

An Approach to Economic Evaluation of Community Health Centres

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An approach to economic evaluation of community health centres

1 Introduction

1.1 Policy Context

'Value for money' is an increasingly important theme in health policy. Health services are competing for their share of the health budget. Resources available for health care are limited compared with the possible demands on those resources.

In addition, recent health services research has identified considerable variation in the costs and patterns of delivery of particular health care interventions.¹

This raises questions about the efficiency cost-effectiveness and of some health services. While some of the observed variation will be related to the unique characteristics of each person requiring health care and some to differences in the quality of the outcome, such variation also suggests the possibility that more attention to the management of resources used in providing health care would result in larger health gains for the same level of expenditure.

Evaluation, and especially economic evaluation, is seen as the way to identify which health services perform well in terms of health outcomes for the resources allocated. Economic evaluation is concerned with both efficiency and targeting, both of which are necessary in order to maximise benefits to the community from the health budget.

In many sectors of the economy, the achievement of efficiency is entrusted to market mechanisms. However, it is widely acknowledged that in health care, the preconditions for successful operation of conventional markets do not exist.² Consumers of health care rarely have the medical knowledge required to assess the value of the products provided by the health care system, they are typically making decisions under the stress of illness, the nature of the product is probabilistic--treatment comes with no warranty, the unpredictability of illness makes insurance prudent, but insurance, in turn, distorts price signals.

More importantly, equal access to health care is widely seen to be a high priority, and Australia, like most other industrialised countries, has determined that rationing health care on ability to pay is not an acceptable basis for the delivery of health services. There is a generally accepted view that the costs of health care should be met largely through taxation on income. Thus, most health services in Australia are either publicly funded or substantially subsidised, with service delivery by a joint public/private system. In consequence, the government has an interest in the allocation of resources to and the efficient provision of health care.

In the absence of the discipline of the market on production and distribution of health services, policy makers have sought tools of evaluation, and particularly economic evaluation, to better understand costs and outcomes of various health interventions. Often evaluation tools have been borrowed and adapted from commercial realms, or from public sector areas far removed from health services, and their direct application is inappropriate.

The application of economic evaluation to the health sector is a relatively new discipline and suitable approaches are still being developed. Many of the commonly used approaches which tend to focus on financial outcomes or, at the other extreme, psychometric measures, are not only inadequate but conceptually invalid. In a constrained budget environment, crude and technically deficient forms of economic evaluation are sometimes used to justify policy decisions taken on other grounds.

It is in this policy context that Northcote Community Health Centre has sought advice about how Community Health Centres might evaluate their operations:

- identifying ways to determine which services could be provided more efficiently,
- identifying ways of determining the desirable mix of services, and
- developing tools for evaluating services for which outcomes are difficult to describe and measure.

This paper provides a description of a number of approaches to the economic evaluation of health care for application in Community Health Centres, highlighting the strengths and limitations of the alternatives.

1.2 Program History and Status

Community health services in Victoria have a varied history: some having developed from charitable enterprises of the 19th Century, some from local, state and Commonwealth government initiatives. Although a number of publicly-funded health services are provided in 'the community,' this paper will focus on those currently funded as 'generalist' Community Health Centres by the Health Department Victoria.

Centres were established (or first received public funding) in three periods of growth. The first was in response to a Federal Community Health Initiative in 1973 which offered states matching funds to establish multi-disciplinary local health centres. The second was a Victorian State Government initiative in 1983 to extend the statewide network of these services, and the third was a subsequent Federal funding expansion in 1984. A Victorian Ministerial Review of Community Health was commissioned in 1983, and delivered a comprehensive and largely favourable report on the Program in 1985.³ The Commonwealth Department of Health funded a national review of the

Community Health Program in 1986.⁴

For historical reasons, Victorian Centres were from the outset managed by locally-elected Boards of Management, initially with minimal coordination and policy direction from the state health authority. As federal cost-sharing was subsumed into block grants, the Victorian Health Commission (later Department) assumed a larger role in program management. With regionalisation of the Department, funding and monitoring responsibility for CHCs was devolved to Regional Directors.

From its inception, the program was expected to meet multiple (and sometimes conflicting) objectives, some related to the kinds of services and programs provided, others related to the ways in which they are organised and delivered. Expectations of the sorts of programs delivered include:

- Direct primary health care (including medical, nursing, dental and allied health care)
- Psycho-social and family supportive services
- Screening, prevention and health education services
- Substitution services for institutional care (including emergency department attendances, domiciliary nursing, day centres, and outpatient services for people with chronic illnesses)
- Services for particular population groups (e.g., recent migrants)
- Group as well as individual services
- Community planning, development and advocacy work

Even greater differences arise about the qualitative aspects of the program - which of a variety of quality objectives should have greater emphasis? These include expectations that services:

- Take account of the social context of health and health care
- Recognise the importance of client/patient self determination
- Work with and in communities which traditionally did not use or were not well-served by mainstream health services
- Provide care with no out of pocket patient fees
- Support greater continuity of care (within health care teams, amongst community-based agencies, and between CHCs and health care institutions)
- Fill gaps in health service provision at the local level
- Be planned and provided according to locally-determined priorities
- Respond to state and federal definitions of health service and prevention priorities.

These multiple objectives have been the source of considerable contention both at the policy level and at the level of individual Centres. While various claims have been made for one set of priorities or another, no real consensus exists at either level as to the most appropriate mix of services and/or priorities, and Centres defend the principle

of local control and accountability as the appropriate answer to demands for greater program uniformity.

Typically, Centres employ a range of nursing, medical, dental, social work, physiotherapy, podiatry, and health education personnel. While medical officers are generally salaried, Centres gain additional revenue through direct-billing for the claimable services they provide. Some Centres employ other more specialised workers: migrant health/ethnic access workers, drug and alcohol workers, community development officers, and project staff to do community needs assessment and other local research. Frequently, a Centre will employ staff under a number of different grant schemes (both government and philanthropic foundation), and/or manage co-located HDV or other government-employed staff.

In addition to directly employed staff, most Centres attract short term funding to provide a range of related services and programs from employment creation to youth health to community artists.

Health Department outlays for CHCs in 1990-91 totalled \$54.8 million, representing 1.9 percent of the health budget. In 1990 there were 112 recognised and funded CHCs in Victoria, ranging in size from single outposted community health nurses in rural areas to the largest metropolitan Centre with 45.8 equivalent full-time staff.

1.3 Problems in the Evaluation of CHC Services

The evaluation of government sector programs presents particular challenges. There has not been a strong culture of economic evaluation of health programs, unlike, say, transport or agriculture programs. Community Health Centres, like the rest of the health system have not been actively involved in evaluation of their services.

In part this reflects the inherent difficulty of identifying outcome measures, particularly using a broad definition of health status to incorporate notions of emotional and psychological well-being, client autonomy in medical decision-making, client satisfaction with the process of care, and enhancement of social and community supports for vulnerable or isolated groups. `Health' encompasses a range of physiological, psychological and social factors, and its achievement or restoration cannot be adequately measured on single dimensions of outcome. Even conceptually simpler outcome measures such as morbidity and mortality will often be difficult to derive, although more capable of description.

Some CHC services are concrete and easily counted. For these, only the application of conventional (long established) professional competencies is required, and intermediate outcomes (simple throughput, for example), can be used in an assessment of efficiency. Most CHC services, however, have multiple goals, aim to achieve both qualitative and quantitative outcomes, involve the use of experimental or untested interventions, rely (in part) on external factors (cooperation of other agencies, the economic climate, broader social processes, etc) for their success, and may require

long lead times for outcomes to be known.⁵

Arriving at satisfactory measures of the efficiency, cost-effectiveness or economic performance of services having these characteristics is not simple. Furthermore it is not possible to derive a single outcome or performance measure for the activities of a Community Health Centre taken as a whole.

Because areas such as illness prevention, community development and service coordination have been relatively neglected in the health system, programs in these and other innovative areas of CHC practice have poorly-developed efficacy and effectiveness standards, methodologies and outcome measures on which economic analysis can build.

Drummond describes the relationship between these two forms of evaluation:

...economic appraisal is highly dependent upon the underlying technical appraisal. For instance, the assessment of the costs and benefits of alternative health treatments requires details of the range of feasible alternatives, the resource requirements of each alternative and the results (or outcomes) produced by each alternative. Here the economist is very much in the hands of the relevant technical experts. Economic appraisal should, therefore, be viewed as a complement to medical (and other technical) appraisal, rather than as a substitute for it.⁶

Such technical or outcome studies are seldom undertaken in CHCs, in part because the necessary research-design skills are not available, and in part because such research requires diversion of resources away from service delivery.

None of this argues for abandoning the effort to evaluate CHC services. Rather, it is intended to emphasise the degree of technical sophistication based on pertinent skills and experience which evaluation of these services requires, as well as the financial and other resources needed for it to be undertaken successfully.

1.4 Current Monitoring/Evaluation Approaches

Currently there are a number of monitoring and evaluation approaches which are applied to Community Health. These activities can best be characterised on two dimensions: whether the evaluation is internally or externally generated, and whether the focus of the evaluation is on the processes of care/program delivery (often termed 'formative' evaluation) or on the outcomes ('summative' evaluation). Figure 1 shows how current monitoring and evaluation approaches can be described by the interaction of these two dimensions.

FIGURE 1

CURRENT APPROACHES TO CHC EVALUATION

	INTERNAL	EXTERNAL
FORMATIVE (Process)	* Centre-based program planning & evaluation (including needs assessment)	* Community Health Accreditation and Standards Project (CHASP) * Health Service Agreements * Community Health Information Retrieval System (CHIRS)
SUMMATIVE (Outcome)	* Small-scale studies of program impacts	* Participation in statewide health education or service-delivery initiatives

In the first of the four cells (Formative/Internal) fall evaluation approaches which might simply be considered a part of good management practice. They comprise internal procedures for rational allocation of worker time, which represents roughly 80 percent of Centre budgets. Centre-based service planning and review procedures in wide use across the sector include: documentation of indicators of need for a given service, estimations of staff time and other resources needed for implementation, identification of expected benefits of the program or service, documentation of any alternative sources of the service in the community, consideration of what Centre activities need to be curtailed in order to provide the service (assuming no additional external funding), and development of indicators which would signal the need for program review and/or early termination.

Program goals are usually phrased in terms of `process' indicators: number of persons attending a health education program, attendance at inter-agency case-coordination meetings, number of patient consultations per session, etc. These represent intermediate outcomes which are minimally-necessary processes for the achievement of longer term health outcomes.

Program/service plans are most often submitted to the Centre's Board of Management (or a sub-committee of the Board) for discussion, modification and/or approval. Many Centres monitor demographic and epidemiological data for their community to guide service planning. Centres periodically conduct larger, community-wide `needs assessment' studies to document how their services fit into the pattern of other locally-

based services,⁷ and to consult with the community about perceived needs for new services. Annual and quarterly meetings of registered members of the Centre also serve this function to some extent, by providing opportunities for interested parties to raise local health issues which the Centre should consider in setting priorities.

Centres vary considerably in the importance they give to these internal evaluative mechanisms. Some Centres add a 'summative' component to program and service evaluation, attempting to document patient/client satisfaction, and/or changes to clients' health-related attitudes, health practices or actual health status, brought about through the Centre's interventions. They are not frequently done, however, and even less frequently submitted for publication.

Studies of this sort usually require research-design skills not available amongst Centre staff, and entail diversion of limited staff time away from direct service activities. Furthermore, outcomes are affected by a myriad of factors outside the control of community health workers, and generally interventions form part of a longer-term cumulative process of which program participation is only one step.⁸

Reporting a 1984 Victorian survey of CHC evaluation activities by Blacker and McLennan found that the major difficulties impeding internal evaluation were:

- lack of staff time
- lack of staff knowledge and skills
- staff reluctance due to the perceived methodological difficulties involved, and
- staff resistance.⁹

Since that survey was reported, work by Hawe, Degeling and Hall has led to the publication of a highly accessible guide to program evaluation¹⁰ which goes some way toward equipping interested health workers to design and implement evaluations of community health programs.

External evaluation can also be focussed on processes (formative) or outcomes (summative). Figure 1 refers to a number of external/process evaluation efforts in which Centres participate. The Community Health Accreditation and Standards Project (CHASP) is a voluntary external review of a Centre by independent assessors against the published CHASP standards.¹¹ It is modelled on hospital accreditation procedures (also voluntary), but with standards specifically tailored to community health work. Both systems rely on process measures; for example CHASP standards include: the existence of a complaints procedure within the agency, designation of specific health education staff, appropriate physical facilities.

HDV Regional Offices require the signing of an annual Health Service Agreement which encompasses one-year, three-year and 10-year Centre service delivery plans, and which specifies the Centre's approved budget. Generally these are collaborative plans negotiated between Centres and their Regional Office, providing the Department

with influence in Centre priority-setting, and a means of monitoring activity levels in the Centres.

The Community Health Information Retrieval System (PC-CHIRS) is a soft-ware package developed by the Department for use in CHCs to automate recording of transaction data about the Centre. It has encountered major problems in devising suitable categories for the recording of CHC activities other than one-to-one service delivery, and for that reason compliance with recording is variable, and reports derived from the system cannot be considered to provide a balanced picture of CHC activity. Some Regions use CHIRS to monitor and compare activity levels over time and between CHCs, but the weakness of the system in health education, community development, service coordination and other areas make such comparisons unreliable.

External outcome evaluations of Centre programs are not frequently undertaken for reasons similar to those discussed regarding internal outcome evaluations.¹² In Victoria, the exceptions are typically programs initiated outside the Centre and involving multiple sites, such as the statewide needle-exchange program, hospital/CHC `shared-care' programs, or university-based research interventions (e.g., diabetes control).¹³

1.5 Report Overview

This introduction has focussed on the policy context in which CHCs undertake or are subjected to all forms of evaluation. It has highlighted a number of challenges facing evaluators of CHC programs, and has reviewed current approaches to evaluation, conducted both internally and externally.

The next section provides an introduction to the area of economic evaluation, with reference to public sector programs in general, and health programs in particular. It describes the various forms of economic evaluation, including cost-effectiveness, cost-benefit, cost-utility, and broader policy evaluation approaches, and for each of these reviews the sequential steps generally used in undertaking such an analysis.

Section 3 identifies a number of key policy questions which economic evaluation might answer in the field of community health services, and discusses why the research approach must be tailored to the different types of programs offered by CHCs. Issues of efficiency, access, mix and quality of services are addressed, and the section concludes with an overview and summary table of the different types of CHC activity, the most appropriate form of economic evaluation, and the sorts of data required in undertaking each.

The final section reviews a number of misconceptions about economic evaluation as it might be applied to CHCs. Two of these misconceptions focus on `conventional wisdom' about the evaluation of health promotion programs, two on the `impossibility' of evaluating health programs, and a final section comments on the notion that financial access to services, important as it is, is the only measure of equitable health

outcomes.

Appendix 1 provides a concrete example of a proposal for the economic evaluation of a community health program, in this case, the extension of the Northcote CHC Needle and Syringe Exchange Program. Appendix 2 is a bibliographic essay on studies of the use of general practitioners in community health centres.

2. ECONOMIC EVALUATION DEFINED

2.1 What is Economic Evaluation?

Broad Definition

Economic evaluation is a form of analysis concerned with establishing the relationship between costs and benefits; where costs are defined as opportunities forgone and benefits the community welfare derived. The primary objective of economic evaluation is to provide an assessment of whether the program under consideration represents a desirable use of the community's resources, to assist in resource allocation decisions.

Because the community's resources are scarce relative to their potential application, the use of resources for one purpose precludes their use for an alternative purpose. Conceptually the real costs of a program are the value of benefits which could be achieved in the next best alternative use. In practice costs are measured by the market value of primary inputs (of labour, materials, capital).

Benefits also are generally measured by the market value of output, however this approach is only possible where the output is traded in the market. For public sector activities output is often not traded in the market and alternative techniques must be used to measure the value of benefits.

Whatever approach is taken to measure value, it is essential that it be comprehensive and relevant. Some erroneously believe that an analysis of financial impacts can provide a measure of health benefit. For instance, the value of production of persons returned to employment, through a health intervention can never provide a measure of program value. Its use for this purpose is conceptually invalid. The primary purpose of health programs is to enhance quality of life and reduce the severity, prevalence and incidence of illness and increase life expectancy. It is these matters which must be addressed on the benefit side of the economic evaluation of health programs. The unique value of most individuals is in their social and family context, rarely are people irreplaceable in the workforce. The notion of valuing health outcomes on the basis of economic activity from return to work is blatant nonsense.

There may well be second order financial impacts which follow from the primary health benefit and which may be of interest. Collingwood Community Health Centre has demonstrated, for example that 'flow-on' costs of prescribed pharmacy items are lower for CHC-employed general medical practitioners when compared with data from private practitioners.¹⁴ The assessment of financial impacts may well be a legitimate part of an economic evaluation, so long as it is recognised it cannot provide a measure of the value of total community benefit.

Another example of the incorrect specification of outcomes\health benefits is the proposition that health promotion should 'pay for itself'. The basic purpose of health promotion is to enhance the health status of the community by preventing illness rather

than intervening after the illness is established. The benefit of health promotion is the improvement in risk factors and consequent extension to life expectancy, reduction in morbidity and enhanced quality of life. Any improvement in health outcomes can be expected to change the demand for health services (and many other services), which will have some second order financial impacts for the health sector and elsewhere in the economy.

Measuring some of the financial implications may contribute to the evaluation of benefits, it can never however be equated with the benefit. Clearly health promotion should no more be required to 'pay for itself' or be undertaken at negative cost than should the hospital sector. The outcome sought from all types of health expenditure, that of improved health status, is exactly the same.

Outcome Evaluation

Outcome evaluation is often mistaken for economic evaluation. Practitioners who measure the outcomes of their programs sometimes assume that demonstration of any benefit for program participants is sufficient to secure policy or funding support. While knowledge of the outcomes of programs is an important component of an economic evaluation, it is not a substitute.

It is the comparison between outcomes and costs which distinguishes economic evaluation. The need to consider costs at the same time as benefits in assessment of performance reflects the proposition that because resources are scarce, decision making should take account of alternatives forgone (trade-offs). The fact that a program may yield some benefit, may not be sufficient to justify ongoing resourcing.

Economic evaluation requires the measurement of outcomes, and practitioners will often be relied upon to provide this information. However where outcome measures are to be used for economic evaluation, they may need to be in a different format than is appropriate for standard clinical purposes. This is because practitioners often measure intermediate outcomes (change in measured blood pressure, for example) or the efficacy of interventions under ideal conditions, rather than real-world changes in people's health status or well-being.

This is understandable; demonstrating ultimate health outcomes is more costly, requires a longer time frame, and is conceptually more difficult. In some cases the links between intermediate and ultimate health outcomes are well established by prior research, in which case assessment of change in the intermediate outcome may well provide adequate information for conduct of an economic evaluation. It is also possible for intermediate outcomes to be used to prepare a cost-effectiveness comparison of two ways to achieve a particular intermediate outcome, without a precise description of the relationship between the intermediate outcome and health status.

But where these links are not well established, and where decisions must take account of resource scarcity, or where the community as a whole must make choices, narrowly

defined outcome studies will have limited policy relevance.

Classification of economic evaluation approaches

Four basic approaches to economic evaluation can be distinguished. Each has a particular role depending on the evaluation question and type of program to be evaluated. The four approaches described here are: cost-effectiveness analysis, cost-benefit analysis, cost-utility analysis and policy evaluation.

2.2 Cost-effectiveness Analysis

Cost-effectiveness analysis is a commonly used approach to economic evaluation which is particularly applicable to the review of government sector programs and policy. The essential feature of cost-effectiveness analysis is that outputs are described in natural units and no attempt is made to place a dollar value on outcomes. The performance description becomes one of comparing the cost of achieving the assessed outcome.

For this approach to have policy relevance some comparison needs to be made with other similar services or other services designed to achieve the same outcomes. This is necessary to establish whether the assessed performance, in terms of cost-effectiveness, is good or poor. Relevant comparisons are not always easy to undertake. For this reason, cost-effectiveness analysis may involve substantial data collection and analysis in order that robust conclusions can be developed about program performance.

Cost-effectiveness analysis can be used as an internal evaluation tool to address the efficiency question of whether the outcome of the program is being achieved in the most cost-effective fashion. Depending on how outcomes are defined and opportunities for comparison, cost-effectiveness analysis can also be used for broader performance assessment and in the allocation of resources between program areas.

Cost-effectiveness analysis involves the following set of activities:

1 Describe program under review

A full description of the program is required covering program history, objectives, implementation arrangements, target group etc.

2. Describe and measure output

The description and measurement of output is a crucial part of cost-effectiveness analysis. This description can at its simplest level be expressed in the units of service delivery, such as patient throughput (with/without adjustment for quality of service); or in other intermediate outcome measures such as number achieving a resolution to the presenting problem; or in ultimate outcome measures, such as assessed effect on

quality of life, morbidity or mortality. Output should include both intended and unintended consequences, which may need to be specified in probabilistic terms.

The appropriate outcome unit will depend on the purpose of the evaluation, nature of the program, and possible comparators. Where accepted approaches to measurement of output have been developed for a particular type of service, these can form the basis for effectiveness measurement.

3. Estimate cost of service delivery

The cost of service delivery should reflect only those resources allocated to achievement of the program under review as identified in task one. This will often require the attribution of staff time between several activities, to ascertain that which is attributable to the program under review. It will also require decisions about the attribution of overheads. It is particularly important that where cost-effectiveness calculations for different programs are to be compared, that the costs as well as outputs be defined in a consistent fashion.

It is possible for costs to be shifted between different groups in the community, for instance between, clients, the Community Health Centre, local government, the state or the commonwealth, other service providers. It is necessary to ensure costs are adequately specified so that if cost differences reflect differences in funding arrangements this is recognised.

4. Prepare cost-effectiveness estimate

The third task is to relate costs (from task 3) to output (from task 2) to calculate a cost per unit of output. This may for instance be in the form of \$x per client seen by the particular service, or dollars may be related to an alternative measure of health outcome which is believed to more closely relate to community benefit.

5. Consider performance implied by cost-effectiveness estimate

There are a number of possible approaches to assessing performance. This can proceed either via a comparison with accepted standards of performance. There may be accepted or at least common measures of efficiency, in terms of cost per unit of output (such as is provided by schedule fees or published professional charges) which could be used. Alternatively, or in addition, it will be necessary to make direct comparisons with cost-effectiveness estimates for other similar programs, or with quite different programs which are directed at the same ultimate health outcome. Assessment of performance thus requires some information on suitable comparison programs be found. If such information is not readily available it must be generated.

6. Develop recommendations about on-going program resourcing

Depending on the result of the performance assessment, it should be possible to draw

conclusions about whether the program represents an efficient way of delivering the particular outcome, which is a basic requirement for justifying ongoing funding.

A cost-effectiveness assessment can be used for internal management purposes. Knowledge about the efficiency of service delivery, can assist assessment of whether a service could potentially be reorganised to increase output at the same cost, or deliver the same output at lower cost. Alternative resourcing arrangements may as a consequence be suggested to increase productivity.

Overview

With the delivery of services by the government sector, definition of output is rarely simple. Even with direct delivery of patient services, there can be issues related to quality of care, patient characteristics and scope of service. Definition of the ultimate benefit delivered by patient services is rarely attempted. The need for suitable comparator data can also present problems, particularly if equivalent services are not provided elsewhere.

This does not suggest that cost-effectiveness analysis should not be attempted, but that some pragmatism in its application is required. For instance if output is to be described in simple throughput terms, then issues of quality will need to be explicitly incorporated into the analysis, even though this may only be possible in descriptive terms.

2.3 Cost-Benefit Analysis

Cost-benefit analysis is at a conceptual level quite simple. It involves, for the program under review, comparison between program benefits and costs, in order to establish whether costs exceed benefits or 'vice-verse'.

Taken in isolation or commonly as part of a review of a set of program options, cost-benefit analysis is used to establish which programs represent an appropriate use of the community's resources (in that they contribute to welfare maximisation). Cost-benefit analysis involves, as far as possible, the process of translating costs and benefits into a common unit of measurement of dollars.

It is the form of economic evaluation most commonly used in the evaluation of major infrastructure projects in the public and private sector, to decide whether projects should be funded.

Many administrators and service deliverers within the public sector are wary of cost-benefit analysis and doubt its capacity to validly assess costs and benefits of public sector programs where outputs are often said to be non-quantifiable. However it is important to recognise that every time resources are allocated to a particular program, the implication is that benefits are greater than costs, otherwise the resource allocation decision is irrational. Thus every day administrators and others make decisions which

imply a cost-benefit assessment. (See discussion in Chapter 4).

This is not to deny that in practice political imperatives may have a substantial influence on decisions, but that it is still expected that administrators seek to allocate resources so as to maximise benefits to the community. The political process is one way of obtaining feedback on costs and benefits. A rigorous cost-benefit analysis is another way, which should enable a more comprehensive assessment of impacts. Of course a cost-benefit analysis can and generally should be sensitive to the policy context and the role of pressure groups.

The role of formal cost-benefit analysis when applied to public sector programs is to inject some rigour into the decision making process, to assist policy makers with the ongoing task of allocating resources, of choosing between programs. The process of conducting a cost benefit analysis invariably provides additional insights into program benefits and program costs even if, ultimately it proves not to be possible to develop precise estimates of benefit.

Perhaps when describing cost-benefit analysis of public sector programs, where outcomes do not lend themselves to quantification and where the analysis will incorporate many uncertainties and judgements, it is advisable to use a different term. We therefore refer to cost-benefit analysis of this type of public sector program (where outcomes are difficult to quantify), as 'pragmatic' cost-benefit analysis, emphasising the more creative nature of this type of evaluation.

A pragmatic cost-benefit analysis involves the following steps:

1. Describe the program under review

A full description of the program is required for any economic evaluation activity. it is not possible to evaluate a program which is not understood by the analyst. Program description may need to include program history, stated objectives, means of implementation target group, etc.

2. Describe all program impacts

All program impacts, not just financial flows or impacts readily translatable into dollars, need to be described. This description should cover all resources allocated to the program and key outcomes. There may be both immediate and longer term impacts, projected and actual, which need to be described. It may also be useful to distinguish impacts by community group on which they impinge, which should include any negative or unintended consequences. Description of program impacts is an important exercise in itself and can provide decision makers with useful information.

3. Measure costs and program outcomes

All resources allocated to the program need to be measured, initially in the basic units

of input (eg person hours/equivalent fulltime positions, materials and other inputs at cost). Discussion of appropriate treatment of administrative and other overhead costs will be necessary.

Program outcomes need also to be measured in basic units such as patient throughput, health outcome (if it can be established), number of participants, other.

4. Value costs and program outcomes where possible in dollars

Generally it will be a relatively simple matter to value costs (resource inputs) in dollars. In relation to program outcomes this is far more of a challenge. The types of approaches that can be used include survey of participants regarding willingness to pay for the service, or compensation needed to be persuaded to do without. Where a similar service is provided by the private sector, willingness to pay as demonstrated by fees, can be used as an estimate of value. This can, at the least, be used as a preliminary estimate of value, which may be modified to take account of quality issues or client profile or other pertinent matters.

It is almost inevitable that some outcome measures be left in their original units and not be translated into dollars. Outcomes then appear as a hybrid of dollar valuations and descriptive measures.

5. Compare costs and benefits to establish performance.

The final and most important task in cost-benefit analysis of public programs is the comparison between benefits and costs to draw conclusions about program performance. As there will rarely be certainty in the estimated benefits of health programs or even of costs, creative approaches need to be applied to draw powerful conclusions from the analysis.

Even where it is not possible to track through all potential benefits or place a dollar values on them, it still is often possible, with the available information to draw conclusions concerning the likelihood that benefits will exceed costs. Invariably sufficient information can be gained to determine whether or not the program does, or does not represent an appropriate allocation of the community's resources, evaluated as a single program or in comparison with other programs.

A useful approach is to specify those assumptions or judgements that will support a favourable program performance and that set of assumptions that will not, and consider the plausibility of the alternative sets of assumptions.

Creativity in the process of comparison between costs and benefits is perhaps the key distinguishing feature between what we are calling a pragmatic cost-benefit analysis and traditional cost-benefit analysis. In traditional cost-benefit analysis costs and benefits are expected to be able to be specified with more certainty and performance will often be a simple benefit-cost ratio (or internal rate of return estimate).

It is this ability to draw conclusions about program performance even where costs and benefits cannot be precisely specified, that makes cost-benefit analysis a more useful tool for health program evaluation than is generally recognised. For instance, if only a part of program outcomes can be valued, but these alone are found to exceed the value of costs, powerful conclusions can be drawn about program performance even with an incomplete data set. Sometimes benefits cannot be valued but just by describing them in an appropriate form, and comparing them with costs it is possible to draw conclusions for instance, that most reasonable people would agree that benefits can be expected to exceed costs or vice-versa.

A major advantage of pragmatic cost-benefit analysis over cost-effectiveness analysis is that no comparator is needed to draw conclusions about program performance. Pragmatic cost-benefit analysis is a self contained economic evaluation approach which can potentially provide clear signals to policy makers, without having to be part of a more comprehensive study designed to rank all or some health programs.

The use of cost-benefit analysis is most appropriate for an individual project, or a program consisting of a group of projects which can be precisely defined and where actual or potential impacts can be identified. Impacts may be both short term and long term, direct and indirect and as discussed may be subject to some uncertainty, which may be treated in a probabilistic fashion. The more complex the program and the more difficult it is to describe expected program outcomes, the more difficult it becomes to undertake a pragmatic cost-benefit analysis.

2.4 Cost Utility Analysis

Cost-utility analysis has been developed specifically for the economic evaluation of health programs. Because of concerns about assigning dollars to health outcomes or health states, and the limitation of cost-effectiveness analysis in comparing programs with different outcomes, an alternative approach to health program evaluation has been developed, of cost-utility analysis.

The distinguishing feature of cost-utility analysis is the attempt to bring all health benefits into a single utility measure, which is not dollars. The health outcome measure commonly used is the QALY, or quality adjusted life year. (Where the QALY is defined as the impact on life expectancy adjusted for quality of life, with weightings generally based on a scale ranging from 1, perfect health to 0 death or worse).

The broad method of cost-utility analysis is to estimate program cost to achieve quality adjusted life years. These cost\QALY results can, it is argued, be compared with other estimates of cost\QALY achieved by other health programs to assess program performance and for ranking against other health programs.

This approach is favoured by many health policy analysts because of its theoretical capacity to compare a wide range of health programs. Its major weaknesses relate to

difficulties in achieving agreed approaches to definition and measurement of health outcomes in quality adjusted life years, which requires assessment of program impact on life expectancy and quality of life. There are important conceptual issues for instance, about whether quality of life can be measured in a meaningful and consistent fashion, whether all QALYs are equivalent and can be simply summed and compared and whether it is reasonable to assume that quality of life and longevity are tradeable in the manner indicated by QALY tables.

Apart from the conceptual issues the measurement and data collection requirements to establish the effect of a health program in QALYs are likely to exceed the skills and resources of the community health sector.

However in principle because much of what community health centres do is directed to enhancing quality of life, future developments in the implementation of cost-utility analysis may well be useful for the community health sector.

2.5 Policy Evaluation

Policy evaluation is an economic evaluation approach which is particularly applicable to the review of broad policy which may have several diverse program elements, and particularly where directed at broad community objectives such as equity or justice. It is also particularly relevant where outcomes are expected to be long term and possibly diffuse, for example as with community development activity and research. The 1985 Ministerial Review of Community Health Services was such an evaluation. Often a policy evaluation will need to be supported by cost-benefit and cost-effectiveness analysis of individual program components.

The key activities of a policy evaluation are to:

1. Define the broad objectives of the policy

The broad objectives of the policy need to be identified from basic documents supporting the establishment of the policy/program, through discussions with those implementing the policy and as revealed by the focus and effect of the policy. Discussions with a range of interested parties may also be desirable. It is possible that a number of potentially conflicting objectives may be identified, which could well be hampering program implementation. Such matters should not be ignored in a policy evaluation.

2. Establish broad validity of the objectives

The second task is to establish whether the identified objectives are supportable. This needs to be done with care and from a number of perspectives including:

- from first principles reasoning,
- by recourse to policy documents and with an understanding of the context in which the policy has been developed,
- by relating the objectives to accepted goals and values of our society (such as equal access to health care, greater equality in health outcome, efficiency in resource use, provision of choice where possible and appropriate, etc.)
- through discussions with policy makers and affected groups.

3. Assess relevance of policy/program to nominated objectives

The key task is then to assess whether the nominated policy/program (eg Community Health Centres) represents a reasonable approach to achievement of the nominated objectives. There is no simple model for answering this question and generally the approach will need to be based on first principles reasoning. The questions to be answered are:

- whether the policy in theory represents a logical approach to address the objectives, judged in terms of the process and potential outcomes, and
- whether any alternative policy would be expected to represent a superior means of addressing the policy objectives.

4. Assess whether the program/policy seems to be performing as expected.

To assess whether the policy is performing adequately requires consideration of both implementation and operational issues and apparent outcomes. Thus evidence needs to be obtained on operational performance as well as the extent to which targets and broad policy objectives are being achieved. Some elements of cost-benefit analysis are likely to prove useful.

On the basis of the policy analysis conclusions would be drawn about program performance and desirable program modifications to enhance its performance. No simple evaluation protocols can be described for this purpose, but skill and experience in economic evaluation and a creative approach to policy analysis are all required.

2.5 Overview

What we have outlined is a hierarchy of economic evaluation approaches which go from the least complex narrow efficiency assessment and cost-effectiveness analysis, to the more complex and often more powerful cost-benefit analysis, directed at the question of allocating resources between competing programs and sub-programs. Finally we described broad policy analysis which is a form of economic evaluation concerned with overall policy objectives and the capacity of a broad program area to meet the community's objectives.

Outcome evaluation is more constrained than any of the economic evaluation approaches.

In relation to the economic evaluation of Community Health Centres there is a place for all three types of economic evaluation. In common language economic evaluation is seen to have two broad components, that of efficiency; which is concerned with delivery of services in an efficient or least cost manner taking account of quality of service as well as volume, and targeting; and that of whether a suitable mix of services is being provided and is being accessed by the appropriate clientele?

Sometimes these two aspects of evaluation are referred to as;

1. Are we doing the thing right? and,
2. Are we doing the right thing?

The particular type of evaluation approach that is most appropriate will depend on the purpose of the evaluation and the nature of the program under review. The implications of the forgoing discussion for the economic evaluation of Community Health Centres is taken up in the next section.

3. ECONOMIC EVALUATION OF COMMUNITY HEALTH CENTRES

3.1 Purpose of evaluation

The first task which must be completed is to be clear about the reason for the evaluation of Community Health Centre(s). As part of this it is necessary to establish the policy context and what is to be done with the evaluation. This forms important background information which is used to define the scope of the evaluation and will also indicate the type of economic evaluation that is appropriate.

The possible reasons for undertaking an economic evaluation of Community Health Centre(s) are likely to fall into one of the following broad categories:

1. Promote efficiency in service delivery

An evaluation of Community Health Centres may be undertaken to assist health centre management to ensure their Community Health Centre is providing services as efficiently as possible;

2. Contribute to decisions about mix of services provide by Community Health Centre(s)

Establishing the suitable mix of services is perhaps one of the most difficult management decisions. Economic evaluation can be used to assist centre managers, staff and Boards of Management in allocating resources between broad program areas, between direct service provision and health promotion, between professional disciplines and between client groups;

3. Contribute to performance monitoring of statewide or regional programs funded under special purpose grants

Economic evaluation may be required as part of the monitoring of statewide, health promotion or health delivery programs which are implemented in part through Community Health Centres, where CHCs represent an integral part of the program delivery model. These include programs which are centrally initiated and centrally funded and others where central management is weaker and the initiative is largely from the Community Health Centre which applies for a once off program grant.

4. Resourcing of community health

Economic evaluation may contribute to deliberations concerning resource allocation to the community health sector and to Community Health Centres, in the

context of overall health sector planning and budgeting.

A different evaluation approach is applicable to each of the above questions. What may be appropriate in some circumstances is a staged evaluation, which answers a number of separate evaluation questions. This could start with basic efficiency assessments, then involve cost-effectiveness calculations, then explore the cost-benefit performance of individual programs, review of the mix of services and programs offered and also a review of the broader policy issue.

Because CHCs offer a wide range of programs and services which are quite different in nature, a targeted evaluation approach is required, which recognises this diversity. It is appropriate to link the evaluation approaches to the types of services typically provided by Community Health Centres. For this purpose broad categories of activity can be defined.

3.2 Classification of Community Health Centre Activity

1. Direct client services

Direct client servicing covers services provided by health professionals on an individual basis or in groups such as podiatry, dental, general practitioner, social work. This group typically represents the dominant activity of CHCs. These services are generally provided at the Community Health Centre but may also be provided in the clients home or elsewhere. They may be delivered by individual professionals or as a team, through the health centre staff alone or in collaboration with other agencies. The service may include telephone support as well as face to face service provision.

Direct client servicing generally involves provision of services which are much the same as those provided by the private sector. Involvement by Community Health Centres generally reflects a perception of lack of access to these services in the private sector by certain groups within the community (due to price, location, cultural issues, lack of individual motivation, etc). Identification of barriers to access is an important step in the evaluation of service mix within community health centres.

There are also arguments about quality of care and focus and opportunity for team management, which are said to distinguish service provision in Community Health Centres, from similar services available in the private sector. This may well provide a justification for provision of services which may seem to be available elsewhere, but this should be explicitly acknowledged and suggest a particular type of performance criteria.

2. Community work initiated by the Centre

Community Health Centres provide a range of services to their communities, which because of their diversity may require separate evaluations and also different approaches. The types of services within this category include:

- (a) general community work, eg health education/health promotion in schools or in the wider community, or working with at risk groups;
- (b) setting up and facilitating special interest groups with a focus on self help, such as Over 60's groups, ethnic womens groups, walking groups, friendship groups, etc.;
- (c) inter-agency coordination;
- (d) community programs funded through special purpose grants, which may form part of a statewide program. The resourcing of these programs will often be for one year only and depend on the success of grant applications. We would include here for instance funding for an access worker to deal with homeless youth, funded by through a grant from the HDV.
- (e) others relevant to a particular Community Health Centre.

3. Participation in state-wide initiatives

Community Health Centres are involved in delivering services as part of statewide or regional initiatives. Planning and some resource support will be expected to be provided by the relevant central agency. An example is the Needle and Syringe Exchange Program, funded through a special HDV grant. These programs are more likely to be ongoing than those classed into 2 (c) above.

It should be possible to classify the services of any Community Health Centre into the above categories. Where activities may straddle the above classification, it may be helpful for evaluation purposes to think of them as having two(or more) program components. For instance a screening program may have elements of health promotion within the community, but also involve direct service delivery. An evaluation of that program might need to be undertaken in two parts, and recognise distinct elements in program delivery and outcomes.

The above classification of health centre activities does not include administrative and staff development activities. They clearly represent a use of resources are not part of direct client service delivery, and need to be treated as an overhead and allocated across the Centre's entire program. Classification of the activities of a Community Health Centre, using the above (or similar) classification system is a necessary preliminary to the conduct of an economic evaluation of the Centre.

As part of the classification process, the Centre's staff resources (and other resources) would be allocated to a service or program and thus class of activity. It is probable that many staff will divide their time between direct client services, general community work and participation in a statewide program, as well as management and staff development.

While this mix of duties makes the task more demanding, it is important, not only because different evaluation procedures are appropriate for different classes of service, but for internal management reasons. It is always desirable that costs are attributed to programs and outcomes, and not just allocated to cost centres.

We can now explore the application of suitable economic evaluation approaches to different types of activities of Community Health Centres. Note that while it is acknowledged that an understanding of the health of the community served by the community health centre is important, needs definition should be placed within a particular policy context. This issue is thus considered in section 3.6 under the discussion on Mix of activities provided by a community health centre.

3.3 The Evaluation of Direct Client Services Using Cost-Effectiveness Analysis and Efficiency Assessment

A cost-effectiveness analysis and efficiency assessment are particularly applicable to an evaluation of Community Health Centre activities which are characterised by direct client service provision, and where the outcome is broadly equated with the service delivery activity. It is applicable whether the service is delivered on an individual basis or in group sessions, at the Centre or within the community.

The basic distinguishing feature of this class of activity is the individual client focus and the broad equation between outcome and service delivery. This evaluation approach will work best, where the client service can be assumed to be at least as effective as a comparator service, in the absence of evidence about health outcomes.

A large component of the work of CHCs is direct client services. Community health centres deliver a range of patient services which readily lend themselves to an efficiency assessment (in which client throughput is compared with resource input). The efficiency assessment forms the basis of the cost-effectiveness analysis.

The most common activities of Community Health Centres which represent direct client services include;

- podiatry,
- dentistry,
- physiotherapy,
- social work,
- general practice,
- dietitian,
- occupational therapist,
- community nurse,
- psychiatry.

An efficiency assessment and cost-effectiveness analysis for these types of direct

client services would involve the following steps:

1 Attribution of resources to direct client services

Identify resources allocated to individual client services (as distinct from general community work such as health education, health promotion, participation in specifically funded programs). Administrative time should also be separately identified, and then apportioned back to direct client time (and general community and specific program work, perhaps proportional to the direct resources allocated to these activity areas).

2 Measure Output

Measurement of service throughput can be treated initially in a simplistic fashion in terms of number of client contacts by type of service. Clearly this type of data needs to be recorded accurately and summarised on a regular basis. Most Community Health Centres have some client contact information, although completeness and accuracy are not consistent. Individual and group face-to-face and telephone contacts should be counted although separately identified and summed.

In order to include considerations of quality of service or other issues which may be expected to affect cost per throughput it may also be desirable to consider other measures of output. For instance it may be useful to summarise additional information related to output such as length of consult, client profile (eg ethnicity, income, employment status), type of presenting problem, any information on health outcome, client satisfaction.

The most appropriate measures of quality cannot be established in the abstract but will need to be considered for each type of service, and reflect reasons for delivering the particular service by the Community Health Centre.

3. Estimate cost per unit of service

The next activity is to derive a productivity estimate. In the first instance derive a simple estimate of attributable cost per client contact. Where a client contact is ongoing, for instance with some social work activity, the more appropriate basic productivity measure may be case load per equivalent full time worker.

Other components of outcome or qualifications (which may be descriptive rather than quantitative) that may be appropriate should then also be considered to derive a modified (or adjusted) productivity estimate.

4. Develop a comparator cost for each service

Establish a suitable basis for initial comparison between productivity of Community Health Centre and similar service delivered elsewhere. Reasons why the chosen

comparator does or does not represent an approximately equivalent service should be described.

The comparator might for instance be based on average cost per service within the private sector for an appointment with the health professional, or be based on recommended fee schedule for the relevant professional group, for the types of services offered.

5. Estimate cost-effectiveness of each service

Cost per unit of service delivered by the Community Health Centre needs then to be compared with the selected comparator. In reviewing the outcome of this calculation, expectations about quality differentials, or particular features in the manner of service provision which would make the Community Health Centre service intrinsically more or less costly should be made explicit. This needs to include pertinent patient characteristics, (such as proportion non-English speakers).

Conclusions should then be drawn about the efficiency of each client service provided by the Community Health Centre, (or by Community Health Centres taken as a group).

3.4 Community Based Programs and Separately Funded Programs

In general, community based programs will not be amenable to simple efficiency assessment or cost effectiveness analysis. This is because outcomes will for the most part be difficult to define and measure, and will often have long term objectives with little expectation of short term outcomes. The success of these programs may also rely on a range of circumstances beyond the control of the Centre. (This does not absolutely preclude economic evaluation, but may limit the use that can be made of such analysis. Also there are unlikely to be private sector comparators).

For community based programs, including those supported through special funding the relevant economic evaluation approach will be a pragmatic cost-benefit analysis, possibly in combination with a policy analysis. The aim of such an analysis is to describe program outcomes and to compare these with resources allocated, to gain some insight into whether the activity represents a desirable allocation of the scarce resources of the Community Health Centre.

Certainly at the least, some measure of outcomes for every community program should be generated. These will preferably be in terms of immediate and postulated longer term health impact. At the very least outputs should be expressed in terms of intermediate outcomes measures such as number of contacts, identified change in behaviour, or attendance for a screening program, audience reach etc. Particular attention to composition of contact group will probably important.

A potentially useful approach to assessment of program outcomes is to summarise a number of individual case examples, to illustrate the nature of the impacts of the

program. It is not however enough to simply describe a number of case histories this needs to put in the context of the program costs, potential size of target audience, apparent success in reaching target group etc. The analysis can then include judgements about the frequency of cases like those described, and related to the number of such cases that need to be identified to justify the programs resourcing, which will provides useful insights into program performance.

The evaluator cannot rely on a simple handbook on how to do this type of evaluation as a particular approach needs to be developed that is most appropriate for the particular type of community activity under review. This requires skill, experience in public sector economic evaluation, sensitivity to the policy context and creativity.

For community based programs which receive special funding, the funding application will generally include a description of the programs objectives and also a monitoring process for measuring the effectiveness of the program. This should provide the framework for evaluating this class of Community Health Centre activity. Invariably the performance test is whether the program achieved what it set out to achieve within the budget, as defined in the grant application.

This will possibly amount to outcome measurement only and is unlikely to include a direct comparison with costs or any attempt to value program outcomes. As far as the Community Health Centre is concerned these programs do not compete with their other programs as they are separately resourced. From the community's point of view a more comprehensive cost-benefit analysis of theses programs which goes beyond monitoring of grant expenditure would be desirable.

3.5 Programs That Form Part of Statewide (or Regional) Initiatives

Programs of Community Health Centres which form part of statewide or regional initiatives, and generally receive special funding can best be evaluated on a statewide or regional basis. This would be expected to be the responsibility of the central agency that is coordinating the program. However the Community Health Centre clearly has a role in this.

Program description would normally include description of a monitoring process with definition of information required from participating Community Health Centres to contribute to program performance assessment. The responsibility of the Community Health Centre is essentially restricted to provision of requested monitoring information and participation in an overall assessment of the program.

The basic premise with this type of program is that Community Health Centres form an integral part of program delivery with a clearly defined role.

The Community Health Centre still needs to do a separate assessment to establish whether their involvement in the program is in their own best interest. This will need to consider the objectives and philosophy of the Community Health Centre, perceptions of

what the program is achieving, as well as consideration of resources tied up in delivery of the program which could otherwise be utilised elsewhere. Of course Community Health Centres need also to consider operational issues and establish that the program is being delivered in an efficient manner.

3.6 Mix of Activities Provided by Community Health Centres

Perhaps the most difficult evaluation question relates to what mix of services a Community Health Centre should provide (or which should be provided by the community health sector). The answer can be simply stated as that mix of services which will contribute most to the health and well-being of the constituency, for the resources allocated. However this is difficult to establish. There is no simple way of determining this optimum mix of health service activities. Instead a few principles must be relied upon in assessing choice of services/activities for a CHC.

Selection of services and activities for delivery by a Community Health Centre will properly reflect the priorities of the management committee of the Community Health Centre. It would be hoped that these priorities will be influenced by an assessment of the health needs of the local community not adequately met by other service providers. Consideration of this will reflect the following considerations:

1. Availability of services which are traditionally provided by community health centres

The question of access to services should take into consideration:

- direct cost to clients and capacity to pay,
- availability of services within the local region,
- suitability of services for particular community subgroups(by ethnicity, age, etc) which are identified as the priority client groups.
- evidence of queuing or delay in being able to access particular services.
- other evidence of unmet demand.

2. Issues of quality of service and model of care

Does the Community Health Centre perceive it has a role to extend client choice by offering an alternative and arguably superior model of care. Furthermore it would need to be established that particular services offered by the CHC are different and for their clientele superior.

3. The particular service/activity can only be provided through a Community Health Centre

The main argument for Community Health Centre involvement in some types of health promotion health education activities is that the Community Health Centre is the logical point for delivery of these types of programs and that other groups cannot or would not provide such services as effectively.

4. Support for programs and services by the community

Feedback on effectiveness of particular services or activities to establish what they are seen to be achieving and how they are regarded by the direct client group but also by the broader community should also be obtained when reviewing program mix?

5. Opportunity for service provision given funding realities

In assessing service mix overall budget constraints must be kept in mind, as well as possibility for tapping alternative sources of funds to support particular types of services.

Activities provided by the Community Health Centre should be reviewed in relation to the above criteria to see whether they seem to have a basic justification. If such a justification cannot be readily established the provision of the particular service or activity by the Community Health Centre may need to be critically addressed.

Once a basic justification is established there is still the additional economic evaluation task to establish whether the particular activity represents not just an acceptable use of the Centre's resources but in fact represents the best use of the Centre's resources. This latter is a difficult evaluation question for which there are no simple evaluation tools to address.

3.7 Broad Policy Evaluation

We understand that broad policy evaluation is not the primary focus of this paper. There are a number of broad policy questions, one of which concerns the legitimate role for Community Health Centres within the total health delivery system. A policy analysis directed to this question would need to address such issues as:

- the budget allocation to the community health sector and to Community Health Centres within that.

- the legitimate focus of Community Health Centre activity, in terms of broad distribution of resources between direct client servicing, general community health work and participation in the statewide delivery of health services;

- the particular types of client services that should be offered within Community Health Centres and the basis for the selection of these services,

- targeting of Community Health Centre services, how can need be defined.

Some of these issues need to be addressed by individual Centres and some can only be explored as part of a wider analysis. Describing the process for a detailed policy evaluation, which draws on the objectives of Community Health Centres and their place within the total health sector is beyond the scope of this paper. This is not to say that it cannot be done or that the evaluation activities proposed in relation to the different types of Community Health Centre activities would not contribute to the process. However it is understood not to be the primary focus of this paper.

3.8 Overview

One way to summarise the above discussion is to classify the activities of Community Health Centres by the type of evaluation that is appropriate. This has been done in Table 6.1. In Table 6.2 the basic steps in conducting economic evaluations of Community Health Centres are summarised. It should be noted that while the framework for economic evaluation looks quite simple, its implementation requires considerable skill, experience, creativity and sensitivity to the policy context.

Appendix 1 contains a study outline for an economic evaluation of a proposed extension to the Needle and Syringe Exchange Program offered by Northcote Community Health Centre. While the evaluation approach is described in outline only, it provides an illustration of how the economic evaluation principles presented in this report can be applied to one community health centre program.

This example demonstrates the role for economic evaluation within the community health centre sector. It is hoped that the report conveys how economic evaluation can assist with assessments of the value of particular services and activities within individual community health centres, and more broadly in identifying strengths and weaknesses in current performance with a view to enhancing the impact of community health centres. Economic evaluation provides a means community health centres to review their work in a rigorous and meaningful fashion to guide the future directions of this sector.

As summarised in the concluding section of this report there are many common misconceptions which impinge on the evaluation of community health centres, which reflect, in turn, the lack of a culture of economic evaluation of health programs. However while it is acknowledged that the health sector overall is not consistently being subject to economic evaluation, when resources are tight, the role for such evaluation to ensure resources are allocated so as to maximise community benefit becomes more compelling.

TABLE 6.1

SUITABLE EVALUATION APPROACH AND BROAD DATA REQUIREMENTS BY TYPE OF HEALTH CENTRE ACTIVITY

ACTIVITY	SUITABLE EVALUATION APPROACH	DATA REQUIREMENTS
Service Delivery -podiatry -physiotherapy -GP -social work -dental, etc.	Efficiency Assessment Cost Effectiveness Analysis	Resources allocated to individual client activities Throughput measures Quality of service descriptions/ measures Productivity of comparator service
General Community Programs	Cost-Benefit Analysis Policy Analysis	Program costs Description and assessment of program outcomes
Specially-funded Programs Statewide Initiatives	Cost-Benefit Analysis Policy Analysis	Program costs Description and assessment of program outcomes Monitoring data as per program guidelines

TABLE 6.2

STEPS IN THE EVALUATION OF COMMUNITY HEALTH CENTRES

1. ESTABLISH REASON FOR EVALUATION AND POLICY CONTEXT; DEFINE SCOPE
2. CLASSIFY ACTIVITIES OF COMMUNITY HEALTH CENTRES
3. DESCRIBE PROGRAMS TO BE EVALUATED, HIGHLIGHTING OBJECTIVES AND IMPLEMENTATION ARRANGEMENTS
4. ALLOCATE STAFF RESOURCES AND OTHER COSTS TO PROGRAMS AND ESTIMATE VALUE
5. ESTABLISH SUITABLE OUTCOME MEASURES
6. MEASURE AND VALUE OUTCOMES
7. ASSESS PERFORMANCE AND DRAW CONCLUSIONS

4. CONVENTIONAL WISDOM/Common MISCONCEPTIONS

4.1 Health Promotion/Health Education Should Pay For Itself

Perhaps one of the more pernicious 'conventional wisdoms' is that health education or health promotion activity should 'pay for itself'. This matter has been briefly discussed earlier in the paper but is considered so worrying as to warrant further attention here.

Health promotion and health education are part of the health delivery system, as are the hospital sector, invasive procedures, physician visits, the prescribing and use of drugs, etc. The distinguishing feature of health promotion and health education is that they seek to enhance quality of life and morbidity and mortality outcomes through the prevention of ill health through containment of possible progression of conditions. Other types of health programs intervene after illness is established, and seek to cure or ameliorate the effects. All types of health programs are directed at the same primary objectives of enhancing the health status of the community.

The normal expectation is that the achievement of outcomes will require the allocation of resources. The expectation is that to improve health status, by any means, will require the net contribution of resources; it will cost the community something. In suggesting that health promotion should pay for itself, it is the same as saying that health promotion should be able to achieve desired health outcomes and at the same time save the community resources. Quite properly this is not asked of any other type of health program, nor should it be asked of health promotion.

Of course if some health promotion programs could show that they were capable of generating health benefits at the same time as reducing health costs, (ie saving resources) such programs would be seen to have exceptionally strong performance and their funding would undoubtedly be justified. Furthermore if it could be shown that many health promotion/health education programs achieve health benefits at the same time as freeing up resources, (ie at negative cost to the community) this might suggest that health promotion/health education as a sector were inadequately funded relative to other types of health programs, which incur substantial cost to achieve health outcomes.

4.2 Health Promotion/Health Education Should Be Directed to the Young

The issue of to whom health promotion/health education should be targeted is complex. There seems a widely held view that health promotion and health education should be targeted at the young.

This proposition is amenable to economic analysis and a few comments are made here which suggest that in many cases greater health outcomes for resources allocated will be achieved if health promotion and health education activities are directed to older members of the community.

The first point to observe is that age specific death rates for most avoidable conditions increase with age, thus older members of the community are at more immediate risk from death or nonfatal events. With a successful health promotion strategy the community can potentially reap benefits more quickly from older members of the community. While some may argue that the community will also eventually reap the reward from health promotion directed at the young, benefits obtained 60 years hence using today's resources will for many seem a less favourable investment than gaining improved health outcomes from older members of the community much more quickly. This conclusion would be strengthened if it is believed the young could be just as effectively targeted when they are adults.

It is now known that with many risk factors once behaviour is changed, risk progressively reverts, often quite quickly towards baseline levels.¹⁵ This together with recent observations¹⁶ that older members of the community are capable of changing behaviours and may be more susceptible to health promotion messages than teenagers and young adults further supports a focus on older members of the community with health promotion.

The point of this discussion is not to argue that health promotion should only be targeted at older members of the community, but that assumptions about the appropriate target for health promotion should be tested. Economic analysis is capable of indicating the possible performance of health promotion programs which are targeted at quite different community groups, to provide information on the most cost-effective strategy. This should be used in the development and prioritisation of health promotion.

The outcome of such an analysis will depend on the method of analysis. including approach to the discounting of future benefits. There is no correct discounting factor to use and the best approach is to test performance under a range of discount rates, which may include zero.

4.3 There is a need for certainty in program outcomes

Certainty in program outcomes is clearly preferable in the conduct of economic evaluation. However in many health programs such certainty can not be provided. This relates to all types of health programs including; direct service delivery, where client contact is used as a surrogate for health outcomes and also for some health promotion/health education activities. In the latter there can be problems in defining intermediate as well as final outcome measures, and in attributing any observed behaviour changes or health outcome to the program in question.

It must certainly be acknowledged that this presents substantial challenges to economic evaluation, which in part explains the emphasis throughout on creativity in the application of economic evaluation. However, as pointed out earlier, decisions will be made about the resourcing of programs, and thus some attempt at economic evaluation is highly desirable to make this process more rigorous. Also, and perhaps surprisingly, it is almost always possible, even with very incomplete evidence on outcomes, by the use of 'reasonable' assumptions about key parameters combined with sensitivity analysis, to use economic

evaluation to provide valuable insights about program performance. In many instances it will be possible to draw powerful conclusions.

Because the focus of economic evaluation is resource allocation and not the generation of precise measures of efficacy, the need for precision in outcome data will tend to be different than where outcome data is being sought for clinical purposes. In some ways the data requirements are more demanding, there is greater emphasis on final outcomes rather than intermediate outcome measures, and in some ways less demanding in the requirement for certainty.

4.4 Economic Evaluation of Health Programs is not possible

A range of approaches to the economic evaluation of health programs has been presented in this paper. It is always possible to use economic evaluation to provide additional insights about the performance of any health program or policy.

What must be remembered, is that resource allocation decisions are made all the time, inferring judgements about performance. In the absence of economic evaluation, resource allocation decisions can only be made on the basis of ad hoc reasoning, political priorities, influence of pressure groups and through marginal adjustments to the status quo. It is usual that economic evaluation forms part of a multi-faceted decision process, which may incorporate other elements such as political priorities, ad hoc analysis, compassion etc. That is clearly acceptable.

While economic evaluation of health programs is not only possible but is highly desirable, it should be appreciated that the skill level required in its proper implementation not be under-rated. It is not only highly a skilled activity, but needs to be undertaken with sensitivity and creativity. This requires experience in the evaluation of government sector programs and health programs, suitable professional background but also certain personal qualities.

4.5 Removing Financial Barriers Ensures a `Fair' Health Delivery System

There are many myths associated with the evaluation of health programs which we could cover here but we will conclude with an important issue about access to health services. Traditionally, questions of equity in health care have focussed on equal access to services, with particular emphasis on removing financial barriers. Important as these are, this approach often ignores the pervasive cultural and gender-based barriers to use of mainstream health services experienced by groups in the community. The question is, does a policy designed to achieve equal financial access to health services adequately address the issue of equity?

It is well documented that certain groups within the community have poorer health status and poorer health outcomes than others.¹⁷ For example life expectancy for males is lower than for females, and for Aborigines compared with other Australians. It has also been observed¹⁸ that major life style risk factors are distributed very unevenly throughout the

community, with those in lower socio-economic groups having a higher prevalence of obesity, smoking, alcoholism etc., and that particular groups have difficulty in finding culturally appropriate services.¹⁹

While one can argue about cause and effect, there is the question of the community's responsibility to attempt to aggressively improve the health status of disadvantaged groups through pro-active and targeted service delivery and health promotion. This type of community goal would justify additional health resources for programs targeted at lower socio-economic groups, particularly in the area of health promotion/health education.²⁰

Programs of this sort should be expected to be provided in a cost-effective manner, but the primary reason for their initiation is the redressing of inequity in health outcomes, rather than the demonstration of a more favourable cost/benefit ratio when compared with other health services. While maximising the benefits which public programs deliver is important, an equally important social goal is ensuring the equitable distribution of benefits.

APPENDIX 1

ECONOMIC EVALUATION STUDY DESIGN

AIDS NATIONAL STRATEGY - NEEDLE AND SYRINGE EXCHANGE PROGRAM - PROPOSED EXTENSION

1. Objectives

The proposed expansion to the needle and syringe exchange program is an innovative strategy, based on extending the outreach work, especially to teenagers, and complementing current activities with education and support. The broad program aim is to reduce the risks of contracting and spreading the HIV virus amongst intravenous drug users.

An economic evaluation of the proposed program extension is to be undertaken to provide an assessment of the program's success. The two broad evaluation questions concern the efficiency in the way the program is delivered and the cost- effectiveness of the program, as an approach to the containment of AIDS. The evaluation is designed to address:

1. Program delivery -

Is the program operating in an effective and efficient fashion and can desirable modifications to the program be identified which will enhance performance.

2. Cost-effectiveness -

The second broad objective of the evaluation is assessment of whether the program represents a valuable allocation of the community's resources. Is it a cost-effective way of achieving the programs objective, of containing the spread of AIDS by intravenous drug users.

The latter evaluation question is pertinent to decisions about the appropriateness of ongoing program funding, but also about whether this model of intervention should be implemented more widely.

2. Approach

The approach to the evaluation is broadly that of cost-effectiveness analysis. The basic steps are:

1. Describe program -

Program description should cover program objectives, history, policy context, complementary programs, scope and implementation arrangements.

2. Select data to be monitored -

The next economic evaluation task is to establish suitable monitoring data and mechanisms for collection of required information. This will be finalised with those responsible for implementing the program. The type of information that will need to be collected will include:

- services provided; eg number of talks given to schools, number of contacts made, other community development, outreach or educational activities;
- evidence of change in behaviour, eg use of the needle and syringe exchange, use of consumables, description of client group, (with a comparison between before and after program expansion);
- perceptions of those implementing the program, of its success
- evidence of change in knowledge and behaviour of target group, established through sample survey eg of program participants, or the client group; (this activity to be dependent on funding level for the evaluation)
- measurement of program costs, not just resources supported by the grant, but also other resources of the community health centre (and other groups if appropriate needed to make the program work). Establish total cost of the needle and syringe exchange program and separately identify the marginal costs of the additional program elements for the program extension.

3. Establish Data Collection Procedures and Maintain broad supervision of data collection -

Suitable data collection procedures will be established with the staff of Northcote Community Health Centre to ensure that as far as possible project monitoring can be done as part of normal operational procedures. The health economics consultant will maintain a broad oversight to ensure monitoring data is being collected as required.

Collect information about perceptions about program performance through interviews with relevant staff by the consultant.

If the budget for the evaluation allows, there will also be a survey of client groups to gain evidence about changes in knowledge and behaviour amongst the target population.

4. Analyse Data and develop conclusions about program performance -

Data will be analysed periodically to provide ongoing feedback about program performance to enhance the effectiveness of program implementation. In addition, towards the end of twelve months post program commencement a formal economic analysis will be conducted to assess:

- the cost-effectiveness of the complete needle and syringe exchange program offered through the Northcote Community Health Centre, and
- the marginal cost-effectiveness of the extension to the needle and syringe exchange program.

Cost-effectiveness will be assessed primarily in terms of cost of achieving the observed program utilisation. Additional analysis will be done, depending on the data obtained on other attributes of outcome, such as knowledge, participation of targeted client groups, other evidence of changes in behaviour.

5. Reporting -

The evaluation will be reported in the form of a formal document which covers-

- program description,
- program costs, total and marginal
- evaluation approach,
- measures of performance,
- conclusions about program success

Budget

An assessment of the required budget has been developed based on the above broad task description. The cost of conducting a basic evaluation is estimated at \$ 15 000. The allocation of the budget to professional fees and expenses and between tasks is presented in tables 1 and 2 below.

This budget would not allow for formal survey work of the target group. That activity could be conducted for an extra \$ 15 000, giving a total cost for a complete economic evaluation of \$ 25 000.

Table 1 Allocation of budget

The Basic study

Professional Fees	\$ 14 000
Expenses	\$ 1 000
- local travel	
- secretarial	
- 'phone, fax, courier etc	
Optional	
- undertake client survey	\$ 10 000

Experience of evaluator

Ms Leonie Segal will undertake the economic evaluation with the assistance of staff of the Northcote Community Health Centre. Ms Segal is a health economist and public policy analyst. She has a Masters of Economics from Monash University and has been practising as a public policy economist for some twenty years and as a health economist for much of that time. Ms Segal has a senior research fellowship with Monash University Graduate School of Management with the National Centre for Health Program Evaluation. She also manages a public policy consultancy practice.

Her particular experience and skills are in the economic evaluation of government programs and policy in the health and welfare sectors. She is thoroughly familiar with all economic evaluation approaches including, cost-benefit, cost-effectiveness and cost-utility analysis. She has undertaken innovative work in the definition of cost and health outcome and in the assessment of performance of health programs.

She has recently completed a study at the National Centre for Health Program Evaluation to define approaches to the economic evaluation of the activities of community health centres.

Ms Segal was commissioned by the Health Ministers Advisory Council to develop a methodology for the economic evaluation of preventative and interventionist approaches to health care, so that a wide range of health services could be subject to a consistent evaluation approach.

Some of the economic evaluation work in the health sector undertaken by Ms Segal is listed below with a full list in the attached statement of capability.

NOTES

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