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## Translating Research Into Practice for Healthcare Providers The American Heart Association's Strategy for Building Healthier Lives, Free of Cardiovascular Diseases and Stroke

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**Abstract**—The American Heart Association's (AHA's) mission is "to build healthier lives, free of cardiovascular diseases and stroke." This first article in a 2-part series will serve to present an overview of the work the AHA has undertaken to translate evidence into practice for healthcare professionals. It describes the extensive work of the AHA to support and further the delivery of evidence-based medicine, which includes the following: (1) supporting scientific discovery and the next generation of healthcare professionals and researchers; (2) disseminating scientific information; (3) developing evidence-based guidelines and statements; (4) creating and advocating for the implementation of performance indicators/measures; (5) developing clinical decision support and quality improvement tools; and (6) developing directed-cause campaigns, all of which can lead to improved patient care. This article also discusses the need for novel approaches and some of the AHA's evolving strategies to help address gaps in care. The second article, which will be published shortly after this one, will examine the AHA's efforts to engage and empower healthcare consumers to become more involved with their own health and health care. (*Circulation*. 2008;118:687-696.)

**Key Words:** cardiovascular diseases ■ research ■ stroke

Health care in this country remains largely fragmented, uncoordinated, and fraught with missed opportunities. Overall, adults in the United States fail to receive almost half of the medical care processes from which they would likely benefit.<sup>1</sup> Care for patients with cardiovascular disease (CVD) is no exception. Numerous studies have documented gaps in the quality of care for myocardial infarction, heart failure, and stroke as well as in primary CVD prevention.<sup>2-5</sup> These missed opportunities that adversely affect long-term patient outcomes occur despite higher levels of healthcare spending than any other nation. According to a recent survey, total US health expenditures rose 6.7% in 2006 to \$2.1 trillion, or \$7026 per person, equal to ≈16% of the US gross domestic product.<sup>6</sup> The direct and indirect costs of CVD and stroke for 2007 alone are estimated to exceed \$448 billion.<sup>7</sup> Therefore, if the United States intends to improve patient outcomes and, if possible, decrease overall healthcare spending, we must

engage in serious and sustained efforts directed to healthcare providers, patients, and individuals at risk.

The American Heart Association (AHA) is uniquely positioned as a highly respected patient-centered healthcare organization to help drive improvements in care and outcomes for patients with CVD and stroke. Our stated mission is "to build healthier lives, free of cardiovascular diseases and stroke." As part of our overall mission, the Association hopes to reduce CVD and stroke by 25% by the year 2010. The United States has made significant progress in reducing CVD and stroke on the basis of data recently released by the Centers for Disease Control and Prevention in part because of the efforts of the AHA.<sup>8</sup> Since 1999, coronary heart disease and stroke age-adjusted death rates have declined by 25.8% and 24.4%, respectively. Furthermore, it is estimated that ≈160 000 lives were saved in 2005 and that another 240 000 lives will be saved in 2008.<sup>9</sup> Thus, the AHA has reached its

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This article is Part I of a 2-part article. Part II will appear in an upcoming issue of *Circulation*.

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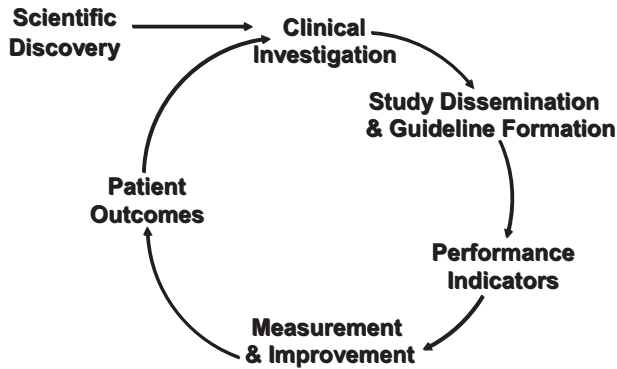
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**Figure.** Improving evidence-based medicine. Adapted from Califf et al,<sup>11</sup> with permission from Elsevier. Copyright 2002, American College of Cardiology.

goal of reducing deaths from coronary heart disease (several years ahead of time), and we have nearly achieved our goal for stroke. Although these are remarkably promising results, there are ominous clouds on the horizon. Major risk factors associated with CVD and stroke remain too high. The rate of physical inactivity has only declined by 2.5%, and the prevalences of hypertension, obesity, and type 2 diabetes are increasing and appearing at an earlier age than ever before. With this in mind, the AHA is already planning the metrics for its 2020 goal, which will target these risk factors and other health measures.

To accomplish these objectives, progress will need to be made at several levels.<sup>10</sup> Therefore, the AHA has worked to foster an environment of scientific discovery at the basic, translational, and outcome research levels, which can lead to the eventual application of science into practice and improvement in cardiovascular healthcare quality. The AHA has been integrally involved in each of the steps involved in this translational process (Figure). The Figure represents a modified version of the figure that originally appeared in the article “Integrating Quality into the Cycle of Therapeutic Development.”<sup>11</sup> This figure is used to illustrate how the AHA is involved in furthering the development and use of evidence-based medicine. Each step of the circle is described in more detail throughout the article, but stated briefly, the AHA through its research grants helps to further scientific discovery at the basic research level, which in turn helps to inform clinical research. On the basis of the research findings generated from clinical investigation, the highest level of evidence is then used to formulate guidelines and scientific statements, like those developed by the AHA independently or with the American College of Cardiology (ACC) and other partner organizations. Once the guidelines are developed, the AHA independently or with the ACC and other partner organizations works to develop quality indicators and performance measures to assess the overall performance of the healthcare system in treating patients according to recommended guidelines. The AHA then works to develop performance improvement systems and tools to aid providers and institutions in improving the quality of care that they deliver to patients. Ideally, these steps will lead to better patient outcomes by providing healthcare professionals with the

information they need to deliver the appropriate, highest-quality care to their patients.

Therefore, this first article in a 2-part series will serve to present an overview of the work the AHA has undertaken to translate evidence into practice for healthcare professionals. More specifically, this article describes the extensive work of the AHA to support and further the delivery of evidence-based medicine, which includes the following: (1) supporting scientific discovery and the next generation of healthcare professionals and researchers; (2) disseminating scientific information; (3) developing evidence-based guidelines and statements; (4) creating and advocating for the implementation of performance indicators/measures; (5) developing clinical decision support and quality improvement tools; and (6) developing directed-cause campaigns, all of which can lead to improved patient care. We will also discuss the need for novel approaches and some of the AHA’s evolving strategies to help address gaps in care. The second part of this article, to be published later, will examine the AHA’s efforts to engage and empower healthcare consumers to become more involved with their own health and health care.

### Supporting Scientific Discovery and the Next Generation of Investigators

The AHA believes that to reduce disability and death from CVD and stroke, we must gain a better understanding of these diseases. Since 1949, the AHA has invested >\$2.9 billion in research, and in 2006–2007 alone, it provided \$147.5 million in research support (Table 1). Currently, the AHA funds the research of ≈2500 scientists, supporting projects that broadly relate to CVD and stroke, as well as those with the potential to make an important contribution to scientific knowledge. AHA research grants have resulted in significant breakthroughs, including early life determinants of metabolic syndrome in animal models, interaction of perinatal environment and genetic predisposition, the first artificial heart valve, techniques and standards for cardiopulmonary resuscitation (CPR), implantable pacemakers, improvements in stroke care, advances in the management of heart failure, treatment for infant respiratory distress syndrome, cholesterol inhibitors, microsurgery, and drug-coated stents.<sup>12</sup>

The AHA funding directives have focused on mentoring and funding young researchers. Currently, the AHA spends ≈75% of its research grant dollars to support promising researchers in the early years of their careers. The rationale for this focus is the conviction that these talented individuals will not be able to pursue careers in academic medicine or biological sciences without sufficient funding. Many successful senior scientists, including 5 Nobel Prize winners, received funding from the AHA in the early stages of their careers. However, our interest in young researchers is not limited merely to funding their research endeavors. Each of the AHA scientific councils has programs, awards, and travel grants that are intended to ensure ongoing training and to recognize and reward talented early career investigators. For example, the Council on Clinical Cardiology and the Stroke Council provide “Young Investigator Seed Grant” support to young investigators who are interested in addressing clinical and outcomes research questions from the AHA’s national

**Table 1. Overview of AHA Efforts**

Topic	Summary
1. Research	<p>Has spent &gt;\$2.9 billion in research funding since 1949; \$147.5 million in research funding for 2006-2007</p> <p>Diverse, multidisciplinary support is provided for basic, population, clinical, and outcomes research</p> <p>Supports &gt;2500 scientists currently funded by the AHA</p>
2. Guidelines/statements/ conference proceedings	<p>The AHA, independently and with partner organizations (eg, ACC), has developed guidelines and statements for the management of a variety of cardiovascular conditions and stroke since the mid 1920s</p> <p>More than 200 guidelines, statements, and conference proceedings developed since 1991</p> <p>Treatment protocols, pocket guides, care algorithms, slide sets, and order templates developed to facilitate adoption of these recommendations into practice</p>
3. Performance measures	<p>Nine sets of performance measures developed to date with partner organizations (eg, ACC)</p> <p>Measures utilized by CMS and other payers, certification programs, recognition programs</p>
4. GWTG	<p>Three GWTG modules: coronary artery disease, heart failure, stroke</p> <p>Utilized by &gt;1500 hospitals that have collected records from &gt;1.1 million cardiovascular patient hospitalizations</p> <p>Web-based patient management tool supports real-time evidence-based decision support</p> <p>Supports quality of care and outcomes research, including studies showing significant improvements in care at hospitals using GWTG</p>
5. NRCPR	<p>A prospective, multisite, observational study of in-hospital resuscitation</p> <p>Utilized by &gt;600 hospitals that have collected records from &gt;100 000 cardiopulmonary arrest records</p> <p>Has provided the source data for research to demonstrate the impact of resuscitation quality improvement on patient outcomes</p>
6. PSC certification	<p>On the basis of guidelines and statement recommendations for treatment of stroke patients developed by the ASA and Brain Attack Coalition recommendations, the Joint Commission developed the PSC certification program in 2003</p> <p>437 hospitals are participating in PSC certification</p> <p>The Joint Commission, CDC, and ASA measures for stroke were combined and implemented in January 2008</p>
7. AHA/NCQA recognition program	<p>The HSRP is a voluntary program codeveloped by AHA and NCQA</p> <p>Recognizes participating physicians for taking the steps needed to ensure high-quality care for patients with heart disease and stroke</p> <p>1200 physicians enrolled in the HSRP, with &gt;2200 anticipated in 2008</p>

CDC indicates Centers for Disease Control and Prevention.

Get With the Guidelines (GWTG) database. In addition, over the past 10 years the AHA Pharmaceutical Roundtable has invested \$33.9 million toward outcomes research that will guide future strategies for reducing CVD and stroke, including a network of 3 Outcomes Research Centers to be awarded in 2008.

### Communicator/Disseminator of Science

Healthcare professionals and researchers must have access to current high-quality scientific information from a trusted source to improve the quality of care. As an organization, the AHA disseminates scientific information through our Web site, our journals, membership in scientific councils, and finally, our many scientific conferences and educational meetings. The AHA Web site has numerous resources available to healthcare professionals. In addition to free patient education materials that address lifestyle, risk reduction, and cardiovascular conditions, treatments, and tests, the Web site provides access to our practice guidelines and scientific statements, the AHA annual heart and stroke statistical update,<sup>13</sup> and our positions on advocacy-related issues. The AHA currently publishes 6 journals<sup>14</sup> from which healthcare professionals can keep up with the latest basic and clinical research findings relating to CVD and stroke, the results of clinical trials, critical editorial commentary, AHA policy statements, and evidence-based guidelines and scientific statements that are developed or codeveloped by the AHA. The AHA journal portfolio includes *Circulation*, *Circulation Research*, *Stroke*, *Hypertension*, and *Arteriosclerosis, Thrombosis, and Vascular Biology*.<sup>15</sup> Recently, the AHA decided to expand its portfolio of journals to include 6 additional<sup>16</sup> *Circulation*-branded journals premiering in 2008: *Circulation: Arrhythmia and Electrophysiology*; *Circulation: Heart Failure*; *Circulation: Cardiovascular Quality and Outcomes*; *Circulation: Cardiovascular Genetics*; *Circulation: Cardiovascular Imaging*; and *Circulation: Cardiovascular Interventions*.

The AHA also disseminates information through our 16 scientific councils.<sup>17</sup> The councils conduct multidisciplinary efforts that ensure that the AHA's efforts to reduce the impact of heart disease and stroke are based on the strongest scientific evidence. They also contribute to the AHA Scientific Sessions, annual scientific conferences, science advisories, and publications. Fellowship in the AHA (FAHA) is achieved through individual contributions to the scientific councils. The AHA recognizes its members whose extraordinary contributions have significantly advanced our understanding of CVD and stroke with distinguished achievement awards, prestigious named lectureships, and distinguished scientist designation.

Finally, as a part of our dissemination strategy, the AHA sponsors scientific conferences and professional development seminars on an annual basis. These meetings are intended to facilitate the dissemination of new and emerging scientific knowledge while stimulating discussion on future research.<sup>18</sup> They also offer "state of the art" presentations reflecting current thoughts on a variety of issues related to patient care from international experts in health care. The AHA Scientific Sessions remains the largest and most prestigious interna-

tional scientific meeting devoted to CVD in the world, and the International Stroke Conference has achieved similar prominence among stroke researchers and healthcare providers. The Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke Conference is another example of an annual conference that has become a showcase for the nation's leading research relevant to measuring and improving cardiovascular quality of care and outcomes. The AHA also sponsors special consensus conferences in which volunteers and key thought leaders and interest groups identify critical areas for further research development and assist the AHA in setting its advocacy agenda. For example, the series of AHA Prevention Conferences convened preeminent epidemiologists, population scientists, and clinical investigators who crafted reports that have framed the extensive AHA prevention portfolio.<sup>19–22</sup> Similarly, AHA conferences have addressed research and advocacy needs related to CVD and stroke in women<sup>23</sup> and in racial and ethnic minorities.<sup>24,25</sup>

### Guidelines and Scientific Statements

The AHA has been a continuous source of objective, evidence-based information for healthcare professionals for >75 years. The scientific statements and guidelines developed by the AHA independently or with the ACC and other partner organizations have addressed the management of various cardiovascular conditions and stroke. Our guidelines and statements represent objective critical reviews of the scientific literature and clinical trials, supplemented and supported by consensus views of leading experts.<sup>26</sup> The AHA has worked to transform the process by which our guidelines are developed and revised.<sup>27</sup> The AHA/ACC continuously monitors new research pertinent to existing guidelines and convenes relevant experts to determine when guidelines require updating or wholesale revision. Therefore, the guidelines are now "living documents" that respond to changes in science. To facilitate dissemination of our guidelines and their use, the AHA/ACC provides online access, executive summaries, pocket versions, and guideline slide sets.

However, practice guidelines are only one component of effective quality improvement efforts (Figure). The AHA has begun to develop accompanying treatment protocols, care algorithms, and order templates to encourage more complete translation of these evidence statements into practice. Although much can be gained by standardizing treatment protocols, the AHA also recognizes that the management of patients with CVD or stroke must be customized to individual patients and settings.<sup>28–31</sup> Thus, the AHA has released a series of guidelines and statements that provide treatment protocols and recommendations that take into consideration the unique characteristics of certain patient populations. For example, the Association has released guidelines and statements for the treatment of women with CVD, the treatment of elderly patients with acute coronary syndromes, and indications for renal arteriography in patients undergoing coronary angiography. Recently, the AHA, in collaboration with the Society of Geriatric Cardiology, released 2 statements related to the treatment of elderly patients with non-ST-segment elevation acute coronary syndrome or with ST-segment elevation myocardial infarction (STEMI).<sup>28,29</sup> These statements have

identified areas for which the evidence is sufficient to recommend best practices that are specific for elderly patients and to delineate areas warranting further study. Although efforts to ensure that guidelines reflect the diversity of patients represent an important development, these efforts also result in longer and more complex guidelines. The recent non-STEMI guidelines "update" required 159 pages and nearly 1000 references.<sup>32</sup> The implementation of cutting-edge Web technologies, including sophisticated search engines, is being explored to facilitate use of the guidelines.

### Performance Indicators

The AHA alone, or with the ACC and other partner organizations, develops robust, evidence-based performance measures that can be used to improve the quality of care in both the inpatient and outpatient settings.<sup>33–39</sup> These measures provide a standard for all practitioners to follow to enhance best patient outcomes. Once these measures have been developed, the AHA may seek to have them incorporated into larger initiatives and programs, intended to improve patient care. To date, a number of our measures have been adopted for use in national programs, including the Centers for Medicare and Medicaid Services Reporting Hospital Quality Data for Annual Payment Update<sup>40</sup> and Premier Demonstration.<sup>41</sup> Additionally, the stroke performance indicators used in the Centers for Medicare and Medicaid Services Physician Quality Reporting Initiative were significantly based on those measures developed by the American Stroke Association (ASA), as were those measures used by the Joint Commission in the stroke certification program. Moreover, numerous measures developed by the AHA with partner organizations such as the ACC and the American Medical Association Physician Consortium for Performance Improvement are currently endorsed by the National Quality Forum.<sup>42</sup>

During the past several years, there has been substantial pressure to more fully understand the quality of care, and this has led to a proliferation of performance measures. The AHA and its partner organizations have worked to ensure that performance measures for CVD and stroke care are evidence based and conform to scientific specifications for measurement. The AHA with the ACC and other partners has taken the lead in developing papers on process measure methodology<sup>43</sup> and standards for statistical models used for public reporting of health outcomes.<sup>44</sup> As a part of our organizational strategy, the AHA will continue to work both independently and in partnership with other organizations to ensure that CVD and stroke performance measures are founded on evidence-based science and are integrated into a single set of measures whenever possible.

### Performance Measurement and Improvement Programs

One example of a quality measurement and improvement program developed with the intention of increasing the overall quality of care in the hospital setting is the AHA's GWTG program (Table 1).<sup>45</sup> This program seeks to ensure that each patient is consistently treated according to the most recent evidence-based guideline recommendations for CVD and stroke by providing healthcare provider teams with the

**Table 2. AHA-Sponsored Registries and Quality Improvement Initiatives**

Name	Module/Component	Inception Date	Hospitals Currently Utilizing	No. of Records	No. of Performance Measures and Quality Measures
GWTG	Coronary artery disease module	2001	593	448 975	6 performance; 11 quality
	Heart failure module	2005	406	154 127	5 performance; 5 quality
	Stroke module	2003	1108	556 733	7 performance; 17 quality
	Total	N/A	2107	1 159 835	18 performance; 23 quality
NRCPR	Acute respiratory compromise component	2004	192	10 227	N/A
	Cardiopulmonary arrest component	2000	361	130 772	N/A
	Medical emergency team component	2005	131	23 508	N/A
	Total	N/A			
Joint Commission	PSC certification	2003	437	N/A	10 measures

This information is current as of February 2008. Hospitals may be using 1 or more modules. The data are intended to represent the total number of contracts for each module.

tools to achieve this goal. Currently, there are 3 GWTG modules: GWTG coronary artery disease, GWTG heart failure, and GWTG stroke. Each module has a patient management tool that provides patient-specific guideline recommendations, allows for real-time data validation, and enables each institution to track its adherence to the guidelines individually and against national benchmarks. Hospitals using GWTG that achieve high performance criteria are recognized<sup>46</sup> at AHA meetings and in our journals *Circulation* and *Stroke*. Since its inception in 2001, GWTG has been implemented in >1500 hospitals and has collected >1.1 million patient records (Table 2). Several published studies demonstrate that GWTG improves patient outcomes, and the data collected from GWTG have helped to inform the quality circle.<sup>47–51</sup> A diverse group of hospitals caring for 1738 patients over a 1-year period achieved statistically and clinically significant improvement in blood pressure treatment and control, lipid measurement and treatment, smoking cessation counseling, and referral to cardiac rehabilitation while maintaining the high baseline levels of aspirin,  $\beta$ -blocker, and angiotensin-converting enzyme inhibitor use.<sup>52</sup> Using GWTG, these hospitals had a rapid and significant improvement in 10 of 11 evidence-based acute care and secondary prevention interventions. Although these improvements may have been related to a number of factors, including multiple supportive systems and programs, the GWTG patient management tool played an important role. Similar improvements in stroke and heart failure patient care have been reported. Most recently, the AHA and ACC recently announced a merger of the GWTG-CAD module with the National Cardiovascular Disease Registry (NCDR) ACTION Registry, thus creating a single national STEMI and non-STEMI registry known as the ACTION Registry-GWTG. Both organizations wholeheartedly believe that combining these highly successful programs into a single collaboration will support an even more comprehensive and robust database and quality improvement system.

Despite our overall success with GWTG, the AHA realizes that this program must continually evolve if we are to narrow existing healthcare treatment gaps. Patients transitioning from the inpatient to the outpatient setting are often at risk for gaps

in medical care, in part because healthcare information does not move seamlessly between settings. To address this issue, the AHA recently developed a continuity-of-care record that facilitates the transfer of information from an in-hospital stay to an electronic or paper-based outpatient health record. Enhanced information transfer can enable all providers to easily access the patient's clinical history, diagnostic tests, treatments, and management plans to support smooth and safe continuity of care.

The AHA is continually looking for new opportunities to increase integration of patient information across the care spectrum. The AHA plans to utilize the current interest in the use of health information technology to further our agenda of improving the quality of CVD and stroke care. We are currently working to develop simple patient follow-up forms for use in both hospitals and ambulatory settings. The AHA has also positioned itself with key organizations that are likely to influence the future direction of health information technology. The AHA is represented on the American Health Information Community, a federally chartered body intended to accelerate the development and adoption of health information technology. We hope to continue to be involved in the American Health Information Community as it transitions into the private sector. The AHA is also working with a variety of leaders in health information technology, including the Certification Commission for Health Information Technology Cardiovascular Expert Panel, the Healthcare Information and Management Systems Society Quality domain, and the e-Health Initiative to influence the direction of electronic health record and personal healthcare record criteria and standards. With these strategic collaborations, the AHA hopes to promote continuity of care with ambulatory databases that can be accessed by multiple healthcare professionals caring for the same patient.

Another example of an in-hospital quality improvement program is the AHA's National Registry of Cardiopulmonary Resuscitation (NRCPR),<sup>53</sup> a prospective, multisite, observational study of in-hospital CPR, including medical emergency team responses and postresuscitation care. The program's mission is to reduce disability and death from cardiac and respiratory emergencies by providing an evidence-based quality improvement program of patient safety, medical

emergency team response, effective resuscitation, and post-emergency care. The NRCPR provides participating hospitals with quarterly reports on key process variables and patient outcomes that allow each hospital to then track performance improvement over time, compare its performance with that of a cohort of similar hospitals, and monitor adherence to facility protocols and AHA guidelines.<sup>54</sup> Since 2000, the NRCPR has been implemented in >600 hospitals and collected >100 000 cardiopulmonary arrest records (Table 2). Moreover, several research studies have been published using data from the NRCPR that demonstrate the impact of CPR quality improvement on patient outcomes.<sup>55–61</sup> Important new research based on data from the NRCPR has shown that delayed defibrillation (>2 minutes) occurs in 30% of in-hospital arrests and is associated with substantial decreases in survival to hospital discharge.<sup>62</sup> In another study using NRCPR data, survival rates were much worse for in-hospital cardiac arrests that occur on nights and weekends compared with weekday daytime hours.<sup>63</sup>

In addition to our efforts with GWTG and the NRCPR, the ASA, in collaboration with a large multispecialty advisory group and the Brain Attack Coalition, worked closely with the Joint Commission to establish the criteria for certification of Primary Stroke Centers (PSCs).<sup>64</sup> Launched in 2003, the PSC certification program was based on guidelines and statement recommendations for treatment of stroke patients developed by the ASA,<sup>65,66</sup> as well as the recommendations developed by the Brain Attack Coalition (Table 2). The PSC certification program evaluates stroke care provided by hospitals based on an assessment of the hospitals' compliance with consensus-based national standards; effective use of PSC recommendations and clinical practice guidelines to manage and optimize care; and performance measurement and improvement activities. Although the Joint Commission PSC certification has been largely successful, with 437 hospitals participating, it soon became apparent that numerous data elements were also being used to collect stroke data by those hospitals participating in the Centers for Disease Control and Prevention Coverdell registry and GWTG stroke module. With this in mind, the 3 organizations set out in 2006 to try to integrate the data elements of all 3 measure sets.<sup>67</sup> By identifying commonalities across the 3 data sources, aligning data element definitions, and standardizing guidelines for abstraction, the organizations developed an integrated set of 10 performance measures for stroke patient care that were implemented in January 2008. This successful collaborative effort will substantially reduce the administrative burden of submitting stroke data to these 3 entities.

The AHA/ASA has developed a series of tools and resources to help hospitals prepare for Joint Commission certification. For example, the Acute Stroke Treatment Program is a toolkit that helps hospitals to build the critical infrastructure for becoming a PSC.<sup>68</sup> Going forward, the AHA/ASA will continue to work with like-minded organizations to promote greater utilization of stroke-related measures by hospitals. As a part of this effort, we will continue to advocate for the adoption of stroke measures by the Centers for Medicare and Medicaid Services. Currently, the AHA is working with the Joint Commission to explore the codevel-

opment of a heart failure certification program. A cosponsored advanced certification in heart failure would serve to address the treatment of heart failure in the inpatient setting.

Finally, the AHA has worked to develop programs that recognize physicians providing high-quality patient care through the AHA/National Committee for Quality Assurance (NCQA) Heart and Stroke Recognition Program (HSRP).<sup>69</sup> This voluntary program, which was jointly developed and cobranded with the NCQA, facilitates the use of evidence-based measures and recognizes participating physicians for taking the steps needed to ensure high-quality care for patients with CVD.<sup>70</sup> With the NCQA, we will also explore strategies to incorporate functionality into existing electronic medical records for the collection and transmission of HSRP data. Physicians meeting HSRP performance criteria are recognized on the NCQA Web site,<sup>71</sup> as well as in directories for health plans, including Aetna, CIGNA, and United Healthcare. To date, there are nearly 1200 physicians enrolled in the HSRP, and our goal is to increase enrollment to at least 2200 in 2008.

### National Caregiver-Directed Campaigns

Although written materials and our educational and scientific meetings provide useful information on CVD and stroke, we realize that there are instances in which more is needed. In some instances, the AHA will find an issue of such importance that it will develop a campaign aimed at raising awareness and, more importantly, driving changes in care delivery. Recently, the AHA launched Mission: Lifeline, a directed campaign designed to serve as a vehicle to encourage communities across the country to develop systems of care for patients with STEMI.<sup>72</sup> It is our hope that Mission: Lifeline will save lives and reduce disability of patients with STEMI by changing the delivery of acute care. Given the immense nature of this task, the AHA has developed an action plan to advance the adoption of STEMI systems that includes convening thought leaders to review existing local or regional pilot programs that could serve as examples for other communities. The AHA is also assessing whether it should work with partner organizations to develop a STEMI certification program that provides incentives for each part of the system (eg, emergency medical services, referring and receiving hospitals) participating in the delivery of care. Ultimately, it is hoped that the regional and local systems of care will make patients more aware of the importance of calling 911 at the onset of symptoms and ensure that local emergency medical services staff are equipped and trained in the use of 12-lead ECGs for rapid diagnosis and triage. The AHA plans to provide those resources that may be needed by states and regions that want to implement a STEMI system of care. The potential impact of this new campaign on STEMI patients is enormous.

### Conclusion

The AHA is a patient-centered organization committed to supporting and facilitating the translation of research into practice for the ultimate benefit of patients and the American public. As described throughout this article, the AHA has engaged in a number of initiatives to further evidence-based

medicine. These efforts have contributed importantly to achieving the AHA 2010 goals 2 years ahead of schedule, but further work clearly remains to be done.

Part 2 of this series will examine how the AHA plans to engage and empower consumers in their own health and health care. Consumers are increasingly seeking information to make educated decisions regarding their health, treatment, and disease management. Various channels will be available to enable improved decision making, including personal health records, social networks, decision support tools, program initiatives, and informational content. As a patient-

-centered organization, the AHA will continue to fight CVD and stroke, the No. 1 and No. 3 causes of death and disability in this nation, and to provide leadership in translating research into practice and in supporting both providers' and consumers' efforts "to build healthier lives, free of cardiovascular diseases and stroke."

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**Writing Group Disclosures**

Writing Group Member	Employment	Research Grant	Other Research Support	Speakers' Bureau/Honoraria	Expert Witness	Ownership Interest	Consultant/Advisory Board	Other
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Robert O. Bonow	Northwestern University Medical Center	None	None	None	None	None	None	None
Gregg C. Fonarow	University of California at Los Angeles Medical Center	GlaxoSmithKline†; Medtronic†; Pfizer*	None	AstraZeneca†; Bristol Myers†; GlaxoSmithKline†; Medtronic†; Merck†; Nitromed†; Novartis†; Pfizer†; Sanofi†; Schering Plough†	None	None	AstraZeneca*; GlaxoSmithKline*; Nitromed*; Pfizer*	None
Raymond J. Gibbons	Mayo Clinic	KAI Pharmaceuticals†; King Pharmaceuticals†; Radiant Medical†; TargeGen†; TherOx†	None	None	None	None	Cardiovascular Clinical Studies (WOMEN study)*; Consumers Union*; Hawaii Biotech*; TIMI 37A*	None
Meighan Girgus	American Heart Association	None	None	None	None	None	None	None
Patricia C. Hinton	American Heart Association	None	None	None	None	None	None	None
Anne Leonard	American Heart Association	None	None	None	None	None	None	None
Frederick A. Masoudi	Denver Health Medical Center	None	None	None	None	None	United Healthcare*	None
Eric D. Peterson	Duke	BMS/Sanofi†; Merck/Schering Plough†; Schering Plough†	None	None	None	None	None	None
Sidney C. Smith, Jr	University of North Carolina at Chapel Hill	None	None	None	None	None	None	None
Penelope Solis	American Heart Association	None	None	None	None	None	None	None

This table represents the relationships of writing group members that may be perceived as actual or reasonably perceived conflicts of interest as reported on the Disclosure Questionnaire, which all members of the writing group are required to complete and submit. A relationship is considered to be "significant" if (a) the person receives \$10 000 or more during any 12-month period, or 5% or more of the person's gross income; or (b) the person owns 5% or more of the voting stock or share of the entity, or owns \$10 000 or more of the fair market value of the entity. A relationship is considered to be "modest" if it is less than "significant" under the preceding definition.

\*Modest.

†Significant.



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