Racial disparities in breast cancer mortality among African American women is an issue that has been well documented over the past 40 years. While early studies largely attributed poor survival in this group to low socioeconomic status, cumulative evidence suggests that ethnic disparities in breast cancer survival are influenced by multiple factors existing along a continuum—from breast cancer prevention to posttreatment surveillance (1).

This topic was featured on CNN’s “Black in America” series over a decade ago, which reported on the propensity of African American women to develop biologically aggressive breast cancer associated with poor prognosis. The series helped highlight breast cancer mortality disparities as a public health issue for the general public, while also increasing awareness about breast cancer risk among the African American community.

Currently, African American women are 42% more likely to die of breast cancer than White Americans (2). Gaps in survival involve a complex interplay of both patient- and system-level factors that must be addressed to improve breast cancer–specific outcomes in African American women. In this editorial, factors associated with increased breast cancer mortality among African American women and initiatives designed to address barriers to care, focused on increasing mammography screening use, will be discussed.

Biologic Factors
Poor breast cancer–specific outcomes largely reflect unfavorable tumor characteristics disproportionately seen in African American women. In the United States, women from this group represent the only racial-ethnic group who are more likely to develop high-grade tumors than low-grade or intermediate-grade tumors (2). Moreover, African American women are more likely than other groups to develop aggressive basal-like and triple-negative forms of breast cancer. These aggressive tumors, which lack expression of hormone receptors and human epidermal growth factor receptor 2 (HER2), are not amenable to endocrine- or HER2-targeted therapies and are associated with increased rates of local and distant metastatic recurrence following breast conservation therapy.

Epigenetic and genetic factors derived from common ancestral migration patterns from western sub-Saharan Africa to the United States shared by African American women may explain increased incidence of aggressive tumor biology, often associated with young age at diagnosis in this group (1). Compared with White women, African American women are twice as likely to be diagnosed with breast cancer below the age of 35, prior to the recommended age for initiating routine mammography screening in average-risk women by all major guidelines (2).

While the prevalence of breast cancer–related mutations in African American women is largely unclear due to under-representation in genetic studies, the prevalence of BRCA gene mutations in this group (African American women <35 years) is particularly high (16.7%), exceeded only by Ashkenazi Jews (66.7%) (3). Socioeconomic disadvantage, disproportionately impacting African American women, and rigid, unclear guidelines reduce access to genetic testing. In addition, testing sites are often concentrated in academic medical centers, where patients from low-income backgrounds are less likely to receive care.

Racial differences in breast cancer molecular biology, particularly the risk of developing triple-negative disease, have important implications impacting the benefit of genetic testing. Increased attention focused on identifying African American women at risk for developing aggressive forms of disease, including testing for mutations in BARD1, BRCA1, BRCA2, PALB2, and RAD51D, which confer higher risk of estrogen receptor–negative disease, may be of particular interest in young women from this group.

Health Care Knowledge
Health care knowledge among different groups is influenced by shared social, cultural, and behavioral factors, which can either support or hinder prevention and control efforts. Prior studies have demonstrated that African American women may have a more negative perception of mammography screening compared with White women,
which may contribute to decreased mammography screening (4). Numerous themes related to breast cancer screening among this group including fear, mistrust, and denial have been demonstrated in qualitative studies, likely rooted in historical racial injustices in U.S. society. Additional barriers that have been explored include overall decreased perceived susceptibility of developing breast cancer and enhanced fatalism associated with breast cancer detection. Strategies to address cultural and race-specific barriers include creating an inclusive patient environment, which can be supported by providing culturally appropriate educational resources and increasing racial diversity among both physicians and support staff.

The role of spirituality, which is often used to make important health-related decisions particularly among older adults in the African American community, in prevention efforts is largely unclear. While some reports show an association between religious beliefs such as “prayer can cure disease” and decreased health-promoting behaviors, other studies demonstrate that religiosity leads to greater social support and higher motivation to undergo routine screening. Further studies are needed that explore leveraging partnerships with clergy and community leaders in African American and low-income communities that increase breast cancer awareness within the context of religious beliefs.

**Socioeconomic Status**

Socioeconomic factors continue to play a central role in ethnic differences in breast cancer survival. Recent data from the U.S. Census Bureau reveal poverty rates are more than twice as high in African American communities compared with White American communities (5). Women from racial-ethnic minority groups with low socioeconomic status are 1.5 times more likely than their White counterparts and 1.3 times more likely than their counterparts with high socioeconomic status to be diagnosed with late-stage disease. Limited access to a regular source of care and preventative health services often contribute to delays in diagnosis and poor outcomes. Moreover, African American women from low-income households who access breast imaging services are often limited to centers without digital mammography and/or breast imaging specialists, potentially leading to disparate patterns of care.

In addition, women residing in African American and rural communities are at risk for living in regions with insufficient mammography capacity (< 1.2 machines per 10,000 women > 40 years) (6). Women residing in areas with an inadequate supply of mammography facilities are less likely to engage in mammography screening compared with their counterparts, often due to travel burden and longer wait times. While women from rural communities may experience increased travel time to the nearest facility due to distance, spatial accessibility in urban areas is often impacted by dependence on public transportation, which disproportionately affects African American women.

**Health Care Insurance**

Historically, health insurance coverage has been a substantial factor in ethnic differences in health care access, representing one of the strongest predictors of breast cancer outcomes in the United States. African American women are more likely than White women to be uninsured and to depend on Medicaid. In addition, trigger events that lead to coverage disruptions are more prevalent among African Americans, which may limit patient access to primary care and recommended preventative health care services. While many women now receive coverage for screening mammography without copay under the Affordable Care Act, women who need diagnostic mammography or who have special insurance provisions may still face financial barriers. In addition, women continue to report uncontrollable financial strain or lack of medical insurance as a common reason for screening nonadherence. Gaps in awareness about protections provided by the Affordable Care Act and governmental programs offering free mammograms act as persistent barriers to mammography screening use, particularly among African American women from disadvantaged backgrounds.

**Comorbid Conditions**

African American women are disproportionately affected by chronic medical conditions, including hypertension, type 2 diabetes, and postmenopausal obesity, which also represent independent breast cancer risk factors (7). Comorbidities account for nearly half of the survival disparities among African American and White women. In addition, the presence of comorbid conditions often act as competing interests to preventative health efforts, impacting breast cancer screening recommendations by health care providers. Women with these conditions, however, are living longer (> 10 years) largely due to improved therapies and may therefore benefit from routine mammography (8). Moreover, many chronic medical conditions represent prognostic factors associated with worse breast cancer–specific outcomes, necessitating early detection strategies.

**Initiatives**

**Breast Cancer Risk Assessment**

Early onset breast cancer is an independent prognostic factor associated with increased tumor size, advanced stage distribution, hormone receptor negativity, and local recurrence (1). The American College of Radiology and Society of Breast Imaging recently updated their screening guidelines to assign special status for African American women, recommending risk assessment at age 30 to help support early detection in this group due to their propensity to develop aggressive tumors at an earlier age.

Breast cancer risk assessment is a critical step, particularly in young women, in identifying those who may benefit from high-risk screening and risk reduction strategies including chemoprevention and risk reduction surgery. Several initiatives have been enacted to support equitable access to testing for all patients, primarily by leveraging existing federal and state-funded programs. For example, the Every Woman Counts program, established by the California Department of Health Services, provides a toll-free telephone service where women from low-income backgrounds can call and schedule breast cancer screening at no cost.
communication channels through this program, which has helped to fund screening examinations for over one million medically underserved women, were used to identify high-risk women among callers interested in routine mammography screening. The program yielded a higher than average referral rate for free genetic counseling services among eligible women (57%) (7). Similar programs have been used at safety net hospitals to identify women at risk for hereditary breast and ovarian cancer, followed by referrals for free genetic counseling appointments.

**Educational and Community Programs**

Women who are informed about breast cancer risk and the benefits of mammography are more likely to follow screening guidelines. Effective educational initiatives can therefore help promote breast cancer screening engagement. Successful patient education initiatives have largely involved partnerships with government-funded early detection programs, community-based support agencies, hospital-based patient navigators, and breast cancer support groups.

These organizations are often able to address social determinants of health that may limit access to breast imaging services by providing patient education services, scheduling appointments, and facilitating referrals for medical care. Prior studies have demonstrated that these services are associated with increased access to cancer screening, decreased time to care, and improved compliance with follow-up recommendations. Community members, acting as peer educators, often support the success of these programs by offering a trusted source of health information for women. Women from the community can then empower other women to share health care knowledge, about breast cancer, with family and friends in a “teach the teacher” model. These programs are often low cost, primarily involving volunteers, offering sustainable outreach that can be integrated into most health care practices.

**Same-Day Care Programs**

Same-day care programs have been used to reduce access-related barriers by consolidating breast imaging services that would otherwise result in multiple visits. Additional benefits of these programs include decreased patient anxiety, minimized patient handoffs, decreased time to diagnosis, and limited patient loss to follow-up (9). These programs can be supported by extending standard business hours to reduce barriers associated with competing family and work interests, often experienced by women from underserved groups.

Additional efforts, including walk-in screening programs have also been shown to improve access to screening, particularly for racial-ethnic minorities and Medicaid-insured patients. For example, a “Pink Card” program that provided physicians from primary care clinics a business card–sized document that could be offered to women for same-day mammography screening, following their primary care appointment, reduced travel and time-related barriers among women participating in the program (10).

For women who are not engaged in care, mobile mammography clinics offer an alternative solution to enter underserved women into the breast care pathway. Screening mammograms offered by mobile mammography are often provided at no cost. Moreover, services are often provided in underserved neighborhoods, reducing costs and transportation barriers associated with traveling to a breast imaging center for women residing near travel sites. Partnerships with community agencies and patient navigators can promote continued screening following mobile mammography visits, by addressing social determinants of health that may limit routine mammography screening engagement.

**Conclusion**

Prior studies consistently show factors related to health care knowledge, cultural attitudes and beliefs, socioeconomic status, health insurance coverage, and health literacy, all influence breast cancer prevention and treatment efforts (1). In addition to genetic and epigenetic determinants, socioeconomic disadvantages in these areas contribute to worse health care outcomes among African American women. These factors adversely impact steps across the breast cancer continuum, which are reflected in discrepant patterns of care, directly impacting mammography screening utilization, breast cancer treatment, symptom management, survivorship, and end-of-life care (2).

Breast imaging radiologists will need to play a vital role in leading outreach initiatives that (a) increase breast cancer awareness in underserved communities, (b) identify high-risk women for risk-reduction strategies, and (c) develop programs that assist women in navigating their breast care. In addition, continued involvement in high-quality research and public policy initiatives will help to reinforce these efforts. Overall, multiple targeted interventions along the breast cancer continuum will be necessary to close gaps in breast cancer mortality among diverse ethnic groups.

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