National Cancer Institute

Colorectal Cancer Screening Rates in the United States

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National Cancer Advisory Board Meeting
December 10, 2013

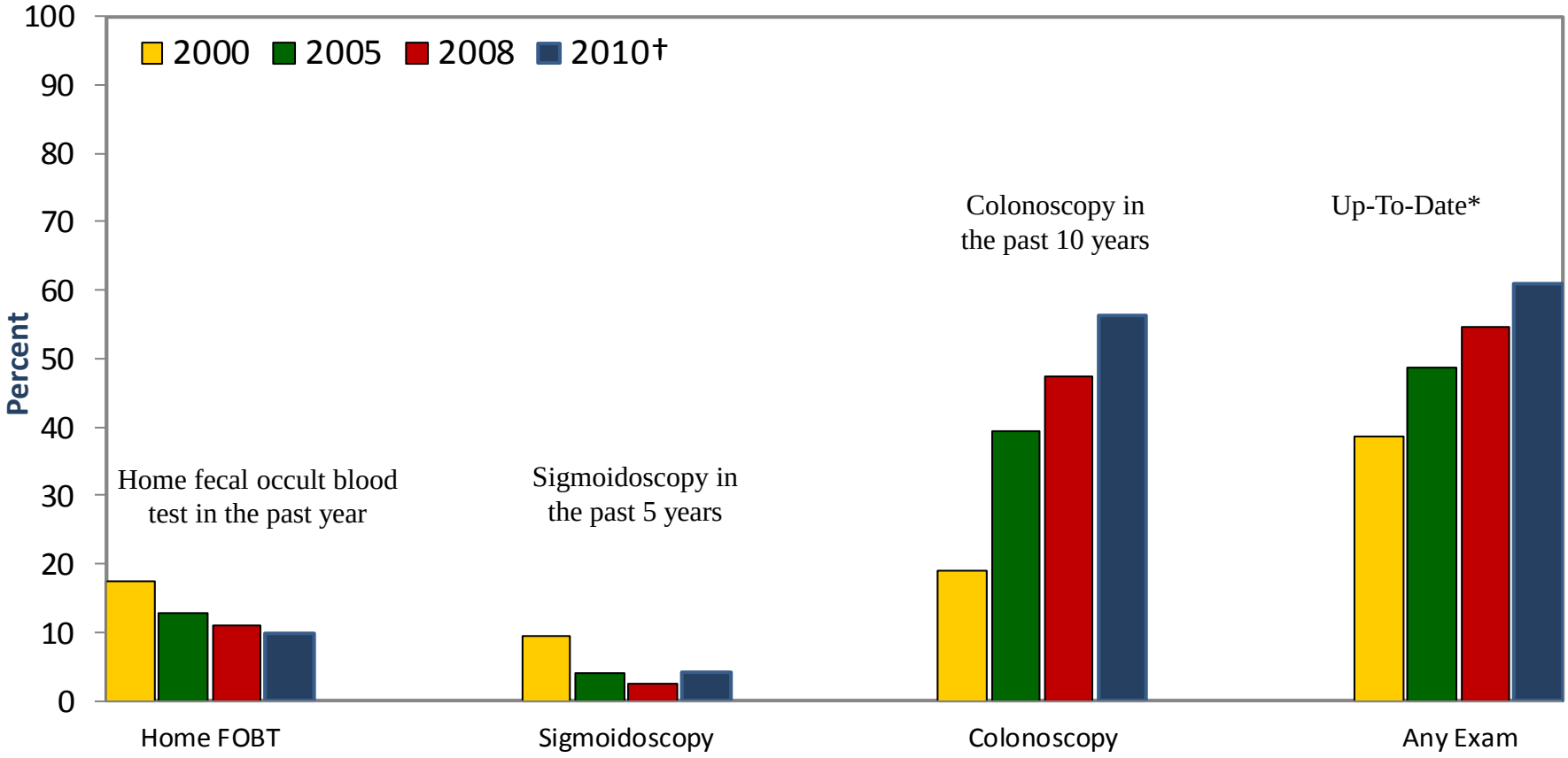
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Presentation Topics

- U.S. colorectal cancer (CRC) screening rates and patterns
- Factors contributing to rates and patterns
- Reducing barriers to CRC screening
  - Patient, provider, system, policy
- NCI collaborations to support programs and research

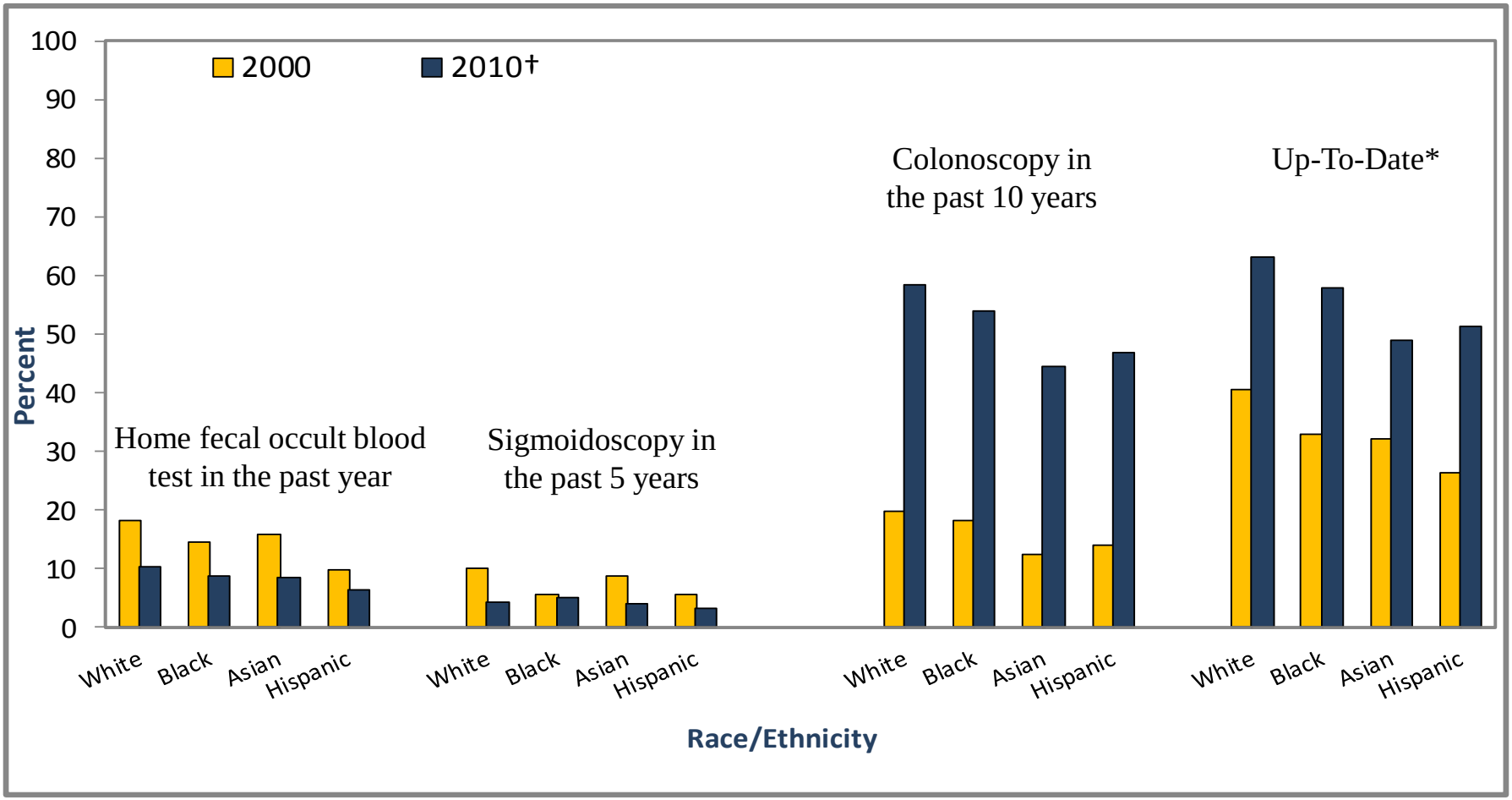
Colorectal Cancer Tests Within Recommended Time Intervals in Adults Ages 50-75, U.S. 2000-2010



*Either FOBT within the past year or sigmoidoscopy within the past 5 years or colonoscopy within the past 10 years.
†Due to a survey modification, an individual may appear in both sigmoidoscopy past 5 yr and colonoscopy past 10 yr groupings, beginning with 2010 data.
Rates are age-adjusted to the 2000 US standard population; excludes respondents that reported history of CRC.

Source: National Health Interview Survey Public Use Data File 2000, 2005, 2008 and 2010. NCHS/CDC

Colorectal Cancer Tests in Adults 50-75, U.S. 2000-2010, by Race/Ethnicity



*Either a home FOBT within the past year or a sigmoidoscopy within the past 5 years or a colonoscopy within the past 10 years.
†Due to a survey modification, an individual may appear in both sigmoidoscopy past 5 yr and colonoscopy past 10 yr groupings, beginning with 2010 data.
Rates are age-adjusted to the 2000 US standard population; excludes respondents that reported history of colon or rectal cancer.

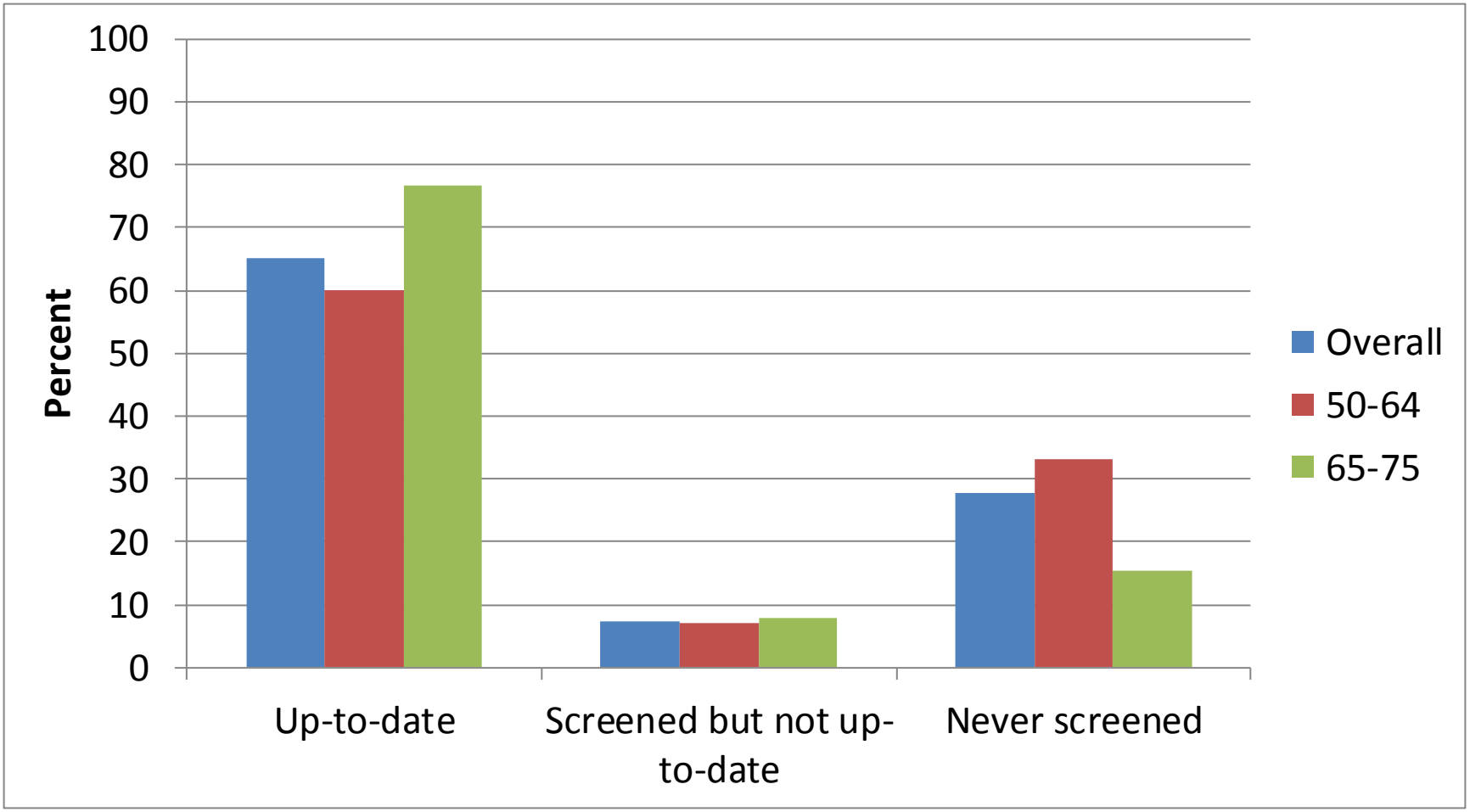
Source: National Health Interview Survey Public Use Data File 2000, 2005, 2008 and 2010. NCHS/CDC

Large Disparities in CRC Screening Uptake (≥20 Percentage Point Differences)

- Education (< High School vs. College Graduate)
- Annual Family Income (<$35,000 vs. ≥$100,000)
- Health Insurance (None vs. Any)
- Usual Source of Care (No vs. Yes)
- No MD Visits in past year vs. 2+ Visits
- Recent Immigrant vs. Born in the U.S.

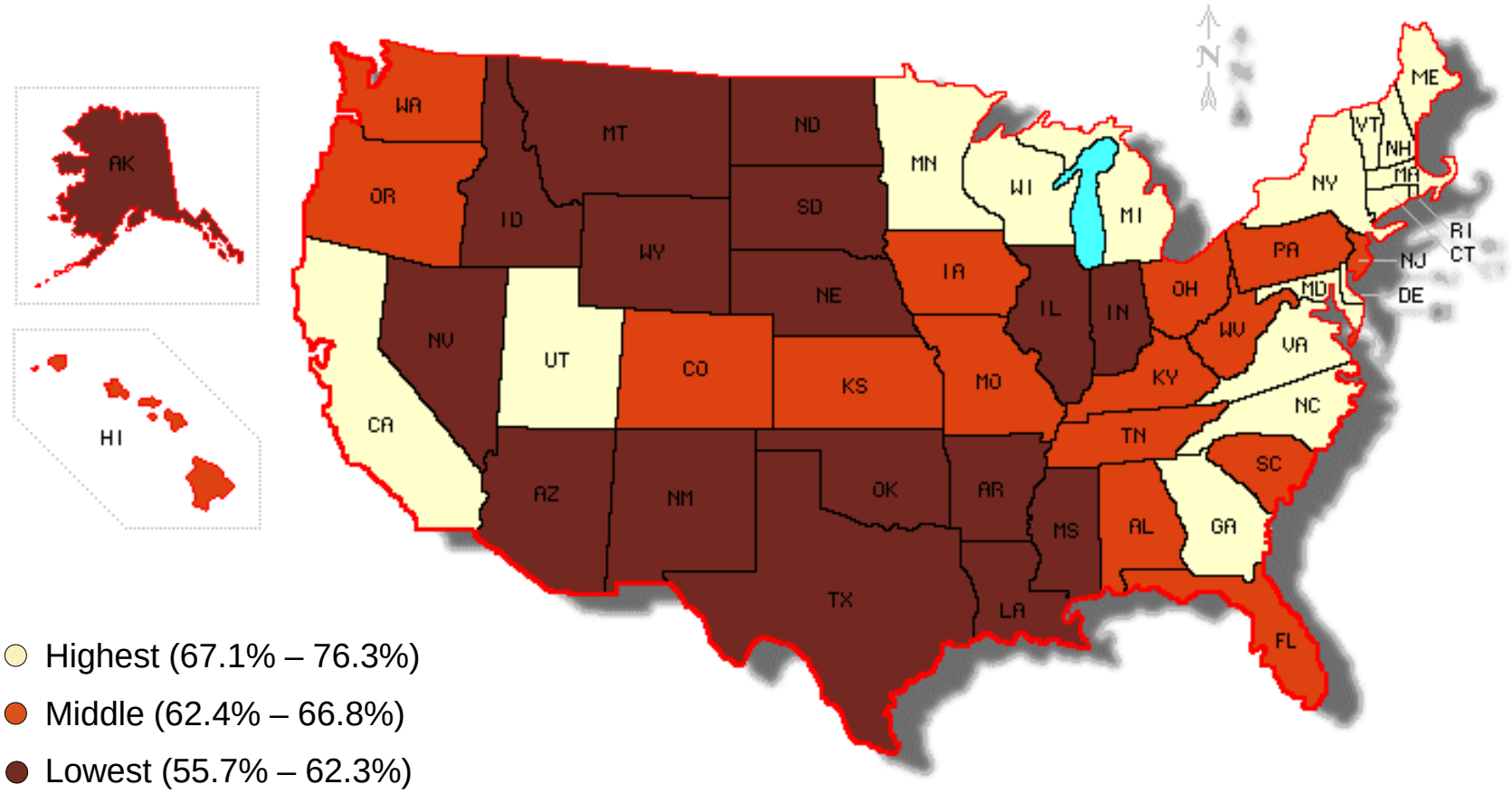
Source: 1) Shapiro JA et al., *CEBP*, 2012; 2) Klabunde CN et al., *CEBP*, 2011.

Percentage of U.S. Adults by CRC Screening Status and Age Group, 2012



Source: Behavioral Risk Factor Surveillance System; Joseph DA, Klabunde CN, et al., *MMWR*, Nov 2013.

U.S. Adults Ages 50-75 Up-to-Date with CRC Screening, by State (in Tertiles)



Source: Behavioral Risk Factor Surveillance System; Joseph DA, Klabunde CN, et al., *MMWR*, Nov 2013.

Percentage of Adults ages 50-75 Up-to-Date with CRC Screening, by Test Type and Highest, Median, and Lowest States, U.S., 2012

	Up-to-Date	Colonoscopy within 10 years	FOBT within 1 year
Overall (U.S.)	**65.1%**	**61.7%**	**10.4%**
Highest State	76.3% Massachusetts	73.7% Massachusetts	20.2% California
Median State	64.3% Tennessee	61.4% Kansas	10.1% Colorado
Lowest State	55.7% Arkansas	53.4% Arkansas	3.4% Utah

Source: Behavioral Risk Factor Surveillance System; Joseph DA, Klabunde CN, et al., *MMWR*, 2013

Patients have Distinct Preferences for CRC Screening Tests

- Among 1224 patients overdue for CRC screening:
  - 35% preferred FOBT, 41% COL, 13% SIG, 6% BE
  - Preferences varied by racial/ethnic group
  - Of those screened (35%), only 50% received their preferred test
- Test attributes important to patients:
  - What the test involves
  - Accuracy; Frequency; Discomfort; Preparation
- Primary care physicians (PCPs):
  - Infrequently discuss patient preferences or choice of test type
  - Focus on colonoscopy

Sources: 1) Hawley ST et al., *Cancer*, 2012; 2) Hawley ST et al., *Med Care*, 2008; Lafata JE et al., *Patient Educ Couns*, 2013; McQueen A et al., *JGIM*, 2009

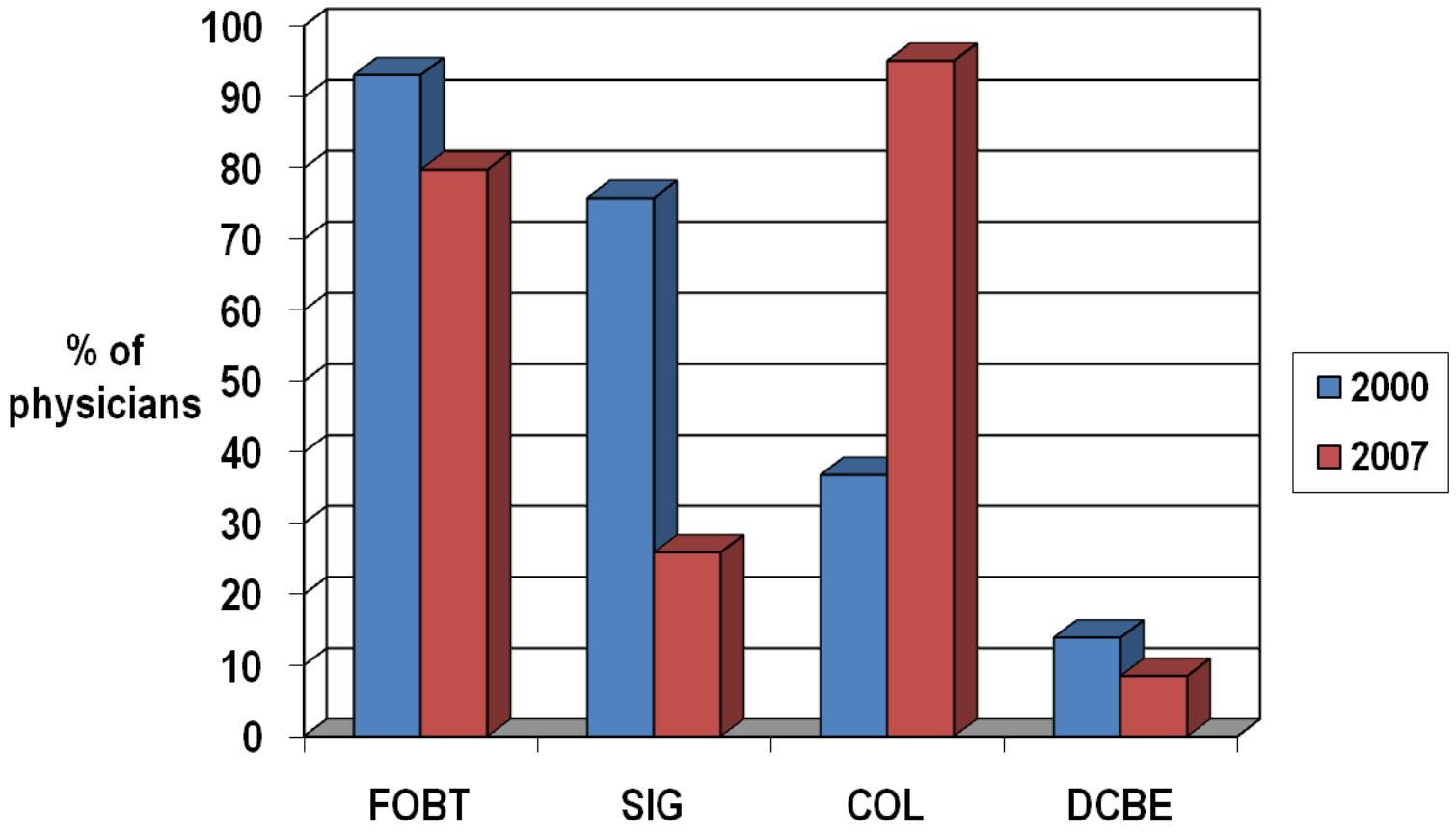
Framework for Improving CRC Screening Delivery

Health care delivery in the U.S. is largely decentralized ("medical" vs. "public health" model):

- Focus on activities within individual primary care practices
- Effective practice-based approach to achieving high CRC screening rates requires*:
  - Physician recommendation
  - Office system(s) for:
    - Identifying/activating eligible patients
    - Presenting options/determining preferences
    - Tracking screening process/results

*Source: Sarfaty M, Wender R. *CA Cancer J Clin* (2007).

U.S. Primary Care Physicians' Recommendations for CRC Screening in Asymptomatic, Average-Risk Patients; 2000 & 2007



Source: Klabunde CN et al., *Am J Prev Med* (2009)

SIG=Sigmoidoscopy; COL=Colonoscopy
DCBE=Double-contrast barium enema

Provider Recommendation is a Key Facilitator of / Barrier to CRC Screening

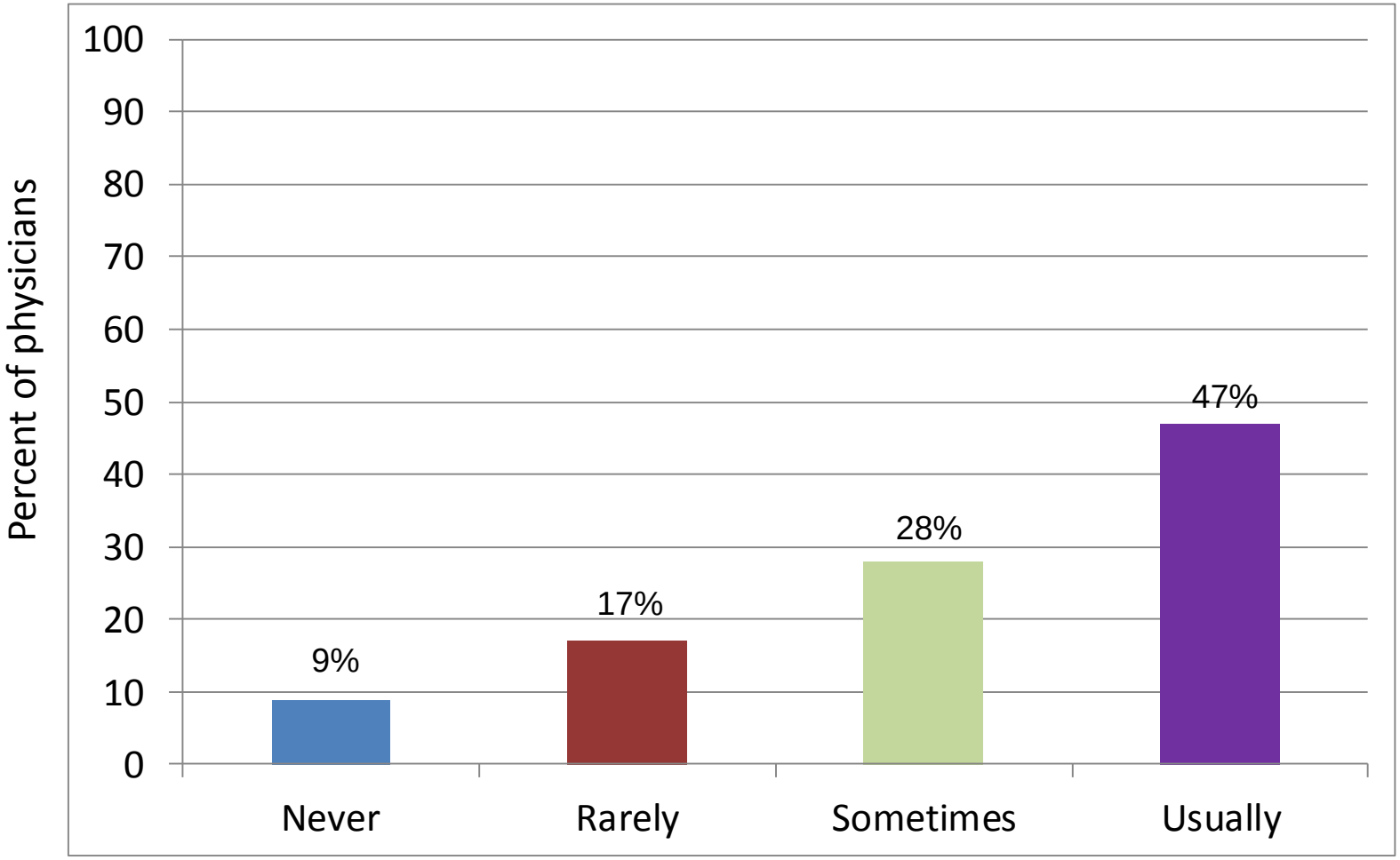
- In the NHIS (2000, 2005, 2010), “doctor didn’t recommend or order it” is the #2 reason given by age-eligible adults who are not up-to-date with CRC screening (Seeff LC et al., 2004; Shapiro JA et al., 2008; Shapiro JA et al., 2012).
- <10% of age-eligible adults who were not up-to-date reported receiving a recent provider recommendation (2010 NHIS; Klabunde CN et al., submitted)
- Among Medicare beneficiaries who are not up-to-date , the majority had at least one physician visit in the past year; mean number of visits: 4.7 (Schenck AP et al., *Prev Chron Dis*, 2011)

Types of Tests Recommended to Respondents Ages 50-84 Not Up-to-Date with CRC Screening Who Received a Provider Recommendation

	%	95% CI
Health care provider recommended particular tests ("Yes")	73.2	67.4-78.3
Test or test combination recommended:		
Colonoscopy only	88.8	83.8-92.4
FOBT only	5.7	3.3-9.6
Sigmoidoscopy only	0.5	0.1-3.8
FOBT and Colonoscopy	1.8	0.6-5.1
Other combinations	2.4	1.0-5.7

Source: 2010 NHIS; Klabunde et al., submitted.

How Often PCPs Present > 1 Test Option when Discussing CRC Screening with Patients (N=1266)



Source: Zapka JG et al., *Cancer Epidemiol Biomarkers Prev* (2011)

Office Systems to Support CRC Screening Reported by PCPs, 2007

Office System		% Physicians
Practice has implemented CRC screening guidelines:		
	Yes	61
	No	38
Medical record system used:	Full or partial EMR	28
	Moving from paper to EMR	16
	Paper charts	56
Practice uses reminder systems for CRC screening:		
	Physician reminders	31
	Patient reminders	18
Practice provides CRC screening rate reports to physician:		12

Source: Klabunde CN et al., *Am J Prev Med* (2009)

Reducing Barriers to CRC Screening

Policy level: Affordable Care Act (ACA)

- Designed to substantially reduce the number of uninsured in the U.S.
- Requires insurers to cover CRC screening
- Prohibits copays & deductibles for CRC screening
- Has provisions for:
  - Improving access to and strengthening primary care
  - New care delivery models—medical homes; accountable care organizations

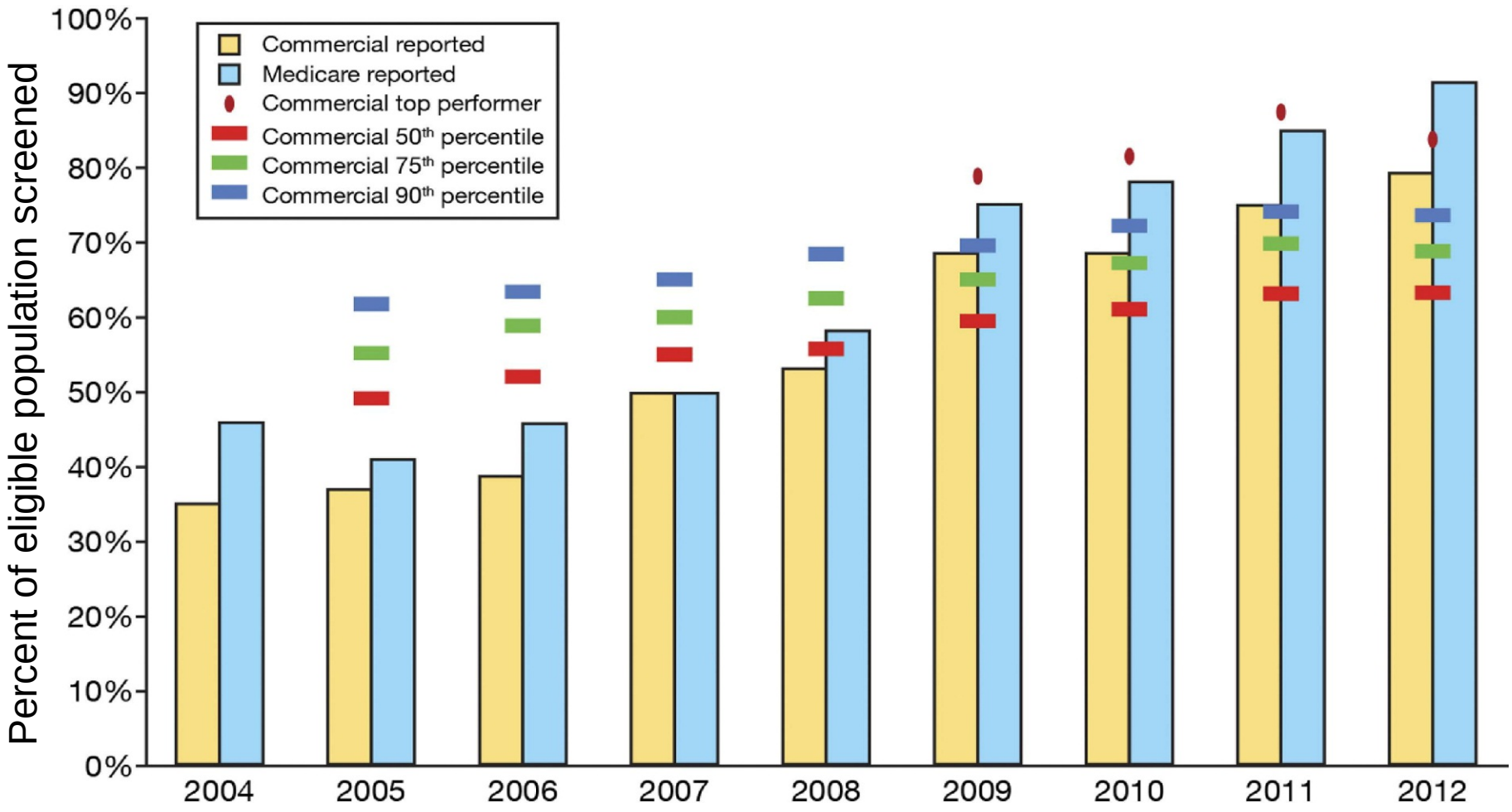
Reducing Barriers to CRC Screening

System level:

- CDC's Colorectal Cancer Control Program in 26 states and territories (www.cdc.gov/cancer/crccp/)
- New funding and reporting requirements to engage HRSA-sponsored community health centers in improving CRC screening uptake
- Direct mailing of FIT kits; centralized, organized, "public health" approach to CRC screening (Kaiser Permanente)

Sources: 1) Seeff LC et al., *Cancer*, 2013; 2) Sarfaty M et al., *CA Cancer J Clin*, 2013; 3) Levin TR, *Am J Gastroenterol*, 2012.

Colorectal Cancer Screening: HEDIS Performance, KPNC



Source: Kaiser Permanente Northern California: T.R. Levin
HEDIS = Healthcare Effectiveness Data and Information Set

Reducing Barriers to CRC Screening

Practice level: strategies that are effective in increasing CRC screening uptake

- Offering home FIT kits during influenza vaccination clinics (FLU-FIT trial).
- Mailed outreach invitations for FIT or colonoscopy sent to unscreened, low-income individuals.
- Stepped interventions vs. usual care: EHR-generated mailings, telephone assistance, & nurse navigation; uptake greatest with highest level of support.

Sources: 1) Potter MB et al. *Am J Public Health*, 2013; 2) Gupta S et al. *JAMA Intern Med*, 2013; 3) Green BB et al. *Ann Intern Med*, 2013.

NCI-sponsored PROSPR Consortium Aims to Improve Cancer Screening

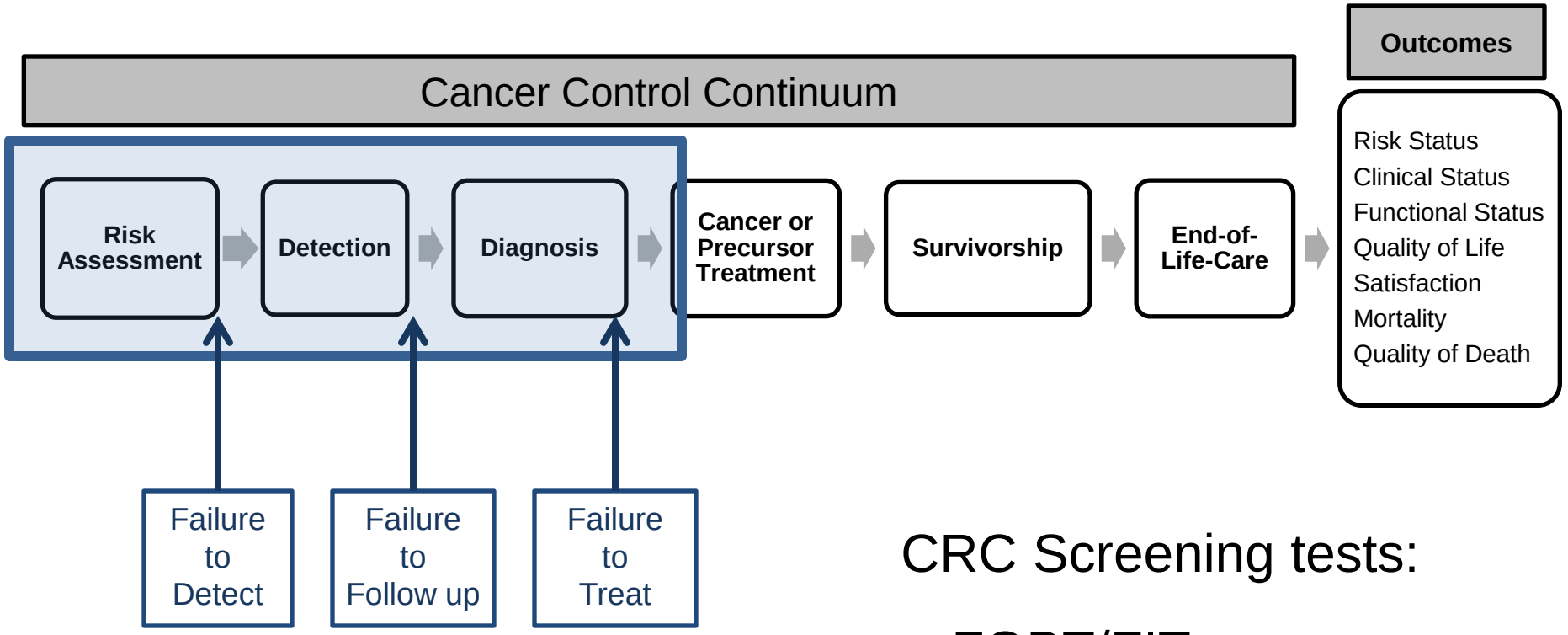
Population-based Research Optimizing Screening through Personalized Regimens (PROSPR) is studying the screening process from recruitment through initial treatment for breast, cervical, and CRC–

- Where breakdowns occur; possible corrective strategies
- Potential for less intensive screening in low-risk groups
- Multilevel factors that optimize screening
- For CRC, comparative effectiveness of screening tests in community practice: colonoscopy, FIT, FOBT, sigmoidoscopy

www.appliedresearch.cancer.gov/networks/prospr

PROSPR
Population-based Research Optimizing Screening through Personalized Regimens

Breakdowns Can Occur at Multiple Points in the CRC Screening Process



CRC Screening tests:

- FOBT/FIT
- Colonoscopy
- Sigmoidoscopy

NCI Collaborations to Support CRC Screening Programs and Research

- National Colorectal Cancer Roundtable (est. 1996)
  - Institutional member
- Centers for Medicare and Medicaid Services (CMS)
  - Pilot project to increase CRC screening rates in the Medicare population
- Agency for Healthcare Research and Quality (AHRQ)
  - Joint FOA: Improving CRC screening in primary care practice
- Centers for Disease Control and Prevention (CDC)
  - National survey data sources
  - Evaluation of the Colorectal Cancer Control Program
- Health Resources & Services Administration (HRSA)
  - Cancer Collaborative
  - Workshop for community health center managers/leaders

Summary: CRC Screening Progress and Opportunities

U.S. CRC screening rates are increasing, but public health targets are not met:

- Colonoscopy is driving the increase
  - Cost, access, capacity issues
- Disparities: Asians and Hispanics; patients with no insurance, no usual source of care, no physician visits; geographic region
- Need to offer HS-FOBT/FIT as a reasonable, evidence-based alternative to colonoscopy
  - Patients have distinct preferences for CRC screening tests
  - Will require changing provider and public perceptions
- Need for improved implementation of EHRs and office systems to support CRC screening in primary care