Benefit-Cost Analysis Reference Case: Principles, Methods, and Standards

Project Summary

In 2013-2014, the Bill and Melinda Gates Foundation commissioned the development of a reference case for economic evaluation of health-related interventions, particularly in low- and middle-income countries (LMICs). The resulting recommendations include 11 important principles, each of which is supported by methodological specifications and reporting standards. While many components of the reference case are applicable to any type of evaluation, the primary focus is on the conduct of cost-effectiveness analysis (CEA). The Gates Foundation is now funding additional work to expand that reference case to address benefit-cost analysis (BCA). Below, we describe the goals of this project, its key components, the preliminary schedule, the Leadership Team, and opportunities to participate.

Project Goals

Investing in global health and development requires making difficult choices about what initiatives to fund and what level of resources to devote to each initiative. Both CEA and BCA inform these decisions, by providing evidence on the costs and consequences of investments. The primary difference is that in CEA, the costs of an investment are typically divided by a single outcome measure, often disability-adjusted life years (DALYs) averted. In contrast, in BCA outcomes are measured in monetary units. In either case, the analysis must be supplemented by information on other important considerations, such as non-quantifiable impacts, technical feasibility, legal constraints, and budgetary resources.

By using money as a common metric to value all outcomes, BCA in principle allows the simultaneous, integrated consideration of multiple consequences. Money is not important per se; rather it is used as a convenient measure of the trade-offs individuals and societies are willing to make. Denoting values in monetary terms has the advantage of providing information on the intensity as well as the direction of preferences. It also mimics the actual trade-offs implicit in most funding decisions. If a country or other funder chooses to spend more on one initiative, it will have fewer resources available to devote to other purposes – including other initiatives that address the same or similar problems. Whether BCA and/or CEA is conducted will depend on the nature of the problem to be addressed, the decision-making context, and the needs of the decision-makers.

Because of data gaps and inconsistencies, uncertainty about likely consequences, and other factors, the results of any analysis will depend in part on the methods and assumptions used. Real differences across alternative investments can be obscured by differences in these methods and assumptions, potentially leading to widely varying conclusions regarding the consequences of a particular program or policy. To be useful for evidence-based decision-making, analysts must use similar approaches that so that the results are comparable. The methods and assumptions must be firmly anchored in high quality research and clearly communicated, so that users can have confidence in the results. Because it is not feasible to evaluate every possible investment in every possible setting in a single study, consensus is needed on these methods and assumptions to allow comparison of results across studies.

The overall goal of this project is to build on the existing reference case to encourage the conduct of high quality, comparable BCAs of initiatives designed to improve the health and well-being of low- and
middle-income populations. It will complement and supplement the CEA reference case, by addressing methods for valuing health and non-health benefits in monetary terms, as well as for integrating other concerns (such as whether the impacts are distributed equitably) into the BCA framework.

Ultimately, this project will aid analysts, decision-makers, and other stakeholders in distinguishing the types of problems and the types of decision-making contexts where BCA is likely to be most useful; in understanding the implications of different methodological choices; in developing high quality analyses that are consistent and comparable; and in clearly communicating the results and their implications. It will also identify priorities for future work, including dissemination and technical assistance as well as new primary research.

**Key Components**

This project includes three major components: a scoping report; methods papers and case studies; and step-by-step guidance. All products will be posted online for review and comment and discussed in public meetings.

In the *scoping report*, we will:

- Identify currently available guidance on the conduct of BCA, and examine key commonalities, differences, and gaps.
- Identify major funders and users of BCA and of economic evaluation more generally, and explore the major challenges they face.
- Search for and evaluate BCAs completed in recent years, including both academic publications and reports prepared by government agencies and non-governmental organizations, targeting selected areas of investment that are Gates Foundation priorities.
- Use the results of these reviews to propose topics to be addressed in the methods papers and case studies.
- Develop detailed plans for stakeholder engagement throughout the project.

This work will aid us in focusing our efforts on the areas where guidance is most needed as well as in documenting areas where there is already strong agreement. In addition, it will help us identify the organizations and individual decision-makers most likely to be interested in BCA, so that we can solicit information on their needs and ensure that our work addresses these needs.

We will then prepare several *methods papers* and *case studies*. Potential methodological topics include, for example, approaches for valuing averted deaths and illnesses, environmental improvements, and reduced risk of impoverishment. We expect these papers will discuss the conceptual framework, review the relevant literature, and suggest analytic approaches that can be feasibly implemented in the near-term. They will also identify priorities for future research.

The case studies will be used to demonstrate the effects of the different choices discussed in the methods papers. The starting point is likely to include completed CEAs that adhere as closely as possible to the existing reference case requirements, thus providing examples that compare CEAs and BCAs of the same intervention and clearly identify the major differences between the application and findings of
each approach. They also may include testing the effect of different methodological choices on the conclusions of previously completed BCAs.

The final product will include easy-to-use, step-by-step guidance on implementing the BCA reference case, that builds on the methods papers and includes illustrations based on the case studies. This guidance will be freely available online and designed to be easily updated as new research becomes available and methods are further developed.

Preliminary Schedule
To encourage broad participation, one of our first steps will be to develop a website and email list. In addition to providing information on the project, the website will include portals for stakeholders to upload documents or share relevant links, complete related questionnaires, and provide comments on draft products. The email list will be used for project-related announcements as well as to request information and comments. We expect that the website will be launched by January 2017.

We will organize three meetings as part of this project. Each will be webcast and open to the public at no charge; the associated papers, slides, and video will be posted on the project website.

- The first workshop, planned for April 2017, will be held at the Gates Foundation in Seattle, Washington, once the draft scoping report is completed. Its goal will be to present the initial conclusions of that report and to further discuss current practices, barriers to the conduct of BCA, and key challenges to be addressed by this project.

- The second workshop, planned for October or November 2017, will be held at Harvard University in Cambridge, Massachusetts, once the draft methods papers and case studies have been completed. Its goal will be to discuss the content and recommendations of the papers.

- The third meeting, planned for April 2018, will be held at the Gates Foundation. Its purpose will be to launch the final products.

Leadership Team
The Leadership Team includes four members: Lisa A. Robinson and James K. Hammitt (Harvard University), Dean Jamison (University of California, San Francisco), and David de Ferranti (Results for Development Institute).

Lisa A. Robinson (Principal Investigator) is a Senior Research Scientist at the Harvard T.H. Chan School of Public Health, where she is affiliated with the Center for Health Decision Science and the Center for Risk Analysis. Her research focuses on the conduct of benefit-cost analysis, particularly for policies with outcomes that cannot be fully valued using market measures.

James K. Hammitt (Co-Principal Investigator) is Professor of Economics and Decision Sciences at the Harvard T.H. Chan School of Public Health and directs the Harvard Center for Risk Analysis. His research concerns the development and application of quantitative methods for evaluating health and environmental policies.

Dean Jamison is Professor Emeritus of Global Health at the University of California, San Francisco. He has long been a distinguished and influential practitioner of benefit-cost analysis in global health and
development, leading numerous major efforts to evaluate investments and set priorities, such as the Lancet Commission on Investing in Health and the Disease Control Priorities project.

David de Ferranti founded the Results for Development Institute (R4D) in 2008, and is now the Chair of its Board and a Senior Fellow. He is a renowned expert in the successful implementation of innovative initiatives to reduce poverty and improve well-being globally.

Opportunities to Participate
More detailed information on this project, including opportunities to participate in the workshops and other activities, will be available in January 2017. To receive related announcements, please join the Harvard Center for Risk Analysis email list at https://www.hsph.harvard.edu/hcra/join-our-mailing-list/.