

CASD

Center on Adherence and Self-Determination

R&PB

Research and Practice Brief



CASD is on the web!

Please visit us at:
<http://www.casd1.org>

The goals of the Center on Adherence and Self-Determination's (CASD's) Research and Practice Briefs (R&PBs) are to summarize our research and theory into succinct statements that might be used by advocates, policy makers, and other interested parties to promote the agenda of self-determination. We purposefully decide to keep R&PBs brief to make them accessible summaries that have direct implications for impacting the service system. In service of "brief", we opt to omit what is often standard in white papers and similar scholarly works. No significant statements on methods or data are provided herein nor are citations provided for most of our assertions.

R&PB no. 13, November 2013

Economic Evaluation of Mental Health Interventions

Developments in mental health interventions and technologies have improved the effectiveness of treatment in terms of improvements in symptoms, quality of life, and other needs. But improving effectiveness, although fundamental, is not enough. Given the need to secure the best outcomes from limited resources, decision makers also need to know whether "the intervention brings benefits for a cost that is worth paying": in other words, is the intervention cost-effective? In an effort to obtain the best value from resources allocated to service delivery, mental health treatments and interventions, there have been increasing calls for economic evaluation. Economic evaluation of mental health interventions entails identification, measurement and comparison of costs, health outcomes and quality of life improvements of competing interventions. The main objective is to maximize benefits to society by funding those interventions that generate the best outcomes using available resources. Given the high levels of demand for most services, technology and treatments, and the high personal and societal costs associated with mental health problems, evidence on the relative outcomes and costs of different service interventions and treatments is essential. Such economic evaluations provide decision makers at all levels with evidence to help them make informed decisions. The aim of this brief is to introduce a general framework for introducing different types of economic evaluations into mental

health services research.

A framework for Economic Evaluation

Economic evaluation is "the comparative analysis of alternative course of action in terms of both their costs and outcomes" (1). In this context, the goal is to answer the question 'do the expected benefits from a new intervention justify the additional cost when compared with an alternative strategy of care?' The relevant comparisons are always at the margin, that is, "How much does the intervention improve health outcomes *relative to current practice*?" and "How much do costs increase *relative to the costs of current practice*?" Economists have developed a framework for evaluating the marginal costs and benefits of health interventions, broadly classified as cost-effectiveness (CEA), cost-utility (CUA), or cost-benefit (CBA) analyses. These approaches address slightly different decision-making questions, represent different degrees of analytical sophistication and require slightly different data. All estimate costs in the same way but differ in how they measure outcomes.

CEA measures outcomes using a natural measure, such as improvement in functioning. Strategies that cost less than a threshold amount for achieving a desired health outcome (for example, cost per hospitalization avoided) are considered cost-effective. One difficulty with this approach is how to benchmark the thresholds of willingness to pay; that is, what should a healthcare system or society be willing to pay for improved health outcomes? Another difficulty is that two CEAs with different health outcomes or from different healthcare systems cannot be easily compared to each other; and different care strategies that yield different outcomes cannot be ranked in terms of their cost-effectiveness. An example of this type of analysis is Davies and Drummond's evaluation of clozapine drug therapy for treatment-resistant schizophrenia where the costs of therapy are compared to gains in health, measured in additional years of life(2). They found that clozapine would lead to a net gain of 5.87 years of life with no disability or only mild disability. The direct costs of using clozapine were 91 pounds less per annum (or 1333 pounds per lifetime) than for standard neuroleptic therapy.

CUA measures outcomes in utilities, that is, the individual's preference for a specific level of health status or a specific health outcome (e.g. Quality Adjusted Life Year (QALY) or Disability Adjusted Life Year (DALY)). One advantage of CUA is that, since benefits are measured using a common metric (costs per QALY, for example), it allows decision makers to compare the merits of investing in different areas of the health care sector, and different interventions across different disease states can be compared and ranked in terms of their value. One example of a CUA is the evaluation of the Government of Mauritius' health systems reform program comparing different interventions for treatment of schizophrenia (5, 6). The

alternative interventions of community psychiatric teams providing long-term treatments with typical versus newer-generation neuroleptics were estimated to cost MUR34000 and MUR35000 per DALY averted respectively.

In CBA, all costs and outcomes are valued in monetary units. If marginal benefits exceed marginal costs, the evaluation would recommend providing the intervention, and vice versa. With two or more alternatives, the intervention with the greatest net benefit (lowest CBA ratio) would be the most cost-effective. Although intrinsically attractive, use of CBA in mental health has been limited because of the difficulties associated with valuing outcomes in monetary terms (3). One example of such study is Rutz *et al.* which examined the effectiveness of a GP training program in the diagnosis and treatment of depression (4). They found the educational program resulted in net savings to society on the order of about 155 million Swedish crowns (USD 26 million).

The standard formulation of economic evaluation rests on the ratio of the incremental cost of a health intervention (i.e. the difference in mean costs of treating the intervention (I) and control (C) groups) to its incremental benefit (i.e. the difference in mean health outcomes of (I) and (C) groups). Useful information for policymakers/payers depends on both signs and magnitudes of incremental cost and benefit of the intervention: Economic evaluations add important information to a study only if the proposed intervention is shown to improve health outcomes (i.e. the incremental benefit is positive) (Assuming current practice is cost-effective we do not accept poorer health outcomes even at lower cost.) awkward sentence. If the incremental benefit is positive and incremental cost is negative, the intervention should be adopted because it benefits both consumers and payers (better health outcomes at lower costs). If both the incremental cost and benefit of the intervention are positive (better outcomes at higher cost) the decision depends on the relative magnitudes of the incremental cost and benefit and the decision-maker's willingness to pay. Lower ratios are preferred. In the United Kingdom, for example, the National Institute for Health and Clinical Excellence (NICE) conducts cost-utility analyses to guide coverage decisions for the National Health Service (NHS). NICE uses \$50,000 per QALY as its upper bound measure of willingness to pay. Interventions with cost-utility ratios greater than the threshold are not recommended for access through NHS.

Some interventions that do not meet a policymaker's willingness-to-pay threshold overall may be separable into distinct components where one or more components are, in fact, cost-effective. So long as investigators have collected data on the impact of each component, and costs can be separated, the methods of economic evaluations can be applied to components of an intervention to identify those parts that are more, or less, cost-effective. Similarly, an intervention may be cost-effective for some patient groups (e.g. patients in specific age groups or with specific diagnoses) but not others. Economic evaluations can be conducted for different subgroups of the study sample to guide policymakers in targeting interventions where they are most cost-effective.

Adding economic evaluations to studies of mental health interventions may require that investigators collect additional data on costs over a predefined time horizon. The cost categories to be included depend on the perspective of the study. If the perspective is the viewpoint of the payer, only costs covered by the payer should be included (i.e., patient co-payments and time costs are ignored). If the perspective is the viewpoint of the patient, only his or her direct and indirect costs are relevant. The societal perspective, which accounts for all costs of an intervention (direct and indirect costs to payers and patients as well as externalities accruing to others) is the most useful for policy decisions but also imposes the greatest data demands.

Conclusion

Economic evaluation tools can play an important role in supporting strategic decision-making for mental health policy. In determining the value of a proposed health intervention or change in practice standards, policymakers or payers must consider both the effectiveness of the intervention in achieving improved health outcomes, and its expected cost (or savings). Adding economic evaluations in the context of interventions that are being tested in real-world community settings will provide important information for payers and policymakers who may consider implementing the intervention on a much broader scale.

References

1. Drummond MF, Sculpher MJ, Torrance GW, O'Brien BJ, Stoddart GL. *Methods for the economic evaluation of health care programs*. 3rd ed. Oxford: Oxford University Press, 2005.
2. Davies L, Drummond M. Assessment of costs and benefits of drug therapy for treatment-resistant schizophrenia in the United Kingdom. *British Journal of Psychiatry*, 1993, 162:3842.
3. Healey, A, Chisholm, D. Willingness to pay as a measure of the benefits of mental health care. *Journal of Mental Health Policy and Economics*, 1999, 2, 55 – 58.
4. Rutz W, Carlsson P, von-Knorring L, Walinder J. Cost-benefit analysis of an educational program for general practitioners by the Swedish Committee for the Prevention and Treatment of Depression. *Acta Psychiatrica Scandinavica*, 1992, 85:457–464.
5. Burden of Disease Unit. *The health sector in Mauritius: resource use, intervention cost and options for efficiency enhancement*. Cambridge: Burden of Disease Unit, Harvard Centre for Population and Development Studies, 1997.
6. Vos E, Timaeus I, Huttly S, Murray C, Michaud C. *Mauritius health sector reform: national burden of disease study*. London: London School of Hygiene and Tropical Medicine, London University, 1995.

How to cite this document:

Cidav, Z., Baldwin, M., Marcus, S. (2013). Economic Evaluation of Mental Health Interventions, Center on Adherence and Self-Determination, Research and Practice Brief no. 13).