Lisa A. Hall, MHA
Senior Director of Prevention & Screening
Colorectal Cancer Alliance

Access the Alliance's Lookbook Here:

Welcome and Introductions

Wi-Fi: National Union Building

Password: 918fstdc

Screening Dinner Discussion Agenda

5:30-5:45pm
Registration and Buffet

5:45-6:00pm
Welcome and Introduction
- Remarks by Michael Sapienza, Chief Executive Officer, Colorectal Cancer Alliance
- Lisa Hall, Senior Director of Prevention and Screening, Colorectal Cancer Alliance

6:00-6:30pm
Screening Landscape
- Dr. Robert Smith, Vice President of Early Cancer Detection Science, American Cancer Society

6:30-7:00pm
Evaluating CRC Testing Options: A Practical Framework
- Dr. Djenaba Joseph, CAPT, U.S. Public Health Service, Chief, Program Service Branch, Centers for Disease Control Prevention
- Dr. Richard Wender, Professor and Chair Family Medicine and Community Health University of Pennsylvania

7:00-8:50pm
Screening Modality Expert Panel and Meeting Participant Discussion
Co-facilitated by:
- Dr. Djenaba Joseph
- Dr. Richard Wender
Panelists:
- Dr. Lance Baldo, Chief Medical Officer, Freenome
- Dr. Erica Barnell, Chief Medical Officer and Co-Founder, Geneoscopy
- Dr. Craig Eagle, Chief Medical Officer, Guardant
- Dr. Steven Itzkowitz, Professor of Medicine, Oncological Sciences and Medical Education, Ichan School of Medicine at Mount Sinai, Chair, American Cancer Society's National Colorectal Cancer Round Table
- Dr. Todd Kelley, Vice President of Medical Affairs, Polymedco
- Dr. Theodore Levin, Research Scientist, Intern Associate Director of Cancer Section, Kaiser North Division of Research
- Dr. Paul Limburg, Chief Medical Officer, Screening Exact Sciences

8:15-8:30pm
Closing and Next Steps
Remarks by Michael Sapienza, Chief Executive Officer, Colorectal Cancer Alliance
Lisa Hall, Senior Director of Prevention and Screening, Colorectal Cancer Alliance

8:30-9:30pm
Cocktail Hour

Michael Sapienza

Chief Executive Officer
Colorectal Cancer Alliance

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What do you believe are the biggest factors driving the 20% higher incidence rate within black and brown communities? (choose your top 2 factors)

ⓘ Start presenting to display the poll results on this slide.

What do you believe are the biggest factors driving the 20% higher incidence rate within black and brown communities? (choose your top 2 factors)
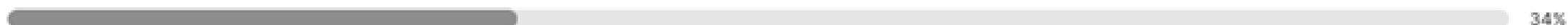
A. The screening test used

16%

B. Screening test quality

8%

C. On-time screening

72%

D. Follow-up to positive stool/blood

34%

E. Environmental factors

46%

F. Other

6%

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What do you believe are the biggest factors driving the 35% increased mortality rate within black and brown communities? (choose your top 3 factors)

ⓘ Start presenting to display the poll results on this slide.

What do you believe are the biggest factors driving the 35% increased mortality rate within black and brown communities? (choose your top 3 factors)

A. Stage of diagnosis

81%

B. Co-morbid diseases

31%

C. Access to care

85%

D. Treatment provided

29%

E. Ability to consistently receive treatment

50%

F. Other

4%

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Robert Smith, PhD
Vice President of Early Cancer Detection
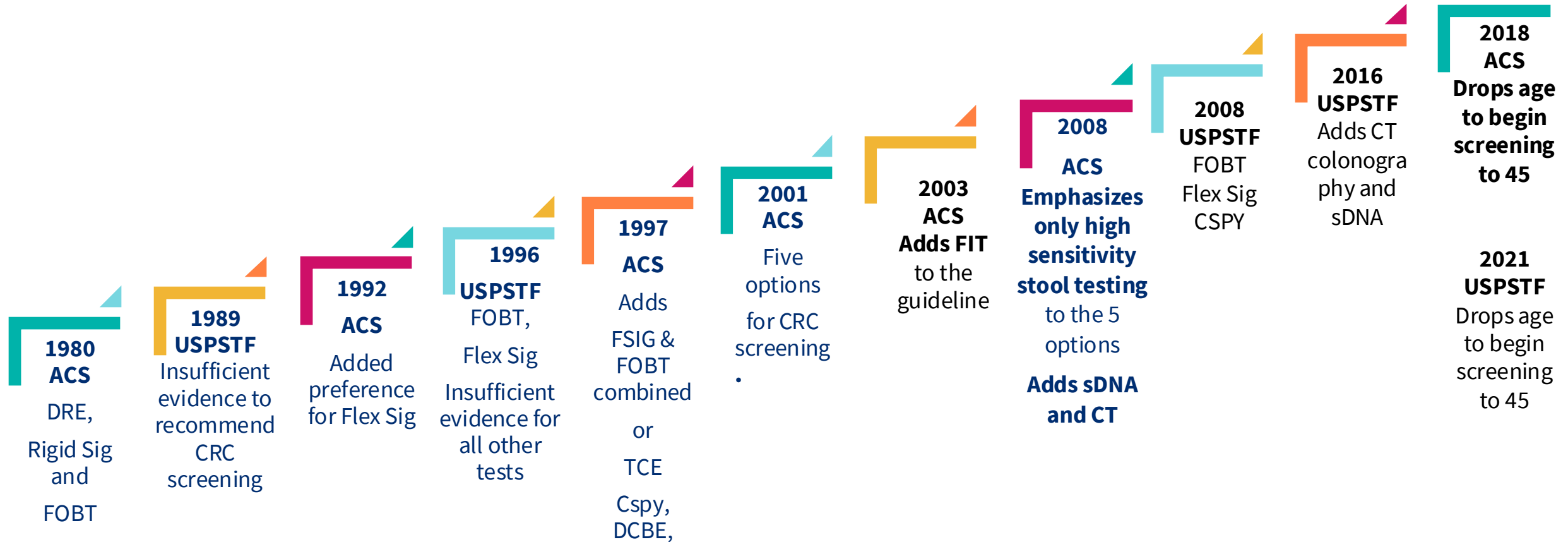Science, American Cancer Society

The CRC Screening Landscape

Robert A. Smith, PhD
Director, Center for Early Cancer Detection Science
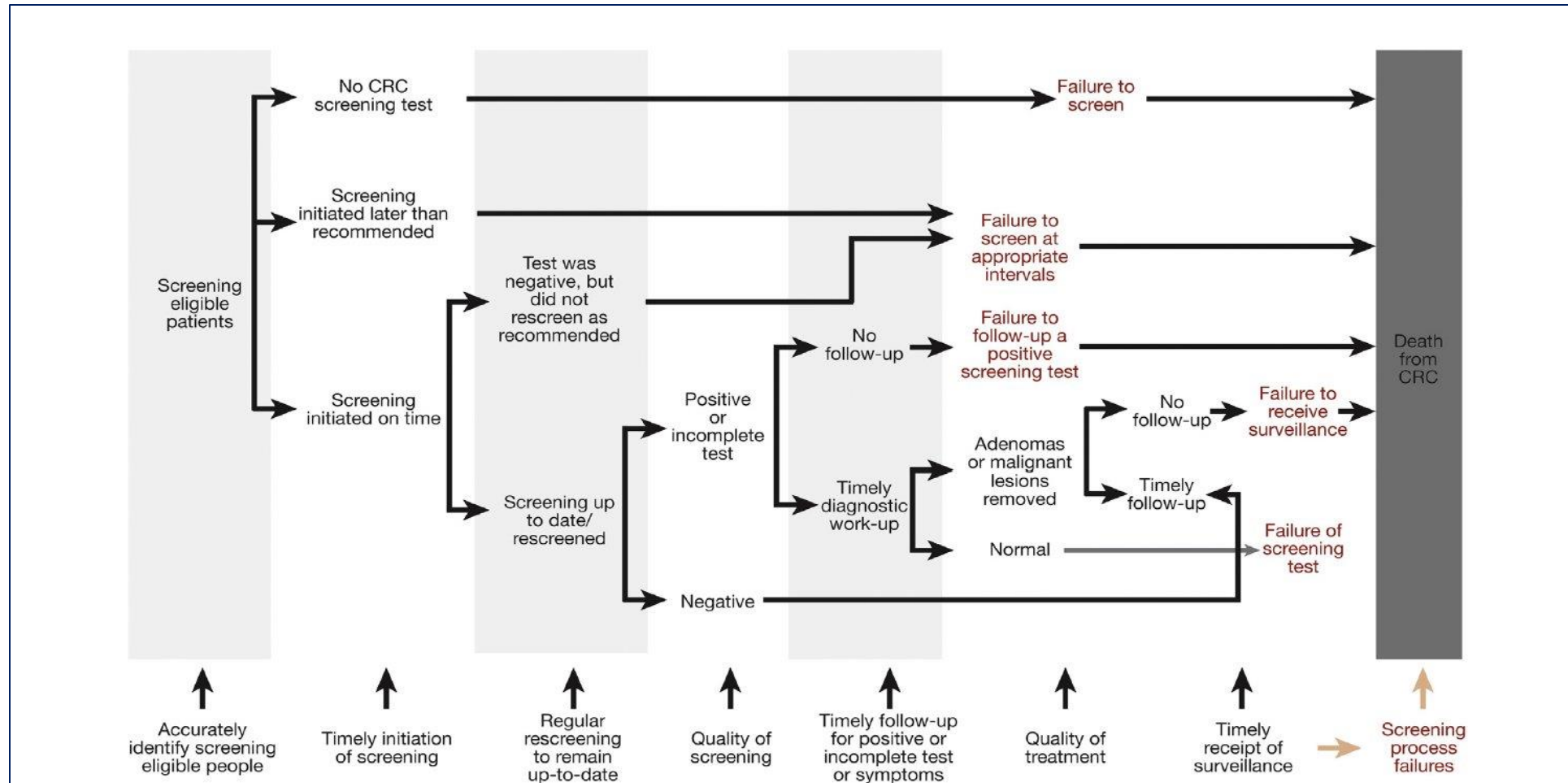American Cancer Society

Advances in Colorectal Cancer Screening: The State of the Science
Colorectal Cancer Alliance
Washington, DC, May 19, 2024

Brief History of ACS & USPSTF Colorectal Cancer Screening Guidelines

1980
ACS
DRE, Rigid Sig and FOBT

1989
USPSTF
Insufficient evidence to recommend CRC screening

1992
ACS
Added preference for Flex Sig

1996
USPSTF
FOBT, Flex Sig
Insufficient evidence for all other tests

1997
ACS
Adds FSIG & FOBT combined or TCE Cspy, DCBE,

2001 ACS
Five options for CRC screening
.

2003 ACS
Adds FIT to the guideline

2008 ACS
Emphasizes only high sensitivity stool testing to the 5 options
Adds sDNA and CT

2008 USPSTF
FOBT Flex Sig CSPY

2016 USPSTF
Adds CT colonography and sDNA

2018 ACS
Drops age to begin screening to 45

2021 USPSTF
Drops age to begin screening to 45

CRC test exposure trajectories and failures in people who died of CRC, KPNC and KPSC 2006–2012

Doubeni, Gastroenterology 2018, Vol. 156, No. 1

Association between screening patterns and death from CRC, KPNC and KPSC 2006–2012
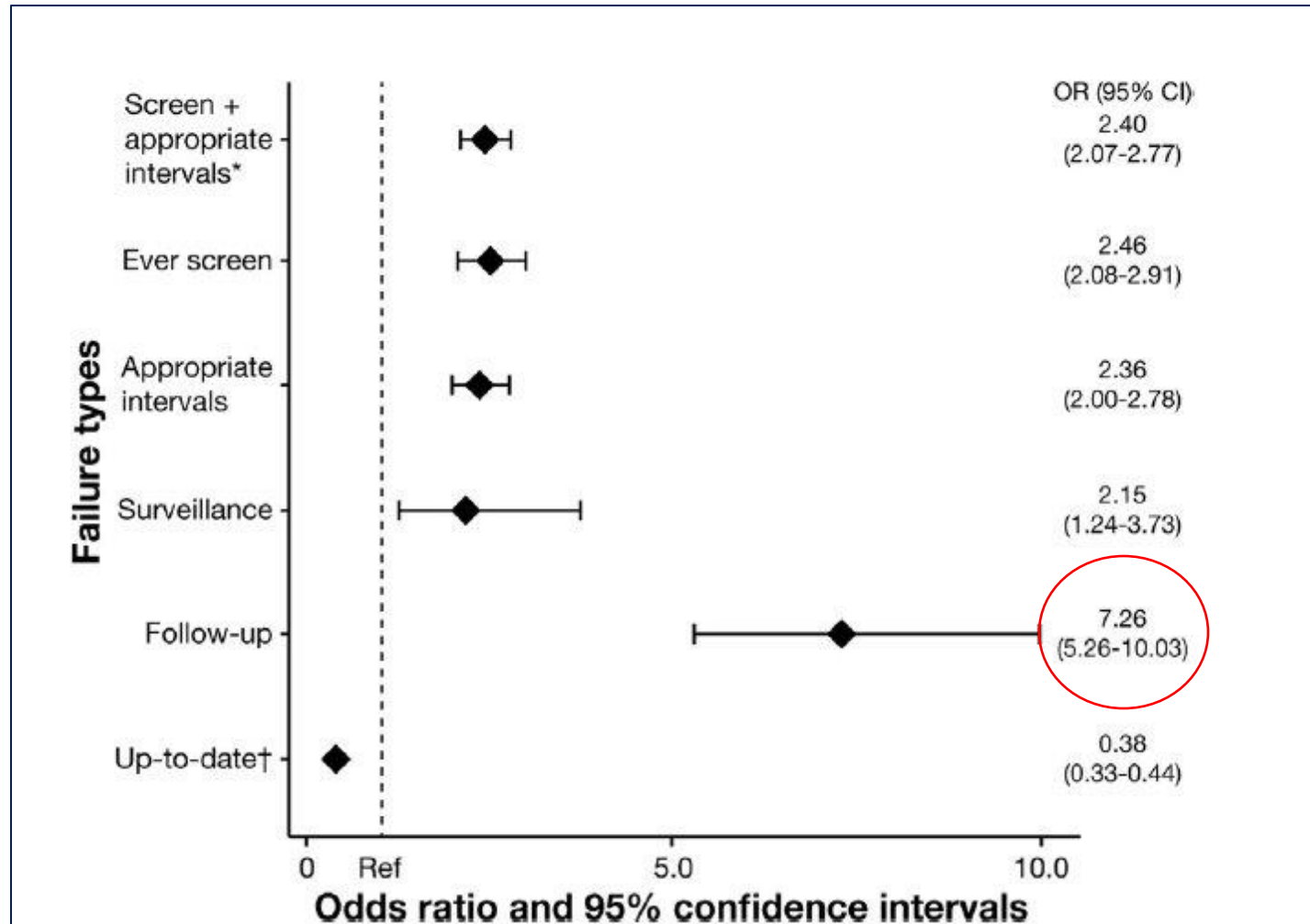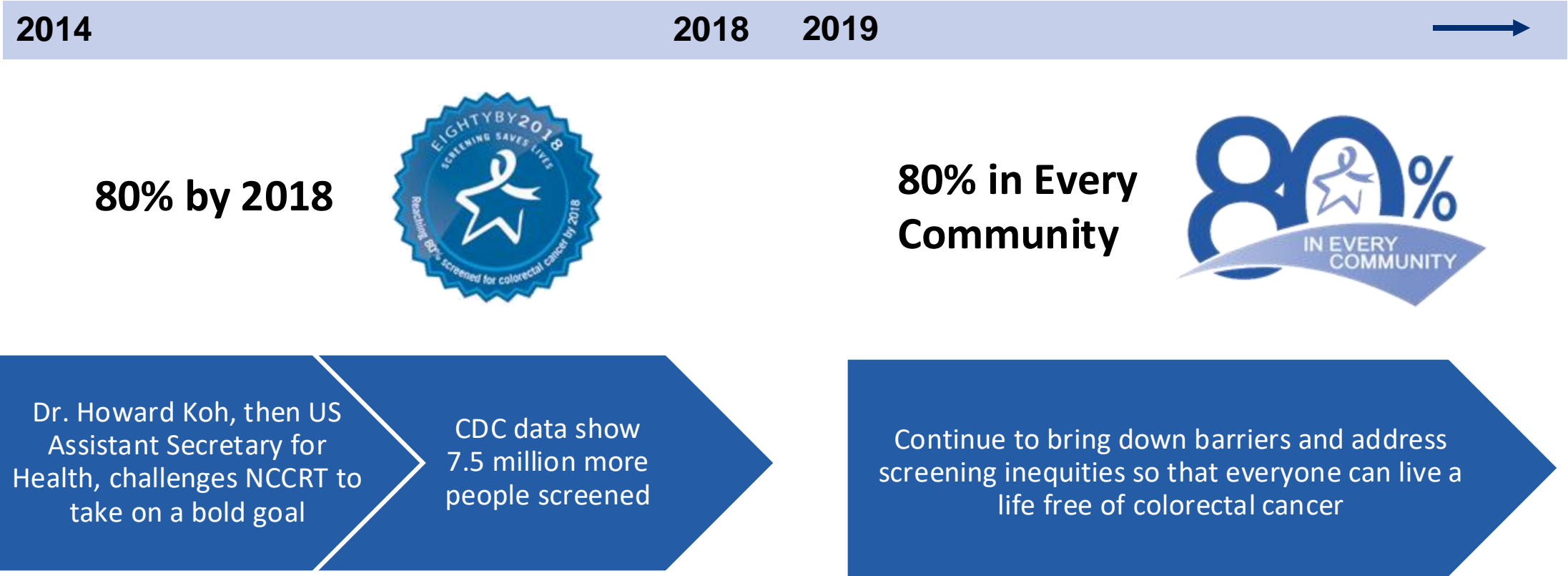

Being up to date on screening lowered the risk of dying of CRC by more than 60%.
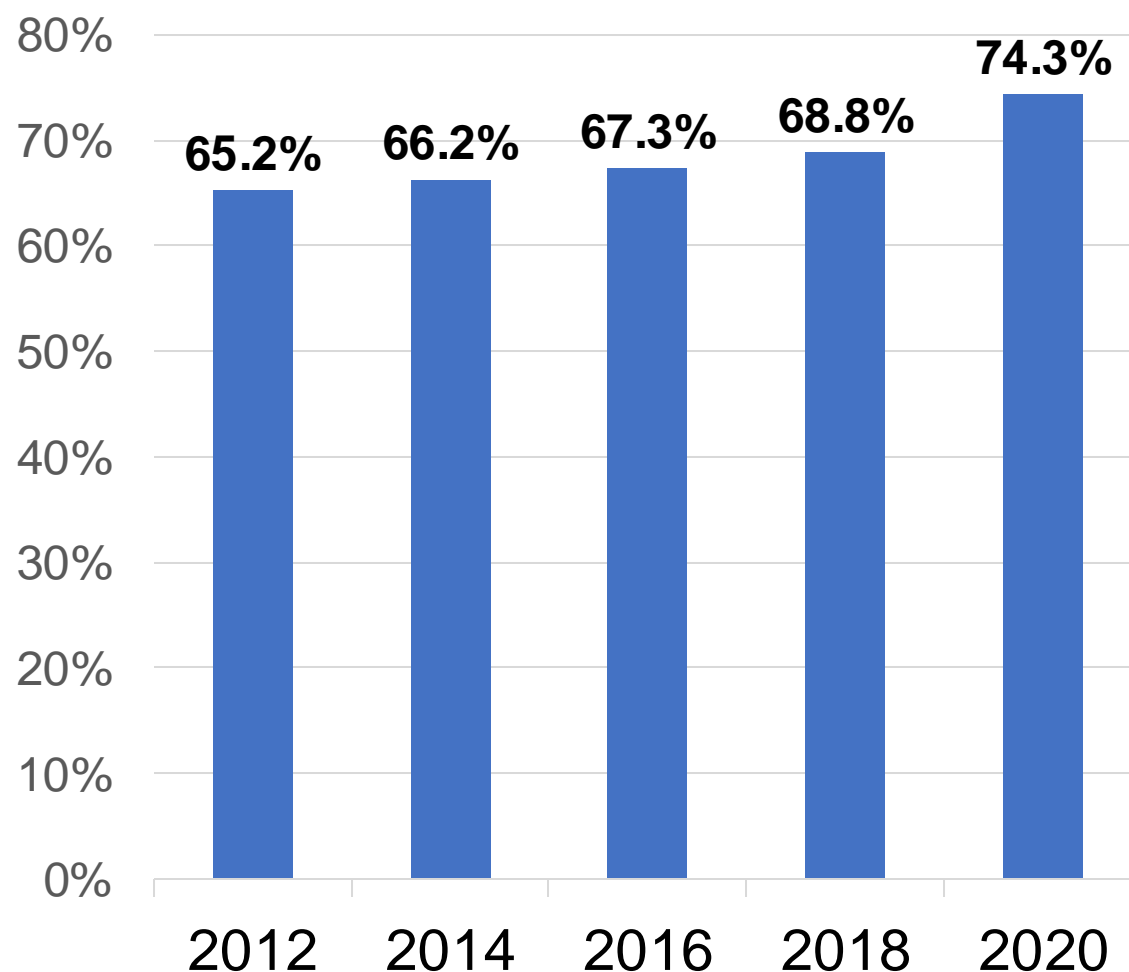
Relative to those who were up to date, the risk of death from CRC was more than 2-fold higher in people who had failed to screen

Risk of death was 7-fold higher in those with failure of follow-up.

Doubeni, Gastroenterology 2018, Vol. 156, No. 1

The Timeline of Two 80% Campaigns

2014	2018	2019	→

80% by 2018

80% in Every Community

Dr. Howard Koh, then US Assistant Secretary for Health, challenges NCCRT to take on a bold goal

CDC data show 7.5 million more people screened

Continue to bring down barriers and address screening inequities so that everyone can live a life free of colorectal cancer

Percent of US Adults Up to Date with CRC Screening (BRFSS)

65.2% 66.2% 67.3% 68.8% 74.3%

2012 2014 2016 2018 2020

9.3 million additional people screened by 2018!

Recent CRC Screen in 2020, Ages 50-75
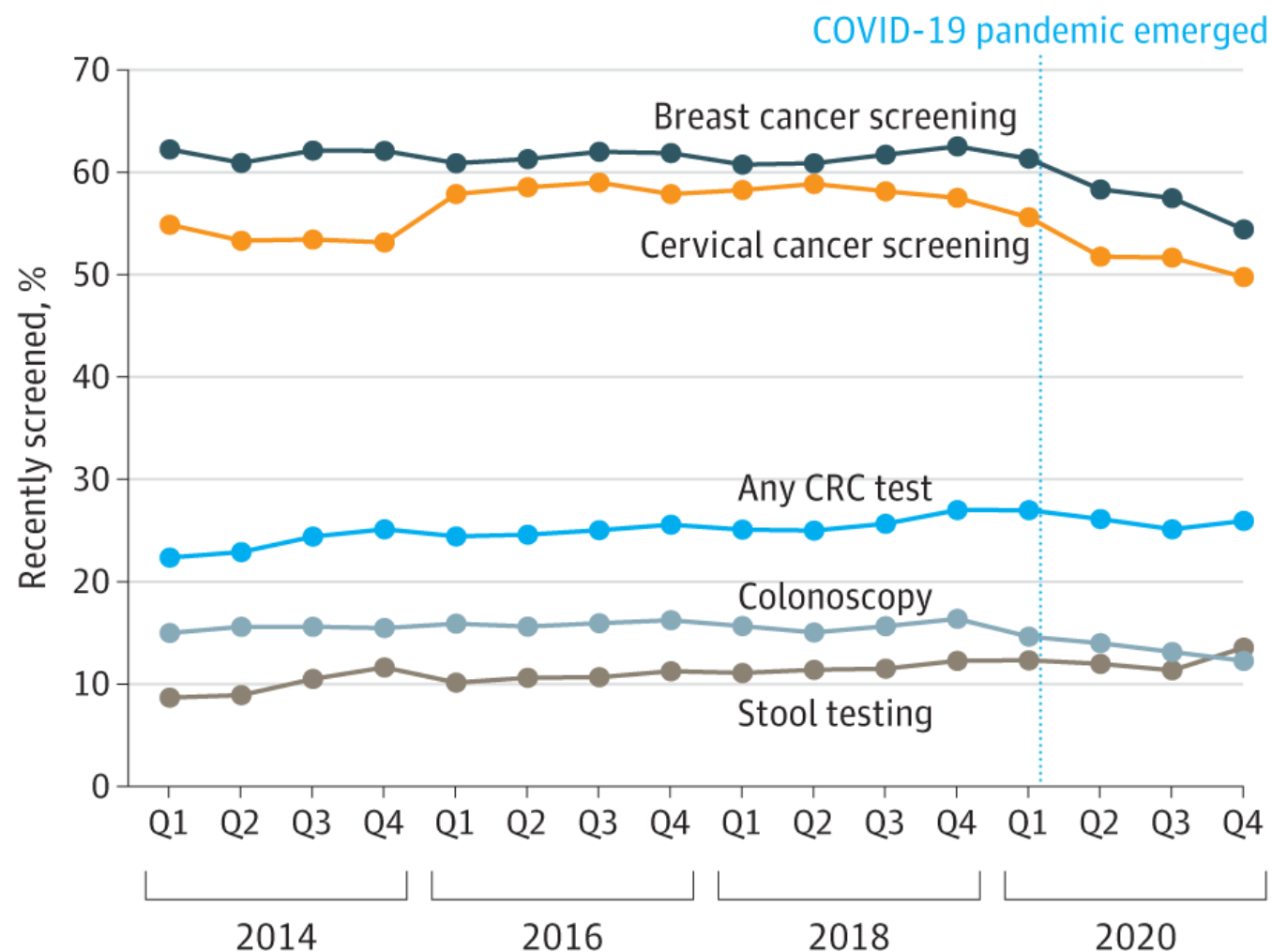
Fedewa SA, Star J, Bandi P, et al. Changes in Cancer Screening in the US During the COVID-19 Pandemic. *JAMA Netw Open*. 2022;5(6):e2215490. Published 2022 Jun 1. doi:10.1001/jamanetworkopen.2022.15490
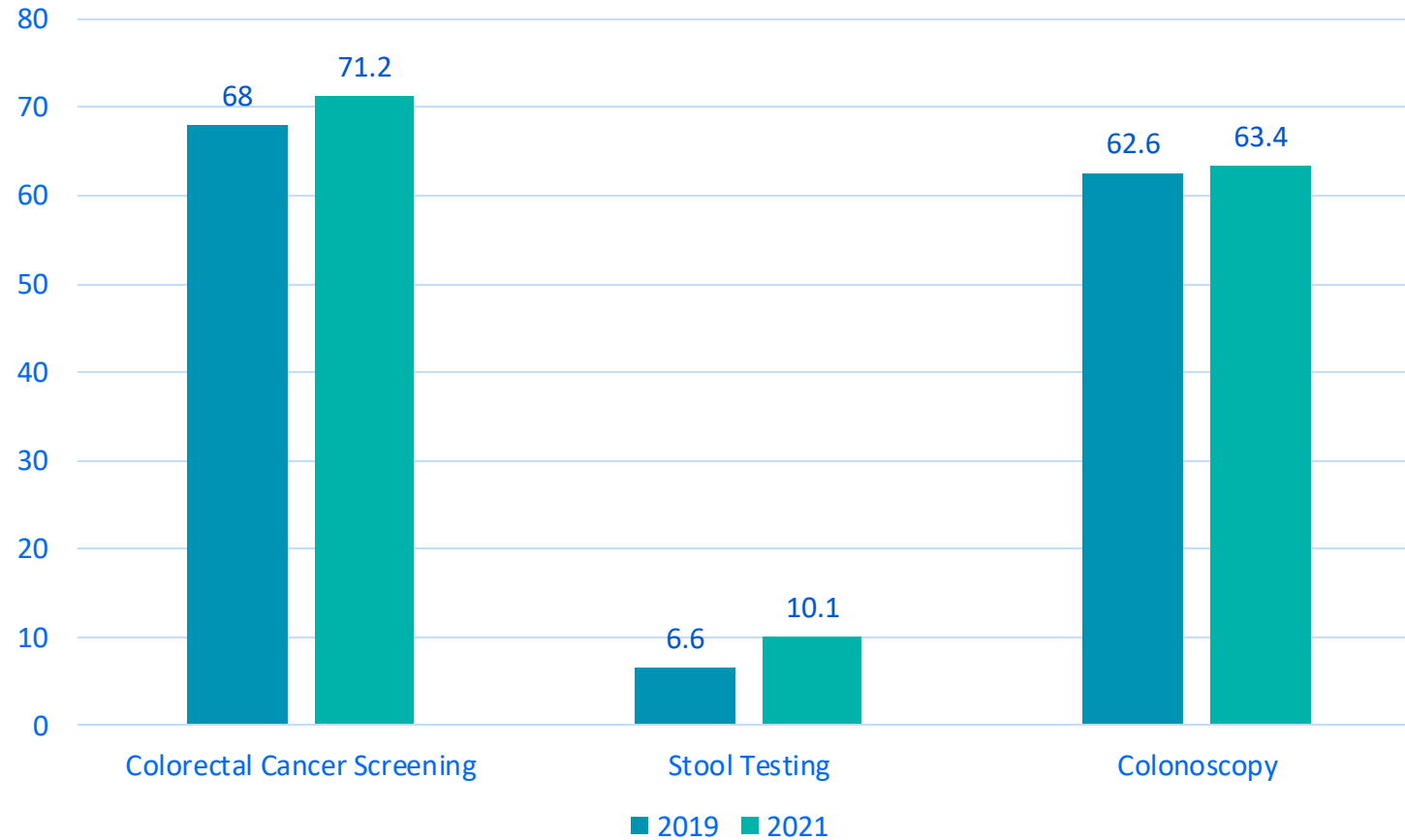
UTD CRC Screening in 2021, Ages 50-75

Colorectal cancer: 4%
(aPR, 1.04; 95% CI, 1.02-1.05)

Stool testing: 53%
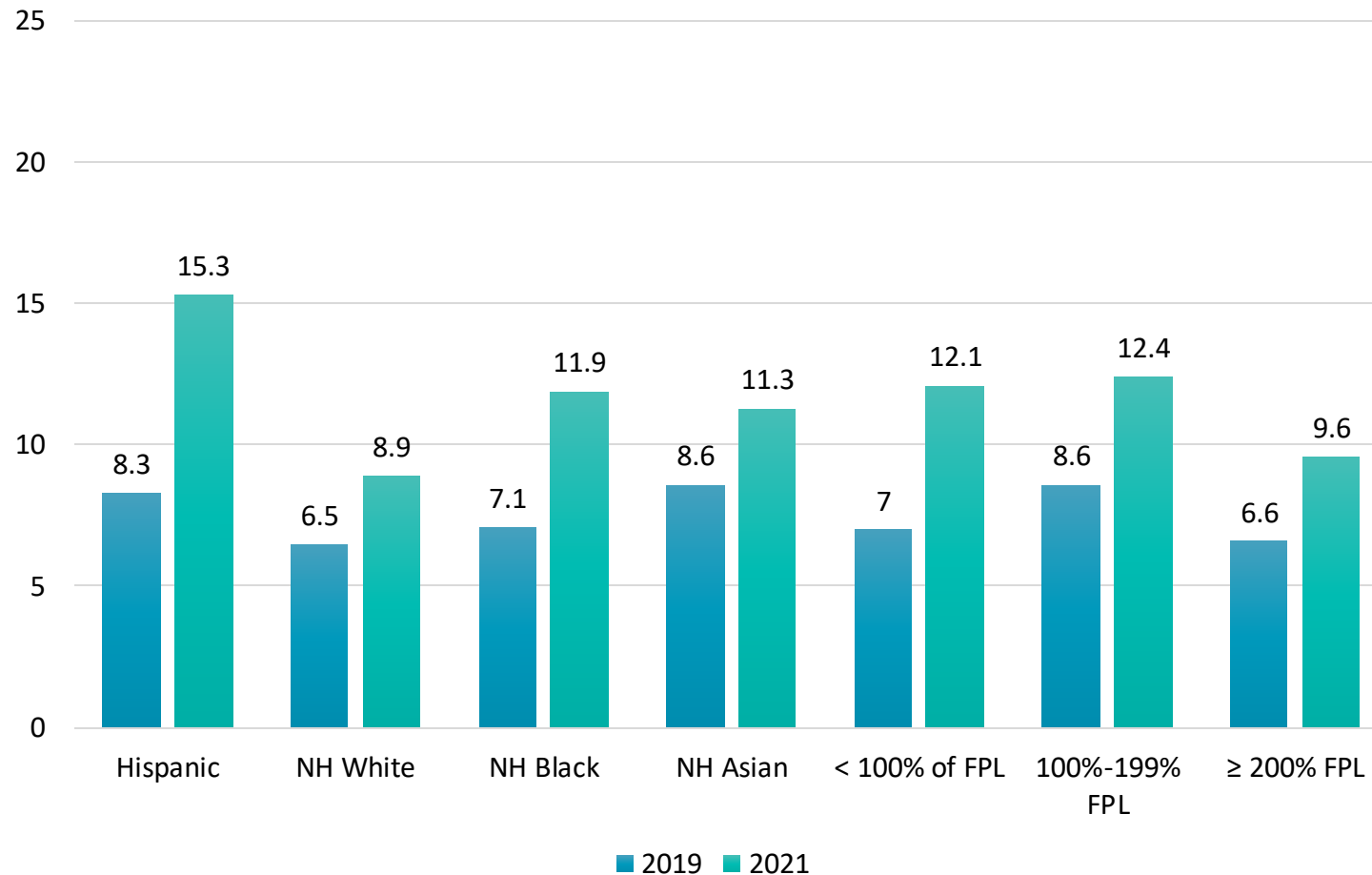(aPR, 1.53; 95% CI, 1.39 to 1.68)

Colonoscopy:
(aPR, 1.0; 95% CI, 0.98 to 1.02)

Star J, Bandi P, Nargis N, et al. Updated Review of Major Cancer Risk Factors and Screening Test Use in the United States, with a Focus on Changes During the COVID-19 Pandemic [published online ahead of print, 2023 May 2]. *Cancer Epidemiol Biomarkers Prev*. 2023;EPI-23-0114. doi:10.1158/1055-9965.EPI-23-0114

Stool Testing by Race/Income, Ages 50-75

Bar chart showing stool testing percentages by race/ethnicity and income for years 2019 and 2021:

Category	2019	2021
Hispanic	8.3	15.3
NH White	6.5	8.9
NH Black	7.1	11.9
NH Asian	8.6	11.3
< 100% of FPL	7	12.1
100%-199% FPL	8.6	12.4
≥ 200% FPL	6.6	9.6

Colorectal Cancer Screening (%), Adults 45 Years and Older, US, 2021

	Stool test[a] ≥45 years	Colonoscopy[b] ≥45 years	Up to date[c] ≥45 years	45–75
Overall	10	54	59	58
Sex				
Males	9	54	58	56
Females	10	55	60	60
Age (years)				
45–49	3	18	20	—
50–54	9	43	50	—
55–64	11	65	70	—
65–75	—	—	—	83
65–74	15	74	80	—
≥75	10	67	70	—

Source: Siegel, et al. *CA Cancer J Clin*. 2023;73:233–254.

Colorectal Cancer Screening (%), Adults 45 Years and Older, US, 2021

	Stool test[a] ≥45 years	Colonoscopy[b] ≥45 years	Up to date[c] ≥45 years	45–75
Overall	10	54	59	58
Race/ethnicity				
Hispanic	14	46	52	51
White only	9	57	61	60
Black only	11	57	61	59
Asian only	10	45	50	48
AIAN only or multiple	10	48	52	52
Sexual orientation				
Gay/lesbian	12	57	64	61
Straight	10	55	59	58
Bisexual	—	48	51	57

Source: Siegel, et al. *CA Cancer J Clin*. 2023;73:233–254.

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Colorectal Cancer Screening (%), Adults 45 Years and Older, US, 2021

	Stool test[a] ≥45 years	Colonoscopy[b] ≥45 years	Up to date[c] ≥45 years	45–75
Overall	10	54	59	58
Immigration status				
Born in United States/US Territory	9	57	61	60
In United States <10 years	9	25	29	30
In United States ≥10 years	12	48	53	52
Education				
Less than high school	11	43	48	47
High school diploma	9	51	55	54
Some college	11	56	61	59
College graduate	9	60	64	63

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Colorectal Cancer Screening (%), Adults 45 Years and Older, US, 2021

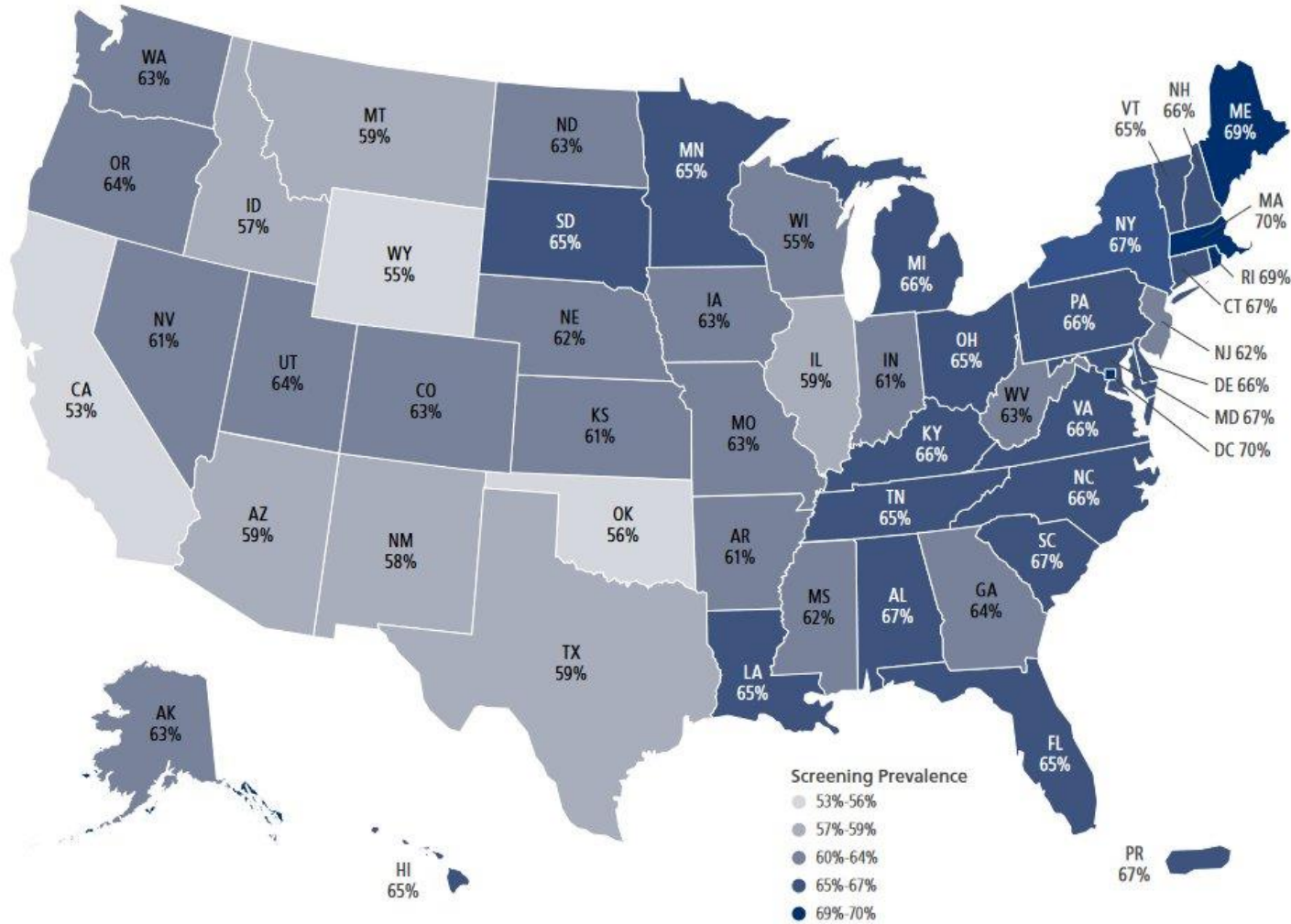|	Stool test[a] ≥45 years	Colonoscopy[b] ≥45 years	Up to date[c] ≥45 years	45–75
Overall	10	54	59	58
Income level				
<100% FPL	11	42	47	46
100% to <200% FPL	12	47	52	51
≥200% FPL	9	58	62	61
Insurance status				
Uninsured	4	18	21	22
Private	9	59	63	64
Medicaid/Public/dual eligible	11	48	52	53
Medicare (ages ≥65 years)	15	69	75	82
Other	15	68	73	74

Source: Siegel, et al. *CA Cancer J Clin*. 2023;73:233–254.

Reported Up-to-date colorectal cancer screening (%), adults aged 45 years and older by state, 2020, United States.

California = 53%

Massachusetts & Washington DC = 70%
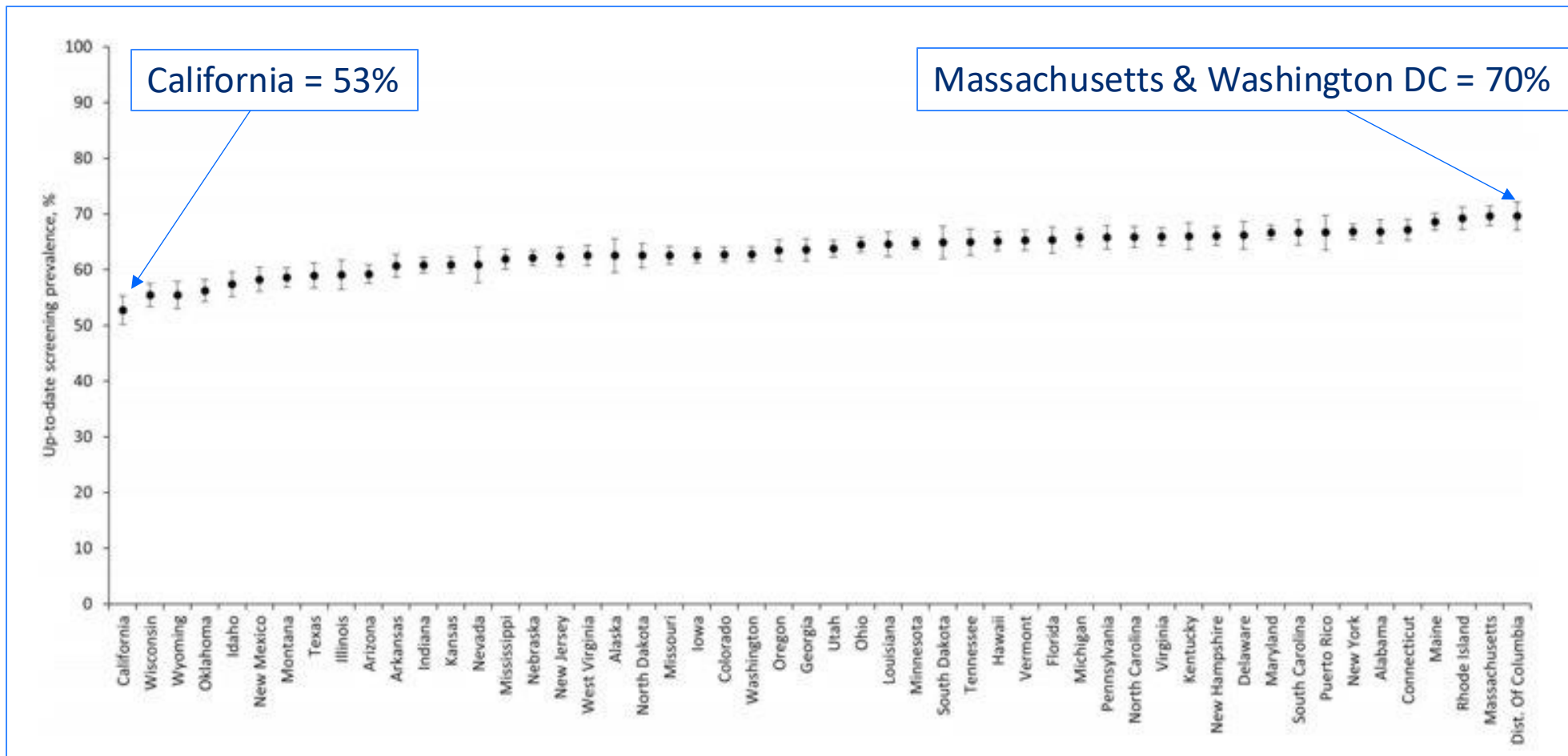
Prevalence is age-adjusted to the 2000 US standard population and does not distinguish between screening and diagnostic examinations.
Source: Behavioral Risk Factors Surveillance System, 2020. From Siegel, et al. *CA Cancer J Clin*. 2023;73:233–254.

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Reported Up-to-date colorectal cancer screening (%), adults aged 45 years and older by state, 2020, United States.

WA 63%
MT 59%
ND 63%
MN 65%
VT 65%
NH 66%
ME 69%
OR 64%
ID 57%
WY 55%
SD 65%
WI 55%
MI 66%
NY 67%
MA 70%
RI 69%
CT 67%
NV 61%
UT 64%
CO 63%
NE 62%
IA 63%
IL 59%
IN 61%
OH 65%
PA 66%
NJ 62%
DE 66%
MD 67%
DC 70%
CA 53%
KS 61%
MO 63%
KY 66%
WV 63%
VA 66%
NC 66%
AZ 59%
NM 58%
OK 56%
AR 61%
TN 65%
SC 67%
MS 62%
AL 67%
GA 64%
TX 59%
LA 65%
FL 65%
AK 63%
HI 65%
PR 67%

Screening Prevalence
- 53%-56%
- 57%-59%
- 60%-64%
- 65%-67%
- 69%-70%

*Blood/DNA stool test, sigmoidoscopy, or colonoscopy in the past 1/3, 5, or 10 years, respectively. Note: Estimates are age adjusted to the 2000 US standard population and do not distinguish between examinations for screening and diagnosis.

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National Breast, Cervical, and Colorectal Cancer Screening Use in Federally Qualified Health Centers

Trisha L. Amboree, PhD; Jane R. Montealegre, PhD; Susan L. Parker, MPH; Ashvita Garg, PhD; Haluk Damgacioglu, PhD; Kathleen M. Schmeler, MD; Elizabeth Y. Chiao, MD; Elizabeth G. Hill, PhD; Kalyani Sonawane, PhD; Ashish A. Deshmukh, PhD; Prajakta Adsul, MBBS, MPH, PhD

- Cross-sectional analysis of cancer screening from January 1 through December 31, 2020. Data from 1,364 FQHCs were obtained from the Health Center Program Uniform Data System (UDS).

- Participants were 16,696,692 US adults served by FQHCs who were eligible for breast (age, 50-74 years), cervical (age, 21-64 years), and colorectal (age, 50-75 years) cancer screening.

- ***Nationally, screening use in FQHCs was 45.4% for breast cancer, 51.0% for cervical cancer, and 40.2% for colorectal cancer.***

- The contribution of the underscreened population served by FQHCs to the national underscreened general population was 14.7% for colorectal cancer (roughly 1 in 6).

National Breast, Cervical, and Colorectal Cancer Screening Use in Federally Qualified Health Centers

Trisha L. Amboree, PhD; Jane R. Montealegre, PhD; Susan L. Parker, MPH; Ashvita Garg, PhD; Haluk Damgacioglu, PhD; Kathleen M. Schmeler, MD; Elizabeth Y. Chiao, MD; Elizabeth G. Hill, PhD; Kalyani Sonawane, PhD; Ashish A. Deshmukh, PhD; Prajakta Adsul, MBBS, MPH, PhD

Figure 1. National Cancer Screening Use in Federally Qualified Health Centers (FQHCs) and the Behavioral Risk Factor Surveillance System (BRFSS), 2020

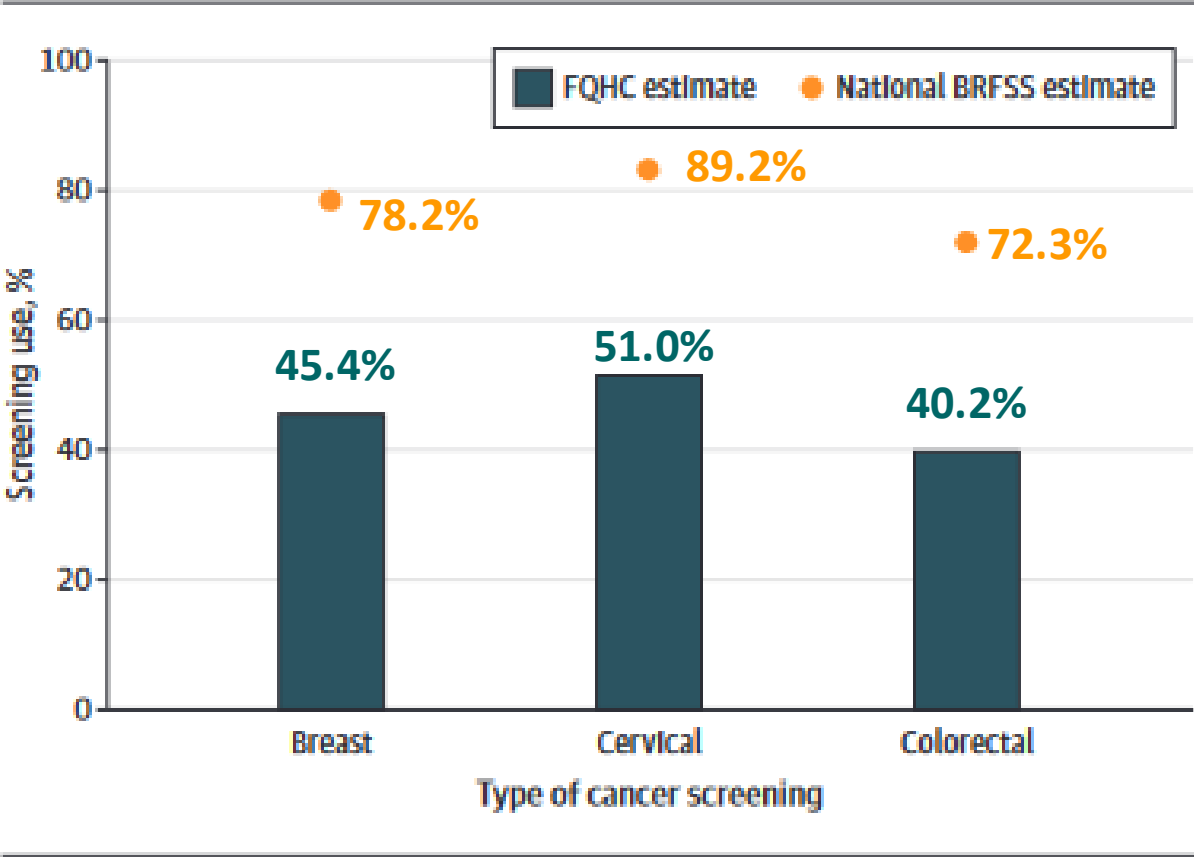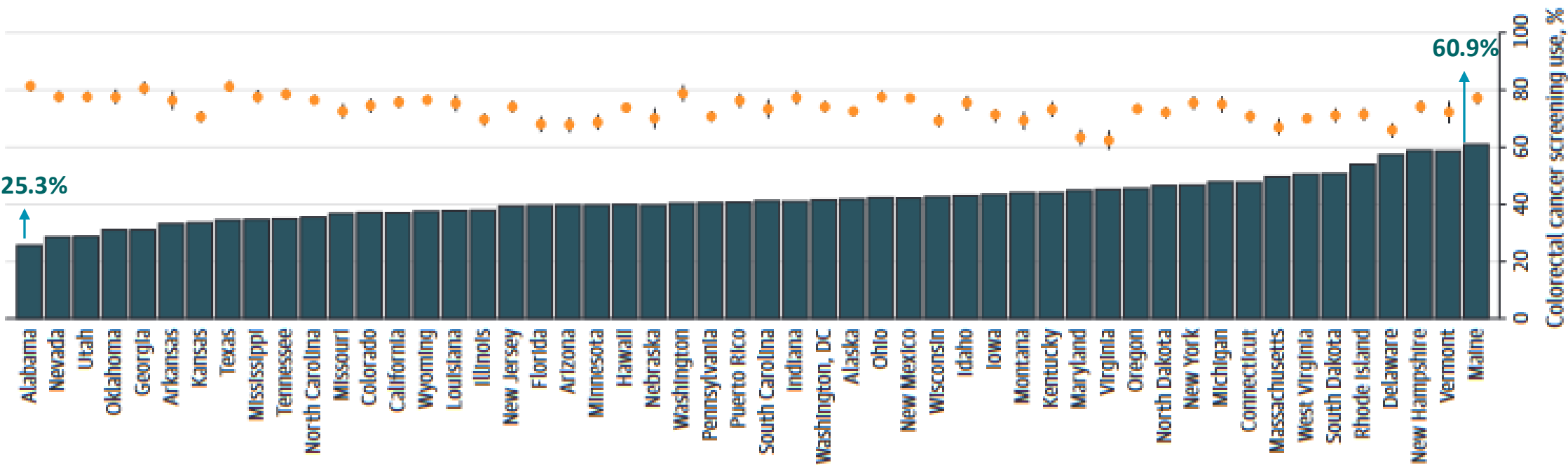JAMA Internal Medicine Published online April 29, 2024

Figure 2. State-Level Colorectal Cancer Screening Use in Federally Qualified Health Centers (FQHCs) and the Statewide Behavioral Risk Factor Surveillance System, 2020

Analyzing Factors Influencing Non-Adherence to USPSTF Colorectal Cancer Screening Guidelines Using 2022 BRFSS Data

- Data: 2022 Behavioral Risk Factor Surveillance System (BRFSS)
- Results: Among national participants, **29.2% reported non-adherence with USPSTF guidelines for CRC screening.**
- **Significant factors associated with non-adherence included:**
  - Lacking health insurance (OR: 2.65, 95% CI: 2.40 – 2.93)
  - Not completing high school (OR: 1.56, 95% CI: 1.42 – 1.72)
  - Identifying as non-white or being Hispanic or Latino (OR: 1.14, 95% CI: 1.10 – 1.19)
  - Having an income below $35,000 (OR: 1.75, 95% CI: 1.67 – 1.83)
  - Longer time since last primary care appointment (5 years since last appointment versus within the last year (**OR:13.55, 95% CI: 12.24 – 15.01**)

Pons-Junkins A, et al. https://dc.etsu.edu/asrf/2024/schedule/130/
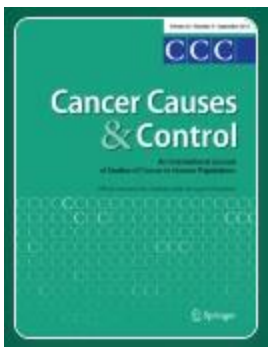
Prevalence and predictors of colorectal cancer screening in the United States: evidence from the HINTS database 2018 to 2020

- Methods: Survey analysis of 7,505 adults aged 45–75 years who completed the 2018 to 2020 HINTS survey.

- Results: 76% of eligible adults had received screening for CRC.

- **Factors associated with recent CRC screening included:**
  - Increasing age
  - Having some college experience, a college degree or higher [OR 1.69; 95% CI (1.24, 2.29)]
  - Health insurance coverage [OR 4.48; 95% CI (2.96, 6.76)]
  - Primary care provider access [OR 2.48; 95% CI (1.91, 3.22)]
  - Presence of a comorbid illness [OR 1.39; 95% CI (1.12, 1.73)]
  - People who currently smoke were less likely to undergo CRC screening [OR 0.59; 95% CI (0.40, 0.87)].
  - Among adults aged 50–64 years, being of Hispanic origin [OR 0.60; 95% CI (0.39, 0.92)] was associated with a lower likelihood of CRC screening.

Barriers to CRC Screening in Rural Areas

Perceived barriers by rural residents included:

- ***Individual-level structural barriers***
  - High cost of screening procedures, or lack of insurance coverage, and lack of time
- ***Screening procedure related barriers***
  - Embarrassment or discomfort, fear of the test, fear of finding cancer, and fear of burdening the family
- ***Individual-level perception/knowledge barriers***
  - Lack of knowledge on screening test options and guidelines, lack of perceived need when there are no symptoms, and misperception that CRC is a male disease and CRC screening is more important for men
- ***Provider level barriers***
  - Lack of provider recommendation, distrust of providers or health care system, inadequate supply of specialists (sometimes even primary care physicians, and lack of reminder system.
- ***Rural specific attitudes***
  - Lack of prevention attitude, lack of privacy, and distance/transportation to screening facilities.

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Understanding misperceptions of colorectal cancer risk and cancer screening based on the health belief model: a systematic review of qualitative literature

Noor Azreen Masdor[1] · Azmawati Mohammed Nawi[1] · Rozita Hod[1]

- Background: Risk perception, knowledge, and awareness are important predictors of colorectal cancer (CRC) behavior and screening. Misperception appears to be the cause of negative CRC behaviors and refusal to be screened.

- Methods: Systematic review of qualitative studies (n=15) to identify common CRC misperceptions in the general population. Health Belief Model (HBM) domains were identified.

- **There were two major HBM domains for misperception of CRC risk:**
  - **High perceived severity (CRC is fatal and incurable) and**
  - **Low perceived susceptibility (older man's disease, asymptomatic, sexual behavior).**

- A high perceived barrier was that screening was considered embarrassing, painful, and inappropriate, leading to screening refusal

- A high perceived severity resulted in the belief that CRC is fatal and that screening is ineffective.

- Identifying the most common misperceptions enables the strategic planning of HBM-based interventions, and more engaging risk communication could improve CRC prevention and control

Provider communication contributes to colorectal cancer screening intention through improving screening outcome expectancies and perceived behavioral control

Xuan Zhu [a,*], Linda Squiers [b], Leah Helmueller [c], Gabriel Madson [b], Brian G. Southwell [b], Shama Alam [c], Lila J. Finney Rutten [d]
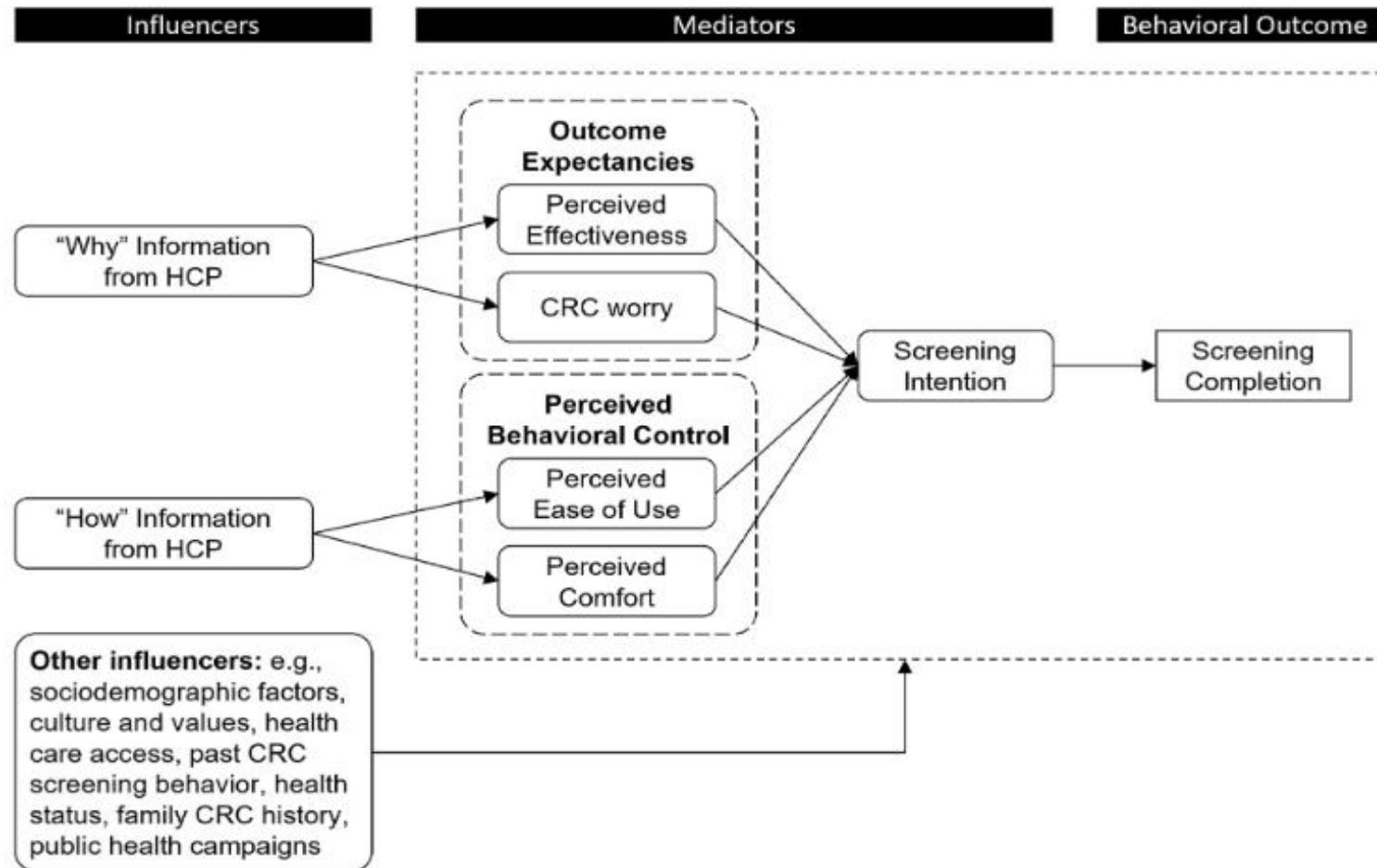
The model posits that different types of information providers communicate in-fluence patients' intention to complete screening through two sets of pathways.

1) WHY: Influences screening intention through changing patients' outcome expectancies about screening.

2) HOW: Information about preparation, procedures, and instructions about test, and how an individual would perform the behavior (changing patients' perceived behavioral control, i.e., the individual's evaluation of the feasibility of completing CRC screening)

Xuan Zhu [a,*], Linda Squiers [b], Leah Helmueller [c], Gabriel Madson [b], Brian G. Southwell [b], Shama Alam [c], Lila J. Finney Rutten [d]

- Provider communication about the "Why" and "How" of mt-sDNA screening was positively associated with mt-sDNA test completion. Mt-DNA test completion mediated "Why" and "How" communication's impact on mt-sDNA screening intention.

- The authors were able to measure patients' reports of receiving specific information related to mt-sDNA screening from providers beyond the simple presence or absence of a provider recommendation, thus enabling the examination of the differential roles of communication *contents* in shaping patient decision-making.

- CRC screening interventions could consider implementing provider-patient communication strategies focusing on improving patient understanding of the rationale for CRC screening and the effectiveness of available screening options as well as addressing barriers and enhancing patients' self-efficacy in completing their preferred screening option

Primary Care Provider Beliefs and Recommendations About Colorectal Cancer Screening in Four Healthcare Systems

Nirupa R. Ghai[1], Christopher D. Jensen[2], Sophie A. Merchant[2], Joanne E. Schottinger[3], Jeffrey K. Lee[2], Jessica Chubak[4], Aruna Kamineni[4], Ethan A. Halm[5,6], Celette Sugg Skinner[6], Jennifer S. Haas[7], Beverly B. Green[4], Nancy T. Cannizzaro[8], Jennifer L. Schneider[2], and Douglas A. Corley[2]

- Providers (n =1,281) within four healthcare systems completed a survey in 2017–2018 regarding their perceptions of CRC test effectiveness and recommended intervals for colonoscopy and fecal immunochemical testing (FIT) for patients ages 40–49, 50–74, and ≥75 years.

- For patients ages 40–49 and ≥75, more than one-third of providers believed the tests were somewhat or very effective, although >80% did not routinely recommend screening by either test for these age groups.

Cancer Prev Res; 13(11) November 2020

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Provider beliefs about the effectiveness of colonoscopy in reducing colorectal cancer–related mortality, by patient age and healthcare system site
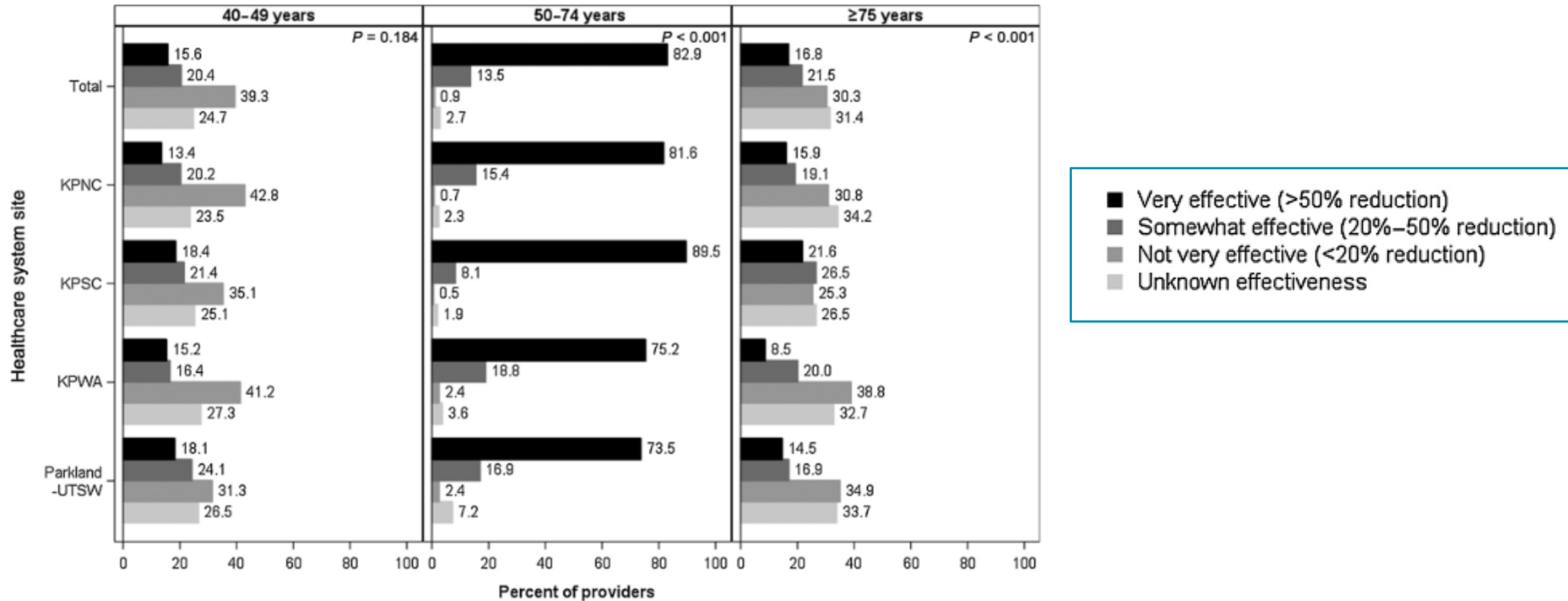
Summary (1)

- The prevalence of reported up-to-date screening with any recommended test among individuals aged 50 years and older increased from 38% in 2000 to 66% in 2018 according to data from the NHIS.

- According to the NHIS, 59% of individuals aged 45 years and older were up to date on CRC screening in 2021, ranging from 50% of Asian individuals to 61% of White and Black individuals.

- Characteristics associated with low screening prevalence include:
  - Residence in the United States for <10 years (29%)
  - Being uninsured (21%)
  - Having less than a high school education (48%)

- Screening also varies widely by state, with prevalence in 2020 ranging from 53% in California to 70% in the District of Columbia and Massachusetts

- A recent study based on BRFSS data found that, in contrast to Pandemic related declines from 2018 to 2020 for breast and cervical cancer screening, CRC screening remained steady overall because a 16% decline in colonoscopy was counterbalanced by a 7% increase in stool testing.

Summary (2)

- Observational studies suggest that colonoscopy reduces CRC incidence by about 40% and mortality by about 60%.

- Increasing screening rates to 80% would result in tens of thousands fewer CRC cases and deaths

- Although overall CRC mortality continues to decline, this progress is tempered by a rapidly changing landscape of disease that foreshadows less favorable trends ahead.
  - The CRC burden is shifting to younger individuals as cohorts with elevated risk born in the last half of the 20th century age; one in five new cases now occur in individuals in their early 50s or younger.
  - There is an overall shift to later stage disease, with more individuals now diagnosed at an advanced stage than in the mid-1990s before widespread screening.
  - Finally, there is a shift from right-sided to left- sided tumors, despite higher efficacy for preventing the latter through screening, likely reflecting changes in underlying disease risk of unknown etiology.

Summary (3)

- Although a substantial proportion of CRC deaths can be prevented through screening, 4 in 10 Americans aged 45 years and older are not up to date nationally, including one half of Californians.

- Screening is especially low among younger individuals and those without health insurance.

- Striking disparities by race and geography persist, with mortality rates in Alaska Natives almost three times higher than those in non-Hispanic White individuals

- Reducing CRC inequalities and furthering progress could be achieved by incentivizing healthier lifestyles, incentivizing organized screening, strengthening the role of the referring clinician, and ensuring equitable access to high-quality health care (screening and follow-up) for all individuals, especially those in rural and other low-resource areas.

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Wisdom is knowing what to do. Virtue is doing it.
--David Starr Jordon

Thank you

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What do you view as the biggest barriers to patients in getting the 'unscreened' screened? (choose your top 3 barriers)
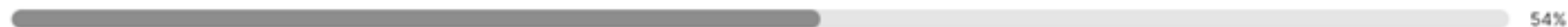
ⓘ Start presenting to display the poll results on this slide.

What do you view as the biggest barriers to patients in getting the 'unscreened' screened? (choose your top 3 barriers)

A. Lack of awareness

67%

B. Fear

54%

C. Distrust

30%

D. Time (away from work or other responsibilities)
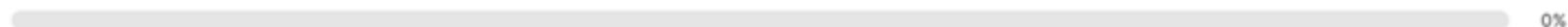
48%

E. Transportation

4%

F. Concern of prep (colonoscopy)

30%

G. Dealing with stool (home test)

11%

H. Distrust of the test results

0%

I. Cost

26%

J. Other

2%

43

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Djenaba Joseph, MD, MPH
CAPT, U.S. Public Health Service, Chief,
Program Service Branch, Centers for
Disease Control Prevention

Richard Wender, MD
Professor and Chair Family Medicine and
Community Health University of
Pennsylvania

Evaluating Colorectal Cancer Screening Options: A Practical Framework

Richard C. Wender MD   Djenaba Joseph MD MPH

Background assumptions

- **Having a choice of tests is an asset that will increase screening rates.**

- **Every screening strategy relies on completion of colonoscopy to be effective.**

- **Every test has strengths and weaknesses.**

- **Consideration of cost is complicated.**
  - Cost to whom?
  - Cost to individual vs. to the health care system as a whole.

Factors Influencing Choice of Test

- **Performance**
  - Sensitivity
  - Specificity

- **Test characteristics**
  - Interval
  - Accessibility
  - Acceptability – patient, provider
  - Adherence – initial test, repeat testing, follow-up colonoscopy

- **Contextual Factors**
  - Stakeholder - Organization, provider, patient

Performance

Sensitivity

- **Sensitivity for cancer by stage**
  - Sensitivity for earlier stages is given high priority
- **Sensitivity for advanced polyps**
- **Performance of other tests is generally measured by comparison to what is found at colonoscopy**

Specificity

- **Colonoscopy for everyone is accepted as a viable strategy in the U.S.**
  - Roughly 55% of individuals will have completely normal colons.
  - Most of the polyps that are found and removed would not progress to cancer.
  - Any non-invasive option, even those with relatively low specificity, will result in a substantial reduction in number of recommended colonoscopies.

Specificity – Quantifiable Tests

- **Value assigned to specificity is likely to vary by context and setting.**
  - Higher value in settings with lower colonoscopy access.
  - Factors other than specificity are likely to predominate in settings with high colonoscopy access.
- **Is there a minimally acceptable specificity level regardless of context and setting?**

Test Characteristics
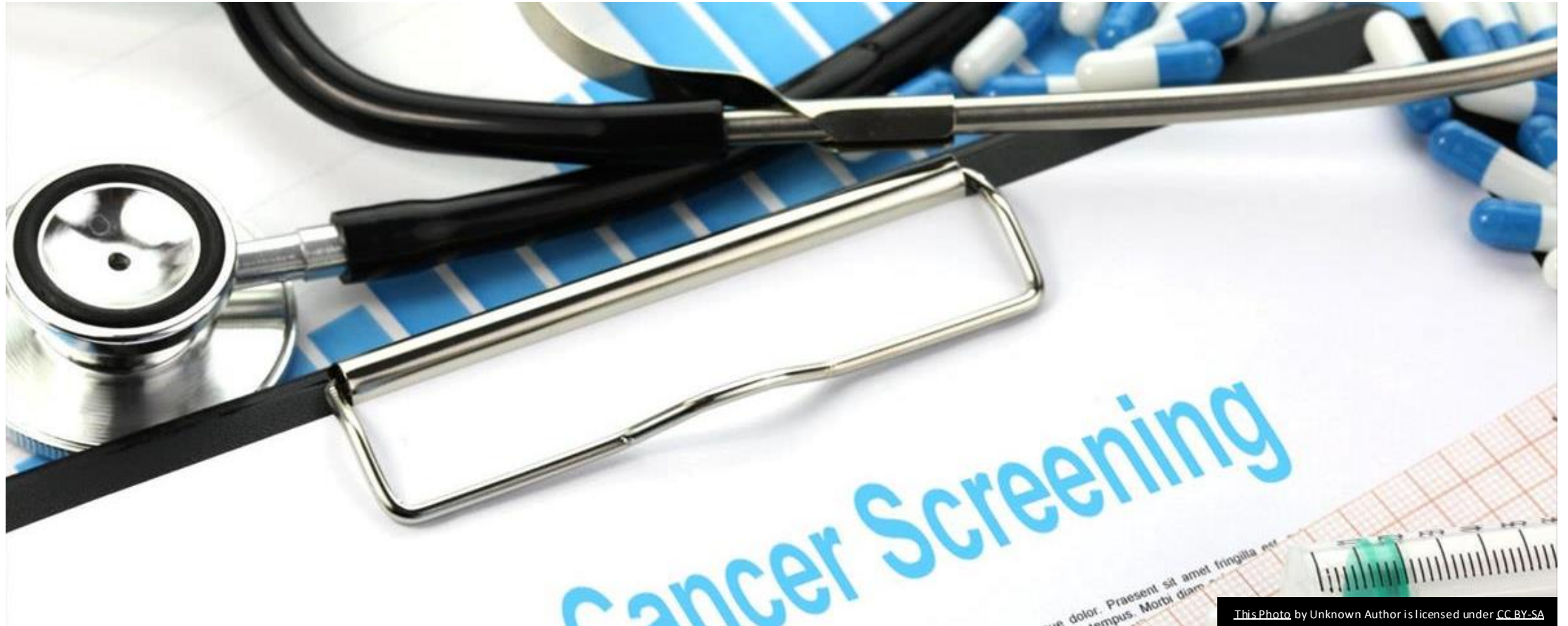
Access

- **Covered by insurance – dependent on USPSTF inclusion**
- **Widely/easily available**
- **Non-invasive vs Invasive**
- **Home vs Facility**
  - **Transportation**
- **Patient factors**
  - Income
  - Insurance status
- **Cost – to the individual**
- **Cost – to the practice or health system**

Acceptability - patient

- **All roads lead to colonoscopy**
  - Prep and potential barriers to access.

- **Stool tests**
  - Sample vs whole stool. Clarity of instructions. Navigation available?

- **Blood tests**
  - Coverage and cost will be key to acceptability.
  - Transportation and time for testing will be barriers for some people.

- **Patient preference**

Acceptability - provider

Provider <u>perceptions</u> of following characteristics

- Accuracy
- Effectiveness
- Availability
- Acceptability to patients
- Organizational burden, including test interval
- Incentive to achieve high practice-wide screening rate

Adherence and Interval

- **Interval**
  - More frequent testing requirement is a likely barrier to achieving high practice-wide screening rates
 - Maintaining frequent (e.g. annual) screening requires a population-management strategy
- **Adherence**
  - Initial test
  - Repeat testing
  - Follow-up colonoscopy if indicated
  - Ensuring high follow-up rate is a critically important measure of program effectiveness; hard to reach 80%

Contextual Factors

- **Stakeholder perspective**
  - Patient
  - Provider
  - Organization
- **Geography/climate**
- **Availability of primary care and specialty services**
- **Population specific (unhoused, migrant)**

Applying the Framework
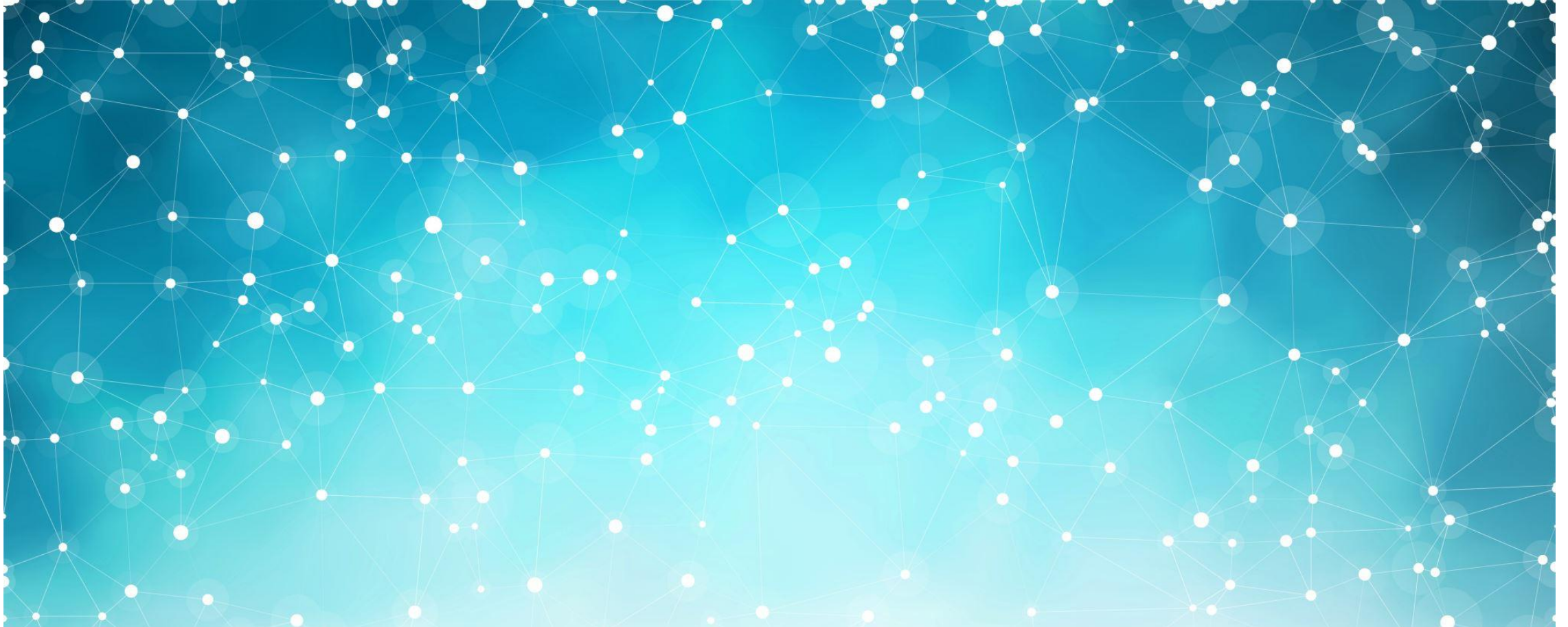
Sensitivity	Cologuard	Cologuard Plus	ColoSense
Test Type	Mt-sDNA	Mt-sDNA	Mt-sRNA
CRC overall	92%	94%	94.4%
Stage I-IV	90%, 100%, 90%, 75%	87%, 94%, 97%, 100%	I/II – 92.3% III– 100% (no IV CRCs)
APL/AA	42% (APL)	43% (APL)	42.9% (TSA/TA ≥10mm) 45.9% (advanced adenoma)
High grade dysplasia	69%	75%	65.2% (HGD or ≥10 adenomas)
Sessile serrated	42%	46%	

APL = advanced precancerous lesion = Includes advanced adenomas (high-grade dysplasia or with ≥25% villous histologic features or measuring ≥1 cm in the greatest dimension) and sessile serrated polyps measuring 1 cm or more in diameter
AA = Advanced Adenoma

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Sensitivity	Guardant (Shield)	Polymedco OC Auto and Light	Colonoscopy	Freenome
Test Type	Cell-free DNA blood test	FIT	Endoscopy	Blood
CRC overall	83%	73% - 90%	18% - 100%	79.2%
Stage I-IV	65% (55% clinical), 100%, 100% , 100%	–	–	57.1%, 100%, 82.4%, 100%
APL/AA	13.2%	23% - 33% (AA)	89% - 95% (adenomas ≥10mm)	12.5% (AA)
High grade dysplasia	–	–	–	29%
Sessile serrated	–	–	–	–

APL = advanced precancerous lesion = Includes advanced adenomas (high-grade dysplasia or with ≥25% villous histologic features or measuring ≥1 cm in the greatest dimension) and sessile serrated polyps measuring 1 cm or more in diameter
AA = Advanced Adenoma

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Specificity	All	Negative Colonoscopy
Cologuard	87%	93%
Cologuard Plus	91%	93%
ColoSense	86%	88%
Guardant (Shield)	90% (advanced neoplasia)	_
Polymedco	93% - 95%	_
Colonoscopy	89% **	_
Freenome	92% (non-advanced colorectal neoplasia)	_

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	Interval (years)	Adherence (%)	Follow-up colo	Access	Cost
Cologuard	3 (1-3)	51% - 71% (real-world)	71.5% – 84.9% (real-world)	Widely available/covered	$508 (Medicare)
Cologuard Plus	3 (anticipated)	_	_	Not currently available	_
ColoSense	3 (anticipated)	80% (study)	80% 73% combined test and follow up (study)	Not currently available	Unknown

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	Interval (years)	Adherence (%)	Follow-up colo	Access	Cost
Guardant (Shield)	1-3 (TBD)	96% (study)	44% (study)	Not currently available	$895 (cash)
Polymedco	1	Varies	58% - 83%	Widely available/covered	$18 – $21
Colonoscopy	10	55-60%	n/a	Covered, variable availability	$2,750 (avg. cash price)
Freenome	3	96% (study)	??	Not currently available	??
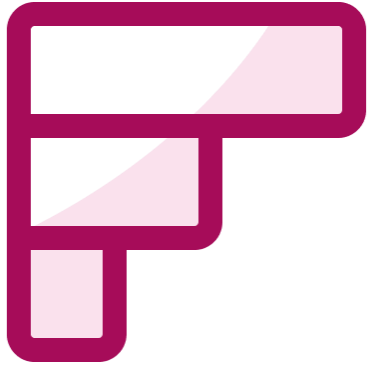
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slido

Which of these three attributes do you view as most important? (rank in order of importance)

ⓘ Start presenting to display the poll results on this slide.

Which of these three attributes do you view as most important? (rank in order of importance)

1. B. Adherence

1.62

2. A. Robust data

1.58

3. C. Access

1.25

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Screening Modality Expert Panel

Steven Itzkowitz, MD, FACP, FACG, AGAF
Professor of Medicine, Oncological Sciences
and Medical Education, Ichan School of
Medicine at Mount Sinai

Todd Kelley, MD
Vice President of Medical
Affairs, Polymedco

TR Levin, MD, MS
Associate Director for Cancer
Research, The Kaiser Permanente
Division of Research

Erica Barnell, MD, PhD
Chief Medical Officer and Co-
Founder, Geneoscopy

**Paul Limburg, MD,
MPH, AGAF**
Chief Medical Officer,
Screening Exact Sciences

Lance Baldo, MD
Chief Medical Officer, Freenome

Craig Eagle, MD
Chief Medical Officer, Guardant

Audience Q&A Session

ⓘ Start presenting to display the audience questions on this slide.

Closing Remarks and Next Steps

Cocktail Reception
Please join us across the hall