SPECIAL SECTION

ALTERNATIVE METHODS FOR ASSESSING TECHNOLOGY

Part I

Guest Editor

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INTRODUCTION

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This issue introduces a two-part series of articles on methods for assessing health technologies. The topics and authors have been selected with the intention of creating a collection of articles that, taken together, will constitute a comprehensive review of existing methods.

The articles are connected by a framework that follows the main steps of an assessment of health technologies (Figure 1). After a technology has been selected for assessment, the available empirical evidence must be evaluated to estimate the effect of the technology on clinically important outcomes. This evaluation requires identifying the applicable studies, interpreting the reports, and synthesizing the results. Because the available evidence is virtually never perfect nor complete, this invariably requires some use of subjective judgments. After the benefits and harms of the technology have been estimated, they must be compared to determine whether the benefits outweigh the harms and to estimate the overall benefits of the technology. If a technology is judged to have an overall benefit, its costs must be estimated, and the health outcomes compared to its costs. An additional step is required when there is a need to compare different technologies, which can occur if there is a limit on resources or costs; the costs and effectiveness of competing technologies must be analyzed and priorities set. Each of the articles addresses issues that arise in the conduct of these steps.

"Selecting Technologies for Assessment" by David M. Eddy describes methods currently used by various organizations to select technologies for assessment and a framework for integrating various factors that influence the choices. In "Research Methods for Obtaining Primary Evidence," Roman Jaeschke and David L. Sackett describe the basic types of research, the types of information that each provides, their strengths and weaknesses, and the roles of research design and statistics in generating valid answers. Thomas C. Chalmers, Peg Hewitt, Dinah Reitman, and Henry S. Sacks explain methods for identifying studies, selection criteria for including studies in an assessment, methods for grading the quality of studies, and related topics. "Eliciting and Combining Subjective Judgments about Uncertainty," by Robert L. Wolpert, examines methods used or recommended for eliciting the opinions of experts about uncertain events and for combining the opinions of several experts. In the final article of this installment, "Utilities and Quality-Adjusted Life Years," George W. Torrance and David Feeny provide a broad overview and offer a perspective on the interrelationships.

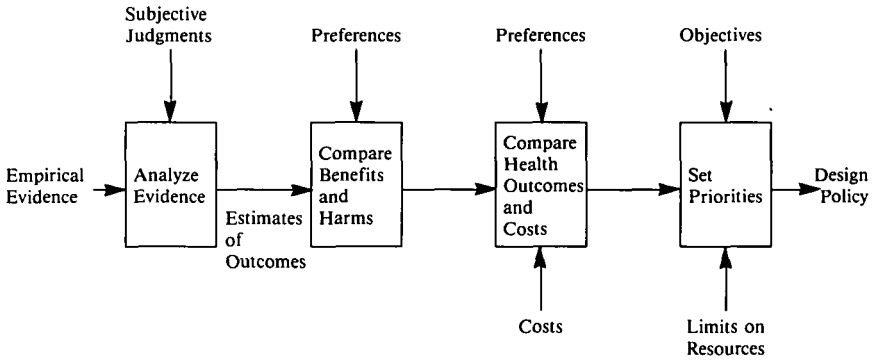

Figure 1. Four steps of health technology assessment.

These articles, along with the articles in the next issue (*IJTAHC*, 6:1), provide both a review of existing methods for assessing technologies and, it is hoped, inspiration for continued innovation and progress.

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