

# The Privilege of Self-Regulation

## The Role of Appropriate Use Criteria

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Inherent in the doctor–patient relationship is the desire for physicians to use available knowledge and judgment to provide the best possible care to their patients. In return, physicians hope to earn the trust and respect of their patients and community. Physicians have the historical opportunity of autonomy in their practice and with that comes the responsibility and privilege of self-regulation (1,2). Unfortunately, as health care costs continue to spiral upward, concerns about the overuse and misuse of costly procedures have been amplified. In response, the communities at large, and specifically payers, have implemented volume- and cost-control mechanisms. One approach is to require “pre-authorization” for services—an activity generally felt by physicians and their office staff to be onerous, expensive to operationalize, intrusive on the physician–patient relationship, and lacking educational feedback to improve quality of care. Another questionable mechanism is to arbitrarily decrease payments for services. Paradoxically, this has potential to increase the volume of services, or even worse, result in underuse of services, which may be essential for improved outcomes in a particular patient. Amid this turmoil, many have asked, “Is there not a better way?”

In response to these growing concerns and to develop a culture in which we, as professionals, are better stewards of the privilege of self-regulation, the American College of Cardiology in collaboration with many other professional organizations developed appropriate use criteria (AUC) for cardiovascular imaging modalities and recently coronary revascularization (3). The methodology for this process has been well described (4,5).

In this issue of the *Journal*, Chan et al. (6) reported survey data examining the AUC for coronary revascularization. Before publication of the AUC, they conducted an electronic survey of 85 practicing cardiologists who were asked

to rate approximately one-third of the 198 clinical scenarios described in the coronary revascularization AUC. Overall, there was agreement in the median appropriateness rating (appropriate, uncertain, or inappropriate) in 84% of the indications reviewed, 94% (34 of 36) for appropriate indications, 73% (16 of 22) for uncertain indications, and 70% (7 of 10) for inappropriate indications. The study also reported the “nonagreement” within the surveyed cardiologists. This was defined as  $\geq 25\%$  of the individual ratings being scored such that they were in a different appropriateness classification. Specific variation between the ratings of the original AUC Technical Panel and physicians in their survey were identified. Chan et al. (6) should be commended for moving the dialogue forward and further evaluating how AUC may be perceived by the physician community.

Although their study is interesting, it is important to identify important differences between their survey and the rigorous AUC process so that concerns about measurement, reporting, and quality assessment can be addressed. Compared with that of the AUC Technical Panel, the composition of the physicians surveyed was different. The AUC process requires that fewer than 50% of the physicians perform the procedure under question, and that was achieved in the composition of the technical panel with 4 interventional cardiologists and 4 cardiothoracic surgeons among the 17 panel members. In contrast, the physician survey group had a majority of invasive cardiologists and surprisingly no cardiac surgeons. The survey also lacked an important step in the modified RAND methodology. The initial ratings in the formal AUC process are performed independently by each member of the technical panel. Then, in contrast to the survey, there is a face-to-face meeting of the technical panel in which the clinical scenarios and especially those with considerable “nonagreement” among the initial ratings are discussed. The goal of the face-to-face meeting is neither consensus building nor to force “groupthink” but rather to encourage that decisions of each technical panel member are based on the best available and relevant published reports rather than personal opinion or bias. After returning home from the meeting, each technical panel member again independently rates each of

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the clinical scenarios. The technical panel spends an estimated 20 to 25 h reviewing the evidence base and rating the indications rather than simply completing a 1-time electronic survey. Results of the first round of voting are typically more diverse than those of the second and final vote. Although critics of this process may claim this reflects pressure to conform to the desires of the group, second round voting remains independent and blinded.

As cited in the AUC online appendix, there is substantial evidence regarding the benefits (health status and/or survival) of medical therapy, coronary intervention, and bypass surgery across the range of clinical scenarios evaluated. Equally important is evidence demonstrating a lack of benefit for the majority of indications rated as inappropriate. Patients and even some physicians have difficulty reconciling what they hope are benefits of coronary intervention on survival and myocardial infarction with the proven benefits on symptom relief in patients without severe disease (7-9). This may explain, in part, the "nonagreement" between the AUC and surveyed physicians regarding inappropriate ratings. Indeed, 4 of the 10 inappropriate scenarios chosen by Chan et al. (6) for their survey were for asymptomatic patients without moderate or severe anatomic risk. Evidence suggests that these patients would have difficulty deriving any benefit because they have no symptoms to relieve and do not have complex disease. Viewed in the context of the differences between the survey and the actual AUC process, the overall 84% agreement is, in our opinion, quite good. One can only speculate that the agreement may have been higher had the survey been conducted on all of the clinical scenarios rather than just one-third and with the same published reports review and rigor as the RAND methodology dictates.

Some in the cardiovascular community are concerned that the AUC process, public reporting, and inappropriate ratings could prevent patients from receiving cutting-edge therapies based on the latest studies. Although new evidence is constantly being developed, it is rare that one study is definitive enough to change clinical practice. Often subsequent studies or those with longer follow-up have results that contradict or temper the initial report. In fact, a lack of definitive studies or the presence of only small hypothesis-generating subgroup analyses is common among indications rated as inappropriate. It is also critically important to understand and not distort the meaning of inappropriate rating categories. It was never expected that any physician or facility would have a zero rate of inappropriate procedures. There may be unique clinical and patient-specific reasons that justify a procedure rated in this category. However, when the frequency of these ratings becomes higher than the norm, we should have the courage to ask why and consider additional documentation to justify the procedure. Although this sounds onerous, is it not better for us to impose these controls on ourselves than what is done currently by payers to control costs and procedures?

Many clinicians acknowledge that inappropriate procedures are occurring, but no one will admit that they have personally done one. Therein is the perfect description of the situation we now face. Our profession has the privilege of self-regulation, and this is our struggle. Failure to accept this responsibility will only accelerate regulation by those whose motives may be different and who are not at the bedside with the patient. Is there not a better way?

How can benchmarking based on AUC be rationally implemented and improved without impeding doctor-patient relationships and innovation? The AUC must remain current with the evidence. In the 5 years since the first AUC was published, 3 of the 5 AUC have already been updated, and an update of the coronary revascularization AUC is underway just 20 months after its publication. Equally important is continued feedback regarding implementation of the AUC. Differences between practice patterns and the AUC must be identified. Version 4.0 of the CathPCI (Catheterization/Percutaneous Coronary Intervention) Registry was designed to collect the necessary information to benchmark participants based on the coronary revascularization AUC. Data repositories like the National Cardiovascular Data Registry will highlight areas for which differences between real-life practice and the AUC may require modifications in clinical practice, the AUC, or both. Moreover, such comparisons will identify when new research is needed to clarify the benefits and risks for a specific patient population. Benchmarking of facility- and potentially physician-specific patient selection through the National Cardiovascular Data Registry can guide better understanding of practice patterns and patient mix. Evaluation of such data can highlight not only potential areas of overuse but also underuse (10). Such evaluations are the best way to dispel misconceptions and misinformation such as the assertion that more than 50% of all PCIs in the U.S. are unnecessary, when based on prior studies of guidelines adherence, only 8% do not match current recommendations (11,12). However, it is critical for everyone and especially payers to understand that the AUC were never intended to be the final answer in determining payment for procedures. Used for their intended purpose, the AUC can improve patient care and intelligently prevent misuse of procedures while reducing costs. Finally, and potentially most importantly, involvement from the cardiovascular community in benchmarking will undoubtedly refine their understanding about the benefits and risk of procedures and in turn impact acceptance of the current AUC and help craft future updates of the AUC.

It should be clear that the current process is not "group think" or the will of the masses but rather a thoughtful evaluation of available evidence-based data with representation from diverse stakeholders. To have meaningful traction with our colleagues, payers, and most importantly our patients, we must continue to provide a transparent and impartial evaluation of our practices

based on the best current knowledge. The mirror of AUC helps us reflect on the value of care we provide to patients. With this continued work, we hope to keep the privilege of self-regulation and most importantly the trust of our community and patients. If cardiovascular specialists do not attempt to define and measure appropriateness, we may lose the last opportunity for thoughtful and meaningful self-regulation.

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#### REFERENCES

1. Cruess SR, Johnston S, Cruess RL. "Profession": a working definition for medical educators. *Teach Learn Med* 2004;16:74-6.
2. Cruess SR, Johnston S, Cruess RL. Professionalism for medicine: opportunities and obligations. *Med J Aust* 2002;177:208-11.
3. Patel MR, Dehmer GJ, Hirshfeld JW, Smith PK, Spertus JA. ACCF/SCAI/STS/AATS/AHA/ASNC 2009 appropriateness criteria for coronary revascularization: a report by the American College of Cardiology Foundation Appropriateness Criteria Task Force, Society for Cardiovascular Angiography and Interventions, Society of Thoracic Surgeons, American Association for Thoracic Surgery, American Heart Association, and the American Society of Nuclear Cardiology. *J Am Coll Cardiol* 2009;53:530-53.
4. Brindis RG, Douglas PS, Hendel RC, et al. ACCF/ASNC appropriateness criteria for single-photon emission computed tomography myocardial perfusion imaging (SPECT MPI): a report of the American College of Cardiology Foundation Quality Strategic Directions Committee Appropriateness Criteria Working Group and the American Society of Nuclear Cardiology. *J Am Coll Cardiol* 2005;46:1587-605.
5. Patel MR, Spertus JA, Brindis RG, et al. ACCF proposed method for evaluating the appropriateness of cardiovascular imaging. *J Am Coll Cardiol* 2005;46:1606-13.
6. Chan PS, Brindis RG, Cohen DJ, et al. Concordance of physician ratings with the appropriate use criteria for coronary revascularization. *J Am Coll Cardiol* 2011;57:1546-53.
7. Lin GA, Dudley RA, Redberg RF. Why physicians favor use of percutaneous coronary intervention to medical therapy: a focus group study. *J Gen Intern Med* 2008;23:1458-63.
8. Lin GA, Dudley RA, Redberg RF. Cardiologists' use of percutaneous coronary interventions for stable coronary artery disease. *Arch Intern Med* 2007;167:1604-9.
9. Rothberg MB, Sivalingam SK, Ashraf J, et al. Patients' and cardiologists' perceptions of the benefits of percutaneous coronary intervention for stable coronary disease. *Ann Intern Med* 2010;153:307-13.
10. Ko DT, Ross JS, Wang Y, Krumholz HM. Determinants of cardiac catheterization use in older Medicare patients with acute myocardial infarction. *Circ Cardiovasc Qual Outcomes* 2010;3:54-62.
11. The Dr. Oz Show. November 9, 2010. Available at: <http://www.doctoroz.com/videos/heart-procedures-stents-uncovered-pt-1>. Accessed February 4, 2011.
12. Anderson HV, Shaw RE, Brindis RG, et al. Relationship between procedure indications and outcomes of percutaneous coronary interventions by American College of Cardiology/American Heart Association Task Force Guidelines. *Circulation* 2005;112:2786-91.

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