EDITORIAL

(Pre-publication Draft)

Where Does High-quality Research in Economic Evaluation Come From?

James X. Zhang, Ph.D., M.S.

From the School of Pharmacy, Virginia Commonwealth University.

Address reprint requests to James X. Zhang, Ph.D., M.S., Department of Pharmacy, School of Pharmacy, Medical College of Virginia Campus, Virginia Commonwealth University, 209E McGuire Hall (PO Box 980533), Richmond, VA 23298; e-mail: xzhang3@vcu.edu.

The U.S. health care system is the most expensive such system in the world with regard to health care spending as a fraction of the gross domestic product and per capita health care spending, and the overall performance of the U.S. health care system was ranked 37th among all nations.[1] 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,[2] there is continuous debate about the efficiency and sustainability of this model of health care. Clinical pharmacy services (CPS), as an integral part of the U.S. health care system, is no exception because it must present evidence of value to justify its continuation or expansion of services.

The report by the American College of Clinical Pharmacy titled "Economic Evaluation of Clinical Pharmacy Services 2001–2005"[3] is a timely product with which to review the status of research and quality of evidence in measuring the economic value of CPS. 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 CPS need improvement.

The studies reviewed in the report were conducted in eight health care settings, such as hospitals, ambulatory care clinics, or physician's offices and community pharmacies, and in eight types of CPS or intervention studies, such as general pharmacotherapeutic monitoring, target drug programs, and disease state management. Even though the overall percentage of "good-quality" articles was reported, it was not clear if such good-quality articles were nested in researches in certain settings or types of CPS 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 in each type can inform the generalizability and creditability of the benefit-to-cost ratio summarized in this 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.[4,5]

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 CPS is if CPS can lead to cost-savings in institutional care or ambulatory care other than the drug cost itself, which is the overwhelming cost component in health care spending. Such a broader perspective in costing will align the economic evaluation of CPS with societal needs and thus make the evaluations comparable within the CPS and across health care services.

Another possible advancement in economic outcomes is an examination of those 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 CPS 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 CPS on health care.

With regard to the input costs of CPS, 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 CPS, 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 CPS, a relevant decision derived from the studies would be how the design of staffing improves care. Such studies in labor costs will then involve the economic evaluation of labor and productivity.

Once the economic outcome measures are broadened to include those outside the direct costs in pharmaceuticals and the economic costs are broadened to include labor and productivity, it is likely that the benefit-to-cost ratio will be different from that summarized in the report. Economics often uses a 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 camps, would greatly strengthen the quality of research. Even though it is encouraging to hear that the quality of study design and reports is improving, we look forward to more studies with scientific rigor that provide convincing evidence of the value of CPS.

References

[1]World Health Organization. The World Health Report 2000: Health Systems: Improving Performance. Geneva: WHO, 2000.

[2]Newhouse JP. An iconoclastic view of health cost containment. Health Aff 1993;12(suppl 1):152–71.

[3]Perez A, Doloresco F, Hoffman JM, Meek PD, Touchette DR, Vermeulen LC, Schumock GT. Economic evaluation of clinical pharmacy services 2001–2005. Pharmacotherapy 2008;XX:XXXX.

[4]Gold MR, Siegel JE, Russell LB, et al. Cost-Effectiveness in Health and Medicine. New York: Oxford University Press, 1996.

[5]Drummond MF, O'Brien B, Stoddart GL, Torrance GW. Methods for the Economic Evaluation of Health Care Programmes, 2nd ed. Oxford: Oxford University Press, 1997.