

EDITORIAL COMMENT

Disparities in Cardio-Oncology Care Among Patients With Prostate Cancer*



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Patients with prostate cancer (PC) are more likely to die from noncancer causes such as cardiovascular disease (CVD) than from PC¹ because of high cure rates for patients with localized disease, long survival for those with metastatic disease, and often a high prevalence of cardiovascular comorbidities.² Additionally, subsets of patients with PC receiving androgen deprivation therapy (ADT) agents such as gonadotropin-releasing hormone agonists may be at increased risk of CVD given the potential negative cardiovascular effects of these treatments.^{1,3} Critically, inequities in incidence, access to care, and outcomes for PC⁴ and CVD⁵ persist in the United States and globally; indeed, racial disparities along the continuum of PC are among the greatest within all of oncology.⁶ Therefore, as the field of cardio-oncology continues to grow, matching the growing population of cancer survivors and their dynamic needs, studying disparities and promoting equity at the crossroads of cardiology and oncology are of the utmost importance.⁷

In this issue of *JACC: CardioOncology*, in a study by Demissei et al,⁸ the investigators use a single-institution cohort of patients with PC treated with ADT to explore predictors of major acute cardiac

events (MACEs). In addition to cardiovascular risk factors and CVD history, the authors included the social vulnerability index (SVI), a composite measure that aims to quantify social determinants of health. The authors used mediation analysis to examine whether racial disparities in MACEs were mediated by SVI, quantifying the total effect of race in terms of the direct race effect and the SVI-mediated effect.

The authors found that in their large, diverse cohort (30.4% of whom self-identify as Black), pre-existing CVD and risk factors were more prevalent among Black patients. After ADT, the unadjusted incidence of MACEs was higher among Black patients, including greater hazard of heart failure, peripheral artery disease, and cerebrovascular disease. Black patients also had greater social vulnerability overall. Analysis finds that SVI mediated 81% of the relationship between cardiac events and race; in the subtheme analysis, socioeconomic status was found to have the greatest effect, accounting for 98% of the relationship. Additionally, the authors found no racial disparities in PC-specific mortality.

The authors acknowledge the study's limitations as retrospective and based on single-institution data; therefore, causal associations cannot be concluded. The study was also conducted at a high-output center, potentially limiting generalizability to settings where disparities may be even greater. The authors also acknowledge the need to study disparities in non-Black racial and ethnic groups, among whom PC disparities also persist.^{9,10} The paper's strengths are evident, including detailed clinical data, appropriate mediator analysis, and balanced interpretation.

The work of Demissei et al⁸ sheds light on racial disparities in cardio-oncology, paralleling earlier work among patients with breast cancer.¹¹ This study's key contribution is the finding that aspects of social determinants of health appear to mediate the majority of CVD disparities, echoing findings that

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The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the [Author Center](#).

explored cancer-specific mortality.¹² The data support the argument that disparities by race are not inevitable but can be mitigated if we address socioeconomic factors. This research is vital to help inform future interventions aimed at mitigating disparities in survivorship outcomes, underscoring that upstream policy efforts to address elements like structural racism are essential investments in population outcomes.¹³

Dess et al¹² recently showed that although racial disparities in PC are often thought of as among the most important in oncology,⁶ equal access to treatment may mitigate disparities in PC-specific mortality. In the metastatic setting, disparities in PC outcomes may even be reversed if patients have equal access to care, as has been shown among patients on clinical trials including docetaxel.¹⁴ Even with the limitations of a single-institution retrospective cohort, the present study builds on prior work in cardio-oncology;¹⁵ these findings suggest that disparities are not static and are amenable to leveraging social determinants of health in promoting health equity, even in subspecialized care.

In light of the work of Demissei et al,⁸ what then are the next steps forward?

- As the field of cardio-oncology continues to expand, high-quality disparities research is critical. How disparate risk factors, access to services, structural barriers, and representation in clinical research perpetuate disparities should be explored further⁷ in the unique contexts of myriad cancer treatments and their cardiac sequelae.¹⁶ This work must be intersectional in nature, exploring the ways in which social determinants of health affect patients from the perspective of both cancer and CVD. This work needs to be multidisciplinary in scope, including perspectives of patient advocates, cardiologists, medical oncologists, radiation oncologists, and surgeons and also health policy experts, sociologists, and behavioral scientists. Clinical trials and other research must be inclusive both in terms of the patients they include and the data they collect, going beyond cancer-specific metrics into the survivorship world and focus on outcomes that matter to patients.¹⁷
- Health equity research in cardio-oncology must be immediately translated into action using an implementation science framework.⁷ Health systems should facilitate access to cardio-oncology care, particularly for vulnerable patients; strategies may include collecting social determinants of health at the time of intake in the clinical

encounter,¹⁸ using patient-centric technologies that track medication adherence, leveraging physician reminders, and promoting patient education, which have shown success in the management of hypertension.^{7,19} Artificial intelligence-driven screening tools may help to prompt clinicians about patients who may be at increased risk of cardiovascular complications,²⁰ although care must be taken to ensure new technologies do not exacerbate disparities.^{21,22} Such changes should involve not just clinicians but also patients, their advocates, and their communities from the onset.⁷ Efforts are needed at the systemic level to facilitate accessible and affordable cardio-oncology care outside of large academic centers.²³ Survivorship clinics must also be equipped to provide cardio-oncology care or have easy access to referrals.⁷ Internal audits of patterns of specialty referrals may prove insightful for many systems; improving access via telemedicine may serve as a productive early step.⁷

- Research and clinical care should simultaneously extend beyond siloed subspecialties. For example, the role of primary care and preventive care cannot be overstated; disparities in cardio-oncology often follow pre-existing disparities in CVD history and risk factors as well as disparities in social determinants of health.⁵ Disparities research and interventions must also explore global health-related quality of life.²⁴ Efforts to promote equity must also be intersectional in scope, examining not just individuals minoritized on lines of race but also those who are vulnerable in the setting of intersecting aspects of their identities.²⁵ The political determinants of health, at the level of the hospital but also at the national level, must also be incorporated.²⁶
- Call for workforce diversification. Given the data showing a positive association of patient-provider concordance on health outcomes,²⁷ there is a critical need to train clinicians from diverse backgrounds to help mitigate disparities. Increasing diversity among the workforce would enhance our ability to better recognize and devise solutions to socioeconomic barriers.

The contribution of Demissei et al⁸ makes clear the importance of addressing social determinants of health in the promotion of equitable cardio-oncology care. Their work is more evidence underscoring that to target cardiovascular, oncologic, or cardio-oncologic disparities, social forces must be targeted; indeed, whole-person care including mitigating risk

factors for CVD upstream of cancer diagnosis is critical. These findings should serve as a call to center the promotion of health equity in the growing field of cardio-oncology.

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