Estimated Average-Risk Colorectal Cancer Screening–Eligible Population in the US

Derek W. Ebner, MD; John B. Kisiel, MD; A. Mark Fendrick, MD; Chris Estes, MPH; Kevin Li, BS; Vahab Vahdat, PhD; Paul J. Limburg, MD

Introduction

In 2021, the US Preventive Services Task Force (USPSTF) expanded the recommended colorectal cancer (CRC) screening age from 50 to 75 years to 45 to 75 years, with selective screening for individuals aged 76 to 85 years. Expanding the screening age downward to age 45 years added approximately 19 million individuals in the US to the average-risk population. The previous estimate did not include individuals aged 76 to 85 years or take into account individuals who use CRC screening modalities that require rescreening at various intervals. Accurate estimates of the CRC screening–eligible population are crucial for facilitating health policy decision-making and optimizing the allocation of health care resources. The objective of this analysis was to provide an updated estimate of average-risk CRC screening–eligible individuals in the US.

Methods

All data used in this cross-sectional study are deidentified and publicly available and, therefore, did not require approval from an institutional review board or informed consent, in accordance with 45 CFR §46. The STROBE reporting guideline for reporting of cross-sectional studies was followed. The average-risk screening-eligible population in the US was estimated for individuals aged 45 to 85 years, with a secondary analysis for those aged 45 to 75 years. The input values and associated data sources are shown in eTable 1 in Supplement 1. The 2022 US Census population estimates were used to calculate the total population by age group. The screening-eligible population was then estimated by excluding those at higher risk of CRC on the basis of previous diagnosis of CRC, family history of CRC, and presence of inflammatory bowel disease or Lynch syndrome. The population with familial adenomatous polyposis was not factored into the analysis because it is a rare disease, and most of these individuals develop CRC by ages 40 to 50 years. Then, individuals estimated to be up to date with CRC screening were excluded, while accounting for possible underreporting and overreporting in self-reported surveys. Individuals aged 76 to 85 years with poor or fair self-reported health conditions were excluded to factor for selective recommended screening from the USPSTF. Finally, for each age group, the number of individuals eligible to be rescreened within 1 year was added back to the screening-eligible population; rescreening estimates were based on the reported distribution of screening by modality and USPSTF-recommended screening intervals for each modality (eTable 2 in Supplement 1). Included modalities were colonoscopy, sigmoidoscopy, computed tomography colonography, fecal immunochemical test and/or fecal occult blood test, and multitarget stool DNA. The estimate was further adjusted by removing estimated patients completing a colonoscopy with findings of CRC or advanced adenoma who would then be classified as high risk and patients adherent to follow-up colonoscopy after a positive noninvasive test who were placed on a 10-year screening interval (eTable 2 in Supplement 1).

Results

Of the 134.8 million individuals aged 45 to 85 years in the US, the average-risk population is estimated at 117.1 million (86.9%). After accounting for the 59.3% to 61.8% average-risk individuals
who are up to date with CRC screening, 44.7 to 47.7 million remained eligible for CRC screening (Figure). When including individuals eligible for rescreening within the next year, the final estimated screening-eligible population is 57.1 to 59.6 million. In the secondary analysis of 119.3 million individuals aged 45 to 75 years, the final estimated screening-eligible population is 52.6 to 54.9 million.

Discussion

Continuous efforts are needed to properly screen the estimated 60 million individuals eligible for CRC screening. These efforts need to be tailored for individuals’ socioeconomic or racial demographic characteristics. CRC screening rates tend to be lower among the uninsured and underinsured, individuals with low incomes, and those from marginalized racial and ethnic groups. Although efforts were made to account for reporting and telescoping bias, the data used in this cross-sectional analysis...
analysis are subject to selection, recall, and differential biases. There is limited literature for
generalized disagreement between registered CRC screening and National Health Interview Survey
data. Ultimately, with the estimated 60 million screening eligible individuals in the US, it is
imperative for policymakers and health care stakeholders to advance targeted interventions, provide
sufficient education to patients and clinicians, offer choices from several endorsed screening
modalities to ensure easy and equitable access, and use innovative navigation programs to improve
CRC screening rates and reduce disparities, thereby enhancing the effectiveness of CRC
screening efforts.

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Ebner DW et al. JAMA Network Open.
 Corresponding Author: Derek W. Ebner, MD, Division of Gastroenterology and Hepatology, Mayo Clinic, 200 First
St SW, Rochester, MN 55905 (ebner.derek@mayo.edu).
 Author Affiliations: Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, Minnesota (Ebner,
Kisiel); Division of General Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor
(Fendrick); Exact Sciences Corporation, Madison, Wisconsin (Estes, Li, Vahdat, Limburg).
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REFERENCES
4. [No authors listed.] QuickStats: percentage* of adults aged ≥18 years in fair or poor health,† by family income§ and age group—National Health Interview Survey, United States, 2021¶. MMWR Morb Mortal Wkly Rep. 2023;72(13):350. doi:10.15585/mmwr.mm7213a6

SUPPLEMENT 1.
eTable 1. Reported and Modeled Data Used to Calculate CRC Screening Population
eTable 2. Reported and Modeled Data Used to Calculate CRC Rescreening Eligible Population
eReferences

SUPPLEMENT 2.
Data Sharing Statement