

# EDITORIALS

## Where Does High-Quality Research in Economic Evaluation Come From?

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*Editor's Note:* The paper entitled "Economic Evaluations of Clinical Pharmacy Services: 2001–2005" that is the subject of this editorial is available online at [www.pharmacotherapy.org](http://www.pharmacotherapy.org) and <http://www.accp.com/docs/positions/whitePapers/EconEvalClinPharmSvcFinalkjsedit-gts.pdf>.

The health care system in the United States is the most expensive in the world with regard to health care spending as a fraction of the gross domestic product and per capita health care spending. Although such a spending level can be explained, in part, by the preference for cutting-edge technology and the willingness of the U.S. population to pay for it,<sup>1</sup> there is continuous debate about the efficiency and sustainability of this model of health care, especially as its overall performance ranked 37th among all nations.<sup>2</sup> Clinical pharmacy services, as an integral part of the U.S. health care system, is no exception; it must present evidence of value to justify its continuation or expansion of services.

In this issue of *Pharmacotherapy*, the American College of Clinical Pharmacy report entitled "Economic Evaluations of Clinical Pharmacy Services: 2001–2005"<sup>3</sup> is a timely product with which to review the status of research and quality of evidence in measuring the economic value of clinical pharmacy services. This report found that among 93 articles reviewed, 25 (27%) were of good quality and 53 (57%) were of poor quality with regard to the economic analysis conducted. The report strongly suggested that

the methods used to examine the economic impact of clinical pharmacy services need improvement.

The studies reviewed in the report were conducted in eight health care settings, such as hospitals, ambulatory care clinics, physicians' offices, and community pharmacies, and included eight types of clinical pharmacy services or intervention studies, such as general pharmacotherapeutic monitoring, target drug programs, and disease state management. Although the overall percentage of good-quality articles was reported, it was not clear if such good-quality articles were nested in research in certain settings or types of clinical pharmacy services or if quality of research was equally good (or poor) across settings and types of services. The relevance of types of services and the strength of research within each type can inform the generalizability and creditability of the benefit:cost ratio summarized in the report.

Appendix 1 of the report provides details regarding the 93 articles included in the review. The report indicates a general lack of strength in study design because study control was often poorly designed or omitted. With respect to perspective, a societal perspective was seldom used. A societal perspective has been consistently recommended in the literature on the economic evaluation of health care.<sup>4,5</sup>

With regard to economic outcomes, most of the studies used direct medical costs—usually pharmaceutical costs only. Although pharmaceutical costs are a relevant and important outcome to the pharmacy, a more persuasive case in the value of clinical pharmacy services is if clinical pharmacy services can lead to cost savings in institutional care or ambulatory care other than the drug cost itself, which is the

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overwhelming cost component in health care spending. Such a broader perspective in costing will align the economic evaluation of clinical pharmacy services with societal needs and thus make the evaluations comparable within clinical pharmacy services and across health care services.

Another possible advancement in economic outcomes is an examination of outcomes highly relevant to patients as we move toward patient-centered health care. Such economic outcomes would include the cases that examine the effects of drug costs on out-of-pocket expenditures because patients might be more sensitive to such costs, and thus, the impact of clinical pharmacy services could be more visible. Other possibilities include the end points in patients' health-related quality of life because the ultimate goal of health care is to improve the longevity (quantity) as well as the quality of life. Such an evaluation would also provide a more comprehensive picture of the impact of clinical pharmacy services on health care.

With regard to the input costs of clinical pharmacy services, it was not clear to what degree labor costs, such as the staffing of pharmacists, were measured because there was no summary measure in the report. It is evident that for clinical pharmacy services, labor costs would be an important component of costs. The level and composition of staffing can significantly alter the costs measured and outcomes expected. For a business case in clinical pharmacy services, a relevant decision derived from the studies

would be how the design of staffing improves care. Such studies in labor costs would then involve the economic evaluation of labor and productivity.

Once the economic outcome measures are broadened to include those outside the direct costs of pharmaceuticals and the economic costs are broadened to include labor and productivity, it is likely that the benefit:cost ratio will be different from that summarized in the report. Economists often use jargon different from that of pharmacy researchers, and an integrative approach in research with individuals from both camps, or individuals with in-depth training in both, would greatly strengthen the quality of research. Although it is encouraging to hear that the quality of the study design and of the reports is improving, we look forward to more studies with scientific rigor that provide convincing evidence of the value of clinical pharmacy services.

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