

Racial Disparities in Breast Cancer Mortality—Response

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Edwards-Bennett raises an interesting issue about the need to include disparities in utilization of adjuvant breast cancer radiation therapy (RT) in models to explain differences in mortality by race. In our study, we found that differences in natural history, adjuvant systemic therapy use, and use of screening all contributed to the breast cancer mortality disparity between black and white women in the United States. However, we also found that a substantial part of the mortality disparity remains unexplained (1). Edwards-Bennett suggests that the use of adjuvant RT differs between black and white women in the United States and might explain a part of the unexplained mortality disparity.

We agree with Edwards-Bennett that some research suggests that the use of RT after breast-conserving surgery (BCS) is lower among black women than among white women. For example, Freedman and colleagues found that black women had higher rates of BCS without RT than white women (18.0% vs. 13.9%; ref. 2). However, there are also some studies on the use of RT in National Comprehensive Cancer Network (NCCN) centers that have not found differences by race (3).

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References

1. van Ravesteyn NT, Schechter CB, Near AM, Heijnsdijk EA, Stoto MA, Draisma G, et al. Race-specific impact of natural history, mammography screening, and adjuvant treatment on breast cancer mortality rates in the United States. *Cancer Epidemiol Biomarkers Prev* 2011;20:112–22.
2. Freedman RA, He Y, Winer EP, Keating NL. Trends in racial and age disparities in definitive local therapy of early-stage breast cancer. *J Clin Oncol* 2009;27:713–9.
3. Buchholz TA, Theriault RL, Niland JC, Hughes ME, Ottesen R, Edge SB, et al. The use of radiation as a component of breast conservation

therapy in National Comprehensive Cancer Network centers. *J Clin Oncol* 2006;24:361–9.

4. Bickell NA, Chassin MR. Determining the quality of breast cancer care: do tumor registries measure up? *Ann Intern Med* 2000;132:705–10.
5. Clarke M, Collins R, Darby S, Davies C, Elphinstone P, Evans E, et al. Effects of radiotherapy and of differences in the extent of surgery for early breast cancer on local recurrence and 15-year survival: an overview of the randomised trials. *Lancet* 2005;366:2087–106.

We tried to include all relevant factors in our simulation models on the basis of the availability of sufficiently detailed reliable and valid data on their frequency of occurrence in the United States and their effect on breast cancer survival by race, age, stage, and calendar year. Data on the utilization of adjuvant therapy are limited. For example, Bickell and Chassin found that tumor registries accurately reported cancer stage and type of surgical procedure but not utilization of adjuvant systemic and RT (4). For adjuvant systemic therapy, we used data from Patterns of Care in combination with data from NCCN centers to estimate its use. However, we felt that for the use of adjuvant RT, sufficient high-quality data were simply not available to include this factor in the models.

Also, although the addition of RT to BCS has been found to reduce breast cancer mortality, its effect is limited (an absolute reduction of 5%; ref. 5). Therefore, the impact on the mortality disparity of differential use of RT is likely to be small.

In sum, we agree that differential use of RT might explain a part of the mortality disparity and eagerly await detailed information on its use so that we can include it in our models. However, we think it is unlikely that the difference in use of RT between black and white women accounts for a large portion of the remaining unexplained part (i.e., 38%–46% of the total mortality disparity).

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

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