In a Journal of the American Medical Association article published in early July 2011, the American College of Cardiology’s initiative called the National Cardiovascular Data Registry (NCDR) examined the appropriateness of coronary angioplasty and stenting. They looked at over 500,000 procedures done in 1091 hospitals that contributed to the NCDR. The benchmark standards were evidence-based guidelines that an independent board of senior cardiovascular specialists agreed were appropriate.

In a prior column, I discussed a trial called COURAGE published in 2007 that suggested that in *stable* coronary patients, interventional procedures were no better than aggressive use of combination drug therapy when followed for five years. Patient selection likely played a role in that result. Another study called the Occluded Artery Trial (OAT) validated that *late* stenting of an artery that caused a heart attack did not reduce death or complications over that of aggressive and optimal drug therapy. However, the vast majority of cardiologists concur that in unstable patients with active ischemia such as an evolving heart attack, acute coronary interventions like angioplasty and stent placement are the appropriate therapeutic approach.

In this NCDR report, 71% of the 500,000 coronary interventions were in heart attack or unstable chest pain patients, and the report indeed concurred that 99% of those intervention procedures were absolutely justified. Of the other 29% of the reviewed cases, about 50% of those were felt to be appropriate, 38% were questionable, and about 12% were overtly inappropriate. I suspect that many of the inappropriate cases were in patients with some blockages, but not severe enough to be a clinically significant problem for the patient but nonetheless had an angioplasty and/or stent procedure performed.

When viewed in the totality of the data, being right about 75% of the time, possibly right in another 19%, and just plain wrong in about 6% does not seem so bad. Except for a couple of things. Those 25% of the possibly inappropriate instances represent human beings exposed to procedures with known significant risks, and that possibly inappropriate medical care was extraordinarily expensive that we, as a society, still had to cover.

Cost of U.S. healthcare was approximately $2.5 trillion in 2009. Cardiovascular care represents a significant part of that total. Medical decisions should driven by guidelines derived from solid clinical trials data, but in equivocal cases, care decisions may be driven by profit motives. In current American healthcare, interventional cardiologists are compensated for doing procedures, and hospitals reward physicians for bringing large volumes of procedures. In some notorious cases of unscrupulous doctors, those volumes come with questionable or overtly inappropriate indications. Moreover, the NCDR report revealed that there was considerable variation in appropriateness between hospitals in the NCDR database. And I know that patients are not checking their local hospital or their doctors to see where they fall on the appropriateness scale. And when a patient is having a heart attack is not the time to try and figure that out.

Some doctors will reflexively complain that their experience trumps some outside expert commission, and that this is just a step towards intrusion on their autonomy and “cookbook” medicine. However, I question if “because I say so”, and “I know best” are valid reasons to do a procedure. When I lecture on evidence-based medicine, I certainly acknowledge the added wisdom that comes considerable clinical experience, but that still needs to be tempered by solid clinical science that shows statistically significant better outcomes, and not just “as good as”.

The American College of Cardiology should be applauded for gathering and reporting these data. Other medical specialty societies need to embark on self-examination of expensive diagnostic and treatment methodologies to determine appropriate utilization and to avoid their use when the gain is nil and risks are anything but. If the medical specialty societies with the integrity and expertise do not self-examine these issues, regulators and non-expert commissions with an interest in predominantly controlling costs will do it for them.

To further clarify these issues, a regional research consortium comprised of the Ventura Heart Institute, Rolling Oaks Radiology and Westlake Medical Research are collaborating with select cardiologists both here and the San Fernando Valley to evaluate which diagnostics tests may be most useful to predict cardiovascular events. These are national collaborative research programs being sponsored by the National Institutes of Health as well as medical diagnostic companies, and we are proud to be a significant contributing partner to these efforts to improve cost-effective patient care.