Building Bridges to Quality

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QUALITY OF CARE CAN BE DEFINED IN NUMEROUS ways. Perhaps the most inclusive definition is that proposed by the Institute of Medicine, which defines quality as the "degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."[1] This seemingly simple definition highlights the complexity of the systems in which health care is delivered and the tensions among the various stakeholders in ensuring high-quality care.

Health services refers to treatment and prevention of disease, and applies to a variety of practitioners and settings. Physicians are usually most concerned with the quality of care they provide to individuals, whereas health care plans, employers, and other payers may be more interested in population-based measures of quality. Desired health outcomes implies that patients are informed about health care options and that their perspective is considered when assessing quality of care. Current professional knowledge emphasizes that clinicians must incorporate the latest scientific findings into patient care.

Most clinicians can barely keep pace with the rapidly accelerating advances in health care knowledge. A colleague suggested that to maintain current knowledge in general internal medicine, he would have to read nearly 20 articles per day, 365 days a year—an impossible task. Unfortunately, the knowledge base of clinicians deteriorates over time. One study[2] revealed that within 3 to 4 years after board certification, internists (both generalists and subspecialists) began to experience significant declines in general medical knowledge, and by 14 to 15 years postcertification approximately 68% of physicians in this study would not have passed the American Board of Internal Medicine certifying examination.

The proficiency of physicians in basic physical diagnostic skills is also waning. In one study, internal medicine and family practice trainees could identify 12 common cardiac sounds accurately only 20% of the time.[3] A survey of electrocardiographic interpretation skills found that 82% of internists, 57% of cardiologists, and 37% of electrophysiologists studied misdiagnosed a rhythm strip containing only artifact as ventricular tachycardia or wide complex tachycardia. Furthermore, 67% who misdiagnosed the rhythm strip recommended an invasive electrophysiological test or coronary angiography.[4] The inability to recognize these common, important auscultatory and electrocardiographic findings could lead to overuse of resources, exposure of patients to unnecessary invasive procedures, and a lower quality of care.

What can busy physicians do to ensure the best possible care for their patients? In this issue of THE JOURNAL, Grol[5] summarizes 36 reviews of several popular approaches for improving physician performance. This article provides a broad overview of various approaches and complements another recently published review.[6] Both reviews come to the same conclusion: some approaches work better than others and combining multiple approaches works best. Grol also presents a framework for "bridging the gap" by using multiple approaches to improve the quality of patient care.

The feasibility of using multiple quality improvement methods as discussed by Grol has not been broadly tested. Furthermore, most personnel in medical offices do not have training in quality improvement techniques. Thus, most clinicians still rely on traditional continuing medical education (CME) methods, such as lectures, to update their knowledge with the assumption that improved knowledge leads to improved care. While didactic interventions increase physician knowledge, they rarely lead to any change in physician performance or to improved health care outcomes.[7,8] In contrast, newer interactive CME activities, such as case-based discussion, role playing, and hands-on practice sessions, lead to changes in physician performance.[8] Thus, clinicians should seek CME activities that are learner centered instead of teacher centered, are active rather than passive, and are relevant to their learning needs. Accreditation and medical licensing boards should consider giving greater credit to these types of activities than traditional didactic CME sessions.

Continuing medical education activities occur in artificial learning environments and possibly have little impact on physician performance because they are removed from the health care setting. Professional improvement must be built into the fabric of daily patient care and occur at the point of care. Physicians need diagnostic, prognostic, and treatment information frequently, with an average of 6 questions occurring per half day of clinic, but these questions often go unanswered.[9] Textbooks are often out of date and traditional evidence-based medicine techniques, such as searching for and critically appraising evidence, are not practical in a busy office.[10]

See also p 2578.

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Fortunately, computer technology has made it possible for clinicians to have relevant information when they need it. For example, handheld computers can improve the efficiency of care by providing instant access to a variety of reference materials and drug databases. These devices can be used for medical calculations, prescription writing, tracking patient data, and coding and billing. Guidelines and prediction rules also have been adapted to handheld computer formats. Furthermore, the Internet can be accessed via handheld devices, making them even more powerful data management tools. Experience using handheld computers to improve the quality of patient care is limited, but early observations suggest they have a positive impact.[11]

Considerable effort and resources have been expended over the past decade to develop and implement guidelines with the hope that they will improve quality. Although guidelines improve the processes and outcomes of care modestly,[12] most guidelines are of poor quality[13,14] and can become outdated quickly depending on the subject area, with an estimated "median survival" of about 6 years.[15] The role of values and biases in the formulation of guideline recommendations is uncertain but undoubtedly plays a significant role.

The challenge is determining how to make guidelines more effective quality improvement tools such as by improving their implementation. Many guidelines are passively disseminated by publication in clinical journals. Many are lengthy tomes produced by national organizations with little attention to local practice circumstances. For guidelines to be effective, their recommendations must be patient-specific and readily available at the time of care.

Clinical decision support tools are computerized systems to aid decision making; they range from simple alerts of potential drug interactions to disease management programs. Clinical reminders, in the form of computerized messages suggesting a course of action, integrate a variety of patient-specific clinical data such as diagnoses, laboratory results, demographic data, and radiological results with clinical practice guidelines to make real-time, patient-specific recommendations. These systems have been found to improve physician performance and patient outcomes in both inpatient and outpatient settings.[16,17] Why are these tools not more widely used in clinical practice? Many physician practices lack sophisticated electronic medical record systems. These tools must also draw together information from many sources, and such data may be stored in subsystems that may not be able to communicate with each other or may not be stored in an electronic format. Clinical decision support tools must be easy to use so they improve or at least do not adversely affect clinical productivity. Moreover, clinicians must accept these systems and not see them as a threat to clinical autonomy. Once in place, these systems require less maintenance than the more work-intensive, chart-based interventions.

Medical record audit and feedback, in which clinicians receive reports of their performance and usually a comparison to the mean performance of their peers, is frequently used as a quality improvement method. This technique is based on the theory that comparison to peers is a powerful motivator of change, but this method has had only small to moderate effects on improving health outcomes.[18] A recent advance to increase the effectiveness of performance feedback is the achievable benchmark method,[19] calculated for a specific indicator of care, such as the percentage of eligible patients receiving pneumococcal vaccination. It represents the average performance for the top 10% of clinicians being assessed. In a randomized controlled trial, adding achievable benchmarks to physician-specific feedback led to a significantly greater proportion of patients receiving evidence-based diabetes care.[20] Achievable benchmarks are easily calculated from existing data and could be used to enhance performance feedback approaches.

The article by Grol calls for all involved in health care to bridge the gaps among quality improvement strategies. As information technology spreads into all physicians' offices, the computer most likely will represent a very important bridge. Once techniques and systems are refined, computers should prove to be the link to provide patient-specific, real-time, evidence-based recommendations for care. They will be used to assess the quality of care being provided by the clinician and to implement quality improvement initiatives.

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