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# The International Decision Support Initiative Reference Case for Economic Evaluation: An Aid to Thought



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#### ABSTRACT

Background: Policymakers in high-, low-, and middle-income countries alike face challenging choices about resource allocation in health. Economic evaluation can be useful in providing decision makers with the best evidence of the anticipated benefits of new investments, as well as their expected opportunity costs—the benefits forgone of the options not chosen. To guide the decisions of health systems effectively, it is important that the methods of economic evaluation are founded on clear principles, are applied systematically, and are appropriate to the decision problems they seek to inform. Methods: The Bill and Melinda Gates Foundation, a major funder of economic evaluations of health technologies in low- and middle-income countries (LMICs), commissioned a "reference case" through the International Decision Support Initiative (iDSI) to guide future evaluations, and improve both the consistency and usefulness to decision makers. Results: The iDSI Reference Case draws on previous

insights from the World Health Organization, the US Panel on Cost-Effectiveness in Health Care, and the UK National Institute for Health and Care Excellence. Comprising 11 key principles, each accompanied by methodological specifications and reporting standards, the iDSI Reference Case also serves as a means of identifying priorities for methods research, and can be used as a framework for capacity building and technical assistance in LMICs. **Conclusions:** The iDSI Reference Case is an aid to thought, not a substitute for it, and should not be followed slavishly without regard to context, culture, or history. This article presents the iDSI Reference Case and discusses the rationale, approach, components, and application in LMICs.

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#### **Economic Evaluation and Good Decision Making**

Good decisions are those that attempt to maximize benefits and minimize harms. Benefits and harms of a health policy decision are often difficult to identify and measure fully, and so the evidence base for both is rarely complete. The opportunity costs of a decision—the benefits forgone or harm caused as a result of spending limited resources on one intervention and not on another—are even more elusive. Furthermore, decision making in health is inherently value-laden; individual and collective beliefs, needs, and aspirations commonly influence spending priorities.

The International Decisions Support Initiative Reference Case was informed by the Methods for Economic Evaluation Project workshop held at the Bill and Melinda Gates Foundation headquarters in Seattle in June 2013 and subsequent consultation with workshop attendees. A full list of workshop attendees can be found at <a href="www.idsihealth.org/knowledge\_base/the-reference-case-for-economic-evaluation/">www.idsihealth.org/knowledge\_base/the-reference-case-for-economic-evaluation/</a>. The bulk of this work was completed while the author TW was employed by NICE International, London UK. The following workshop attendees (in alphabetical order) provided substantive contributions to the Reference Case development: Ruth Faden, Director, Johns Hopkins Berman Institute of Bioethics, Baltimore, Maryland, USA; Marthe Gold, Logan Professor and Chair, Department of Community Health and Social Medicine, City College, New York, NY; Carol Levin, Senior Health Economist, University of Washington, Washington, WA; Francis Ruiz, Senior Advisor, NICE International, London, UK; Peter Smith, Professor, Imperial College of London, London, UK; and Anna Vassall, Reader in Health Economics, London School of Hygiene and Tropical Medicine, London, UK.

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To make good decisions, decision makers—whether they are local or national policymakers, clinicians, institutions, nongovernment organizations, or global funding bodies—not only need sound evidence of the likely costs, benefits, and opportunity costs of their choices but also have to filter the evidence through a prism of values, whether their own, those of the agency for which they work, of a particular stakeholder group, or of the society in general.

When used in health, "economic evaluation" refers to a suite of methods for identifying the costs and benefits expected from a health intervention, such as an individual technology or a clinical intervention, a platform for various interventions, public health programs, or a wider service development [1]. Economic evaluation can play an important part in clarifying the likely consequences of a decision (including the opportunity costs), thereby enhancing the quality of decision making [2].

Economic evaluation as a component of health technology assessment (HTA) is gaining increasing attention from decision makers in wealthy and resource-poor countries alike, as well as among global donors. In 2014, the World Health Assembly resolution 67.23 identified HTA as crucial for governments around the world to realize the benefits of universal health coverage, by facilitating the efficient and equitable allocation of health care resources. This resolution used the term "health intervention and technology assessment," which, for the purposes of this article, can be considered synonymous with HTA. This article presents a summary of the International Decision Support Initiative (iDSI) Reference Case [3], which aims to improve the usefulness of information produced through economic evaluation, thereby contributing to good decision making globally.

#### What Is a Reference Case for Economic Evaluation?

A reference case guides the planning, conduct, and reporting of economic evaluations so that both the approach to the analysis and the presentation of the results are coherent, transparent, and consistent. But more than this, a reference case goes beyond recommendations of good practice methodology and analytics and constitutes an explicit position statement on a range of scientific and social values inherent in the practice of economic evaluation. A major motivation for using a reference case is that it enables institutions or individuals wanting to use economic evaluation to inform their decisions to do so in full knowledge of its limitations and relevance to the decision problem at hand.

In 1996, the US Panel on Cost-Effectiveness in Health and Medicine first proposed the use of a reference case as a means of improving quality and comparability in conduct and reporting cost-effectiveness analyses [4]. In 2003, the World Health Organization (WHO) published a Guide to Cost-Effectiveness Analysis [5], which introduced a methodology aimed at improving the generalizability of results of economic evaluations globally. In 2004, the UK's National Institute for Clinical Excellence (NICE), which is called the National Institute for Health and Care Excellence since April 2013, adopted a reference case to standardize the analyses used to inform its own decision-making processes [6]. The reference case used by NICE, along with associated methods and process guides, contributes to NICE's ability to foster collective stakeholder buy-in, if not support, for its recommendations on resource allocation decisions and guidance for the National Health Service in England.

#### The Problem

Economic evaluation is not a simple panacea for the difficult decisions facing health policymakers. It is useful only if appropriate methods are applied, and the results reported with clarity and accuracy. Determining appropriate methods is particularly difficult in countries in which guidelines for undertaking economic evaluation may not have been established, researcher capacity is limited, and reliable data sources may be scarce. Without adequate information about the way an economic evaluation has been conducted, decision makers are unable to judge whether the results are applicable to their decision problem and whether it can usefully assist them to make good decisions.

Inconsistent and nontransparent incorporation of the judgments made when conducting an economic evaluation also limits its ability to contribute to good decisions. For example, if for reasons of advocacy or expediency a researcher conducting an economic evaluation does not compare the intervention in question with all the options feasibly available to the intended decision maker, the analysis may not accurately reflect the decision problem and fail fully to enumerate the relevant costs, benefits, and opportunity costs. The decision maker may understandably reject the analysis as an input to the decision process, or worse, incorporate it and make an ill-informed and potentially suboptimal choice.

Economic evaluations that are not conducted and reported systematically and clearly with a minimum standard of methodological quality have limited transferability [7]. The transferability of an economic evaluation indicates its applicability to different contexts and decisions, and improves the value of an economic evaluation by enabling it to inform decisions beyond the context for which it was conducted. Transferability becomes increasingly important in resource-constrained settings in which the substantial human and financial resources required to conduct an economic evaluation constrain its routine use in decision making.

Developing and using a reference case to guide the conduct and reporting of an economic evaluation of various technologies including interventions and services, programs, and delivery platforms is, therefore, a potential way to consistently improve methodological quality and transferability, and to make the necessary value judgments involved in conducting and using an economic evaluation more transparently.

There is, however, a trade-off between conducting an economic evaluation that can provide useful information for different places and contexts and one that is also sufficiently specific to reflect actual, invariably local, decision problems [8,9]. In addition, promoting consistency in economic evaluation should be weighed against imposing prescriptive methodological rules on researchers, which may constrain the use of methods best suited to the decision problem in light of analytical constraints. When the identities of the decision maker and the population to be affected by the decision remain constant (as with NICE for decisions affecting only the National Health Service in England), transferability and researcher discretion become less crucial and a relatively prescriptive reference case may be applied. These trade-offs, however, become a key consideration if a reference case is to be applied to economic evaluations intended to inform multiple decision makers, populations, and contexts.

#### The Case for the iDSI Reference Case

The national-level standardization of methods adopted by NICE in England has been implemented elsewhere; to date, mandatory or recommended standards or guidelines for economic

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