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AHA/ACC/AGS SCIENTIFIC STATEMENT

Knowledge Gaps in Cardiovascular Care of the Older Adult Population

A Scientific Statement From the American Heart Association, American College of Cardiology, and American Geriatrics Society

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ABSTRACT

The incidence and prevalence of most cardiovascular disorders increase with age, and cardiovascular disease is the leading cause of death and major disability in adults ≥75 years of age; however, despite the large impact of cardiovascular disease on quality of life, morbidity, and mortality in older adults, patients aged ≥75 years have been markedly underrepresented in most major cardiovascular trials, and virtually all trials have excluded older patients with complex comorbidities, significant physical or cognitive disabilities, frailty, or residence in a nursing home or assisted living facility. As a result, current guidelines are unable to provide evidence-based recommendations for diagnosis and treatment of older patients typical of those encountered in routine clinical practice. The objectives of this scientific statement are to summarize current guideline recommendations as they apply to older adults, identify critical gaps in knowledge that preclude informed evidence-based decision making, and recommend future research to close existing knowledge gaps. To achieve these objectives, we conducted a detailed review of current American College of Cardiology/American Heart Association and American Stroke Association guidelines to identify content and recommendations that explicitly targeted older patients. We found that there is a pervasive lack of evidence to guide clinical decision making in older patients with cardiovascular disease, as well as a paucity of data on the impact of diagnostic and therapeutic interventions on key outcomes that are particularly important to older patients, such as quality of life, physical function, and maintenance of independence. Accordingly, there is a critical need for a multitude of large population-based studies and clinical trials that include a broad spectrum of older patients representative of those seen in clinical practice and that incorporate relevant outcomes important to older patients in the study design. The results of these studies will provide the foundation for future evidence-based guidelines applicable to older patients, thereby enhancing patient-centered evidence-based care of older people with cardiovascular disease in the United States and around the world. (J Am Coll Cardiol 2016;67:2419–40)

The American Heart Association, the American College of Cardiology, and the American Geriatrics Society make every effort to avoid any actual or potential conflicts of interest that may arise as a result of an outside relationship or a personal, professional, or business interest of a member of the writing panel. Specifically, all members of the writing group are required to complete and submit a Disclosure Questionnaire showing all such relationships that might be perceived as real or potential conflicts of interest.

The prevalence of cardiovascular disease (CVD) increases progressively with age, and people ≥65 years of age account for more than half of all cardiovascular hospitalizations and procedures in the United States, as well as ≈80% of all cardiovascular deaths (1). Although people ≥75 years old account for only ≈6% of the total population, >50% of cardiovascular deaths occur in this age group (1). Indeed, cancer is the leading cause of death among U.S. adults 18 to 74 years of age, and it is only after age 75 years that CVD becomes the dominant cause of mortality (1,2). The global burden of CVD is increasing, primarily because of the aging of the population, and men and women ≥80 years of age account for a disproportionate number of cardiovascular deaths (3). CVD is also a major cause of chronic disability, loss of independence, and impaired quality of life among older people (4,5). Despite the high prevalence, morbidity, and mortality of CVD in older adults, most randomized clinical trials have either explicitly excluded older adults or have enrolled only relatively healthy older patients with few comorbidities or functional impairments (6,7). As a result, the generalizability of the results of most major clinical trials to older patients, especially those >75 years of age with multimorbidity, is uncertain (6,8). Moreover, because of age-related changes in cardiovascular structure and function (9,10), coupled with changes in other organ systems, including the kidneys, liver, skeletal muscle, and brain, older patients are at increased risk for complications related to pharmacological and nonpharmacological interventions. It therefore should not be assumed that outcomes reported in clinical trials involving younger and healthier patients are applicable to older adults who have fundamental alterations in risks and potential benefits of diagnostic, therapeutic, and preventive interventions. Furthermore, few clinical trials have assessed outcomes important to older adults, such as quality of life, maintenance of independence, and physical and cognitive function (8). Current evidence-based practice guidelines suffer inherent gaps in providing recommendations for managing older adults with CVD, the majority of whom would not have been eligible for participation in most of the major clinical trials. The objectives of this American Heart Association (AHA) scientific statement are to summarize current guideline recommendations as they apply to older adults, identify critical gaps in knowledge that preclude informed decision making, and recommend future research to close existing knowledge gaps, thereby leading to enhanced care and outcomes for the expanding population of older adults with cardiovascular disorders.

METHODS

Current American College of Cardiology (ACC)/AHA and American Stroke Association (ASA) practice guidelines (Appendix) relevant to older adults were reviewed by at least 2 members of the writing committee. Content and recommendations that explicitly focused on older patients were identified and summarized. Pertinent gaps in knowledge that limited the applicability of guideline recommendations to older adults, especially those >75 years of age and those with multimorbidity or other complexities of care (e.g., cognitive impairment, nursing home residence), were identified, and specific research recommendations for overcoming these knowledge gaps were proposed. The initial draft of the manuscript was reviewed by all members of the writing committee to identify additional knowledge gaps and research needs. The manuscript was subsequently reviewed by 16 content experts representing the ACC, AHA, and American Geriatrics Society. All comments and suggestions were addressed, and the revised manuscript was reviewed and approved by all members of the writing group before submission for publication.

KNOWLEDGE GAPS ACROSS GUIDELINES

Several common themes pertaining to knowledge gaps extend across most of the ACC/AHA and ASA guidelines.

This document was approved by the American Heart Association Science Advisory and Coordinating Committee on July 27, 2015, and the American Heart Association Executive Committee on September 8, 2015, by the American College of Cardiology Board of Trustees and Executive Committee in June 2015, and by the American Geriatrics Society in May 2015.

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