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COUNCIL PERSPECTIVES

What to Expect From the Evolving Field of Geriatric Cardiology

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ABSTRACT

The population of older adults is expanding rapidly, and aging predisposes to cardiovascular disease. The principle of patient-centered care must respond to the preponderance of cardiac disease that now occurs in combination with the complexities of old age. Geriatric cardiology melds cardiovascular perspectives with multimorbidity, polypharmacy, frailty, cognitive decline, and other clinical, social, financial, and psychological dimensions of aging. Although some assume that a cardiologist may instinctively cultivate some of these skills over the course of a career, we assert that the volume and complexity of older cardiovascular patients in contemporary practice warrants a more direct approach to achieve suitable training and a more reliable process of care. We present a rationale and vision for geriatric cardiology as a melding of primary cardiovascular and geriatrics skills, thereby infusing cardiology practice with expanded proficiencies in diagnosis, risks, care coordination, communications, end-of-life, and other competences required to best manage older cardiovascular patients. (J Am Coll Cardiol 2015;66:1286–99) © 2015 by the American College of Cardiology Foundation.

"Education is the best provision for the journey to old age."

—Aristotle (1)

Geriatric cardiology is the practice of cardiovascular (CV) medicine that is adapted to the needs of older adults. To some degree, all cardiologists know this, recognize this, and in varying capacities, practice this. It has thus far largely been a self-taught evolution of skills and style, and usually applied as a means to incorporate thoughtful consideration of age, comorbidities, and patients' wishes in relation to current evidence and guidelines, but with the understanding that, in most cases, there

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are no data-driven standards by which to guide care for this vulnerable population. We are compelled, however, to ask, "Is this enough?"

The cardiology community historically embraces advances in technology, changes in demographics, and national demands for quality reform, all of which stimulate changes and growth in the field. With the development and refinement of cardiac transplantation and advanced cardiac device therapy, the subspecialty of Advanced Heart Failure and Transplant Cardiology was created to enhance the delivery of care for patients in this broad domain. With the growing procedural therapeutic options for cardiac arrhythmias, the subspecialty of Clinical Cardiac Electrophysiology was developed by the CV community to standardize the skills and competencies needed to serve this patient subset. Now, in 2015, there is mounting momentum for yet another period of growth and expansion.

The rationale for geriatric cardiology is propelled in large part by shifting demographics combined with an expanding diagnostic and therapeutic armamentarium. The shift, quite likely a result of advancements in medical care and technology for communicable and noncommunicable diseases, primary and secondary prevention, and scientific discoveries related to disease and improvements in sanitation, has led to a situation in which the dominating CV patient group has outlived current data-driven recommendations. Average life expectancy has increased 30 years since 1900 (2); although <3 million U.S. adults were age 65 years and over in 1900, they will comprise 19% of the population by 2030, including 19 million adults over the age of 85 years. The growth of the age 85+ years group is particularly striking; it is projected to double from its current size by 2036 and triple by 2049 (3).

The magnitude of these demographics is dramatic. For a provider with few older patients it may seem sufficient to rely on a self-taught idiosyncratic geriatric cardiology approach when needed. But, as the percentage of older adults, who are inherently vulnerable to coronary heart disease (CHD), heart failure (HF), atrial fibrillation, hypertension, valvular heart disease, pulmonary hypertension, and other cardiovascular disease (CVD) continues to expand across all dimensions of our specialty, it begs the question of whether current practice standards and guidelines are sufficient to accommodate this burgeoning demographic and whether we are using our resources appropriately and efficiently to serve this complex population.

Aging itself creates distinctive dimensions to CVD management, as both absolute risk reduction and the potential for harm from treatment increase with advancing age. As the percentage of older adults grows to represent a larger proportion of practice patients, the time spent contemplating complex management issues without data-driven answers will inevitably increase and further limit already time-constrained schedules (e.g., which 85-year-old patient with atrial fibrillation should be anticoagulated, when is frailty prohibitive of transcatheter aortic valve replacement [TAVR], and when does dementia preclude percutaneous coronary intervention [PCI]?). The effect of these management decisions will have increasingly measureable implications for hospitals and accountable care organizations (ACOs), whose focus on improving quality metrics will expand in this era of cost containment. From a cost perspective, the consequences are significant—despite representing only 13% of the population in 2010, older adults accounted for 34% of the national health expenditure (4). These costs are increasing rapidly as the older population continues to enlarge (5). Compounding these burdens is that older patients have not only considerable clinical needs, but psychological and social needs too. Many anticipate that the aging baby boomers will demand greater health care resources than the archetypes of older adults who preceded them as a result of their increased engagement and assertiveness in a more consumer-driven health care model, adding to complexity and costs (6). To fulfill that need, we see the mandate to integrate principles of geriatrics with those of cardiology, and to formalize geriatric cardiology as a manifestation of "patient-centered" care for older adults who now constitute our dominant patient group. Although the concept is still in evolution and lacks a full armamentarium of precise tools and skillsets to define the field, the practice of geriatric cardiology is developing toward a distinctive subspecialty with specific skills and services to further advance the care of older patients (**Central Illustration**).

ABBREVIATIONS AND ACRONYMS

ACO = accountable care organization

CHD = coronary heart disease

CV = cardiovascular

CVD = cardiovascular disease

HF = heart failure

PCI = percutaneous coronary intervention

SNF = skilled nursing facility

TAVR = transcatheter aortic valve replacement

CASE STUDY: A GERIATRIC CARDIOLOGY PATIENT

An 81-year-old man presents with shortness of breath, difficulty performing his activities of daily living, and several episodes of substernal chest heaviness at rest. He is accompanied by his daughter. He was diagnosed with CHD many years ago in the setting of worsening angina, and was treated with a drug-eluting stent to a proximal left anterior descending artery stenosis. His medical history is