



# Insights on colorectal cancer mortality trends between 1999–2022 in the US: the importance of place and sex

Cibele Barbosa Carroll<sup>1</sup>, Samuel L. Rotter<sup>2</sup>, Noelle K. LoConte<sup>1,2</sup>

<sup>1</sup>University of Wisconsin Carbone Cancer Center, Madison, WI, USA; <sup>2</sup>Department of Medicine, Division of Hematology, Medical Oncology and Palliative Care School of Medicine and Public Health, University of Wisconsin, Madison, WI, USA

*Correspondence to:* Noelle K. LoConte, MD. Associate Professor, University of Wisconsin Carbone Cancer Center, Madison, WI, USA; Department of Medicine, Division of Hematology, Medical Oncology and Palliative Care School of Medicine and Public Health, University of Wisconsin, Clinical Science Center 600 Highland Ave K4/548, Madison WI 53792, USA. Email: ns3@medicine.wisc.edu.

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Colorectal cancer (CRC) is the second most common cause of cancer-related death in the United States, although the age-adjusted mortality rate (AAMR) has decreased across the country since 1999 (1). This decrease in mortality is largely due to widespread adoption of strategies for CRC screening and early detection (1–3). However, as reported by Glisan *et al.* based on their analysis of the Centers for Disease Control and Prevention (CDC) Wonder Dataset, CRC mortality rates remain elevated in some geographic regions and demographic groups compared to the national rates (1,4). Between 2005–2022, CRC mortality remained comparatively high in the Midwest and South regions, among men, and Black/African American individuals (1). Mortality is an outcome metric influenced by the healthcare delivery system and the process of delivering care (5). Thus, multiple interrelated factors interact to perpetuate the discrepancies in mortality rates and should inform targeted outreach efforts by the cancer control community.

Considering the structure of care delivery, at the policy level, it is crucial to enhance initiatives that improve access to health care for underserved populations. Ten of the 50 US states have not adopted Medicaid expansion (ME) under the Affordable Care Act (ACA) (6), and nine of these are located in the Midwest and South regions as defined by the Census Bureau (7). Previous research has demonstrated that states with ME had an increased percentage of cases treated

within 60 days of a colon cancer diagnosis (8). In addition, states with ME showed improved overall survival at three years among Medicaid-insured and uninsured individuals with colon cancer compared with states without ME (8). ME is particularly important for increasing access to cancer prevention and treatment among younger uninsured Americans with low income, which could ultimately decrease CRC mortality in this population (9).

Still at the policy level, insurance coverage for follow-up colonoscopy after a positive stool-based screening test was mandated under the ACA in 2023 for private insurance and Medicare (10). This change allows individuals to be screened without being billed for a diagnostic colonoscopy following positive stool-based tests (10). However, if polyps are found and removed during the follow-up colonoscopy, individuals may still face out-of-pocket expenses for the procedure and facility utilization (10), which could deter individuals from pursuing CRC screening, especially when considered in the context of bowel preparation for the procedure (11).

In the accompanying study by Glisan *et al.*, Black/African American individuals experienced disparities in mortality rates in all geographic regions in the US, particularly in the Midwest (1). However, none of the U.S. regions exhibited the highest or lowest AAMR across all races (1), showing that different racial groups have disparate socioeconomic

opportunities. Many Black/African Americans have historically been forced into low-income employment and reside in neighborhoods where access to healthy eating and exercise is limited, while exposure to carcinogens is high (12,13). In this setting, access to healthcare can be compromised due to high medical costs and lack of insurance (13). Additionally, healthcare providers' practices, including lack of CRC screening recommendations (13), and patients' mistrust in the healthcare system (13,14), play a role in the process of care delivery from diagnosis through treatment and survivorship, leading to increased CRC mortality for Black/African American patients.

A notable finding in the Glisan *et al.* paper is the disproportionate impact of sex on survival (1). During the 2015–2019 period, the CRC incidence rate in the US was 33% higher in men (41.5 per 100,000) than in women (31.2 per 100,000) (15). In the most recent five years, the overall annual age-standardized CRC mortality rate was 13.1 per 100,000, with rates 43% higher in men (15.7) than in women (11.0) (15). In addition, women were more likely than men to be up to date on CRC screening (60% *vs.* 56%) among individuals aged 45–75 years (15). Biological, hormonal, and environmental factors likely contribute to the higher incidence of left-side large bowel tumors in men (3). In the process of care delivery, male behaviors affecting CRC screening adherence may be influenced more by increasing age and education rather than masculinity concerns (16). Other factors associated with higher male adherence to CRC screening include cohabiting with a partner, being born in the US, and having a usual source of care (17). Groups with particularly low screening rates include recent immigrants (<10 years in the US, 30%) compared to US citizens (60%). Additionally, uninsured individuals had a screening rate of 22% *vs.* Medicaid recipients at 53% (15).

Importantly, factors that lead to socioeconomic vulnerability and financial hardship affect the ability to pursue and achieve adequate CRC screening (11,18), and ultimately impact treatment outcomes (19). Individuals who experience high social vulnerability more often have higher rates of comorbidities classified as American Society of Anesthesiologists (ASA) III and are more likely to experience both cancer-specific and all-cause mortality (19). The study by Glisan *et al.* does not provide TNM staging data, and it is likely that later-stage diagnosis (indicating less effective screening) explains much of the poorer survival outcomes for males relative to females (1).

In conclusion, although a declining trend in CRC-

associated mortality has been observed over the past 20 years, disparities in mortality across geographic regions, race, and gender persist. Discussing the structure and process of CRC care delivery helps identify opportunities for targeted interventions. In this setting, community outreach and engagement teams play a crucial role in amplifying the voices and needs of the communities to healthcare organizations, while simultaneously raising awareness of strategies for cancer prevention and control. Expanding access to high-quality care and improving screening uptake among all populations, including directed outreach to men and specific geographic regions of the United States, remain key strategies for reducing disparities in CRC survival.

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