

# Addressing Social Determinants of Health and Disparities in Cancer Risk Factors Across Populations

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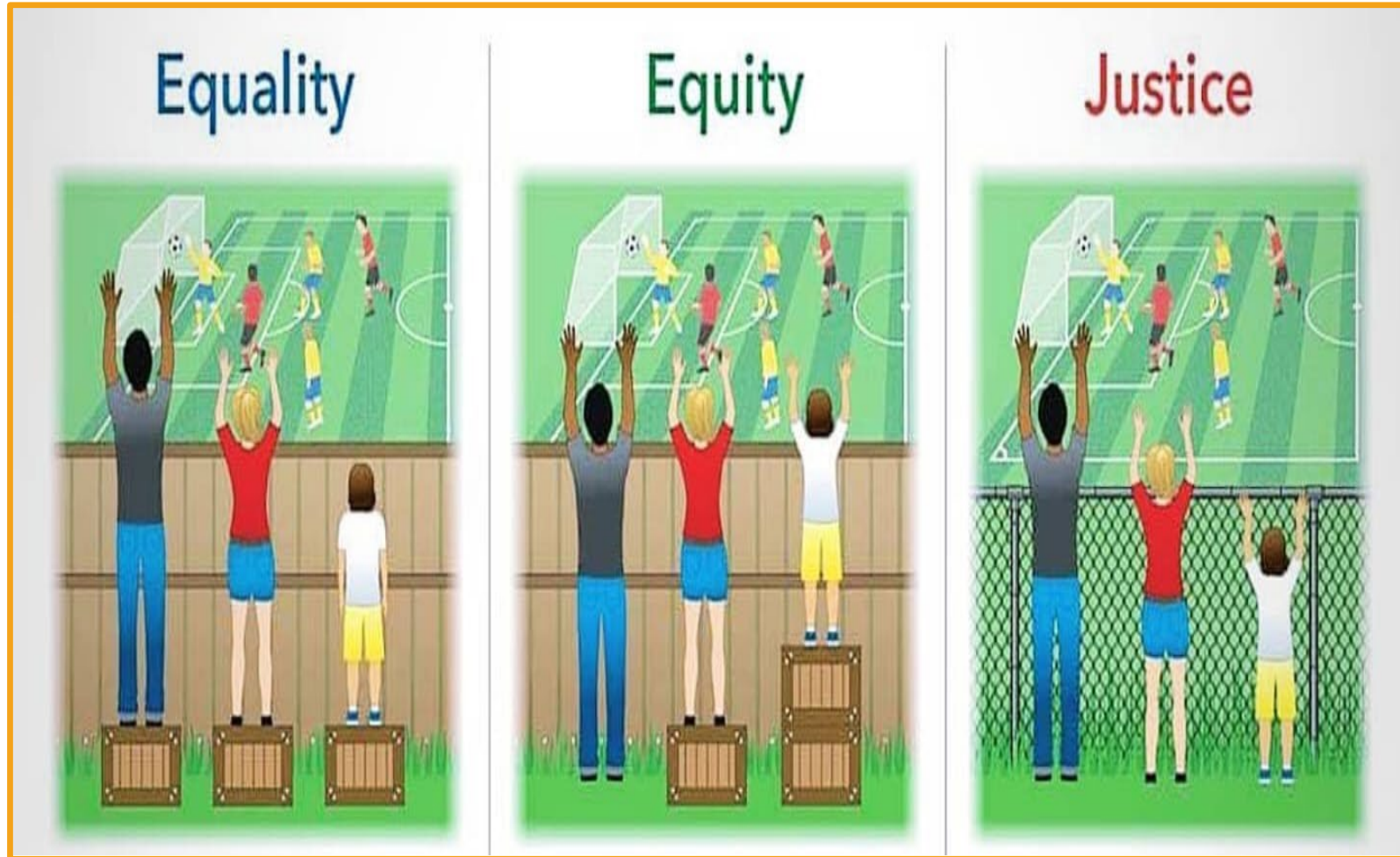
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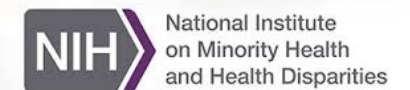
# Vision for Cancer Health Equity







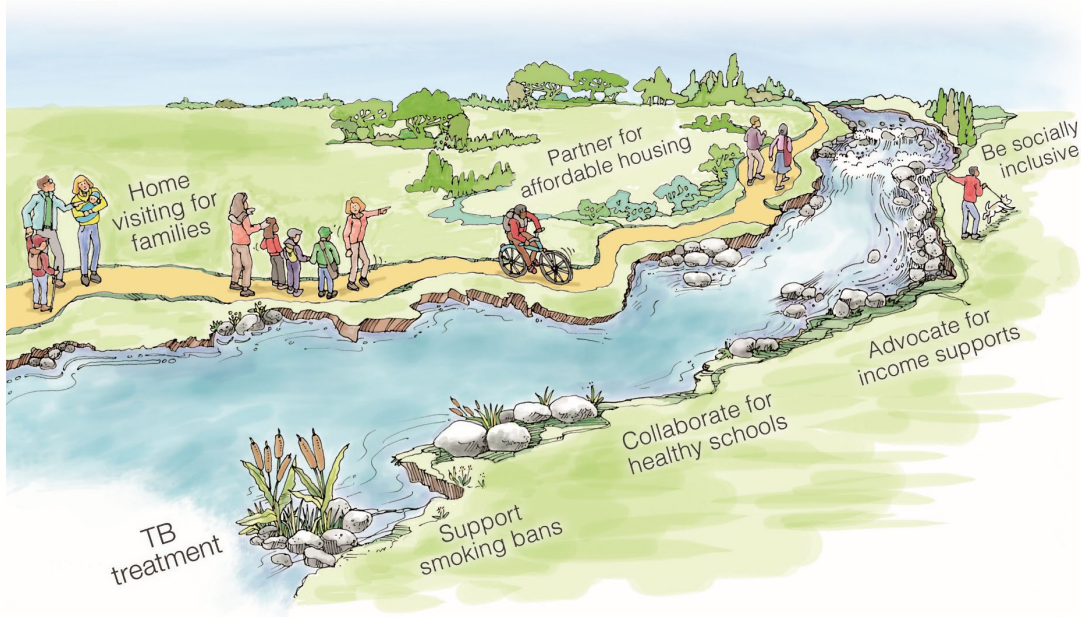
**Promote equity through effective approaches for early detection, prevention, and treatment**

# Determinants of Minority Health and Cancer Health Disparities

## National Institute on Minority Health and Health Disparities Research Framework



		Levels of Influence*			
		Individual	Interpersonal	Community	Societal
Domains of Influence (Over the Lifecourse)	Biological	Biological Vulnerability and Mechanisms	Caregiver–Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure
	Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws
	Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure
	Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination
	Health Care System	Insurance Coverage Health Literacy Treatment Preferences	Patient–Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies
Health Outcomes		 Individual Health	 Family/ Organizational Health	 Community Health	 Population Health



c Some examples are Upstream, The Broadbent Institute, Health Nexus, the Canadian Medical Association, and the Canadian Nurses Association

# Cancer health equity research and interventions are moving upstream

National Collaborating Centre for Determinants of Health. (2014).  
Let's talk: Moving upstream. Antigonish, NS: National  
Collaborating Centre for Determinants of Health, St. Francis  
Xavier University.

UPSTREAM INTERVENTIONS	MIDSTREAM INTERVENTIONS	DOWNSTREAM INTERVENTIONS
Seek to reform the fundamental social and economic structures that distribute wealth, power, opportunities, and decision-making.	Seek to reduce exposure to hazards by improving material working and living conditions, or to reduce risk by promoting healthy behaviours.	Seek to increase equitable access, at an individual or family level, to health and social services.
These changes generally happen at the macro policy level: national and transnational.	These changes generally occur at the micro policy level: regional, local, community or organizational.	These changes generally occur at the service or access to service level.
They are about diminishing the causes-of-the-causes.	They are about changing the causes.	They are about changing the effects of the causes.










National Collaborating Centre for Determinants of Health. (2014). Let's talk: Moving upstream. Antigonish, NS: National Collaborating Centre for Determinants of Health, St. Francis Xavier University.

- **Downstream interventions:** Immediate health needs of disparity populations
- **Midstream interventions:** Target factors such as the quality of housing, food systems, and employment
- **Upstream interventions:** Target structural factors such as racism, exclusion



# SOCIAL DETERMINANTS FACTORS THAT INFLUENCE YOUR HEALTH

The conditions in which you live, learn, work and age affect your health. Social determinants such as these can influence your lifelong health and well-being.

<b>HOUSING</b> 	<b>INCARCERATION</b> <p>The incarceration rate in the U.S. grew by more than 220% between 1980 and 2014, though crime rates have fallen.</p> 	<b>POVERTY</b> 
<b>HEALTHY FOOD</b> <p>6.5 million children live in low-income neighborhoods that are more than a mile from a supermarket.</p> 	<b>ENVIRONMENT</b> 	<b>GRADUATION</b> 
<b>LITERACY</b> 	<b>ACCESS TO CARE</b> 	<b>HEALTH COVERAGE</b> <p>More than 89% of U.S. adults had health coverage in 2014. But 33 million Americans still lacked insurance.</p> 

The **NATION'S HEALTH**

A PUBLICATION OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

[www.thenationshealth.org/sdoh](http://www.thenationshealth.org/sdoh)



Stress

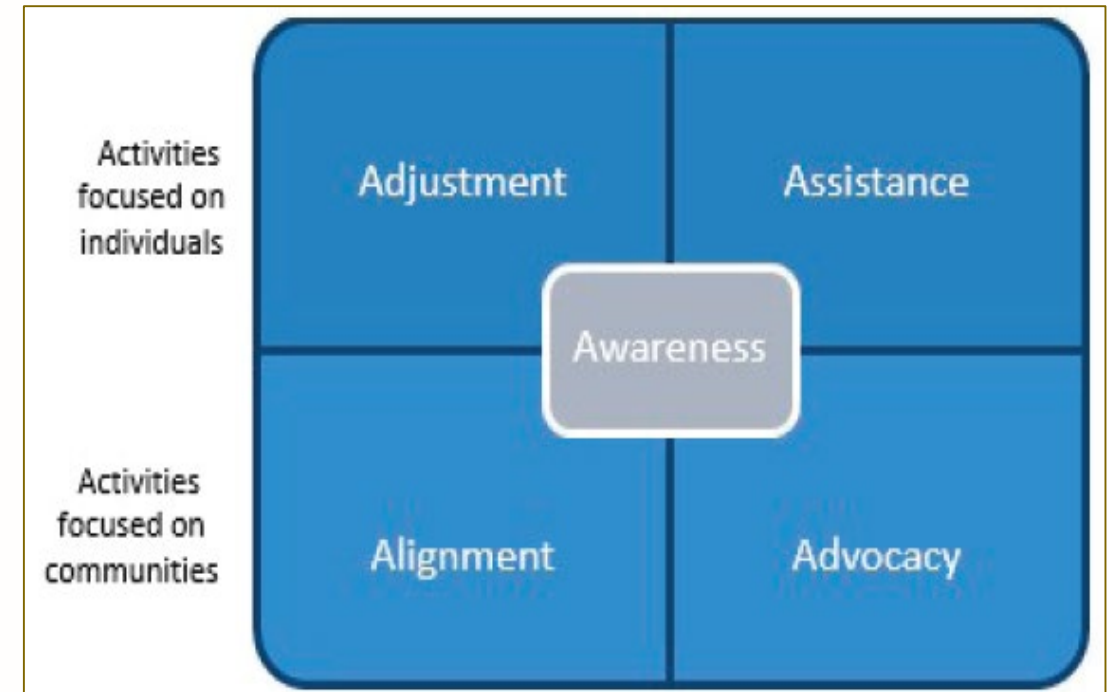


Social  
Connections

*“Create social, physical, and economic environments that promote attaining the full potential for health and well-being for all.” Healthy People 2030*



National Academies – Integrating Social Care into the Delivery of Health Care

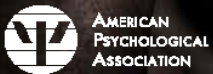


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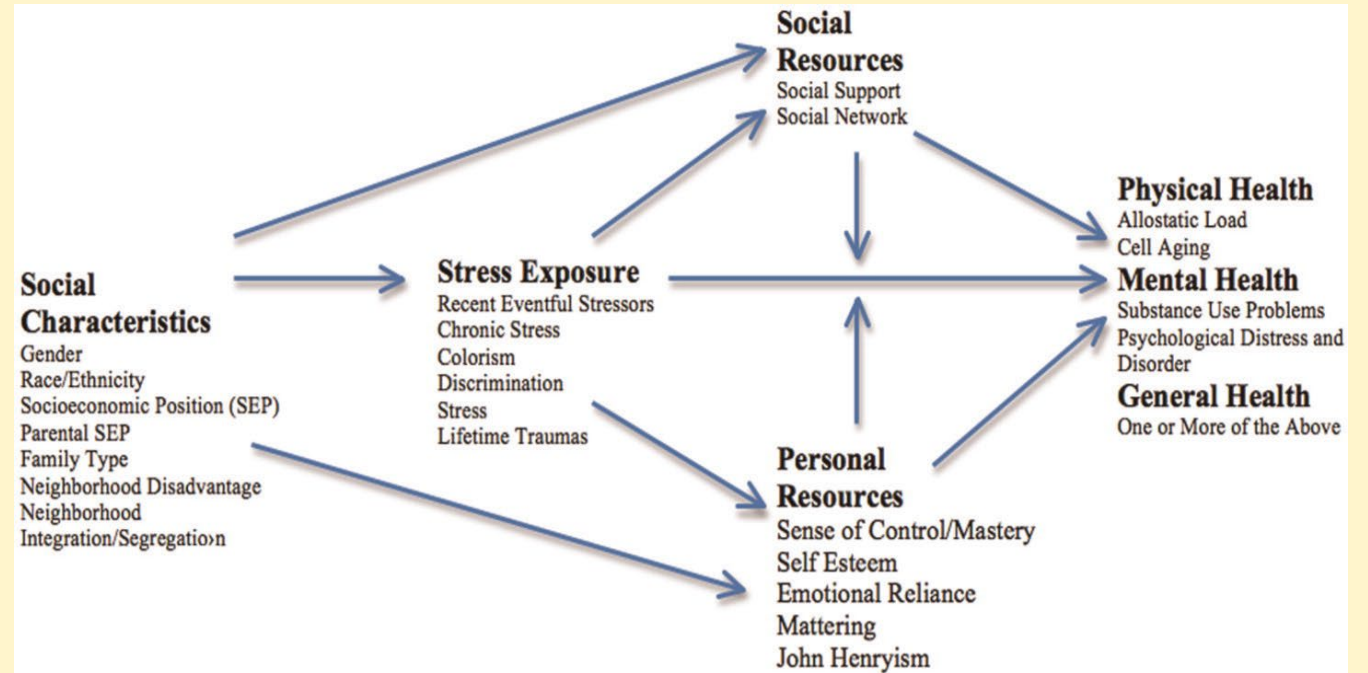
# STRESS AND HEALTH DISPARITIES

Contexts, Mechanisms, and Interventions Among Racial/Ethnic Minority and Low Socioeconomic Status Populations



APA WORKING GROUP REPORT ON STRESS AND HEALTH DISPARITIES

## The Stress Process Model

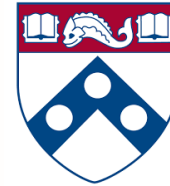


Turner RJ. Understanding health disparities: the relevance of the stress process model. *Soc Mental Health*. 2013;3:170-86

# Transdisciplinary Collaborative Center in Precision Medicine and Minority Men's Health

- Multi-regional consortium
- Translational research on biological, social, psychological, and clinical factors
- Dissemination and implementation
- Data integration

*Chanita Hughes-Halbert, PhD*  
*U54MD010706*

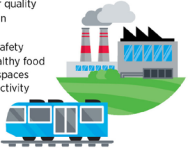


## Why Do U.S. Cancer Health Disparities Exist?

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

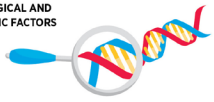


### PSYCHOLOGICAL FACTORS

- Stress
- Mental health



### BIOLOGICAL AND GENETIC FACTORS



American Association for Cancer Research (AACR) Cancer Disparities Progress Report 2020



**Low Country AHEC**  
**National Black Leadership Initiative on Cancer**  
**Hope Institute, LLC**  
**Southeastern Health Equity Council**



**Project 1:** Sociobiological Responses to Stress in Prostate Cancer Survivors

**Project 2:** Defining an Integrated Allostatic Load Index with Immune and Tumor Microenvironment Factors

**Project 3:** Integrating Genomic and Sociobiological Data to Inform the Development of Prostate Cancer Treatment

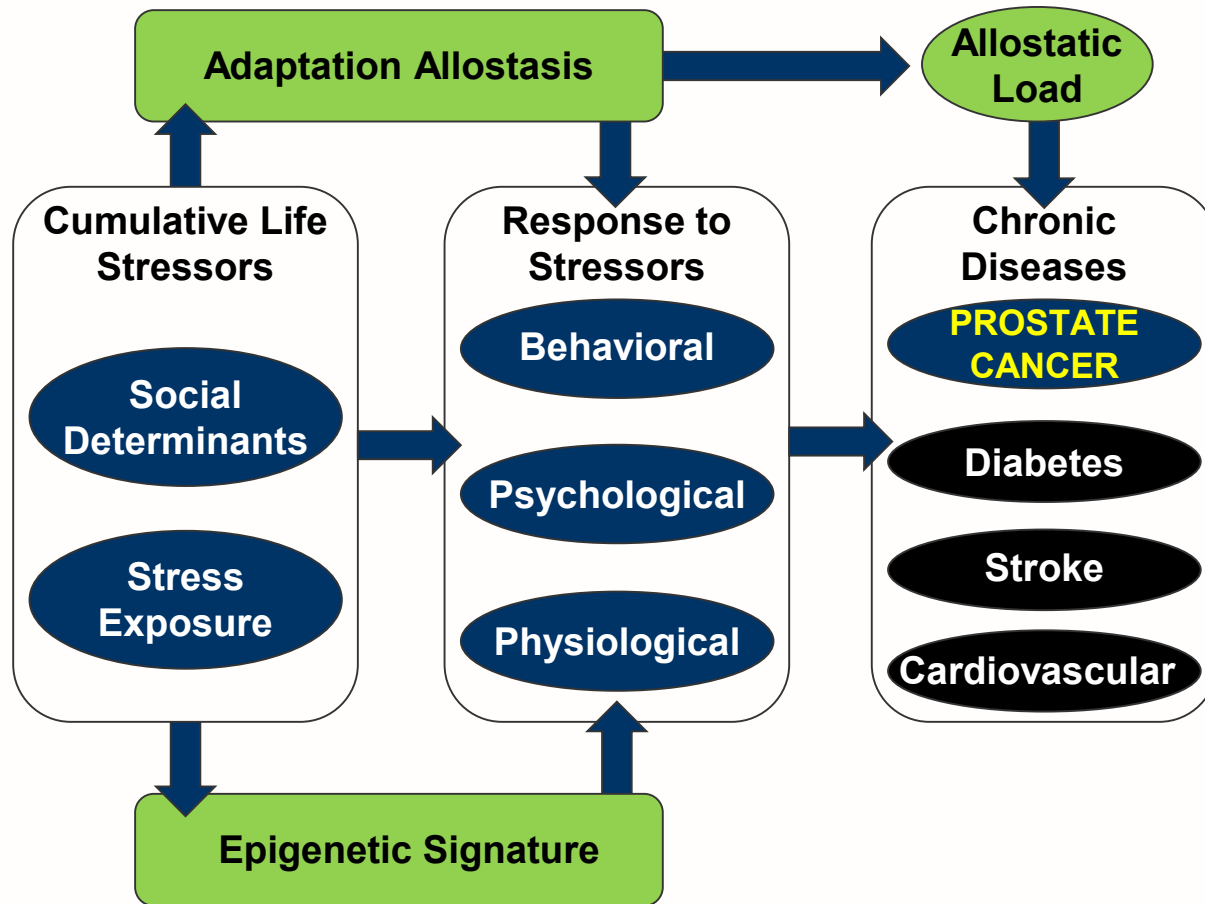


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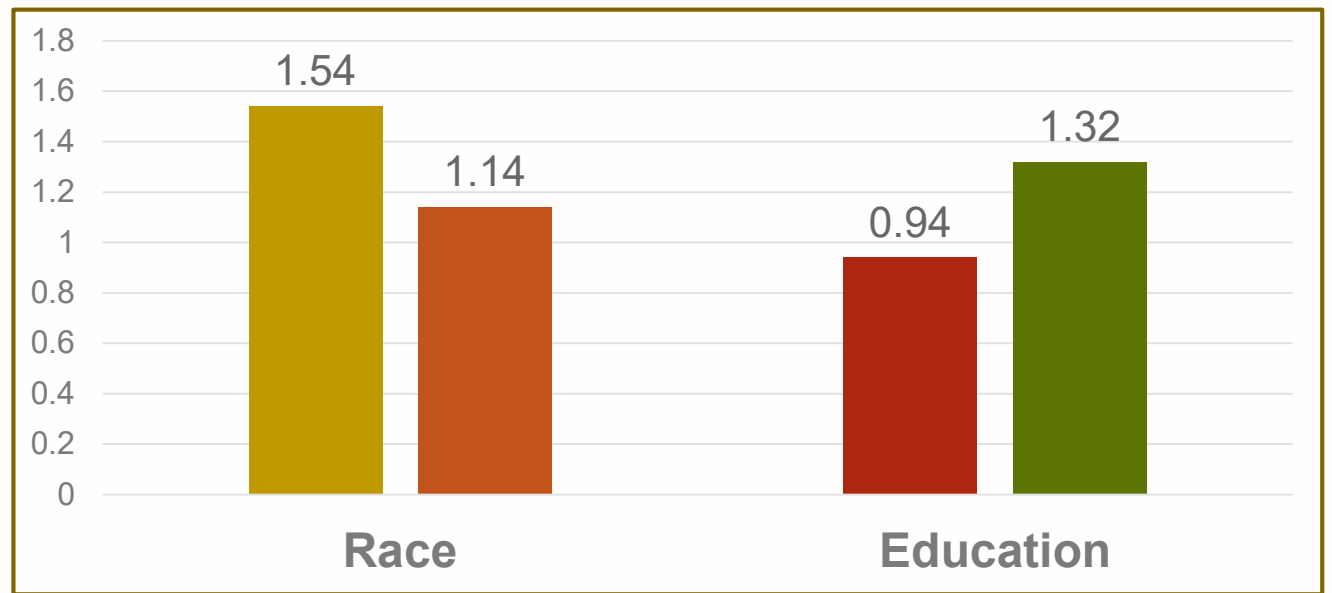
# Transdisciplinary Collaborative Center in Precision Medicine and Minority Men's Health



- Minority men experience unique acute and chronic stressors
- Social and psychological stressors impact biological processes involved in the initiation and progression of disease
- Allostatic load is a marker of how much social and psychological stressors impact biological functioning
- Racial disparities in allostatic load exist
- Need to understand the effects of allostatic load on disease processes and outcomes.

# Allostatic Load in Prostate Cancer Survivors

**Allostatic load reflects physiological responses to stress**



## Allostatic Load: Clinical Model (n=392)

Variable	Level	OR	95% CI (p-value)
Race	African American White	1.78	1.15, 2.77 (0.01)
PSA	***	1.05	1.02, 1.08 (0.001)
Age	***	0.98	0.95, 1.01 (0.22)
Stage	T2 T3	0.98	0.61, 1.58

# Structural Racism in African American Men

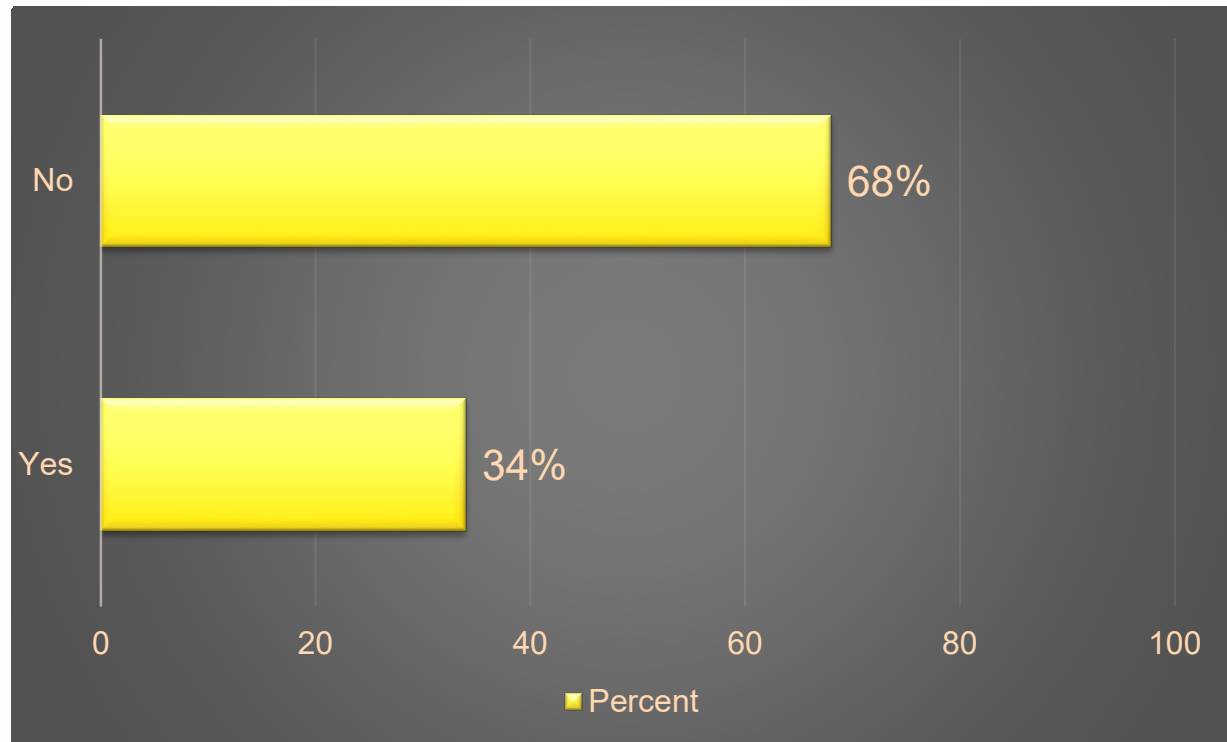
## Social Context and Lived Experiences

- Housing instability
- Unemployment
- Difficulty finding a job
- Violence
- Legal issues



# Social and Clinical Determinants of Physical Activity in Prostate Cancer Survivors

- Prostate cancer patients identified from biorepository and tissue analysis core at HCC
- Completed Social Determinants Survey
- Moderate intensity physical activity obtained by self-report



**Table 2** Multivariate logistic regression analysis of meeting guidelines for physical activity

Variable	Level	Odds ratio	95% CI	p value
Chronic disease	Yes	1.34	0.46, 4.12	0.57
	No	Reference		
Self-rated health	Same/worse	0.32	0.11, 0.96	0.04
	Better	Reference		
Stage	pT2c or higher	0.27	0.08, 0.86	0.03
	pT2b or lower	Reference		
Perceived stress	***	0.48	0.26, 0.89	0.02

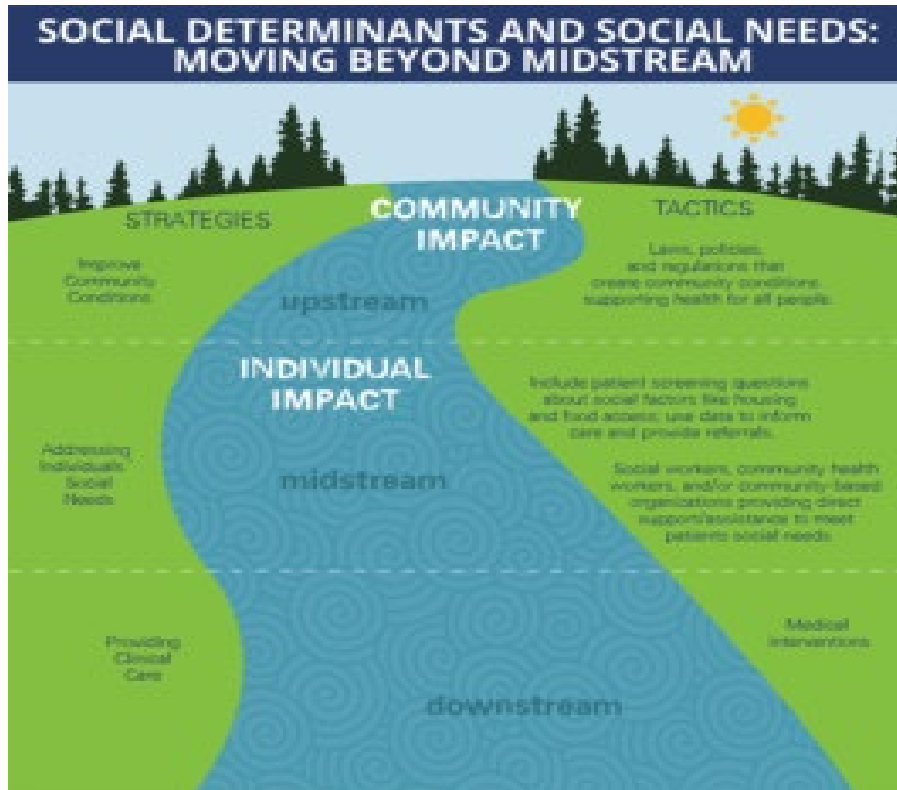
\*\*\*OR reflects one SD unit change

**Perceived stress is an important social determinant of health.**

Halbert CH, Jefferson MS, Drake R, Lilly M, Savage SJ, Nahhas GJ, Price ST, Loftley AE, Bauer A. Social and clinical determinants of physical activity in prostate cancer survivors. *Support Care Cancer*. 2021;;29:459-465.



# Cancer Health Equity Research and Interventions are Moving Upstream



*Meeting Individual Social Needs Falls Short Of Addressing Social Determinants Of Health,” Health Affairs Blog, January 16, 2019.  
DOI: [10.1377/hblog20190115.234942](https://doi.org/10.1377/hblog20190115.234942)*

- Continued efforts are needed to understand the effects of multilevel social determinants on cancer health disparities
- SDOHs should be measured and addressed as part of clinical trial recruitment and cancer care delivery
- Additional research is needed to evaluate the effects of SDOH interventions on cancer care and outcomes