

# Racial and Ethnic Disparities in Colon Cancer Screening in North Carolina

*Julius M. Wilder, Joanne A. P. Wilson*

Colorectal cancer (CRC) is the 3rd most common cancer in both men and women; in 2015 there were 132,700 new cases in the United States, representing 8% of all new cases of cancer [1]. In terms of mortality, there were 49,700 colon cancer deaths in 2015, comprising 8.4% of all cancer-related deaths in the United States [1]. Within North Carolina, the incidence of CRC was 39.6 per 100,000 population, and there were an average of 4,067 new cases annually between 2010 and 2014 [2].

The incidence of CRC has decreased in the United States over the past 2 decades, with similar patterns in North Carolina. Improving trends in CRC incidence are thought to relate to improved rates of screening for colon cancer. Screening allows for removal of premalignant polyps and early detection of cancer, thus improving both incidence and mortality.

Although the incidence and death rates from CRC have decreased, racial and ethnic disparities still exist, especially in North Carolina. The incidence of CRC among non-Hispanic whites in North Carolina in the period 2009–2013 was 37.1 per 100,000 people [3, 4] compared to an incidence among non-Hispanic blacks of 46.6 per 100,000 people [3, 4]. Similarly, the death rate due to CRC is much higher among black North Carolinians (20.1 per 100,000) compared with their non-Hispanic white counterparts (13.1 per 100,000) [5, 6].

Mediators for racial disparities in colon cancer include lifestyle factors such as alcohol ingestion, cigarette smoking, obesity, and diet [5, 6]. Tumor biology may also contribute to disparities in colon cancer incidence and mortality, as some research has reported that blacks have more proximal and larger polyps, which may occur at younger ages [7, 8]. Physicians have limited ability to directly affect the lifestyle risk factors associated with colon cancer. However, appropriate colonoscopy screening can have a positive impact. In a 2012 study, Quintero and colleagues

found that mortality from colon cancer was reduced by 53% in the setting of screening with colonoscopy and polyp removal [8]. Unfortunately, screening colonoscopy rates have historically been lower among minority groups. Self-reported screening rates are highest among whites (62.0%), with lower rates reported for blacks (59.0%), English-speaking Hispanics (52.5%), American Indians and Alaska Natives (49.5%), and Asians (47.2%). Rates are especially low for Spanish-speaking Hispanic patients, with reported rates of 30.6% for this group [9].

Socioeconomic status plays a significant role in racial and ethnic disparities in CRC screening. For individuals with less than 11 years of education, the rate of appropriate CRC screening is 43.9%, whereas the rate for individuals with a college education is 69.2% [10]. Similarly, health insurance status impacts access to CRC screening. The rate of CRC screening for an individual with health insurance is 62.2%, whereas the rate for individuals without insurance is only 17.8% [10]. Nonetheless, socioeconomic status does not fully explain racial and ethnic disparities in CRC screening rates [10]. Cultural differences, including language barriers and distrust of the health care system, also contribute to disparities [5], as does lack of access to health care resources in minority communities. Within North Carolina there are large minority communities (including some that are non-English-speaking) where access to health care resources such as colonoscopy is sparse.

To address racial and ethnic disparities in CRC screening in North Carolina, we must first ensure that individuals and families of lower socioeconomic status have access to the health care resources needed for screening. This includes ensuring they are signed up for health insurance through the Patient Protection and Affordable Care Act (ACA), as well as ensuring that they are appropriately referred for colon cancer screening by a primary care

physician; the latter requires physician awareness of the need for screening. Of note, not all low-income individuals qualify for subsidies through the ACA; thus, even with its implementation, access to health insurance remains an issue for low-income individuals.

Primary care physicians and gastroenterologists must also engage minority communities in a culturally appropriate way to educate them about CRC screening. When appropriate, educational materials should be provided in patients' native languages to improve understanding. Medical institutions in North Carolina must also prioritize recruitment and training of a diverse medical workforce, and state health policy leaders must prioritize implementation of focused initiatives to eliminate disparities in CRC screening. Other states have done this successfully. For example, the New York City Department of Health and Mental Hygiene created the Citywide Colon Cancer Control Coalition. This initiative included public health campaigns and patient navigation to increase CRC screening rates and reduce disparities. Initial CRC rates were as low as 36% for blacks, 38% for Latinos, and 48% for whites, but overall screening rates increased to approximately 62% after implementation of this program, with virtual elimination of racial and ethnic disparities in screening [5, 11].

North Carolina is a diverse state with significant health care resources. Unfortunately, disparities in colon cancer screening persist despite these resources. We can begin to eliminate disparities in colon cancer screening by ensuring access to health care resources, culturally appropriate education, and diversity in the health care workforce. **NCMJ**

**Julius M. Wilder, MD, PhD** advanced fellow, Division of Gastroenterology, Department of Medicine, Duke University Medical Center, Durham, North Carolina.

**Joanne A. P. Wilson, MD, FACP, AGAF** professor, Division of Gastroenterology, Department of Medicine, Duke University Medical Center, Durham, North Carolina.

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Address correspondence to Dr. Joanne Wilson, Box 3662, DUMC, 200 Trent Dr, Durham, NC 27710 ([joanne.wilson@duke.edu](mailto:joanne.wilson@duke.edu)).

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