EDITORIAL COMMENT

The Role of Appropriate Use Criteria for Coronary Revascularization*

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Given the growing interest in appropriateness criteria from lawmakers, the media, payers, and others, future criteria will be called “Appropriate Use Criteria” to better reflect the important role the criteria play in identifying appropriate use of medical technology and procedures. The coronary revascularization document has maintained the former title, because it was developed mainly during the period when these documents were named Appropriateness Criteria.

In this week’s Journal appears the first American College of Cardiology (ACC) Appropriate Use Criteria (AUC) for coronary revascularization. Since 2005, the College has published AUC for several cardiac imaging methods. Because AUC are published alongside clinical practice guidelines and performance measures, it may now be necessary to define how AUC serve a distinct purpose and provide complementary information to other ACC clinical documents. AUC are developed to determine whether a particular approach to care is reasonable in a given clinical scenario. This is partly in response to a growing concern from payers and patients regarding the potential overuse or misuse of advanced technologies for cardiovascular care.

Most practice guideline documents provide a comprehensive summary of evidence-based care surrounding a particular cardiovascular condition or occasionally a specific procedure, such as percutaneous coronary intervention. Extensive review and analysis of the evidence from randomized clinical trials and other published studies are undertaken to develop practice guidelines. In areas in which the evidence is insufficient, expert consensus is used to formulate recommendations for care. The practice guidelines are then reviewed, revised, and vetted by both internal and external physician reviewers, and then finally by both the Board of Trustees of the ACC and the Scientific Advisory and Coordinating Committee of the American Heart Association before they are officially endorsed and published.

In many areas, however, such as cardiac imaging, there is little or no outcome data or there are only small and typically nonrandomized published trials, and thus a comprehensive evidence-based guideline document is not feasible. The data, then, that are used are often incomplete and were obtained from a limited number of subjects. In some areas of practice guidelines, the level of evidence is reduced to expert consensus due to the lack of “hard” data from randomized controlled trials. The same holds true for coronary catheterization and coronary revascularization when one tries to extrapolate and apply study findings to real world scenarios. For this reason, there is substantial variation in the application of these procedures. Wennberg’s Dartmouth Atlas graphically depicts wide geographic differences in the use of cardiovascular testing and revascularization procedures (1). The presence of such marked variation raises questions of overuse, underuse, and even abuse of cardiovascular procedures. Overuse of procedures may potentially represent the misalignment of incentives in the delivery of care, or practice patterns that do not reflect good stewardship and value for our financially stressed health care system. Underuse of procedures may represent either inequities of health care delivery due to ethnic, sex, or socioeconomic factors, or inappropriate overuse in other circumstances. The College has elected to confront this issue of wide variation in procedure utilization by establishing AUC. The goal of AUC is to define what is considered reasonable care or possibly inappropriate care for specific clinical indications. Coronary revascularization is deemed appropriate when the expected benefits, in terms of survival or health outcomes (symptoms, functional status, and/or quality of life) exceed the expected negative consequences of the procedure (2).

AUC methodology is quite different from that of practice guidelines, and is detailed in the preface of this month’s publication. It can be summarized as follows: First, a multispecialty writing group generates a list of clinical scenarios and the evidence base. In the case of coronary revascularization, there were 180 different scenarios. Second, a review panel of about 30 content experts critiques the efforts of the writing group. Third, a technical panel, composed of “experts” in the technology or procedure being evaluated, generalists, the “users,” and insurers, representing the “payers,” is established. The technical panel is provided summaries of the available evidence as well as any of the relevant practice guideline recommendations to help guide in their rankings. The scenarios are then rated individually by each technical panel member. The ratings reflect not only the potential benefit and harm to the patient, but also are...
made with an understanding of resource use and costs, “intuitive cost-effectiveness,” with reasonable care considered as the standard. The technical panel then convenes for a face-to-face meeting where members can exchange views on their individual ratings. The goal of the process is not to reach consensus, but rather to provide a full discussion prior to the final rating. Following the face-to-face meeting, the technical panel rates the scenarios for the second and final time.

The accompanying AUC document developed a framework for evaluating the strategy of coronary revascularization through the analysis of the following clinical features:

1. Symptom status of the patient
2. The adequacy of the medical management of angina
3. The ischemic burden as determined by noninvasive testing
4. The patient’s coronary anatomy

These features provide clinicians and patients a way of discussing the relative merits of revascularization. There are certainly other potential factors in revascularization decisions, but these 4 were considered critical for the majority of the cases. The inter-relationship of appropriate (A), uncertain (U), and inappropriate (I) designations through the mapping of patient symptoms versus stress imaging findings, coronary anatomy, and medical treatment intensity provides an excellent and reliable “patient-centric” tool for practice guidance (2).

With the recent development of AUC, it is now possible to measure individual practice patterns and then make comparisons by benchmarking to one’s peers. If you do not measure performance, how can you ever improve it? The goal of all of this is to help guide more effective care that ultimately improves patient outcomes and improves the value of care delivered by increasing efficiency. Ultimately, the goal is to embed these criteria into order entry systems and other electronic point-of-care decision aids to provide “just in time” information for the practicing physician. Many of our documents address diagnostic procedures that are ordered by a wide variety of generalists and specialists, few of whom will ever be familiar with the nuances of appropriate use, and will now have expert-derived information and feedback to guide them in their care plans for patients.

In summary, AUC can complement practice guidelines by providing an outline of reasonable care for many common clinical situations that cannot be adequately addressed otherwise. In this current effort, we attempted to cross-tab those scenarios where recommendations existed in the practice guidelines. We found 100% congruence between the Class I and III recommendations and AUC ratings, despite going through 2 very different procedures to get there.

In the foreseeable future, our AUC will be able to offer almost “real time” updated ratings and recommendations as new clinical evidence becomes available, and we have in place electronic aides to augment and “supercharge” AUC implementation. Our current practice style is too variable and too expensive for the value presently being derived. These standardized approaches are one way to provide more consistent and more efficient care in order to do the right thing the first time.

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REFERENCES