated as a 'free' resource. In the second case, the volunteer's services have an opportunity cost e.g. voluntary provision of a day centre for the elderly mentally infirm may be at the expense of a meals on wheels service. Costing informal care also involves focusing on the opportunities the carers are sacrificing. In some cases there is no sacrifice because carers regard time spent caring as the best use of their leisure time. In other cases carers are losing work and leisure opportunities. If information is available on the hours of leisure or work lost, it is quite easy to apply accepted values of time to these hours in order to obtain the costs. In practice this method may prove difficult to apply due to the difficulties of ascertaining carers' attitudes to their roles and the actual hours of work or leisure lost

(Wright, 1987). In addition to these costs to carers in terms of lost work and leisure opportunities, carers may suffer costs in terms of a deterioration of their health status and/or quality of life due to the burden of caring. The costing of informal care has proved one of the most difficult tasks in conducting economic appraisals of care for persons with a mental illness. Some studies have included the lost paid work opportunities of relatives but not the loss of household production activities or leisure time (see O'Donnell, et al, 1988). Wright (1987) has attempted to develop a methodology for costing informal care but this work now needs to be applied in mental health care evaluations.

3.2.4 The treatment of capital costs

Capital costs are incurred with the acquisition of the major capital assets of a programme of care e.g. buildings, equipment etc. Capital costs are not merely the sum paid for the assets and the interest paid on the loan to purchase them but may continue to be incurred after the assets have been completely paid for.

The reason for this is that capital should be valued at its opportunity cost in an evaluation. As long as the capital has an alternative use then there is a cost of continuing to utilise it in the same way. For example, there is a capital cost of continuing to use a psychiatric hospital for the care of chronically ill individuals, even after the land, buildings and equipment have been paid for, as long as the hospital could be used in some other way. If the hospital could be sold, then the capital cost is its market value. Alternatively, if the health authority could use the hospital in some other way and so avoid incurring a cost in the purchase of new capital, then the capital cost of continuing with the present use of the hospital is this expenditure the health

authority will incur. An additional component of capital cost is the cost of using the assets, in the form of the depreciation of their value.

3.2.5 Time preference: the discounting procedure

The consequences of programmes of mental health care should be adjusted to allow for the differential timing of the costs incurred under each alternative. In particular, costs incurred in future periods must be discounted to make them comparable with costs incurred in the current period. The reason for doing this is that individuals prefer to have money in the present rather than in future periods. Evidence for this is provided by the existence of a positive rate of interest paid to lenders of money. In return for giving up the ability to spend a given amount of money in the current period, individuals must receive a greater amount of money in the future.

This preference for having money now rather than later means there will be a preference for incurring costs in the future rather than in the current period. Since there is a positive rate of interest, a given money cost represents a greater claim on resources in the current period than in future periods because an investment income must be foregone on the former. Hence, to make costs incurred in the future comparable with costs incurred in the current period they must be discounted at a rate of interest. The rate of interest normally used to discounted costs is that supplied by Treasury for use in evaluation of public investment projects. But since the choice of a discount rate is necessarily arbitrary the results of a study should be tested for sensitivity to the rate used.

3.2.6 Information constraints

Outlining the principles of costing a mental health care programme is

straight forward, it is rather more difficult to actually carry out such a costing exercise. The difficulty lies in the lack of relevant cost information routinely collected in the NHS and other agencies involved in patient care. The cost data which are available for the NHS is documented in the health service costing returns, which are available at local and national levels (see DHSS, 1987 for the national costing returns). It has already been noted that marginal cost figures will not be available but the information shortage is more severe than this. Average cost figures are usually not broken down to ward level, the rules used to divide costs up into inpatient, outpatient and daypatient costs are often arbitrary and capital cost figures are not available for assets which have been completely paid for. These information constraints mean that the costing part of an evaluation of mental health care does not simply involve referring to the figures in the local costing returns or requesting the relevant cost figures from an NHS accountant but will often require that a economist builds up the figures using the principles outlined above.

3.27 Costing in principle and in practice

The seven economic evaluations of mental health care which have been carried out in the UK display a number of inconsistencies with the principles of costing outlined above. Whilst most of the studies, with the exception of Wykes (1982), have attempted to take a societal perspective, in only one case (Ginsberg and Marks, 1977) was this taken as far as identifying the non-financial (lost housework and leisure time) costs to informal carers. Only two studies (Ginsberg and Marks, 1977; Hyde et al, 1987) included capital costs. Marginal costs have not been measured in any study, and only one (Dick et al, 1988) has made any attempt to do this. Comparisons between the costs of programmes have not always included an

adjustment (ie discounting) for differential timing (Mangen et al, 1983; Jones et al, 1980). Finally, despite the crude nature of much of this costing, only two studies (Ginsberg and Marks, 1977; Hyde et al, 1987) attempted to test the sensitivity of the results to the assumptions made in the measurement of costs.

A more detailed review of economic evaluations of mental health care is presented in O'Donnell et al (1988), but from this brief description it should be apparent that there is a marked contrast between the principles of costing mental health care and the applied work which has been carried out to date, leaving much room for improvement in future economic appraisals in this area.

Having outlined how the costing component of an economic evaluation of mental health care should be conducted, attention is now given to the other side of the efficiency equation with a discussion of the measurement of mental health care benefits.

3.3 What are the benefits of care?

3.3.1 Introduction

Without measuring benefits, and so establishing evidence on the relative effectiveness of treatment alternatives, clinicians must rely on their own judgements, or on professional opinion, to choose between alternative treatments. Such a subjective approach to decision making can result in large variations between doctors in the treatments prescribed. Some clinicians will treat patients effectively, others will not. With no testing of the effectiveness of treatments, a relatively ineffective treatment may become professionally accepted and subsequently widely used,

producing little benefit but consuming scarce resources which could have been employed in more effective treatments. Cochrane (1972) has noted the dearth of evidence on the effectiveness of psychiatric treatment and the question marks this leaves over the usefulness of many procedures. Making the best use of the resources available to provide mental health care requires that evidence on the effectiveness of much of this care be established. This requires that the benefits of the treatments be measured, a process which is difficult, but not impossible.

3.3.2 The identification of benefits

The primary benefits of any programme of care for the mentally ill will hopefully be the positive effects on the mental health status and quality of life (QoL) of those individuals. One approach to measuring mental health status/QoL is to use proxies for these phenomena e.g. quality of life may be proxied by social functioning (Kind, 1988). The problem with this approach is that the proxy chosen may have a fairly tenuous association with the phenomenon it is meant to estimate. In order to reduce this problem a number of dimensions of outcome may be measured, to avoid placing too much faith in a single proxy (op cit, 1988).

This is the approach which tends to be adopted in the evaluations of mental health care (e.g. Ginsberg et al, 1984; Mangen et al, 1983; Dick et al, 1985). Renshaw (1985) has reviewed the benefit measures which may be used in the evaluation of care for the chronic mentally ill, and identified seven components of quality of life which have been used for this purpose or which had been used for other client groups but seemed important for this group also. These were: symptoms; behaviour and social functioning; morale and satisfaction; engagement in activity; social contacts; friends and outings; significant events and personal presentation.

The seven British economic evaluations of mental health care (see O'Donnell, et al 1988) have all included the first two components of outcome identified by Renshaw, i.e. symptoms and behaviour and social functioning, in their assessment of the benefits of the programmes being evaluated. There is less consistency between the studies in the inclusion of the other dimensions and no study included all seven dimensions of outcome identified by Renshaw. This lack of consistency between studies in the dimensions of outcome which were included may simply reflect the difference in the projects evaluated, but there are examples of evaluations of very similar options including different components of outcome, for example, Mangen et al (1983) included consumer satisfaction in their evaluation of care for neurotics by nurse therapists whilst Ginsberg et al (1984) did not.

The exclusion of dimensions of outcome introduces the risk of some relevant benefits of a treatment being omitted from the analysis. A qualification must then be placed on the validity of the results, since the effect of a treatment on the dimension of outcome excluded may conflict with the effect on those included in the assessment of effectiveness. Of course, contradictary effects of a treatment on different dimensions of outcome presents its own problems. A trade off has to be made between being comprehensive in the measurement of benefits and simplifying the interpretation of the results by limiting the number of dimensions included. The consistent inclusion of both symptoms and behaviour and social functioning in economic evaluations of mental health care, carried out in Britain, may itself reflect this trade off. It may be that these two components of outcome are thought to be the most accurate proxies for mental health status/QoL in which case their inclusion would be essential in the measurement of the effectiveness of mental health care.

When an economic appraisal is conducted from a societal perspective, the relevant benefits are not only those experienced by patients receiving mental health care but the benefits to all members of society. Benefits to individuals other than the patients receiving care is an example of what economists call externality effects. Two types of externalities can be identified in the provision of mental health care. Firstly, there is the beneficial effect of a programme on the health status and QoL of informal carers as their burden of care is relieved. The second type is known as a caring externality, compassionate individuals do not enjoy seeing others suffer and so benefit themselves when the suffering of others is relieved. Whilst this benefit is relevant to an evaluation, practicalities will usually prevent it from being incorporated.

Since it is easier to measure one consequence of improved health status i.e. labour market productivity, than it is to measure health status itself, there has been a tendency for economic evaluations of health care to concentrate on productivity effects to the exclusion of all other benefits. Fortunately this has not been the norm in the evaluations of mental health care, which have generally included production and health status benefits.

It can be argued that production effects should not be included at all. Since improved productivity is a consequence of improved health status, it could be claimed that it is double counting to include both of the effects in the evaluation. This would be the case if the value given to improved health status reflected the effects this may have on the individuals production potential.

If productivity effects are included in the analysis then this should include both paid and unpaid production. Appraisals of mental health care

have tended to include the effects on the income of patients and their carers but omit production which does not add to money income e.g. housework. It should also be noted that the inclusion of productivity effects has distinct distributional implications. Projects which benefit individuals with high rates of productivity, or wages if these are used as a proxy for productivity, will be favoured in an evaluation.

3.3.3 Measurement of benefits

A large number of instruments are available to measure the different components of mental health status/QoL, e.g. symptoms may be assessed using the Psychiatric State Examination (PSE) or GHQ, and behaviour and social functioning can be indicated using the Social Performance Scale (SPS) or REHAB. Many of these indicators have been tested for validity and reliability. However, obtaining a valid measurement of the effectiveness of a mental health care programme requires much more than using a valid indicator of outcome, the trial must be designed appropriately.

When an evaluation is not based on a randomised controlled trial (RCT) there is greater scope for any difference found in outcomes not to be attributable to the different treatments received, but to some other differences between the groups evaluated. Unfortunately, it is difficult to carry out a RCT of mental health care, due to practical problems, as well as the usual ethical objections. Because many treatments in mental health care are very long-term and some groups of mentally ill persons are particularly mobile, it is difficult to ensure that individuals remain in the experimental group to which they are allocated. Drop-out rates tend to be very high, potentially introducing some bias into the composition of the experimental and control groups (see Mangen et al, 1983; Ginsberg et al, 1984). Additionally, participation rates are likely to be very low when

the trial involves care alternatives for individuals with a chronic illness. In these circumstances the individual is likely to have strong views on what type of care they want, which will determine their whole living situation for months, if not years. They are unlikely to offer their consent to be randomly allocated between such care alternatives.

RCTs become more feasible, practically and ethically, when the alternatives being evaluated are different types of acute, rather than chronic care. When an RCT is not feasible every effort has be made to match the groups as closely as possible. However even if a close match is achieved, countervailing factors may create the possibility that any difference in outcome are not due to the different treatments received.

3.3.4 Valuation of benefits

Measuring mental health care benefits is a value laden process. In order to avoid economic evaluation of mental health care making value judgements in decision making less, rather than more, explicit the values introduced in measuring benefits should be clearly stated. Values are introduced at the basic stage of identifying the dimensions of outcome to be measured. This essentially involves the researchers determining what features of outcome they regard as most important. The exclusion of any dimension of outcome at this stage will result in it receiving no weighting in the subsequent analysis of the effectiveness of a programme of care. The dimensions of outcome excluded should, therefore, be made explicit.

The next stage of outcome measurement involves ranking different levels of outcome within each dimension. Again this relies on the researchers' judgements as to what states of health/social functioning/QoL are more and less desirable. This type of outcome measurement is

sufficient for cost effectiveness analysis but cost utility analysis requires trading off the different dimensions of outcome to produce a single indicator of outcome. This involves describing different states of mental health/QoL from combinations of the various dimensions and placing values on the various states by saying how much better one state of health/QoL is than another. The value judgements involved in this procedure are great and the researchers should not impose these judgements themselves, but obtain the values from a sample of the population.

A further stage in the valuation of mental health care benefits would involve putting a money value on the outcomes obtained. As has been noted already, this type of valuation allows cost benefit analysis to be carried out, but there is little justification for placing money values on gains in the mental health of individuals. The introduction of such values should be avoided.

3.4 Sensitivity analysis

From the above discussion of the methodology of the economic evaluation of mental health care it should be obvious that this cannot hope to be a precise exercise. Assumptions will inevitably be required. For example, assumptions usually have to be made about the length of time benefits can be expected to continue or how certain costs change with varying levels of activity. It has already been noted that discounting involves arbitrarily choosing a rate of interest. For the results of the evaluation to be of greatest use, the sensitivity of the results to all of these assumptions should be tested. Knowing that option A is more efficient than option B is of little use if it is not known that this result is reversed by changing the discount rate by 1%!

4. Conclusion

The role of economics in assessing the provision of mental health care derives from the fundamental problem of scarcity. Choices between competing therapies and patients have to be made. At present clinicians make these choices without paying much attention to the costs of initiating any course of treatment. Once it is recognised that choices imply costs, providing more of one treatment leaves less resources to provide other forms of care, then this approach to decision making has to be rejected. Achieving the greatest benefit from a limited mental health care budget requires explicit consideration of the costs and benefits of alternative claims on that budget.

Economic appraisal is a technique for collecting this information. The objective is not to identify the least cost alternative to the statutory providers of mental health care, but to estimate the costs and benefits to all sectors of society. This enables the selection of the alternative which achieves the greatest benefit, defined primarily by gains in the mental health status/QoL of patients and their carers, at a given cost to society, or achieves a given benefit at the least cost to society.

To date, the argument for the economic evaluation of mental health care has not received widespread support, as evidenced by the meagre total of seven economic evaluations of mental health care completed in the UK (O'Donnell et al, 1988). The evidence provided by these studies is by no means sufficient to allocate even a small proportion of mental health care resources in the light of information on the cost and benefits of alternatives. Many more evaluations will have to be conducted before the majority of decisions concerning the allocation of mental health care resources can be made with reference to such evidence.

It is recognised that carrying out economic evaluations of mental health care is not easy. In particular, costing is not straight forward given the shortage of relevant information and that a significant amount of the burden of care is incurred by informal carers, requiring that values be imputed for the costs of informal care. Additionally, outcome must usually be measured along a number of dimensions and so the relative efficiency of alternative programmes of care cannot be summarised in the form of a cost per unit of outcome.

However the task of evaluation cannot be avoided because it presents some difficulties. If a serious attempt is to be made to improve the quality of mental health care then it is not sufficient to demand more resources. This would allow the quantity of care to be increased but it would not remove the scarcity problem. Choices would still have to be made between alternative uses of resources and, consequently, there would still be a need for economic evaluation to help determine how the available resources could be used to their greatest effect, in terms of improvements in the mental health of patients.

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