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What Can Geriatrics Teach Cardiology?

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Introduction

Advances in cardiovascular science and therapeutics have spurred great improvements in the lives of older adults. For example, treatment of hypertension has reduced the incidence of heart failure, acute myocardial infarction, and stroke.^{1,2} Medical therapy for coronary artery disease, atrial fibrillation, and heart failure has extended life and lowered hospitalizations.^{3–5} And transcatheter and surgical interventions have reduced mortality and improved quality of life.^{6,7}

What additional opportunities exist to improve care for older adults with cardiovascular disease? Certainly, novel therapies for specific cardiovascular conditions including heart failure, vascular disease, and valvular heart disease will continue to be developed and advance outcomes. A key challenge, however, will be to employ these treatments in a way that maximizes benefit while minimizing harm. To do so, treatment will need to be guided by holistic perspectives that prioritize outcomes most important to older patients. Providers will also need to recognize older patients' multiple sources of vulnerability, many of which are unrelated to cardiovascular disease and unlikely to benefit from cardiovascular interventions.

A role for geriatrics

Fortunately, geriatricians have long espoused this multidimensional approach to caring for older adults and can serve as examples for cardiovascular specialists. Some early

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Compliance with Ethics Guidelines

Conflict of Interest

Dr. Dharmarajan works under contract with the Centers for Medicare & Medicaid Services to develop and maintain performance measures and is a consultant for and member of a scientific advisory board for Clover Health.

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Human and Animal Rights and Informed Consent

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contributions from geriatrics to cardiology include routine pre-procedural assessment for frailty prior to aortic valve replacement. Frailty is a state of reduced physiologic reserve and increased vulnerability to stress that can be identified by the presence of low grip strength, low energy, slowed waking speed, low physical activity, and unintentional weight loss. The presence of frailty significantly increases post-procedural risk and may limit opportunities for recovery.^{8,9} Geriatric perspectives have also illuminated the frequent coexistence of cardiovascular disease with multiple chronic conditions.¹⁰ Multimorbidity can impact prognosis, complicate management, and change priorities for cardiovascular care.¹¹

Yet insights from geriatric medicine go well beyond considerations of frailty and multimorbidity, and suggest the importance of the following:

1. Focus on universal health outcomes that cross disease-specific boundaries. While many cardiovascular interventions aim to reduce major adverse cardiovascular events such as hospitalizations and death from cardiovascular causes, patients rarely focus on adverse outcomes related to specific conditions. Rather, patients are primarily concerned with avoiding hospitalization or death for any reason and improving health-related quality of life in general. Older adults are also often interested in maximizing function to retain independence, maintaining mobility, and minimizing burden from treatment.¹²
2. Engage patients in shared decision-making. Shared decision-making is a collaborative process that incorporates the best available clinical evidence as well as patients' values and preferences. This process involves more than education or the simple transfer of information. When done well, shared decision-making can help patients and providers better understand if specific treatment options truly align with goals of care.
3. Deliver care using multidisciplinary teams. Teams with diverse areas of expertise can help mitigate multiple sources of vulnerability commonly experienced by older patients. These sources of risk include chronic medical conditions, geriatric syndromes including cognitive impairment and frailty, functional impairments, various disabilities, polypharmacy, and social factors. For this reason, it is important to involve providers from multiple disciplines including nursing, physical therapy, occupational therapy, nutrition, social work, and pharmacy, who can in tandem help design holistic treatment plans. Ultimately, health care teams should also include patients' caregivers, who are often critical partners in formulating and implementing plans to monitor and treat chronic conditions.
4. De-escalate care wherever possible. Older patients with cardiovascular disease regularly take multiple medications and frequently undergo multiple procedural interventions. This high intensity of treatment increases the risk for adverse outcomes from drug-drug, drug-disease, and procedural complications. It is therefore prudent to assess and regularly reassess if specific treatments can be stopped. This task may be particularly difficult for cardiovascular specialists, who are often penalized for perceived omissions in treatment with respect to disease-specific guidelines. The reality, however, is that evidence for high intensity care in older adults is sparse,^{13,14} and treatment guidelines are

frequently in conflict with one another.¹⁵ Treatment de-escalation may be particularly beneficial for older patients with advanced illness.¹⁶

5. Prioritize non-pharmacologic interventions, including exercise. In contrast with medical therapies, non-pharmacologic interventions rarely have significant side effects. Physical activity and exercise, in particular, can not only improve prognosis from cardiovascular disease but can also enhance exercise capacity, mobility, and mood.^{17–19}

Next steps

By what path will geriatrics principles be integrated into routine cardiovascular care? Education will be critical. Medical schools, residency programs, and clinical fellowships will need to make training in geriatric medicine a priority. Young physicians must believe that concepts from geriatrics have relevance across medical and surgical subspecialties, not just geriatric primary care and consultation. It will be especially important that Core Cardiovascular Training Statements (COCATS) from the American College of Cardiology include input from a dedicated Task Force of geriatric cardiologists, just as guidance is currently solicited from subspecialists in adult congenital cardiology.²⁰ In addition, it will be crucial for quality metrics and financial incentives to pivot from disease-specific guidelines towards whole-person care. In support of this perspective, the United States Centers for Medicare & Medicaid Services are already shifting payment models towards value-based frameworks, using patient-reported outcomes in quality assessment, and requiring documentation of shared decision-making prior to reimbursing specific diagnostic tests and treatments.^{21–23}

Conclusion

Cardiovascular specialists routinely care for older adults. As a result, they have tremendous opportunity to improve the lives of patients by integrating the best of geriatric medicine into everyday practice. While this process has already begun, it must continue and accelerate to build on these early experiences and maximize gains for our older adults with cardiovascular disease.

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