The burden of colorectal cancer has diminished substantially in recent decades. From 1975 through 2000, incidence rates fell by 22% and death rates declined by 26%. These favorable trends have accelerated since 1997. About half of the reductions in incidence and mortality have been attributed to expanded use of effective screening tests to identify and treat high-risk adenomas and early-stage cancers (1).

Despite these impressive gains, incidence rates for colorectal cancer have remained nearly 20% higher and death rates have remained nearly 50% higher for black Americans than for white Americans (1). Do these racial disparities reflect differences in the biology of colorectal cancer, with black Americans at greater risk for advanced adenomas and cancers due to genetic or epigenetic factors, such as environmental or dietary exposures? Or do they result from unequal access to effective screening tests that can prevent high-risk adenomas from becoming malignant or detect curable cancers at an early stage?

A study in this issue of the Journal provides insights into these two important questions. Laiyemo et al. (2) analyzed data from the Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial to determine whether black and white participants aged 55–74 years differed in their likelihood of undergoing colonoscopy after an abnormal screening flexible sigmoidoscopy. Subjects were enrolled at 10 sites across the United States from 1993 through 2001, and 70% of the black participants were recruited at two sites in Detroit, Michigan, and Birmingham, Alabama (3). Participants were informed of abnormal findings and encouraged to arrange colonoscopy through their primary care physicians. Among patients who
underwent colonoscopy, the investigators reviewed colonoscopy and pathology reports for potential differences in clinical findings.

Black and white participants were similarly likely to have polyps or masses identified during screening flexible sigmoidoscopy (25.5% for blacks vs 23.9% for whites). Among subjects who underwent colonoscopy, the risk of advanced adenomas (10 mm or greater in diameter, villous or tubulovillous histology, or severe dysplasia) was nearly identical for black and white participants (23.1% vs 22.3%), and their risks did not differ substantially for small advanced adenomas (3.1% vs 3.9%) or cancer (2.1% vs 1.5%), respectively. Black participants, however, were more likely than white participants to have advanced adenomas proximal to the splenic flexure (8.5% vs 5.5%).

What implications do these findings have for understanding the persistently large racial disparities in colorectal cancer incidence and mortality? Several prior studies have also shown that black Americans are somewhat more likely than white Americans to have large polyps or cancer in the proximal colon (4–6). These findings suggest the importance of colonoscopy to identify and remove high-risk neoplasms that would not be detected through sigmoidoscopy alone. Yet the similar overall prevalence of advanced adenomas and cancers by race in the PLCO Screening Trial suggests that biological factors are not the primary explanation for racial disparities in the incidence and mortality of colorectal cancer (7,8).

What other factors could explain these persistent disparities? Although PLCO Trial enrollees demonstrated their willingness to initiate screening for colorectal cancer, black participants were less likely than white participants to undergo colonoscopy after abnormal findings on sigmoidoscopy (62.6% vs 72.4%). This difference remained after adjusting for age, sex, education, body mass index, personal history of colorectal polyps, and family history of colorectal cancer. These gaps in follow-up care were particularly concerning because up to one-quarter of participants who did not undergo colonoscopy were likely to have advanced adenomas that were neither detected nor removed. Valuable opportunities to prevent colorectal cancer were thus lost in these patients (9).

Unfortunately, this study did not explore why participants did not complete colonoscopy. Black participants were probably more likely to lack a primary care physician (7) or to live in a low-income community with limited access to gastroenterologists (10). Black participants also may have more commonly lacked insurance to cover a colonoscopy (11). Even with insurance, the out-of-pocket costs of colonoscopy may have been prohibitive for people with low incomes. Among Medicare beneficiaries, for example, having private supplemental insurance to cover these costs is strongly associated with substantially higher rates of screening for colorectal cancer, and black beneficiaries are much less likely than white beneficiaries to have such coverage (12). Finally, no data were presented on participants’ willingness to undergo colonoscopy when recommended. However, when racial disparities in other diagnostic tests and treatments have been studied, small differences by race in preferences regarding invasive procedures have not been a major factor accounting for these disparities (13,14).

The field of health disparities research has evolved in three broad phases, from documenting differences in treatment and outcomes to understanding the mediators of these disparities and now to implementing and evaluating interventions to reduce and ultimately eliminate disparities in health (15). In their study of PLCO Screening Trial participants, Laiyemo et al. have identified an important barrier to optimal care—follow-up of abnormal findings on sigmoidoscopy—that affected many white participants and an even larger proportion of black participants. By contrast, in a racially and ethnically diverse cohort with no financial barriers to colorectal cancer screening at one New York veterans hospital, colonoscopy was completed for almost all patients who had abnormal findings on flexible sigmoidoscopy (16). Nonetheless, national data indicate that flexible sigmoidoscopy has nearly disappeared as a primary screening test, whereas the proportion of adults aged 50–75 years who have undergone colonoscopy has steadily risen from less than 20% in 2000 to nearly 50% in 2008 (17).

In New York City, a concerted campaign to promote colonoscopy through public education, improved tracking systems, and broad use of patient navigators has been associated with rapidly increased screening rates among adults aged 50 years and older—from 40% in 2003 to more than 60% in 2007. Most notably, racial and ethnic disparities in the use of colonoscopy were eliminated over this 4-year period as rates for black adults rose from 35% to 64% (18). Such local success in promoting colorectal cancer screening and eliminating racial disparities must now be extended to other communities and states in which screening rates continue to lag and disparities persist (10). A new program recently launched by the Centers for Disease Control and Prevention will promote colorectal cancer screening for low-income Americans in 22 states and four tribal organizations (19). Colorectal cancer is one important disease in which racial and socioeconomic disparities in outcomes can most readily be eliminated by ensuring that all eligible adults are effectively screened and abnormal findings are fully treated.

References


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