EDITORIALS

Moving Implementation Science Forward

From any perspective, the U.S. health care system is in trouble. Most knowledgeable observers agree that the quality of care provided is lower than it ought to be, and many patients are dissatisfied with their care. That many individuals, including those who are well insured, fail to receive effective interventions is thoroughly documented. At the same time, up to one third of care provided is thought to be unnecessary and sometimes potentially harmful. There also is widespread disaffection among health care professionals who decry an emphasis on productivity over quality and an overly intrusive regulatory system. Moreover, many health care delivery organizations, including some of the most respected, are in difficult financial straits. Government and corporate payors are distressed by rapidly escalating costs, and wide variations in quality are difficult to address because delivery systems lack accountability. From a societal perspective, the increases in cost are unsustainable even while about a quarter of the population is under- or uninsured. Complicating matters further, it often seems that corporate interests trump those of the public in decisions about health policy. These circumstances describe a system that is itself unhealthy, and yet there is no clear prescription for recovery.

In the absence of a national consensus or plan to address these ills, many groups have undertaken directed efforts to improve the quality of health care. These groups include: progressive health care organizations, academic institutions, professional societies, industry-sponsored collaborative organizations, and others. Evaluations of programs sponsored by these groups have provided a nascent scientific basis for the systematic improvement of health care. Two decades ago, the late John Eisenberg, former Director of the Agency for Health Care Research and Quality, summarized the existing literature on quality improvement and cost containment in a book tellingly titled, *Doctors' Decisions and the Cost of Medical Care.*[1] A critical advance since then has been the recognition that the focal point of attention must be the system of care rather than individual components, such as physicians. Despite all the work to date, however, all informed observers concur that the state of our knowledge is rudimentary at best.

As the largest integrated health care system in the United States, the Veterans Health Administration (VHA) has assumed a position of leadership in both the practice and science of quality improvement and possesses numerous assets that facilitate this role. Initiated under the direction of former VA Under Secretary for Health, Dr. Kenneth Kizer, VHA has undergone a dramatic transformation over the past decade, and is now recognized as an internationally respected health care system that is widely emulated.[2] Veterans Health Administration provides care to nearly 6 million veterans, who form a loyal and relatively stable patient base. Supported by a sophisticated electronic health record, VHA has demonstrated remarkable success with highly regarded systems for performance measurement and patient safety. On a wide array of criteria, patients served by VHA receive care that is measurably better than patients in other, high-quality health systems.[3] Moreover, VHA provides this care in a highly efficient manner. Veterans Health Administration also supports a vibrant and internationally acclaimed research program in health services, a key component of which is the Quality Enhancement and Research Initiative (QUERI). This initiative is an innovative program that seeks to accelerate the implementation of new research findings into clinical care by creating a bridge between those performing research and those responsible for health system operations.[4] As part of its mission, QUERI seeks to expand the scientific basis of implementing proven medical advances into clinical practice.

Despite these path-finding efforts by VHA and other organizations, the science of implementation remains rudimentary and much more work is needed. Summarizing current state of knowledge about implementation, this volume presents a set of intriguing and thought-provoking papers by authors with extensive experience. Rubenstein and Pugh summarize the evolution of research on implementation and quality improvement and reformulate a scheme produced by the Institute of Medicine to more accurately reflect the actual challenges facing investigators. They also catalogue the resources available for quality improvement research and make several cogent recommendations for advancing the field. Kochevar and Yano apply principles and observations from operations research and related disciplines to propose a diagnostic strategy for operational problems, and outline a systematic approach to defining the factors relevant to solutions. Stetler et al. review the evolving technique of formative evaluation. They cogently argue for its essential role in implementation and describe the evolving approaches, techniques, and conventions. Grimshaw et al. provide the results of an exhaustive and sophisticated meta-analysis that is simultaneously heartening and dispiriting. On the one hand, they report that a broad array of strategies ranging from simple pamphlets to complex, multi-faceted interventions appear to produce measurable improvements in processes of care. Conversely, these conclusions are based upon literature that they deem generally weak; typical effect sizes are relatively small and, for the most part, of uncertain clinical importance. Christianson et al. provide an eclectic appraisal of incentives to improve quality, in particular, financial incentive systems, which are presently in vogue. They point out the difficulties in constructing incentive systems that effectively reward desirable processes, while avoiding perverse behaviors and distractions from other essential activities. While arguing for more and better theoretical models of agency, they also provide a healthy skepticism toward unproven models.

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Although disparate in their approaches, the papers generate several interrelated themes. Even though performance of our systems is presently *sub par*, there is little evidence that organizations can undertake large-scale change in a reliably successful manner. Moreover, we tend to measure what we can, which is not necessarily what we should measure. Thus, there is a continuing need for high-quality, methodologically sound research guided by theoretical models. These models must be iteratively adjusted and refined. Until we have robust models, both novel and incremental improvements under constant evaluation are warranted. It must be recognized that these models can serve only as conceptual aids rather than rigid prescriptions. The holy grail of a formula for guaranteed success in designing and implementing new programs is unattainable but practical models, coupled with flexible and effective tools for implementation, will constitute a major step toward extricating ourselves from the current morass.

Another common theme is the necessity for clarity on the part of health system leaders about principle goals and objectives. Such transparency is often lacking and, as a result, providers in the system are at a loss in discerning what is of paramount importance: volume, performance criteria, overall quality, patient satisfaction, or cost control? Certainly all are important but, in some cases, these objectives conflict with each other and, given ambiguity, providers simply persist in idiosyncratic practices.

I strongly commend this set of papers to anyone interested or engaged in the challenging business of improving medical care. Without question, advances in the science of quality improvement and implementation will make for better outcomes for patients.—**Stephan D. Fihn, MD, MPH,** *VA Puget Sound Health Care System, Seattle, WA, USA.*

REFERENCES

1. **Eisenberg JM.** Doctors' Decisions and the Cost of Medical Care. Ann Arbor, MI: Health Administration Press; 1986.
2. **Kizer KW.** Prescription for change, Department of Veterans Affairs, 1996. Available at: http://vista.med.va.gov/policies/rxchange.htm.
3. **Asch SM, McGlynn EA, Hogan MM, et al.** Comparison of quality of care for patients in the Veterans Health Administration and patients in a national sample. Ann Intern Med. 2004;141:938–45.
4. **Demakis JG, McQueen L, Kizer KW, Feussner JR.** Quality Enhancement Research Initiative (QUERI): a collaboration between research and clinical practice. Med Care. 2000;38(suppl 1):I17–25.