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Training Geriatric Cardiologists for an Aging Population: Time to Get Going

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Our society is aging—20% of the US population will be aged more than 65 years by 2030, and the number of the “oldest old,” those aged more than 85 years, will triple by 2050. Cardiovascular disease prevalence increases exponentially with age, and direct costs for cardiovascular care in the United States will exceed \$800 billion by 2030. The American Heart Association encourages evidence-based guidelines and performance measures to limit the societal burden of cardiovascular disease.¹ A landmark Institute of Medicine report advocates care that is “respectful of and responsive to individual patient preferences, needs, and values.”² Unfortunately, large knowledge gaps hinder the delivery of such patient-centered, evidence-based cardiovascular care in the older adult population.³

Many cardiovascular clinical trials exclude the elderly or enroll small numbers of relatively healthy older patients; those with frailty, multiple chronic conditions, and cognitive impairment are particularly underrepresented.⁴ Most trials focus on mortality and cardiovascular morbidity; relatively few assess patient-centered outcomes relevant to older patients, such as quality of life, physical function, and maintenance of independence. Compounding these concerns, cardiovascular medicine fellows-in-training typically receive minimal education in these so-called geriatric domains.⁵

Moreover, training programs often provide little practical instruction in the scientific, regulatory, and financial aspects of clinical research.⁶ Fewer investigators are pursuing careers in cardiovascular science, a shortfall due to decreases in research resources and opportunities for fellows-in-training.⁷ One particularly important gap is lack of participation in interdisciplinary clinical research programs, a high-priority area for funding agencies that is directly relevant to an aging population.⁸ This status quo will eventually worsen the disconnect between new therapeutic strategies and their evidence-based implementation in elderly patients with cardiovascular disease.

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The Alliance for Academic Internal Medicine and the Association of Specialty Professors jointly sponsor an initiative to improve subspecialty trainee education in geriatric principles. With funding from Alliance for Academic Internal Medicine/Association of Specialty Professors, the American College of Cardiology's Geriatric Cardiology Section is conducting the *Get Going* trial (NCT02635477), a fellows-in-training–led, multicenter randomized clinical trial in the United States and Canada. The study will test the hypothesis that a patient-centered accelerometer-based step counter intervention will increase physical activity in frail older adults during the first 30 days after discharge from cardiovascular hospitalization. Participants will receive a commercially available accelerometer-based step counter bracelet and be randomized to the intervention or control group. Control bracelets will track steps in the background but only display the time, and intervention bracelets will display step count goals that adapt to the patient's daily activity level and provide audio cues to walk after prolonged inactivity. The primary outcome of the *Get Going* trial is average daily step count at 30 days postdischarge.

Under the mentorship of a senior investigator at each site, fellows-in-training will direct all facets of the study, including regulatory submissions, patient recruitment, informed consent, randomization, and data collection. In addition to traditional roles in data analysis, abstract presentation, and article preparation, fellows-in-training will develop ancillary proposals and participate in steering committee and data and safety monitoring board meetings. Fellows-in-training also will gain mentored experience in the geriatric assessment of several important domains. At patient enrollment, fellows-in-training will perform a bedside frailty assessment and cognitive screen. Secondary study outcomes include quality of life (EQ-5D index) and functional testing (Short Physical Performance Battery, a physical frailty measure). These tests are easy to learn and rapidly performed, yet powerfully predict mortality and hospitalization in older adults.^{9–12}

A recent editorial outlined the pathway to clinical cardiovascular research success as a trainee: “ask a clinically important and novel question, find a mentor, [and] find collaborators, [either] locally or through networking.”¹³ The novel study design of *Get Going* should foster enduring local, national, and international mentorship and collaboration, as well as introduce the unique expertise required for successful research in geriatric cardiology. The fellows-in-training–led structure provides several advantages: an efficient, cost-sensitive study design to provide valuable new data, hands-on research experience for fellows-in-training under the guidance of local experts, and participation in a network of like-minded peers and senior investigators. In addition to serving as a platform for future publicly funded or industry-initiated cardiovascular clinical trials in older adults, the resulting Geriatric Cardiology Research Network will provide a vital opportunity to cultivate future leaders in the field.

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References

1. Heidenreich PA, Trogdon JG, Khavjou OA, et al. Forecasting the future of cardiovascular disease in the United States: a policy statement from the American Heart Association. *Circulation*. 2011; 123:933–944. [PubMed: 21262990]
2. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academies Press; 2001.
3. Rich MW, Chyun DA, Skolnick AH, et al. 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. *J Am Coll Cardiol*. 2016; 67:2419–2440. [PubMed: 27079335]
4. Gurwitz JH. The exclusion of older people from participation in cardiovascular trials. *Virtual Mentor*. 2014; 16:365–368. [PubMed: 24847706]
5. Goldwater DS. Geriatric cardiology: a fellow's perspective. *J Am Coll Cardiol*. 2014; 64:1401–1403. [PubMed: 25257643]
6. Lala A, Mentz RJ. A call for collaboration: the evolving heart failure apprenticeship network. *J Am Coll Cardiol*. 2015; 65:2348–2351. [PubMed: 26022825]
7. O'Connor CM. Are we committed to training fellows in clinical investigation? *J Am Coll Cardiol*. 2015; 66:326–327. [PubMed: 26397006]
8. Clark AM, Narine KA, Hsu ZY, et al. Preparing today's cardiovascular trainees to meet the challenges of tomorrow: team research and interdisciplinary training. *Can J Cardiol*. 2014; 30:683–686. [PubMed: 24882543]
9. Cavrini G, Broccoli S, Puccini A, Zoli M. EQ-5D as a predictor of mortality and hospitalization in elderly people. *Qual Life Res*. 2012; 21:269–280. [PubMed: 21656336]
10. Volpato S, Cavalieri M, Sioulis F, et al. Predictive value of the short physical performance battery following hospitalization in older patients. *J Gerontol A Biol Sci Med Sci*. 2011; 66A:89–96.
11. Kahlon S, Pederson J, Majumdar SR, et al. Association between frailty and 30-day outcomes after discharge from hospital. *CMAJ*. 2015; 187:799–804. [PubMed: 26009583]
12. Patel A, Parikh R, Howell EH, et al. Mini-Cog performance: novel marker of post discharge risk among patients hospitalized for heart failure. *Circ Heart Fail*. 2015; 8:8–16. [PubMed: 25477431]
13. Liu Y, Dai X. Fellow-initiated clinical trials: opportunities, challenges, and strategies. *J Am Coll Cardiol*. 2015; 66:324–326. [PubMed: 26184625]