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Editorial

Improving Quality of Cardiac Care: A Global Mandate

Mejorar la calidad de la asistencia cardiaca: un imperativo mundial

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Cardiovascular disease (CVD) is the leading cause of death in the world. It is estimated to have claimed the lives of 17.3 million people in 2008 and, if left unchecked, this figure expected to increase to more than 23.6 million deaths by 2030.[1] The greatest increases in mortality from heart disease and stroke are expected to occur in low- and middle-income countries, which often have not implemented programs designed to curb this international epidemic.

A number of therapies substantially reduce morbidity and mortality in patients with or at risk for CVD and stroke.[2,3] Many of these evidence-based, guideline-directed therapies are readily available worldwide.[4,5] However, studies in an array of settings have demonstrated that numerous patients still fail to receive effective, safe, high-value CVD and stroke treatments in a timely fashion.[6,7] There are also substantial hospital and outpatient practice, regional, national, and global variations in the use of evidence-based care along with disparities in care, particularly among certain patient populations.[6–8] One of the high impact strategies to respond to the global epidemic of CVD and stroke is to ensure more consistent implementation of evidence-based care.

During the past 15 years, the American Heart Association/American Stroke Association (AHA/ASA) has developed a group of evidence based quality improvement (QI) programs (eg, coronary artery disease/acute coronary syndromes, atrial fibrillation, heart failure, stroke, cardiac resuscitation), which can effectively reduce the morbidity and mortality associated with CVD. These QI programs are now being used in more than 2000 United States hospitals with the result that nearly 80% of patients are able to readily receive evidence-based, guideline-directed care for CVD. The result has been a dramatic reduction of 29.4% in 30-day mortality for myocardial infarction, 16.4% for heart failure, and 4.7% for stroke.[9] If the countries of the world are to achieve similar results, QI programs and systems of care should be replicated by their health care delivery systems.

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The article published in *Revista Española de Cardiología* by López-Sendón et al[10] is a thoughtful consensus document focusing on the definition of quality standards and markers to properly assess overall performance. The Spanish Society of Cardiology (SEC), in collaboration with the Spanish Society of Thoracic and Cardiovascular Surgery (SECTCV), contend that these measures should be prepared by cardiac societies. Accordingly, they prepared their document to help define quality markers and metrics that can help evaluate the overall results of the clinical practice and outcomes in cardiology. The AHA is now collaborating with several international QI programs to improve outcomes for patients with CVD and has put forward the following discussion about improving quality of cardiac care to provide further information about the design and implementation of evidence based QI programs which have been successful in the United States.

THE VALUE OF A FOCUS ON QUALITY OF CARE: QUALITY IMPROVEMENT PROCESSES AND PREDICTABLY AND MEASURABLY BETTER OUTCOMES

The Institute of Medicine defines quality of care as: "The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge".[11] However, quality to a physician is very personal, ie, am I doing the right thing for my patients and are they better off for it? The Institute of Medicine definition is further elaborated by descriptions of care being timely, effective, safe, equitable, patient-centered, and cost effective.

To enhance quality, clinical practice guidelines have been developed, not only in the United States but also in Europe, Canada, and other countries, to "guide" clinicians, using current evidence, to choose treatments for specific syndromes that are based on the risks and benefits studied in the literature. The use of guidelines should help with daily clinical decisions for treatment and decrease the heterogeneity of care. This promotes "best practices", allowing systems as well as payers and peers to define "quality". Guidelines, however, although essential, are insufficient to determine if quality care is being delivered. How can improvement

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occur, if measurement of baseline is unknown? How can healthcare organizations compare themselves among each other or peers and evaluate others against themselves?

In 1999, the AHA convened a group of professionals as the First Scientific Forum on Assessment of Quality of Care and Outcomes Research in CVD and stroke. The areas of focus included myocardial infarction, stroke, heart failure, and methodology. The group clearly stated that quality measurement was no longer optional, but essential.[12]

The ultimate goal of any QI program is to reach the desired health outcomes of better health for a group or system. Measurement of quality is therefore an imperative. However, performance measures need to be distinguished from performance measurement and management. Performance measures are synthesized from clinical guidelines and can therefore be very disease specific and are meant to measure systems of care by operationalizing recommendations found in Guidelines. Performance measurement, on the other hand, is a process which includes the operations necessary to collect the data that are basic to using the performance measures. Obviously, one cannot exist without the other. However, choosing the right measures and deciding what outcomes should follow should precede the collection of such data. Hence performance management sets the goals of QI and uses the plan-do-study-act cycle to assess, improve, and reassess progress. Far too often data are collected without a goal being specified.[13]

The next 15 years of performance measurement brought a multitude of measures whose purpose was to improve care. The importance of measurement has not waned. However, its complexity has grown as organizations have looked to the public health agencies for confirmation or development of measures for a large group of conditions, very prominently, cardiac measures. In the complex world of organizations, health systems, and practices, the Agency for Healthcare Research and Quality convened a group of stakeholders to develop a taxonomy of healthcare systems that would allow comparisons across delivery to decide what is best for patients. One of the domains identified by this work, 15 years after the AHA forum, was "Care processes and infrastructure", which included performance measurement, public reporting, and QI.[14] The Agency for Healthcare Research and Quality report provides some context for this suggested element as:

1. The extent to which the organization conducts regular measurement of performance with public reporting, feedback, and a systematic process of improvement.
2. Number of clinical performance measures assessed at least yearly.
3. Proportion of those measures with results reported to the public and those providing measured care.
4. Proportion of those measures with active action plans for improvement.

Given these recommendations and the growing complexity of patient care added to extensive choices for treatment, true quality of care demands measurements, ie, proving that what we think we are doing, we are actually doing.

The Institute of Medicine report also heralded the age of transparency. Today's world economy also demands transparency with more scrutiny on public health and health systems practices, thereby demanding reporting of measurements and quality efforts. Government agencies use performance measures to add or remove resources if the data collected does not verify quality of care. Organizations use measures to monitor and compare practices and evaluate the need for additional resources to achieve their goals of care. Finally, clinicians use disease specific measures to self-regulate, compare and improve their delivery of care.

The plethora of measures in the last 15 years has not gone unnoticed by the Institute of Medicine. In their most recent report, "Vital signs: core metrics for health and health care progress", the group underscores the multitude of measures that have added complexity and confusion due to lack of focus, consistency, and organization.[15] The report points out that similar measures have been developed by various groups with minor differences that impede comparisons within or among systems and providers. These limitations hinder the improvement of health systems. The report further advises that all stakeholders must notice which measures matter the most to focus on the health care of Americans. The report proposes a set of 15 measures covering the 4 domains of healthy people, care quality, lower cost, and engaged people. Such a set of measures could be conducive to a more focused health progress using the highest priority areas, ie, the 4 domains. The 15 measures are highlighted in the Figure. Pertinent to this commentary is number 10 or evidenced based care including: cardiovascular risk reduction, hypertension control, diabetes control composite, heart attack therapy protocol, stroke therapy protocol, and unnecessary care composite. The report describes this measure as "ensuring that patients receive care supported by scientific evidence for appropriateness and effectiveness is a central challenge for the health care system. Currently, an estimated one-third of United States health care expenditures do not contribute to improving health. Aggregating carefully selected and standardized clinical measures can provide a reliable composite index of system performance."

The mandates are clear: QI efforts can be effective when deployed with thoughtful measurement of performance by setting goals of outcomes as a priority and selection of measures that are poised to effectively measure true performance and allow comparisons among groups. At the same time, these measures should facilitate reporting to agencies that are responsible for payment and allocation of resources, eg, public health groups, insurers, and funding agencies. Selection of meaningful and targeted measures for QI should be a priority for providers, payers, and government agencies to promote the cardiovascular health of all its citizens.

Figure. The recommended Core Metrics 2015.[15]