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QUALITY CARE AND PATIENT SAFETY FOR THE PRACTICING PHYSICIAN

Quality Partners of RI
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# The Evolution of Quality Improvement

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## Introduction

With this issue, this column will now focus on quality improvement and patient safety, as the title suggests. In the coming months, we hope to explore concepts that will help physicians in and around Rhode Island improve the quality of health care delivered in their practices. We will also be publishing reports of projects developed and implemented by residents in the Warren Alpert Medical School of Brown University Internal Medicine Residency Program that, we hope, will serve as guides and/or points of interest to physicians practicing in our state. This column, though, is not intended to be just about what is happening in Providence—we encourage physicians across the state to submit descriptions of quality improvement-driven activities being implemented in their own practices, successful or otherwise. From time to time, we will also review published quality improvement research to provide evidence-based and historical background that speaks to the importance of these concepts for our daily medical practice.

## A Historical Perspective

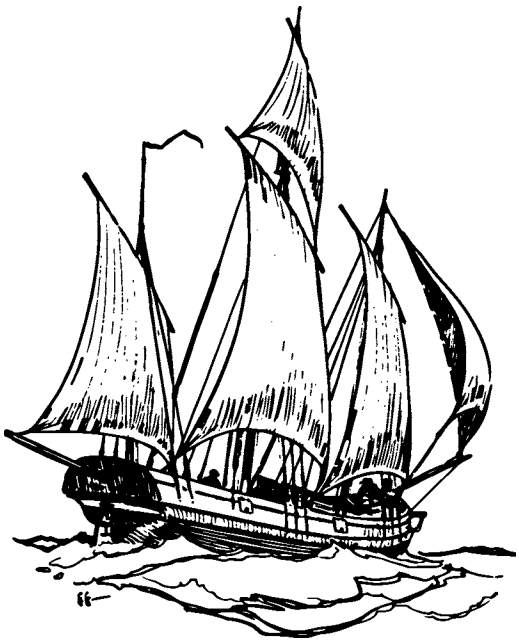
Seeking out new methods of evaluation, new technologies, and new knowledge in order to improve the medical care and safety of patients is not a new idea. These ideas, inherent in the quality improvement and patient safety movements, have their origins in the early ethical concepts that guide the practice of medicine. Written in the 5th century BC, the Hippocratic Oath describes the goals of patient safety: "I will apply dietetic measures for the benefit of the sick according to my ability and judgment; I will keep them from harm and injustice."[1] The Oath of Maimonides, written during the 12th century AD, asks physicians to continually improve their medical knowledge and care of patients: "Grant me strength, time and opportunity always to correct what I have acquired, always to extend its domain.... Today he can discover his errors of yesterday and tomorrow he may obtain a new light on what he thinks himself sure of today."[2] These oaths serve as a reminder that many "modern" ideas in healthcare are deeply rooted in the traditions and history of the practice of medicine.

It is generally accepted that the modern era of quality improvement began 45 years ago, with the 1966 publication of a paper by Avedis Donabedian, in which he examines the evaluation of the quality of medical care.[3] One of the many interesting ideas set forth in this paper is that assessing quality medical care requires the evaluation of three separate areas: structure, process, and outcome. The evaluation of structure examines the settings, personnel, and technology that are responsible for the provision of medical care. Different strategies are in place today to assure quality in those aspects of structure: the **Occupational Safety and Health Administration** (**OSHA**) and The Joint Commission monitor safe conditions and practices to ensure quality in hospitals and clinics; medical licensing boards and professional organizations require board certification to ensure "quality" in physicians. Research on the process of care examines the steps that ultimately lead to the provision of medical care. This often means evaluating how care was provided—Was it timely? Guideline- and/or evidence-based? Safe for the patient?—and not necessarily the end result. Studying the end result falls under the scope of outcomes-based research. The medical community often considers the measurement of outcomes, which can be a variety of endpoints from functional recovery to survival to patient attitudes, to be the ideal goal of quality research. It is perhaps the most concrete concept, and possibly more practical and applicable to medical care than structure- or process-based evaluation.[3,4] However, Donabedian and others[5,7] caution against evaluating each area in isolation. Evaluating only structure depends on a seemingly logical theory that has been difficult to prove—the theory that improving the settings in which health care is delivered will lead to an improvement in medical care itself. Evaluating only process requires defining distinct standards of care—a difficult process that depends on evidence-based (or sometimes, expert consensus-based) practice guidelines, which may take a significant amount of time to develop. It is also clear that process-based improvement, i.e., improvement in how physicians deliver care, may not actually affect overall patient health. Evaluating only outcomes removes the real world practice of medicine, where factors outside the control of the health care practitioner (for example, limitations on available resources) influence outcome. Nor does evaluating only outcomes provide direction as to what contributing factors (i.e., processes) may be accounting for improvement or deterioration in outcomes. The ideal quality research, it seems, examines structure, process and outcome on a continuum of medical care, and finds ways to improve one aspect of care in order to affect the others.

Since Donabedian's initial description of quality evaluation in health care, oversight organizations have encouraged, and sometimes enforced, improvement in the quality of health care. Starting in the early 1970s, **Professional Standards Review Organizations** (**PSROs**) were developed to ensure that physicians were adhering to standards of medical care for Medicare beneficiaries in each state. These efforts were met with physician backlash, as they appeared to focus on cost containment rather than quality improvement during medical audits. This led to a shift to **Peer Review Organizations** (**PROs**) in the 1980s—physician-inclusive organizations that reviewed appropriate

assignment to **Diagnosis-Related Groups (DRGs)**, readmission rates, and death and complication rates, with the ability to deny payment for services and punish incompetence and fraud. Quality improvement still faced many challenges, despite a stronger sense of "physician inclusion" with the advent of PROs. Outcome-based organizational reviews may not always take into account issues of process—a frustration for many practicing physicians. And while hospital-based quality assurance programs were developed to internally monitor the hospital's physician staff, many physicians disliked the idea of being told "how to practice medicine" by non-physician monitors.[5,6]

The transition from an outsider evaluation to an insider perspective on quality improvement blossomed in the mid-1980s throughout the 1990s, as quality "assurance" evolved into quality "assessment and improvement." This includes the use of practice guidelines and a new focus on continuous quality improvement, an idea emerging from Japanese industry (concepts best understood as "Six Sigma" and "Lean"). In continuous quality improvement, multidisciplinary groups of practitioners examine each step of the process in the delivery of health care in order to improve overall care. Ideally, as they examine their own practices, physicians assume control over and initiate ideas for quality improvement.[6,7] Most recently, the **Centers for Medicare & Medicaid Services (CMS)** has shifted to **Quality Improvement Organizations (QIOs)**, which partner with clinicians and health care delivery entities to improve care quality using best evidence on a local level; results have been encouraging. The importance of self-evaluation and practice improvement in medicine has led to accreditation and licensing agencies adopting quality improvement as a requirement for practice. In 2002, the **Accreditation Council for Graduate Medical Education (ACGME)** started requiring practice improvement as part of the core competency of "practice-based learning and improvement" for accreditation as a residency program in internal medicine. For physicians currently in practice, the **American Board of Internal Medicine (ABIM)** requires self-evaluation of practice performance for maintenance of certification. This can be performed via completion of several web-based, disease-specific self-assessment modules.[8] Clinically inactive physicians—who are otherwise unable to perform any self-assessment of their practice—are directed by the ABIM to educate themselves (and thereby fulfill their certification maintenance requirements) via another web-based module entitled "Essentials of Quality Improvement." It is clear that quality improvement has become integral to our daily practices, and has evolved to encompass all fields and subspecialties in medicine.



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