Improving Quality of Care Through Disease Management
Principles and Recommendations From the American Heart Association’s Expert Panel on Disease Management

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Private and public policymakers and health insurance plans increasingly are examining and introducing disease management programs to help treat chronic illnesses such as cardiovascular disease and stroke. The term disease management programs typically refers to multidisciplinary efforts to improve the quality and cost-effectiveness of care for select patients with chronic illness. This trend highlights the importance of assessing the clinical and public policy implications of this phenomenon from the perspectives of patients’ best interests and quality of care.

To address the complex issues surrounding disease management, the American Heart Association (AHA) assembled a multidisciplinary Advisory Working Group on Disease Management in 2002 to offer ongoing guidance in this evolving area. The Advisory Working Group developed a working definition of disease management and established core principles for the application of disease management to cardiovascular disease and stroke, which are the subject of this report.

A. Quality of Care

The AHA is committed to improving the quality of care that is available to patients suffering from or at risk for cardiovascular disease and stroke through research, public education, advocacy, and the development and application of disease-specific, scientifically based standards and guidelines.

The importance of efforts to improve quality of care is evident from many observations and reports, including the preeminent reports from the Institute of Medicine titled To Err Is Human1 and Crossing the Quality Chasm: A New Health System for the 21st Century.2 The Quality Chasm report outlines 6 key recommendations for addressing quality healthcare delivery from a systems perspective and calls for improvements in 6 dimensions of healthcare performance. The report also provides a rationale and framework for the redesign of the United States’ healthcare system at multiple levels.2

The 6 key recommendations for improving the quality of healthcare focus on system changes and are summarized as follows: (1) The healthcare system should adopt as its explicit purpose the continual reduction of the burden of conditions for the people of the United States; (2) the healthcare system should pursue safe, effective, patient-centered, timely, efficient, and equitable health care; (3) Congress should authorize and appropriate funds for monitoring and tracking processes to evaluate health systems against these criteria; (4) the healthcare system should redesign itself, incorporating concepts such as patient empowerment, evidence-based decision making, shared knowledge, and cooperation among clinicians; (5) the Agency for Healthcare Research and Quality, in collaboration with the National Quality Forum, should convene stakeholders to develop strategies, goals, and action plans for achieving substantial improvements in quality in the next 5 years for each of 15 priority conditions; and (6) Congress should establish a Health Care Quality Innovation Fund to produce a public-domain portfolio of programs, tools, and technologies of widespread applicability. The report also calls for improvements in the following 6 dimensions of healthcare performance: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity.
B. Disease Management Trends

Disease management has emerged as a potential strategy to enhance the quality of care received by patients suffering from one or more chronic conditions, and cardiovascular diseases are the focus of many such ongoing and potential efforts. Much of the interest within the healthcare community in exploring disease management strategies has been fueled by the success in the heart failure arena and by the growing desire of public and private payers to effectively manage chronic conditions and to control their increasing costs. The interest in disease management strategies also is driven in part by the United States’ aging population, which is creating increasing demand for effective cost and quality care models.

Economic pressures and the desire to provide better-quality care have compelled private-sector employers, state governments, and federal policymakers to examine and, increasingly, to employ disease management techniques. At the federal level, the Medicare program has established several demonstration projects involving disease management that Congress authorized in recent years. These demonstration projects include the Medicare Capitated Disease Management Demonstration, the Medicare BIPA (Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000) Disease Management Demonstration, and the Medicare Coordinated Care Demonstration, all of which target patients with chronic diseases, including heart disease. In late November, 2003, Congress passed the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (H.R. 1). This is considered the most extensive reform to the Medicare program since its inception in 1965. The new law contains 3 sections that establish disease management initiatives. The first, Voluntary Chronic Care Improvement under Traditional Medicare, provides the Centers for Medicare and Medicaid Services (CMS) with the authority to contract directly with disease management companies and other qualified entities to help manage chronic illness. After an initial 3-year pilot period, CMS may begin nationwide implementation of one or more chronic care programs if the programs are deemed successful.

The Medicare Care Management Performance Demonstration requires CMS to establish a 3-year demonstration program to promote continuity of care, help stabilize medical conditions, prevent or minimize acute exacerbations of chronic conditions, and reduce adverse health outcomes, and the Demonstration Project for Consumer Directed Chronic Outpatient Services requires the Secretary to establish no fewer than 3 demonstration projects to evaluate methods that improve quality of care provided to Medicare beneficiaries with chronic conditions and that reduce expenditures that would otherwise be made under the Medicare program on behalf of individuals with such chronic conditions. Disease management may be an effective means to enhance the treatment of individuals suffering from and at risk for cardiovascular disease and stroke by increasing the quality of care, adherence to guidelines and other care protocols, and access to healthcare services. Disease management may also be an effective means to improve the efficiency of the delivery of healthcare services by maintaining or improving quality while reducing costs. There is a considerable body of clinical evidence examining the use of disease management strategies for cardiovascular disease and stroke. The AHA currently is involved in many initiatives that fall within the definition of disease management programs and support services (see discussion below).

C. Definition of Disease Management

There are numerous definitions of disease management, definitions that continue to redefine this treatment strategy. Nonetheless, disease management typically refers to multidisciplinary efforts to improve the quality and cost-effectiveness of care for selected patients suffering from chronic conditions. These programs involve interventions designed to improve adherence to scientific guidelines and treatment plans.

In recent years, a definition of disease management developed by the Disease Management Association of America (DMAA) has gained widespread acceptance and has contributed to increased standardization in the terminology related to disease management. The DMAA’s description of disease management has been used by CMS, several of the national accrediting organizations, and a number of providers and payers (Tables 1 and 2).

D. The AHA Principles of Disease Management

Disease management strategies may address any aspect of the full spectrum of prevention and treatment options for cardiovascular disease and stroke, including primary prevention, secondary prevention, and rehabilitation. Although a number
1. The main goal of disease management should be to improve the quality of care and patient outcomes. Improvements in quality of care and patient outcomes should be the primary indicator of successful disease management. Evaluations of disease management programs should not be based solely on their ability to reduce healthcare expenditures. The emphasis should be on the overall benefits derived from disease management (that is, the extent to which disease management efforts result in better quality for a given investment rather than on cost savings alone). The use of performance standards in assessing quality of care and patient outcomes is critical.

2. Scientifically derived, peer-reviewed guidelines should be the basis of all disease management programs. These guidelines should be evidence based and consensus driven. Disease management strategies should be derived when available from scientifically based guidelines, such as those written by the AHA and the American College of Cardiology. These guidelines represent consensus in the cardiovascular disease and stroke communities with regard to appropriate treatment and management of patients with cardiovascular disease and stroke. Careful attention must be given to the appropriate translation of these scientifically based guidelines into disease management practices.

3. Disease management programs should help increase adherence to treatment plans based on the best available evidence. An important focus of disease management is to encourage providers to follow evidence-based guidelines. Patients and caregivers should be given information so they better understand and adhere to recommended treatments for medications, lifestyle modifications, and self-management that will improve their health. The targets of such efforts may include a broad community of caregivers (for example, family members and community-based organizations). To be meaningful, it is essential that such treatment plans be derived from the best available clinical and scientific evidence. The evidence and resulting treatment plans should be revisited periodically to reflect evolving standards and scientific knowledge.

4. Disease management programs should include consensus-driven performance measures. Improved quality of care and outcomes for patients with cardiovascular disease and stroke should be the pivotal measurement by which the success of a disease management program is evaluated. To measure improved quality of care and outcomes, consensus-based performance measures should be used to evaluate a disease management program’s effectiveness. Standard performance measures used in evaluating disease management programs should be those measures that are developed through a broad consensus-driven process, such as the National Quality Forum initiative and other similar efforts. Ideally, the performance measures should be evidence based.

5. All disease management efforts must include ongoing and scientifically based evaluations, including clinical outcomes. Disease management programs have not traditionally undergone rigorous scientific evaluation with regard to their impact on patient outcomes. The true measure of any health intervention is whether patients are better off having received the service or care provided. This determination requires a meaningful examination of clinical outcomes. Frequent scientifically based evaluations should be included as a critical component of any disease management program, and these evaluations should facilitate ongoing refinement of the program to maximize benefit for patients. Reports of disease management programs should include an explicit description of the interventions used to improve processes and outcomes of care. Disease management programs may use one or multiple interventions to improve adherence to evidence-based recommendations. A simple yet effective approach to categorizing these interventions has been described by Weingarten et al. Interventions are divided into those targeted at providers and those at patients and then further divided into the type of interventions by type within each target group. Various interventions have been associated with improvements in provider adherence to guideline recommendations and improved patient disease control. What remains to be demonstrated is which of these interventions in which combinations are associated with the greatest relative improvements in care. Detailed descriptions of interventions are necessary to effectively evaluate disease management programs and to assist other organizations in reproducing effective programs.

6. Disease management programs should exist within an integrated and comprehensive system of care in which the patient-provider relationship is central. Disease management services should not substitute for the patient-provider relationship(s), particularly the physician-patient relationship that is critical to the delivery of effective care. Instead, a disease management program should be one of several strategies employed to support and enhance the patient-provider relationship, resulting in an overall improvement in the quality of care and coordination of care delivered to patients with cardiovascular disease and stroke.

7. To ensure optimal patient outcomes, disease management programs should address the complexities of medical comorbidities. Many disease management pro-

### TABLE 2. Alternative Definition of Disease Management

| Identifying and proactively monitoring high-risk populations, |
| Helping patients and providers adhere to treatment plans that are based on proven interventions, |
| Promoting provider coordination, |
| Increasing patient education, and |
| Preventing avoidable medical complications. |

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programs are designed to treat single disease states. Some are designed to treat 2 disease states, and few are designed to treat more than 2, which is a limitation. A large proportion of patients with chronic disease suffer from multiple comorbidities, and some of the greatest challenges in caring for these patients involve the complex interactions of these comorbidities. Disease management programs and guideline committees should develop algorithms and management strategies to fully address patients with comorbidities.

8. Disease management programs should be developed for all populations and should particularly address members of the underserved or vulnerable populations. Currently, most disease management programs arise under employer-based private health plans. Although a number of states have begun implementing disease management approaches within their Medicaid programs, in general, most disease management programs serve an employed, insured, and healthier population. The selection of the population is an important element in determining the outcome of a program. Disease management programs should be developed to broadly assess all populations as well as incorporate or specifically address the unique challenges of the underserved and vulnerable populations. Disease management programs should have explicitly defined patient populations so that the results seen in one setting can be replicated (or not) in other settings. Health-care disparities in the delivery of disease management programs should be eliminated.

9. Organizations involved in disease management should scrupulously address potential conflicts of interest. Organizations that provide disease management services should act in the best interest of the patient and avoid conflicts of interest. The primary goal of disease management organizations should be to improve patient outcomes. Efforts to achieve secondary goals, such as product marketing or product sales, should not adversely affect the primary goal of improving patient outcomes. To the extent any conflict of interest arises that may compromise the primary goal of improving patient outcomes, it should not be pursued.

Although disease management shows considerable promise, significant additional attention is needed in testing and demonstrating best practices and sharing information on successful components across a variety of care settings within this evolving area. This is a particularly important challenge for cardiovascular disease and stroke, the leading causes of death, disability, and healthcare costs in the United States today. In addition to considerable need in this area, cardiovascular disease and stroke are, conceptually, particularly amenable to disease management. We are fortunate to have an extremely robust evidence base and guideline set on which to base these programs. Furthermore, the AHA has experience in and commitment to the type of outcome evaluations that will be required. Additional future challenges involve the design of coverage and reimbursement policies and the integration of disease management programs into comprehensive systems of care under both public and private health plans. In developing such policies, the Institute of Medicine’s report, Crossing the Quality Chasm: A New Health System for the 21st Century, provides an important touchstone.

References

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