

INCREASING THE IMPACT OF BENEFIT-COST ANALYSIS ON SOCIAL POLICY: NEXT STEPS FORWARD

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For the Advisory Panel of the MacArthur-Funded *High-Priority Next Steps in National Evidence-Based Policy Reform*

The nonprofit, nonpartisan Coalition for Evidence-Based Policy has convened an expert Advisory Panel to assist the Coalition in its project, *High-Priority Next Steps in National Evidence-Based Policy Reform*. The aims of the project are to:

- Develop high-priority next steps in a national strategy to advance evidence-based social policy; and
- Begin engaging top governmental and philanthropic decision-makers in implementing these steps.

The MacArthur Foundation is supporting this project as part of its *Power of Measuring Social Benefits* initiative.¹ Thus, one key focus of the *High-Priority Next Steps* project is to increase the use of rigorous benefit-cost [BC] analysis in evidence-based reform, including efforts to measure indirect benefits of effective social programs that are often overlooked in political debates about “what works” and whether taxpayer money is being well spent.

The project’s expert Advisory Panel met on December 2, 2009 in Washington, DC to begin discussing the tasks set out in the project’s aims. This paper lays out suggestions and possible next steps for the Advisory Panel to discuss at subsequent meetings while also noting the challenges the Panel identified at its 12/2 meeting to increasing BC’s impact on US social policy.

The suggestions contained in this paper are based on 1) panel members’ suggestions at the 12/2 meeting, the ensuing discussion, and subsequent exploration of these ideas; and 2) interviews Dr. Herk conducted during the summer and fall of 2009 with 33 key policy-makers familiar with evidence-based policy concepts, at the federal, state and local levels within both the government and non-profit sectors.

I. CHALLENGES TO INCREASING THE IMPACT OF BENEFIT-COST ANALYSIS ON SOCIAL POLICY

Benefit-cost analysis holds great promise as part of the evidence-based arsenal for improving social policy in the United States. When conducted rigorously in ways that

¹ . <http://www.macfound.org/atf/cf/{B0386CE3-8B29-4162-8098-E466FB856794}/SOCIALBENEFITSBUFFSHEET-V5.PDF>

policy-makers find credible, results of BC studies can be compelling evidence in support of greater investment in programs that return significant social benefits.

To reach its full potential as a tool of evidence-based policy, however, BC analysis also faces challenges, which the panel noted at its 12/2 meeting. Most of the issues raised by panel members concerned the perceived credibility problems of BC studies. A number of members expressed the opinions that:

- BC analysis is complicated and therefore difficult to do well; clear methodological standards are still being developed;
- Because BC analysis is hard to do well, there are many poor-quality, advocacy-driven BC studies circulating in the policy arena;
- The large number of poor-quality studies and lack of clear methodological standards contribute to a credibility problem for BC analysis with policy-makers.

In particular, because BC analyses are methodologically complicated and require numerous assumptions, the methodology may appear to be a “black box” to many policy-makers and their staffs, leading them to mistrust BC results. (In contrast, the underlying logic of RCT experiments that establish program impact is typically simple enough to have *prima facie* persuasiveness, even for non-researchers.)

The lack of clearly established methodological standards for BC analyses exacerbates the problems associated with advocacy-driven BC studies. Because BC analysis involves so many decisions as part of the analytic process – e.g., which costs and benefits to include, how to value costs and benefits that are not easily monetized, what discount rate to use, and so on – investigators hoping to find a particular result may consciously or unconsciously choose parameters that support their desired outcome.

In support of some of these contentions, Dr. Herk’s interviews with policy-makers during the summer and fall of 2009 indicated that less than a third of those asked felt that BC analysis had a significant impact on policy. Many cited the credibility issue. Although many had an overall positive attitude towards BC analysis and would like to see more studies available, almost as many indicated that the field was not well-developed and that many poorly done studies circulated in the policy arena. In addition, a significant number indicated unfamiliarity or confusion about BC analyses, with a number confusing them with cost-effectiveness studies.

Despite these challenges to BC analysis, the Panel nevertheless felt that it is an important tool within the evidence-based “tool box” – one whose positive impact could be enhanced through steps such as the ones suggested below.

II. WAYS TO INCREASE THE ROLE OF BENEFIT-COST ANALYSIS IN EVIDENCE-BASED REFORM

The following are put forward as suggestions for the Panel's consideration and further discussion.

Suggestion 1: Increase the credibility of benefit-cost analysis through improvement and standardization of BC methodology

Further improvements to benefit-cost methodology will help address some of the technique's credibility problems among policy-makers. For example, establishment of standard shadow prices for commonly used costs and benefits and creation of standards for reporting and testing the sensitivity of results to key assumptions are reforms that would help to strengthen BC analysis and increase the credibility of well-done studies. Currently, given the absence of clear standards in the field, it is possible for practitioners, either intentionally or unintentionally, to choose parameters and reporting formats that show their programs in the best possible light. The danger in this, of course, is that it potentially discredits the entire approach. The MacArthur Foundation recognizes this challenge and is therefore devoting significant funding from the *Power of Measuring Social Benefits* initiative to improving BC methodology. For example, the Foundation funded the creation of the Benefit-Cost Analysis [BCA] Center at the Evans School of Public Affairs at the University of Washington. The BCA Center has founded the Society for Benefit-Cost Analysis, which recently created the peer-reviewed *Journal of Benefit-Cost Analysis*.²

Possible Methodological Standards

At its 12/2 meeting the Advisory Panel identified the following elements that should be part of standards for high-quality BC studies:

- Benefit-cost analyses should be based on a rigorous finding of impact, which will typically mean a randomized-controlled trial [RCT] design. (*Gordon Berlin*)
- Benefit-cost analyses should report a range of estimates of benefits and costs, and not just single point estimates. (*Gordon Berlin, Jerry Lee*)
- Benefit-cost analyses should include, among their range of estimates, at least one that is based on a set of standardized, conservative assumptions (i.e., conservative shadow prices that are unlikely to overstate project benefits). (*Jon Baron*)
- It is desirable for benefit-cost analyses to report an assessment of the risk that the costs will exceed the benefits. (*Steve Aos*)

With regard to the third bullet point above, the MacArthur Foundation's *Measuring the Power of Social Benefits* initiative is funding the RAND Corporation to develop a database of some of the standardized shadow prices necessary for such a criterion.

² . Benefit-Cost Analysis Center: <http://evans.washington.edu/research/centers/benefit-cost-analysis>. Society for Benefit-Cost Analysis: <http://evans.washington.edu/node/1264>. *Journal of Benefit-Cost Analysis*: <http://www.bepress.com/jbca/>

Suggestion 2: Develop and disseminate standardized formats for communicating BC results that enhance their credibility and impact

Presentation is key to increasing the impact and credibility of BC results, as Carolyn Heinrich pointed out at the 12/2 meeting. Dr. Herk's interviews with policy-makers also support the point that presentation is critical to the *impact* of BC results with policy-makers. Many policy-makers and elected officials have limited knowledge of the subtleties of BC findings and methodology. Reports of BC results to policy-makers can suffer, at one extreme, from being too academic, technical, and jargon-filled, or, at the other extreme, from being overly simple, such as one number being presented as *the* definitive return for any dollar spent on the program. The first approach can lead to BC results being largely ignored in a policy debate, while the second contributes to BC's credibility problem when the "scientific" finding is later disputed by other scientists and/or opponents of the program.

Improving presentation of BC results might include creating a *simple, standardized reporting format* that policy-makers could become familiar with, somewhat akin to the CONSORT diagrams that some journals require for reporting results from randomized controlled trials. Although CONSORT does not advocate a "rigid" structure for reporting results, it does provide a checklist of 25 areas that should be covered in reports of randomized controlled trials, including trial design, information on participants, blinding, statistical methods, and recruitment.³ Thus, it has contributed to standardization of reporting.

Another, perhaps more familiar example of standardized reporting is nutrition labels. Some aspects of a "nutrition label" for BC analyses might include reporting a range of estimates (as opposed to a single number), the population covered in the study, the geographic scope of the study, its duration, whether sensitivity analyses were performed, and perhaps the risk of costs exceeding benefits.

Suggestion 3: Create an impartial, widely-respected entity at the national level to "validate" BC results and methodology

As noted before, the Panel found that BC analysis faces credibility issues. Under the assumption that policy-makers ignore information that they do not find credible, it will be necessary to address this issue if BC analysis's policy impact is to be increased. One way to address this problem might be to create an entity that could credibly distinguish, in the eyes of policy-makers, between high- and low-quality studies. This is parallel in some ways to the goal of the Coalition's Congressionally-based "Top Tier Evidence" initiative, launched in 2008 with support from the MacArthur Foundation to identify impact evaluations that have produced valid evidence of sizable, sustained effects on important societal outcomes. Similarly, a new or existing organization could take on the role at the national level of reviewing and "grading" policy-relevant BC analyses according to the extent to which they meet defined methodological standards. This would give high-quality studies the

³ . A recent update of the CONSORT guidelines is available at:
<http://download.thelancet.com/mmcs/journals/lancet/PIIS0140673610604564/mmc1.pdf>

equivalent of a “Good Housekeeping Seal of Approval” that might help guide policy-makers in their consideration of BC findings.

Possible Models for an Organization to Validate Benefit-Cost Findings

Some organizational models for an entity of this type already exist. For example, as Ron Haskins pointed out at the 12/2 meeting, the ***Congressional Budget Office*** [CBO] “scores” various proposals for their budgetary impact, and these judgments are taken as being objective and non-partisan by all sides of the debate. The CBO faces a similar or even more difficult challenge in that scoring the cost of legislation also requires complicated methodology and many, sometimes arbitrary assumptions. All these factors can easily be gamed in the hands of a group with an advocacy agenda. Nevertheless, CBO is generally regarded by both Democrats and Republicans as being impartial, bipartisan, and neutral, and so its estimates are accepted as legitimate despite the large number of assumptions involved. Perhaps this could serve as a model for the benefit-cost field.

Even more directly relevant, the ***Washington State Institute for Public Policy*** [WSIPP] has been performing a somewhat similar role for years for the Washington state legislature. In the case of WSIPP – whose executive director, Steve Aos, serves on the Advisory Panel for this project – the organization does not so much “certify” the results of particular BC analyses, but rather performs a literature review and synthesis of research, including BC analyses, as they would apply to Washington state. Part of this process includes distinguishing high-quality BC studies from low-quality ones, and excluding the latter.⁴

Dr. Herk found in her 2009 interviews with policy-makers that WSIPP was well-known and well thought of by “evidence-friendly” policy-makers at the state and local level. In addition to the Coalition, WSIPP was the other most commonly cited regular source of information by this admittedly small sample. Those using WSIPP praised it for its simple, clear format for reporting results, in addition to its policy-relevant findings.

Based on WSIPP’s track record, the MacArthur Foundation, through its *Measuring the Power of Social Benefits* initiative, has already funded WSIPP to develop software to support other states in producing their own state-specific reports in the WSIPP format. An additional MacArthur grant to the Pew Center for the States will support field-testing the approach in a number of states.

Possible Activities of an Organization to Validate BC Findings

If one imagines an organization similar to WSIPP or CBO being established to validate BC findings at the national level, then the following are possible activities that such an organization *might* engage in, although obviously the scope of such an organization would depend on the resources available to support it.

⁴. Examples of WSIPP’s reports and work are available at <http://www.wsipp.wa.gov/>

- **Publish and maintain a set of methodological standards** for BC analyses (such as those described in *Suggestion 1*)
- **“Grade” existing policy-relevant BC analyses** on the extent to which they meet these methodological standards
- **Conduct literature reviews** on policy-relevant questions and synthesize the findings (including BC findings), as WSIPP does
- **Present and disseminate findings** on policy-relevant questions in user-friendly formats, as WSIPP does

Questions/Next Steps for the Advisory Panel to Consider if It Decides to Recommend a National BC Validation Organization

If the Advisory Panel decides that some form of an organization at the national level to begin “certifying” and reporting policy-relevant BC analyses makes sense, as a first step it would need to address the following questions:

- What resources already exist for an effort of this type? To what extent are some or all of these functions already being performed by other entities?
- What additional resources, if any, could be found for such an effort?
- In light of the existing and available resources, which subset of the four functions described above should the organization take on?

Suggestion 4: Encourage cost-effectiveness studies as a useful complement to benefit-cost analyses

A number of panel members at the 12/2 meeting suggested that, given the current methodological and related credibility issues of BC studies, an appropriate step to complement further development of BC analysis might be to focus on encouraging more *cost-effectiveness* studies. Cost-effectiveness studies seek, for a given desired outcome, to identify the lowest cost method of achieving that outcome. Bob Slavin supported such an approach, while Gordon Berlin suggested choosing a particular policy domain and building evidence to compare the cost-effectiveness across interventions in that domain.

Cost-effectiveness studies and benefit-cost analyses actually answer two different types of questions. Cost-effectiveness studies consider some agreed-upon aim – e.g., improving reading ability among 1st to 3rd graders – and then simply provide a ranking of different possible interventions based on some measure of change in the desired outcome per unit cost. Thus cost-effectiveness studies help answer questions about how to achieve an agreed-upon goal or how to spend already allocated funds in pursuit of a goal.

In contrast, as described above, benefit-cost analyses attempt to quantify the net value to society (or some other defined entity) of spending on a particular intervention. In this sense, BC analysis is clearly identified with social return on investment for an intervention. These sort of comprehensive return on investment decisions are necessary and appropriate for larger allocation decisions: e.g., how much should we invest in preschool education versus how much should we invest in prisons? How

much should we allocate to publicly subsidized health care and how much should we “allocate” to lower taxes?

The table below summarizes some of the differences between BC analyses and cost-effectiveness analyses.

	Benefit-cost Analysis	Cost-Effectiveness Analysis
Purpose or function	<p>To establish the comprehensive return on investment for a particular intervention. Theoretically, having BC analyses for a variety of possible social investments would allow policy-makers to allocate public spending to the portfolio of activities with the highest public return on investment.</p> <p><i>“Determining the overall portfolio”</i></p>	<p>To establish the most cost-effective intervention among a set of interventions for achieving an already determined policy goal (e.g., increasing 3rd grade reading scores).</p> <p><i>“Determining how to pursue a particular goal within the portfolio”</i></p>
Assumptions	<p><i>Strong version:</i> Assumes that public investments start from a “blank slate” in each budget cycle and that policy makers actively decide how to reallocate the public portfolio among various spending priorities (e.g., between early childhood education and roads) as opposed to substantially continuing legacy allocations among spending priorities.</p> <p><i>Weak version:</i> Assumes that existing spending is largely determined by legacy allocations among priorities but that <i>new</i> spending is (or can be) influenced by BC analysis.</p>	<p>Assumes that most spending priorities and allocations have already been largely determined (e.g., there will continue to be a Title I program in education funded at a certain level) and that the policy-maker’s primary lever of control lies in determining the interventions on which allocated funds can/will be spent.</p>
How benefits are handled in the analysis	<p>BC analysis (in theory) includes a comprehensive list of benefits arising from the intervention, including hard-to-monetize ones.</p> <p>The net present value [NPV] of the stream of <i>all</i> benefits of the intervention is compared to the NPV of its entire stream of costs.</p>	<p>One benefit (e.g., the increase in 3rd grade reading scores) is chosen as the metric, and various interventions are compared in terms of change in the metric per unit cost of the intervention.</p>

	Benefit-cost Analysis	Cost-Effectiveness Analysis
Time frame	Can be long (i.e., years or decades) if benefits (or costs) are slow to appear.	Can also be long, but in practice, researchers often choose a metric (e.g., changes in reading scores 1 or 2 years out) that can be assessed fairly quickly.
Cost	More expensive? (to the extent that studies are longer and require data collection for a greater range of benefits, including hard-to-monetize ones)	Less expensive?

Given that BC analyses and cost-effectiveness studies serve different purposes and answer different questions, the issue facing the research and foundation communities should not be a stark “either-or” contest between the techniques. Rather, the question is how to balance scarce research funds between BC analyses and cost-effectiveness studies.

One way of approaching this problem is to think about which method in which domains is most likely to yield benefits for US social policy.

In cases where significant sums of money are already being spent on less-than-effective interventions, there may be greater impact in shifting existing funding towards more effective interventions than in directing new funding to the policy domain in question. Isabel Sawhill and Jon Baron make essentially this argument about Head Start.⁵ For example, they note that in the ten 10 instances since 1990 in which a whole federal program, such as Head Start or Upward Bound, has been evaluated in a major RCT, 9 of the evaluations found the program to have weak or no positive effects. They point out, however, that most of these federal programs are actually broad funding streams that fund multiple interventions, and that certain specific interventions within these programs have been found highly effective (even if the program as a whole has few or no effects). Clearly in these cases, redirection of funding within each funding stream program towards the more effective interventions makes more sense than increased funding.

Cost-Effectiveness Studies May Sidestep Some of BC Analyses’ Credibility Issues

As described above, many panel members pointed to BC analysis’s credibility issues with policy-makers as an obstacle to increasing its policy impact. One source of BC analysis’s credibility issues lies in the difficulty of monetizing benefits that are not currently assigned a price in some market. While there are certainly also costs that are difficult to monetize (e.g., the value of family or leisure time lost due to increased commuting times or the cost of feeling uneasy due to higher crime rates in one’s community), it seems that especially for social programs, the difficult-to-monetize

⁵. Isabel V. Sawhill and Jon Baron, “We Need a New Start for Head Start,” *Education Week*, 29(23): 22-23, March 3, 2010.

measures fall disproportionately on the benefit side of the ledger. Improvements in family functioning, physical and mental health, and education certainly have benefits that show up as increased productivity and earnings, but large portions of the benefits that we think of for these programs are psychic benefits to the individual or community. Failure to include such benefits in a BC analysis will seriously understate the intervention's net value – perhaps even causing it to be negative. Yet valuing such benefits is difficult, controversial, and opens the analysis up to attack by those who disagree.

Cost-effectiveness studies largely sidestep this problem by simply choosing one (or a small number of) easily assessed outcomes that are assumed to be socially beneficial and comparing the costs of a set of interventions against this yardstick.

CONCLUSION

This paper has aimed to assist the Advisory Panel as it continues to deliberate on how to develop high-priority next steps in evidence-based reform and engage decision-makers in implementing them. It has laid out some of the challenges of increasing the role of benefit-cost analysis at this time, as discussed by panel members at their initial 12/2/09 meeting in Washington, DC. It has argued, on the basis of the panel members' suggestions and other evidence, in favor of:

- Further improvement and standardization of benefit-cost methodology, to increase its credibility
- Attention to the presentation of benefit-cost results, perhaps in the form of a standardized reporting format
- Creation of an impartial entity at the national level to validate benefit-cost results and methodology
- Greater focus on cost-effectiveness studies within strategically chosen domains

Benefit-cost analysis holds great promise as an evidence-based technique for assisting policy-makers in making informed social policy decisions. These suggestions and the Panel's ongoing efforts are offered in the hope of realizing that promise to the greatest extent possible.