We have come to a curious crossroads in cardiovascular care. In our pioneering days, we begged for the simplest of tools to do our daily work. Today, with all the marvels of medical science at our fingertips, we are blessed with an arsenal of high-tech weapons and therapeutic agents to combat heart disease.

We can see the heart beating, even in three dimensions. We can define the adequacy of coronary perfusion and inflammation within a vessel wall. We can track heart disease at every stage, a visual we could only imagine in the past. We have drug-eluting stents, implantable cardioverter-defibrillators, left ventricular assist devices, echocardiography, computed tomography, magnetic resonance, and positron emission tomography that define innovation, and drugs like statins have introduced the word “reversal” into our everyday vocabulary.

Yet, all this sci-fi ability presents us with the unique challenge and frustration of determining appropriate application and equitable allocation. This is a great problem to have: people are living longer and quality of life is dramatically improving.

But as cardiologists using this fabulous technology, we must confront difficult and complex questions: When should these tests be performed—or not be performed? Who should do these tests? Which location—hospital or office—is best? Who should pay? Can our global society truly afford the remarkable quality of life we are rapidly creating for our patients?

Historically, ideal cardiovascular care was solely in the head of each provider. Best practice based on aggregated evidence was a dream. But today, as we strive for value-added quality care, we actively seek practical, evidence-based patient care protocols that capitalize on our collective data. We believe we can learn from each other without stumbling through the rocks by ourselves.

The American College of Cardiology (ACC) and the American Heart Association (AHA), often in partnership with others, have translated scientific advances into 17 evidence-based clinical guidelines covering topics from ischemic heart disease to heart failure. These pragmatic tools improve patient care outcomes by narrowing the wide and deep gulf currently separating evidence from practice. Indeed, this critical theme undergirds the ACC’s 54th Annual Scientific Session.

Evidence-based medicine has arrived just in time. We are facing a global pandemic of heart disease, and we need to be prepared. In 2002, cardiovascular disease in the U.S. accounted for 6.5 million hospitalizations and nearly 40% of all deaths, with more women than men dying from heart disease (1).

The ticking time bomb of our aging population and the “perfect storm” of diabetes and obesity may shortly overwhelm our ability to provide cost-effective cardiovascular care.

In view of limited resources for our larger global community, it is essential that we embrace our guidelines as we shift our paradigm from intervention to prevention. We must resolutely protect our patients who are still healthy, while treating our patients whose heart disease is rampant.

One immutable fact remains, however. Guidelines are only as good as the research on which they are based, and they are only useful to the extent we use them. Sadly, reality often does not meet our expectation.

Physicians, and their cardiac care teams worldwide, report a lack of guideline awareness or even apathy as they try to manage fast-paced and highly pressured everyday practices. This dramatic “voltage drop” from discovery-to-guidelines-to-application is real for patients. Many studies show a strong relationship between use of evidence-based treatment and positive patient outcomes.

For example, despite what each of us understands as optimal treatment following an acute myocardial infarction, a national health care quality report suggests more than 20% of patients still do not receive essential medication (2). The simplest and cheapest treatments, such as aspirin, beta-blockers, and angiotensin-converting enzyme inhibitors, each of which could decrease risk of death by one-third, are often overlooked by us and by the hospitals in which we work.

My colleague on our board of trustees, Robb Califf, when speaking about the reaction of doctors faced with data about their own practices, stated: “First, you’re in shock, then denial, then you gradually come to terms with what needs to be done.”

Hospitals that improved in these particular measures saw patient mortality from all causes decline by 40%. Using incentives like bonus pay and deterrents like public humiliation, Medicare is strongly encouraging hospitals and
providers to use proven—even old-fashioned—remedies for common ailments (2).

Although underutilization of evidence-based therapy is a significant concern, we cardiologists can quickly learn which therapies were omitted and why, and we can begin to modify our patterns of care.

By contrast, we are more defensive about charges of overuse or misuse of services. We complain about allegations that we might order unwarranted tests and therapies, especially when promoted by payers or the press, or by self-interested competing specialties of medicine.

In 1973, Jack Wennberg published a landmark study in science documenting distinctive, geographic variations in clinical practice patterns in the U.S. (3). Thirty years later, using imaging as the example, Wennberg now reports a three-fold variation in use of this modality across the country. He recently observed that such variations in care patterns cannot be easily explained by “illness, patient preference, or the dictates of evidence-based medicine” (4).

Likewise, two recent Dartmouth studies published in the journal Health Affairs suggested an inverse relationship between utilization of health care testing and health care quality (4). Data also link states with higher Medicare spending to lower quality of care. Clearly a puzzling case of more is less.

These observations are instigating attempts by the federal government and by health plans to “manage” this variability by funding pilot demonstration projects in disease management, pay for-performance models, tiered provider networks, pre-certification of tests, and limitations on authorized imagers. These are real-life and compelling reasons we should immediately incorporate our guidelines, performance measures, and appropriateness criteria into daily practice.

In addition, we must actively counter a serious threat by the radiology leadership, who are directly challenging our ability to use the best and latest technology to care for our patients in our offices and in the hospitals in which we work. Our rights—and more important, the rights of our patients—are in danger of being permanently abridged.

This struggle involves not only us as cardiologists, but our entire physician family of orthopedists, obstetricians, urologists, gastroenterologists, internists, and so on. Radiology spokesmen are systematically and unfairly distorting studies. Their data intentionally malign “non-radiologist” use of imaging technology and insinuate self-motivated imaging referrals that result in overutilization for profit. We categorically deny any collective attempt to inappropriately profit from imaging, but some of their critique deserves scrutiny.

For example, their leadership publicly points to statistics from 2003 showing in-office nuclear imaging growing 30% in 1 year, and more than 1 in 4 Medicare beneficiaries obtaining a cardiac imaging test annually. Expansion of many cardiovascular services, including imaging, is clearly a recurring theme in the communities in which we work.

However, we believe the significant growth in imaging should have been anticipated by the major payers. Driven by the relentless triad of more effective diagnosis and earlier treatment, demographics, and disease-state management, imaging volumes have naturally exploded and transferred site of delivery from hospital to office.

So far, the ACC has successfully staved off federal governmental action against in-office testing, but there is trouble brewing among health plans and Medicare. Insurers have emerged as radiology’s unexpected allies by demanding stricter privileging requirements based on American College of Radiology (ACR)-supplied criteria. They may force strict and mandatory ACR accreditation of laboratories, as well as pre-certification of cardiovascular procedures by the radiologist vendor industry.

The ACC strongly supports imaging quality measures and credentialing, but not by pitting one physician group against another. All qualified physicians must be permitted to use essential tools to do their job. In today’s world, that means wisely integrating imaging technology into office practices. We must carefully and accountably incorporate new technologies in patient care plans only after thoroughly examining their effectiveness.

Beyond these efforts to ensure effective care, the ethics of care remain paramount. The 2004 Consensus Conference on Professionalism and Ethics produced a detailed report, published in the Journal of the American College of Cardiology and in Circulation, that covered “appropriate self-referral” (5). We determined that the most essential need for the ACC and its members is to fast track appropriateness criteria for imaging. Appropriateness will be the college’s finest effort to define “what to do,” “when to do,” and “how often to do” in the context of local care environments when combined with patient and family preferences.

Ideally, appropriateness criteria would encompass “cost effective” and “benefit versus risk” analysis of available treatment alternatives. These should be simple, reliable, valid, and transparent. They should provide cardiovascular specialists with meaningful feedback on their care practices relative to national standards.

Answers to the appropriate use of imaging will require that we dedicate ourselves to the same type of rigorous clinical research that has made cardiovascular medicine the envy of health care. We need to be as confident about our use of imaging tests as we are about the treatment of coronary artery disease or congestive heart failure.

Some may not appreciate the critical nature of the ACC’s efforts to address appropriateness. Some will argue explicit guideline performance indicators can be divisive in challenging judgment. Others may argue this is “cookbook” medicine and beneath our dignity. I argue that the ACC must tackle these tough topics head-on, and if we do not lead in this effort, others will. And they will undoubtedly emphasize cost control and not quality improvement. It is the perfect time for us, as cardiologists, to quantify quality.
So, how will the ACC step in to help us promote health care stewardship? The ACC will:

- Create, with the AHA, for the 25th year, outstanding clinical practice guidelines that spearhead appropriateness criteria for nuclear imaging, as a prototype for all imaging
- Proactively embed guidelines into electronic medical records
- Develop specific systems and tools, such as pre-printed admission and discharge planning materials, to improve on-site delivery of care
- Expand respected national catheterization laboratory registries that measure and provide feedback on performance for individual practices and hospitals
- Work directly with health plan medical directors to ensure quality is not divorced from payment.

As Antoine de Saint-Exupery said in *Wind, Sand, and Stars*, “it is the duty of the ship’s captain to make port, cost what it may” (6). Our goal as a college is to grab the helm with both hands. The ACC will author and adopt the very best evidence-based guidelines and quality indicators to support you in your daily practice. We have a moral and professional obligation to take up this manifest, and we accept this responsibility with enthusiasm and conviction.

In this remarkable environment in which we are privileged to work, we must be good stewards of the gifts and responsibilities that have been entrusted to us. I ask each of you to join in this effort through your local ACC chapter. We will not shirk our duty, and we will not run and hide. We will stand firm and make our voices heard; here in Orlando, at home in our offices, and on Capitol Hill in Washington.

I look forward to working with each of you in this effort.

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REFERENCES