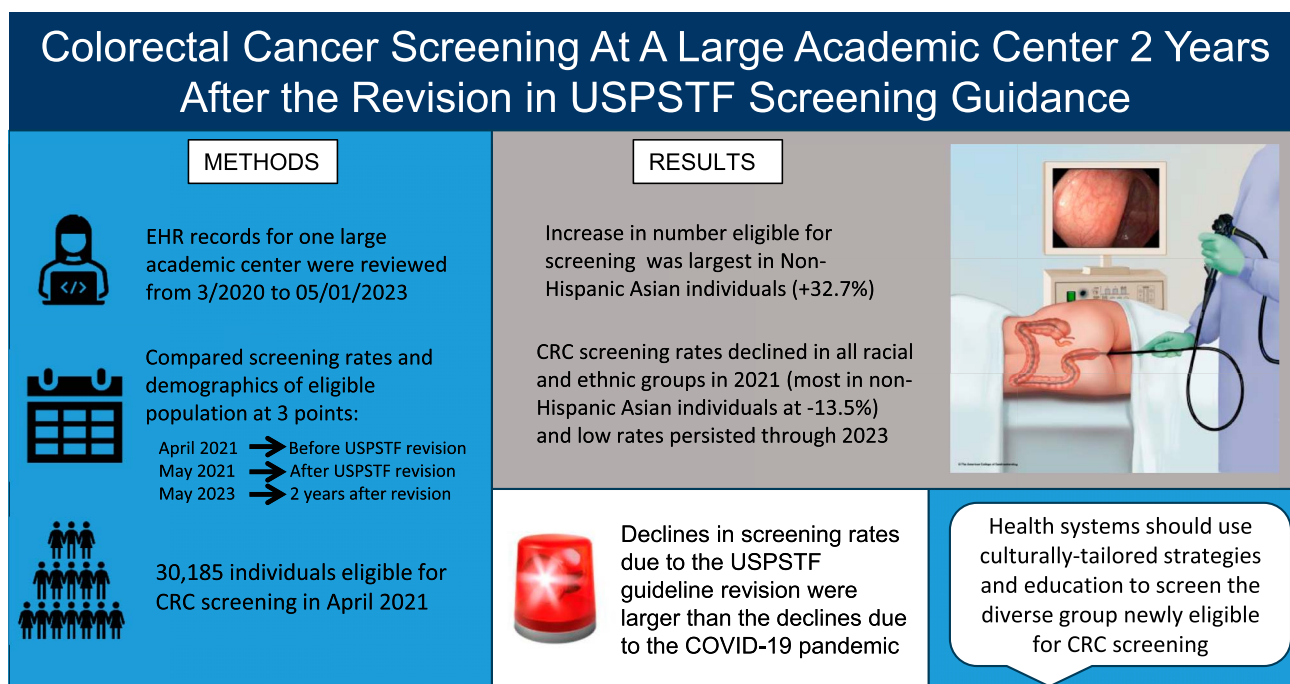


# The Revised United States Preventive Services Task Force Screening Recommendations and Racial/Ethnic Differences in Colorectal Cancer Screening in a Boston Healthcare System

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**INTRODUCTION:** To evaluate the impact of the updated United States Preventive Services Task Force colorectal cancer (CRC) screening recommendations on screening rates in a large health system.

**METHODS:** We reviewed Massachusetts General Brigham electronic health record data for individuals eligible for CRC screening between January 3, 2020, and January 5, 2023, and calculated whether age-eligible individuals were up-to-date with CRC screening.



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**RESULTS:** There were large declines in the percentage of individuals who were up-to-date with CRC screening for all racial/ethnic groups, with non-Hispanic Asians being largest (–13.5%).

**DISCUSSION:** Health systems should implement culturally tailored strategies to reach and screen newly eligible individuals for CRC screening to prevent worsening disparities in CRC.

**KEYWORDS:** colorectal cancer screening; USPSTF screening recommendations; screening disparities; colorectal cancer in younger individuals

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## INTRODUCTION

The incidence of colorectal cancer (CRC) has been increasing in individuals younger than 50 years for the past several decades (1,2). This rising incidence contributed to the decision by the United States Preventive Services Task Force (USPSTF) to make a grade B recommendation in May 2021 to screen average-risk individuals from 45 to 49 years (3). With this recommendation change, there was a sudden increase in the number of screening-eligible individuals. Because this newly eligible population is more racially/ethnically diverse than the US population older than 50 years (4), the sociodemographic characteristics of this “new to CRC screening” population may require different outreach and

education. The objective of our study was to evaluate the impact of the updated screening recommendations on screening rates and the characteristics of the unscreened population in a large health system.

## METHODS

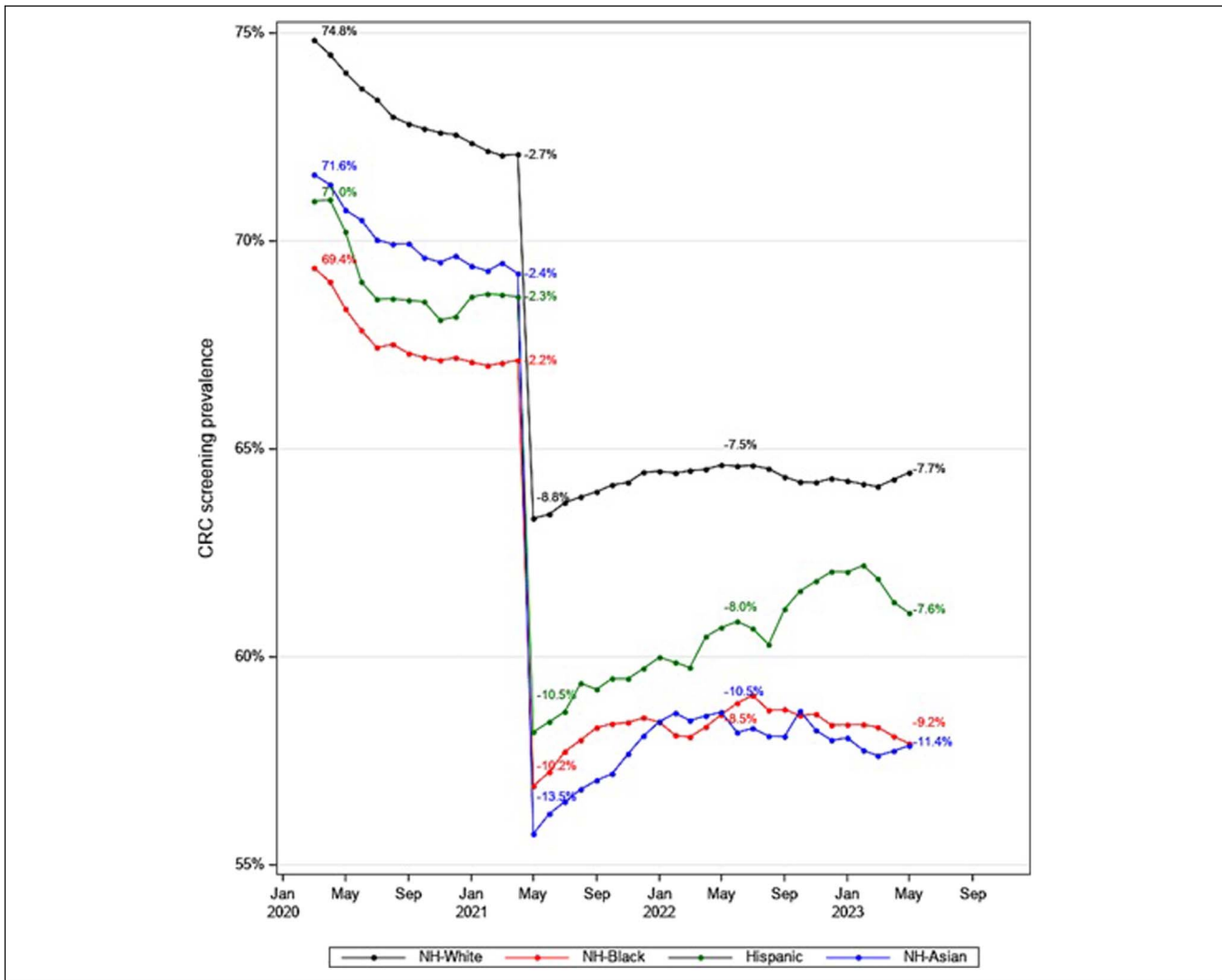
We retrospectively reviewed Massachusetts General Brigham electronic health record data for individuals eligible for CRC screening between January 3, 2020, and January 5, 2023. We calculated whether age-eligible individuals were up-to-date with CRC screening. Up-to-date with screening was defined as completion of a fecal immunochemical test (FIT) or fecal occult blood

**Table 1. Characteristics of the study population and screening utilization by race/ethnicity before and after the release of the 2021 United States Preventive Services Task Force CRC screening recommendation update**

Patient characteristic	Prerecommendation population (April 2021)	Postrecommendation population (May 2021)			2 yr postrecommendation population (May 2023)		
		Absolute difference <sup>a</sup>	Percent difference <sup>a</sup>	Absolute difference <sup>a</sup>	Percent difference <sup>a</sup>		
Eligible patients	30,185	36,767	6,582	21.8%	39,204	9,019	29.9%
Age; mean, yr (SD)	61.6 (7.0)	59.2 (8.3)	n/a	n/a	59.5 (8.3)	n/a	n/a
	17,731 (58.7)	21,669 (58.9)	n/a	n/a	22,938 (58.5)	n/a	n/a
High school education or less; n (%)	8,224 (31.7)	9,622 (30.3)	n/a	n/a	9,750 (28.8)	n/a	n/a
Race; n (%)							
Non-Hispanic White	21,520 (71.3)	25,764 (70.1)	4,244	19.7%	27,329 (69.7)	5,809	27.0%
Non-Hispanic Black	5,099 (16.9)	6,377 (17.3)	1,278	25.1%	6,962 (17.8)	1,863	36.5%
Hispanic	1,474 (4.9)	1,849 (5.0)	375	25.4%	1,728 (4.4)	254	17.2%
Non-Hispanic Asian	2,092 (6.9)	2,777 (7.6)	685	32.7%	3,185 (8.1)	1,093	52.2%
Percent up-to-date with CRC screening							
Non-Hispanic White	72.1%	63.3%	n/a	–8.8%	64.4%	n/a	–7.7%
Non-Hispanic Black	67.1%	56.9%	n/a	–10.2%	57.9%	n/a	–9.2%
Hispanic	68.7%	58.2%	n/a	–10.5%	61.1%	n/a	–7.6%
Non-Hispanic Asian	69.2%	55.7%	n/a	–13.5%	57.9%	n/a	–11.3%

CRC, colorectal cancer.

<sup>a</sup>Compared with April 2021.



**Figure 1.** Change in CRC screening prevalence by race and ethnicity before and after implementation of the 2021 United States Preventive Services Task Force CRC screening recommendations (March 2020 to May 2023). CRC, colorectal cancer; NH, non-Hispanic.

test within 1 year, FIT-DNA within 3 years, sigmoidoscopy within 5 years, or colonoscopy within 10 years. We examined CRC screening rates at the beginning of each month from March 2020 to May 2023. We also compared characteristics of those eligible for screening and screening rates at 3 different time points: April 2021 (before the revision in USPSTF guidance), May 2021 (immediately after the revision in USPSTF guidance), and May 2023 (2 years after the guideline revision). This study was approved by the Massachusetts General Hospital Institutional Review Board (IRB #2022P001678).

## RESULTS

In April 2021, there were 30,185 patients eligible for CRC screening in our health system. After the implementation of the new screening recommendations in May 2021, there was an immediate increase by 6,582 screening-eligible individuals (22.8% increase). The mean age of the screening-eligible population decreased from 61.6 (SD = 7.0) in April 2021 to 59.2 years (SD = 8.3) in May 2021. The increase in screening-eligible patients in May 2021 was greatest for non-Hispanic Asian individuals (+32.7%), followed by Hispanic and non-Hispanic Black

individuals (+25.4% and 25.1%, respectively) (Table 1). There were large declines in the percentage of individuals who were up-to-date with CRC screening for all racial/ethnic groups. However, the decline was larger for non-Hispanic Asian individuals (−13.5%) than for non-Hispanic White individuals (−8.8%,  $P = 0.001$ ). The screening rate declines were larger than the reduction in the up-to-date screening rate associated with the pandemic in all racial and ethnic groups. Furthermore, screening rates by race/ethnicity had minimal improvement in May 2023, 2 years after the change in screening recommendations, compared with May 2021 (Figure 1).

## DISCUSSION

After the implementation of the updated 2021 USPSTF CRC screening recommendations, our health system saw a 22.8% increase in the number of individuals eligible for CRC screening. Non-Hispanic Asian, Black, and Hispanic individuals were strongly represented in this new group of eligible individuals, illustrating the increasing diversity of the general population eligible for CRC screening as a result of the reduction in the screening age. Prior work from our group illustrated that the

reduction in screening rates that occurred after the revision in the screening guidelines was attributed to a different cause than the reduction in screening that occurred during the coronavirus disease 2019 (COVID-19) pandemic (5). However, both the COVID-19 pandemic and the expanded number of individuals eligible for screening have led to large backlogs for CRC screening that many institutions are still working to overcome 4 years after the start of the COVID-19 pandemic.

There are limited studies on CRC screening in individuals from 45 to 49 years given the relatively recent update in USPSTF screening guidelines. However, it has been estimated that the total average-risk screening-eligible population is approximately between 43.4 and 45.2 million people, with 18 million of those individuals from 45 to 49 years (6). A 2024 American Cancer Society Report highlighted that CRC has become the first and second leading causes of cancer death in men and women younger than 50 years, respectively (7). Our study illustrates the rising diversity of the newly screening-eligible population from 45 to 49 years. Given the rising incidence of CRC in younger individuals (7), it is of critical importance to use outreach and education strategies that are culturally tailored to reach this increasingly diverse population to halt the devastating impact of CRC in this young population.

There are a few limitations to our study. First, we did not have access to data on socioeconomic variables such as education, income, or insurance status, which likely contribute to CRC screening participation. Future studies should further investigate the impact of these factors on screening in young adults newly eligible for screening. Second, we did not include data on the impact of the COVID-19 pandemic on screening because this has previously been published (5). We sought to specifically understand the impact of the revision in USPSTF guidelines on CRC screening rates at our center.

Our findings demonstrated that the percent of individuals up-to-date with CRC screening declined sharply for each racial/ethnic group, with the largest decrease among non-Hispanic Asian individuals. Our results highlight the need for health systems to use targeted and culturally tailored strategies to screen the increasingly diverse population that is newly eligible for CRC screening, particularly because they also confront the screening colonoscopy backlog created by the revised screening recommendations and COVID-19 pandemic. Future studies are needed to investigate the impact of culturally tailored approaches on screening uptake in individuals from 45 to 49 years who are newly eligible for CRC screening. Culturally tailored approaches, community outreach, and patient education will be critical to reach and screen this newly eligible group and prevent worsened disparities in CRC screening and outcomes.

#### CONFLICTS OF INTEREST

**Guarantor of the article:** Adjoa Anyane-Yeboah, MD, MPH.

**Specific author contributions:** A.A.Y.: conceptualization, methodology, investigation, writing—original draft, visualization. J.H.: conceptualization, methodology, investigation, writing—review and editing, supervision. R.B.: review and editing, project administration.

S.B.: review and editing, project administration. Y.C.: formal analysis, data curation, review and editing. F.P.M.: conceptualization, methodology, investigation, writing—review and editing, supervision.

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**Potential competing interests:** The authors have no conflicts related to the content of this manuscript.

**IRB approval statement:** This study was approved by the Massachusetts General Hospital Institutional Review Board (IRB #2022P001678).

## Study Highlights

### WHAT IS KNOWN

- ✓ The incidence of colorectal cancer has been increasing in individuals under 50 for the past several decades.
- ✓ The United States Preventive Services Task Force (USPSTF) revised their colorectal cancer screening recommendations to include screening individuals 45 to 49 in 2021.

### WHAT IS NEW HERE

- ✓ After the revision in the USPSTF guidelines, the screening eligible population in one health system became more diverse.
- ✓ Screening rates declined for all racial and ethnic groups, but the largest decline was in non-Hispanic Asian individuals.
- ✓ The decline in the screening rates after the USPSTF revision were larger than those seen during the COVID-19 pandemic.

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