New diagnostic tools and creative treatments have sparked an exciting evolution in medicine. Although this would seem to be a positive change, sometimes we adopt these new tools with not enough thought to ensure quality. Who is responsible for this apparent short-sightedness? Can we turn quality from an endgame to the consistent kick-off of care?

In a recent Washington Post editorial, internist Stephen Woolf found that the U.S. spends “far more money on inventing new treatments than on research into how to deliver them” (1). Woolf contends that this focus on medical breakthroughs is, in fact, costing lives. “Failing to establish systems to ensure that everyone receives recommended care is causing greater disease and deaths at levels that can rarely be offset by medical advances,” he wrote. Donabedian (2) sounded a similarly dire note, saying that “there’s lip service to quality...but real commitment is in short supply.”

There is no question that imaging, in particular, has forever changed the way cardiologists practice medicine. The New England Journal of Medicine, for example, called it one of the top 11 medical developments of the past 1,000 years (3). Imaging offers the opportunity for earlier, better, and more accurate diagnosis of cardiovascular disease and the prospect of better quality care.

Yet, the striking growth in the use of cardiovascular diagnostic imaging, at a rate of 26% per year from 1993 to 2002 (4), has been accompanied by a frustrating combination of inconsistent usage, lack of rigorous controls, and little measurable impact on outcomes. We must admit that we are falling short when it comes to quality in imaging, and it is time to recommit to implementing quality standards to achieve improved patient outcomes.

The task before us is not simple. The barriers to quality cardiovascular imaging include a very limited knowledge base and a system not driven by a “scientific method” approval process, which would include randomized control trials and “hard” patient outcomes. Even diagnostic accuracy is not consistently evaluated before widespread clinical use. There is spotty information on costs and limited consensus on quality standards. In fact, if imaging were a drug, given the current evidence base, regulatory approval would probably be denied.

Despite the lack of regulatory pressure, it is important that the American College of Cardiology (ACC) and the medical community recommit to improving imaging quality. We must develop pragmatic research methodologies and imaging standards for clinical trials. We must better define imaging quality and outcomes. And we must focus on improving imaging effectiveness, efficacy, and efficiency in our clinical practices.

The ACC is working closely with other professional societies, payers, and regulators to jump-start efforts to improve quality in imaging. Our existing quality efforts, from ACC/American Heart Association clinical guidelines to performance measures that rarely address imaging, make it clear that different tools are needed. Step-by-step how-to programs, such as GAP and CathKit, are designed to bridge the gap between guidelines and application by bringing quality to the point of care.

Ordering the right test for the right patient is an important component of quality in imaging, and we are developing a set of novel appropriateness criteria for cardiovascular imaging. This groundbreaking effort resulted in the release last fall of Appropriateness Criteria for Single-Photon Emission Computed Tomography Myocardial Perfusion Imaging (SPECT MPI). Task forces are already underway on appropriateness criteria for cardiac computed tomography and cardiac magnetic resonance, to be followed by echocardiography. The ACC hopes to have these new criteria completed and published in 2006.

Although these efforts are an important step in the right direction, they alone are not enough. Quality in imaging will require us to adopt new processes for quality improvement. We must put in place a thorough and thoughtful process for measuring quality that begins before a patient walks in the door.

We must apply appropriateness criteria to patient selection, develop and follow image acquisition protocols, ensure data completeness, and apply reliability standards to the imaging procedure itself. Quality also requires that we measure intraobserver and interobserver variability, constantly seek correlative data, and use online standard images to guide how we interpret recorded images.

Finally, we must identify the key data elements in an imaging report, incorporate these into relational datasets, and establish and use uniform reporting structures so that
the results of these diagnostic tests are properly and clearly communicated to providers and their patients. Timeliness of reports is another critical characteristic of imaging quality. These processes must be underpinned by laboratory accreditation and personnel certification standards that include ongoing monitoring and self improvement—not a one-time review.

As the ACC embraces these structures and processes, we must not lose sight of our core objectives—improving quality and better patient care. Applying quality principles and developing quality standards for imaging will help us ensure better outcomes, more accurate and cost-effective diagnosis and treatment, and the best value for patients, providers, payers, and society. It will reduce duplicate testing and lower health care costs. It will improve health outcomes and result in higher rates of patient satisfaction.

Change demands explicit, bold action. Long after turf battles are over and scope-of-practice issues have been resolved, we still need to offer our patients the highest quality imaging in a responsible and accurate manner. Our commitment to our patients and our own professionalism demands this of us. Health care quality is a matter of life and death: we cannot afford to get this wrong.

Address correspondence to: Dr. Pamela S. Douglas, American College of Cardiology, c/o Cathy Lora, 9111 Old Georgetown Road, Bethesda, Maryland 20814-1699.

REFERENCES