

# Update on the Division of Cancer Control and Population Sciences

*NCI Council of Research Advocates*

*March 9, 2022*

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National Cancer Institute  
National Institutes of Health



# OVERVIEW OF DCCPS

# What is Cancer Control?

Reducing the population burden from Cancer

## THE CANCER CONTROL CONTINUUM

### FOCUS

ETIOLOGY

PREVENTION

DETECTION

DIAGNOSIS

TREATMENT

SURVIVORSHIP

### CROSSCUTTING AREAS

COMMUNICATIONS • SURVEILLANCE • HEALTH DISPARITIES • DECISION MAKING •  
DISSEMINATION OF EVIDENCE-BASED INTERVENTIONS • HEALTH CARE DELIVERY • EPIDEMIOLOGY • MEASUREMENT

Adapted from David B. Abrams, Brown University School of Medicine

## Behavioral Research



Developing and applying quality research in the behavioral and social sciences

## Epidemiology & Genomics



Understanding susceptibility to cancer and cancer-related outcomes through population-based research

## Health Disparities & Health Equity



Understanding the causes of disparities and developing interventions to achieve health equity for all

## Healthcare Delivery Research



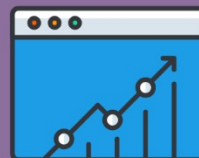
Evaluating patterns in cancer-associated health behaviors, risk factors, care services, and outcomes

# *DCCPS Programs*



Advancing research and practice to promote the adoption of evidence-based interventions into routine care

Implementation Science



Collecting and analyzing data and developing statistical methods to answer key cancer-related questions

Surveillance



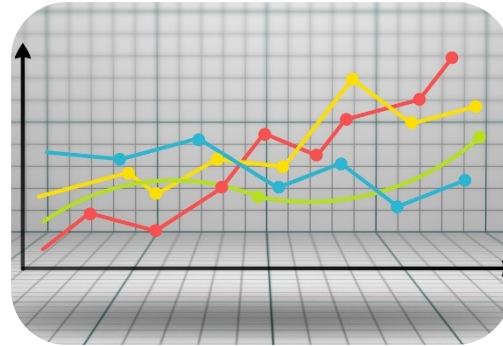
Examining the effects of cancer and its treatment among survivors of cancer and their families

Survivorship

# HOT topics in cancer control



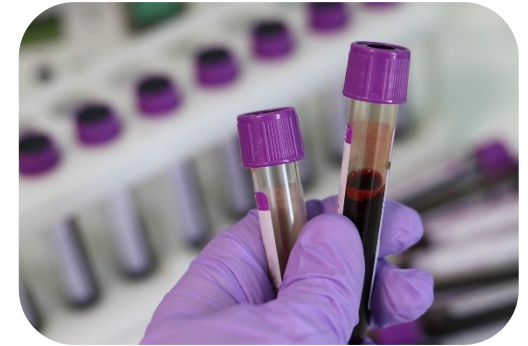
Health Equity



Data Science



Lifestyle Factors



New Biomarkers/  
Early Detection



Reduce  
Overdiagnosis/  
Overtreatment



Climate Change



Survivorship care  
models



Improve  
Communication

# PARTICIPANT ENGAGEMENT

# Definition of Participant Engagement

- **Participant engagement** is an ongoing, bi-directional and mutually beneficial interaction between participants, their communities, and researchers, where participants are included as an integral part of all phases of the research.



Adapted from: Fergusson, D. *Res Involv Engagem* 4, 17 (2018).

# Cancer Center supplements to support Community Outreach and Engagement (COE) across the translational research continuum

- Supplemental funding for NCI-designated cancer centers to build capacity for community outreach and engagement (COE) activities focused on either (1) basic science or (2) implementation of evidence-based interventions

## Highlights:

- *Academic-community partnership with members of the LGBTQ community & basic science researchers to advance research related to the metabolic pathway of HPV-related cancers*
- *Collaboration with a community partner that trains Promotores to adapt and implement an e-cigarette prevention program in low-income Latinx communities*
- *Development of a “Citizen Scientist brigade” that will do rotations with basic science research teams*
- *Series of “deliberation events” with tribal nations to discuss how the cancer center handles tissue and data from American Indians/Alaska Natives*



# Improving the Management of Symptoms during and Following Cancer Treatment (IMPACT) Consortium

- IMPACT was designed to accelerate the use of effective symptom management systems that collect patient-reported data and support clinical responses consistent with evidence-based guidelines.
- IMPACT will evaluate the adoption of integrated electronic systems for monitoring and managing patient-reported symptoms in routine cancer care.
- Research centers partner with community-based organizations for outreach
- Patient representatives in consortium participate in Steering Committee, working groups and consortium meetings providing feedback
- Annual patient-focused meeting with patient panel moderated by patient consortium representatives



# Participant Engagement and Cancer Genome Sequencing (PE-CGS) Network Purpose

- To promote and support direct engagement of cancer patients and post-treatment cancer survivors as participants in cancer research; and
- To use such approaches for rigorous cancer genome sequencing programs

## PE-CGS Participant Perspectives



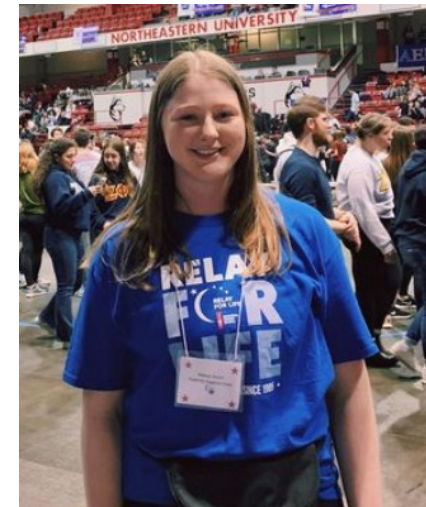
Liz Salmi

Senior Strategist, OpenNotes; Senior Multimedia Communications Manager, Beth Israel Deaconess Medical Center; Co-Investigator OPTIMUM



Melinda Bachini

Director of Advocacy, Cholangiocarcinoma Foundation; WU-PE-CGS



Maeve Smart

Junior Board President, MIB AGENTS Osteosarcoma Alliance, and Clinical Research Assistant, Dana-Farber Cancer Institute, Count Me In

# HEALTH DISPARITIES AND HEALTH EQUITY EFFORTS

# DCCPS Approach to Expand HD/HE Research

- Focus on populations with higher disease burden
- DCCPS has adopted a broad health disparities definition, and as a result, code based on this inclusive designation
- Our initiatives utilize a data-driven approach to support research, intervention implementation, and partnership and capacity building efforts with the goal of eliminating cancer-related disparities and achieve health equity for all people

## Example Focus Areas:



American Indian and Alaska Native Intervention Research



Cancer Epidemiology in Hispanic Populations



Rural Cancer Control

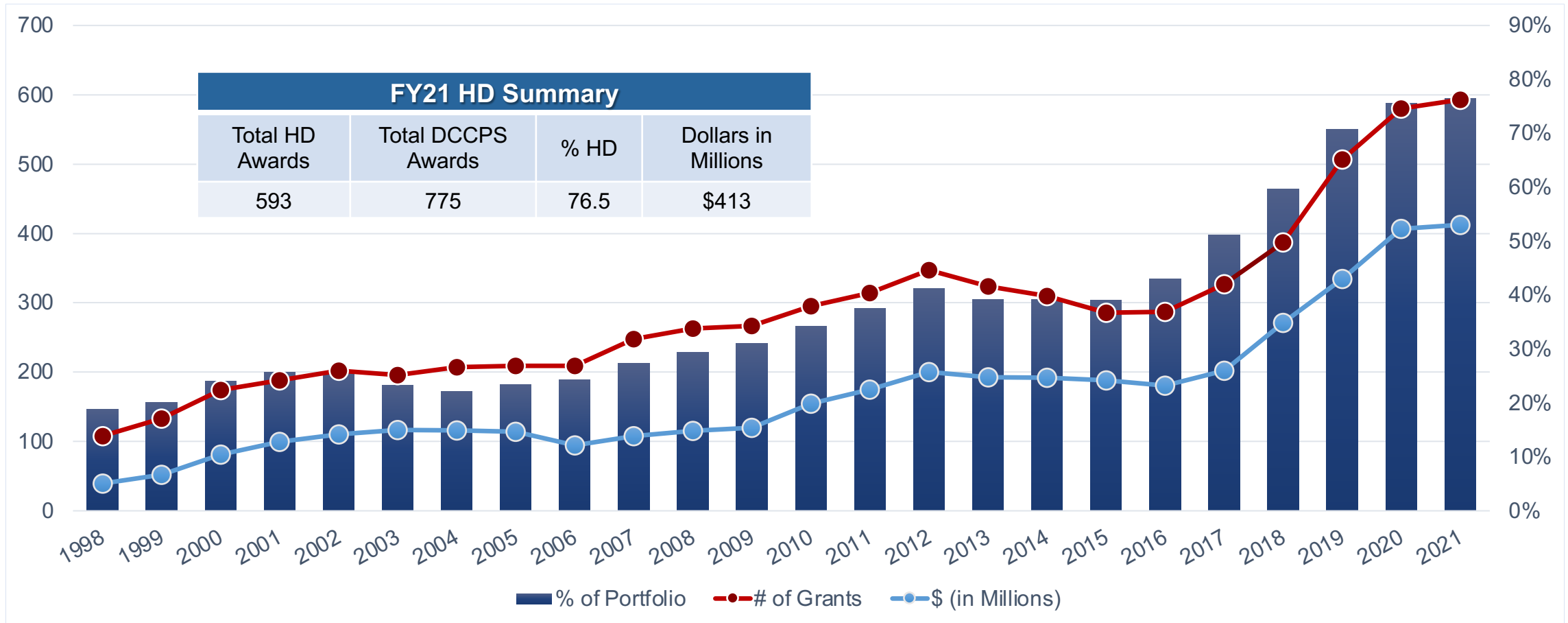


Data Collection from Sexual Gender Minority Populations



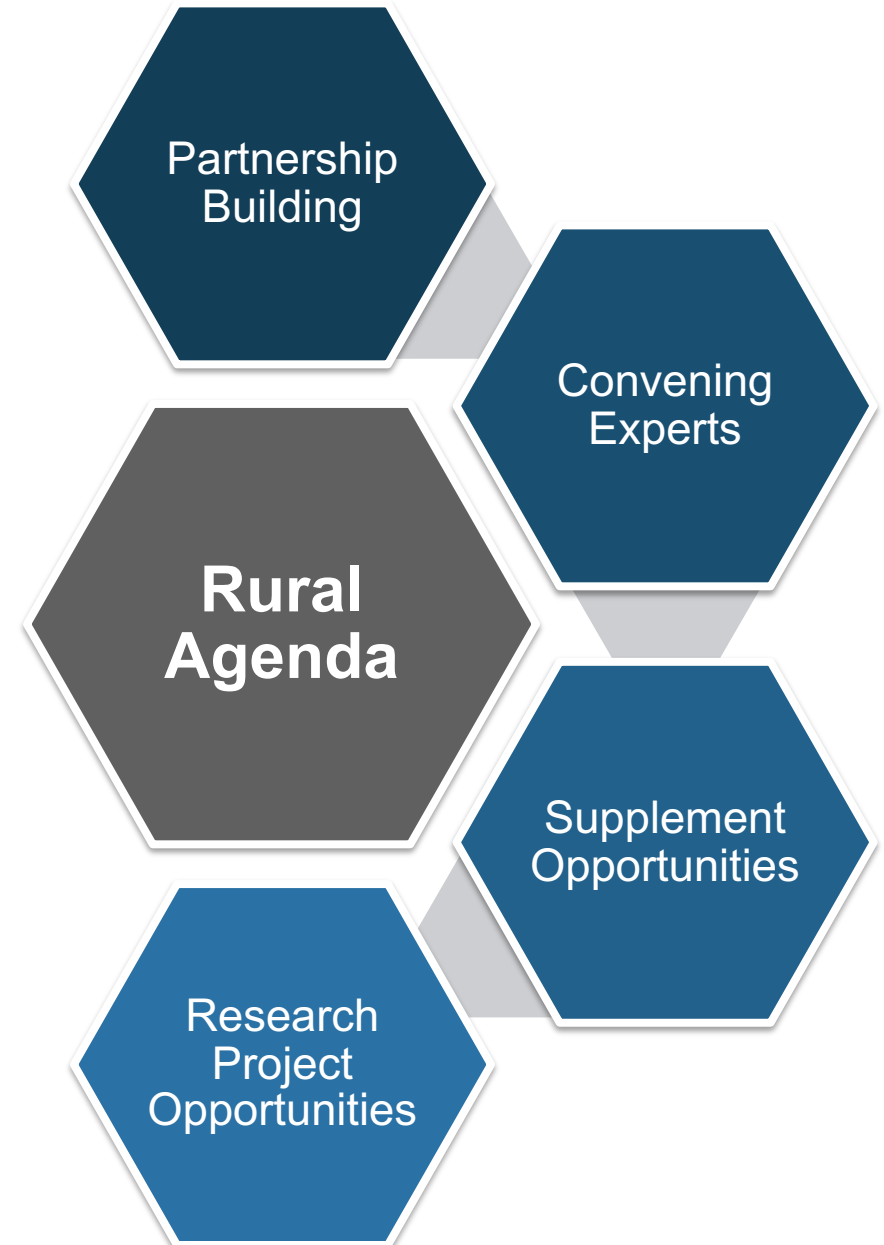
Research Cohorts Focusing on Understudied Populations

# Focus on Expanding the DCCPS HD Portfolio: FY 1998 - FY 2021 Growth Trajectory



# Special Emphasis: Geographically Underserved Areas

- Data revealed growing disparity between rural and urban populations, with rural populations experiencing greater cancer incidence and mortality rates overall
- DCCPS emphasis on research initiatives to understand disparities and implement interventions in geographically underserved areas, including rural and persistently poor communities



# CANCER SURVEILLANCE

## Reasons for SEER Expansion 2021

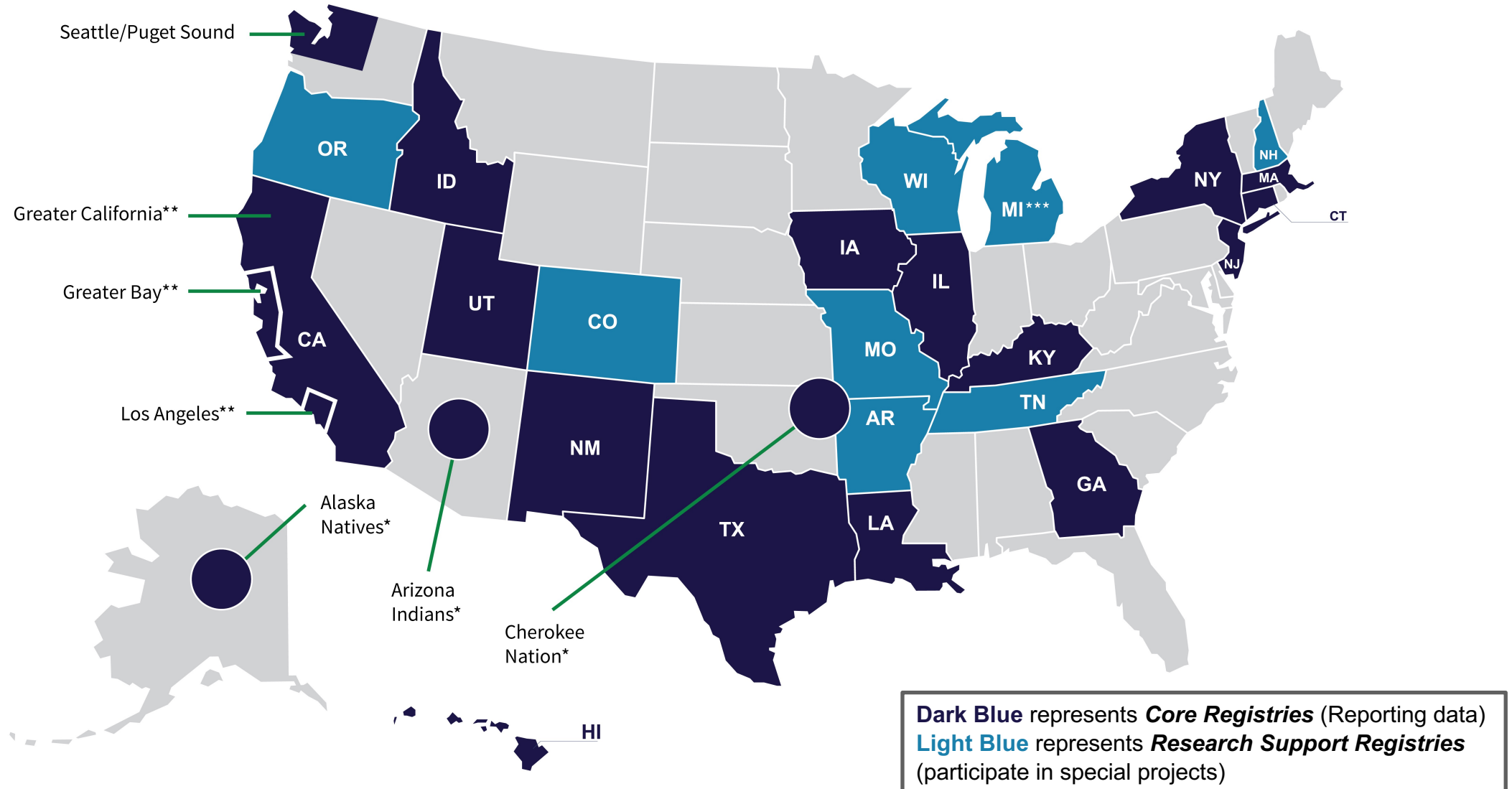
In order to represent real-world data at the population level:

- Increase data coverage to:
  - Enable reporting of trends in more refined, clinical categories such as:
    - histologic subtype
    - biomarkers status
    - treatment categories
  - and by important population subgroups
- As of June 1, 2021, SEER now covers ~50% of the US population
  - Represents >850,000 incident cancers reported annually

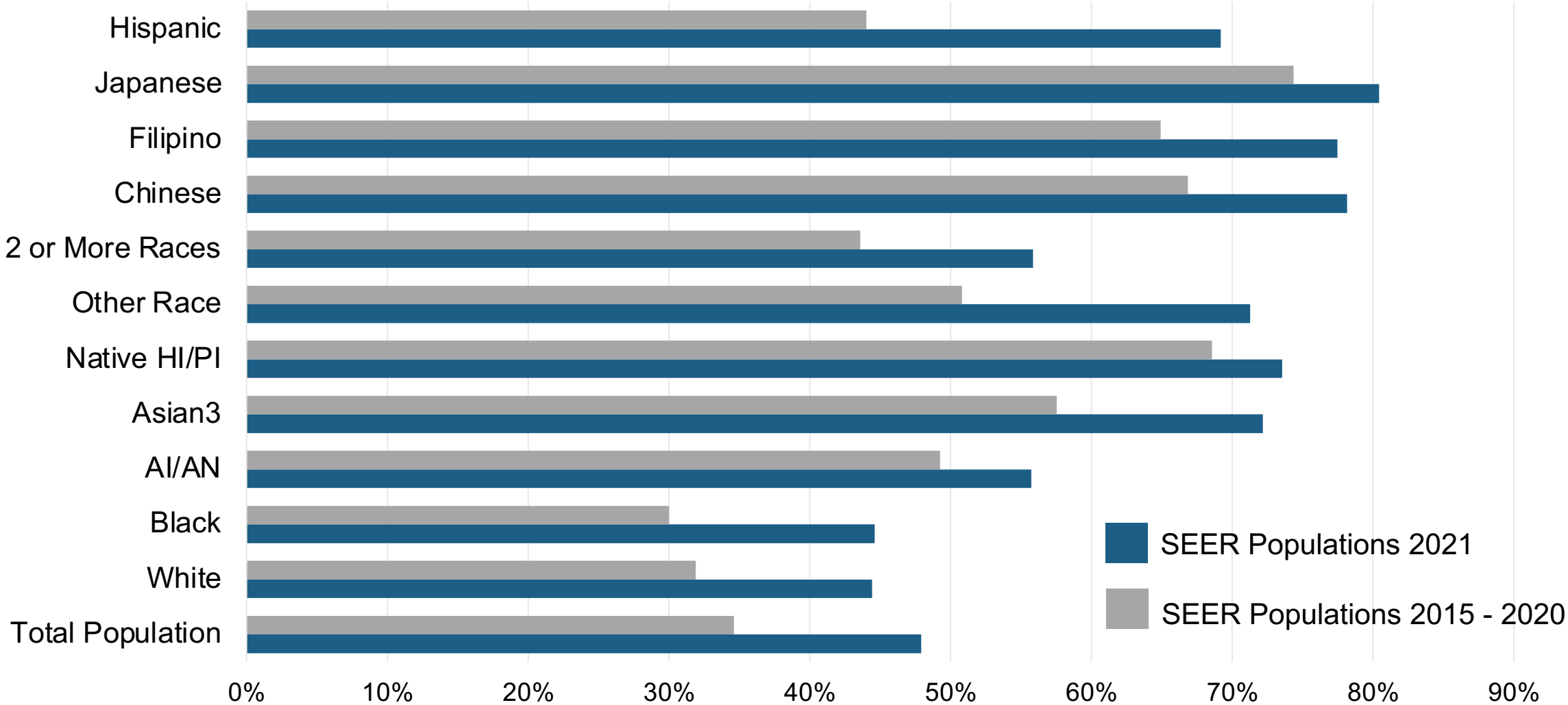




# Map of SEER Program June 1, 2021



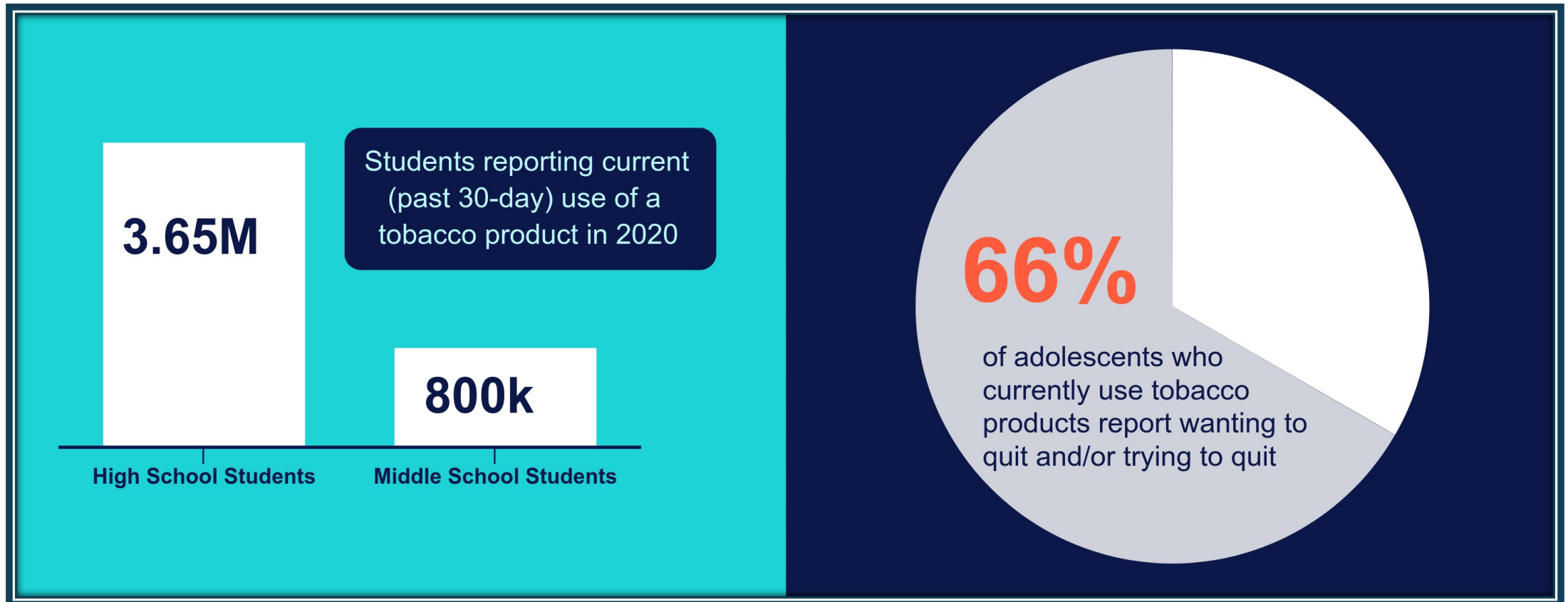
# Increase in Representation with SEER Expansion



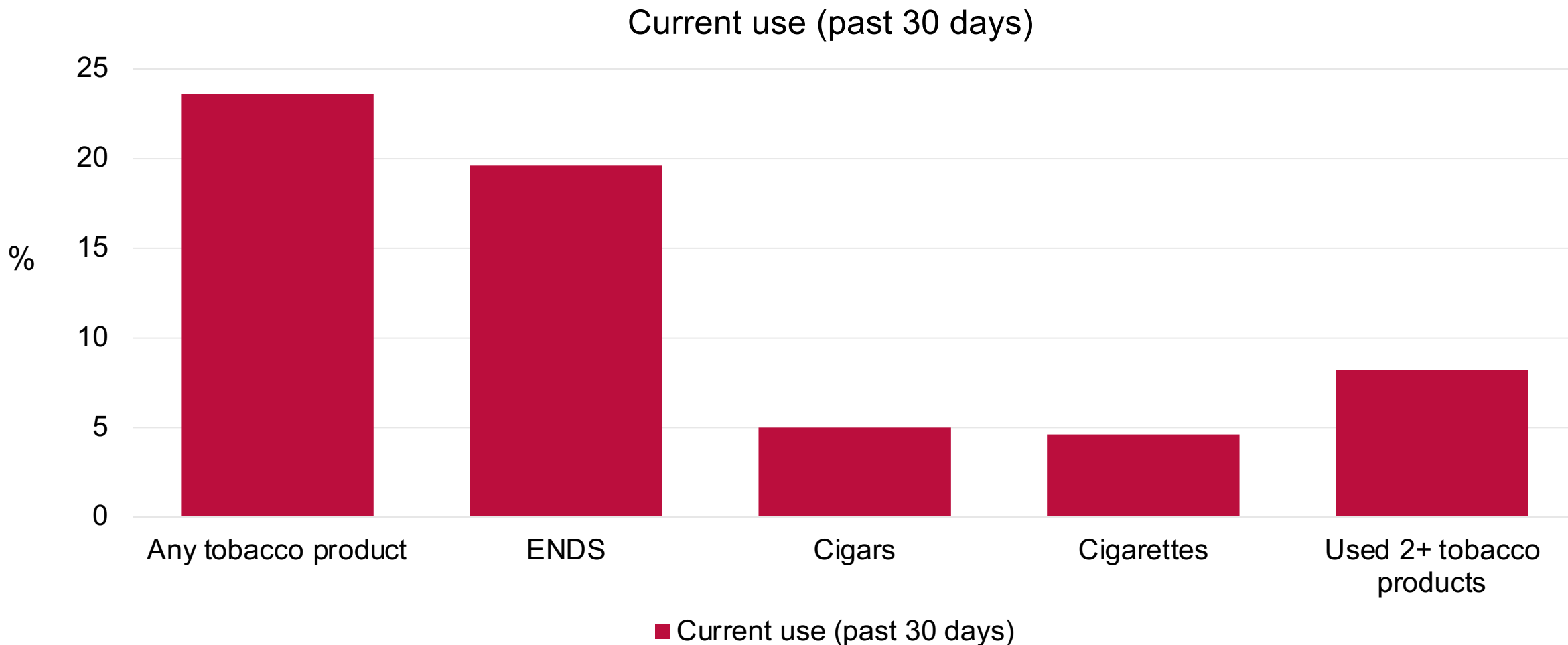
# MODIFIABLE RISK FACTORS

# Adolescent Tobacco Cessation

- Adolescent tobacco use (in those 14-20 years of age) is a major public health problem



# 2020 National Youth Tobacco Survey (NYTS) – Current tobacco use among high school students



# Exercise and Nutrition Interventions to Improve Cancer Treatment-related Outcomes in Cancer Survivors

- Adiposity, poor fitness, and diet are associated with worse outcomes in cancer survivors
  - 35% of US cancer survivors are obese and have poor body composition; and
  - <17% meet general physical activity guidelines and many have poor fitness
- Exercise and nutrition interventions:
  - Are generally well-tolerated and can be tailored
  - Can be delivered in conjunction with cancer therapies
- Few studies have focused on:
  - The time period shortly before or during cancer treatment
  - Specifically prescribed exercise and/or nutrition regimens
  - Treatment-related outcomes
- Planning to fund 4 cooperative agreement grants and 1 coordinating center under this RFA in April 2022



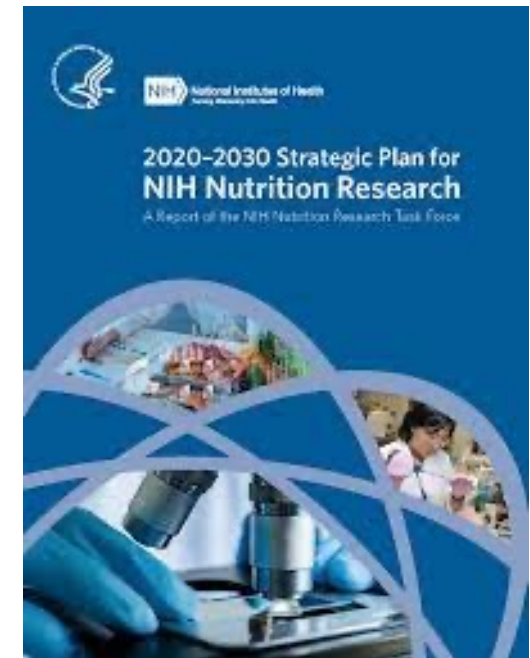
# Trans-NIH \$170 Million Study



**Nutrition  
for Precision  
Health**

**All of Us  
RESEARCH PROGRAM**

- First major initiative to advance goals of 2020-2030 Strategic Plan for NIH Nutrition Research
  - Aim: to develop algorithms to predict individual responses to foods and dietary patterns
- DCCPS-led Automated Self-Administered 24 Hour (ASA24) Dietary Assessment Tool is integral to study design
  - Innovation in digital technology will refine ASA24, reduce respondent burden, and further address measurement error
- DCCPS provides leadership and expertise for two of the study centers:
  - Dietary Assessment Center
  - Metabolomics and Clinical Assays Center


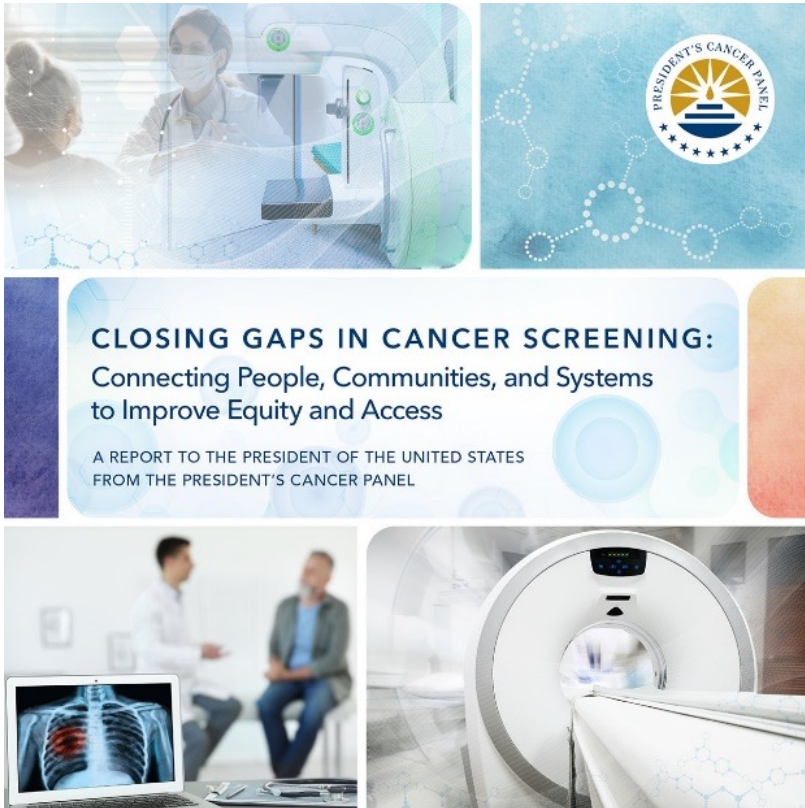


# CANCER SCREENING



# Closing Gaps in Cancer Screening

## FOUR CRITICAL GOALS:



**Improve and align communication**



**Facilitate equitable access**



**Strengthen workforce collaborations**



**Create effective health IT**

 **Breast Cancer**

 **Cervical Cancer**

 **Colorectal Cancer**

 **Lung Cancer**

# DCCPS-Supported Advances: Lung Cancer Screening



Weekly / Vol. 70 / No. 2

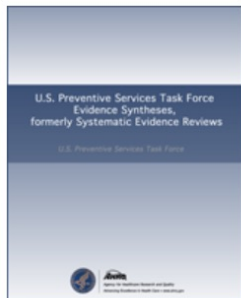
Morbidity and Mortality Weekly Report

January 15, 2021

## Cancer Screening Test Receipt — United States, 2018

Susan A. Sabatino, MD<sup>1</sup>; Trevor D. Thompson<sup>1</sup>; Mary C. White, ScD<sup>1</sup>; Jean A. Shapiro, PhD<sup>1</sup>; Janet de Moor, PhD<sup>2</sup>; V. Paul Doria-Rose, DVM, PhD<sup>2</sup>; Tainya Clarke, PhD<sup>3</sup>; Lisa C. Richardson, MD<sup>1</sup>

NHIS data analysis showed USPSTF-recommended screening test receipt remained below Healthy People 2020 targets, although CRC test receipt neared the target. Disparities were evident, with particularly low-test receipt among persons who were uninsured or did not have usual sources of care.



## Evaluation of the Benefits and Harms of Lung Cancer Screening With Low-Dose Computed Tomography: A Collaborative Modeling Study for the U.S. Preventive Services Task Force

*Evidence Syntheses, No. 198tr*

Investigators: Rafael Meza, PhD, Jihyouon Jeon, PhD, Iakovos Toumazis, PhD, Kevin ten Haaf, PhD, Pianpian Cao, MPH, Mehrad Bastani, PhD, Summer S. Han, PhD, Erik F. Blom, MD, Daniel Jonas, MD, MPH, Eric J. Feuer, PhD, Sylvia K. Plevritis, PhD, Harry J. de Koning, MD, PhD, and Chung Yin Kong, PhD.

Rockville (MD): [Agency for Healthcare Research and Quality \(US\)](https://www.evidence-syntheses.org/); 2021 Mar. Report No.: 20-05286-EF-2

CISNET modeling study estimated that screening individuals aged 50 or 55 through age 80 years with >20 pack-years of smoking exposure would result in more benefits than the 2013 USPSTF-recommended criteria and less disparity in screening eligibility by sex and race/ethnicity. The findings informed revised USPSTF lung cancer screening guidelines.

# DCCPS-Supported Advances: Lung Cancer Screening

JAMA Network | **Open**

Original Investigation | Oncology

## Evaluation of Population-Level Changes Associated With the 2021 US Preventive Services Task Force Lung Cancer Screening Recommendations in Community-Based Health Care Systems

Debra P. Ritzwoller, PhD; Rafael Meza, PhD; Nikki M. Carroll, MS; Erica Blum-Barnett, MSPH; Andrea N. Burnett-Hartman, PhD, MPH; Robert T. Greenlee, PhD; Stacey A. Honda, MD, PhD; Christine Neslund-Dudas, PhD; Katharine A. Rendle, MSW, MPH, PhD; Anil Vachani, MD, MS

Cohort study suggests that, in diverse health care systems, adopting the 2021 USPSTF recommendations will increase the number of women, racial/ethnic minority groups, and individuals with lower SES who are eligible for lung cancer screening – thus helping to minimize the barriers to screening access for high-risk individuals.

## Impact of Joint Lung Cancer Screening and Cessation Interventions Under the New Recommendations of the U.S. Preventive Services Task Force

Rafael Meza PhD <sup>a</sup>, Pianpian Cao PhD, MPH <sup>a</sup>, Jihyoun Jeon PhD <sup>a</sup>, Kathryn L. Taylor PhD <sup>b</sup>, Jeanne S. Mandelblatt MD, MPH <sup>b</sup>, Eric J. Feuer PhD <sup>c</sup>, Douglas R. Lowy MD <sup>d</sup>



CISNET simulation showed that joint screening and tobacco cessation interventions would result in considerable lung cancer deaths averted and life-years gained.

# ENVIRONMENT AND CANCER

# Environment and Cancer



- Preventable cancers: 12-29% of cancers attributable to the environment (WHO)
- IARC has classified 121 agents carcinogenic to humans and 412 probably or possibly carcinogenic

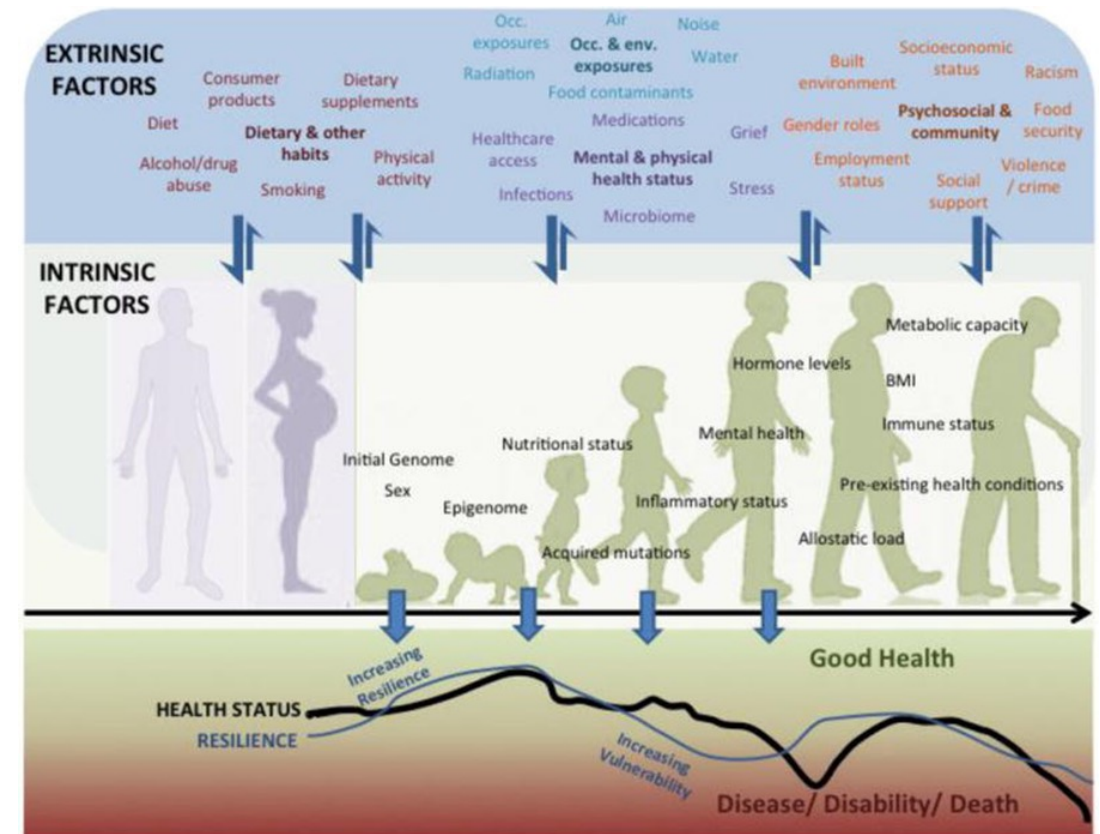
# Challenges & Opportunities for Studying the Environment

## ■ Challenges

- The Complexities of Measuring Exposures
- Need novel assessment tools
  - Advanced Geospatial Methods
  - New Assays
  - Personal Monitoring Technologies
- The Complexities of Time: Lifelong Effects of Early-Life Exposures

## ■ Opportunities

- Exposome
- Climate Change
- Understudied populations

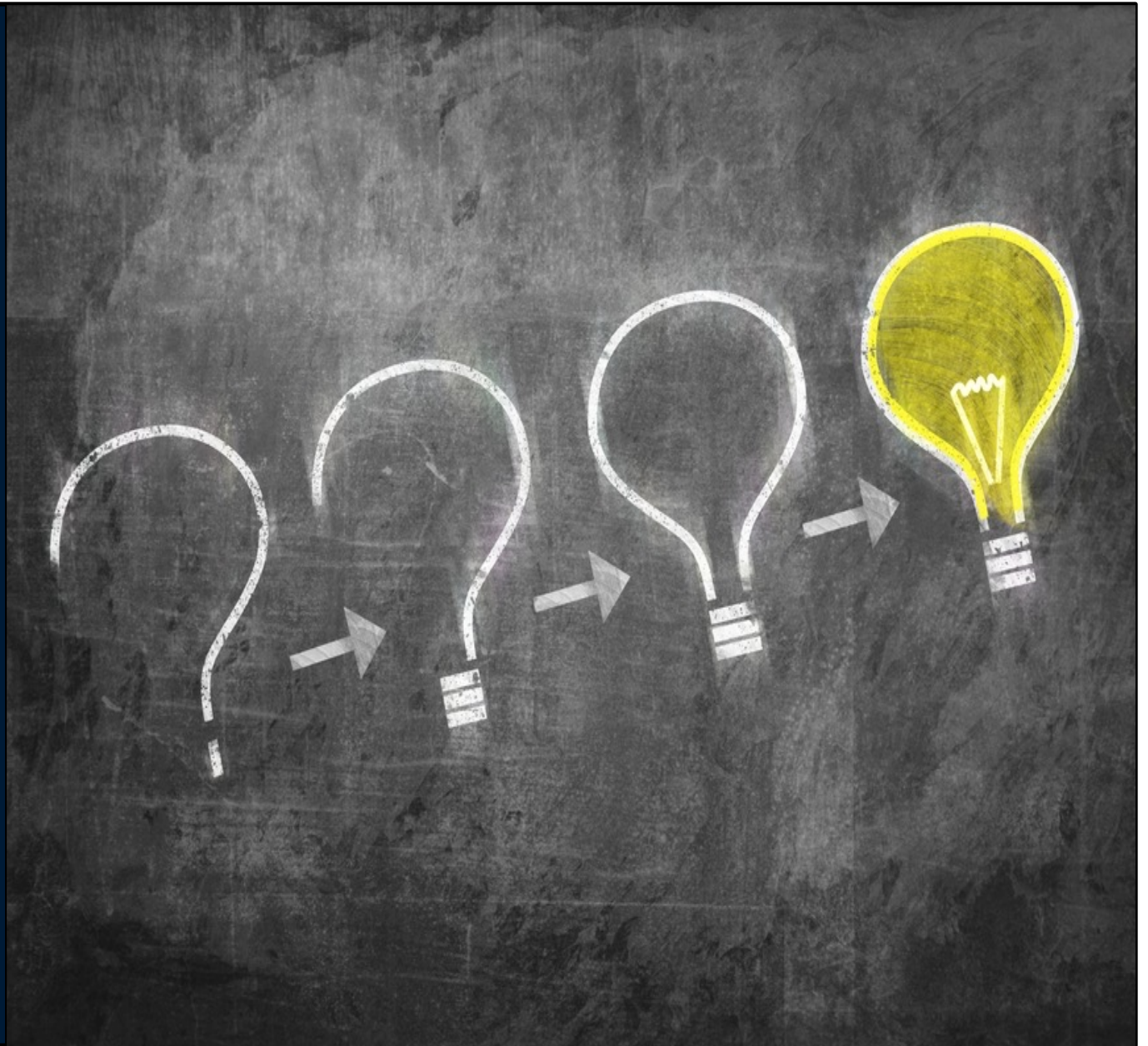


**FUTURE**

**Request for  
Information (RFI):  
Priorities for Cancer  
Control and Population  
Sciences at NCI**

NOT-CA-22-053  
Open through March 25, 2022

**NCI | DCCPS**





# DCCPS Overview & Highlights Report

2021 (on the DCCPS Web site)



2022 (coming in Fall)



**Questions?**