Learning from History: A Commentary on the AHA Science Advisory on Depression Screening

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“Those who cannot learn from history are doomed to repeat it.”

George Santayana

The American Heart Association (AHA) plays an important role as a provider of health information to the public through its support of research, education, and community programs intended to reduce the burden of cardiovascular disease. The AHA also provides information to health care practitioners through its scientific publications and the publication of guidelines and practice recommendations. Through these efforts, the AHA has most certainly contributed to the decline in the death rate from cardiovascular disease in the last decade.¹

Recently, the process used by the AHA to generate practice recommendations and guidelines has been called into question.² It has been noted that recommendations in current American College of Cardiology (ACC)/AHA guidelines are increasingly based on lower levels of evidence or expert opinion and that conclusive evidence does not exist for many recommendations.² The potential negative consequences of recommendations that are not based on evidence from randomized controlled trials or that do not carefully weigh risks and benefits of recommended interventions stand in sharp contrast to the significant contributions of the ACC and AHA, and, given the influence of the ACC and AHA on clinical practice, must be considered carefully.

Two notable examples of this are the 1997 AHA guidelines for infective endocarditis (IE) prophylaxis³ and the 2007 guidelines on the perioperative cardiovascular evaluation and care for noncardiac surgery.⁴ As noted in the more recent 2007 AHA guideline on the prevention of IE,⁵ many authorities questioned the 1997 AHA guidelines and, following their publication, suggested they be revised. The 2007 guideline document noted, "...the basis for
recommendations for IE prophylaxis was not well established, and the quality of evidence was limited to a few case-control studies or was based on expert opinion, clinical experience, and descriptive studies that utilized surrogate measures of risk." Ultimately, the 2007 document recommended major changes in recommendations for IE prophylaxis based on a review of the evidence. In this instance, the AHA recognized the lack of evidence supporting their prior recommendations and, commendably, altered their recommendations, despite the predictable controversy that followed.6

The 2007 ACC/AHA guidelines on perioperative cardiovascular evaluation and care for noncardiac surgery4 recommended perioperative beta blockade for many patients undergoing noncardiac surgery. However, just one month after the ACC/AHA guidelines were published, the results of the large, multicenter POISE trial7 were presented at the AHA Annual Meeting and showed that perioperative extended-release metoprolol resulted in an excess risk of death. Even before POISE, data on perioperative beta blockade available to the ACC/AHA guidelines committee demonstrated no benefit of perioperative beta blockade for noncardiac surgery.8 As noted by Messerli and Bangalore,9 "Given this state-of-the-art, one may appropriately ask as to the exact reason why the ACC/AHA guidelines were published. Not only were they not based on available evidence, but they also were not timely because they were outdated only a few weeks after publication, when more definite evidence became available or at least was accessible."

Guidelines and other advisory statements are typically sponsored by well-known organizations, developed by expert panels, conducted according to formal processes, and described as evidence-based. As such, they are generally accepted as valid and unbiased guides to clinical practice.10 Guidelines and recommendations, however, vary dramatically in the degree to which they are evidence-based.2,11 The recent AHA Science Advisory on depression screening
in patients with coronary heart disease (CHD)\textsuperscript{12} provides an example of a set of recommendations made with little basis in evidence.

Depression is common and associated with increased risk of morbidity and mortality in patients with CHD. Given that, the AHA should be commended for taking steps to evaluate how depression should be managed in CHD patients. The AHA Science Advisory, published in October 2008, recommended routine screening of all CHD patients for depression with referral for patients who screen positive.\textsuperscript{12} The authors based their recommendation on the high prevalence of depression in CHD and on the association of depression with poor cardiovascular prognosis. They did not, however, conduct a careful review of benefits and harms of the recommended intervention (i.e., routine depression screening), that is customary for a statement of this type. In fact, the authors of the Science Advisory acknowledged the lack of evidence supporting their recommendation and noted, “Although there is currently no direct evidence that screening for depression leads to improved outcomes in cardiovascular populations… it is important to assess depression in cardiac patients with the goal of targeting those most in need of treatment and support services” (p. 1770).\textsuperscript{12}

In November 2008, only one month later, a systematic review of the evidence on depression screening in CHD was published.\textsuperscript{13} The authors of that review reported that there were no trials testing whether screening for depression improves depression or CHD outcomes and concluded, “the adoption of depression screening in cardiovascular care settings would likely be unduly resource intensive and would not be likely to benefit patients in the absence of significant changes in current models of care” (p. 2169).\textsuperscript{13} Beyond this, there are at least 11 trials in primary care,\textsuperscript{14} as well as trials in perinatal care\textsuperscript{15,16} and cancer\textsuperscript{17} that have tested whether depression screen and refer paradigms similar to the procedure recommended by the AHA
Science Advisory improve depression outcomes. None of those trials found that depression screening alone or screening and referral resulted in improved depression outcomes.

It seems reasonable to ask how practice recommendations could be issued by the AHA only to have contradictory evidence be provided to the public only weeks later, as was the case with the recent recommendations on routine depression screening in patients with CHD and with earlier recommendations for perioperative beta blockade for many patients undergoing noncardiac surgery. Recommendations proposed by Sniderman and Furberg, in their recent publication, “Why guideline-making requires reform,” would seem to make it less likely that this would occur. Specifically, the authors make three recommendations that are intended to ensure that all available evidence is considered in guidelines and recommendations and that potentially dissenting opinions are documented. First, they suggest that before formal publication, guideline-writing groups make available an almost final version and invite commentary. Second, they note that unanimity seldom occurs when a committee tackles a complex issue. Given this, they recommend that guidelines should not be issued unanimously unless all members fully agree to all sections. They contrast the publication of practice guidelines with decisions of a court, in which different analyses of issues and minority opinions are presented in a final document. Sniderman and Furberg suggest that, similarly, alternate viewpoints be reported in guideline documents along with majority opinions and that editors consider co-publishing alternate points of view. Third, Sniderman and Furberg recommend that, beyond peer-review that is conducted by the organizations sponsoring the guidelines, independent peer review be conducted and overseen by the editorial staff of journals where guidelines are published and that journal editors have the discretion to require guideline revisions when appropriate.
The notion that physicians should systematically identify and treat a condition simply because it is common and potentially harmful, as espoused by the authors of the AHA Science Advisory,\textsuperscript{12} seems to make sense. However, history teaches us that the logic of calling for routine screening based on the importance of a condition alone is flawed. Only twenty years ago, for instance, a randomized controlled trial was conducted to test a hypothesis that many felt was so clearly correct that it did not merit critical examination, namely that identification and suppression of ventricular premature contractions after myocardial infarction would reduce mortality. Contrary to the expectations of many, the Cardiac Arrhythmia Suppression Trial\textsuperscript{18} showed exactly the opposite; even though the anti-arrhythmic drugs encainide and flecainide were initially effective in suppressing ventricular arrhythmia, patients treated with active drug had a higher rate of death from arrhythmia than the patients assigned to placebo. So, while it may seem to defy common sense to suggest that routine screening and referral of CHD patients for depression could be anything other than beneficial, this has most certainly not been proven and cannot be advocated until a thorough evaluation of risk and benefit is completed.

We hope that the AHA learns from history and reconsiders its recommendation for depression screening in cardiovascular care, as it so laudably reconsidered its guidelines for antibiotic prophylaxis against IE in the recent past.\textsuperscript{5} Better depression care paradigms are needed for patients with cardiovascular disease. Recommendations from the AHA for screening and referral that have not been tested in cardiovascular care and that have not been shown to benefit patients in other medical settings are not likely to benefit CHD patients without changes in current care models. Moreover, they may suggest to some that the best way to address depression in patients with CHD is already known, and thereby impede progress towards developing more effective and feasible depression care models in cardiovascular care settings. Beyond this, we
urge the AHA to review the outstanding recommendations for guideline-making by Sniderman and Furberg\textsuperscript{10} and to incorporate them into their working group protocols.
REFERENCES


