What are the “costs” of cost-effectiveness?

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Cost-effectiveness limitations.

Central Message

CEA has potential ethical and analytic shortcomings that limit usefulness.

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The article by Ferket and co-authors¹ describes the concepts and methodologies of cost-effectiveness analysis (CEA). The authors focused on 5 conditions: coronary artery disease, aortic stenosis, mitral regurgitation, atrial fibrillation, and end-stage congestive heart failure, with particular emphasis on end-stage congestive heart failure to present relevant current information about CEA in these conditions and to describe the principles involved in CEA. The authors call this article a “primer” on CEA, and I think that is a good description. I worry a little that readers may get “bogged down” in the completeness of the authors’ very comprehensive description of CEA. In its present form, the article is an inclusive repository of CEA and the nuances surrounding the topic. Phrases such as quality-adjusted life years, probability sensitivity analysis, health-related quality of life, incremental cost-effectiveness ratio, and so forth do not roll off the tongue of most cardiothoracic surgeons. The advantage of the article is that it serves as a reference on the topic of CEA. The disadvantage is that there is a lot of information packed into a relatively small space, perhaps more than most cardiothoracic surgeons want or need. Nonetheless, the article introduces a topic that is bound to have more and more impact in current cardiothoracic practice, and readers need to take a careful and complete read through this article.

There are a few words of caution that need to go along with the article by Ferket and co-authors.¹ First, and perhaps most important, the introduction of economic evidence into the care of cardiothoracic surgical patients creates an ethical dilemma. Cost-effectiveness studies are assumed to be impartial, neutral guidelines that try to reduce the influence of nonscientific factors. However, rationalizing CEA in this way often hides assumptions about the goals of treatment, the selection of treatments, the role of the patient, and the distribution of scarce resources.^{2,3} Adopting cost-effective practices may incur some ethical ambiguity on the part of cardiothoracic surgeons, subtly stimulated by health care administrators.

Even stronger criticisms of CEA relate to the foundations of the parameters of cost and of effectiveness. Cost-effectiveness

ratios are a gross oversimplification of a very complex process (Table 1).^{4,5} Diamond and Kaul⁶ summarized shortcomings of the traditional cost-effectiveness ratio and pointed out that definitions of optimal cost-effectiveness are steeped in inequalities among patients’ income differences, geographic differences, and health care policy changes.⁶ These authors suggest that the optimal cost-effectiveness ratio of \$50,000 expenditure per quality life year gained is an inadequate metric of cost and of effectiveness. As painful as it might be for cardiothoracic surgeons, it will become increasingly important to understand the nuances and implications of cost-effectiveness. The article by Ferket

TABLE 1. Criticisms and limitations of cost-effectiveness analysis

Lack of confidence in the science of CEA. ⁴
High-quality economic information that is needed to formulate spending recommendations is limited (eg, blood conservation is multifaceted, but cost-effectiveness of a single blood conservation intervention is impossible to separate from all other interventions). ⁵
Distrust of government and other policy makers to make the right decisions—the difference between regulatory and clinical decisions.
Unwillingness to admit that resources are limited decreases perceived need for CEA.
Belief that the most efficacious/efficient intervention is the most cost-effective.
Belief that intervention where monetary benefit exceeds the costs is preferable. Economists stuck on <i>cost-benefit</i> (ie, policy adopted if benefits in dollars exceeds the cost, another way of saying this is putting dollar value ahead of human life). Doctors prefer health benefits per dollar spent (ie, cost-effectiveness).
Cost-effectiveness ratios are a gross simplification of a highly complex process. ⁶

and co-authors¹ in this issue of the *Journal* is a good starting point.

It is nearly impossible to separate the pure delivery of evidence-based care from economic considerations. These opposing factors are typified by practice guidelines and cost-effectiveness analyses. Political and social factors have an important impact on the latter, but not so much on the former. Cost-effectiveness analyses are not practice guidelines and, as such, require a different skill set and demand time and energy to grasp essentials. The price that readers pay in time spent to gain this knowledge pays a dividend in understanding the scope of cost-effectiveness outcomes and positions surgeons as equals in program and hospital discussion about cost and outcomes.

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