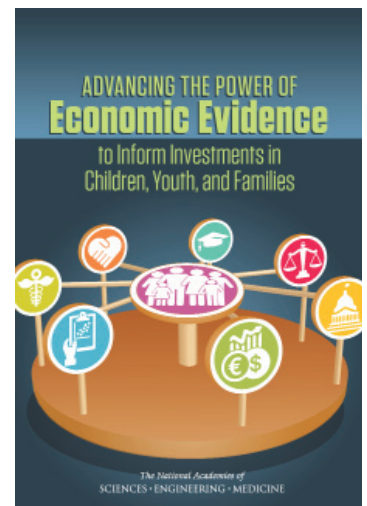


Advancing the Power of Economic Evidence to Inform Investments in Children, Youth, and Families

In recent years, the U.S. federal government has invested about \$463 billion annually in interventions* designed to support the well-being of children, youth, and families in such areas as education, health, and social welfare. State and local budgets devote almost double that amount.

When deciding which interventions to support, policy makers must consider a number of difficult questions: What is the total cost to implement and sustain this intervention? What is the expected return on the investment? And how should that return be measured—in monetary terms or in nonmonetary terms such as greater quality of life? Economic evidence can help answer such questions and inform policy makers' investment decisions. As the result of a number of challenges, however, such evidence may not be effectively produced or applied—shortcomings that weaken society's ability to invest wisely.

The National Academies of Sciences, Engineering, and Medicine convened a committee of experts to study how to improve the use of economic evidence to inform policy and funding decisions. The committee's report, *Advancing the Power of Economic Evidence to Inform Investments in Children, Youth, and Families* (2016), highlights the potential for economic evidence to inform investments, describes challenges to its optimal use, and offers recommendations to promote lasting improvements in its quality, utility, and use.



WHAT IS ECONOMIC EVIDENCE?

In the context of this report, economic evidence is the information produced by economic evaluations, which examine the costs and outcomes of an intervention. Three common types of economic evaluations are described below:

Cost analysis (CA) can help to answer: *What does it cost to fully implement a given intervention for a specified time period?* This evaluation can provide a complete accounting of the economic costs of all the resources used to carry out an intervention.

Cost-effectiveness analysis (CEA) can help to answer: *What is the economic cost to achieve a unit change in a given outcome from an intervention (e.g., one more high school graduate) or what is the amount of a given outcome obtained for each dollar invested in an intervention?* When comparing two or more interventions, the one that can produce the outcome at lowest cost or the one that can produce the largest gain for each dollar invested would generally be selected. In CEA, the outcomes of an intervention are often measured in non-monetary terms.

*The term intervention is used to represent all programs, practices, and policies relevant to children, youth, and families.

Benefit-cost analysis (BCA) can help to answer: *Is the investment a justifiable use of scarce resources?* This evaluation determines whether the economic value of the outcomes of an intervention exceeds the economic value of the resources required to implement the intervention. Interventions with net value, or total net benefit, greater than zero are considered justifiable from an economic standpoint. In BCA, the costs and outcomes of an intervention are valued in monetary terms.

PRINCIPLES TO IMPROVE ECONOMIC EVIDENCE

While many decisions about investments in children, youth, and families would be enhanced by stronger economic evidence, decision makers face budget constraints, time limitations, and competing incentives that limit their use of such evidence (see Box 1). The committee proposes that to overcome these limitations, both producers and consumers of economic evidence give full consideration to two simple but fundamental guiding principles: *quality counts* and *context matters*.

Quality counts. Currently, many challenges limit the production and use of high-quality economic evidence. High-quality evidence can be difficult to derive because economic evaluation methods are complex and entail many assumptions. Moreover, methods are often applied inconsistently in different studies, making results difficult to compare, and reducing the effective use of evidence in decision making. Furthermore, the results of the evaluations may be communicated in a way that obscures important findings, is not suited to nonresearch audiences, or is not deemed reliable by decision makers.

In reviewing the evidence, the committee drew 12 conclusions related to quality in the production and use of economic evidence in investment decisions for children, youth, and families. Among them:

- To be ready for all types of economic evaluation, key prerequisites are that the program be clearly defined, the counterfactual (what alternative, if any, would be pursued if the program were not implemented) well specified, and other contextual features described.
- Prior to conducting the evaluation, it is essential to establish the perspective, time horizon, and baseline discount rate.
- To develop accurate cost estimates requires a careful consideration of the resources needed to replicate an intervention.
- For all economic evaluation methods, one or more types of uncertainty usually are associated with the evaluation findings.
- Acknowledging equity concerns can enhance the quality and usefulness of economic evaluations.

Context matters. Economic evidence—even of the highest quality—may not be used effectively to inform investment decisions if the concerns and interests of those involved in the decision-making process are not considered. Given the gaps in the literature on the use of economic evidence in decision making, the committee’s research on this issue focused largely on the use of evidence more broadly defined. The committee drew 18 conclusions related to the utility and use of evidence in investment decisions for children, youth, and families. For example:

- Evidence is often produced without the end-user in mind. Therefore, the evidence available does not always align with the evidence needed.
- Capacity to access and analyze existing economic evidence often is lacking.
- Infrastructure for developing, accessing, analyzing, and disseminating research evidence often has not been developed in public agencies and private organizations.
- Research summaries and publications often do not report contextual details that are relevant to whether positive impacts and economic returns should be expected in settings beyond the one in which the study was conducted.
- Political pressures, values, long-standing practices, expert opinions, and local experience all influence whether decision makers use economic evidence.
- Without a commitment by government to the development of linkages across administrative data sets, efforts to expand the evidence base on program impacts and evidence of economic returns will be limited.
- Interactive, ongoing, collaborative relationships among decision makers and researchers and trusted knowledge brokers are a promising strategy for improving the use of economic evidence.
- Growing interest in performance-based financing is likely to increase the demand for economic evidence to inform decisions on investments in children, youth, and families.

A ROADMAP FOR MOVING FORWARD

To promote lasting improvement in the quality and use of economic evidence to inform investments for children, youth, and families, those who produce and consume economic evidence—as well as intermediaries who may offer technical assistance or advocacy—need to engage at several levels beyond simply producing higher-quality and more useful evidence in each single research endeavor. Long-term, multi-stakeholder collaborations that include producers, consumers, and intermediaries alike can provide vital support for the improved use of economic evidence to inform investments. Together these stakeholders can play

a more impactful role by building a coordinated infrastructure to support the development and use of high-quality economic evidence. However, investments are vitally needed to help build such an infrastructure. Funders, policy makers, program developers, program evaluators, and publishers engaged in science communication each have unique opportunities to aid this advancement.

RECOMMENDATIONS

The study committee formulated multiple recommendations for producing high-quality economic evidence; improving the utility and use of evidence; and actualizing those improvements to better inform investments for children, youth, and families.

Recommendation: In support of high-quality economic evaluations, producers of economic evidence should follow the best practices (delineated in Box 2) for conducting cost analyses (CAs), cost-effectiveness analyses (CEAs), benefit-cost analyses (BCAs), and related methods. Producers should follow the core practices listed and, where feasible

and applicable, the advancing practices as well. Consumers of economic evidence should use these recommended best practices to assess the quality of the economic evidence available to inform the investment decisions they are seeking to make.

Recommendation: In support of high-quality and useful economic evaluations of interventions for children, youth, and families, producers of economic evidence should follow the best practices (delineated in Box 3) for reporting the results of CAs, CEAs, BCAs, and related methods.

Recommendation: If aiming to inform decisions on interventions for children, youth, and families, public and private funders of applied research should assess the potential relevance of proposed research projects to end-users throughout the planning of research portfolios.

Recommendation: To achieve anticipated economic benefits and optimize the likelihood of deriving the anticipated outcomes from evidence-based interventions, public and private funders should ensure that resources are available to support effective implementation of those interventions.

BOX 1

Five Things Consumers of Economic Evidence Want Producers to Know

1. Many factors other than economic evidence (including political pressures and capacity) influence the decision-making process.
2. The time frames for research outcomes and investment decisions can be very different and affect the value of the evidence.
3. Seldom do all the benefits realized from investment decisions accrue to those who make the decisions or their community.
4. Existing evidence is not always aligned with the evidence needed by the decision maker.
5. Real-world constraints that affect the implementation fidelity and scale-up of an intervention need to be identified before further investments are made.

Five Things Producers of Economic Evidence Want Consumers to Know

1. Better investment decisions can be made with a foundational understanding of precisely what economic evidence is, the ways it can be used, its limitations, and considerations of causality and external validity.
2. Either directly or through intermediaries, consumers need to be able to distinguish between higher- and lower-quality economic evaluations.
3. Clearinghouses reveal only which interventions have attained success, usually relative to some alternative and according to certain specified criteria; accordingly, they cannot and generally should not be considered adequate to indicate which programs are best suited to a particular organization, context, or goal.
4. To support sound investments in children and to facilitate high-quality program implementation, investment is required in the infrastructure needed to collect, analyze, and disseminate high-quality economic evidence; crucial here are data tracking children's well-being over time so that future, often not-yet-specified, evaluations can be conducted.
5. Investing in education, training, technical assistance, and capacity building often leads to successful development, analysis, and implementation of interventions.

Recommendation: Providers of postsecondary and graduate education, on-the-job training, and fellowship programs designed to develop the skills of those making or seeking to inform decisions related to children, youth, and families should incorporate training in the use of evidence, including economic evidence, in decision making.

Recommendation: Government agencies should report the extent to which their allocation of funds—both within and across programs—is supported by evidence, including economic evidence.

Recommendation: Program developers, public and private funders, and policy makers should design, support, and incorporate comprehensive stakeholder partnerships (involving producers, consumers, and intermediaries) into action plans related to the use of economic evidence.

Recommendation: Multi-stakeholder groups should seek to build infrastructure that (1) supports access to administrative data; (2) maintains a database of estimates of outcome values; (3) archives longitudinal data for multiple purposes, including improved tracking of children

BOX 2

Checklist of Best Practices for Producing High-Quality Economic Evidence

For All Economic Evaluation Methods

- Specify the intervention for the economic evaluation, including a description of the intervention's purpose, its intended recipients, the intensity and duration of services provided, the approach to implementation, the causal mechanisms, and the intended impact(s).
- Specify the context in which the intervention was or will be implemented, such as characteristics of the population served; the time, place, and scale of implementation; and other relevant contextual factors.
- Specify the counterfactual condition, including whether the alternative is no intervention, an alternative intervention, or business as usual. In the case of cost-effectiveness analysis (CEA) and benefit-cost analysis (BCA), ensure that the same counterfactual applies to the cost analysis (CA) and the impacts used for the CEA or BCA.
- Determine the scope of the economic evaluation, including the type of method to be used and the perspective (and any subperspectives) for the analysis; if the societal perspective is not adopted, discuss limitations of the evidence and/or generate results from the societal perspective in a sensitivity analysis.
- Determine the currency and reference year for all monetary values.
- If new taxes will be used to fund the intervention, determine the assumed deadweight loss parameter. If a 0 percent rate is selected (i.e., no deadweight loss), generate results in a sensitivity analysis using loss parameters greater than 0 when accounting for new revenue required to pay for an intervention or for impacts on taxes paid or transfer payments.
- Determine the time horizon for the analysis, and when costs or outcomes accrue over multiple years, the base case discount rate and age or point in time to which to discount (e.g., start of the intervention or a standardized child age). If a 3 percent discount rate is not selected, generate results using a 3 percent discount rate in a sensitivity analysis.
- Determine the method for addressing uncertainty and apply it to generate standard errors and confidence intervals for all summary measures, such as estimates of total (present-discounted-value [PDV]) costs, total (PDV) benefits, net (PDV) benefits, cost-effectiveness and benefit-cost ratios, and internal rate of return.
- Employ sensitivity analyses to test the robustness of estimates under a variety of assumptions, including alternative discount rates, deadweight loss parameters, and estimates of the societal perspective if not the main perspective.
- Determine whether equity issues need to be addressed.
- Follow the reporting guidelines on the checklist for best practices for reporting economic evidence below.

Additional best practices for producing specific types of analyses—cost analysis, cost-effectiveness analysis, and benefit-cost analysis—are included in the full report.

and families and the development of better estimates of long-term impacts and shadow prices; (4) educates future producers and consumers of economic evidence; and (5) develops tools for tracking nonbudgetary resource consumption.

Recommendation: To support sustainable action toward the production and use of high-quality economic evidence, public and private funders should invest in infrastructure that supports (1) the regular convening of producers, consumers, and intermediaries of economic evidence; (2)

enhanced education and training in economic evaluation; (3) efforts to attend to progressive data requirements and data sharing management needs; and (4) the integration of economic evaluations into budget processes.

Recommendation: Public and private funders, policy makers, program developers, program evaluators, and publishers engaged in science communication should strengthen the incentives they provide for the production and use of high-quality economic evidence likely to be of high utility to decision makers.

BOX 3

Checklist of Best Practices for Reporting Economic Evidence

For All Economic Evaluation Methods:

- The features of the intervention analyzed (e.g., logic model, intended recipients, intensity and duration of services, implementation, and other intervention features)
- The context in which the intervention was or will be implemented (e.g., population served; time, place, and scale of operation)
- The counterfactual (baseline or status quo) with which the intervention is compared
- The perspective for the analysis and any subperspectives examined, with associated results
- The currency and reference year for all monetary values
- The assumed deadweight loss parameter, if one was used
- The horizon for measuring economic values and, when discounting is used, the discount rate and time (or age) to which discounted
- Summary measures of the economic evaluation results
- When relevant, results disaggregated by stakeholder
- The approach for addressing uncertainty, details on how the method was implemented, and the associated standard errors or confidence intervals for all summary measures
- Sensitivity analyses performed and associated results
- When relevant, any equity considerations

Additional best practices for producing and reporting the results of specific types of analyses—cost analysis, cost-effectiveness analysis, and benefit-cost analysis—are included in the full report.

COMMITTEE ON THE USE OF ECONOMIC EVIDENCE TO INFORM INVESTMENTS IN CHILDREN, YOUTH, AND FAMILIES

EUGENE STEUERLE (*Chair*), Urban Institute, Washington, DC; **RICARDO BASURTO-DAVILA**, Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health, CA; **JENNIFER BROOKS**, Early Learning, U.S. Program, Bill & Melinda Gates Foundation, Seattle, WA; **JEANNE BROOKS-GUNN**, Teachers College and the College of Physicians and Surgeons, Columbia University, New York City, NY; **BARBARA CHOW**, Education Program, William and Flora Hewlett Foundation, Menlo Park, CA; **PHAEDRA CORSO**, Department of Health Policy and Management, University of Georgia, Athens; **DANIEL MAX CROWLEY**, College of Health and Human Development, Pennsylvania State University, University Park; **JODY L. FITZPATRICK**, School of Public Affairs (retired), University of Colorado, Denver; **LYNN A KAROLY**, Pardee RAND Graduate School, RAND Corporation, Philadelphia, PA; **MARGARET KUKLINSKI**, Social Development Research Group, School of Social Work, University of Washington, Seattle; **RACHEL NUGENT**, Chronic Noncommunicable Diseases Global Initiative, RTI International, Seattle, WA; **OLGA COSTA PRICE**, Center for Health and Health Care in Schools, George Washington University, Washington, DC; **TED MILLER**, Public Services Research Institute, Pacific Institute for Research and Evaluation, Calverton, MD; **ANNE SHERIDAN**, Sheridan & Associates, Potomac, MD; **LEIGH MILES JACKSON**, *Study Director*; **BRIDGET KELLY**, *Senior Program Officer*; **TARA MAINERO**, *Associate Program Officer*; **NOAM KEREN**, *Research Associate*; **STACEY SMIT**, *Senior Program Assistant*; **PAMELA ATAYI**, *Administrative Assistant*; **ALIA SANI**, *Intern*.

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