

# Quality of health care measurement: A research priority

by Feather Ann Davis

*The research issues in the assessment of quality of health care have not changed significantly during the past 20 years. What has changed is the increased interest among providers, consumers, and policymakers for ways to measure and compare quality among providers. Clearly there is an increased sense of urgency in the need for research in such areas*

*as the development of improved measures of physiologic status, physiologic reserve, studies of all health care providers, studies of various subpopulations, more use of existing population and sample survey data bases through linkages, and implementation of uniform clinical reporting.*

## Introduction

During the past year, the Health Care Financing Administration (HCFA) has conducted a number of meetings to discuss quality of care measurement, data development and release, and research priorities. In June 1987, HCFA convened a Quality of Care Research Symposium for the purpose of detailed discussion of the current status of quality of care research and identification of research needs. Eighteen experts<sup>1</sup> in various aspects of quality of care measurement and analysis gave presentations, followed by four smaller work groups in which speakers and attendees contributed to the discussions. The purpose of this article is to provide an overview of some of the issues addressed at the symposium, the general themes of the discussions, and the research priorities identified.

## Background

Since the mid-1970's there has been a plethora of literature regarding many aspects of quality assurance and utilization review. Despite the marked surge in quality assessment literature, the caliber has been varied and the status of the conceptualization and measurement instrumentation of health care quality has not progressed much beyond that of the early 1970's.

Through his lectures and his numerous writings over the past 20 years, Avedis Donabedian has developed an integrating conceptual framework, which has come to be utilized by most researchers in the field. The framework is often verbally reduced to the major components: structure, process, and outcome. Donabedian has noted that these are not attributes of quality, but are approaches to the acquisition of information about the presence or absence of the attributes that constitute or define quality.

<sup>1</sup>A list of participants is provided at end of the article.

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Donabedian proposed an integration of the dimensions of quality and their analysis through an emphasis on:

- The need to adequately conceptualize the components of health (physical-physiological function, psychological function, and social function).
- The levels of aggregation and organization of the providers of care (such as individual physician, team, department, hospital, etc.).
- The levels of aggregation of the actual or potential recipients of care (such as individual or groups of patients and entire populations or subpopulations).

By emphasizing the various possible levels of aggregation of patients, populations, and providers, Donabedian has begun to enumerate the many aspects of medical care quality assessment (Donabedian, 1980).

## Symposium issues and themes

The speakers at the symposium reaffirmed the multifaceted nature of quality and reiterated Donabedian's point that there is no single definition of quality for medical care and, therefore, there is no single measure of it. No one composite index of quality of health care has been, or probably ever can be, developed.

The symposium discussions made clear that there is a need for several levels of analysis and monitoring. There was strong support expressed for the use of epidemiologic techniques for monitoring health care at one level of aggregation and diagnosis-specific criteria development for chart review at another level. There was an expressed need for:

- Epidemiologic monitoring of patient outcomes such as mortality, morbidity, and disability.
- Local area analyses to identify problems in both patient outcomes and health care processes.
- Analysis and monitoring of both the outcomes and processes of care at the institution or medical care plan level.

Although historically there have been heated debates about the relative merits of the use of structural measures, procedural criteria, or patient

outcome measures, the speakers at the symposium supported the appropriateness of the use of both process and outcome measures of quality. There was a strong expression of overriding need for determinations of the interrelationships among the structural, the procedural, and the outcome measures of quality of care.

## Data needs

During the past 20 years, progress in the assessment of the quality of health care has been impeded by lack of agreement about the appropriate indicators of good health care as well as lack of detailed data bases on the condition of and the care provided to patients. Although these necessary data can be made available in clinical trials or other types of special studies, in the day-to-day world of practicing medicine, the detail of available data is often insufficient to analyze and understand complex interrelationships. To date, uniformly collected data have not been sufficiently detailed to permit process studies of health care quality to be conducted. In addition, the data are neither uniform nor easily accessed, and errors in recording and abstraction are other long-recognized problems. The symposium participants reaffirmed the importance of the collection of accurate data.

The need for more uniform reporting of data was another common plea. In particular, there is need for uniform reporting of patient characteristics, particularly a uniform clinical data base. Development in the following area was considered a high priority: a global measure of patient physiologic status and physiologic reserve that can provide a reliable determination of patient prognosis (likelihood of responding to treatment). Such a measure does not represent quality, but is important for interpretation of other process and outcome measures.

## Analysis of imperfect data

Robert Brook (The Rand Corporation) opened the symposium with the provocative question: "Will imperfect information about health care quality lead to better health or will it lead to increased social divisiveness?" As with all research, the readily available health care data do not always adequately measure the desired theoretical concepts. Therefore, quality of care analyses often have been limited to those aspects for which data exist or that are relatively inexpensive to obtain. Although hospital discharge abstract data bases and administrative data bases such as that of the Medicare program have facilitated analyses of patient length of stay and patient-based mortality and readmission, these are admittedly either poor proxies for quality or they are vulnerable to ambiguous interpretation.

The symposium participants recognized the concerns of health care providers regarding the use of imperfect measures of quality of care; however, several speakers urged that research and the dissemination of data and research results should not

await the perfect data base. It was pointed out that a number of existing surveys contain data that, if linked with Medicare utilization data, could provide a more thorough analysis. It was emphasized that sampling is an appropriate means of estimating phenomena in a population and that surveys can be used to periodically collect specific, necessary data.

Linkages among extant data bases, such as tumor registries, State-maintained death certificates, National Center for Health Statistics surveys of disease incidence and prevalence, surveys of functional status, etc., are feasible, particularly the linkage of these clinically oriented data bases with the utilization data from the Medicare statistical system. Such linkages are not always very expensive. This, however, was not felt to be a thoroughly satisfactory solution to the need for improved and expanded routine data bases for the types of priority data previously described.

There was also felt to be a need for information on all sectors of health care, including ambulatory care in physician offices, home health care, and nursing home care, as well as the frequently studied inpatient care. In particular, given the increasing interest in health maintenance organizations and other forms of capitated health care, there is a strong demand for information on both the capitated and fee-for-service sectors. Mark Blumberg (Kaiser Foundation Health Plan, Inc.) emphasized the need for measures and data collection that permit analysis of comparability across provider types and across larger health care systems.

The participants also expressed a need for more analysis of the quality of care provided to specific subpopulations. In particular, concern was raised that cost-saving efforts might motivate providers to discriminate in the types of patients accepted and/or in the types of care provided.

Although there is need for analysis of the appropriateness of clinical decisionmaking, there is also clearly a role for population-based analyses of health status, mortality, morbidity, disability, and health care utilization that is independent of the adequacy of the medical processes employed by health care practitioners.

Currently there are no quality of care data bases on regional, State, or Federal levels. But as the pressure for comparable information on health care quality measures increases so that consumers may make enlightened decisions regarding selection of individual providers, health care plans, and insurance packages, there will likely be increased pressure for better, comparable data bases.

It appears that researchers, practitioners, and purchasers of care are beginning to agree that it is desirable, even imperative, to develop information on attributes felt to reflect aspects of quality in health care. This heightened awareness, verging on impatience, is likely to further the development and refinement of measures, data bases, routine monitoring mechanisms, and the analytic skills of all concerned parties. It is generally believed that improvements in the measurement and monitoring of

health care will ultimately improve both the quality of health care and the utilization of resources.

In summary, the thoughtful presentations and discussions at the symposium acknowledged that there is reason for concern about the effects of incomplete data on quality of care, but that there is also reason for moving ahead with carefully designed measurement, analysis, and feedback.

The following people gave presentations at the symposium: Philip Caper, M.D., Codman Research Group, Hanover, New Hampshire; Mark Blumberg, M.D., Kaiser Foundation Health Plan, Inc., Oakland, California; Sheldon Retchin, M.D., M.S.P.H., Associate Professor and Chairman, Division of Geriatric Medicine, Medical College of Virginia; William Munier, M.D., practicing physician in Wellesley, Massachusetts; Robert Keller, M.D., practicing physician in Belfast, Maine; Kathleen Lohr, Ph.D., Institute of Medicine, National Academy of Sciences; Fred Bodendorf, Ph.D., Assistant Director, Pennsylvania Health Care Cost Containment Council; Anne Flood, Ph.D., College of Medicine, University of Illinois; Duncan Neuhauser, Ph.D., Professor of Epidemiology and Community Health, Case Western Reserve University; Christopher R. Blagg, M.D.,

Director, Northwest Kidney Center, Seattle, Washington; Robert Brook, M.D., D.Sc., Senior Staff Health Services Researcher, The Rand Corporation, Santa Monica, California; Douglas Wagner, Ph.D., Intensive Care Research Unit, George Washington University, Washington, D.C.; Kathleen M. Griffin, Ph.D., CAE, Executive Vice President, American College of Health Care Administrators, Bethesda, Maryland; Gary Gaumer, Ph.D., Vice-President, Abt Associates Inc., Cambridge, Massachusetts; Kenneth Manton, Ph.D., Director, Center for Demographic Studies, Duke University; James Prevost, M.D., Director of Research, Joint Commission on Accreditation of Healthcare Organizations; Joseph D. Restuccia, Ph.D., Associate Professor of Health Care and Operations Management, Boston University.

## Reference

Donabedian, A.: *Explorations in Quality Assessment and Monitoring, Volume I: The Definition of Quality and Approaches to Its Assessment*. Ann Arbor, Mich. Health Administration Press, 1980.