We would like to respond to some important issues raised by Albain et al. (1) in the Journal. The authors’ inclusion of area-level income and education in their analyses appears to be an improvement over past racial disparity studies in cancer research, but the number of faulty assumptions regarding the relationship between race and socioeconomic status raises many alarms and ultimately leads to invalid conclusions.

The authors specified that they controlled for socioeconomic status by constructing high and low categories on the basis of zip code area income and education data. This type of adjustment, within the context of uncovering racial disparities, is
insufficient and is likely to result in substantial residual confounding (2). Furthermore, lower rates of enrollment in cancer clinical trials for African American patients and patients of lower socioeconomic status have been described (3), and this low participation rate casts doubt as to whether these data are truly representative of African American patients not enrolled in cancer clinical trials. We appreciate the care with which Albain et al. acknowledged the inherent limitations of differential prognostic factors, comorbidities, and protocol adherence. However, they presume that between 1974 and 2001, patients would be treated identically, their diagnosis at time of presentation was at similar stage, and even that those who were classified as African American in 1974 would have been so classified in 2001. Considering that 27%--79% (depending on cancer type) of the patients included in the analysis before the late 1980s were coded as having missing socioeconomic status data, the claim that Albain et al. controlled for socioeconomic status is especially concerning.

Sex-specific malignancies have substantial hormonal influences, and the endocrine system may be especially sensitive to ambient exposures and chronic stress, both of which are affected substantially by residential and sociological experiences that neither aggregate income nor education level capture. By concluding that the aggressiveness of particular tumors are hereditary and differ by race, the authors confute an unstable American taxonomic system with something biologically meaningful (4).

Solving the puzzle of differential survival outcomes by race requires that differential ambient exposures, life experiences, and clinical treatment over multiple generations be analyzed with as much care as all other factors. As the authors did not control for these important factors, their use of race as a reliable proxy for human variation presents serious impediments to accurate interpretation. Isolating the exact mechanisms that proportion survival outcomes is an important scientific concern. However, concluding that “unrecognized interactions of tumor biological, hormonal, and/or inherited host factors must be contributing to differential survival outcomes by race . . . ” without adequately controlling for socioeconomic status confounding or taking account of the fallacies of ethnорacial classification occludes rather than clarifies these important issues.

Other studies have found statistically significant reduction in racial disparities after controlling for socioeconomic status and other clinical factors. These studies emphasize the importance of investigating the role of disparities in quality of prevention, screening, and care on persistent inequities in outcome rather than presuming racial differences are genetic (5,6).

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References

Notes
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