

Professional Advancement Virtual
Engagement Series

PAVES

Seminar 16

**Research and Career Advancement in
Cancer Disparities**

Tiffany Wallace, PhD
Center to Reduce Cancer Health Disparities (CRCHD)
National Cancer Institute
June 1, 2022

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1. *Speaker Introductions*
 2. *Overview*
 3. *Invited Presentations*
 - *Dr. Lorna H. McNeill*
 - *Dr. Wayne Lawrence*
 4. *Panel Discussion*
 5. *Breakout Sessions*

Speakers



Lorna H. McNeill, PhD, MPH

Professor and Chair

Department of Health Disparities Research
Division of Cancer Prevention and Population Sciences
University of Texas MD Anderson Cancer Center



Wayne Lawrence, DrPH, MPH

Cancer Prevention Fellow

Metabolic Epidemiology Branch
Division of Cancer Epidemiology and Genetics (DCEG)
National Cancer Institute (NCI)

NCI Health Disparities Priorities and Programs

NCI Center to Reduce Cancer Health Disparities (CRCHD)

NIH Clinical Center



NCI at Shady Grove Campus



CRCHD Mission

- Advance cancer disparities research across the entire cancer continuum.
- Advise on strategic planning and policies related to cancer disparities research and diversity training.
- Lead NCI's efforts in increasing workforce diversity.

HOW NCI IS ADDRESSING CANCER DISPARITIES



Basic, clinical, and epidemiologic research into factors that may influence cancer risk



Clinical trials that test interventions in diverse populations



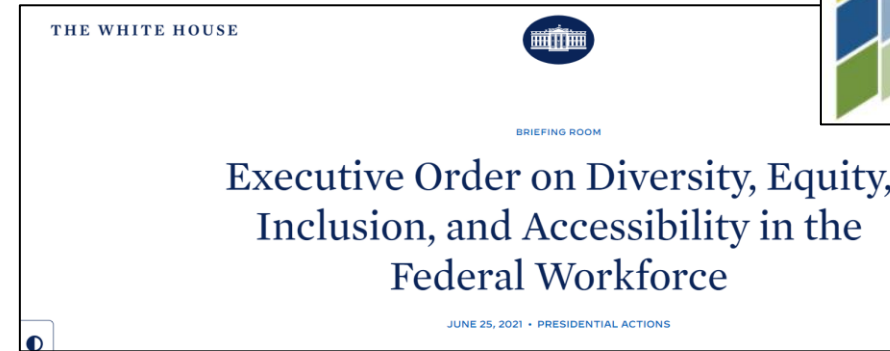
Programs that address cancer care delivery in diverse communities



Training to increase diversity in the cancer and cancer disparities research workforce

Equity, diversity, and inclusion are core values at NCI

- NIH and NCI are united in efforts to end structural racism and racial inequities in biomedical research
- **NIH UNITE initiative** aims to establish an equitable and civil culture within the biomedical research enterprise and reduce barriers to racial equity in the biomedical research workforce
- **NCI Equity and Inclusion Program** strives to increase workforce diversity, build a more inclusive and equitable NCI community, address cancer disparities, and advance health equity.



Equity Council and Five Working Group Co-Chairs

EQUITY COUNCIL	Council Chair	Mark Alexander	Montse Garcia-Closas	Mack Roach (<i>ad hoc</i>)
	Doug Lowy	Andrea Apolo	Anne Lubenow	Donna Siegle
	Co-Chair	Alexis Bakos	Ji Luo	Dinah Singer
	Paulette Gray	Nelvis Castro		Sanya Springfield

<p>Working Group 1 <i>Enhancing Research to Address Cancer Health Disparities</i></p> <p>Co-Chairs: <i>Jim Doroshov Worta McCaskill-Stevens Tiffany Wallace</i></p>	<p>Working Group 2 <i>Ensuring Diversity of Thought and Background in the Cancer Research Workforce</i></p> <p>Co-Chairs: <i>LeeAnn Bailey Susan McCarthy Glenn Merlino</i></p>	<p>Working Group 3 <i>Promoting an Equitable and Inclusive Community</i></p> <p>Co-Chairs: <i>Shannon Bell Paige Green Satish Gopal</i></p>	<p>Working Group 4 <i>Systematic Tracking and Evaluation of Equity Activities</i></p> <p>Co-Chairs: <i>Michelle Berny-Lang Christine Burgess</i></p>	<p>Working Group 5 <i>Communications and Outreach for Equity Activities</i></p> <p>Co-Chairs: <i>Peter Garrett Angela Jones Anita Linde</i></p>
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Cancer Disparities

NCI Definition:

“Adverse differences between certain population groups in cancer measures, such as: incidence, prevalence, morbidity, mortality, survivorship and quality of life, burden of cancer or related health conditions, screening rates, and stage at diagnosis”

Population groups may be characterized by:

- Race
- Ethnicity
- Disability
- Gender and sexual identity
- Geographic location
- Income
- Education
- Other characteristics

EXAMPLES OF CANCER DISPARITIES

 BREAST CANCER African American women are nearly twice as likely as white women to be diagnosed with triple-negative breast cancer and are much more likely than white women to die from breast cancer.	 KIDNEY CANCER The highest rates of kidney cancer cases and death in the United States occur among American Indians/Alaska Natives.	 LIVER CANCER Rates of liver cancer are higher among American Indians/Alaska Natives and Asian and Pacific Islanders than other racial/ethnic groups.
 PROSTATE CANCER African American men are more than twice as likely as white men to die from prostate cancer.	 CERVICAL CANCER Women in rural areas are twice as likely to die from cervical cancer as women in more urban areas.	 MULTIPLE MYELOMA African Americans are twice as likely as whites to be diagnosed with and die from multiple myeloma.

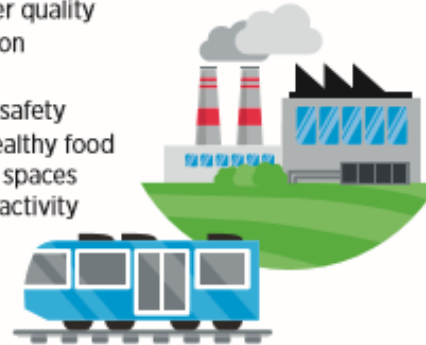
Adapted from: cancer.gov/cancer-disparities

Why Do U.S. Cancer Health Disparities Exist?

Complex and interrelated factors contribute to cancer health disparities in the United States. Adverse differences in many, if not all, of these factors are directly influenced by structural and systemic racism. The factors may include, but are not limited to, differences or inequalities in:

ENVIRONMENTAL FACTORS

- Air and water quality
- Transportation
- Housing
- Community safety
- Access to healthy food sources and spaces for physical activity



BEHAVIORAL FACTORS

- Tobacco use
- Diet
- Excess body weight
- Physical inactivity
- Adherence to cancer screening and vaccination recommendations



SOCIAL FACTORS

- Education
- Income
- Employment
- Health literacy



CLINICAL FACTORS

- Access to health care
- Quality of health care



CULTURAL FACTORS

- Cultural beliefs
- Cultural health beliefs

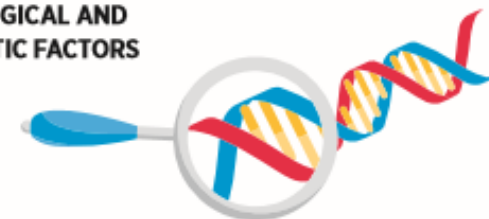


PSYCHOLOGICAL FACTORS

- Stress
- Mental health



BIOLOGICAL AND GENETIC FACTORS



The causes of cancer disparities are multifactorial and complex

All directly influenced by structural inequalities and societal injustices.

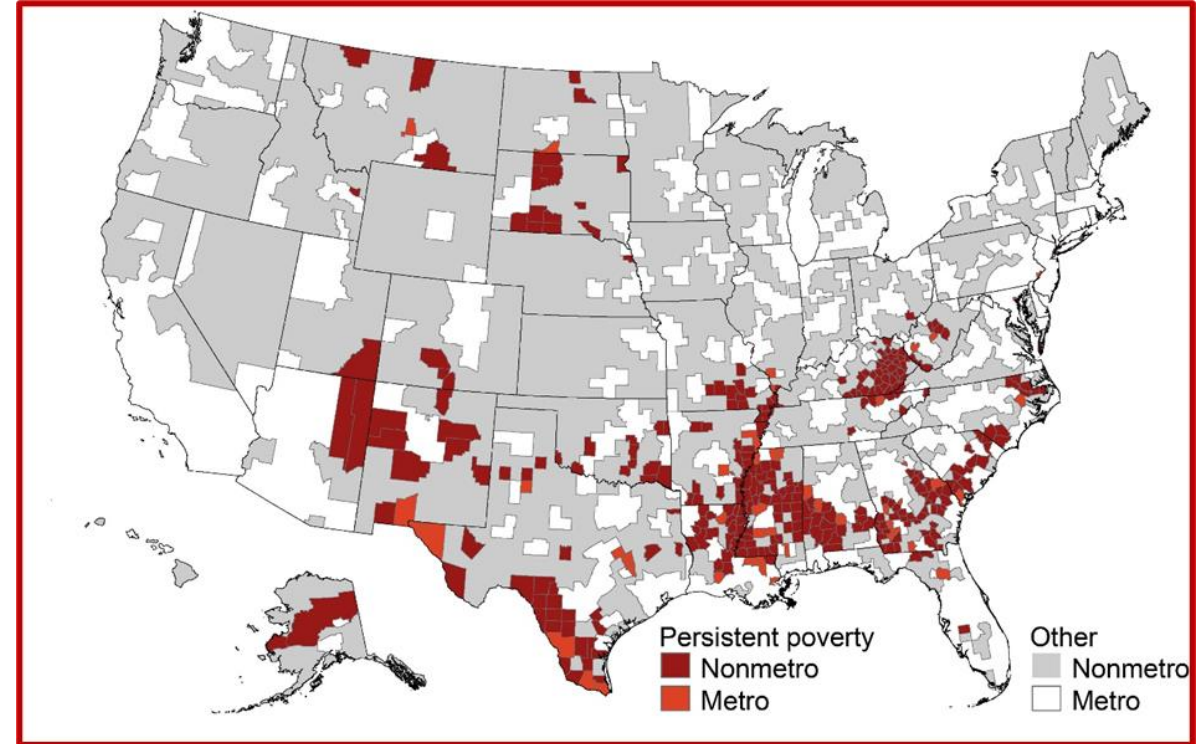
Examples NCI Cancer Disparity-Related Research Programs

- **Cancer Control and Population Sciences**
 - Persistent Poverty
- **Equity and Inclusion in Clinical Trials**
 - Connecting Underserved Populations to Clinical Trials (CUSP2CT) Program
 - Create Access to Targeted Cancer Therapy for -Underserved Populations (CATCH-UP.2020)
- **Basic and Translational Research**
 - Specialized Programs of Research Excellence (SPOREs)
 - PDX Development and Trial Centers Research Network (PDXNet)
 - Basic Research in Cancer Health Disparities

Persistent Poverty Areas

- **Persistent poverty (PP) area:** a county that has had poverty rates of 20% or more in U.S. Census data from 1980, 1990, and 2000
- Current categorization includes ~10% of U.S. counties
 - most in the rural South
- Working with USDA to expand the definition to the census tract level (*more granular*)
 - each of the 50 states, including District of Columbia, has a PP area

Persistent Poverty Counties,



<https://www.ers.usda.gov/data-products/county-typology-codes/descriptions-and-maps.aspx#ppov>

**RFA-CA-22-015: Cancer Control Research
in Persistent Poverty Areas (U54)**

Connecting Underserved Populations to Clinical Trials (CUSP2CT) Program

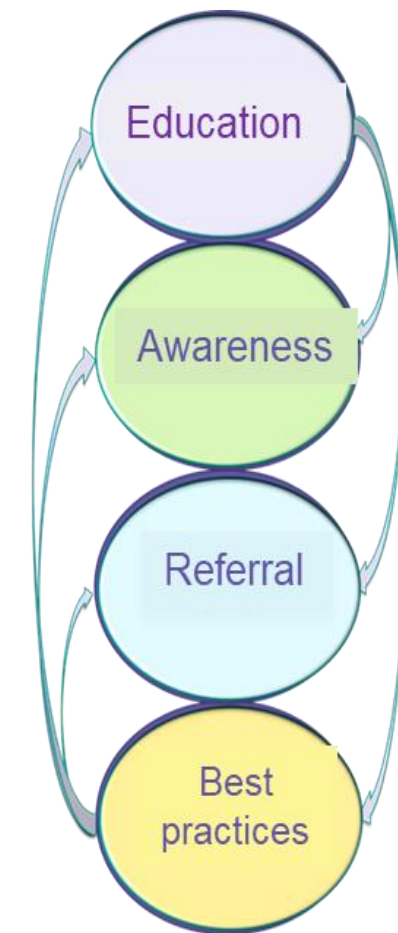
RFA-CA-21-063 (U54)

RFA-CA-21-057 (U24)

CUSP2CT Purpose and Objectives

Implement and evaluate multi-level and culturally tailored outreach and education interventions to increase referral of racial/ethnic (R/E) minority populations to NCI-supported clinical trials, using Lay Health Advisors and Community Health Educators in integrated teams

- Educate R/E minority populations about NCI-supported clinical trials
- Engage primary care and referring providers to increase clinical trial awareness to refer R/E minority populations to clinical trials
- Enhance referral of R/E minority populations to clinical trials
- Address barriers and facilitators and disseminate best practices



CATCH-UP.2020 Initiative

Create **A**ccess to **T**argeted **C**ancer **T**herapy for **-U**nderserved **P**opulations

https://ctep.cancer.gov/initiativesPrograms/etctn_catch-up2020.htm#h04

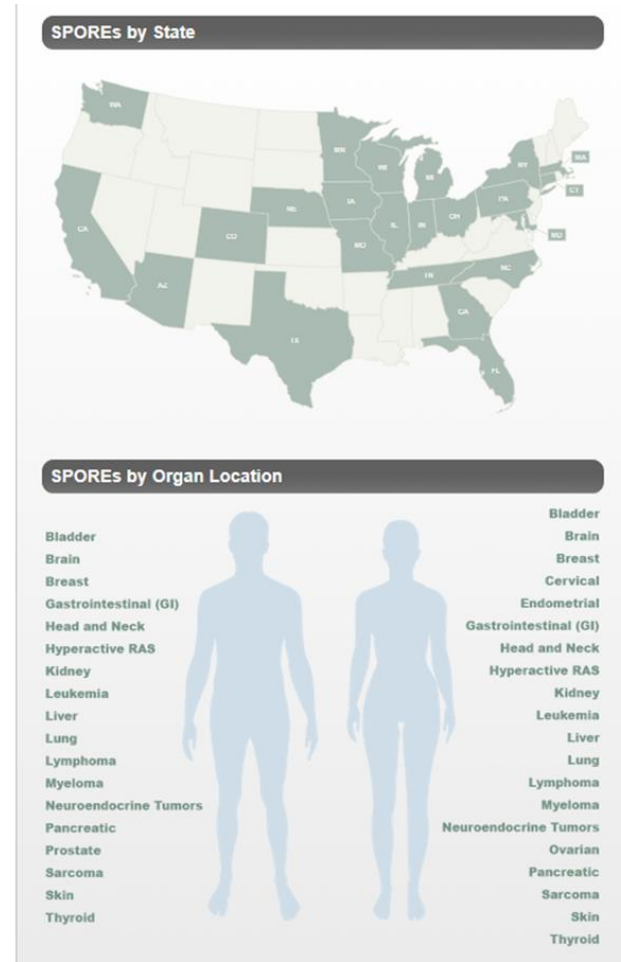
- Administrative supplements for NCI-Designated Cancer Centers (CC)
- Intended to enhance access to targeted cancer therapy for minority/underserved populations
- Each CC awarded has shown the ability to accrue minority/underserved populations to precision medicine cancer trials sponsored through the NCI's Experimental Therapeutics Clinical Trials Network (ETCTN)

- 8 NCI-Designated CC
- 31 Participating Sites
- 49 Clinical Trials

Institution	NCI-Designated CC
UC Irvine Health	Chao Family CCC
Wake Forest University Health Sciences	Wake Forest Baptist CCC
NYU Langone Health	Perlmutter CC
Univ of Kansas Medical Center	Univ of Kansas CC
Univ of Alabama at Birmingham	O'Neal CCC
Univ of Miami	Sylvester CCC
Dartmouth-Hitchcock Medical Center	Norris Cotton CC
Wayne State Univ	Karmanos Cancer Institute

Specialized Programs of Research Excellence (SPOREs)

- Large, multi-project, multi-component, specialized center grants (P50)
- Hallmark is **translational research**; Focused upon improving prevention, early detection, diagnosis, and treatment of cancer
- SPOREs focus on any of the following:
 - An organ-specific cancer
 - Groups of highly related cancers
 - Cross-cutting themes (e.g., **cancer disparities**)
- **P20 SPORE Planning Grants developed to focus on cancer disparities:**
 - Awarded (12) P20 SPORE planning grants (**RFA-CA-17-033, RFA-CA-19-034**)
 - Cancer sites: Acute lymphoblastic leukemia, breast, colon, endometrial, head and neck, gastric, liver, lung, ovarian, and prostate cancers
 - Populations: American Indian, Alaska Native, African American, Hispanic/Latino, and low SES



<https://trp.cancer.gov/>

Developing Cancer Models to Reflect Diversity of Patient Populations

Types of Cancer Models

Patient Derived Xenograft Mouse Models (PDXs)



Source: National Cancer Institute

Cell Lines/ Primary Cells



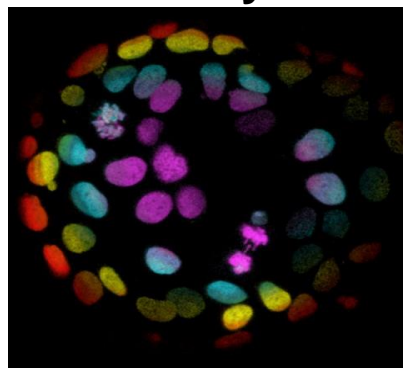
Source: National Cancer Institute

Genetically Engineered Mouse Models (GEMMs)



Source: National Cancer Institute

3D Human Tissue Model Culture Systems



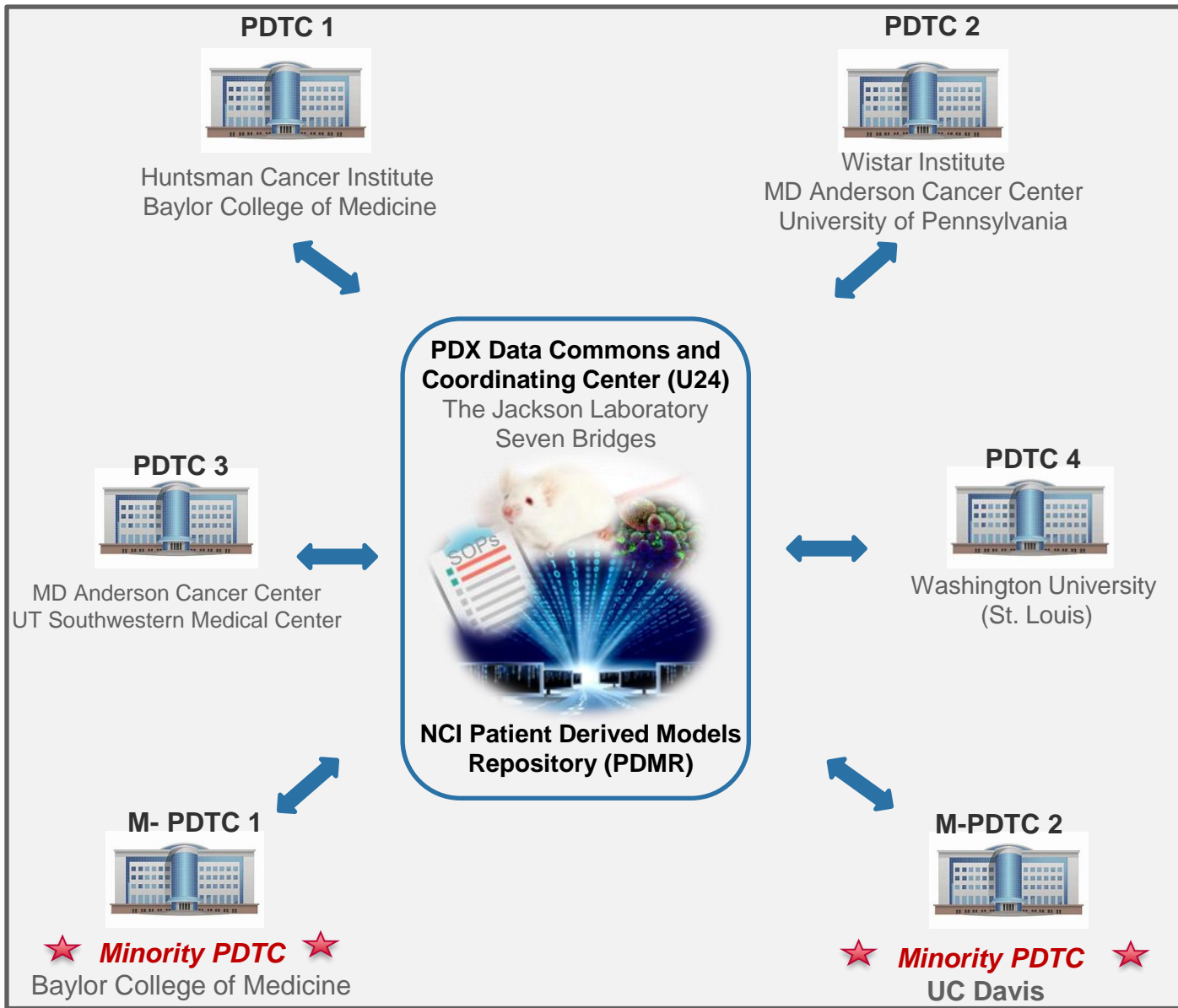
Source: Hubrecht Organoid Technology (HUB)

Humanized Mouse Models



Source: National Cancer Institute\Duncan Comprehensive Cancer Center at Baylor College of Medicine
Creator: Rita Elena Serda

PDX Development and Trial Centers Research Network (PDXNet)



PDXNet is designed to advance precision medicine research efforts.

Conducts collaborative, large-scale PDX development and preclinical testing of targeted therapeutic agents to inform early phase clinical trials.

Includes two “Minority-PDTCs” that focus on **developing models from racial/ethnically diverse populations and conducting disparities research.**

Supported through Cancer Moonshotsm funding

Basic Research in Cancer Health Disparities

- **Three companion funding announcements**
 - PAR-21-322 (R01)
 - PAR-21-323 (R21)
 - PAR-21-324: (R03), **new in FY 22**
- **Goal:** To support innovative basic research investigating the biological/genetic contributors of cancer disparities. Projects may seek to:
 - Investigate mechanistic studies of biological factors associated with cancer disparities
 - Develop and test new methodologies and models
 - Conduct secondary data analyses.
- **Awards:** Between FY 2010 and FY 2021, **123 awards made**
 - 44 R01s
 - 54 R21s
 - 25 U01s



Stay Connected

Have questions?

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More information



@ncicrhd



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Health Disparities (CRCHD)



<http://crchd.cancer.gov>

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