

PUBLIC HEALTH ALERTS | IN PARTNERSHIP WITH CIDRAP

# Colorectal Cancer among U.S. Adults, 2000–2023

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## Abstract

Using data from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program, we examined colorectal cancer incidence rates in the United States between 2000 and 2023. SEER 21 covers 45.8% of the U.S. population. The age-adjusted incidence rate was 55.2 per 100,000 (95% CI, 54.8 to 55.6) in 2000, 36.7 per 100,000 (95% CI, 36.4 to 37.0) in 2022, and 38.3 per 100,000 (95% CI, 38.0 to 38.6) in 2023. The apparent increase in 2023 was the first since the inception of SEER 21 and warrants additional surveillance and investigation.

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## Introduction

Incidence and mortality rates of colorectal cancer are increasing among younger adults (age 18–49) in the United States and worldwide.<sup>1</sup> Recent reports suggest that increasing rates may no longer be confined to younger adults,<sup>2</sup> underscoring the importance of surveillance to assess rates across the age spectrum.

The current report uses data from the National Cancer Institute (NCI) (released April 22, 2026) to describe incidence rates of colorectal cancer over a 20-year period.

## Investigation and Outcomes

The Surveillance, Epidemiology, and End Results (SEER) Program provides data on cancers diagnosed in defined geographic regions. SEER 21, which includes 21 geographic cancer registry areas, covers 45.8% of the U.S. population (<https://seer.cancer.gov/>).<sup>3</sup> Colorectal cancer was defined by using *International Classification of Diseases for Oncology*, Third Edition, codes C18.0, C18.2 to C18.9, C19.9, C20.9, and C26.0. Data are publicly available and de-identified; institutional review board approval was not required.

We estimated age-adjusted (to the 2000 U.S. Standard Population) and age-specific (5-year intervals ranging from 20–24 to 85–89 years) incidence rates per 100,000 persons in each year from 2000 to 2023. Incidence rates were adjusted for delays in case reporting by using a delay factor developed by the NCI, the Centers for Disease Control and Prevention, and the North American Association of Central Cancer Registries.<sup>4</sup> The Tiwari method was used to calculate 95% confidence intervals (CIs),<sup>5</sup> which were not adjusted for multiple comparisons and should not be used in place of hypothesis testing.

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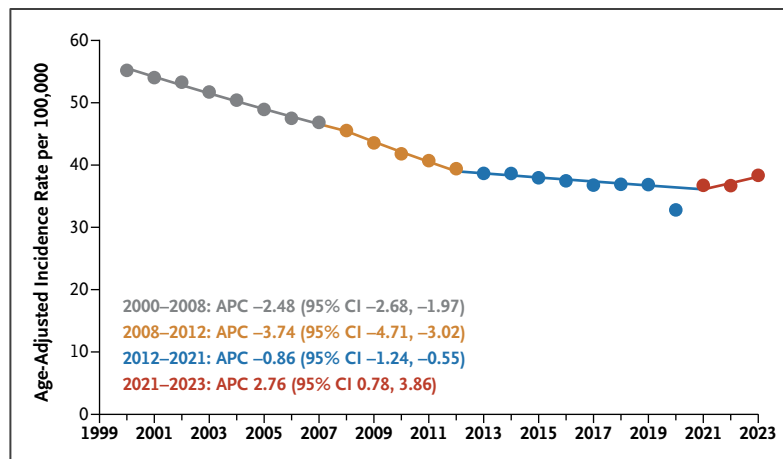


Figure 1. Age-Adjusted Incidence Rate of Colorectal Cancer; Surveillance, Epidemiology, and End Results Program, 2000–2023.

Incidence rates adjusted for delays in case reporting (described at <https://surveillance.cancer.gov/delay/model.html>). Observed rates are shown as dots with the modeled rate from joinpoint analysis overlaid as a solid line; data from 2020 are excluded from the joinpoint analysis due to pandemic-related disruptions and as recommended by the National Cancer Institute. The joinpoint model fits a series of joined lines to observed rates, and the slope of line segments is equivalent to the annual percent change (APC). Analyses were conducted by using SEER\*Stat version 9.0.43.0 (<https://seer.cancer.gov/seerstat/>) and Joinpoint Regression Software version 6.0.1 (<https://surveillance.cancer.gov/joinpoint>). Confidence intervals have not been adjusted for multiple comparisons.

To quantify relative changes in incidence rates, a joinpoint regression model was used to fit a series of joined lines to observed rates. The slope of line segments equals the annual percent change (APC). We excluded 2020 data from joinpoint models owing to Covid-19 pandemic-related disruptions, as recommended by the NCI.<sup>6</sup>

The age-adjusted incidence rate of colorectal cancer was 55.2 per 100,000 (95% CI, 54.8 to 55.6) in 2000, 36.7 per 100,000 (95% CI, 36.4 to 37.0) in 2022, and 38.3 per 100,000 (95% CI, 38.0 to 38.6) in 2023 (Fig. 1). Although modest, this apparent increase was the first since the inception of SEER 21 in 2000. The trend was similar by sex (Table S1 in the Supplementary Appendix), tumor subsite (Table S2), diagnosis stage (Table S3), and race and ethnicity (Table S4). Age-specific incidence rates seemed to increase in all age groups up to age 65 to 69 (Fig. S1), although the timing of the increase appeared to differ among age groups.

Age-adjusted and age-specific incidence rates were consistent in joinpoint models. Specifically, the modeled age-adjusted incidence rate decreased annually between 2000 and 2019 (APC ranging from -3.74 [95% CI, -4.71 to -3.02] to -0.86 [95% CI, -1.24 to -0.55]) but increased by 2.76% (95% CI, 0.78 to 3.86) per year between 2021 and 2023 (Fig. 1).

## Preliminary Conclusions and Public Health Implications

Colorectal cancer has long been recognized as one of a few cancers in the United States with decreasing incidence rates, largely attributed to screening.<sup>7</sup> Our findings show an apparent increase in the age-adjusted incidence rate for the first time in more than 20 years and increasing age-specific rates through age 69. We speculate that this pattern reflects the previously described birth cohort effect: persons born during and after the 1960s are increasingly at risk of colorectal cancer as they enter middle age and older adulthood.<sup>8</sup> Together with age-related acceleration in incidence rates among a large, aging population, a birth cohort effect might result in substantial growth in colorectal cancer diagnoses and increased demand for cancer treatment and survivorship care.

Age-specific incidence rates, including consistent increases at younger ages, more recent increases up to age 65 to 69, and plateaus at older ages, have implications for colorectal cancer screening. Increasing incidence rates among 45- to 49-year-old persons (APC for 2019 to 2023, 12.76 [95% CI, 9.97 to 15.12]) are likely driven by increases in screening uptake after implementation of national

recommendations to initiate average-risk screening at age 45.<sup>9</sup> Meanwhile, increasing rates among 65- to 69-year-old persons and plateaus among 70- to 74-year-old persons are concerning because these age groups have historically experienced the greatest reductions, and approximately 80% are up to date with screening.<sup>2</sup> Previous gains from screening may now be offset by as yet unknown risk factors.

Covid-19–related disruptions to colorectal cancer screening affected incidence rates during the pandemic and might have contributed to the observed increases in age-adjusted and age-specific incidence rates. However, incidence rates increased across local, regional, and distant stages, without an appreciable shift in stage distribution from the prepandemic era. The increase also persisted in joinpoint models excluding 2020 and 2021 data (APC for 2018 to 2023, 0.61 [95% CI, 0.11 to 1.29]). Recent data from 10 U.S. health systems found that screening returned to prepandemic levels by January 2021.<sup>10</sup> Although postpandemic catch-up in diagnoses cannot be excluded, it seems unlikely to explain the increase in 2023. Additional surveillance is warranted as cancer registry data are annually updated.

## Disclosures

Author disclosures and other supplementary materials are available at [evidence.nejm.org](https://evidence.nejm.org).

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