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UNDERSTANDING ECONOMIC EVALUATIONS: A GUIDE FOR HEALTH AND HUMAN SERVICES

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Abstract: Interest is growing in the use of economic methods to evaluate our investments in public and charitable sector programming. Calculating the costs and consequences of different interventions provides new and better information on the relative cost-effectiveness of competing alternatives. More commonly used to consider and evaluate health options, economic evaluations are equally useful in prevention programs and community-based services. This article reviews the potential application of economic evaluations, describes the basic methodologies used, and discusses some of the best strategies for disseminating results. Providing a balanced perspective on the methodological limitations, the article encourages evaluators and program sponsors to carefully consider the use of economic evaluation in their field.

Résumé: L'application de méthodologies issues du domaine de l'économie pour évaluer nos investissements dans des programmes au sein des secteurs public et sans but lucratif suscite un intérêt croissant. Chiffrer les coûts et les retombées économiques de différentes interventions apporte de nouvelles et de meilleures données sur le rendement relatif de plusieurs démarches possibles. Les évaluations économiques, habituellement employées pour envisager et évaluer des options dans le secteur de la santé, peuvent également s'avérer fort précieuses dans le cas de programmes de prévention et de services en milieu communautaire. Cet article examine les applications possibles de l'évaluation économique, présente les méthodologies de base employées et traite des meilleures stratégies pour diffuser les résultats.

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L'article, tout en offrant un point de vue équilibré sur les contraintes méthodologiques, encourage les évaluateurs et les commanditaires de programmes à se pencher de près sur le recours aux évaluations économiques dans leur domaine.

WHY ECONOMIC EVALUATIONS?

There are a number of good reasons for the growing interest in the use of economic evaluations in the nonprofit and public sectors. The basic assumption of economics — finding the best use for scarce resources — fits well in an environment where most funders and governments are trying to establish their priorities amidst a wide range of competing needs. As a tool, economic evaluations can help managers, volunteers, and funders ensure that resources are in fact being directed to the most effective — and efficient — programs and services.

While most organizations can provide information on program effectiveness and/or client satisfaction, evidence about the relative impact of services is generally lacking. Economic evaluations are designed to capture the fundamental relationship between "costs" and "impacts" and, as such, bring a new and different focus to the kind of evaluative work that can be done in the public sector. At the same time, the findings from economic evaluations may provide new and powerful information to organizations interested in "making the case" for sustained or enhanced resources. In today's fiscal environment, information on the economic impacts of public investments provides a new context and adds relevance to many of our "softer" social and human care services.

This article on economic evaluation is meant for individuals, organizations, and program sponsors in the nonprofit and public sectors who are interested in learning more about economic evaluations, whatever their rationale. The article discusses some of the myths, benefits, and critical considerations underlying economic evaluations and describes the basic methods and techniques employed to conduct economic assessments. A careful reading should provide a workable understanding of economic evaluations, so that interested groups can decide if this form of evaluation suits their needs. This article purposely avoids the more complex debates that engage economists and academics, preferring a straightforward, practical discussion on the use of economic evaluations. (For a more thorough resource on economic evaluation, interested readers can visit the Prevention Dividend website at <www.prevention-dividend.com>.)

MYTHS ABOUT ECONOMIC EVALUATION

Although the concept of economic evaluation is not new, little has been done to apply it to the community-based services delivered by the public and nonprofit sectors. As such, there are a number of myths about the purpose, feasibility, and use of economic evaluations. The most common misperceptions follow.

Economic Evaluations Are Fundamentally About Reducing Costs

Economic evaluations are designed to demonstrate the measurable costs and consequences of programs or services and provide solid information to compare alternatives. It is generally true, however, that increased costs improve outcomes (i.e., if you pay more, you get more). While economic evaluations can inform decision making in a new and useful way, decisions about what to support will always include social, legal, ethical, and political considerations.

Economic Evaluations Are Too Complex

Although some level of technical expertise is associated with assessing the costs and consequences of programs and services, the basic principles are fairly straightforward. The largest challenges for most organizations will be the lack of information on actual costs, weak or unclear evidence of effectiveness, and the difficulties in valuing outcomes. These issues can be addressed with expert assistance and some basic training, and economic evaluations become much more feasible.

Economic Evaluations Are an Inappropriate Way to Assess Social Services

As most service providers are deeply committed to their particular issue and/or client group, they tend to prefer client satisfaction measures as the key means of assessing “effectiveness.” Economic evaluations, however, can provide another — more objective — way to demonstrate the value of the service and build support. While economic evaluations are an important and useful level of analysis, they do not preclude, and in fact require, the use of other methods to assess effectiveness.

Economic Evaluations Have Too Many Methodological Weaknesses

Like all evaluation methods, economic evaluations are based on certain assumptions. When conducted with rigour, however, the results of economic assessments should be fairly easy to defend. Most often, critics tend to focus on the causal relationship between the program and its impact, rather than the economic calculations that follow. In practice, economic evaluations are no more vulnerable to criticism than any other approach.

For most community and social service organizations, deciding to undertake an economic evaluation of their work will be a significant departure from their professional training and past practice. There are, however, a number of important benefits that arise from this sort of analysis, and there is every reason to suggest that this form of evaluation will become increasingly common in the years ahead.

THE BENEFITS OR "DIVIDENDS" OF ECONOMIC EVALUATIONS

At this point, much of the interest in economic evaluation is motivated by external threat (i.e., do it or risk losing support). There are, however, a number of very positive and forward-looking reasons for organizations to consider performing an economic evaluation of their programs and services. Whatever the circumstances, organizations might anticipate certain associated benefits from taking an economic view of their work and its measurable impacts. For example:

Clarity of Purpose

Economic evaluations require clear statements about the purpose of the program and the consequences or results that can actually be claimed by the intervention. Done with integrity, economic evaluations require organizations to think critically about the measurable consequences of existing programs and how they might compare with alternative approaches.

Better Information

The work required to accurately attribute costs and value outcomes can provide new and better information to make program decisions. Evaluations that accurately attribute the economic impacts of a pro-

gram or service can be a comparative advantage in the competition for scarce resources.

Collaborative Actions

Many economic evaluations — especially those adopting a "macro" (i.e., broad, societal) view — provide information that demonstrates the interconnectedness of services, programs, and interventions. Economic evaluations can demonstrate how organizational problems or individual risk factors are really broader, inter-sectoral issues that require real collaboration to address.

Marketing Tool

A good economic evaluation can be an important tool in an organization's marketing and communications strategy. By building the end user — or audience — into the plan from the outset, an evaluation can be designed that will be effective, interesting, and helpful in attempts to influence decision makers and attract new partners and resources.

It is fair to suggest there are also "points for trying." Most program sponsors will find it easier to work with and support an organization that is demonstrably interested in measuring effectiveness and efficiency and demonstrating value for money. Willingness to attempt some form of economic evaluation speaks volumes about the kind of organization a community service provider is working to create.

USING ECONOMIC EVALUATIONS IN HEALTH AND SOCIAL SERVICES

Although the pressure on resources for health and social services seems particularly acute in the current environment with new demands to demonstrate "value for money," there is some considerable history of using economic evaluations to assist with decision making in the broader public sector. Whereas costs, price, and profits guide investment decisions in the private sector, the public sector has always required alternative methods for decision making. Beginning with the public works programs of the 1930s, to transportation investments made during the 1960s, through to modern planning for education, municipal growth, and health care (Robinson, 1993d, p. 670), the economic comparison of alternatives has grown to become an important and informative tool for decision making.

The approach used in the public sector has generally entailed a partial or comprehensive accounting of the advantages (benefits) and disadvantages (costs) associated with the choices under consideration. This "balance sheet" approach provides the most explicit criteria for choosing between competing goods. And although particular methods differ, this "cost-benefit" framework is fundamental to all economic evaluations. This attention to both costs and benefits distinguishes economic evaluation from effectiveness evaluations where greater emphasis may be placed on the impacts and benefits for individual clients. While social service professionals are rightly concerned that their interventions are effective (i.e., do produce benefits), economic evaluations help to ensure that the choices being made also use the available resources efficiently (i.e., provide the most benefit for the least cost).

It is perhaps this emphasis on creating the "maximum benefit for the least cost" that has created the unfair association between economic evaluations and cost-cutting exercises. The focus of most economic evaluations is to ensure that the value of what is being produced by using resources in one way is greater than the potential alternative uses for the same resources (Gafni, 2001). Simply stated, the interest is in the "bang for the buck" and not whether more or fewer resources will be used in total. Economic evaluations are fundamentally designed to help ensure that resources are allocated in the most efficient and value-enhancing way, not to drive down overall investments.

ESSENTIAL FEATURES OF ECONOMIC EVALUATIONS

Before exploring in detail some of the specific methods used, it is useful to describe the common elements that are the inherent features of good economic evaluations.

Preliminary Challenges

Establish a Clear Evaluation Question

As with any analysis, the first priority is to establish questions that clearly incorporate the goals and objectives of the interventions under consideration. These provide the clear outcome measures against which the interventions can be judged. This is critical — and often complex — as so many health and social service interventions have

goals, processes, and outcomes that are not easily quantified using specific measures. As a result, qualitative evidence is generally included in the overall analysis, creating the challenge of reconciling the qualitative information with quantitative or economic measures of outcome (Sefton, 2000, p.23).

Establish Effectiveness Up Front

Economic evaluations are heavily dependent on the assessment of the effectiveness of the intervention, which is often missing in the health and social service sectors. Without some clear estimation of the intervention's effectiveness, no linkage of cost to effect (benefit or outcome) can be established. As a result, economic evaluations are more often criticized for conclusions about the "effectiveness" of the interventions than on the cost or resource use estimates (Clyne, 2001). In fact, any determination of "value for money" requires that "value" be shown to have been created in the first place, which is not always an easy task. (This is an issue with respect to complementary medicine, for example. While complementary practitioners may provide a less expensive service to treat a particular ailment, orthodox medical practitioners might question whether that service has any effectiveness as treatment at all. The argument could then be made that clients of complementary practitioners are paying for useless services. Claims of cost-effectiveness cannot be made until effectiveness has been established.)

Comparison of Alternatives

Perhaps the most central feature of economic evaluation is its comparison between competing alternatives. Questions about efficiency, the primary interest of economists, are never absolute but are always relative to the other alternative uses of the same resource, including the "do nothing" alternative. Economic evaluations, therefore, can never establish the efficiency of a particular service outside a specific context, nor can costs and effectiveness be considered in isolation.

The initial challenges of any economic evaluation, then, include: posing clear evaluation questions; developing comprehensive descriptions of the goals, processes, and outcomes of the alternatives under analysis; and establishing the degree of effectiveness of the interventions to be compared. While these challenges may be more acute in health and social services, they are shared by all economic evalu-

ations and comprise the first three elements reviewers will assess to determine the quality of the analysis (Drummond, O'Brien, Stoddart, & Torrance, 1997). Fully extrapolating these details can be a very worthwhile exercise, forcing health and social service professionals to describe — with clarity — the full intent and ramifications of their work

Assessing Costs in Economic Evaluation

Whatever form of economic evaluation is conducted, costs must be carefully assessed. In fact, the actual range of costs that are assessed, and their relationship to outcomes, is one of the important characteristics that distinguish one method of economic evaluation from another.

Many of the studies described as economic evaluations are only partial evaluations in that only the costs between alternatives have been described, or, conversely, the costs and consequences have been described, but of a single intervention only. These forms of analysis are better described as cost description and cost-outcome description respectively, but the absence of comparative data precludes their being described appropriately as economic evaluations (Drummond et al., 1997).

"Cost descriptions" have been used in health and social services to extrapolate the full range of costs associated with illness or social problems, without any attempt to link these to any intervention consequences. Known in the health care field as "cost of illness" (COI) or "burden of illness" studies, these reports are not economic evaluations but make an important contribution to estimating the resource implications of public policy issues (Health Canada, 1997). These estimated costs will often be included in subsequent economic evaluations (Haddix & Shaffer, 1996), and are also frequently used to heighten awareness, inform funding priorities, and encourage collaborative strategies among service providers. This costing strategy also lends itself to the comparison between the costs associated with both "hard" and "soft" services (e.g., lives saved by road improvements vs. smoking cessation strategies).

A number of important steps are involved in conducting cost assessments, including the identification of alternatives; establishing the perspective; identification and measurement of cost items; valuation; discounting; and the monetary calculation of benefit.

Alternatives and opportunity costs: Costing involves identifying, measuring, and valuing all the resource changes that occur as a result of an intervention, with the aim of assigning value to the scarce resources that were needed to produce the intended benefit.

Costing, however, goes beyond the simple identification of the price of inputs. Correctly estimating the economic costs of any intervention introduces both the complications and the comprehensiveness of economic thinking and, importantly, involves the central concept of "opportunity costs."

The opportunity cost of an intervention is best represented by calculating the benefits that could have been achieved had the same amount of resources been employed in the next best alternative use (Palmer & Raftery, 1999). Given that resources are limited, the use of those resources in one way prevents their being used in some other way, and the essence of economic evaluation is to compare the opportunity costs (relative to benefits) of these alternative uses (Shiell, Donaldson, Mitton, & Currie, 2002). As calculating the opportunity cost of an intervention is dependent on which alternative interventions are compared, ideally the next most relevant or comparable interventions, including the cost of "doing nothing," will be used. In practice, however, most comparisons are made between a new approach and an existing method or intervention. The critical issue is that the selection of alternatives for comparison can make the intervention of interest appear more or less efficient than it should be. As a result, determining whether or not all the relevant alternatives were considered is the first step in critically assessing the merits of any economic evaluation.

Traditionally, the "do nothing" alternative is used to establish a "baseline" comparator for resource use, without which an economic evaluation may only identify or, worse, justify the most efficient use of an inappropriate set of services (Palmer & Raftery, 1999). Recent work, however, has clearly shown that the cost of doing nothing — in the Canadian context — may (even in the short term) be more expensive than the actual provision of service (Browne, Byrne, Roberts, et al., 1998) as individuals search for and utilize a wide range of publicly provided but inefficiently utilized alternatives. The tracking and valuing of service system utilization has proven to be a powerful method for demonstrating the short-term savings from an investment in simple prevention and support programs.

Establishing the "perspective": Estimating the costs (and consequences) of an intervention is affected by the perspective of the evaluation. Costs can be estimated from the perspective of society in general, the government, a sector, an organization, an employer, or an individual. The perspective taken by the evaluation is critical, as it determines what will be included and valued as either a cost or a consequence of the intervention. Differences in opinion about what perspective should be used can lead to significant disagreement about the actual or assigned "value" of the intervention.

The "societal perspective" is the most comprehensive, as it includes all the costs and consequences no matter where, or to whom, they accrue. Economists prefer the comprehensiveness of the societal perspective (Drummond et al., 1997, p.53; Robinson, 1993d, p. 671), as it allows costs and consequences to be tracked among various parties, ensuring that a cost-saving intervention from the perspective of one organization does not simply increase costs in another. In that instance, from a societal perspective there would be no real savings, simply a transfer of costs from one party to another.

Identifying and measuring costs: The major task in costing is to identify and measure all the relevant resource or cost items. From the societal perspective this will involve the identification and quantification of items both inside and outside the health and social services sector under study. Included in these calculations will be all the resources needed to perform the intervention as well as an estimate of the size of the issue under consideration. Things like the productivity changes of individuals, the possible side effects, or additional supports required after the intervention must be included, as they relate directly to the amount of resources that will be necessary to address the problem — and its consequences (Brouwer, Rutten, & Koopmanschap, 2001).

Once the burden of the problem has been estimated, there are, generally speaking, three categories of cost to consider regarding the interventions used to address the issue. Direct health and social services costs will include staff time, supplies, "hotel" services, use of capital equipment, and overhead costs. Costs borne by clients and their families, including out of pocket expenses for travel and so on, should also be included as part of the direct costs of a problem or issue (Robinson, 1993c, p.726). Indirect costs are largely related to productivity losses, such as lost income, but can also include voluntary activity, in kind resources, loss of leisure time, psychological

stress, and the pain and suffering experienced by clients and their families (Hornick, Paetsch, & Bertrand, 2000; Robinson, 1993c). Some economists, however, prefer to characterize lost leisure time and psychological costs as a third and separate category called intangible costs (Jefferson, Demicheli, & Mugford, 2000, p.19). Others prefer to include these items in the client and family costs category.

In some evaluations the third category of costs is referred to as "external costs" and is used to include those costs experienced as a result of the intervention by people who are not directly involved in it. For example, public health policies or environmental regulations will often increase the costs borne by others of producing manufactured goods. While there is not yet a consistent use of these terms and categories in the literature (Drummond et al., 1997, p.23), the point remains the same: a thorough evaluation comprehensively catalogues both the type and size of all costs — including the soft costs borne by clients, their families, and informal care givers.

Valuing cost items in monetary terms: The next stage in the costing process involves the assignment of monetary value to the identified items. Strictly speaking, cost estimates in economic evaluations should reflect opportunity costs, but in practice direct costs are usually valued at the prices generally paid for such items, or market value. Costs for which there are no obvious market prices pose a more difficult valuation problem. For example, the opportunity costs of informal caregiving will depend on what the individual caregiver must give up to provide the care, but informal caregiving can also be valued by assessing the price one would have to pay to buy a similar level of service in the marketplace. Similarly, valuing "intangible" costs such as personal suffering and other quality of life changes can also be problematic and remains an important area of debate among economists (Brouwer et al., 2001, p.86).

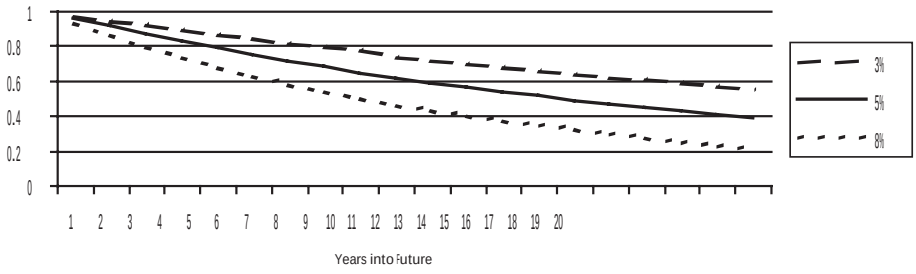
While some attempts have been made to provide uniform guidelines for costing, valuation is still a significant challenge and an important element in the assessment of any economic evaluation. The best approach still involves an explicit, comprehensive account of cost items and their value in order to provide a realistic assessment of all the costs associated with a problem and the interventions that will be used to address it. Explicit decisions about what is included and/or excluded, along with the rationale, are critical to the integrity of the evaluation. That said, the issues around valuation con-

tinue to be significant challenges to the validity of economic evaluations.

Applying the discount rate: As most interventions and programs last over a period of time, allowance must be made for the difference in the value of resources used in the short term and the value of resources used (and/or benefits received) over the longer term. Discounting reflects the loss in economic value that occurs when there is a delay in incurring a cost or realizing a benefit. Discounting should not be confused with adjustment for inflation. All costs should be expressed in real terms (adjusted for inflation) before discounting is done. In economic evaluations, a discount rate is applied to all the planned expenditures and benefits to reflect this difference in value and to make all the costs and benefits comparable (i.e., in current year values). This is done by multiplying all the accumulated expenditure items and anticipated benefits by a percentage that generally ranges from 3% to 8% over the number of years that costs or benefits will occur. Both costs and outcomes must be discounted.

Incorporating this difference in "weight" — or the preference for today's resources over tomorrow's potential benefits — is a critical element in economic evaluations as it better reflects the reality of decision makers. The discount rate that is chosen for the evaluation, however, will play a significant role in the valuations that are assigned to both costs and benefits. As such, the rate applied is an important feature to review when assessing the quality and appropriateness of the evaluation. Figure1 shows the relative decrease in the present value of costs and benefits at three common discount rates.

Figure 1
Percent Present Value of Costs or Benefits, Per Year, Per Discount Rate



Identifying, Measuring, and Valuing Outcomes

The process for calculating the economic value of outcomes or "benefits" requires the same rigour as costing, including a clear and comprehensive description of the intended outcomes and the appropriate discounting of benefits that will accrue over time. Economic evaluations generally rely on the estimates of effectiveness drawn from other studies, although they can be undertaken at the same time as effectiveness evaluations. As a result, the estimates (or percentages) of effectiveness that are used in economic evaluations can be of variable quality and relevance (Drummond et al., 1997, p.98).

Even after good information on effectiveness is available, economic evaluations can still differ in their comprehensiveness. Although an effective intervention should produce its intended outcome, it is not unusual for unintended outcomes, both positive and negative, to occur. These may not be easy to anticipate and are often not included in the existing literature. But these outcomes should be accounted for in a comprehensive economic evaluation (Hornick et al., 2000), especially when the evaluation assumes the preferred societal view.

Final outcomes are preferred in economic evaluations, although intermediate outcomes, like measurable risk reduction for prevention strategies, are often of some interest and may be the only outcomes available. However, many of the outcomes associated with health and social service programs, such as increased personal well-being or reduced fear in the community, do not lend themselves well to quantification. Short- and longer-term benefits should also be considered in the evaluation, and the general consensus suggests that any and all outcomes/benefits that accrue should be discounted at the same rate as costs (Canadian Coordinating Office for Health Technology Assessment [CCOHTA], 1997, p. 47; Drummond et al., 1997, p.103).

For health and social services, the fundamental challenges around incorporating outcomes in the economic evaluation include the quality of information on effectiveness and the range of outcomes that can be identified and quantified. Unfortunately, the quality of this information is often fairly weak, reflecting the paucity of resources that have been allocated to evaluation in health and social services.

Basic Methods of Economic Evaluation: Uses and Limitations

As discussed, the common tasks of any economic evaluation are to identify, measure, value, and compare the costs and benefits of the interventions under consideration. The differing methods of economic evaluation are distinguished largely by the way they complete these tasks.

Although this distinction is one of the areas where consensus exists, differences in the usage of the terms may be encountered. For example, both cost-effectiveness analysis (CEA) and cost-benefit analysis (CBA) have been used synonymously although they are in fact distinct methods. Cost-minimization analysis (CMA) and cost-utility analysis (CUA) have also been described as special forms of CEA, especially where the outcomes of alternative interventions turn out to be equivalent (in CMA) and/or include "quality of life" measures (in CUA). Authors and academics have also argued that the circumstances under which CMA can be used properly are so rare that the method is seldom appropriate (Briggs & O'Brien, 2001). Despite these issues, the distinctions among the main forms of analysis are still useful for purposes of clarity and to recognize the conceptual differences among them, including the breadth and dimensions of value they explore (CCOHTA, 1997; Drummond et al., 1997; Jefferson et al., 2000).

The different methods of economic evaluation will be more or less appropriate depending on the particular circumstances and the interventions under consideration. The four most frequently used forms of economic evaluation can be described as follows.

Cost-effectiveness analysis (CEA): This method of evaluation is particularly useful in health and social services, as the outcomes from the interventions being compared need not be identical. The interventions should, however, have the same relatively unambiguous type of outcome that can be expressed in common or natural units (e.g., lives saved, people returned to employment, reduced days of absence), and will ideally be directed at the same target population (Meltzer, 2001, p.996). CEA is used, then, as a method to determine which intervention most efficiently achieves the desired end by comparing the costs of the interventions by unit of outcome. Where one intervention is clearly more effective — and has lower costs — it is considered to be in a dominant position over the other options.

The results of CEA often demonstrate a correlation between the amount spent and the results achieved — more costs and better effectiveness. In these instances the alternatives need to be considered not just in terms of average cost per unit of outcome, but also in terms of a marginal or incremental cost-effectiveness ratio. This ratio demonstrates the additional cost of one intervention compared to another per additional outcome achieved and is considered a more accurate assessment of the costs and benefits of alternative interventions (Torgerson & Spencer, 1996, p.35). Ultimately, CEA allows decision makers to make an informed, but value-based, choice about how much they are willing to pay for each additional unit of effect.

Cost-utility analysis (CUA): This method of economic evaluation has been most commonly used in the health care field (Drummond et al., 1997, p.143). CUA allows the complex and multiple impacts of an intervention to be compared by creating a single subjective measure of "utility" or "preference" for an outcome (Robinson, 1993b, p.859). This ability to subsume the multiple effects of health care interventions into a single indicator of well-being (Brown & Buxton, 1998, p.1001) not only focuses the evaluation on the principal objective of most interventions — improved quality of life — it explicitly incorporates a measure of quality. By translating interventions into generic measures of utility, CUA is able to fairly compare interventions with quite different outcomes.

The most common utility measure in CUA in health care is the "quality adjusted life year" (QALY), calculated by weighing the number of additional life years expected from the intervention by a measure of the quality of those additional years. As with CEA, the more efficient option can then be assessed in terms of the best incremental ratio of costs to outcomes, or costs per QALY gained. Where limited resources are driving choices, alternative interventions can be ranked and the intervention most preferred, per dollar in effect, can be identified (Neuman, Goldie, & Weinstein, 2000). Some medical interventions, for example, are ranked in tables and ordered by cost per QALY. In practice, CUA is often used to help clarify choices and help set personal priorities where a range of options exists.

Needless to say, the subjective nature of assessing utility and determining preferences (which tend to change over time) is among the limitations of CUA. Similarly, calculations used to determine quality of life tend to be contentious, and the variety of techniques being

employed to develop quality weights (Brown & Buxton, 1998, p.999; Jefferson et al., 2000, p.69) can produce quite differing results. It remains, however, one of the most useful methods to value and compare what can appear to be incommensurable options.

Cost-benefit analysis (CBA): CBA is generally considered the broadest, most inclusive type of economic evaluation in that all societal costs and consequences are assessed and valued in monetary terms. By taking the societal perspective and valuing all the input and output costs in common units (money), CBA allows quite differing interventions, with differing outcomes, to be compared, regardless of the sector. Similarly, a common monetary unit can be used to demonstrate the overall net gain to society (assuming benefits exceed costs), with the implication that priority should be given to the option(s) that provide the greatest net value or return on investment (Drummond et al., 1997; Robinson, 1993a, pp.925–926).

The major challenge with CBA involves placing monetary value on a diverse range of potential outcomes. The most common and preferred method is the estimation of "willingness to pay" (WTP). WTP creates a measure by asking a sample group how much they would be willing to pay to enjoy a benefit or avoid a problem. This approach essentially tries to estimate the monetary value of an outcome, in the absence of an actual market for that outcome. Although it is well grounded in economic theory and can be used in various cultures, WTP suffers from its subjective, income-dependent assessment of value, which has somewhat limited its use in health care. CBA is still very useful in the assessment of public policy issues and programs with broad societal implications.

Cost-minimization analysis (CMA): In the rare circumstance where the effectiveness of the interventions is quite comparable, and equivalent qualitative and quantitative outcomes can be identified, then the outcomes of the interventions become moot and a CMA can be conducted. In this method, the interventions are compared solely on their costs to determine the least expensive option that will produce the desired outcome.

With this assumption of similar or equal outcomes, CMAs tend to be narrowly focused and often do not include the multiple impacts that will occur — intentionally and unintentionally — from many health and social service interventions. Similarly, the outcomes from interventions may seem quite comparable in the early stages of

analysis but can diverge substantially over time. As a rule, the more comprehensively outcomes are able to be defined, the less likely it is that outcome equivalency can be established and the less likely that CMA is appropriate. Given these limitations, and the complex nature of many health and social service interventions, CMA is seldom appropriately used.

These brief descriptions compare the basic types of economic evaluation largely in terms of their treatment of costs and consequences, areas of methodological concern, and their applications in health and social service settings. All of the methods discussed involve the use of a number of assumptions to frame the evaluation, and, while these can be seen as limitations, the explicit and logical description of how and why these choices were made is central to the quality of the results — and to the reception an analysis can expect.

Dealing with Uncertainty in Assumptions

Sensitivity analysis, a method to test the influence of the assumptions incorporated into the economic evaluation, involves varying one or more of the factors used to see how the results are affected. In principle, all the items in an economic evaluation could be subjected to sensitivity analysis, but questions regarding the actual resource costs, the range of costs and consequences included and their valuation, and the effects of varying discount rates are most commonly tested (Drummond et al., 1997, p.41).

At a minimum, sensitivity analysis should be able to justify the decisions to include or exclude the items that were varied. The integrity of the sensitivity analysis will be critical in determining the confidence that can be placed in the results.

Overcoming Limitations

As we have discussed above, the results of any economic evaluation — no matter how positive — may not garner support for a specific program. To the extent that economic evaluations are (appropriately) one consideration of many in any policy or funding decision, evaluation findings will only ever be one part of the larger decision-making process. It is therefore important to consider — and plan for — the limitations of economic data in the decision-making process.

Cost-effectiveness, or any other form of economic evaluation, will not create political support for programs that seem to confer benefits on groups that are societally or ideologically disenfranchised (prisoner retraining programs, needle exchanges for IV drug users, etc.). Similarly, describing the possible savings from an intervention may inadvertently stigmatize different groups as "expensive" populations. Economic evaluations, however, do have the ability to reframe an issue in monetary terms and may be particularly useful where decisions are being shaped and driven by emotion and/or prejudice.

Governments, and most funding bodies, are usually interested in directing their resources to specific target groups or current issues. Government funding decisions are seldom driven solely by economic rationale, and philanthropic choices tend to be either strategic or emotional/irrational. Good economic data need to be incorporated into a broader marketing strategy that speaks to the other motivations of decision makers while providing evidence of economic impact.

Organizational cultures — among both funders and service providers — may not yet be comfortable with the use of economic evaluations. Valuing the outcomes of human care services in economic terms may be considered ethically problematic. While it is important to be sensitive to this issue, introducing economic evaluation as only one of a number of important evaluative tools may be helpful. Relying on "external threat" as a motivator for economic evaluation is a poor strategy and will create no internal support for the process or the results.

Effectiveness and causality — already difficult to demonstrate for most service providers — are important precursors to undertaking an economic evaluation. Most often, the results of cost/benefit evaluations are assailed on the causality or effectiveness issue, rather than the economic calculations that follow. Wherever possible, these concerns should be addressed early in the design process (e.g., randomization, factors for sensitivity analysis, etc.) in order to anticipate where and how these challenges will arise.

"Live by the sword … Die by the sword" — providing data about the economic worth of a particular intervention may create the impression that all program interventions should be able to demonstrate a "return on investment." While the objective of this article is to introduce economic evaluation as an important tool for decision-making

in community services, we should never forget to emphasize — in equal measure — the human impacts and personal stories that make a service really "worthy" of support.

"MAKING THE CASE": EFFECTIVE COMMUNICATIONS AND ECONOMIC EVALUATIONS

We believe that incorporating economic evaluation into community service decision making will result in demonstrated efficiencies and better community service planning. It is wrong to assume, however, that "figures will speak for themselves." Having an effective plan to share evaluation findings needs to be thoughtfully incorporated into the overall evaluation model. After all, the model chosen effectively frames the issue, anticipates the audience, defines the "view," and determines the assumptions underlying the evaluation — all of which are important elements of an effective communications strategy. Unless an economic evaluation is designed as an internal management tool, a communications and/or marketing strategy should be considered early in the process.

It is important to recognize at the outset that influencing decision makers and affecting public policy require much more than the evidence of societal benefit. Tracing policy outcomes to informational (and other) inputs is a hoary combination of both art and science. There is, however, good reason to believe that economic information can play an important role in the decision-making process depending on the circumstances. Most frequently we see economic evaluations used to: sustain support for an existing intervention by demonstrating "worth"; demonstrate the economic effectiveness of an alternative approach; and model how a new service would impact on existing structures/costs.

Given the relatively small number of economic evaluations of community and social services that have been done thus far, the art and science of effectively communicating the results is best described as a "work in progress."

Critical Success Factors

While there is no guarantee that the findings of an evaluation will be influential with decision makers, a number of strategies will help to more effectively disseminate the findings. Some of the best ideas include the following:

1. *Determine the scope carefully.* The scope of an evaluation is critical to the audience. Most evaluations assume a broad, societal view, which by its nature is more interesting to donors and the general public. Specific branches of government or sponsors may prefer a narrower view that is relevant to their particular costs/benefits or areas of responsibility, just as some ministries (e.g., Treasury or Management Board) will likely be more interested in the economic argument than others (e.g., local branches of community and social services).

2. *Understand your audience/decision maker.* The extent to which the economic impacts of a program should be included and/or emphasized depends on the interests of the audience for the evaluation. Messages about economic effects (costs/benefits) seem to resonate best with bureaucrats who have program knowledge and backgrounds, politicians who are ideologically predisposed, and administrators with cross-sectoral (or regional) responsibilities.

3. *Look for leadership.* A good economic rationale for action can be particularly helpful where political leadership on an issue already exists. While economic evaluations in and of themselves will seldom inspire leadership or vision, providing the background information on program benefits, in monetary terms, can be a useful part of a broader strategy. The active involvement of "allies" or "champions," committed to promoting the utilization of economic evaluation results to guide decision making within their organizations, can help structure the design of the evaluation more effectively.

4. *Demonstrate shorter-term benefits.* One of the principal challenges of economic evaluation is to identify benefits that can be realized, or at least identified, in the shorter term. Being able to demonstrate an annual net social benefit of individual programs (using cost benefit analysis) is helpful, and the assumption of a societal view allows the inclusion of a greater number of potential measurable benefits.

5. *Anticipate and prepare for objections.* The use of economic evaluations is still fairly new in the community and social services sector. As such, it is reasonable to assume that

evaluation findings may be greeted with some scepticism. Depending on the audience, the values that underlie the program, and the methodology used, it is useful to anticipate, and develop responses to, critical feedback. The following strategies can be helpful:

- Be transparent and open about the choices that were made.
- Prepare most/least conservative estimates that show differing results (share your sensitivity analysis).
- Show how the measurable benefits will differ among program participants (share your segmentation analysis).
- Demonstrate the reasonable nature of any "best guesses" you have included (i.e., based on what).
- Provide some external validations or examples where results were similar.
- Accentuate the involvement of expert, non-partisan assistance.
- Create some non-relational comparators (hockey player salaries) that can provide perspective — or shock value.

CONCLUSION

It seems clear that economic evaluation has the potential to be a useful management and decision-making tool for the public and nonprofit sectors, providing a new method to assess the efficiency of how resources are used. Creating a better understanding of the methodology — both the benefits and the limitations — is critical, however, to furthering its use. As work continues to make the methodology more accessible and better adapted to community settings, we fully expect that program supporters and donors will be increasingly interested in measuring and describing the economic benefits of their contributions. Forward-thinking organizations will anticipate this trend and make their own plans to utilize and benefit from an economic evaluation of their work.

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