

Colorectal Cancer Mortality 101



Tyler Kratzer, MPH
ACS Colorectal Cancer Mortality
Disparities Learning Community
May 1, 2025

Outline/Objectives

- Cancer surveillance overview
- Colorectal cancer basics
- Current state of colorectal cancer mortality
- Disparities by race/ethnicity and state



Surveillance Research Basics

What does ACS surveillance research do?

- ❑ Compile and disseminate current scientific information on cancer occurrence



Data sources

Incidence

- Surveillance, Epidemiology, & End Results (SEER) Program, NCI
 - ✓ Long-term
 - ✓ Limited population coverage
 - ✓ Survival, probability of developing/dying, prevalence
- National Program of Cancer Registries, CDC
 - ✓ Since 1995
 - ✓ More complete
- North American Association of Central Cancer Registries (NAACCR)
 - ✓ ~100% coverage in recent years
 - ✓ Delay-adjusted from 1998 (90% coverage)



Data sources and analysis



Mortality

National Center for Health Statistics

Underlying cause of death recorded on death certificates filed in 50 states & DC

- ✓ 1930-2023
- ✓ 99+% population coverage

Additional statistics

- 2025 Case/Death Estimates
 - ✓ Spatio-temporal modeling & projection
 - ✓ Method revised in 2021
- Trend & other analyses – NCI software
 - ✓ SEER*Stat, version 8.3.9
 - ✓ Joinpoint Regression Program, version 4.9.0.1

Data sources and analysis



Cancer Screening Prevalence

National Health Interview Survey

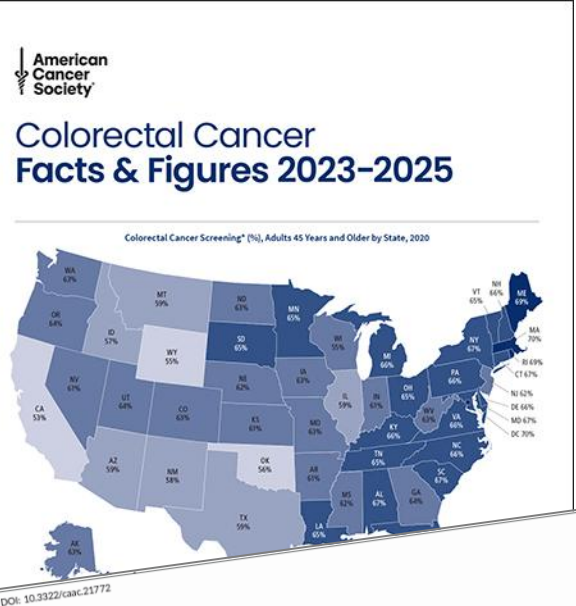
- National Center for Health Statistics
- Computer assisted in-person interviews of adults 18 years and older
- National estimates on health behaviors such as cancer screening

Behavioral Risk Factor Surveillance System

- CDC
- Computer-assisted telephone interviews of adults 18 years and older
- State estimates on health behaviors such as cancer screening

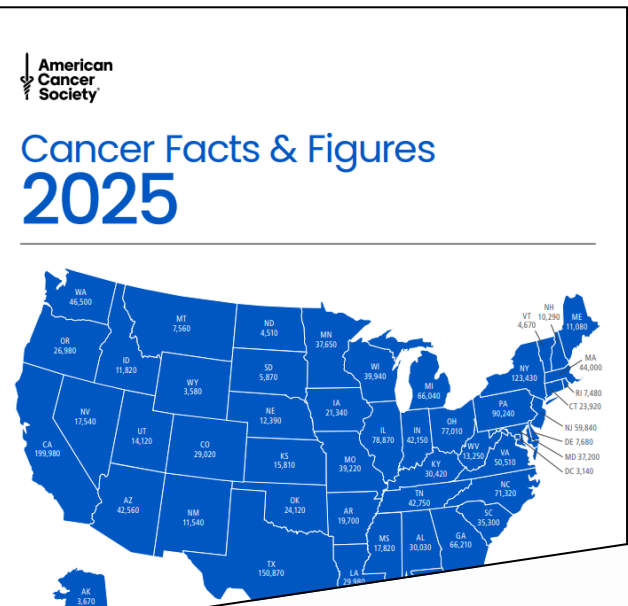
ACS tracks colorectal cancer in the US

Occurrence



Colorectal cancer statistics, 2023
Rebecca L. Siegel MPH¹ | Nikita Sandeep Wagle MBBS, MHA, PhD¹ |
Andrea Cercek MD² | Robert A. Smith PhD³ | Ahmedin Jemal DVM, PhD¹

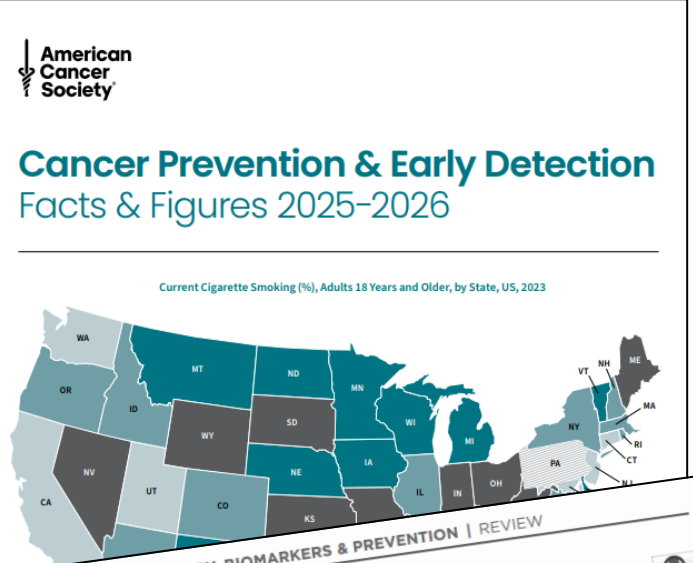
Abstract
Colorectal cancer (CRC) is the second most common cause of cancer death in the United States. Every 3 years, the American Cancer Society provides an update of CRC statistics based on incidence from population-based cancer registries and mortality from the National Center for Health Statistics. In 2023, approximately 153,020 individuals will be diagnosed with CRC and 52,550 will die from the disease, including 19,550 cases and 3750 deaths in individuals younger than 50 years. The decline in CRC incidence slowed from 3%-4% annually during the 2000s to 1% annually during 2011-2019, driven partly by an increase in individuals younger than 55 years of 1%-2% annually since the mid-1990s. Consequently, the proportion of cases among those younger than 55 years increased from 11% in 1995 to 20% in 2019. Incidence since circa 2010 increased



Cancer statistics, 2025
Rebecca L. Siegel MPH¹ | Tyler B. Kratzer MPH¹ | Angela N. Giaquinto MSPH¹ |
Hyuna Sung PhD¹ | Ahmedin Jemal DVM, PhD²

Abstract
Each year, the American Cancer Society estimates the numbers of new cancer cases and deaths in the United States and compiles the most recent data on population-based cancer occurrence and outcomes using incidence data collected by central cancer registries (through 2021) and mortality data collected by the National Center for Health Statistics (through 2022). In 2025, 2,041,910 new cancer cases and 618,120 cancer deaths are projected to occur in the United States. The cancer mortality rate continued to decline through 2022, averting nearly 4.5 million deaths since 1991 because of smoking reductions, earlier detection for some cancers, and

Screening & Risk Factors

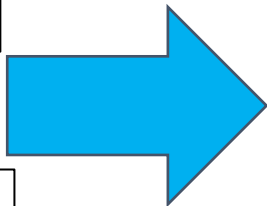
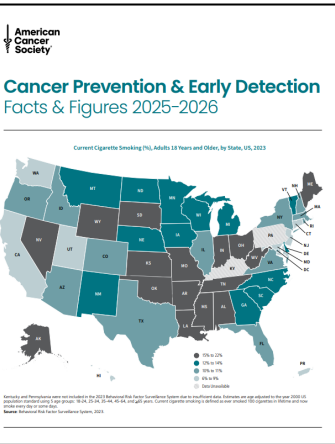
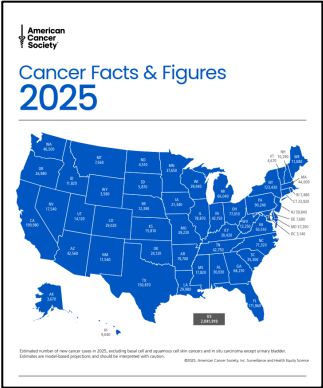


Prevalence and Review of Major Modifiable Cancer Risk Factors, HPV Vaccination, and Cancer Screenings in the United States: 2025 Update
Priti Bandi, Jessica Star, Natalia Mazzitelli, Nigar Nargis, Farhad Islami, Rebecca L. Siegel, K. Robin Yabroff, and Ahmedin Jemal

ABSTRACT
This study presents national- and state-level prevalence of major modifiable cancer risk factors, human papillomavirus vaccination, and cancer screenings among US adults in the years during and after the COVID-19 pandemic compared with prepandemic years. Smoking prevalence declined to 11% in 2023 from 14.2% in 2019. Native individuals, Black males, lower-educated individuals, and bisexual prevalence remained higher among American Indian/Alaska Native individuals. Menthol-flavored cigarettes, which increase smoking sexual females. Menthol-flavored cigarettes, which increase smoking uptake and reduce cessation success, were used by 36.3% of currently smoking adults in 2023; this level is more than double in Black individuals (75.6%). Excess body weight prevalence during August 2021 to August 2023 (overweight: 31.8%; obesity: 40.4%) was stable compared to levels during 2017 to March 2020. Remaining unchanged from 2020, more than half (51.5%) of adults reported not meeting recommended aerobic activity levels, and 6.4% reported heavy alcohol use in 2022. Diverging from the previously increasing trend, up-to-date human papillomavirus vaccination prevalence was flat between 2021 and 2023 (61.4% in ages 13-17 years). Rebounding, the United States Preventive Services Task Force recommendation-concordant prevalence increased from 2019 to 2023 for breast (79.9%) and colorectal (60.4%) cancer screening. Ongoing surveillance with reliable population-representative survey datasets is essential to track progress and develop effective cancer prevention and control efforts.

cancer.org/statistics

Cancer Statistics Center





Cancer Statistics Center[By State](#)[By Cancer Type](#)[Cancer Occurrence](#)[Screening/Risk Factors](#)[Resources](#)[Contact Us](#)

Donate

In the U.S. in 2025, there will be an estimated

2,041,910 new cancer cases and **618,120 cancer deaths.**

Every Day

that's approximately

5,590

1,690

new casesdeaths

Explore Cancer Statistics

Surveillance Research Basics

Important terms

Cancer Incidence Rate

- The number of people who have a new diagnosis of cancer within a defined population
- During a specified time period
- Incidence rates are usually given as the count per 100,000 population
- Adjusted to account for differences in age
- Example: 455.6 cancer cases per 100,000 people in the US during 2017 to 2021

Relative cancer survival rate

- Shows whether a type of cancer shortens the expected lifespan
- Compares survival of a group with cancer to that of a group without cancer
- Groups are of the same age, race, and sex
- Uses a specified period of time, typically 5 years after diagnosis
- Example: 64% of people diagnosed with colorectal cancer during 2014 to 2020 were alive 5 years after diagnosis



Surveillance Research Basics

Important terms

Cancer mortality rate (also called cancer death rate):

- The number of people who die from cancer within a defined population.
- Reported as the number of deaths per 100,000 people.
- The cancer death rate is **not confined to people with cancer**, it includes all people in the population.
- For example, the cancer death rate for Black women is the number of Black women who die from cancer out of every 100,000 Black women in a population (not out of 100,000 women with cancer).
- Death rates are the best measures researchers use to track progress against cancer.
- Like incidence rates, mortality rates are adjusted for differences in age.



Why do we age adjust?

- ❑ Age is the biggest risk factor for developing cancer
- ❑ Populations grow and age
- ❑ Allows comparison of rates in populations with distinct age distributions, such as different years



Surveillance Research Basics

What does ACS surveillance research do?

- ☐ Compile and disseminate current scientific information on cancer occurrence
- ☐ Project the numbers of new cancer cases and deaths expected each year



Leading Sites of New Cancer Cases and Deaths – 2025 Estimates



Estimated New Cases	Male			 	Female		
	Prostate	313,780	30%		Breast	316,950	32%
	Lung & bronchus	110,680	11%		Lung & bronchus	115,970	12%
	Colon & rectum	82,460	8%		Colon & rectum	71,810	7%
	Urinary bladder	65,080	6%		Uterine corpus	69,120	7%
	Melanoma of the skin	60,550	6%		Melanoma of the skin	44,410	4%
	Kidney & renal pelvis	52,410	5%		Non-Hodgkin lymphoma	35,210	4%
	Non-Hodgkin lymphoma	45,140	4%		Pancreas	32,490	3%
	Oral cavity & pharynx	42,500	4%		Thyroid	31,350	3%
	Leukemia	38,720	4%		Kidney & renal pelvis	28,570	3%
	Pancreas	34,950	3%		Leukemia	28,170	3%
	All sites	1,053,250			All sites	988,660	

Estimated Deaths	Male			 	Female		
	Lung & bronchus	64,190	20%		Lung & bronchus	60,540	21%
	Prostate	35,770	11%		Breast	42,170	14%
	Colon & rectum	28,900	9%		Pancreas	24,930	8%
	Pancreas	27,050	8%		Colon & rectum	24,000	8%
	Liver & intrahepatic bile duct	19,250	6%		Uterine corpus	13,860	5%
	Leukemia	13,500	4%		Ovary	12,730	4%
	Esophagus	12,940	4%		Liver & intrahepatic bile duct	10,840	4%
	Urinary bladder	12,640	4%		Leukemia	10,040	3%
	Non-Hodgkin lymphoma	11,060	3%		Non-Hodgkin lymphoma	8,330	3%
	Brain & other nervous system	10,170	3%		Brain & other nervous system	8,160	3%
	All sites	323,900			All sites	294,220	

Estimates exclude US territories and are rounded to the nearest 10; cases exclude basal cell and squamous cell skin cancers and in situ carcinoma except urinary bladder. Ranking is based on modeled projections and may differ from observed data.

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Surveillance Research Basics

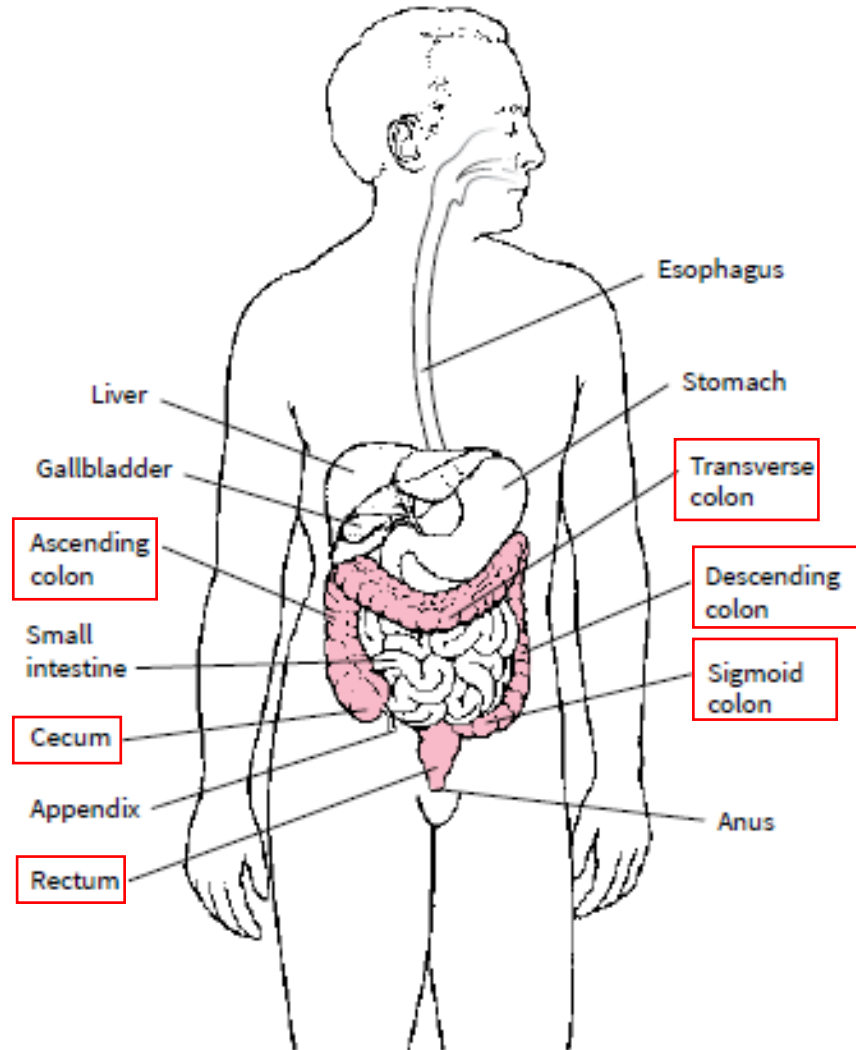
What does ACS surveillance research do?

- ☐ Compile and disseminate current scientific information on cancer occurrence
- ☐ Project the numbers of new cancer cases and deaths expected each year
- ☐ Identify and track emerging trends and inequalities



Colorectal Cancer Basics

Figure 1. Anatomy of the Gastrointestinal System



©2017 American Cancer Society, Inc., Surveillance Research

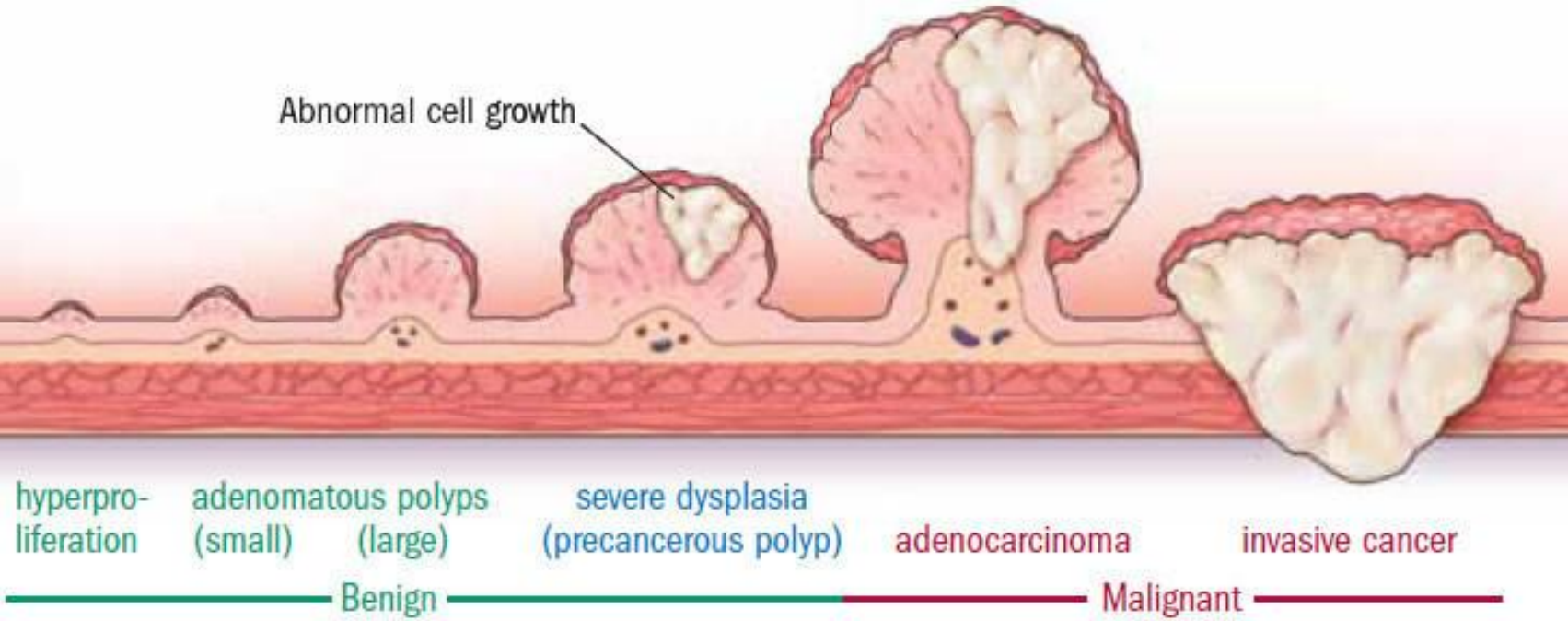
Proximal (right) Colon: Cecum, Ascending, and Transverse

Distal (left) Colon: Descending and Sigmoid

Rectum



Colorectal Cancer Basics



Leading Sites of New Cancer Cases and Deaths – 2025 Estimates



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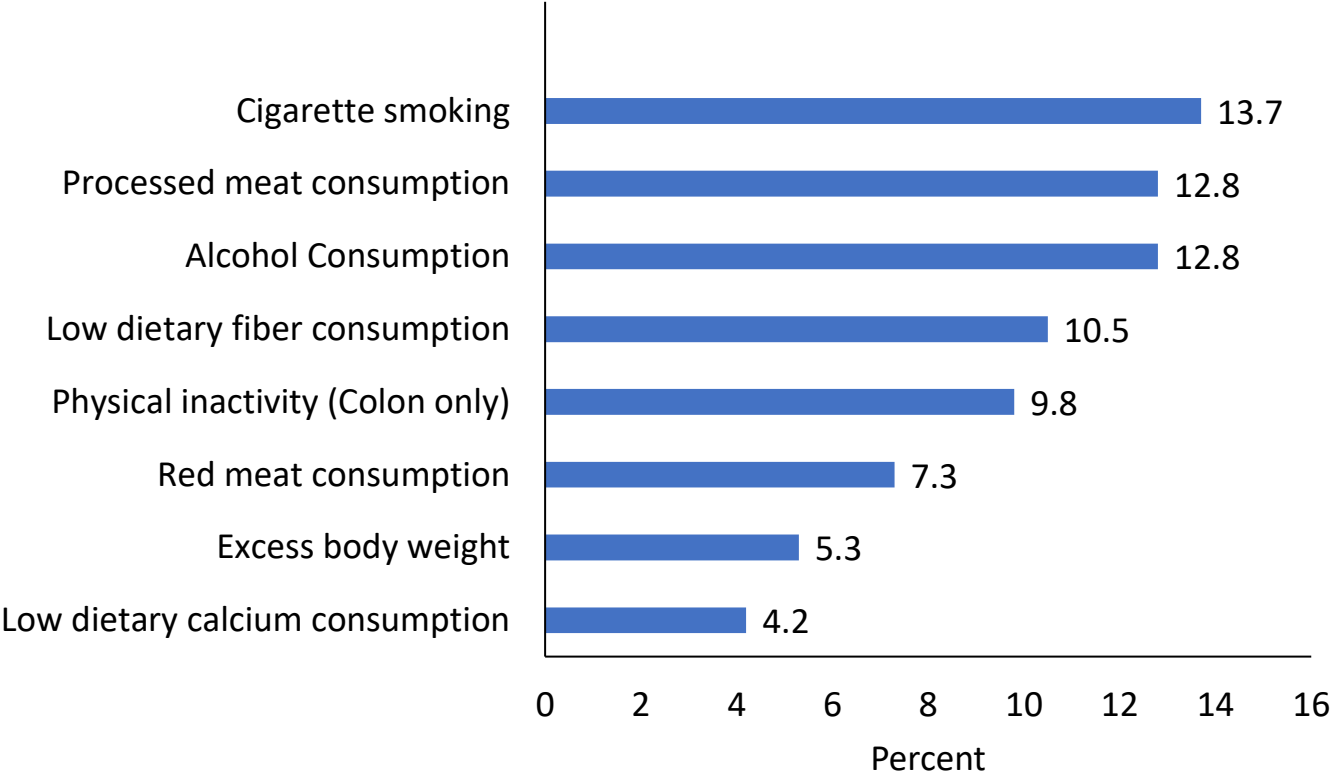
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Colorectal Cancer Basics

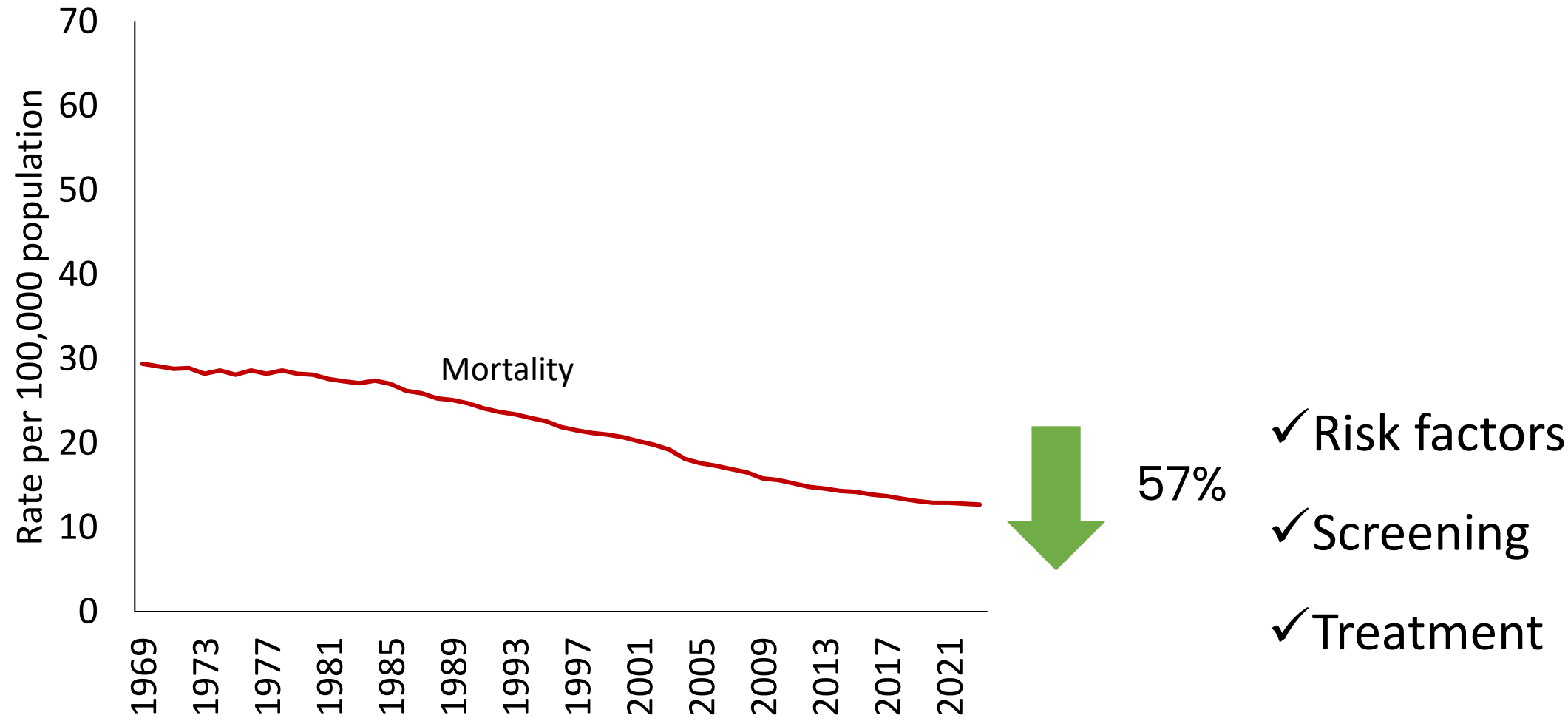
Proportion of colorectal cancer cases attributable to specified risk factors



54.2% of all colorectal cancer cases are attributable to modifiable risk factors



Long-term trends in colorectal cancer incidence and mortality, 1969-2023



December 5, 2024

Estimation of Cancer Deaths Averted From Prevention, Screening, and Treatment Efforts, 1975-2020

Katrina A. B. Goddard, PhD¹; Eric J. Feuer, PhD¹; Jeanne S. Mandelblatt, MD, MPH²; [et al](#)

[» Author Affiliations](#)

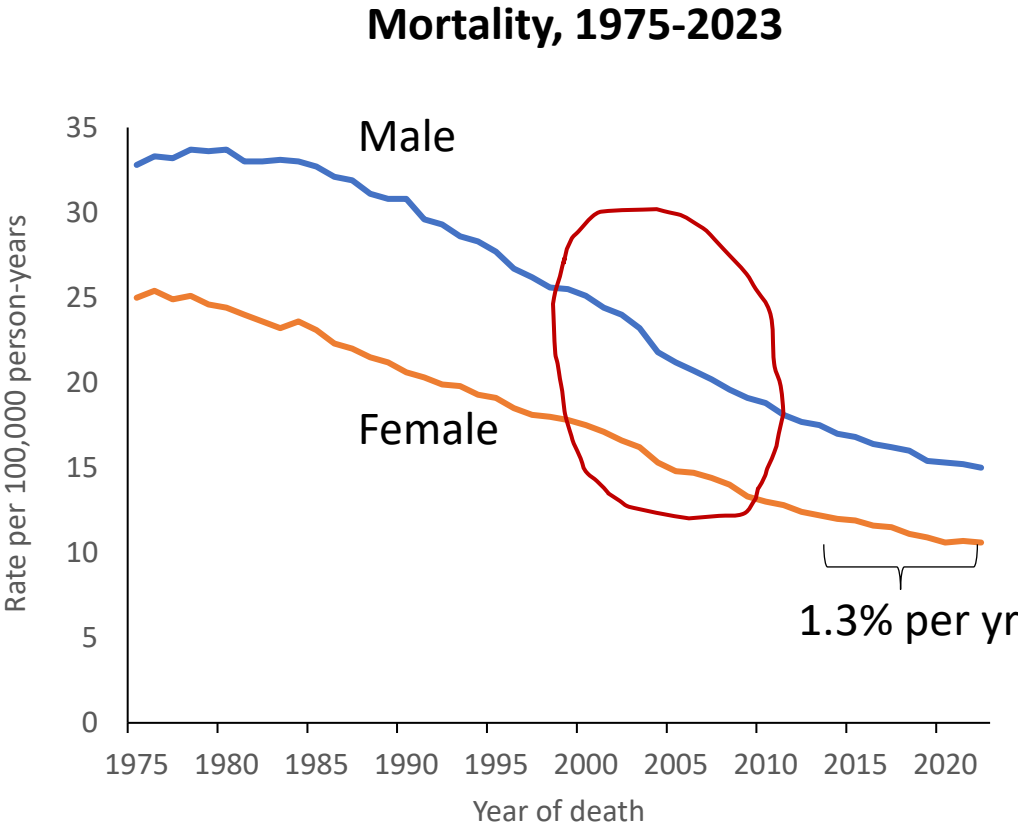
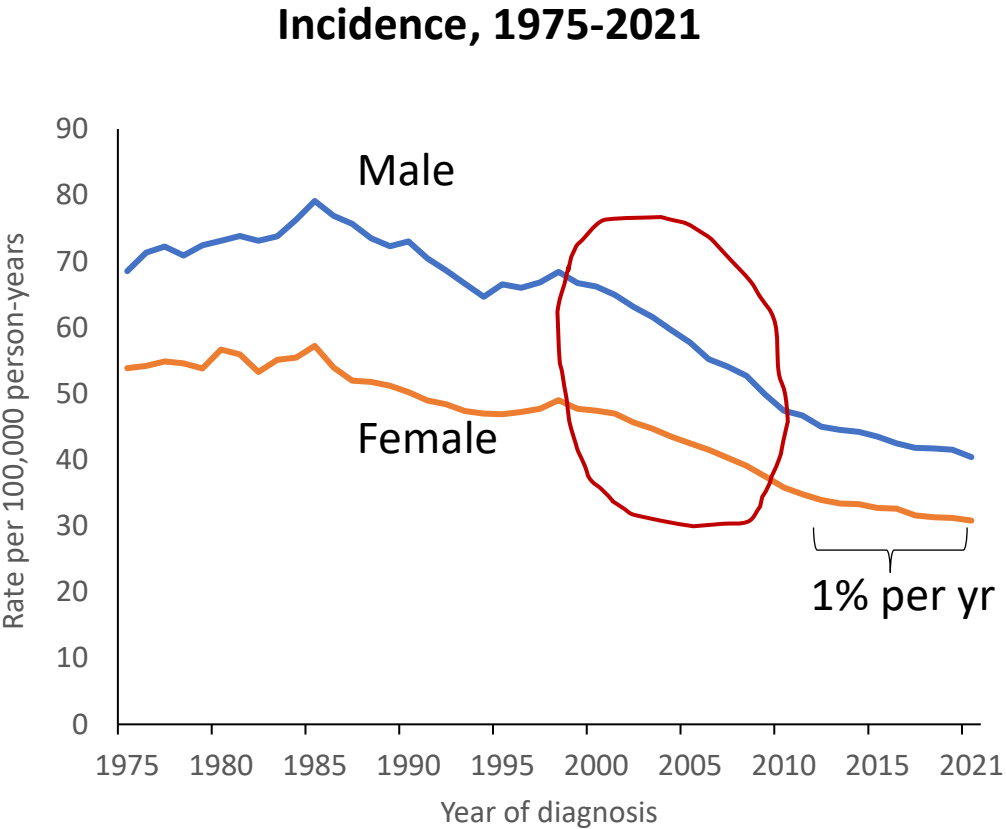
JAMA Oncol. 2025;11(2):162-167. doi:10.1001/jamaoncol.2024.5381

940,000 Colorectal cancer deaths averted from 1975-2020

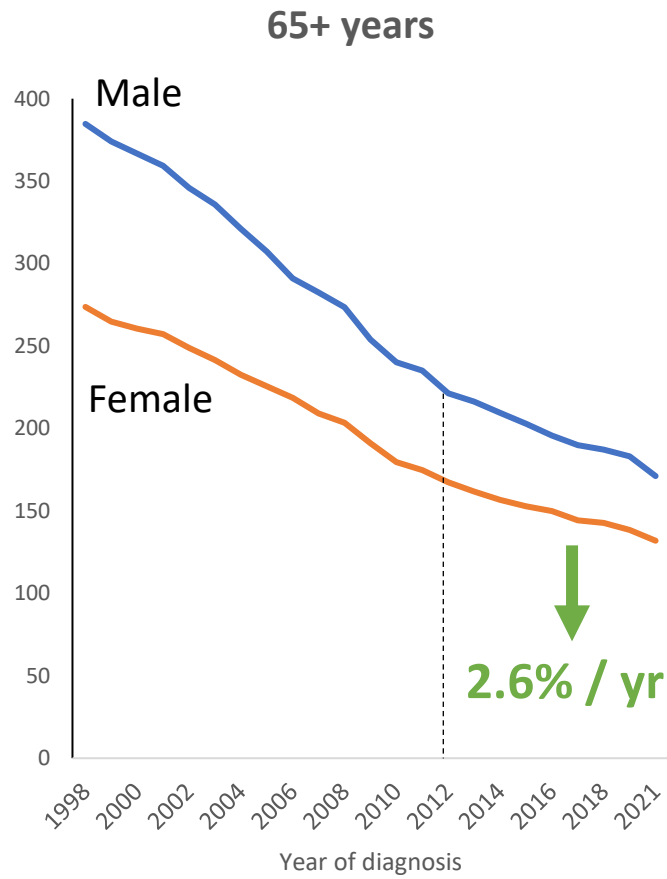
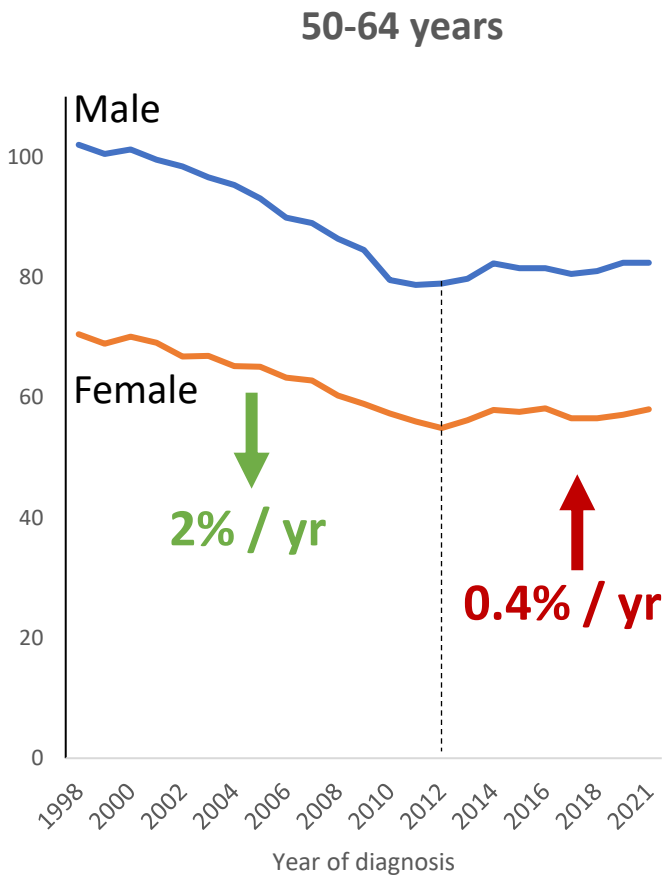
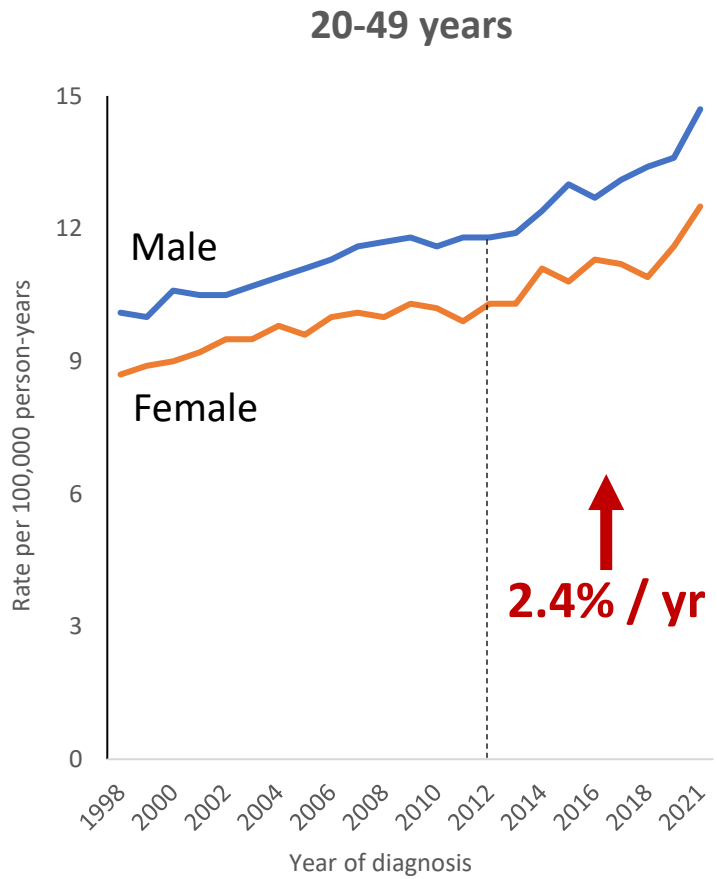
79% Prevention and screening

21% Treatment advances

Long-term trends in colorectal cancer incidence & mortality, US

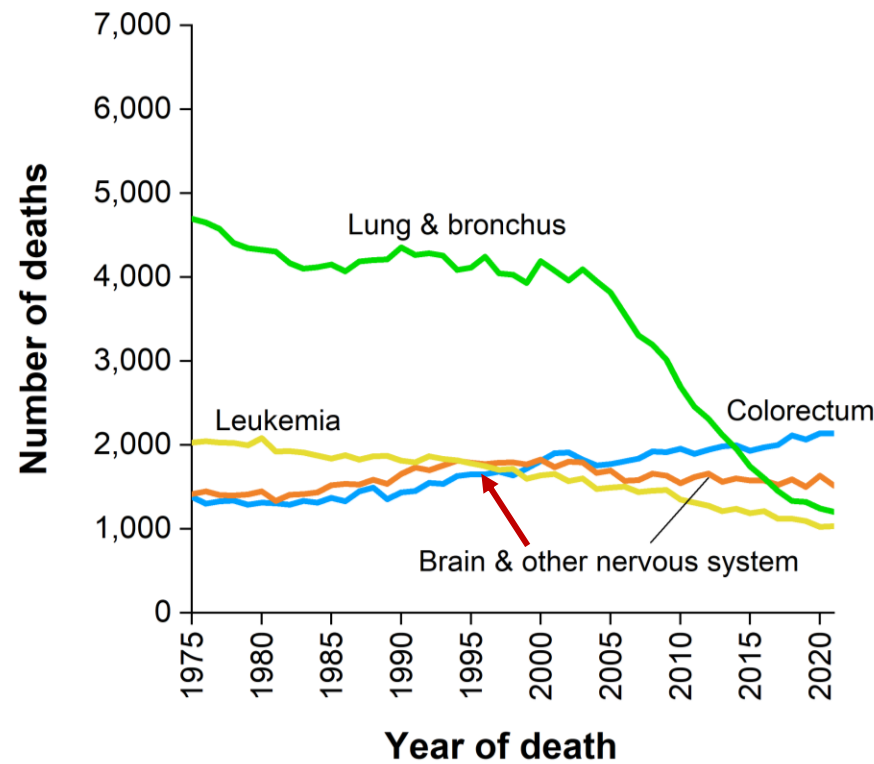


Trends in colorectal cancer incidence by age, 1998–2021

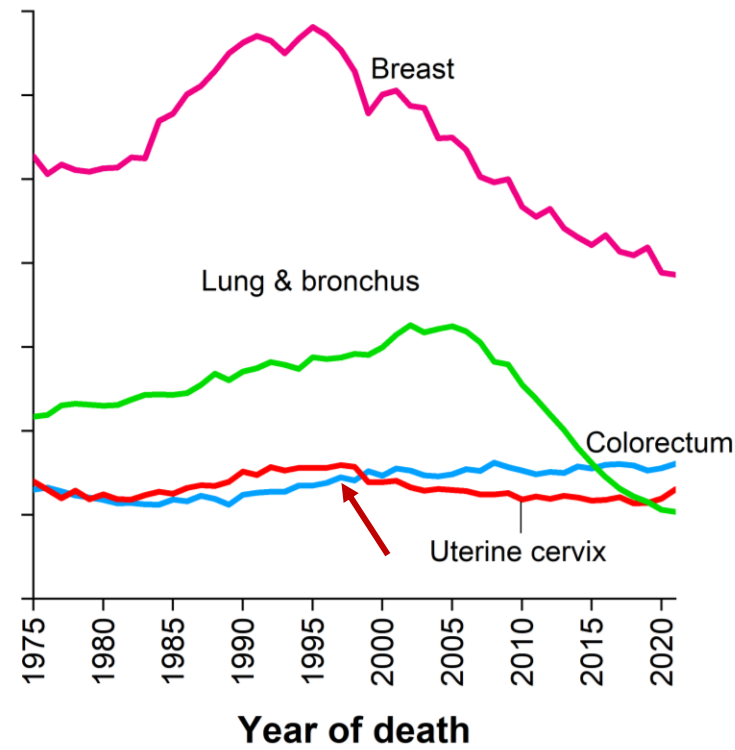


Leading causes of cancer death in adults <50 years

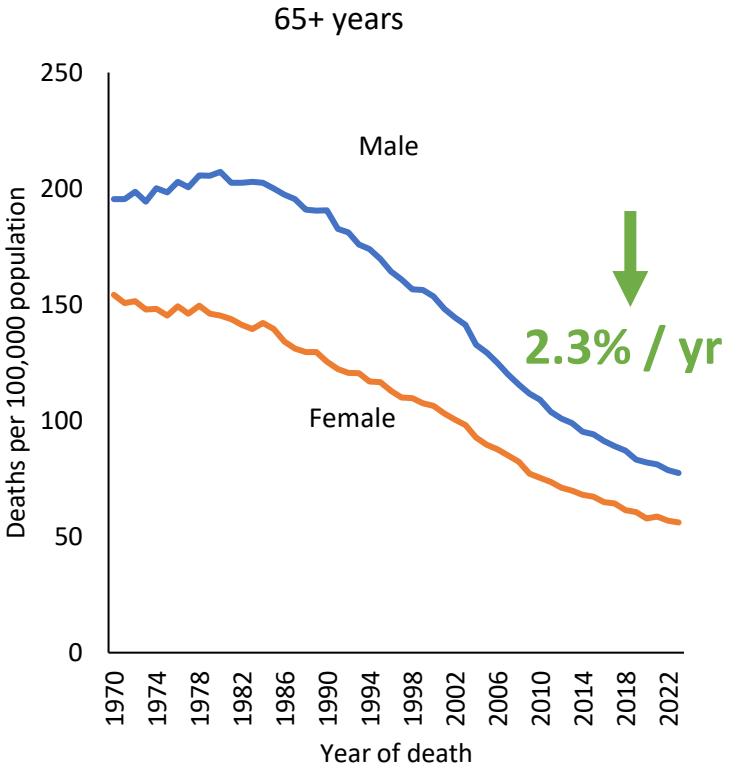
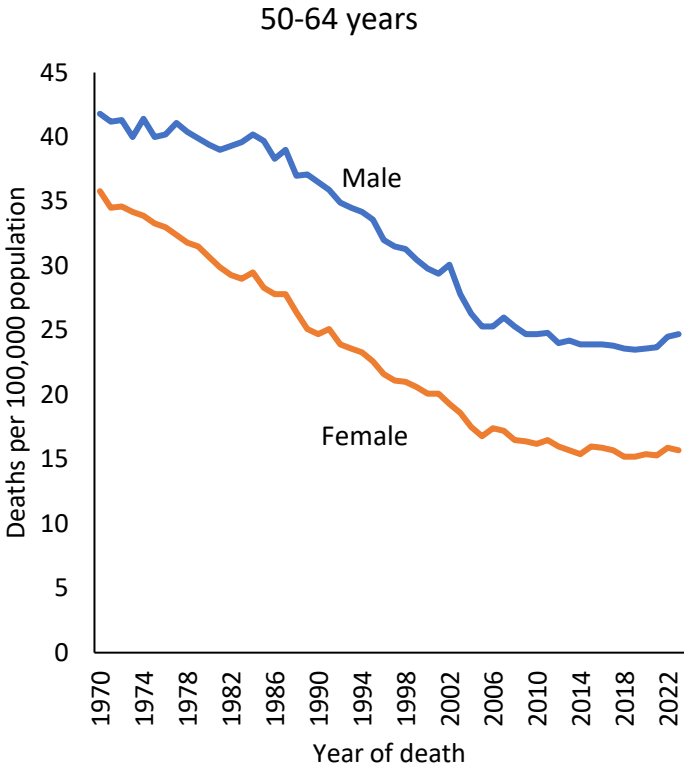
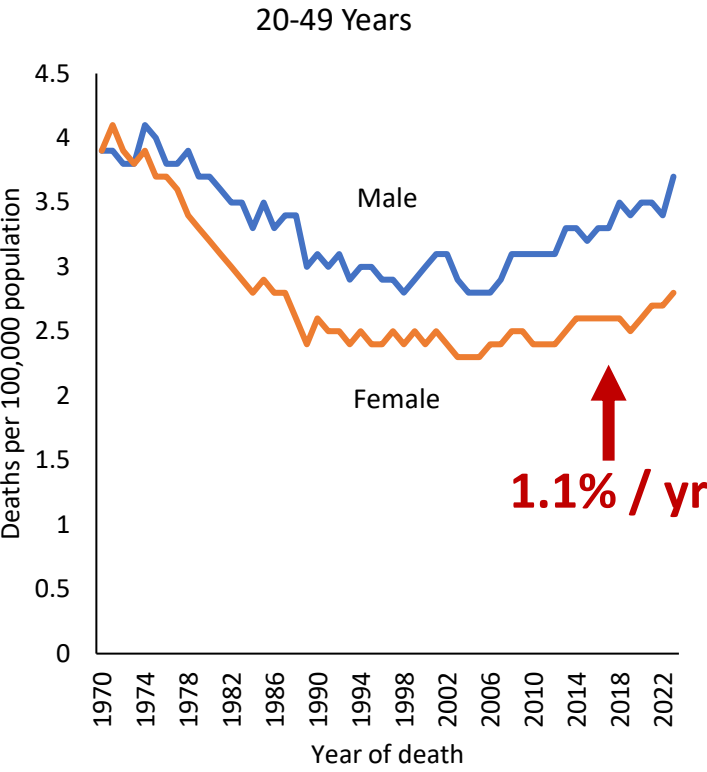
Male



Female



Trends in colorectal cancer mortality by age, 1970–2023



Estimated new colorectal cancer cases and deaths in 2025

CASES		
Age, years	Total	Percent
0-49	21,010	14%
50-64	47,550	31%
65+	85,710	56%
All ages	154,270	100%

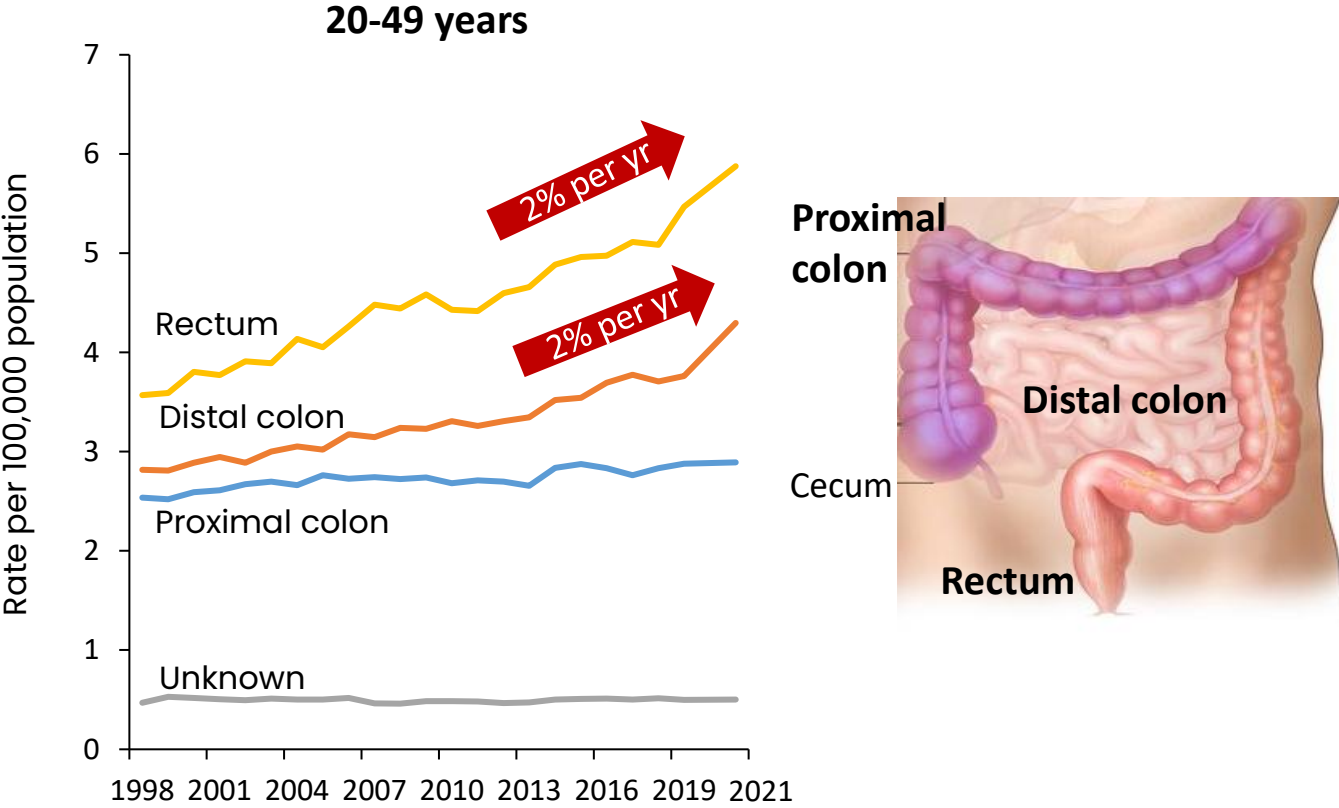
DEATHS		
Age, years	Total	Percent
0-49	3,810	7%
50-64	13,430	25%
65+	35,660	67%
All ages	52,900	100%

0-64 years: 44% of cases, up from **27%** in 1995

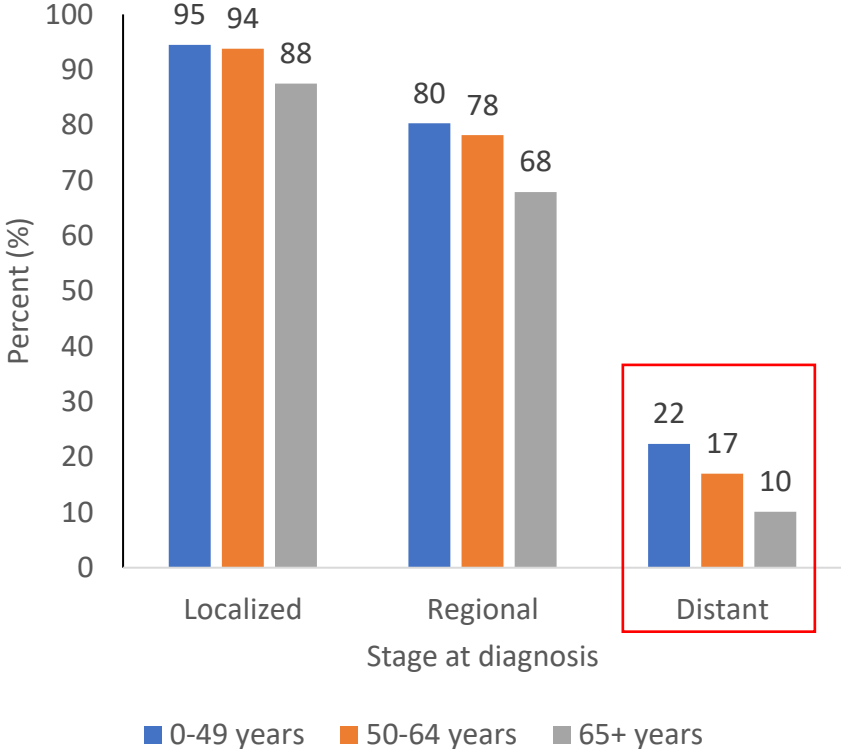
0-49 years: 58 diagnoses every day



Trends in colorectal cancer incidence by subsite & age



5-year relative survival by stage at diagnosis and age

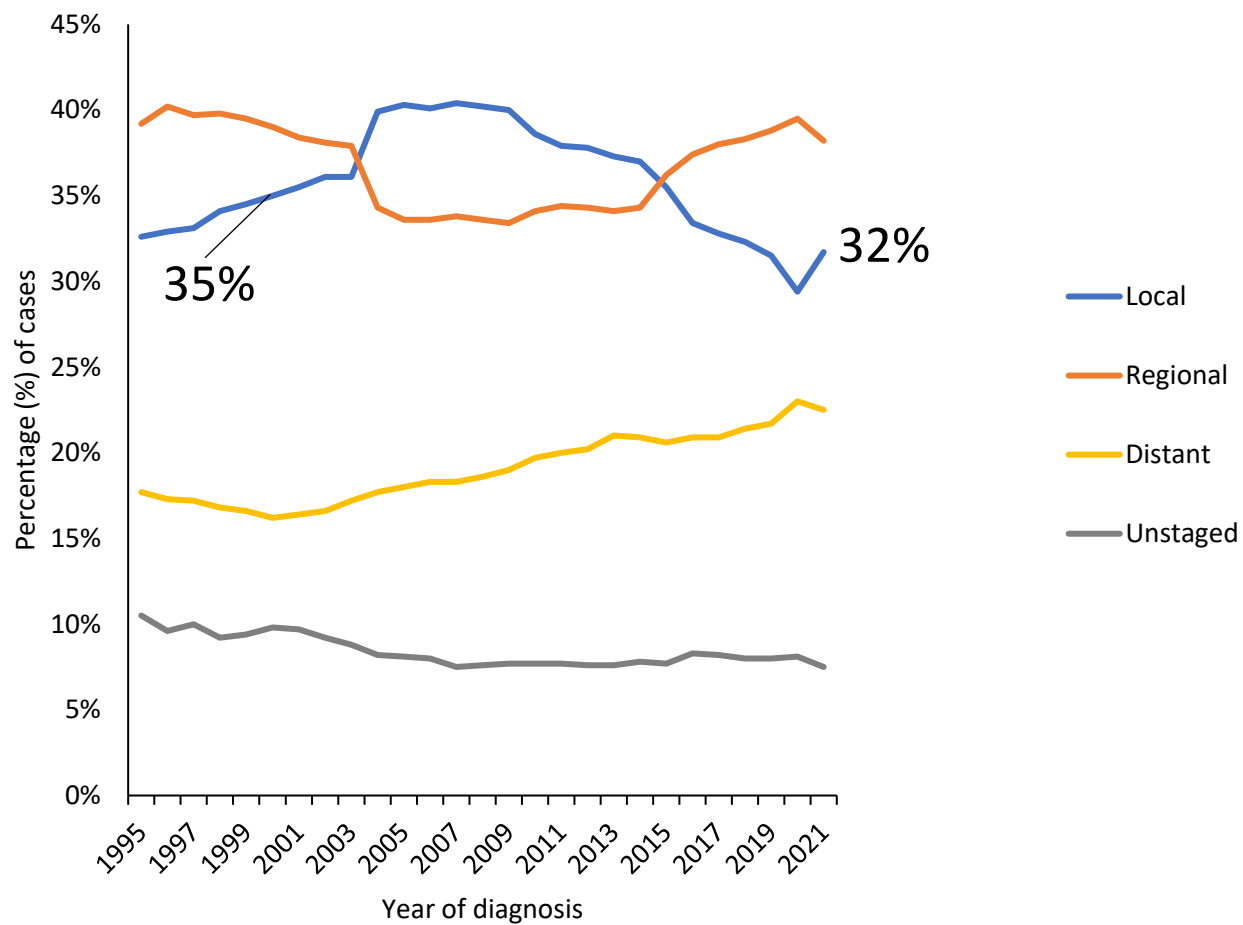


Adapted from Siegel et al. Colorectal Cancer Statistics 2023, *CA Cancer J Clin*

Why can't we show mortality data by subsite?

- Decades of messaging that referred to both colon and rectum cancers as **colon** cancer
- People didn't want to hear about or say **rectal/rectum**
- **Drives misclassification on death certificates**
- **SAY** colorectum, colorectal, rectum, rectal (when talking about rectal cancer specifically)
- **DON'T** use colon as a catch-all.

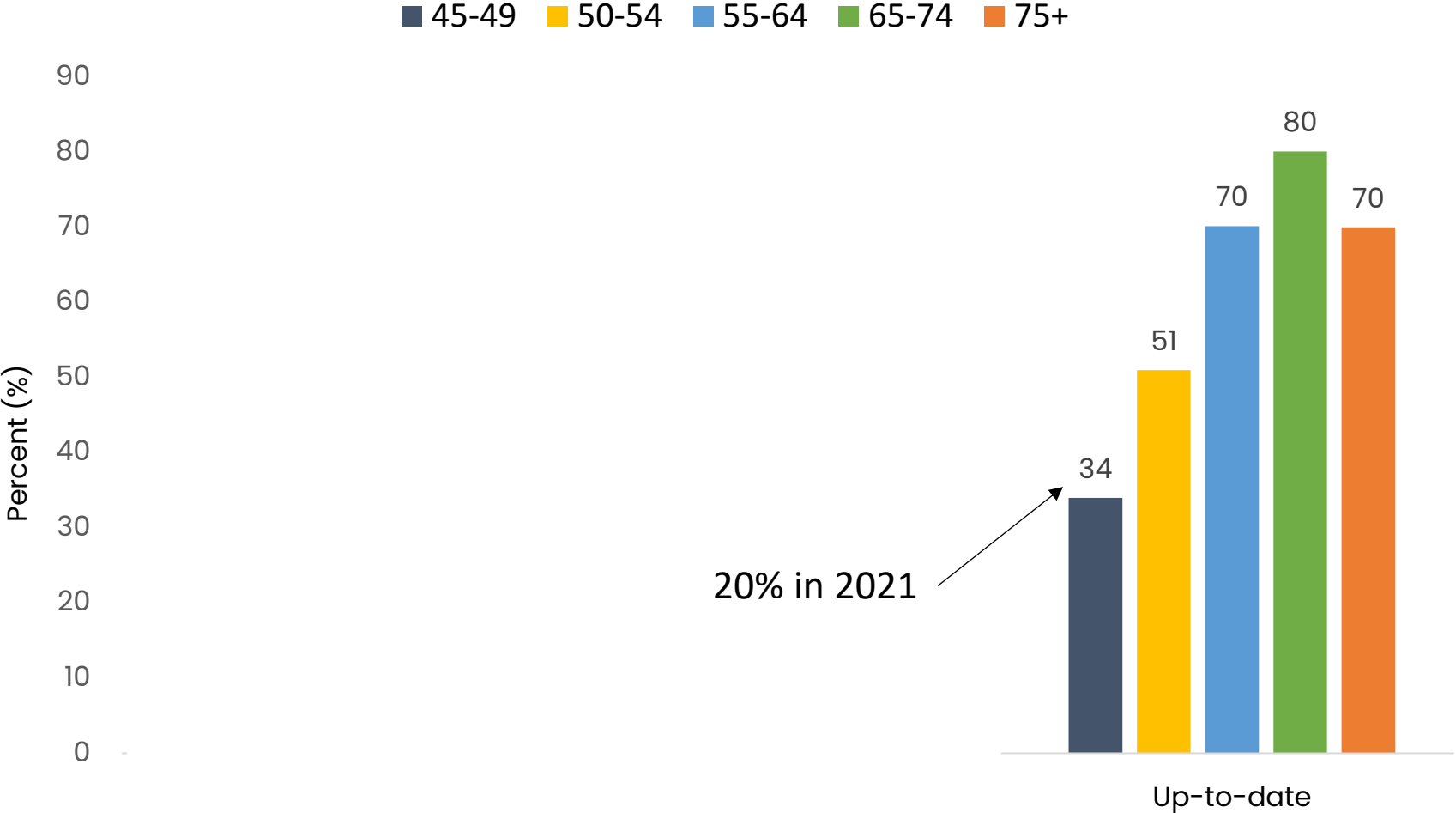
Changes in Colorectal Cancer Stage Distribution, 1995–2021



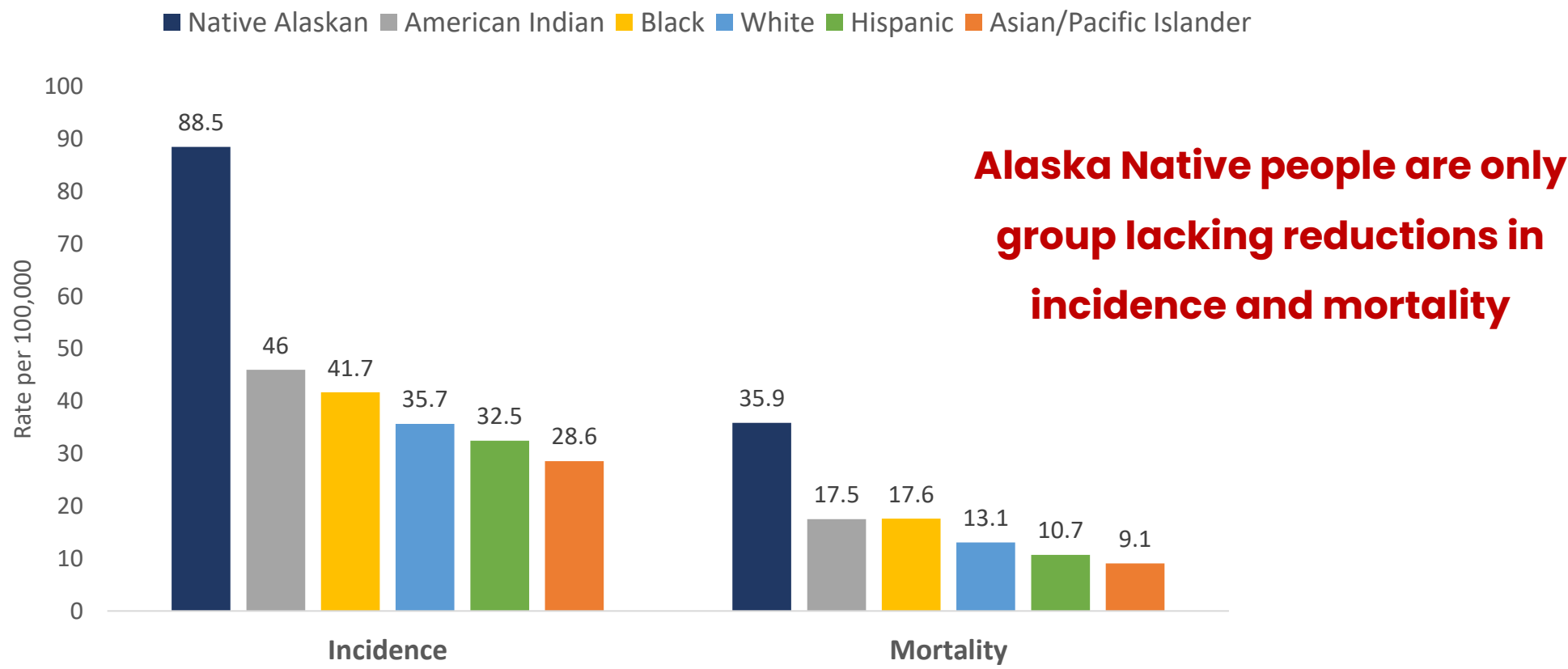
In 2021, 3 in 5 diagnoses are advanced



Colorectal cancer screening by age, 2023



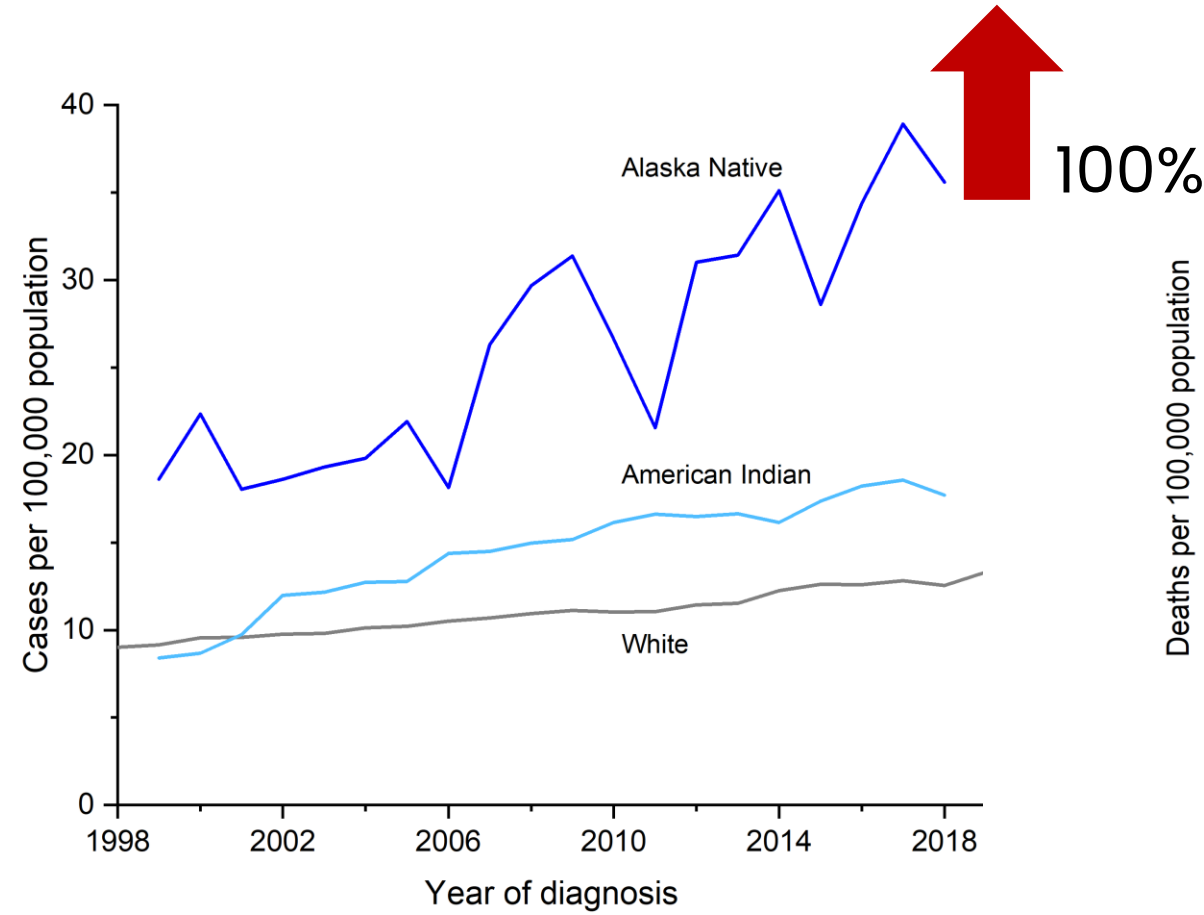
Colorectal Cancer Incidence (2015–2019) and Mortality (2016–2020) by Race & Ethnicity



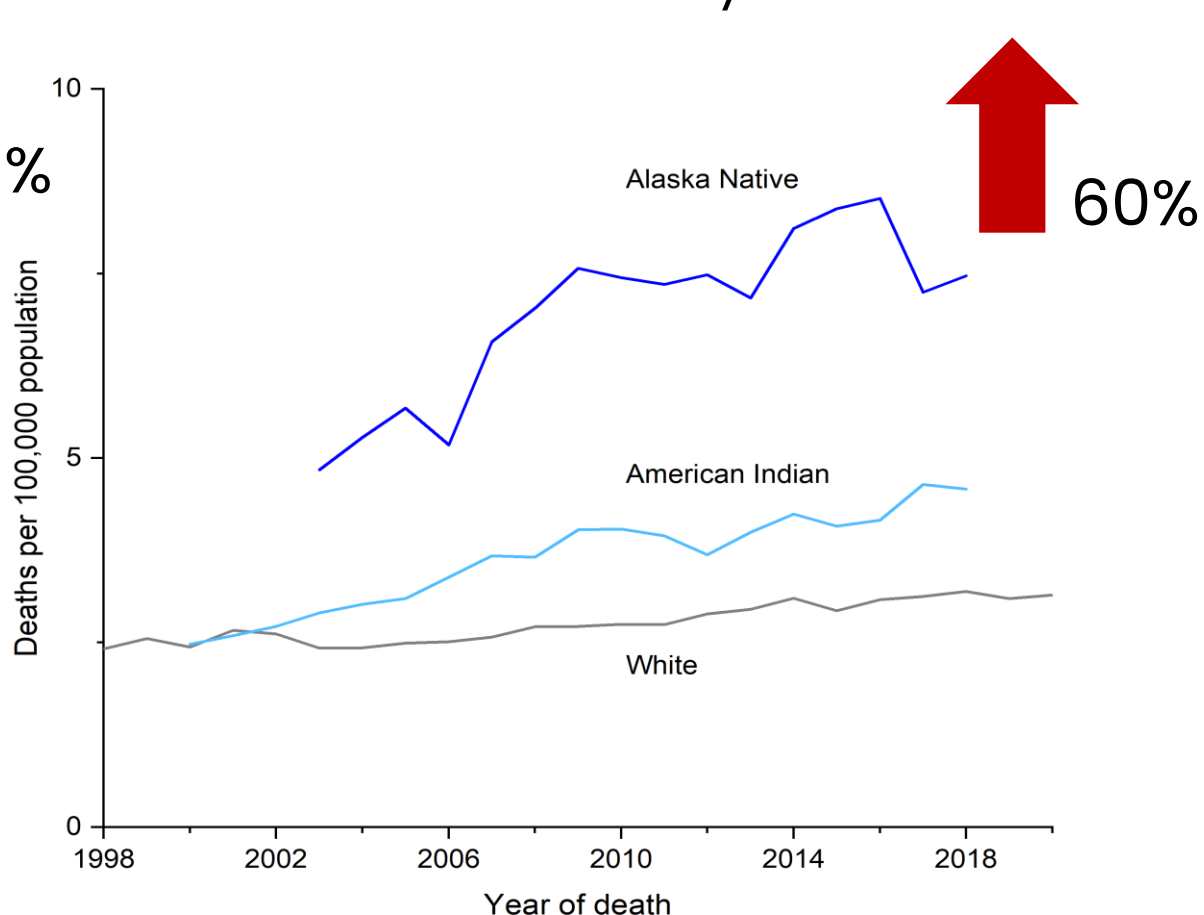
Native American incidence limited to Purchased/Referred Care Delivery Area counties; mortality are adjusted for racial misclassification using factors from the National Center for Health Statistics.

Early-onset colorectal cancer trends in Native Americans

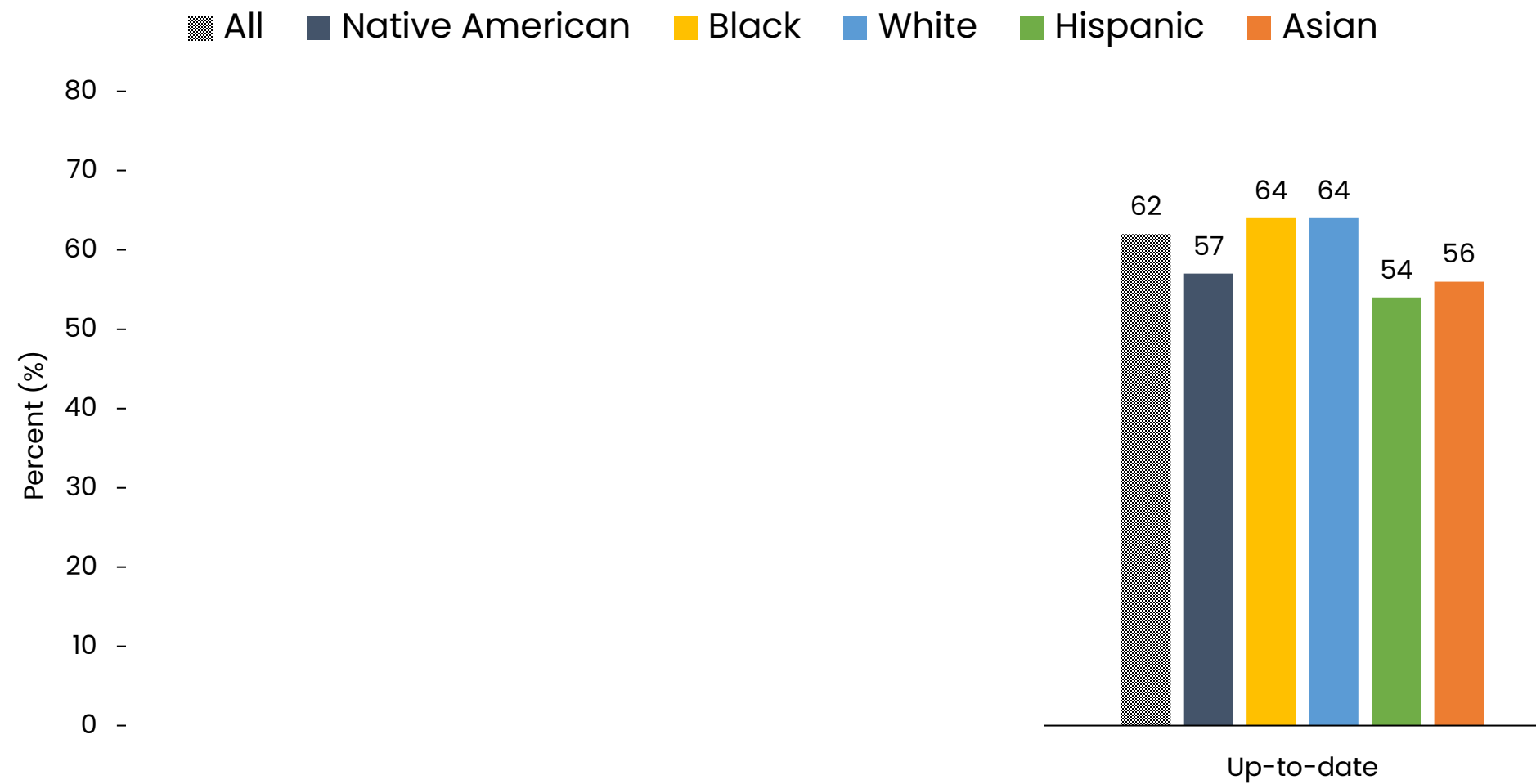
Incidence



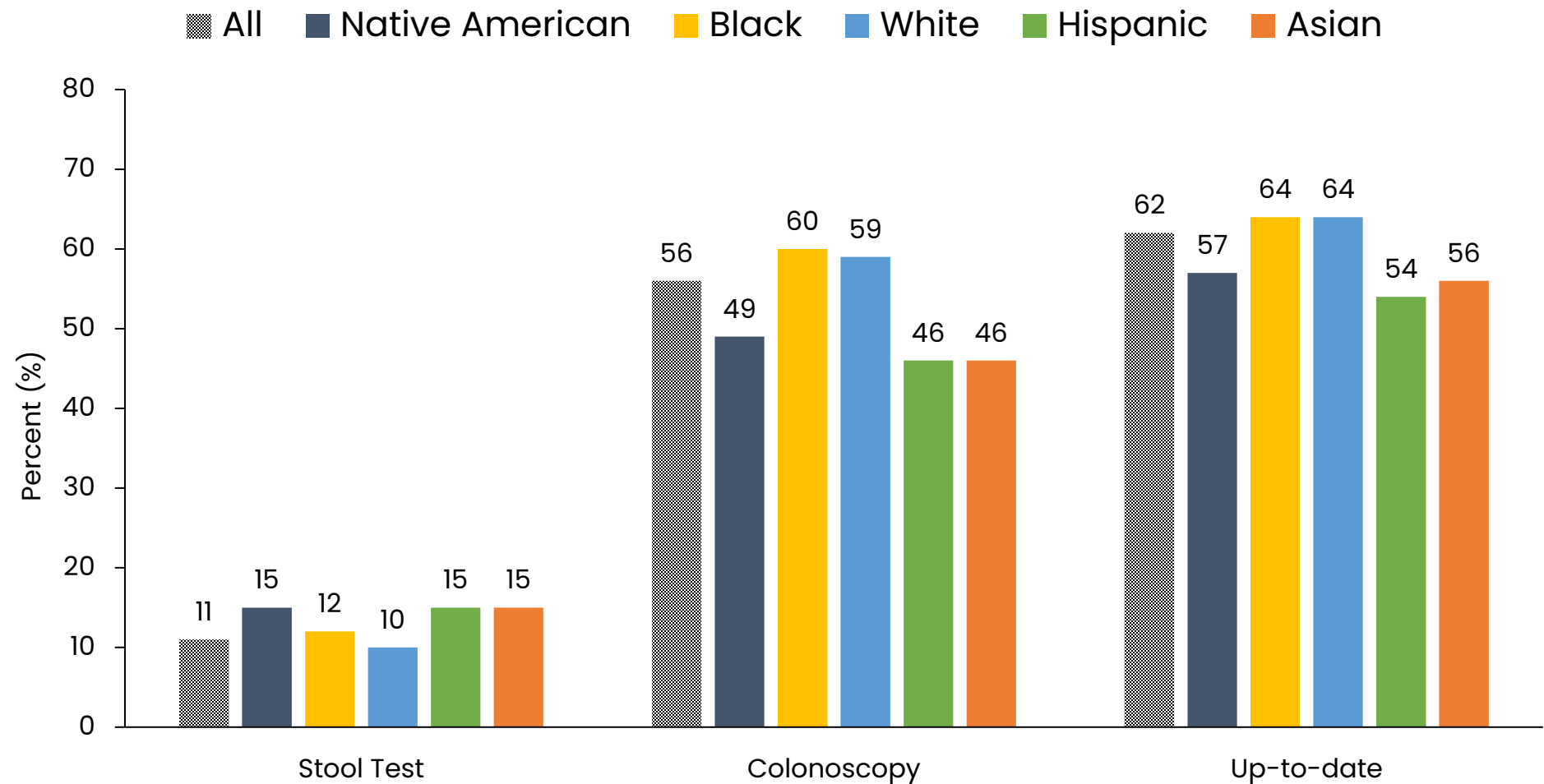
Mortality



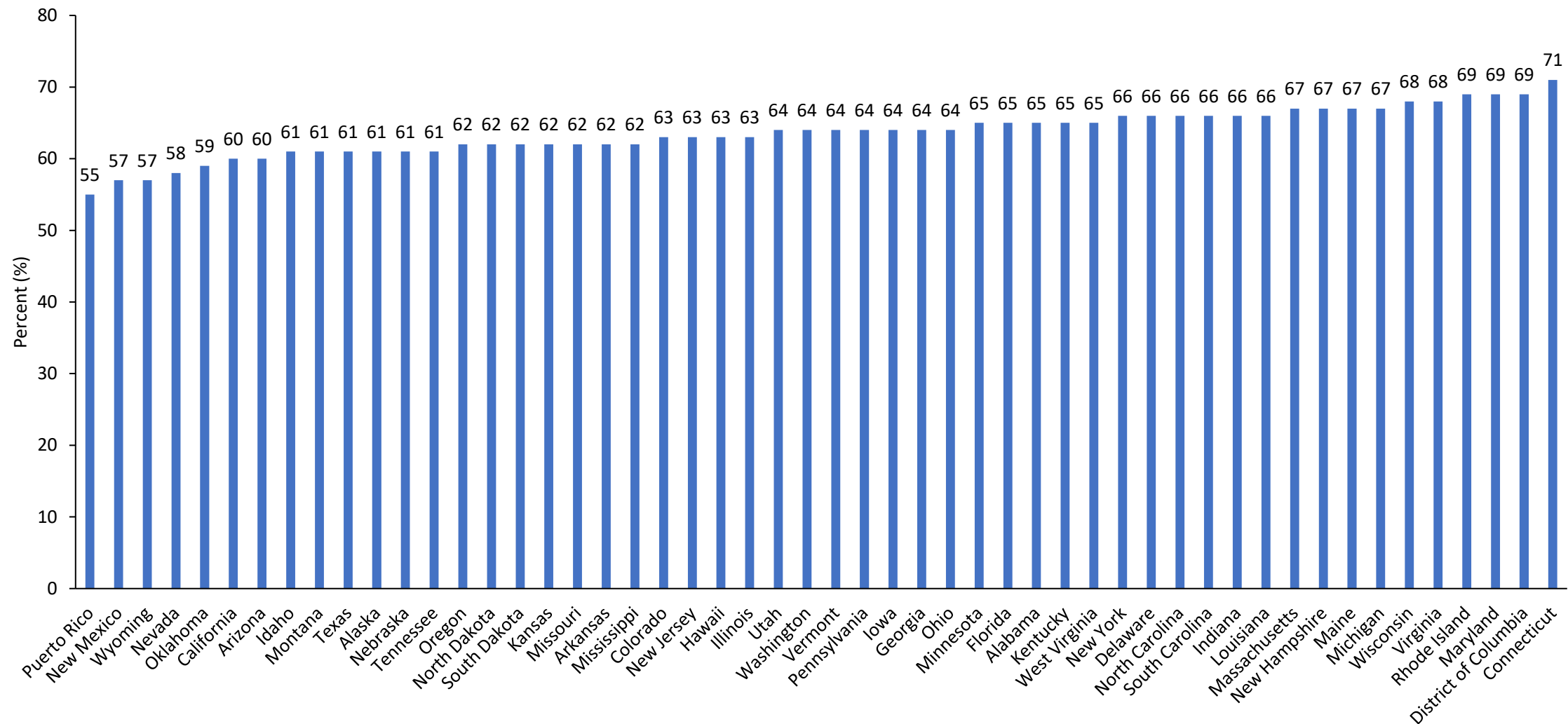
Colorectal cancer screening by race & ethnicity, ages 45+ years, 2023



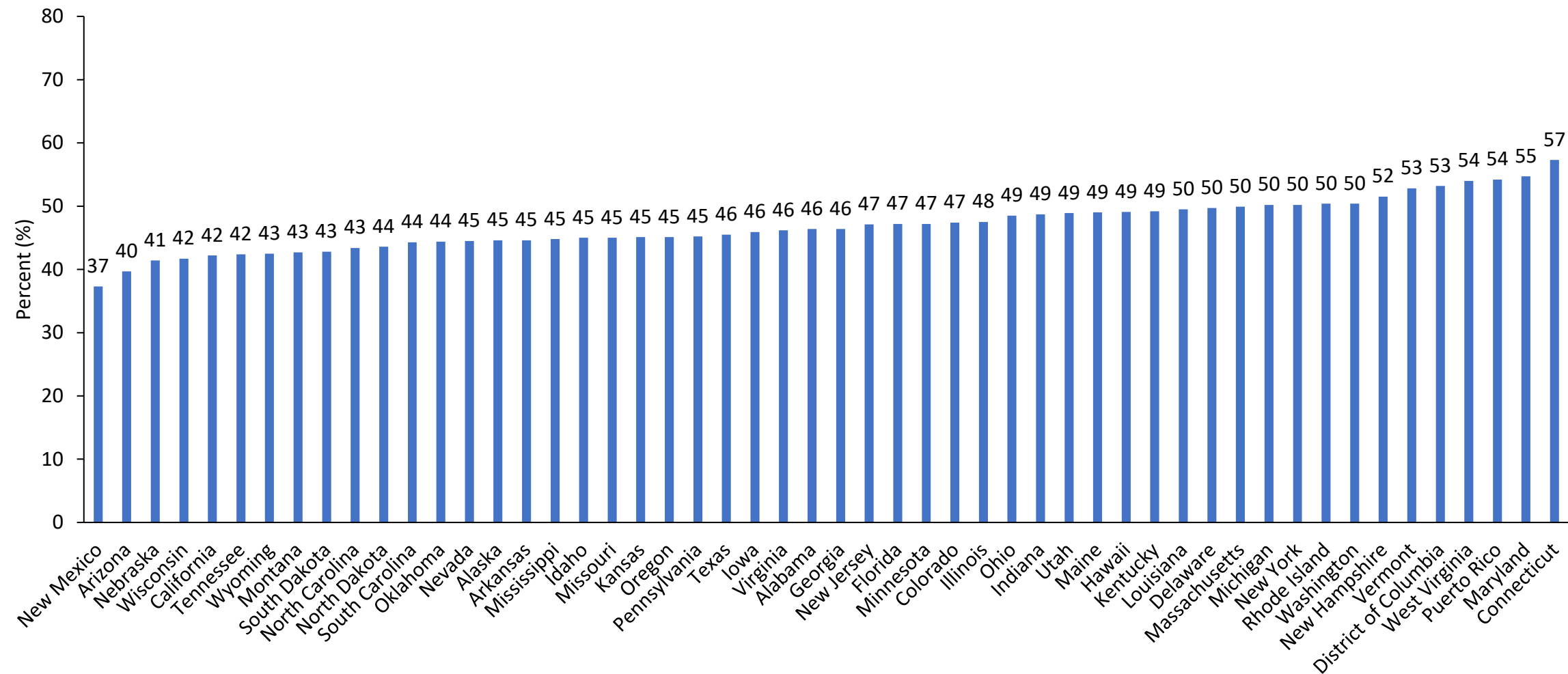
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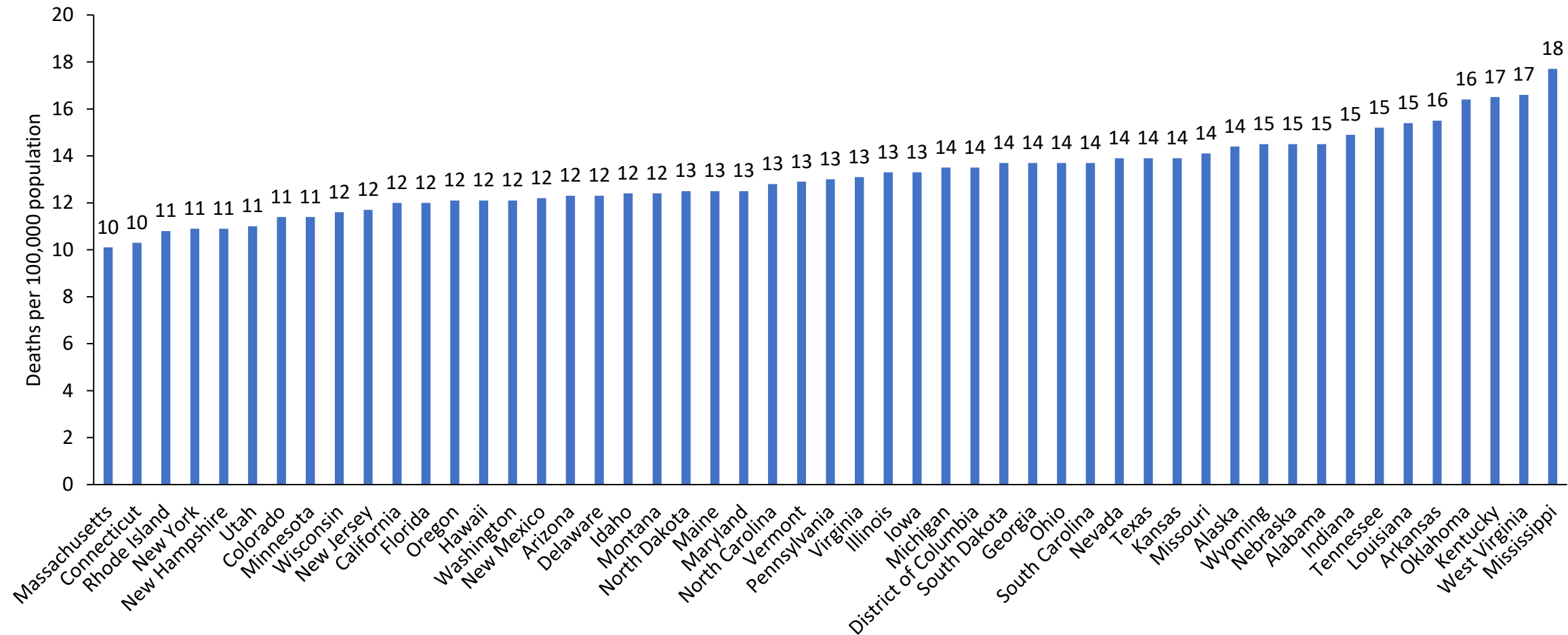
Colorectal cancer screening by state, percent up-to-date ages 45+ years, 2022



Colorectal cancer screening by state, ages 45–54 years, 2022



Colorectal cancer mortality by state, all ages, 2019–2023



Summary

- Continued mortality progress confined to age 65+ years
- Birth cohort effect: Increasing incidence in those born after 1950
- Shift to more advanced disease: 60% of cases, up from 52% in 2005
- Stark disparities in incidence, mortality, & screening

Increased awareness & recommendations for stool testing could boost screening

Thank you!



North American Association of Central Cancer Registries

Questions?