Public Health Impact of Cancer Screening

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U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Disclosures

- **Consulting agreements with:**
  - National Institutes of Health
  - Centers for Disease Control and Prevention
  - Department of Defense
  - Turner Broadcasting (CNN)
- **Author of *How We Do Harm: A Doctor Breaks Ranks About Being Sick in America***
- **I do not accept money from drug and device manufacturers**

Outline

- **Define screening**
  - Purpose
  - Benefits and harms
- **Define the principles of screening**
  - Lead-time bias
  - Length bias and overdiagnosis
- **Give real examples**

Cancer Screening: Balancing Benefits and Risks

- **The aims of screening are**
  - Primarily: Reduction in cancer-related mortality
  - Secondarily: Reduction in cancer-related morbidity
- **Screening can cause interventions (both diagnostic and therapeutic) that can harm patients**
- **Always important in assessing a screening test is the benefit/harm ratio in a specific population**
  - There are tests with a significant net benefit
  - There are tests in which the harms outweigh any benefit

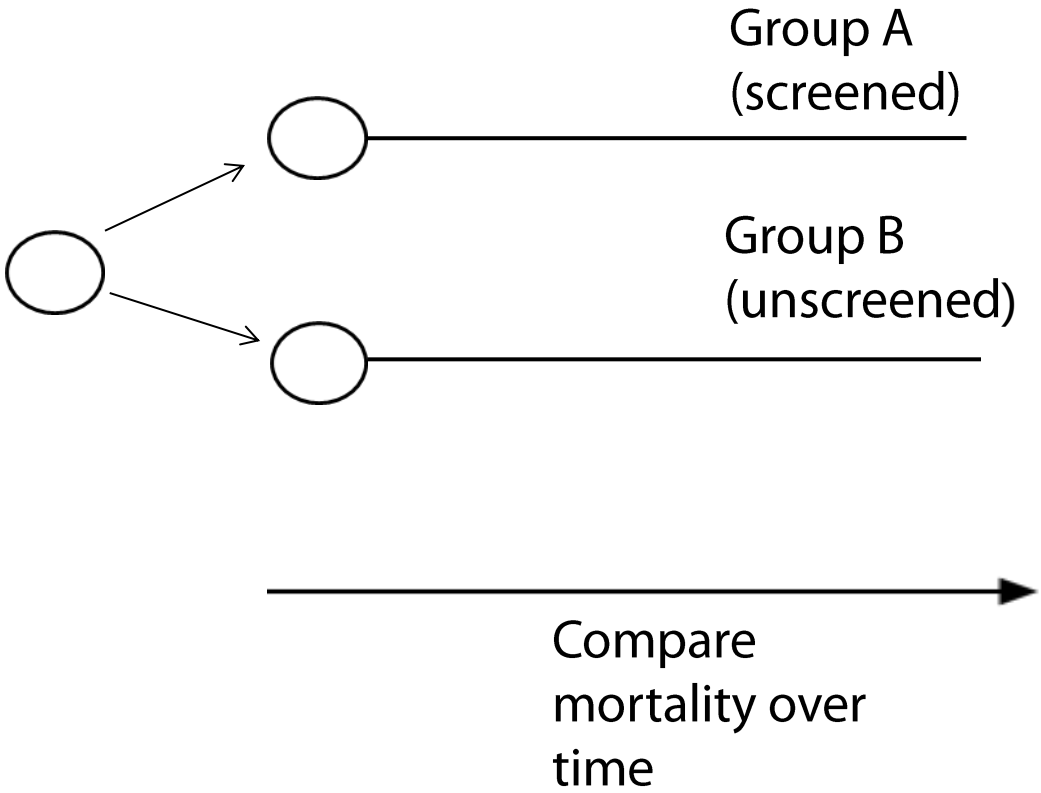
cancer.gov/cancertopics/pdq/screening/overview/HealthProfessional
Kramer BS. Urol Oncol 2004;22(4):344–7

Proof of Screening Benefit

- **Prospective randomized trial**
  - Bias is most reduced through randomization after enrollment
    - Healthy volunteer effect (e.g., volunteers for clinical trials are often healthier than the general population)
    - Drop-in vs. drop out
  - Randomization of "census rolls" or other lists as done in some recent European screening studies causes some biases in favor of the screening test
    - Unscreened population likely to have increased incidence of undetected disease

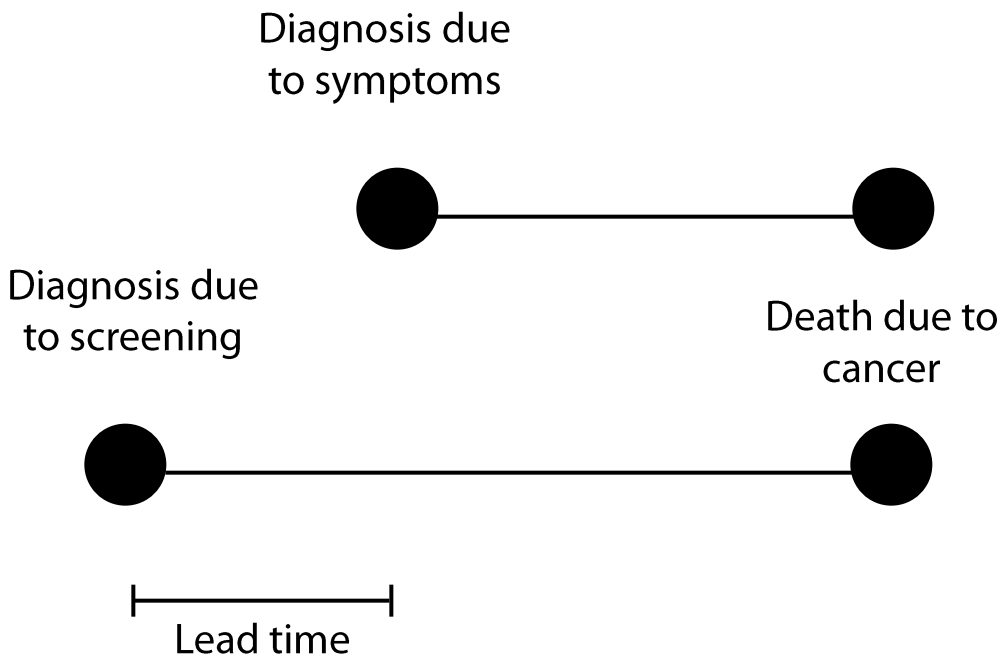
Croswell JM, et al. Semin Oncol 2010;37(3):202–15

Prospective Randomized Trial: Enrollee Randomization



Croswell JM, et al. Semin Oncol 2010;37(3):202–15

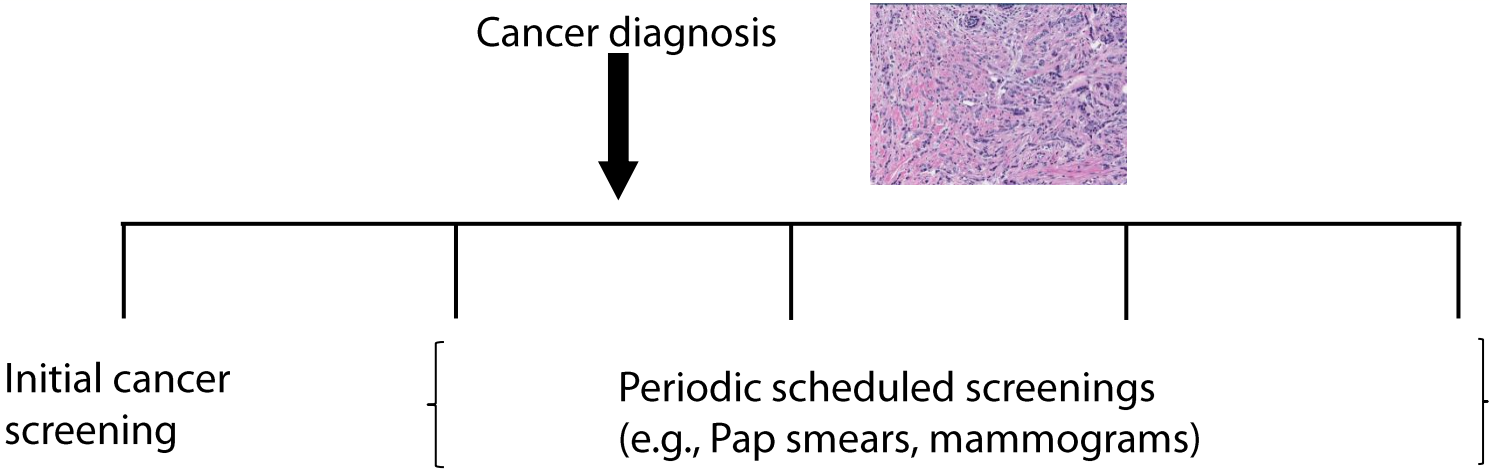
Lead-Time Bias



Increased survival or increased proportion surviving a period of time (e.g., 5 year survival rates) is not a goal of cancer screening and is not proof of a screening benefit

Brawley OW. Cancer 1997;80(9):1857–63
Welch HG, et al. JAMA 2000;283(22):2975–8

Length Bias

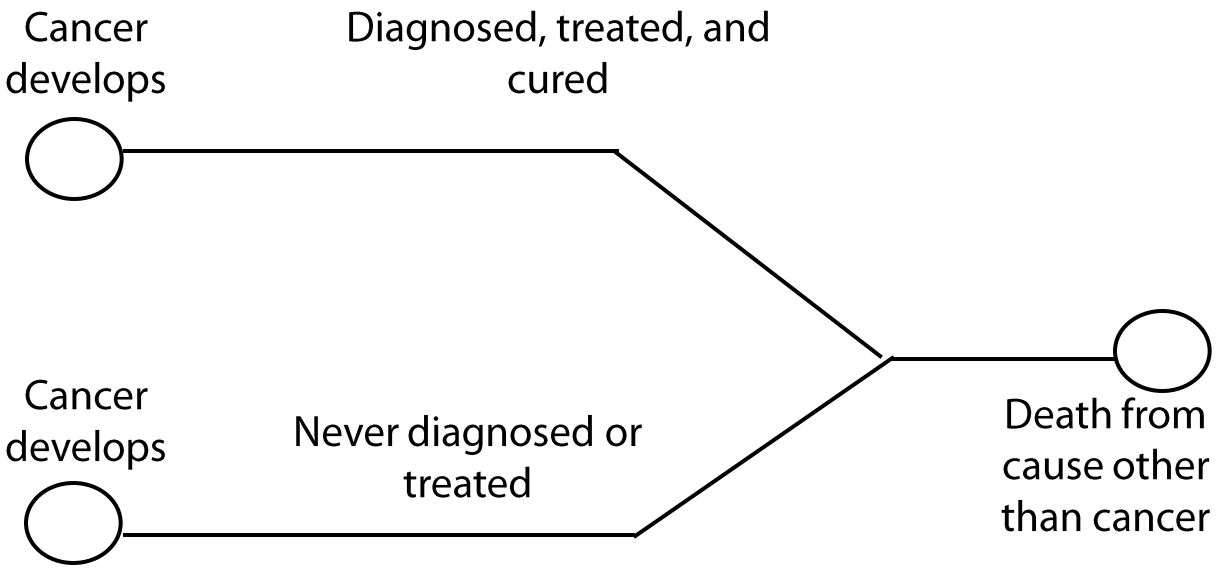


Refers to the concept that cancers diagnosed between scheduled screenings are more aggressive (i.e., faster growing and have a poorer prognosis) than those diagnosed at scheduled screenings

Those diagnosed at the initial screening are the least aggressive of all

Merrill RM, Brawley OW. Epidemiology 1997;8(2):126–31
Black WC. J Natl Cancer Inst 2001;1692(16):1280–2

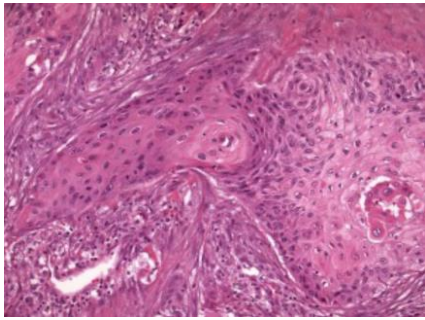
Overdiagnosis: A Form of Length Bias



Boyle P, Brawley OW. CA Cancer J Clin 2009;59(4):220–4
Welch HG, Black WC. J Natl Cancer Inst 2010;102:605–13

Overdiagnosis: Implications and Importance

- **Cancers that would not go on to cause symptoms or death**
- **Cancers that can be cured but do not need to to be cured**
- **Estimates**
  - 60% of PSA-detected prostate cancers
  - 50% of radiologically detected lung cancer
  - 25% of mammographically detected breast cancers



Squamous Cell Carcinoma of the Lung

PSA, prostate specific antigen

Welch HG, Black WC. J Natl Cancer Inst 2010;102:605–13

The Definition of Cancer

- **Currently based on morphology and histology defined in the mid-19th century by Rudolf Virchow, using biopsies done at autopsy and a light microscope-these cancers obviously killed**
- **Small, localized cancers found today morphologically look like cancers that kill**
  - Analogous to "profiling"
- **Advances in cancer diagnosis**
  - X-ray-1895
  - Mammography-1960's
  - CT scans-1970's
  - MRI-1980's
  - Stereotactic biopsy methods-2000's to present

Rudolf Virchow
1821-1902

CT, computed tomography
MRI, magnetic resonance imaging
Virchow R. Vorlesungen über Cellularpathologie in ihrer Begründung auf physiologischer und pathologischer Gewebelehre, Berlin 1859
archive.org/details/diecellularpatho00virc
Welch HG, Black WC. J Natl Cancer Inst 2010;102:605–13

Cancer Screening: Weighing the Evidence

- **There are screening tests:**
  - Scientifically found to be of benefit at the population level, based on a net saving of lives
    - These are the focus of this Grand Rounds
  - Found to be beneficial for certain high-risk groups
    - But of a low benefit/risk ratio for normal-risk population
  - Where evidence indicates that population-wide harms outweigh benefits

- **U.S. Preventive Services Task Force, an independent panel of non-federal experts in prevention and the scientific review of medical evidence, is the primary source of screening recommendations based on public health considerations**

www.uspreventiveservicestaskforce.org/

Recommended Cancer Screening Tests: The Public Health View

- **Well designed clinical studies have <u>consistently</u> demonstrated mortality reduction in the general population through use of:**
  - Mammography and CBE for detection of breast cancer
  - Stool blood testing, Sigmoidoscopy* and Colonoscopy* to detect colorectal cancer
  - Pap test* and visual screening to detect cervical cancer
- **Recommended based on risk factor assessment:**
  - Low-dose spiral CT for those at high risk of lung cancer

*No randomized trial completed; recommendation for screening based on case-control or observational studies

CBE, clinical breast exam
CT, computed tomography
Smith RA, et al. CA Cancer J Clin 2013;63(2):88–105
Wender R, et al. CA Cancer J Clin 2013;63(2):107–17

Colorectal Cancer Screening: Gap Between Evidence and Implementation

- **A substantial number of lives (perhaps 15 to 20,000 per year) could be saved in the US, if there was efficient colorectal cancer screening and treatment**
  - 40%-45% of the US population 50-75 years old are not screened on time, according to current recommendations
  - A substantial proportion of those with health insurance are not up to date on screening
- **Subsequent Grand Rounds speakers will address ways to address systemic barriers and to increase screening rates**

healthmeasures.aspe.hhs.gov/measure/25
Telford JJ, et al. CMAJ 2010;182(12):1307–13

Prostate Cancer Screening: Harms Versus Benefits

- **11 out of 11 prospective randomized trials have shown the harms of prostate cancer screening**
  - Considerable overdiagnosis
  - Overtreatment
  - Harms of treatment include
    - Fever and sepsis associated with diagnostic biopsies
    - Mental anguish
    - Poor quality of life after diagnosis and treatment (e.g., sexual dysfunction, urinary incontinence)
- **2 of 11 prospective randomized trials claim to have reduced mortality slightly**
- **All 11 trials have methodological flaws**

Brawley OW. Ann Intern Med 2012;157(2):135–6

The Lessons of Lung Cancer Screening

- **Chest X-ray screening in the 1960s resulted in**
  - Increased incidence of lung cancer
  - Finding disease at a more favorable stage
  - Increased survival due to both earlier stage diagnosis and overdiagnosis
- **In the Mayo Clinic's randomized trial, the death rate from lung cancer and lung cancer diagnostic procedures was**
  - 4.4 per 1,000 per year among those screened annually
  - 3.9 per 1,000 per year in the control group

Marcus PM, et al. J Natl Cancer Inst 2000;92(16):1308–16

The National Lung Screening Trial

- **Nearly 54,000 at high risk enrolled in the trial**
  - Age 55 and older
  - 30 pack-year or greater history of smoking; if quit, did so less than 15 years before trial entry
  - Reasonable health
- **Subjects prospectively randomized to chest X-ray (sham) or low-dose spiral CT (LDCT) yearly for 3 years**
  - Done at 30 sites with lung cancer expertise
  - Analysis 10 years from start of screening showed LDCT associated with a 20% reduction in relative risk of death

CT, computed tomography

Vikram HR, et al. N Engl J Med 2011;364(22):2148–54

The National Lung Screening Trial: A Closer Look

- **LDCT associated with a 20% mortality reduction**
  - 87 fewer deaths in the screened group
  - About 350 in the screened group still died of lung cancer
  - 16 died due to interventions caused by screening
    - 6 of 16 did not have cancer
- **In this high-risk group, the benefit/risk ratio of 5.4 lives saved for**
  - Every 1 life lost prematurely due to diagnostic procedures

    $\frac{\text{87 fewer cancer deaths due to lung cancer in screened group}}{\text{16 deaths due to screening-related interventions}} = 5.4$
- **Benefit/risk even less favorable when considering all screening related complications; drops to 2.7 lives saved per complication**

LDCT, low-dose spiral CT

Vikram HR, et al. N Engl J Med 2011;364(22):2148–54

Cancer Screening: Present and Future

- **The aims of screening are:**
  - Primarily: Reduction in mortality
  - Secondarily: Reduction in morbidity
- **Screening can cause harm; therefore, the benefit/harm ratio of a screening test is always important, as is the cancer risk of the population to be screened**
- **We need a 21st century definition of cancer!**
  - Need to better understand and predict the varying biologic behaviors of different cancers
    - Distinguish cancers that need to be cured from those that do not
  - Genetic and genomic criteria for cancer beyond morphology?

Cancer Screening in International Settings: What Can We Learn?

Rachel Ballard-Barbash, MD, MPH
Associate Director
Applied Research Program
National Cancer Institute, Bethesda, MD

NATIONAL CANCER INSTITUTE

U.S. Department of Health and Human Services
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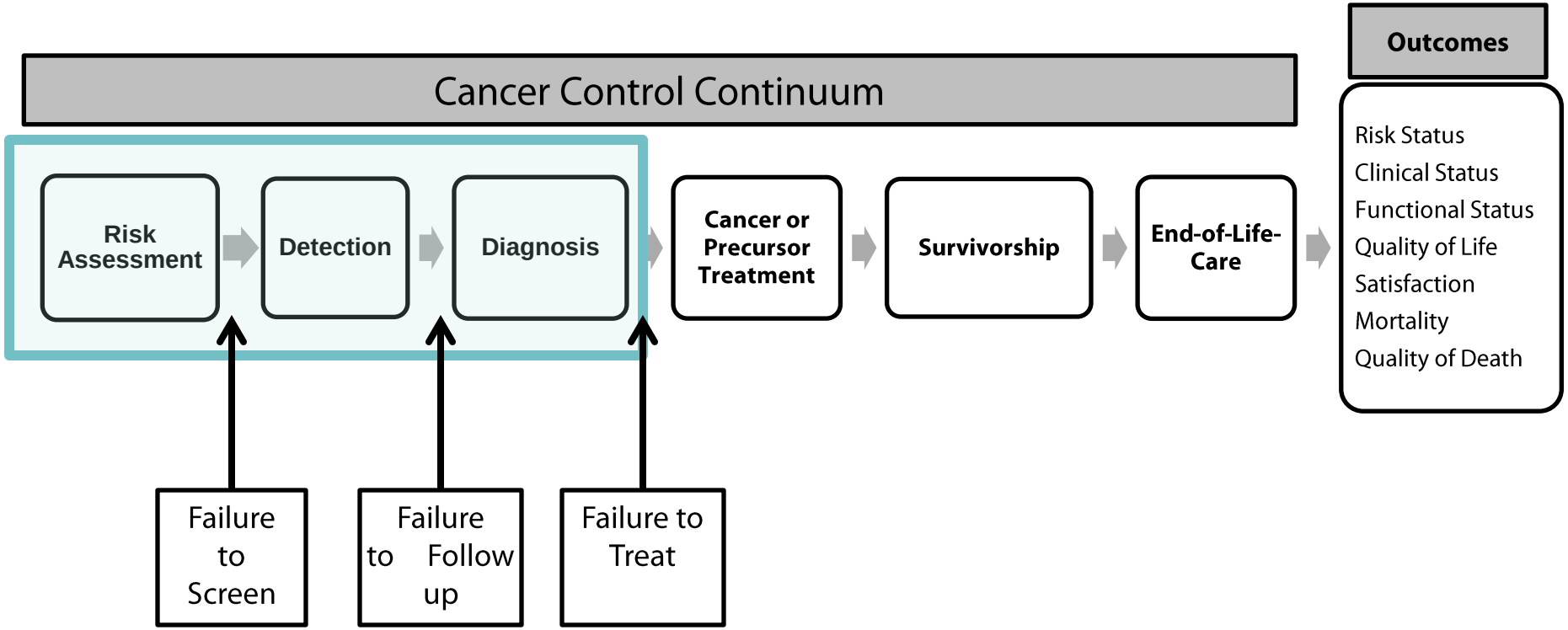
Breakdowns Can Occur at Multiple Points in the Cancer Screening Process



www.iom.edu/Reports/2012/Primary-Care-and-Public-Health.aspx

International Models of Innovation

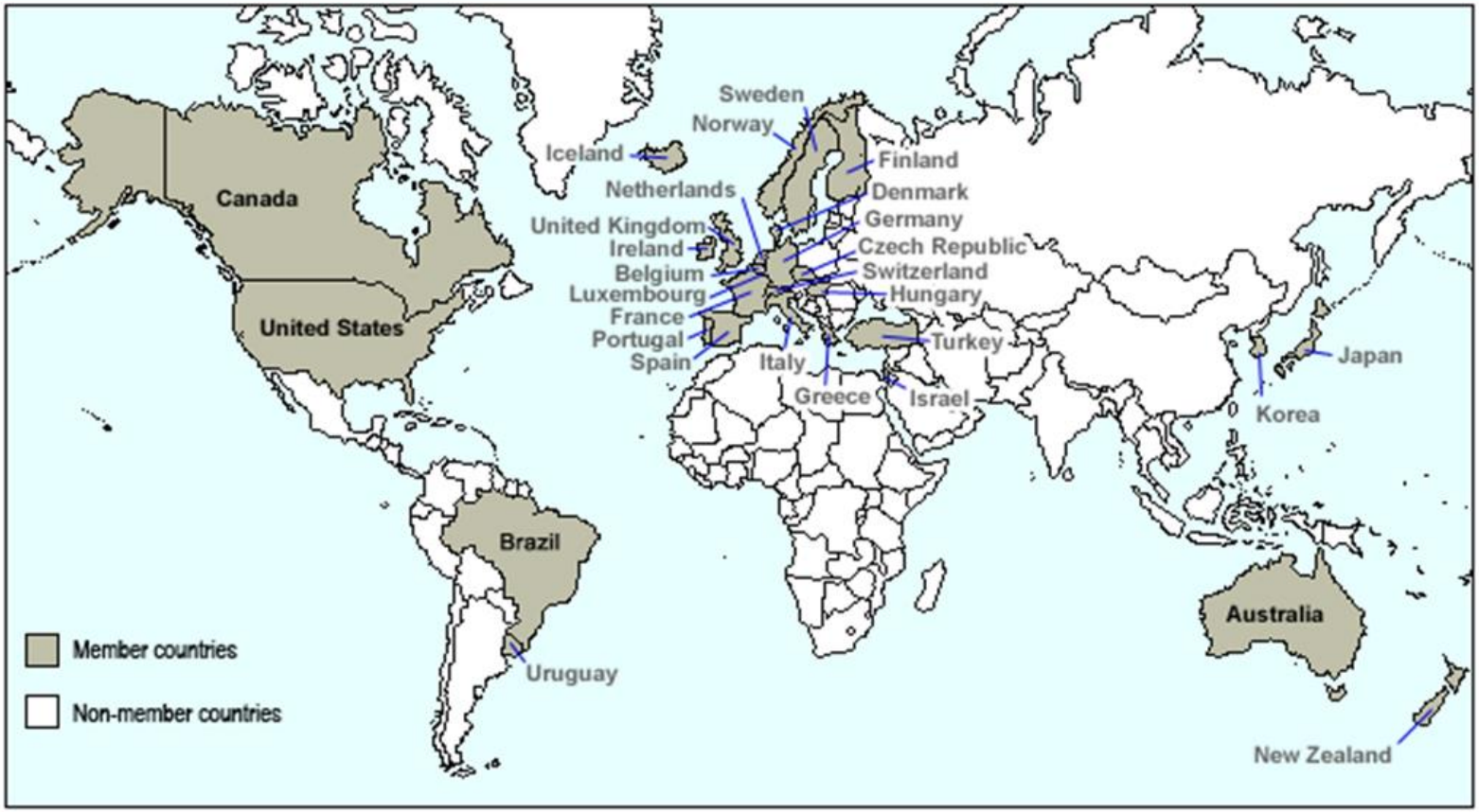
- **How have public health approaches been used in other countries?**
  - Most have screening programs organized as public health programs outside context of routine clinical care
  - Active comprehensive data collection and evaluation systems
    - Quality improvement and quality assessment of the screening process
    - Identification and invitation of population for screening, quality control of processes and outcomes
    - Evaluation of long-term changes in processes and outcomes
  - Feedback systems to personnel and facilities to improve quality

Background and History of International Cancer Screening Network (ICSN)

- **1998: Established as the International Breast Cancer Screening Database Project with 11 countries**
  - Sponsored by the U.S. National Cancer Institute
- **2006: Changed to International Cancer Screening Network (ICSN) to reflect expansion to screening for other cancers**
  - Network expanded to include 35 countries
- **Purpose**
  - Use and compare data from organized screening programs or national data on screening that may be opportunistic
  - Develop methods for evaluating impact of these programs

http://appliedresearch.cancer.gov/icsn/

ICSN Participating Countries



The US does not have a nationally organized program of screening, but it does have nationally organized data on screening in practice

ICSN, International Cancer Screening Network
appliedresearch.cancer.gov/icsn/

Lessons from Organized Cervical and Colon Cancer Screening Programs

- Cervical: Public health model of screening (organized) in the Netherlands compared to medical services model of screening (opportunistic) in the United States
- Colon: Organized, using program data to identify populations that required enhanced efforts to improve uptake of screening in the NHS (United Kingdom)

NHS, National Health Service

"Cervical Cancer Screening in the U.S. and the Netherlands: A Tale of Two Countries"

	United States	Netherlands
Organization	Medical screening Opportunistic	Public health Organized
Age Group and % Screened	21–no clear upper limit until 2012	30–53 Later expanded 35–60
Interval	Annual or every 2 years	Every 3 years Later every 5 years
Reimbursement	Medicare, since 1990 No age cut off	Only within organized program

Habbema D, et al. The Milbank Quarterly 2012;90(1):5–37

Number of Lifetime Pap Smears Recommended by Guidelines in Netherlands and US

Guideline	Number of Pap Smears			
	Age < 30	Age 30 to 60	Age > 60	Total
Netherlands 1993[a]	0	7	0	7
ACS 2002[b]	6–11	11–16	3–6	20–33
ACOG 2003[c]	11	11–16	3–6	25–33
USPSTF 2003[d]	4–11	11–31	2–5	16–47
Kaiser 2006[e]	4	11	2	17
ACOG 2009[f]	5	11	2–5	18–21

Number of Pap smears 3 of 4 fold higher in the U.S. vs. the Netherlands; decreases in cervical cancer mortality are nearly identical (75-78%) from 1960-2007

Habbema D, et al. The Milbank Quarterly 2012;90(1):5–37
ACS, American Cancer Society
ACOG, American College of Obstetrics and Gynecology
USPSTF, United States Preventive Services Task Force

Organization and Structure of the United Kingdom Bowel Cancer Screening Program

- **Public health model was implemented based on RCTs and formal CEA of bowel screening**
  - Examined 5 options and selected FOBT of 60–69 year olds with colonoscopy following abnormal FOBT
- **Program planning to ensure sufficient resources were available to screen all relevant groups**
- **Organization reflects public health model**
  - 5 program hubs; 20 local screening centers; 10 million people
  - Hubs manage call and recall, process FOBT and nurse appts
  - Screening centers provide nurse screening clinics and endoscopy
- **Data collection for quality assurance of all processes and outcomes**

West NJ, et al. Association Colo of GB and Ire 2012;(10):708–14
RCT, randomized controlled trials
CEA, cost-effectiveness analysis
FOBT, Fecal Occult Blood Test

Data are Key to Tracking Uptake in the English Bowel Cancer Screening Pilot Program

	1st Round*	2nd Round	3rd Round
Men	57.7	53.4	55.8
Women	65.9	60.5	61.6
Social Deprivation Score**			
1 - 2	70.2	65.3	66.7
3 - 4	61.6	55.8	57.8
5	45.8	42.0	42.6
% Indian subcontinent origin			
1 - 4	64.5	59.3	61.1
5	49.3	45.5	46.1
Screening history			
Invitation, previous nonresponder	0	13.5	10.2

*Each round is a separate cohort of patients
** Higher social deprivation scores correlate with greater social deprivation
Moss SM, et al. Gut 2012;61:101–7

Participant, Provider, Systems, and Organizational Factors Can Improve Uptake

- **Who attends CRC screening?**
  - Higher SES and education, white, older age, men, married
- **What works to increase uptake**
  - System
    - Specialized screening services or staff focused on increasing uptake
    - Resources that fit the anticipated demand (equipment, staff)
  - Healthcare providers-including nurse practitioners for endoscopy
    - Cues to action-including targeting noncompliance
    - Provider training and feedback
  - Healthcare users
    - Reminder systems
    - Intensive and personalized outreach and education

Power E, et al. Future Oncol 2009;5:1371–88
CRC, colorectal cancer
SES, socioeconomic status

The Affordable Care Act: Opportunities to Improve Population-Based Cancer Screening

Ned Calonge, MD, MPH

President and CEO, The Colorado Trust

Associate Professor, Family Medicine, University of Colorado

Associate Professor, Epidemiology, Colorado School of Public Health

THE COLORADO TRUST

CDC

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

The Affordable Care Act (ACA) and Public Health Integration with Primary Care

- **The Institute of Medicine report, *Primary Care and Public Health: Exploring Integration to Improve Population Health* (2012), recommends addressing population-based colorectal cancer screening by integrating public health with primary care**
- **The report identified ACA provisions that could support primary care and public health integration**

www.iom.edu/Reports/2012/Primary-Care-and-Public-Health.aspx

ACA Provisions that Support Integration of Primary Care and Public Health

- Community transformation grants
- Community health needs assessments
- Medicaid preventive services
- Accountable care organizations
- Patient-centered medical homes
- Primary care extension program
- Community health centers

ACA, Affordable Care Act
http://www.gpo.gov/fdsys/pkg/BILLS-111hr3590enr/pdf/BILLS-111hr3590enr.pdf

Additional Provisions of the ACA important for Population-based Cancer Screening

- **First-dollar coverage (i.e., no additional out-of-pocket costs) for evidence-based cancer screening (breast, cervical, colorectal) primarily based on U.S. Preventive Services Task Force recommendations**
  - Coverage for screenings graded A (highly recommended) or B (recommended) by Task Force
- **Authorization of the Community Preventive Services Task Force**
- **Direction for <u>both</u> task forces to examine "how each task force's recommendations interact at the nexus of clinic and community"**

ACA, Affordable Care Act
http://www.thecommunityguide.org/cancer/index.html

Guide to Community Preventive Services

- **Publishes recommendations made by the Community Preventive Services Task Force**
  - Independent, nonfederal, volunteer body of experts in public health and prevention research, practice, and policy
- **Recommendations issued based on strength of scientific evidence**
- **The *Community Guide* has issued recommendations on 11 community-level interventions to increase participation in effective cancer screening**
  - Example: Reminder systems

www.thecommunityguide.org/index.html

Why a Public Health Approach to Clinical Preventive Services?

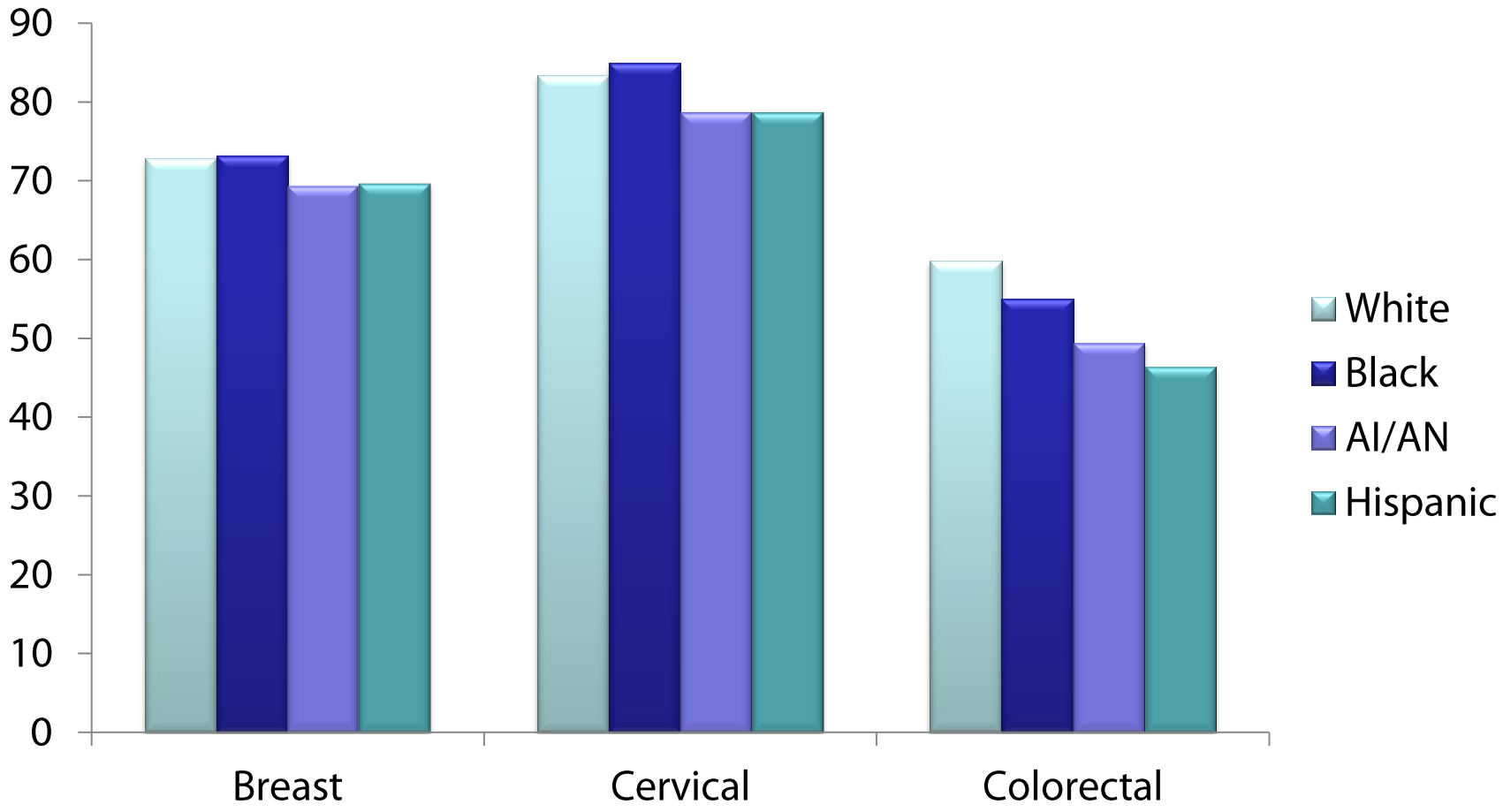
- **The U.S. healthcare system is fragmented with little coordination**
- **Quality measurements—such as the National Committee on Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS)—improve screening rates in stable subscribers but have little population impact**
  - Breast cancer screening rates have not changed since 2000

MMWR 61(02);46–50

Why Cancer Screening?

- Cancer screening identifies preclinical disease
- Compared to other recommended screenings (e.g., screening for cardiovascular disease risk factors), early detection of cancer is more time critical
- There are significant health disparities, especially in colorectal cancer screening

Cancer Screening Disparities, U.S. National Health Interview Survey, 2010



MMWR 61(03);41–5
AI/AN, American Indian/Alaskan Native

Why Public-health Supported, Population-based Cancer Screening?

- **The benefits of screening are maximized when provided to everyone in the community**
- **Preventable late stage disease is more prevalent in the unscreened population**
  - Late-stage cervical cancers are found primarily in women who do not get screened, not in women getting every 3-year screening
- **Public health services can make major contributions to community-level prevention programs**
  - 73.5% of Coloradans > 64 years old are immunized against influenza (2009-2010, CDPHE)
  - 80% of these vaccines are given outside the medical care system (e.g., public health clinics)

CDPHE, Colorado Department of Public Health and Environment
Leyden WA, et al. J Natl Cancer Inst 2005;97(9):675–83

Public Health and Cancer Screening: Colorado initiatives

- 10 local public health departments in Colorado provide breast and cervical cancer screening services funded by the state and by the National Breast and Cervical Cancer Early Detection Program
- The state-funded Colorectal Cancer Control Program in Colorado supports CRC screening through a university-coordinated, community-located, population-based program

CRC, colorectal cancer

A Vision for the Future of Cancer Screening

- **The public utility model works to provide core services to a geographically defined population**
- **Vermont's healthcare reform, through the new Department of Vermont Health Access, is an example**
  - Chronic disease management
  - Behavioral health
  - Wellness and preventive services
- **Supported by provisions of the ACA, the future of cancer screening may well see the development of screening as a public utility that provides population-based services**

ACA, Affordable Care Act
ovha.vermont.gov/

Organized Cancer Screening in a U.S. Healthcare Setting: What Works

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Overview

- Colorectal cancer screening: The value of fecal immunochemical testing (FIT)
- Organized CRC screening at Kaiser Permanente Northern California
- Patient outcomes and lessons learned

CRC, colorectal cancer

Patient Compliance with Noninvasive Colorectal Cancer Screening Methods

	Adherence	
Study	**FIT**	**Guaiac (FOBT)**
Hoffman (2010)	61.4%	50.5%
Hol (2009)	61.5%	49.5%
van Rossum (2008)	59.6%	49.6%
Cole (2003)	39.6%	23.4%

FOBT, Fecal Occult Blood Test
Hoffman RM, et al. Prev Med 2010;50:297–9
Hol L, et al. Br J Cancer 2009;100:1103–10
van Rossum , et al. 2008;135:82–90
Cole SR, et al. J Med Screen 2003;10:117–22

COLONPREV Study, Barcelona: FIT or Colonoscopy for CRC Screening

Participant results after first round of screening:

Table 1. Diagnostic Yield of Colonoscopy and Fecal Immunochemical Testing (FIT), According to the Intention-to-Screen Analysis.*

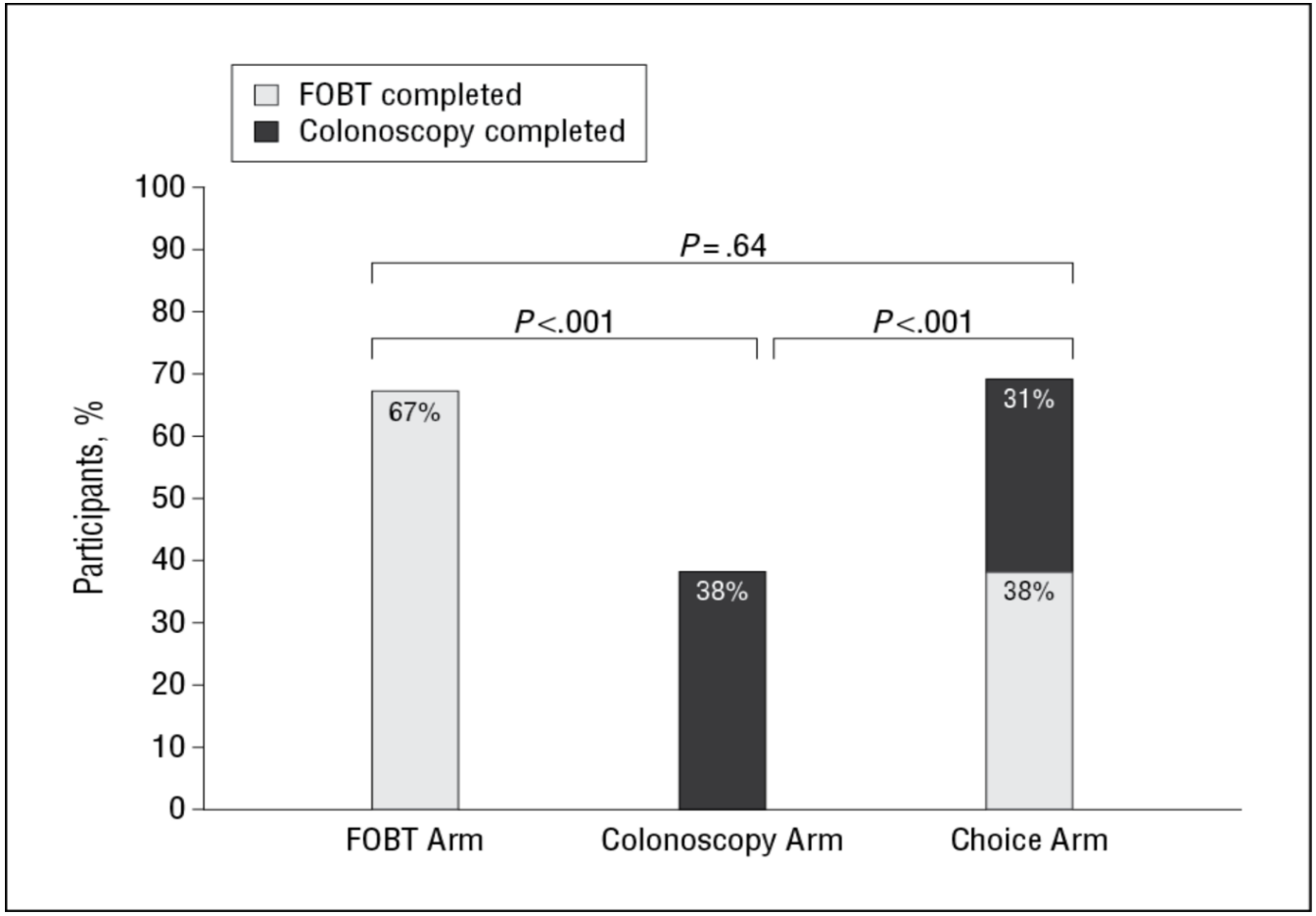
Colorectal Lesion	Colonoscopy (N=26,703)		FIT (N=26,599)		Odds Ratio (95% CI)†	P Value
	Subjects	Rate	Subjects	Rate		
	no.	%	*no.*	%		
Cancer	30	0.1	33	0.1	0.99 (0.61–1.64)	0.99
Advanced adenoma‡	514	1.9	231	0.9	2.30 (1.97–2.69)	<0.001
Advanced neoplasia§	544	2.0	264	1.0	2.14 (1.85–2.49)	<0.001
Nonadvanced adenoma	1109	4.2	119	0.4	9.80 (8.10–11.85)	<0.001
Any neoplasia	1653	6.2	383	1.4	4.67 (4.17–5.24)	<0.001

Colonoscopy: 24.6% adherence; FIT: 34.2% adherence

1,628 participants in the colonoscopy arm were screened with FIT

Quintero E. NEJM 2012;366:697–706
ClinicalTrials.gov Identifier: NCT00906997
FIT, Fecal Immunochemical Test
CRC, colorectal cancer

gFOBT Compared to Colonoscopy



Inadomi JM, et al. Arch Intern Med 2012;172(7):575–82
gFOBT, guaiac Fecal Occult Blood Test

Kaiser Permanente Northern California

Kaiser Permanente (KP)

- Kaiser Foundation Health Plan
- Kaiser Foundation Hospitals
- The Permanente Medical Group

KP Northern California Region

- 3.4 million members
- 19 medical centers
- 8,000 physicians
- 54,000 employees
- 46% market share

Overview of Colorectal Cancer Screening at KPNC

CRC Screening Program

Outreach

Mailed test kits to everyone due for CRC Screening

Inreach

Electronic record-based reminders, leveraging support staff

Tracking to ensure patients who screen positive by FIT have timely follow-up colonoscopy

KPNC, Kaiser Permanente Northern California
CRC, colorectal cancer
FIT, Fecal Immunochemical Test

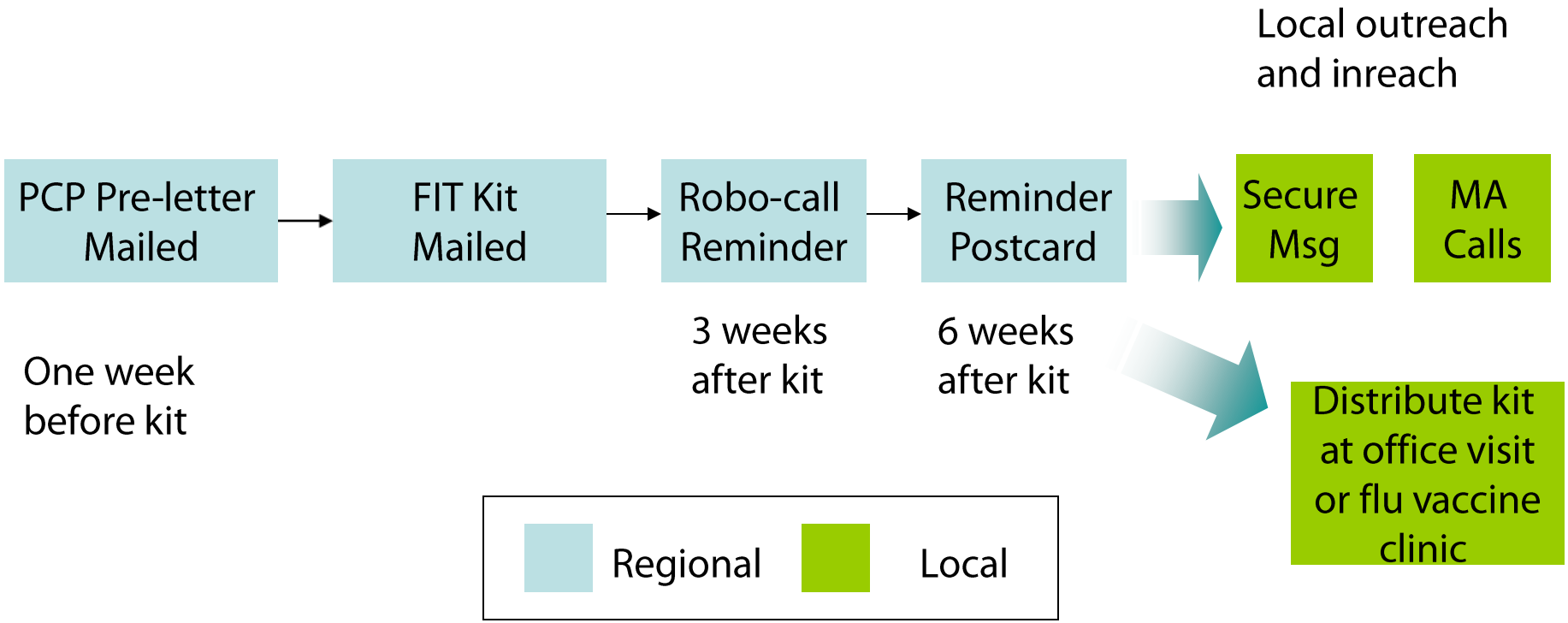
Outreach Details

- **HEDIS population identified, follow USPSTF guidelines**
  - Aged 51-75
    - Screening adherence reviewed to identify those due this year:
      - Flexible sigmoidoscopy every 5 years, colonoscopy every 10 years, FOBT yearly
- **A sample selected each week**
  - >13,000 tests per week (January to September)
  - Date of mailing tied to patient's prior screening or birthday
- **Demographic data uploaded to outside vendor**
- **Mailing kits assembled and sent by outside vendor**
- **Test used: Eiken FIT, machine read**
  - Single sample, positive cut off of 100 ng Hgb/mL buffer

HEDIS, Healthcare Effectiveness Data and Information Set
USPSTF, United States Preventive Services Task Force
FOBT, Fecal Occult Blood Test

FIT, Fecal Immunochemical Test
ng Hgb/mL, nanograms of hemoglobin per milliliter

KPNC CRC Screening Program



Region-wide mailing to nonresponders at end of year

KPNC, Kaiser Permanente Northern California
CRC, colorectal cancer
PCP, primary care provider

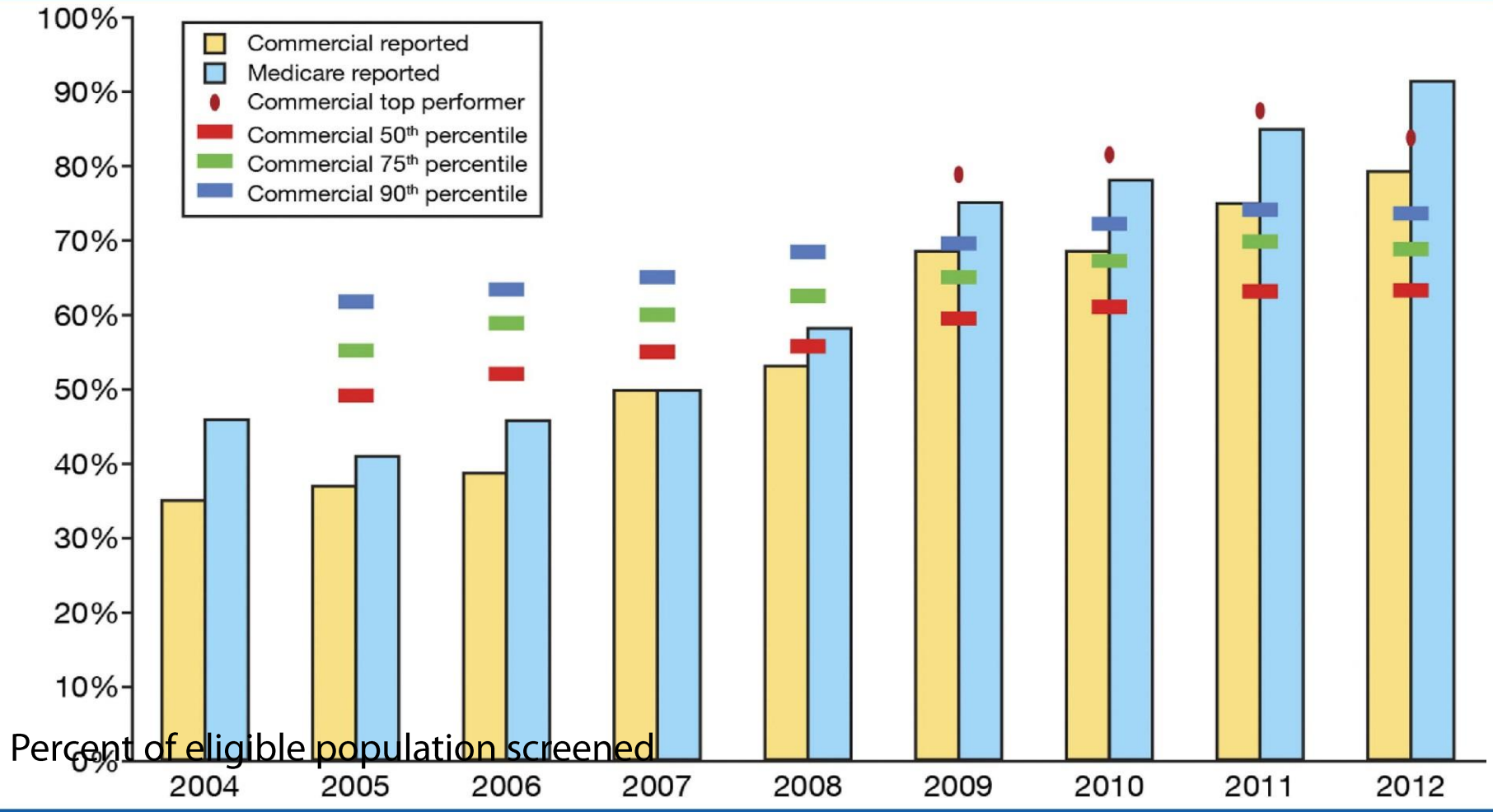
FIT, Fecal Immunochemical Test
MA, Medical assistant

Quality Assurance, Reminders, and Reporting

- **Medical Center Level Screening Rates and Access:**
  - Colonoscopy access reports—time to colonoscopy and backlogs
  - Colonoscopy productivity reports
  - Adenoma (precancerous lesion) detection rates
- **PHP→PROMPT**
- **FIT Follow-up reporting**
- **Population Management Tool (recording the outreach process)**
- **Cancer incidence/stage**

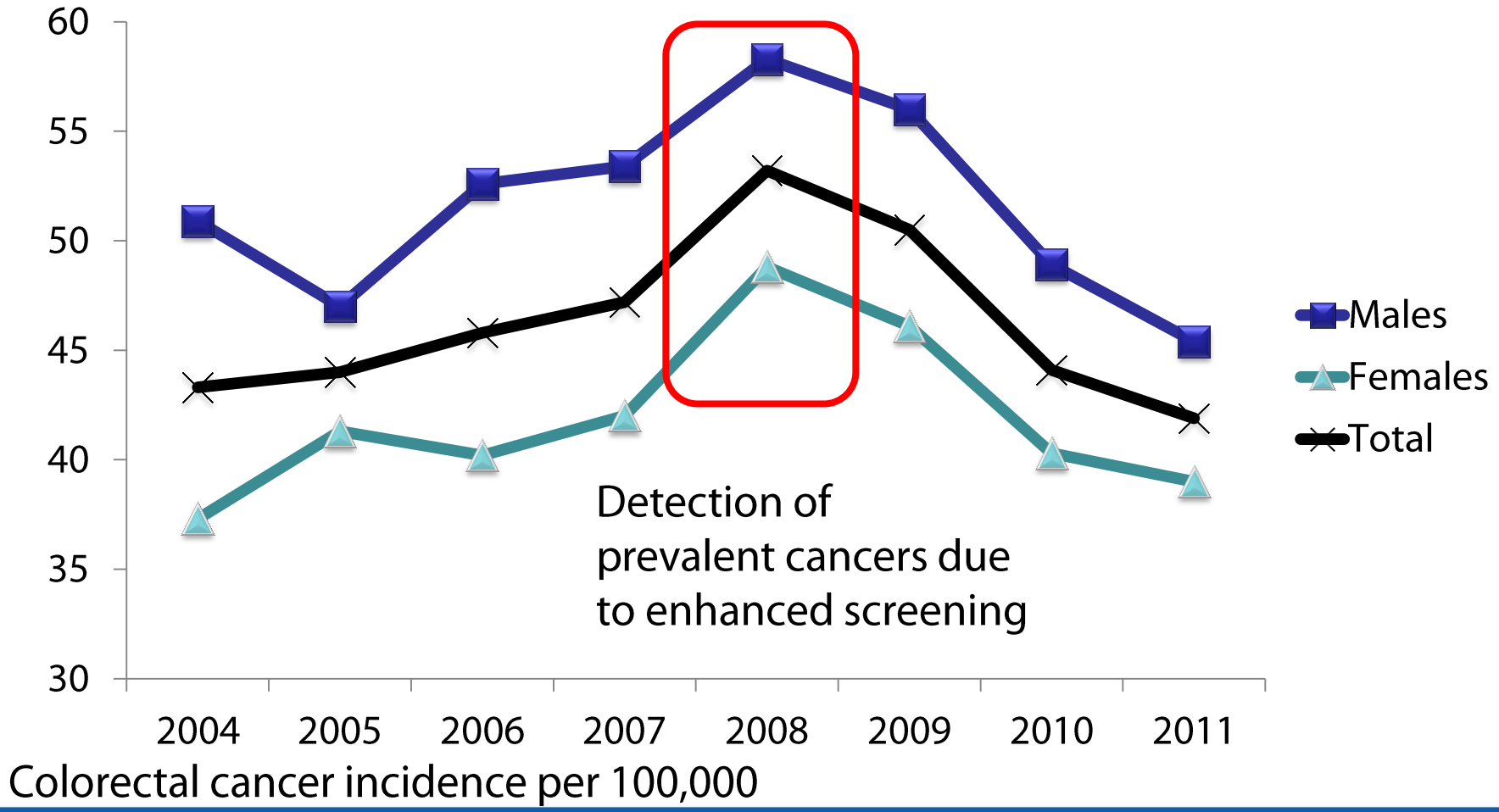
PHP, Preventive Health Prompt
PROMPT, Population Reporting Outreach Management Patient Tracking
FIT, Fecal Immunochemical Test

Colorectal Cancer Screening: HEDIS Performance, KPNC



Lee JK, et al. CGH 2013;11:204–7
HEDIS, Healthcare Effectiveness Data and Information Set
KPNC, Kaiser Permanente Northern California

KPNC Colorectal Cancer Incidence, Age and Sex Adjusted



KPNC, Kaiser Permanente Northern California
Source: Kaiser Permanente Northern California Regional Cancer Registry

Key to Success: Strategy and Policy

- **Leadership Alignment and Clear Goal Setting**
  - Regional Medical Group leadership sets screening targets
- **Alignment of Incentives**
  - Performance-based allocation to medical centers
- **Collaboration between primary care providers and specialists**

Key to Success: Operations and Coordination

- **Colonoscopy capacity and access followed closely**
- **Reliance on multiple tests**
  - 52% FIT, 28% colonoscopy, 20% flexible sigmoidoscopy
- **Use of organized systems, plus leveraging support staff to provide education and encouragement**
- **Regular reporting of results to local executive leadership and quality management staff**
- **Identify "top performers" and disseminate best practices**
- **Ongoing performance improvement opportunity:**
  - Closing disparity with Latino and African American members

FIT, Fecal Immunochemical Test
Source: Kaiser Permanente Northern California, 2011

The Role of Public Health in Organized Cancer Screening

Marcus Plescia, MD, MPH

Director, Division of Cancer Prevention and Control

Centers for Disease Control and Prevention

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CDC's National Breast and Cervical Cancer Early Detection Program (NBCCEDP)

- **The past: More than 20 years of organized screening provision**
  - 67 funded programs
  - More than 4.3 million women served
  - More than 10.7 million screening exams
  - Diagnosed
    - 56,662 breast cancers
    - 3,206 cervical cancers

NATIONAL Breast & Cervical Cancer Early Detection Program
SCREENING WOMEN, SAVING LIVES

NBCCEDP: New Directions for a National Program

- **The present: a network of more than 22,000 clinical providers screening eligible women**
  - Community health centers and Federally qualified health centers
  - Private practices
  - Health plans
  - Tribal health clinics
  - Local health departments
  - Minority health clinics
  - "Safety net" hospitals
  - Cancer centers
- **The future: building upon current capacity and infrastructure to increase population-level breast and cervical cancer screening**

NATIONAL Breast & Cervical Cancer Early Detection Program
SCREENING WOMEN, SAVING LIVES

Colorectal Cancer Control Program: A New Model for CDC

Screening Promotion (Population-based)

- Emphasize organizational, policy systems change
- Implement evidence-based strategies
- Ensure timely diagnosis and treatment referral

Screening Provision (Clinical Services)

- Screening for eligible low income, under- and uninsured men and women

Screen for life
Colorectal Cancer Control Program
Funded by the Centers for Disease Control and Prevention

CDC-funded Innovative Public Health Model: Minnesota Medicaid Collaboration

Collaboration between Minnesota Department of Health and State Medicaid Program

Medicaid identifies unscreened individuals through claims database

Invitations, reminders and incentives to complete cancer screenings

Population-based Approaches to Organized Cancer Screening

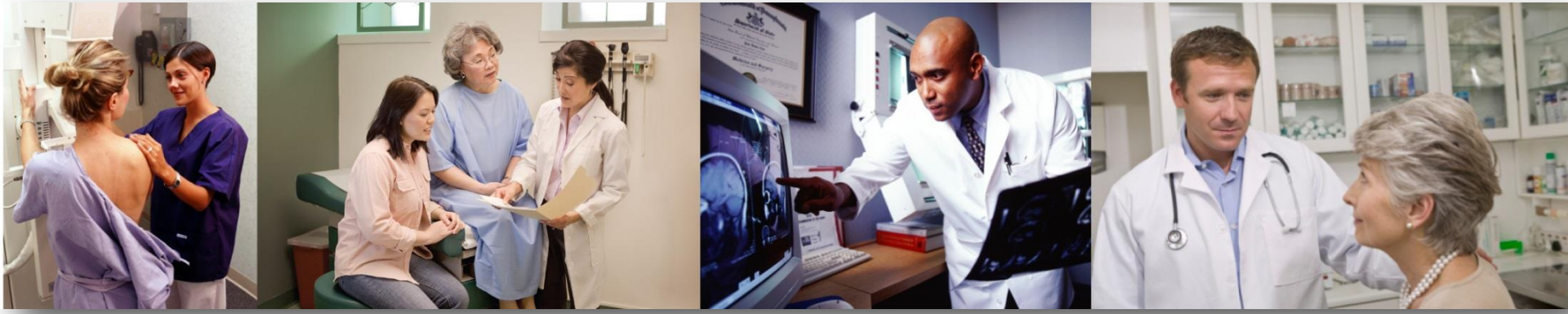
PATIENT-ORIENTED

- Patient and provider reminder systems
- Standing orders for screening
- Screening registries
- Expedited screening referrals

- Community-based outreach and communication
- Enhanced use of electronic data
- Population-level monitoring

POPULATION-ORIENTED

The Future of Cancer Screening: Public Health Approaches



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