

Long-term Follow-Up of Patients and Surveillance of Impact

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National Cancer Policy Forum
Implementation of Lung Cancer Screening Workshop
June 21, 2016

Outline

- Background
- NCI initiatives based in community settings
 - CRN lung cancer screening pilots
 - PROSPR

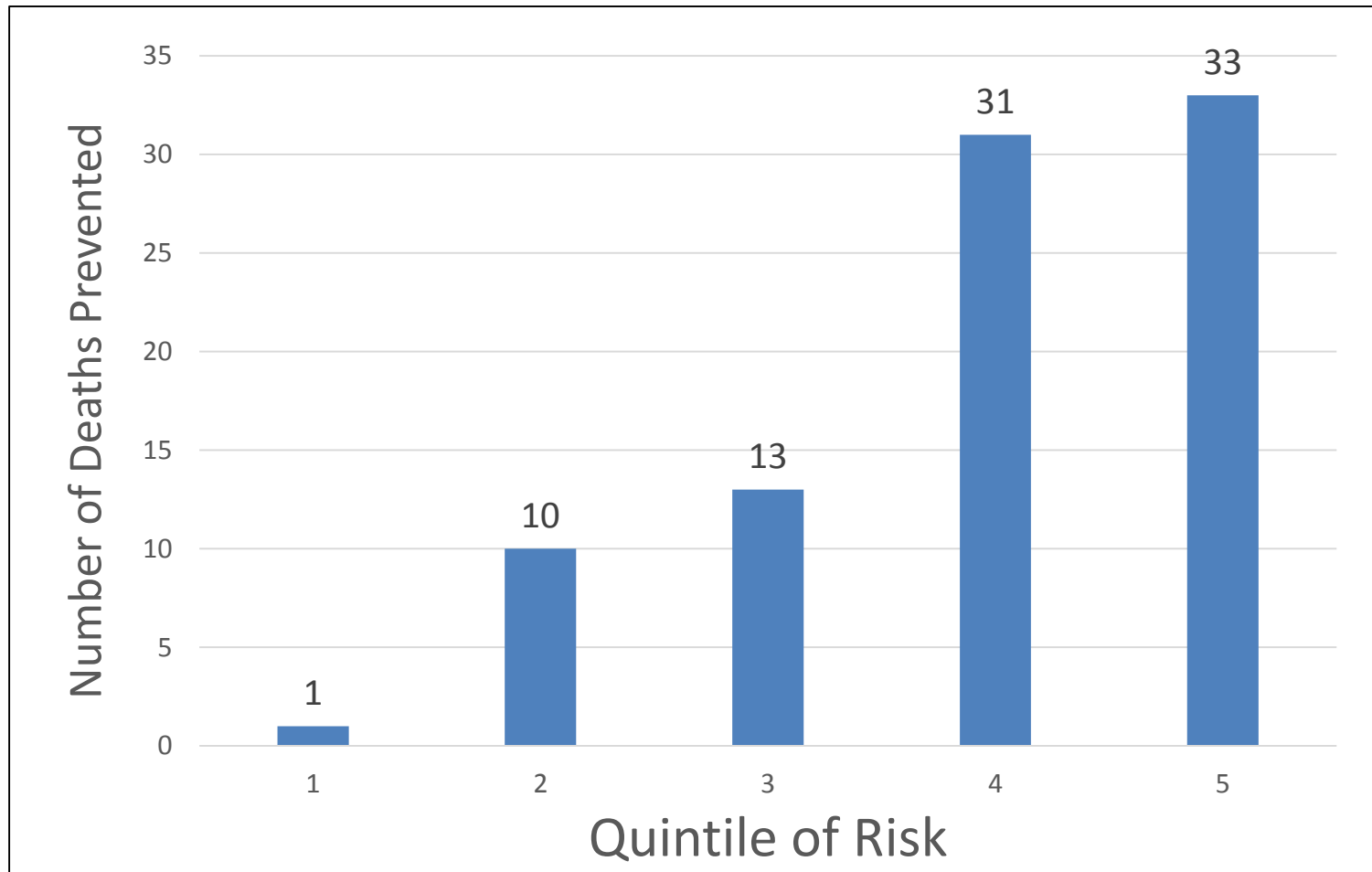
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Concerns About Generalizability of NLST Findings to Community Settings

- Differences in the community according to:
 - Risk profile of patients being screened
 - Provider performance
- Consequently, ratio of risks to benefits may be different than in a trial setting

Lung Cancer Deaths Prevented in NLST According to Lung Cancer Risk



Variability in Radiologist Performance in NLST

- Range for NLST radiologists (among those who read 100 or more screening exams):
 - False positive rate: 4 to 69%
 - Mean counts of non-calcified nodules: 0.07 to 1.79

Harms of Screening/Treatment

- Adverse events following transthoracic needle biopsy¹
 - Pneumothorax 15% (range by hospital 0-50%)
 - Pneumothorax requiring chest tube 7% (range 0-25%)
 - Hemorrhage 1% (range 0-6%)
- Surgical Mortality

	NLST ²	Community ^{3,4}
Mortality Post-LC Resection	1%	3-6%

1 Wiener et al., Ann Intern Med 2011; 155:137-44

2 NEJM 2011;365:395-409

3 Bach et al., NEJM 2001;345:181-8

4 Silvestri et al., Chest 1998;675-80

Outline

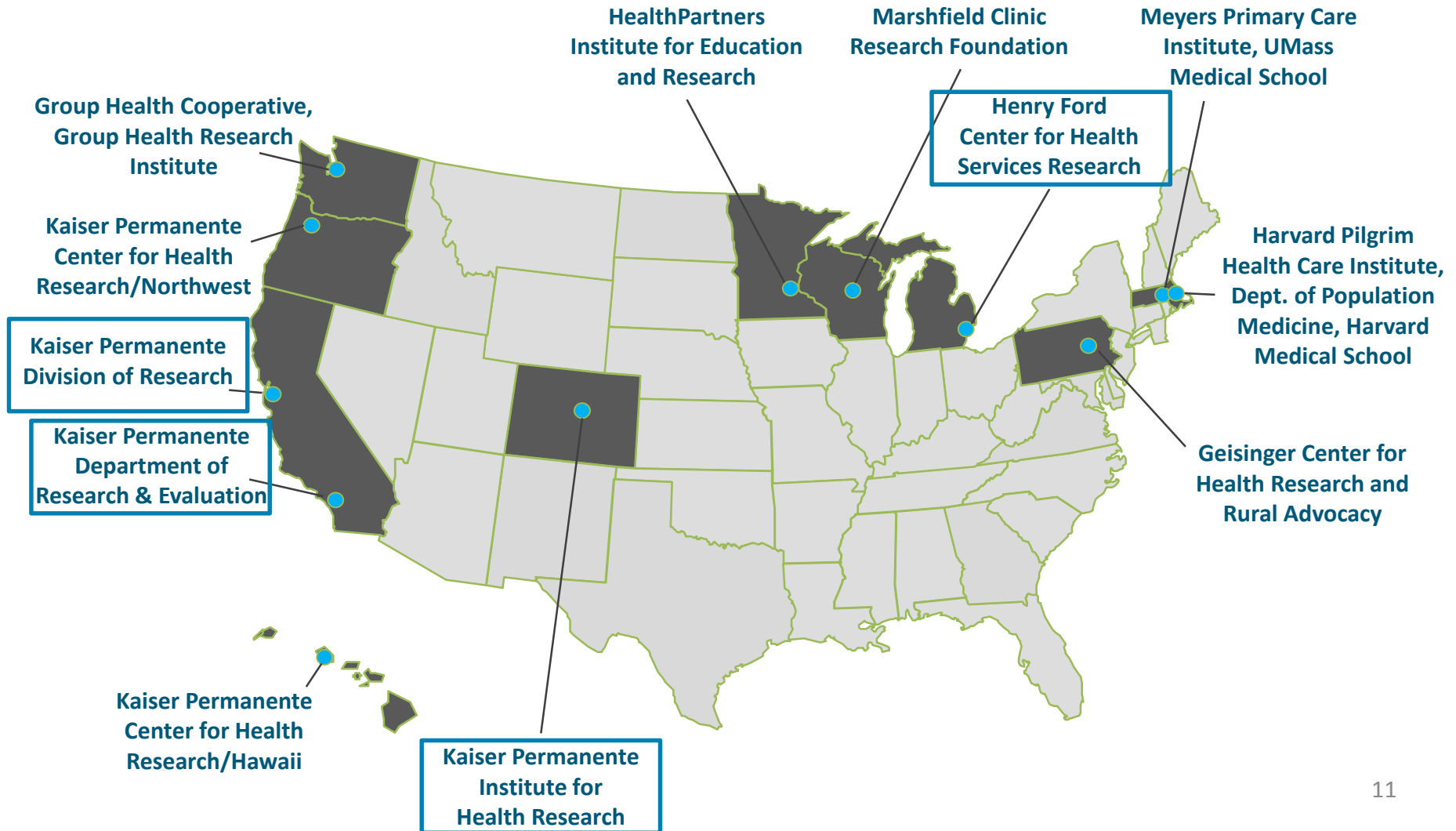
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What is the Cancer Research Network (CRN)?

- Consortium of 9 nonprofit research centers based in integrated health care delivery organizations
- Part of a larger, umbrella organization, the Health Care Systems Research Network (HCSRN)
- Goal is to support and facilitate collaborative cancer research in integrated delivery systems

- Develop infrastructure to monitor risks and benefits of LDCT screening in CRN health systems
- Disseminate tools/strategies developed across other CRN systems to facilitate data development across the network

Funded Pilot Sites



Acknowledgements

Henry Ford Health System

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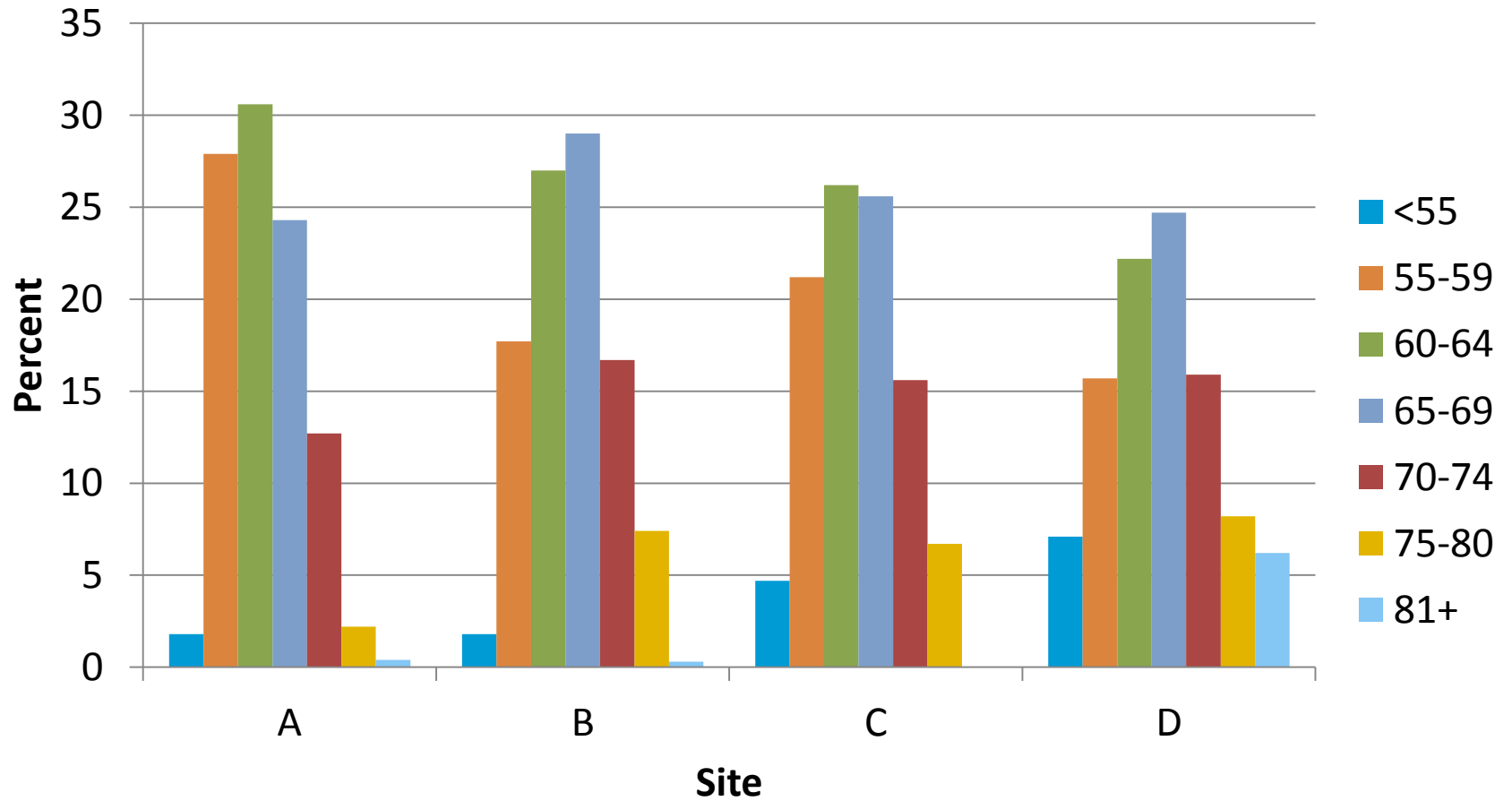
Michael Gould

Jianjin Wang

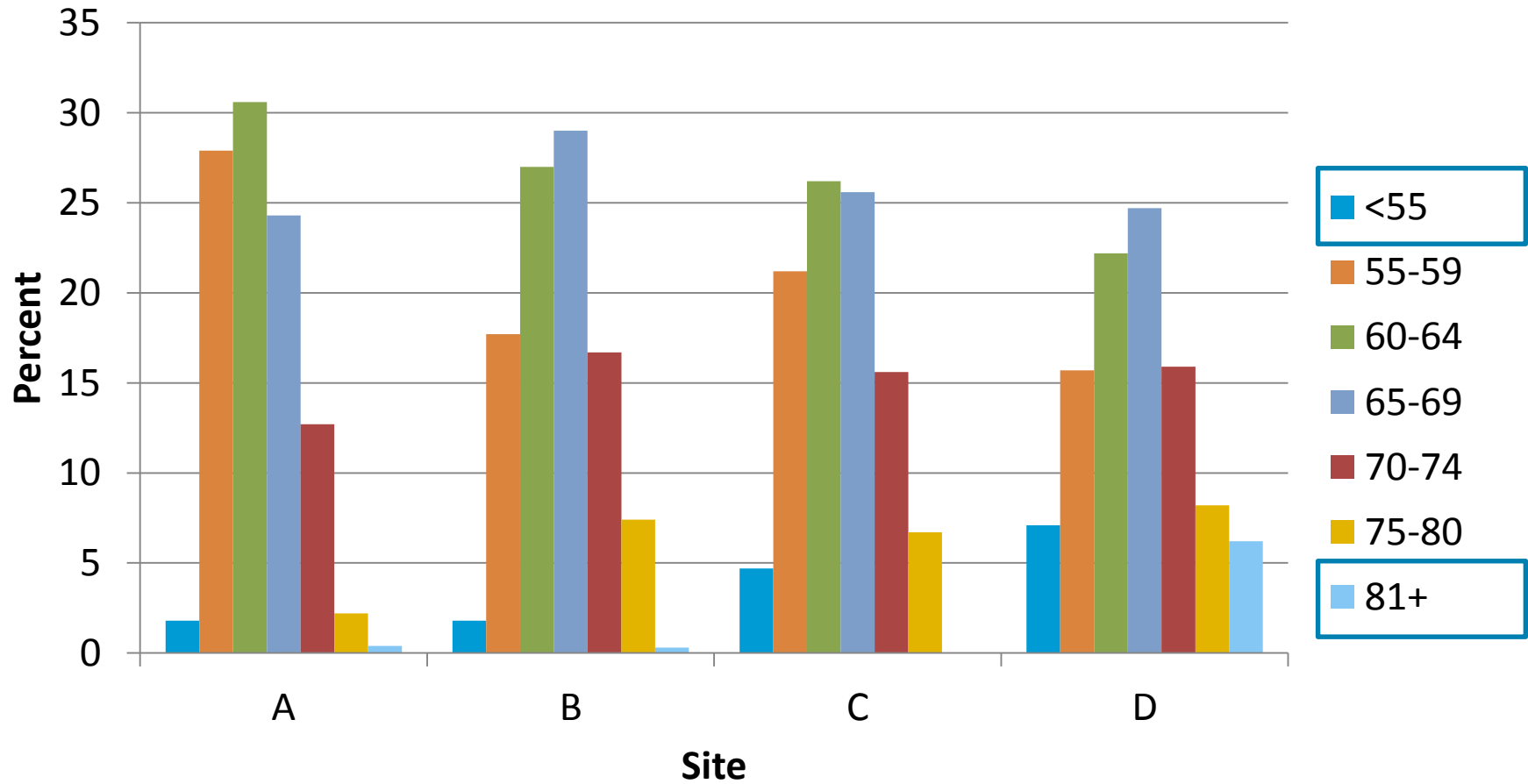
Janet Lee

- Demographics
- Smoking history
- Facility/provider
- LDCT indication
- Effective radiation dose
- LDCT results (Lung-RADS)
- Follow-up information

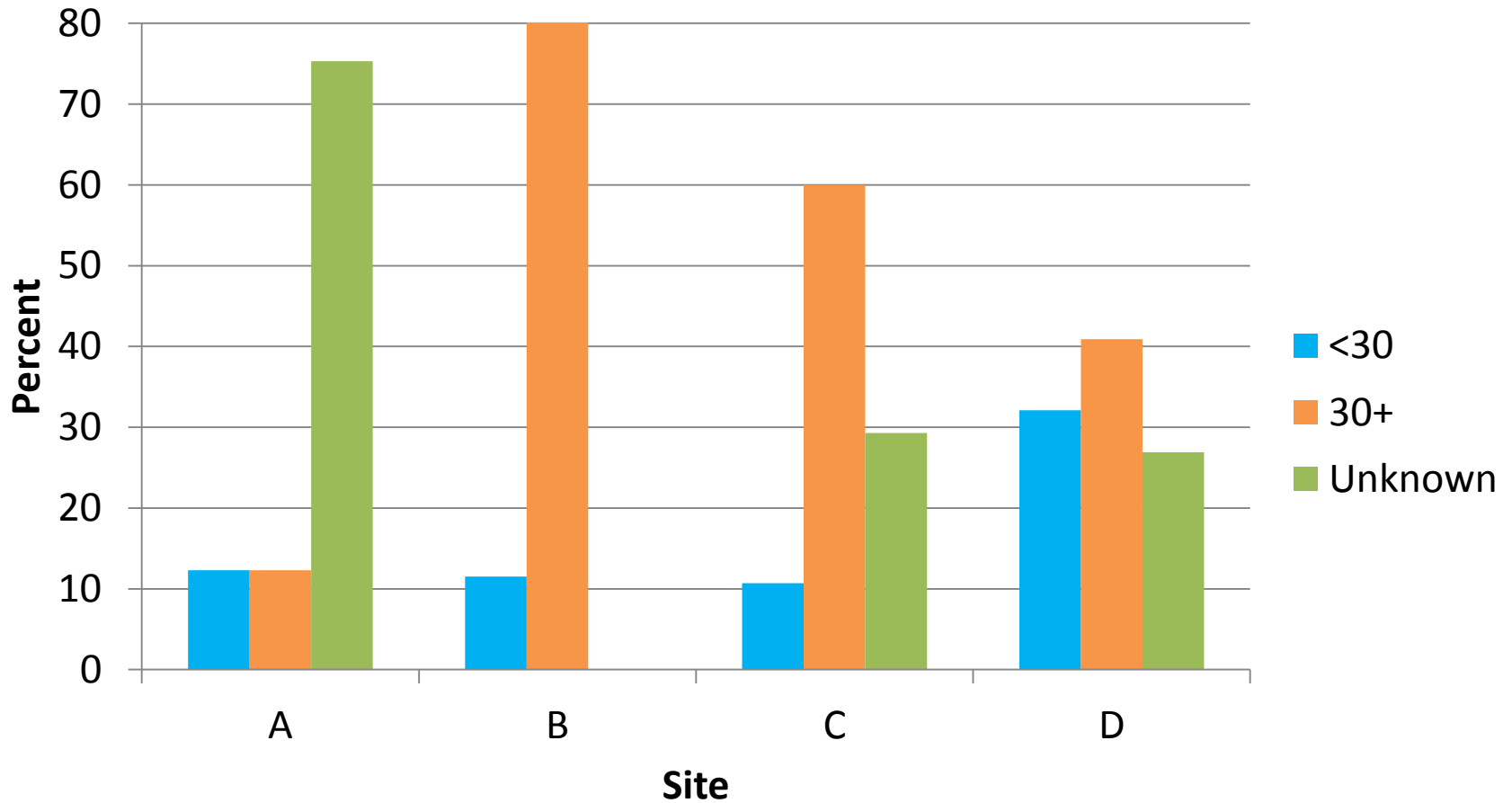
Age of Screenees



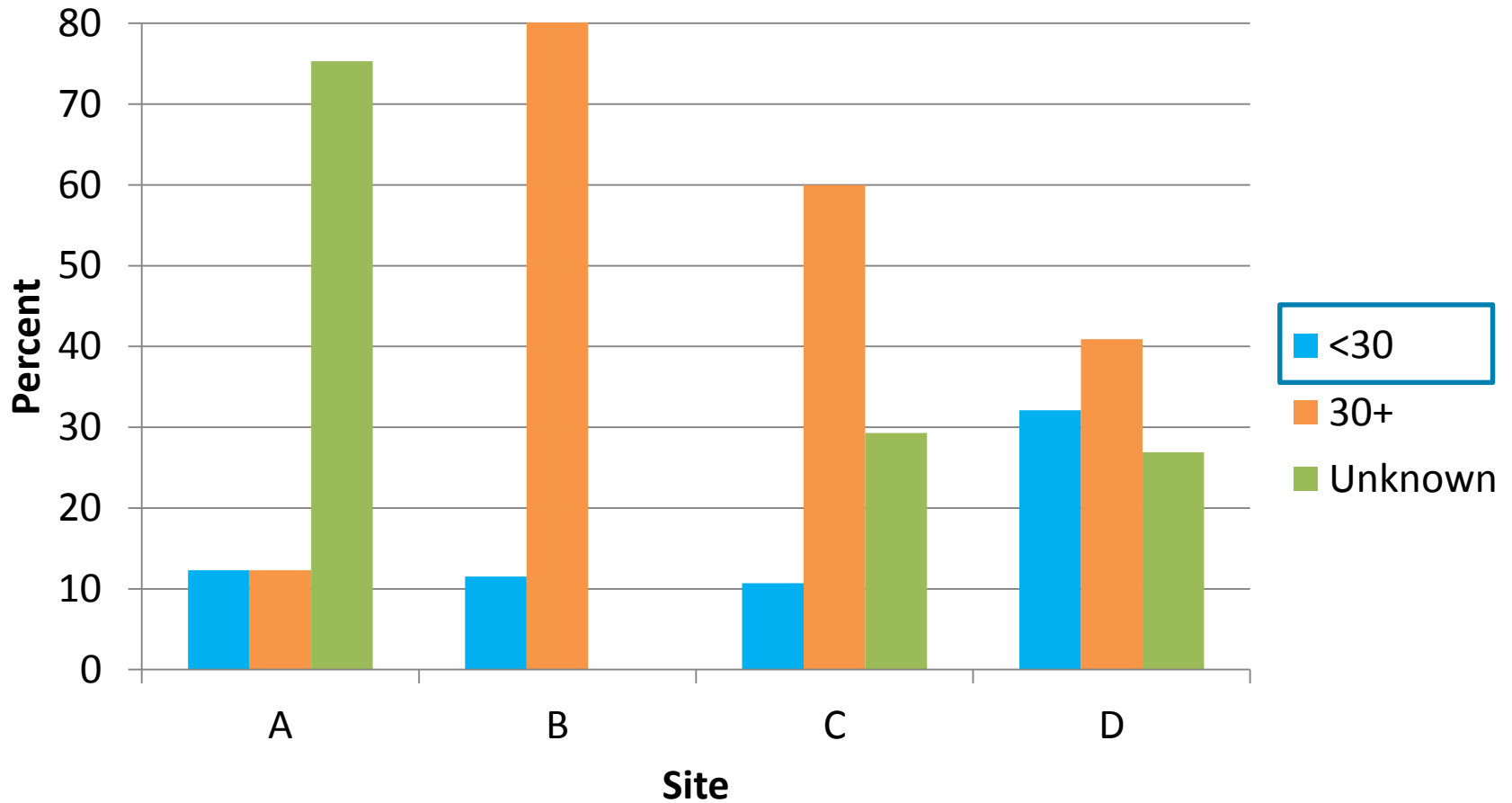
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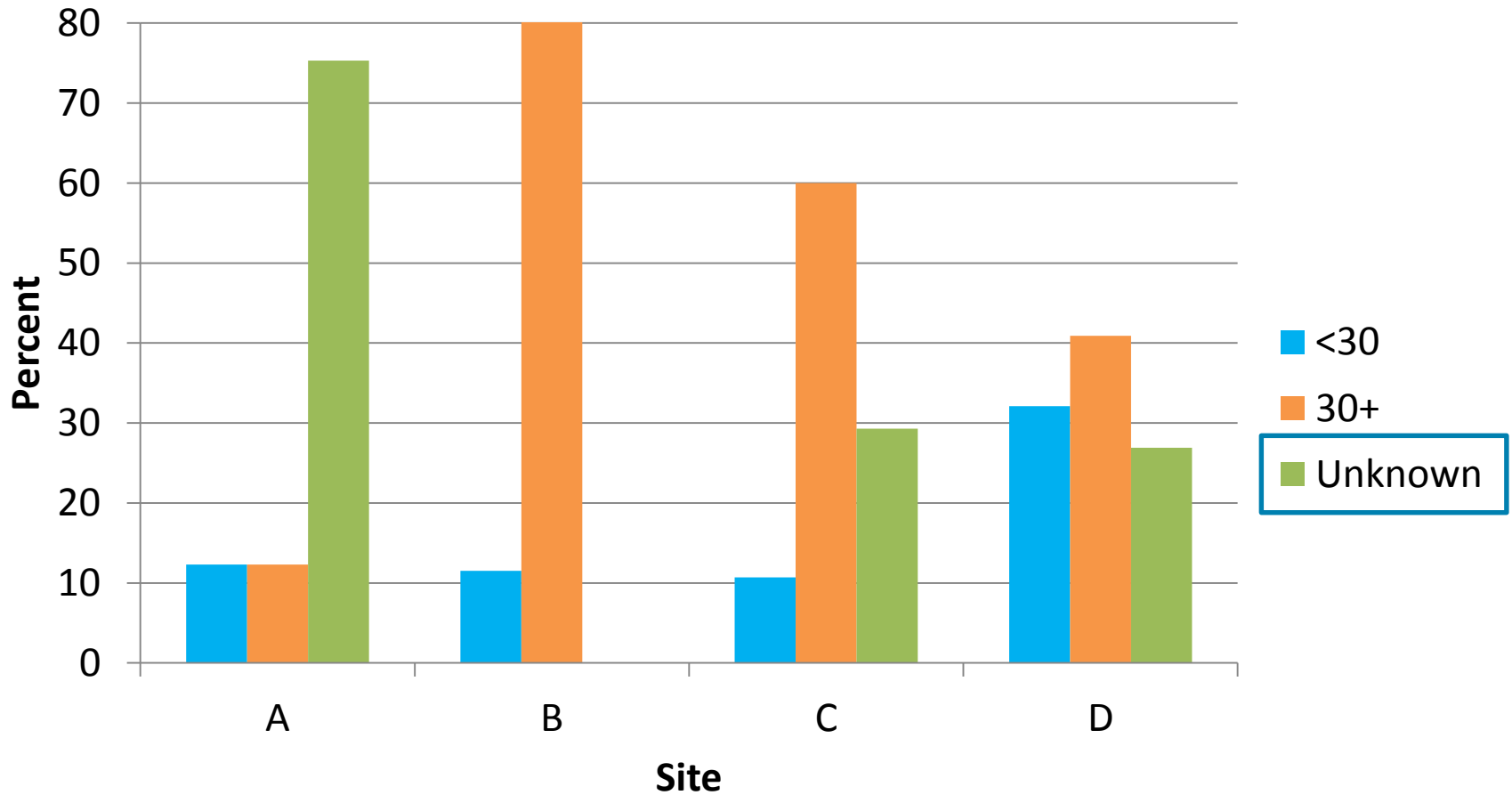
Pack-Years of Screenees (Current and Former Smokers)



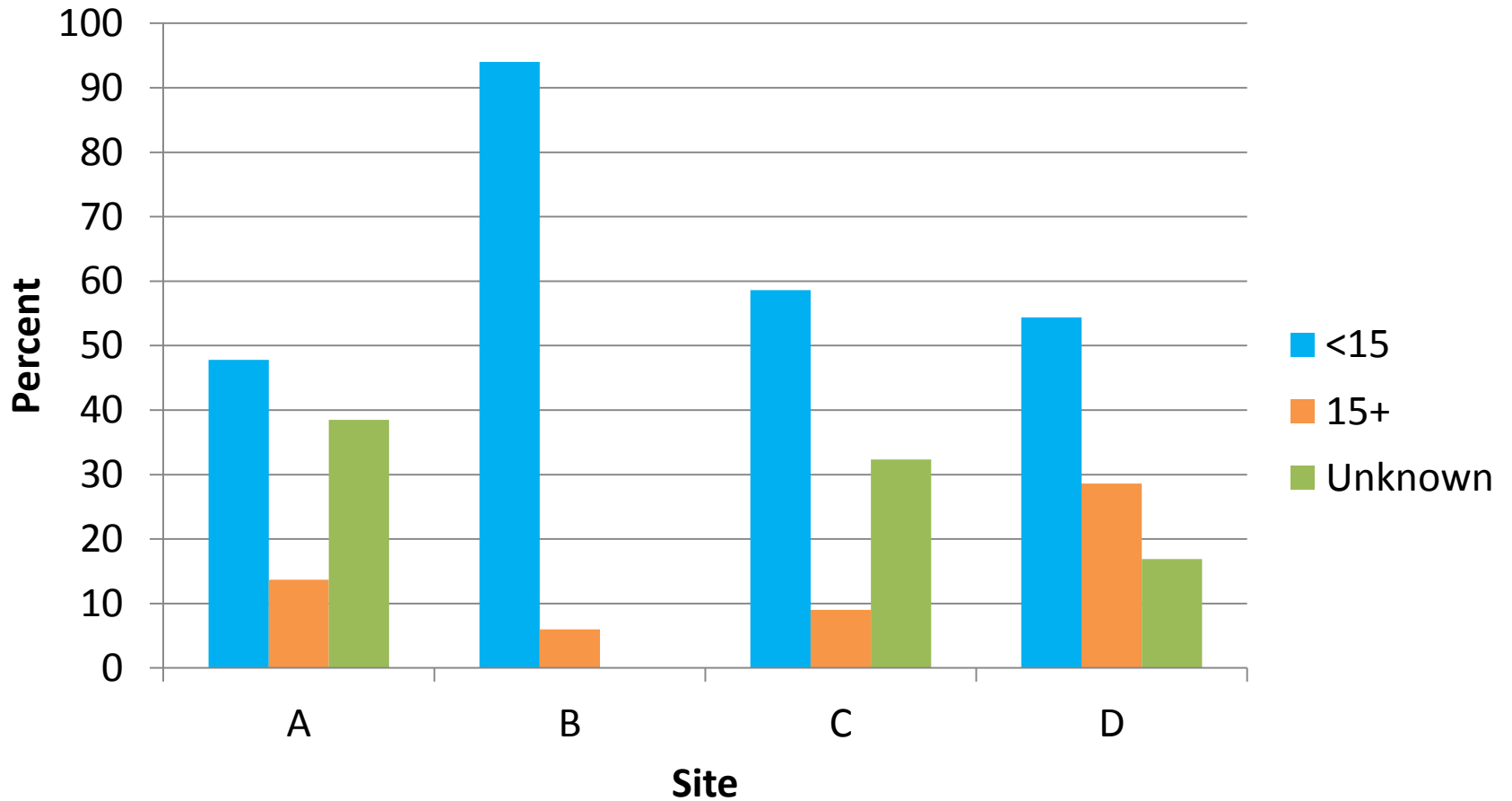
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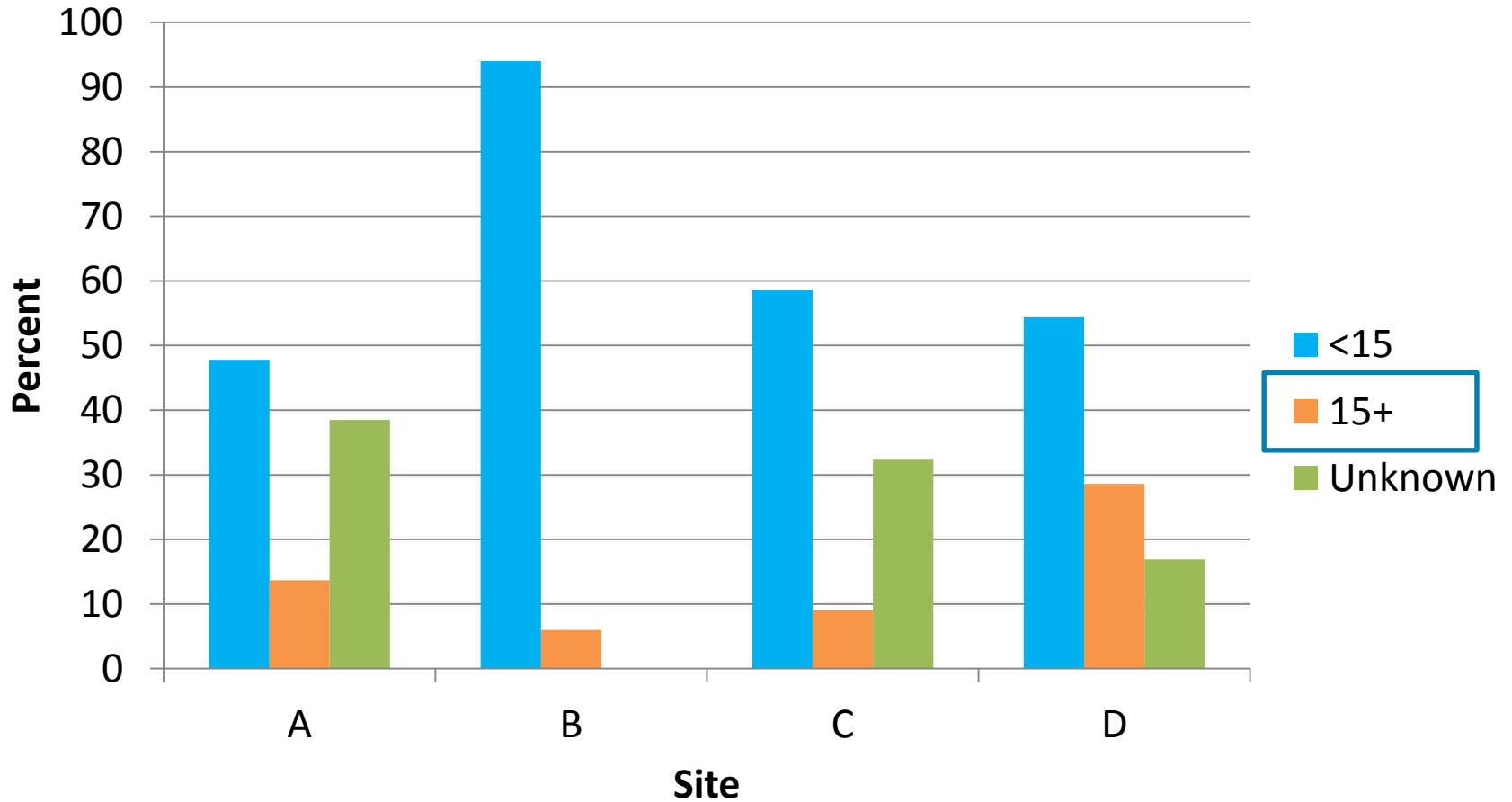
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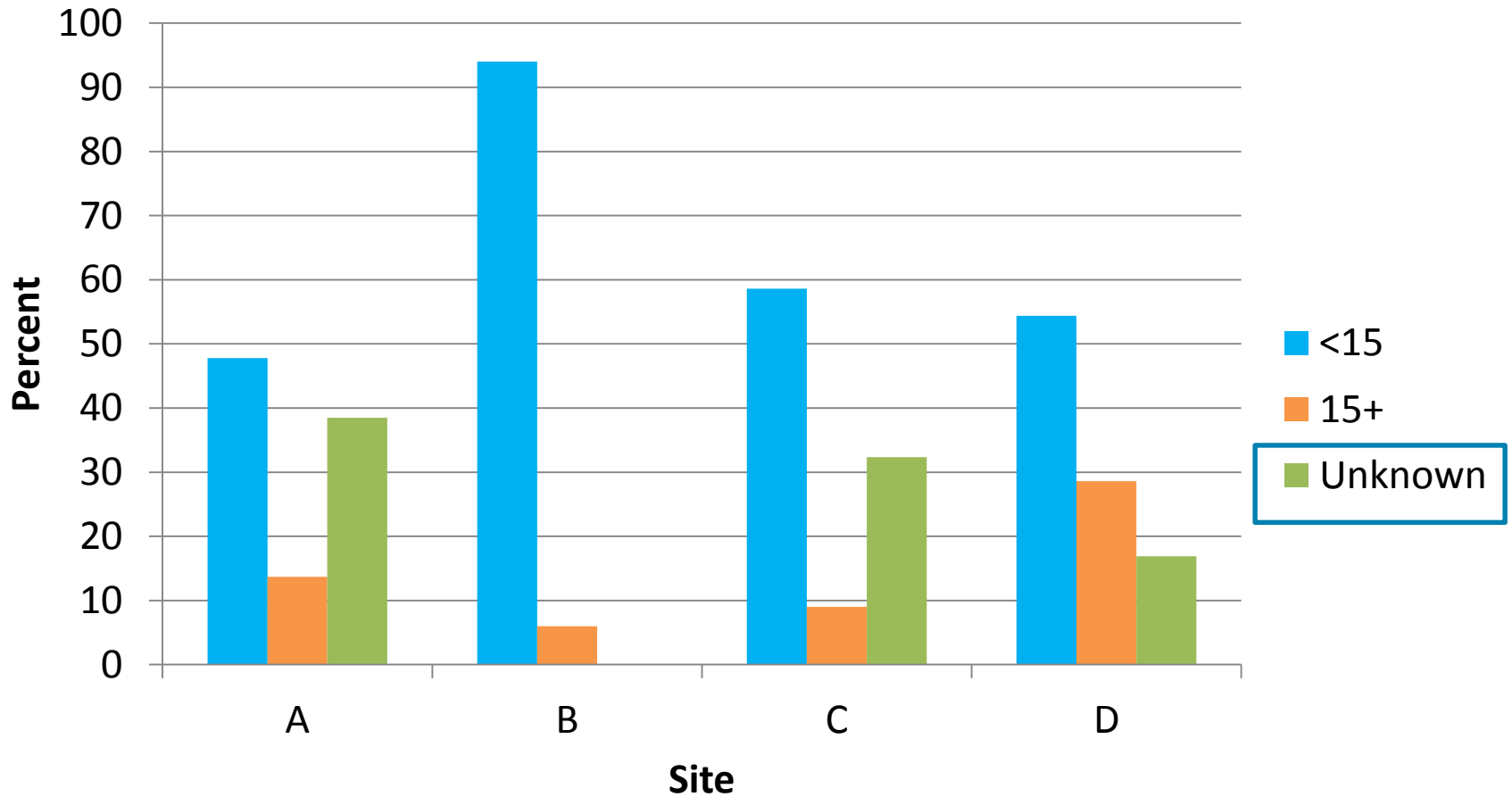
Time Since Quit for Screenees (Former Smokers Only)



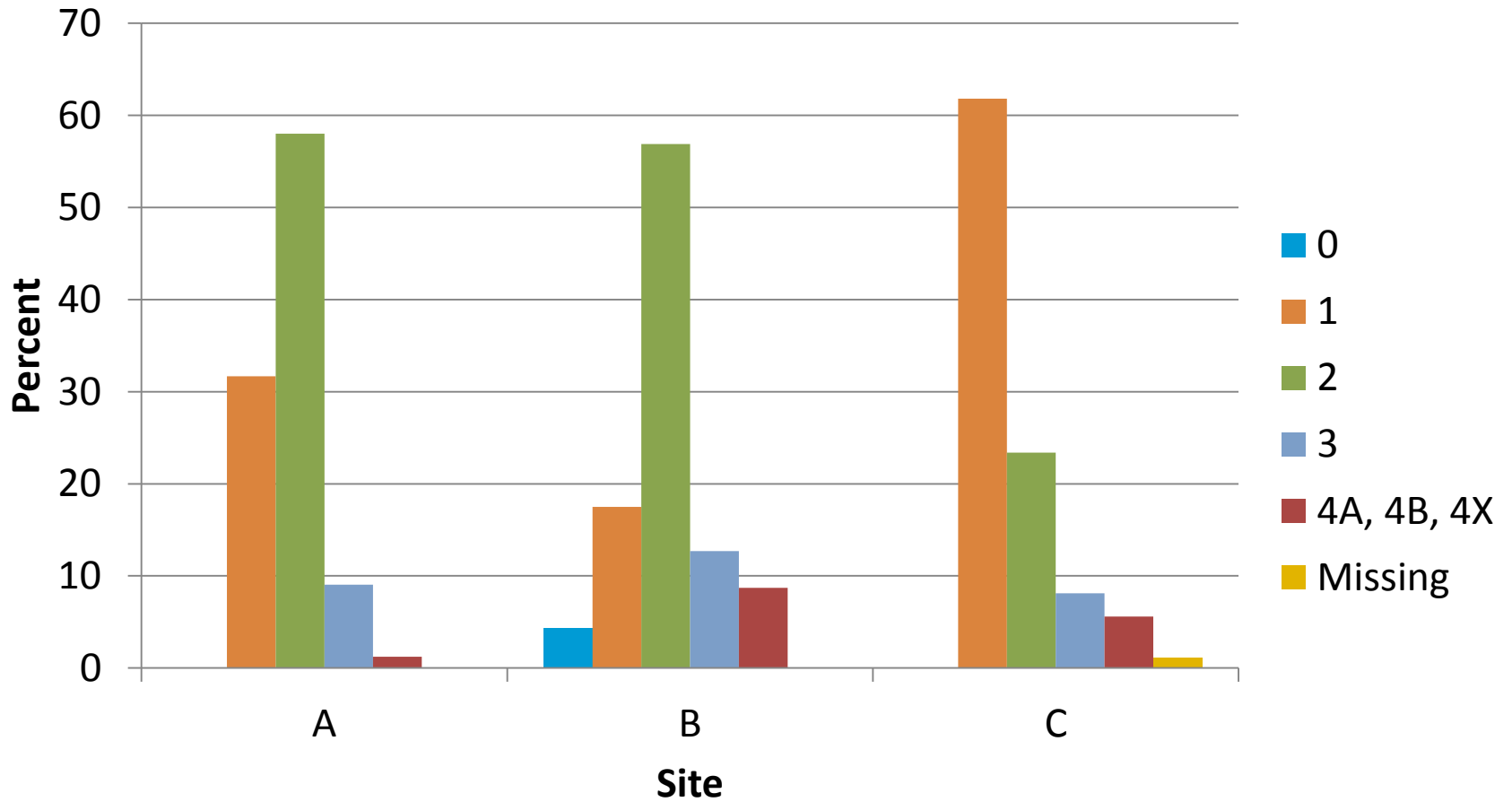
Time Since Quit for Screenees (Former Smokers Only)



Time Since Quit for Screenees (Former Smokers Only)



Lung-RADS Results



- Missing eligibility data
- Screening outside of eligibility guidelines
- Variability between health systems (and radiologists)

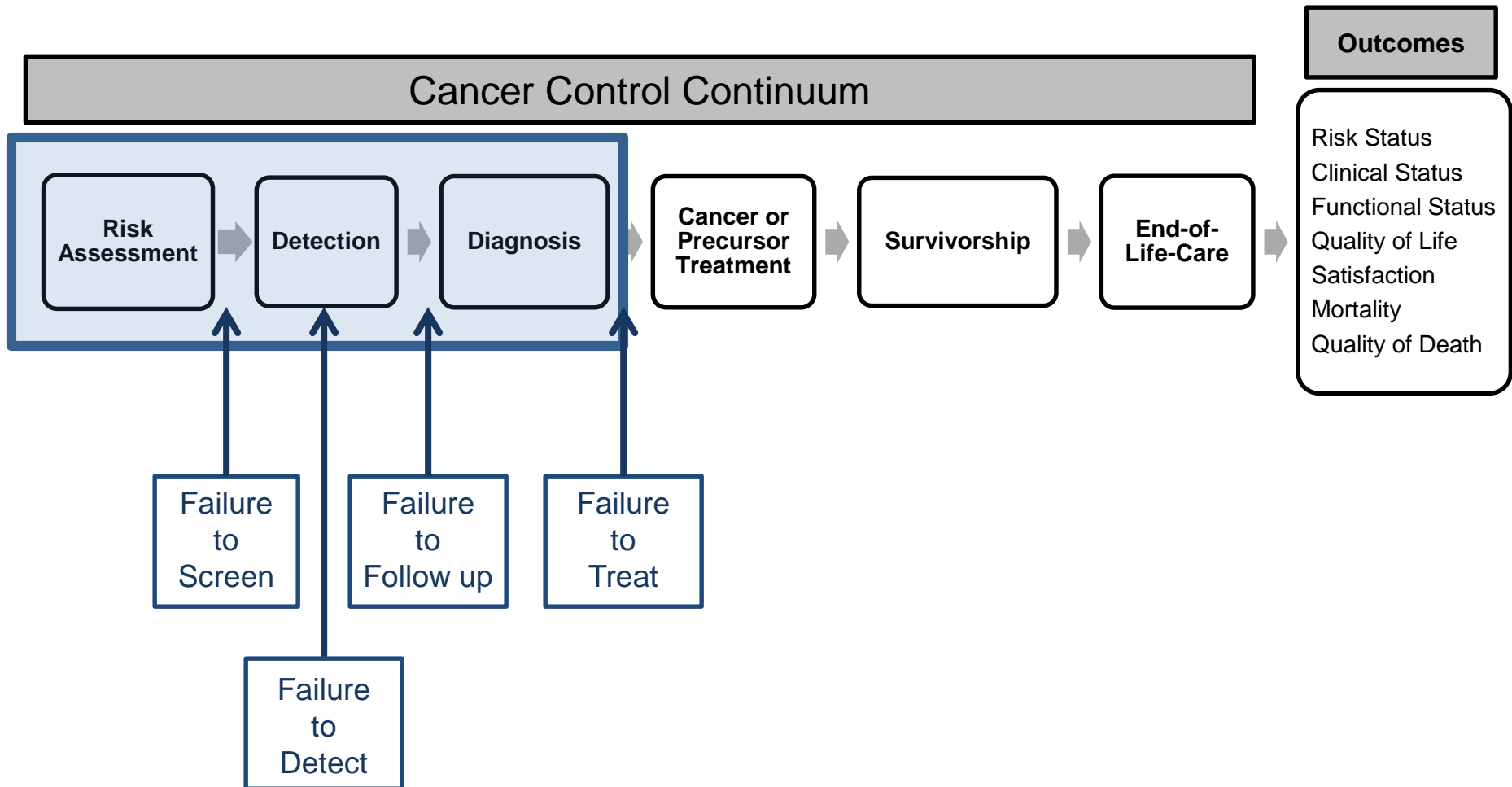
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PROSPR

- First funding cycle (2011-2016)
 - Breast
 - Cervical
 - Colorectal
- Second funding cycle (upcoming)
 - Plans to add lung cancer

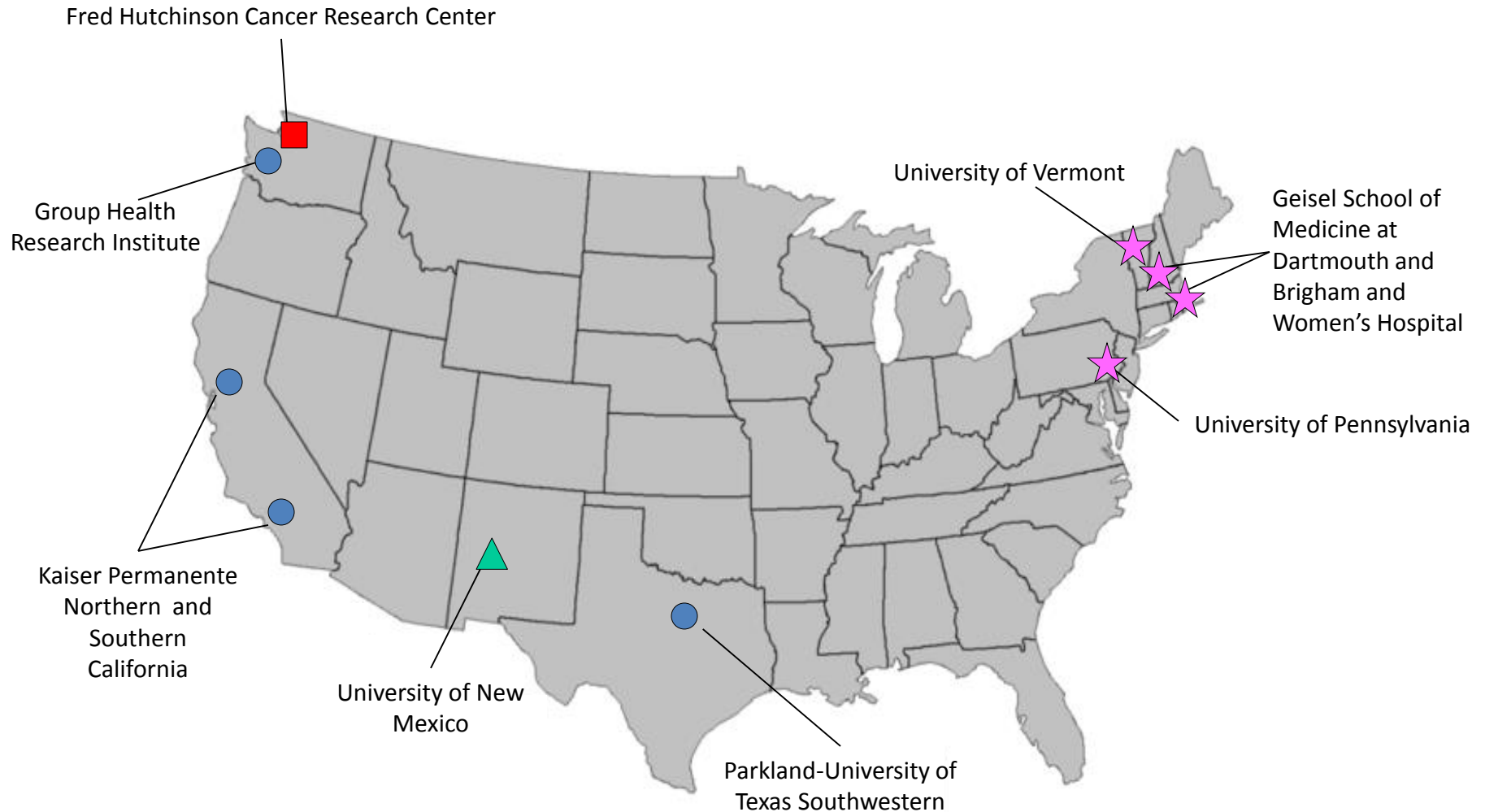
Rationale for PROSPR: Breakdowns Can Occur at Multiple Points in the Cancer Screening Process



PROSPR's Objective

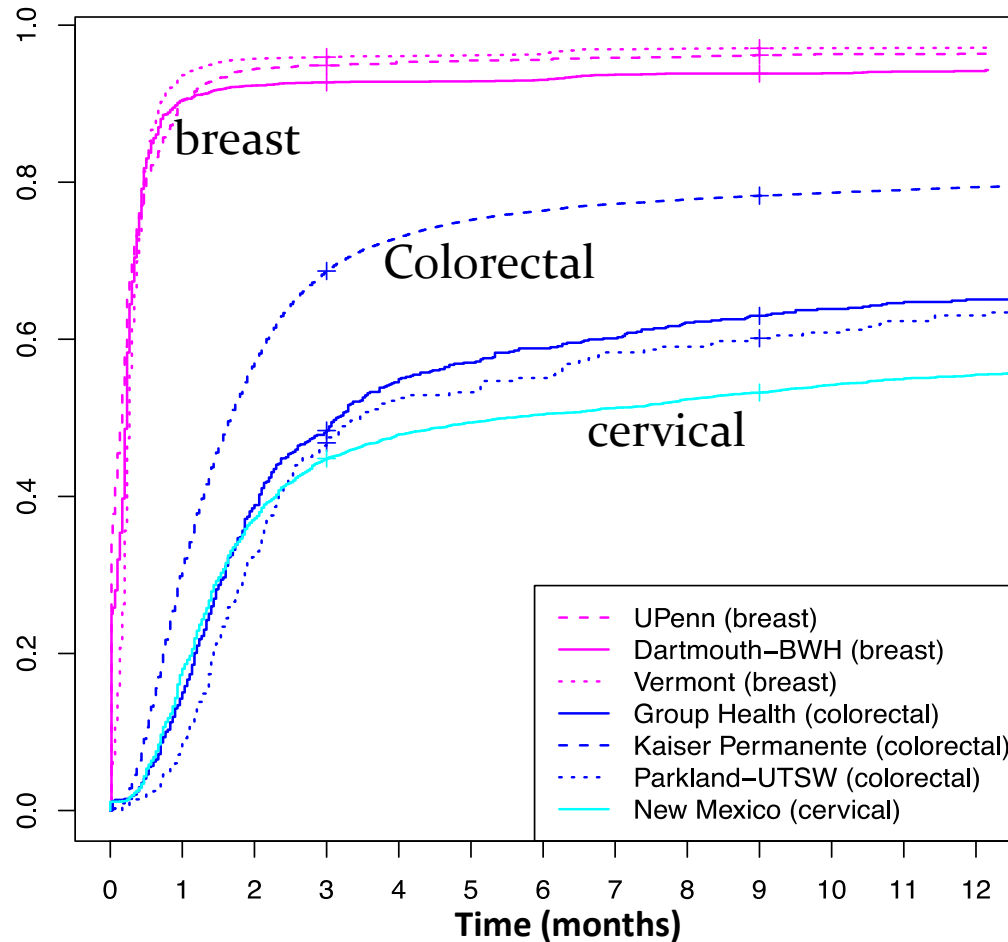
- **Promote coordinated, multidisciplinary, and multi-level research to evaluate and improve the cervical, breast, and colorectal cancer screening processes in clinical practice through:**
 - Collection of multi-level data
 - Patient, provider, facility, and health care system factors
 - Identification of screening process failures and potential remedies

Funded PROSPR Research Centers



- ★ PROSPR Breast Site
- ▲ PROSPR Cervical Site
- PROSPR Colorectal Site
- Statistical Coordinating Center

Time to Follow-Up Following an Abnormal Screening Examination



Tosteson et al., JGIM 2016;31:372-9

Summary

- Benefits and harms of screening depend on:
 - Underlying patient risk
 - Provider performance
 - Completion of the screening process
- Building of infrastructure to monitor LDCT screening is critical

Thank You!

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