

# HEALTH DISPARITIES



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# DISCLOSURE

## Relevant Financial Relationships/Research Funding

R01CA111799 (PI: Scarinci)

R25CA106870 (PI: Scarinci)

U01CA114619 (PI: Partridge)

P30 CA013148 (Sleckman) – Supplements (Scarinci)

American Cancer Society (PI: Scarinci)

No other conflict of interest

# WHERE DID IT START?

The Minority Health and Health Disparities Research Education Act of 2000 – Public Law 106-525 -defines health disparity populations as "any group exhibiting significant disparities in the overall rate of disease incidence, prevalence, morbidity, mortality, or survival rates in the population as compared to the health status of the general population."

- Establishment of National Institute for Minority Health and Health Disparities
- Recognition of health disparities as a “science”
- Major focus of funding in health disparities research

# CERVICAL CANCER AS AN EXAMPLE

- ✓ Pap test is considered one of the major scientific discoveries in cancer prevention & control in our lifetime
- ✓ Cervical cancer annual rates have declined by >75% over the past half century due to this technology
- ✓ Estimated 14,100 new cervical cancer cases and 4,280 deaths in the US in 2022 (ACS, 2022)

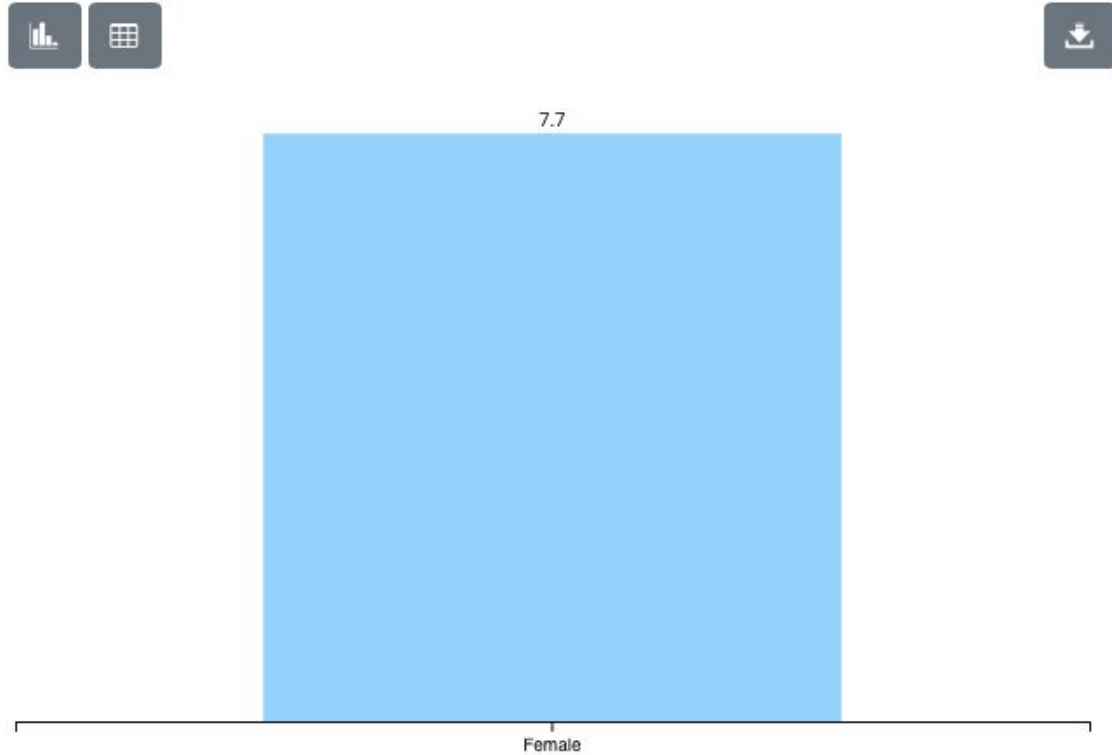
**BUT THIS ROAD HAS NOT BEEN THE SAME FOR EVERYONE**



# 2015-2019 CERVICAL CANCER INCIDENCE – ACROSS RACE & ETHNICITY

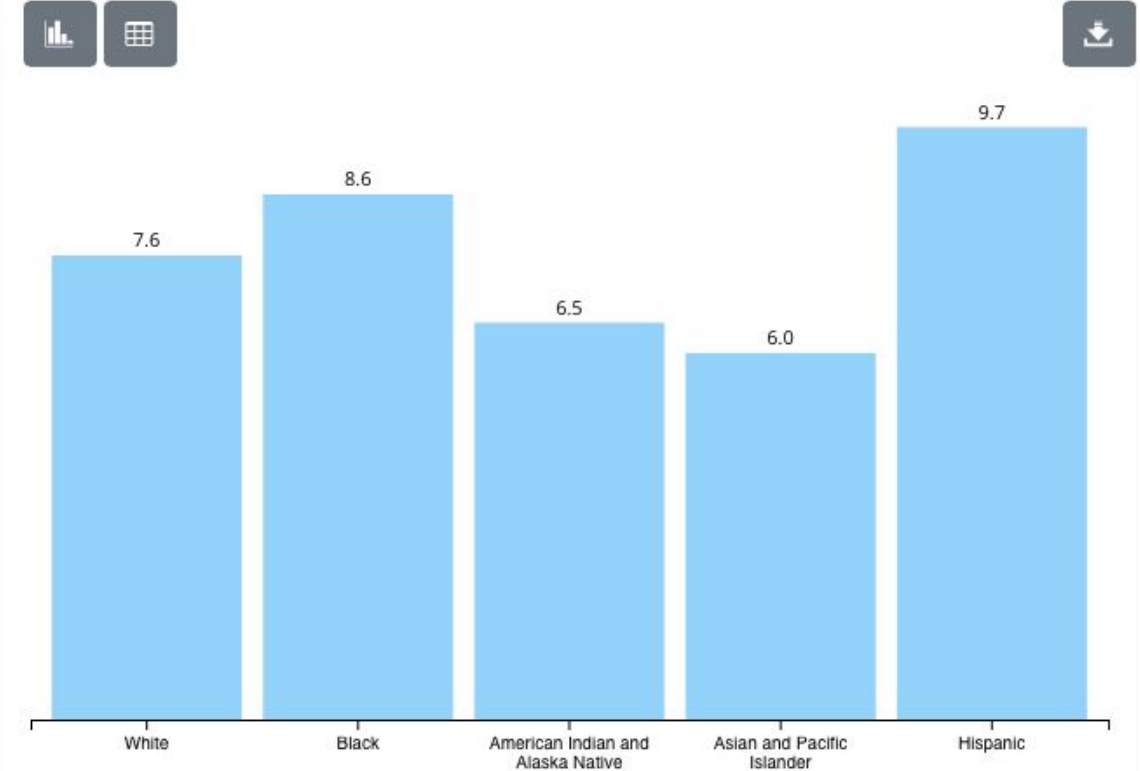
## Rate of New Cancers, All Races and Ethnicities, Female

Cervix  
Rate per 100,000 women



## Rate of New Cancers By Race and Ethnicity, Female

Cervix  
Rate per 100,000 women

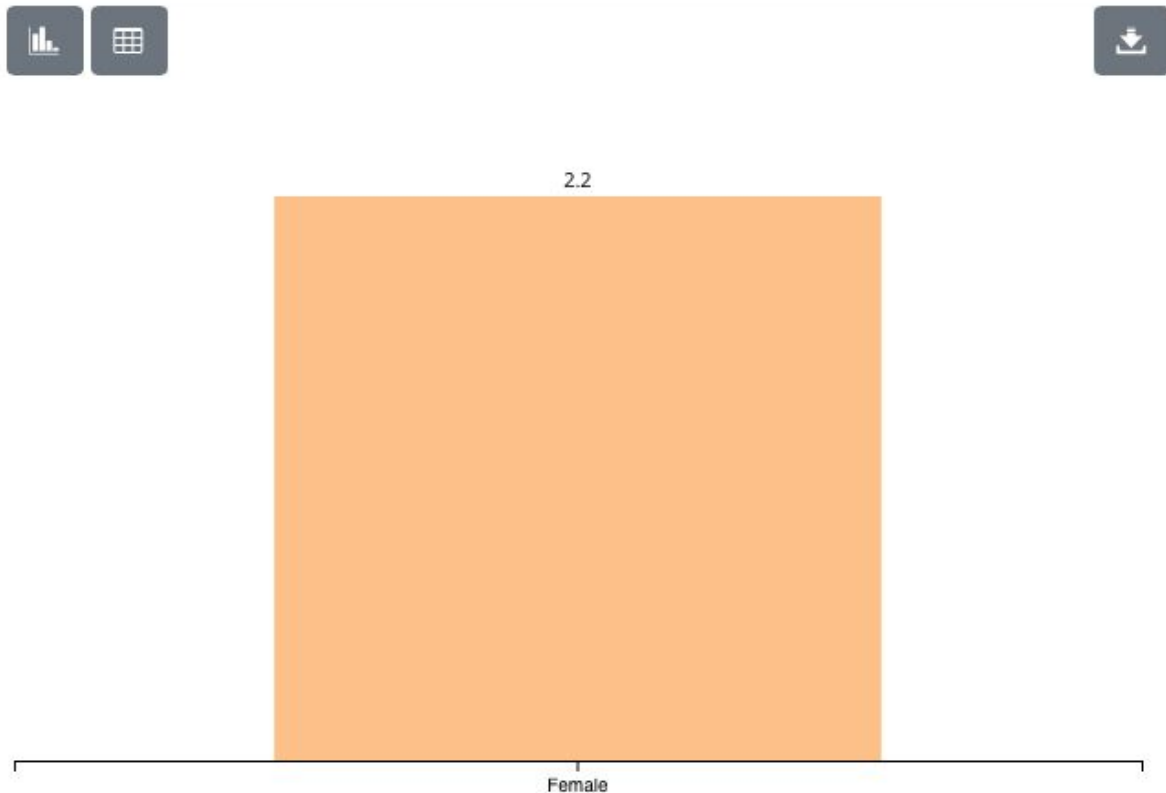


# 2015-2019 CERVICAL CANCER MORTALITY – ACROSS RACE & ETHNICITY

## Rate of Cancer Deaths, All Races and Ethnicities, Female

Cervix

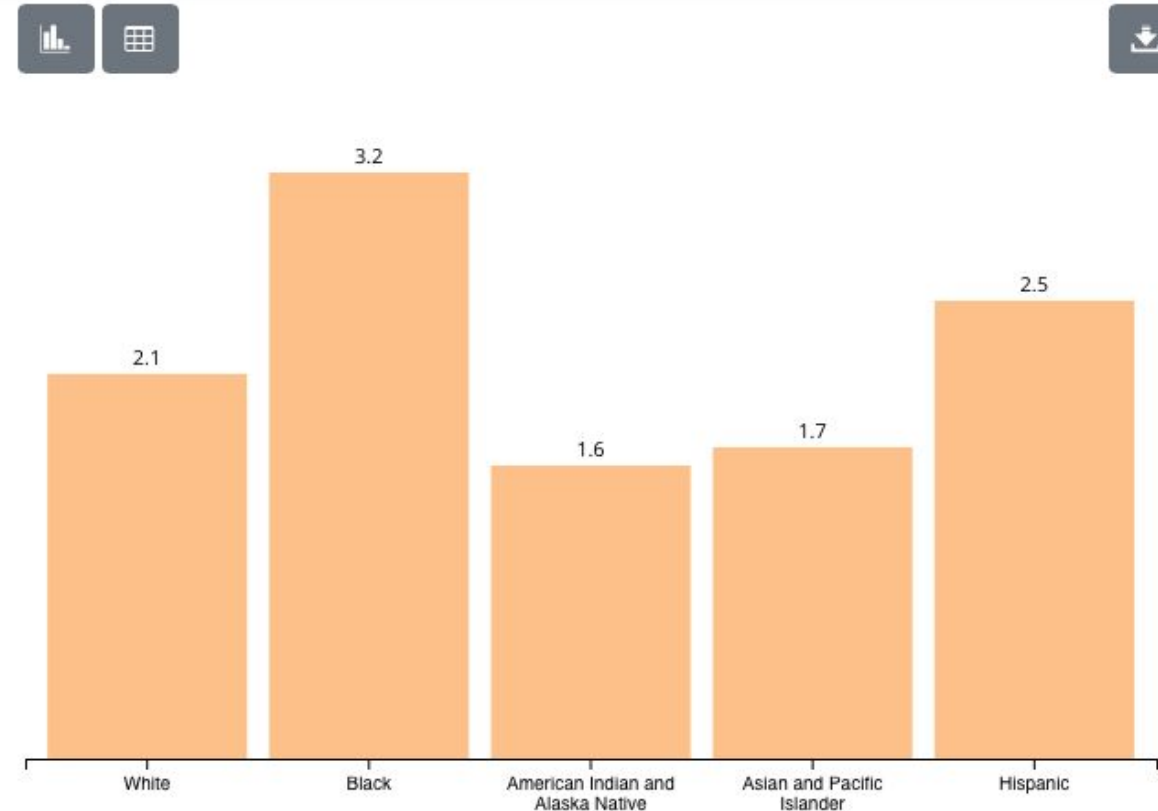
Rate per 100,000 women



## Rate of Cancer Deaths By Race and Ethnicity, Female

Cervix

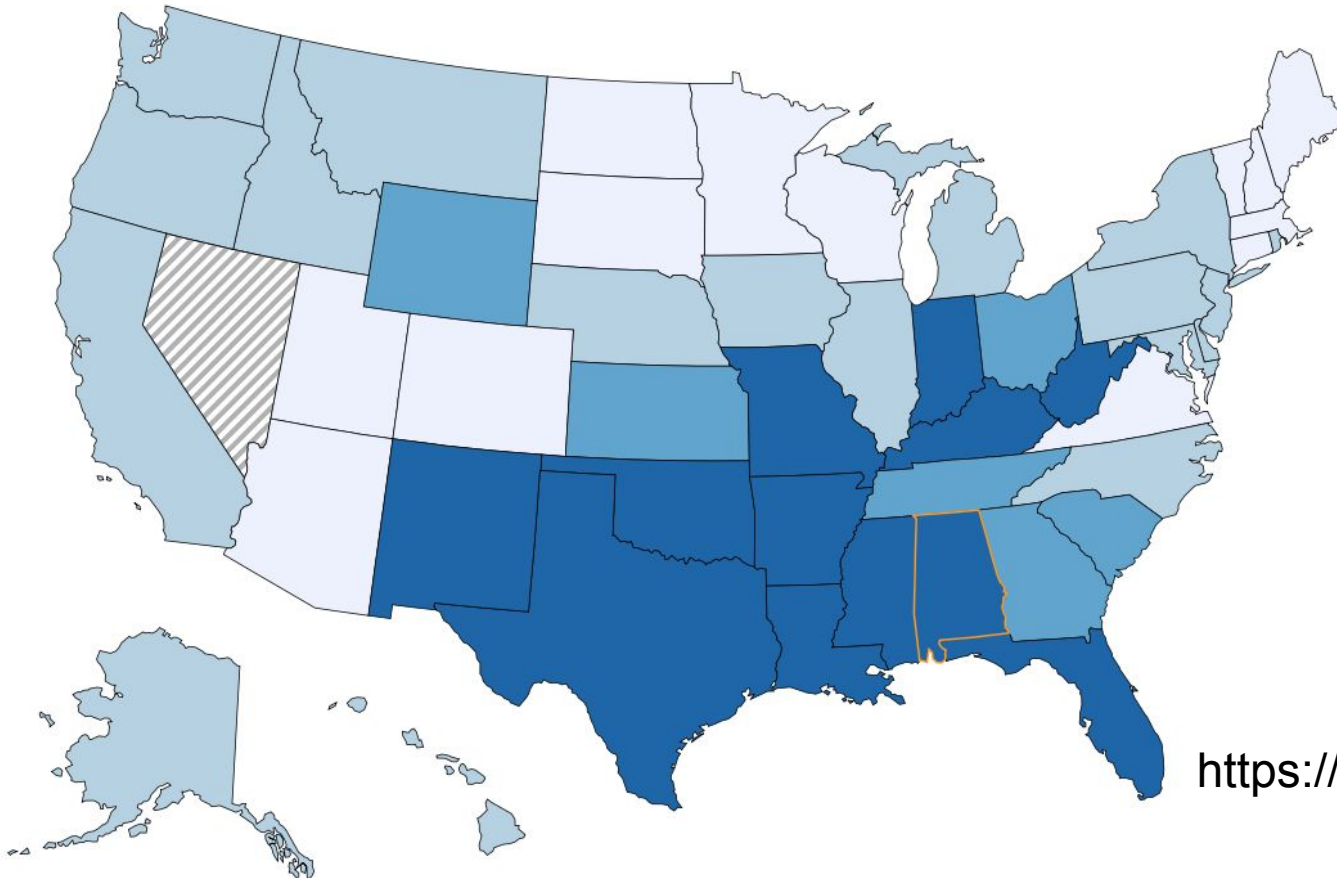
Rate per 100,000 women



# CERVICAL CANCER INCIDENCE 2015-2019

## Rate of New Cancers in the United States, 2015-2019

Cervix, All Ages, All Races and Ethnicities, Female  
Rate per 100,000 women

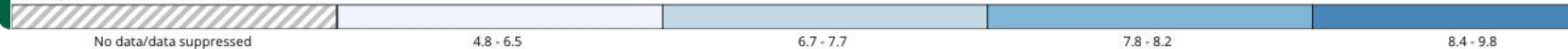


Kentucky = 9.8/100,000  
Oklahoma = 9.7/100,000  
Arkansas/Alabama = 9.5/100,000

- DC
- MD
- DE
- NJ
- CT
- RI
- MA
- VT
- NH

<https://gis.cdc.gov/Cancer/USCS/#/AtAGlance/>

Rate per 100,000 women

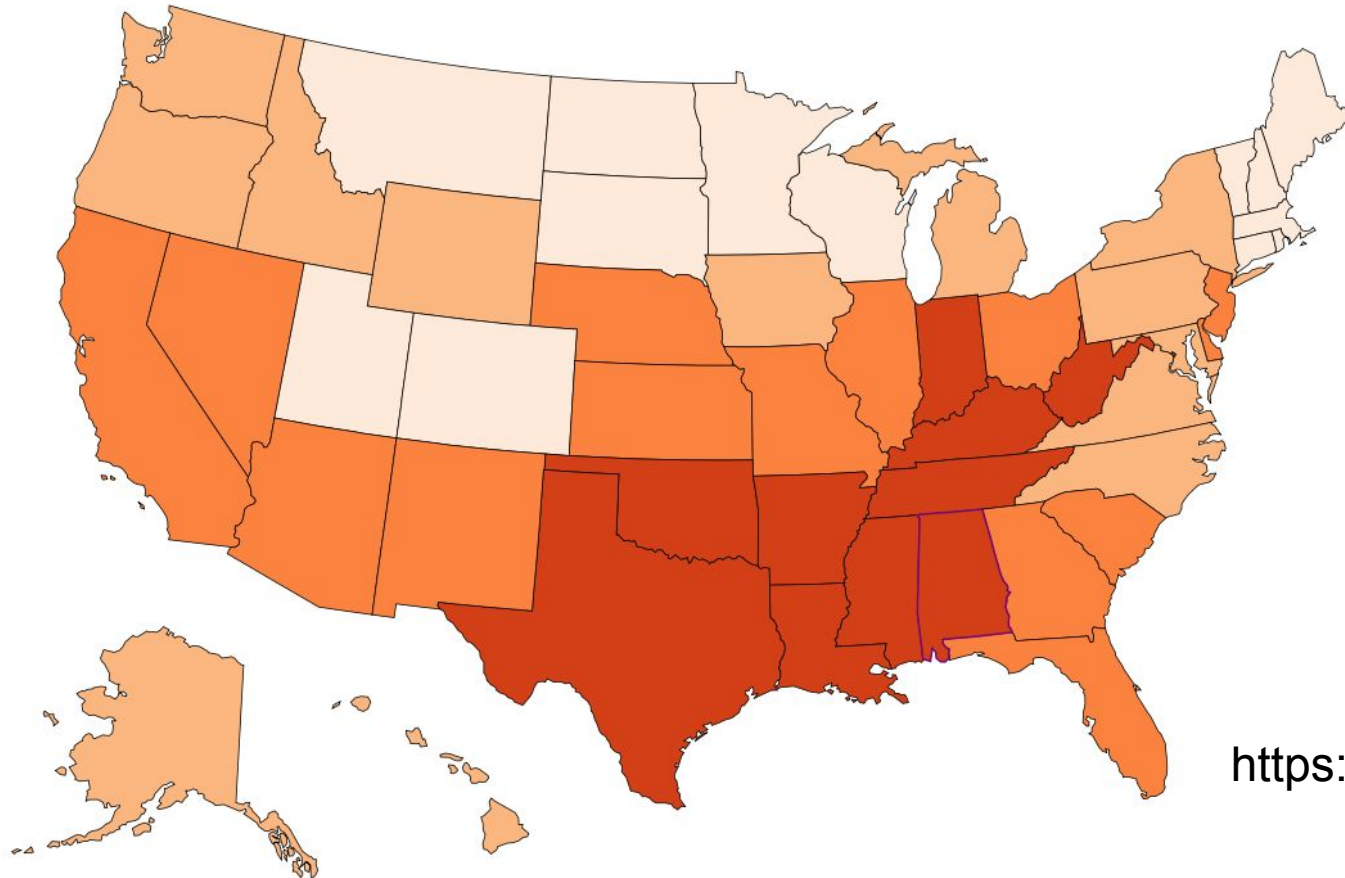




# CERVICAL CANCER MORTALITY 2015-2019

## Rate of Cancer Deaths in the United States, 2015-2019

Cervix, All Ages, All Races and Ethnicities, Female  
Rate per 100,000 women



Oklahoma = 3.5/100,000  
Arkansas/Mississippi = 3.4/100,000  
Louisiana/Alabama = 3.2/100,000

- DC
- MD
- DE
- NJ
- CT
- RI
- MA
- VT
- NH

<https://gis.cdc.gov/Cancer/USCS/#/AtAGlance/>

Rate per 100,000 women

1.0 - 1.6

1.7 - 2.0

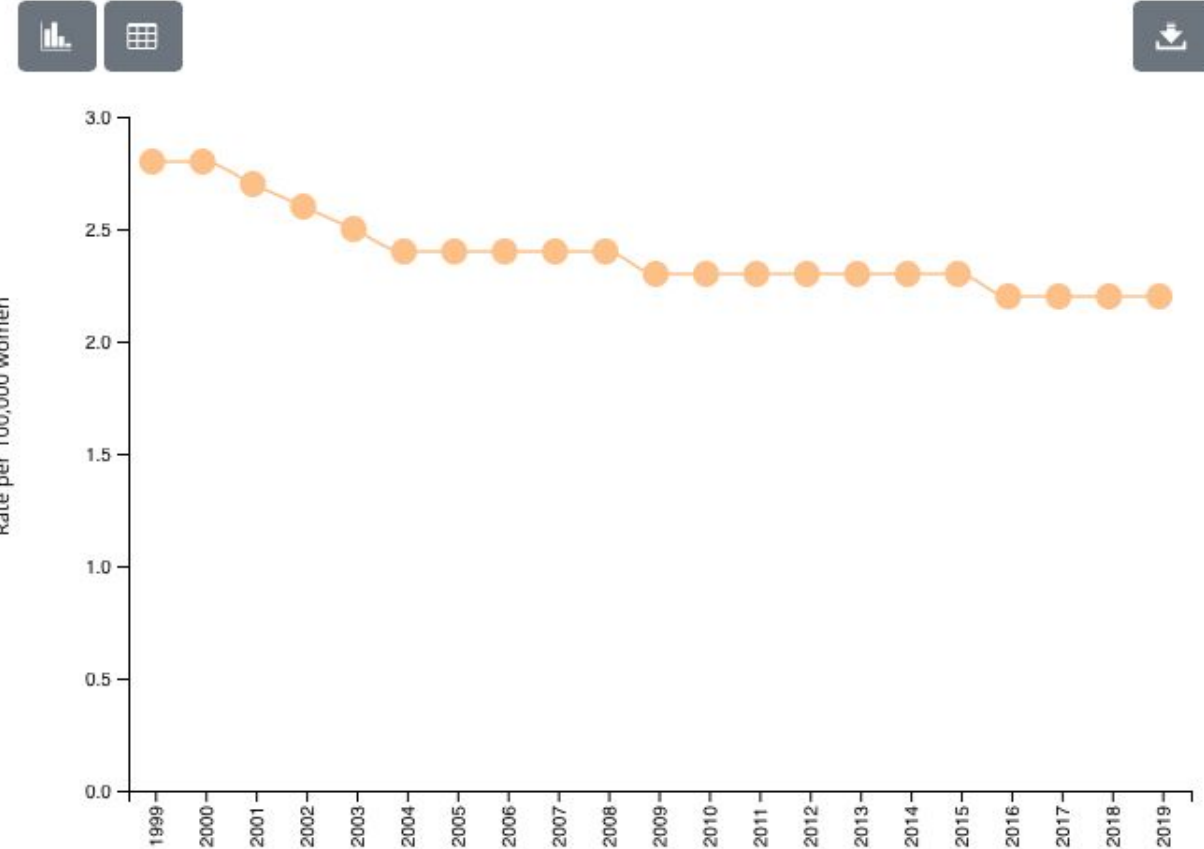
2.1 - 2.6

2.7 - 3.5

# CERVICAL CANCER MORTALITY TREND – 1999-2019

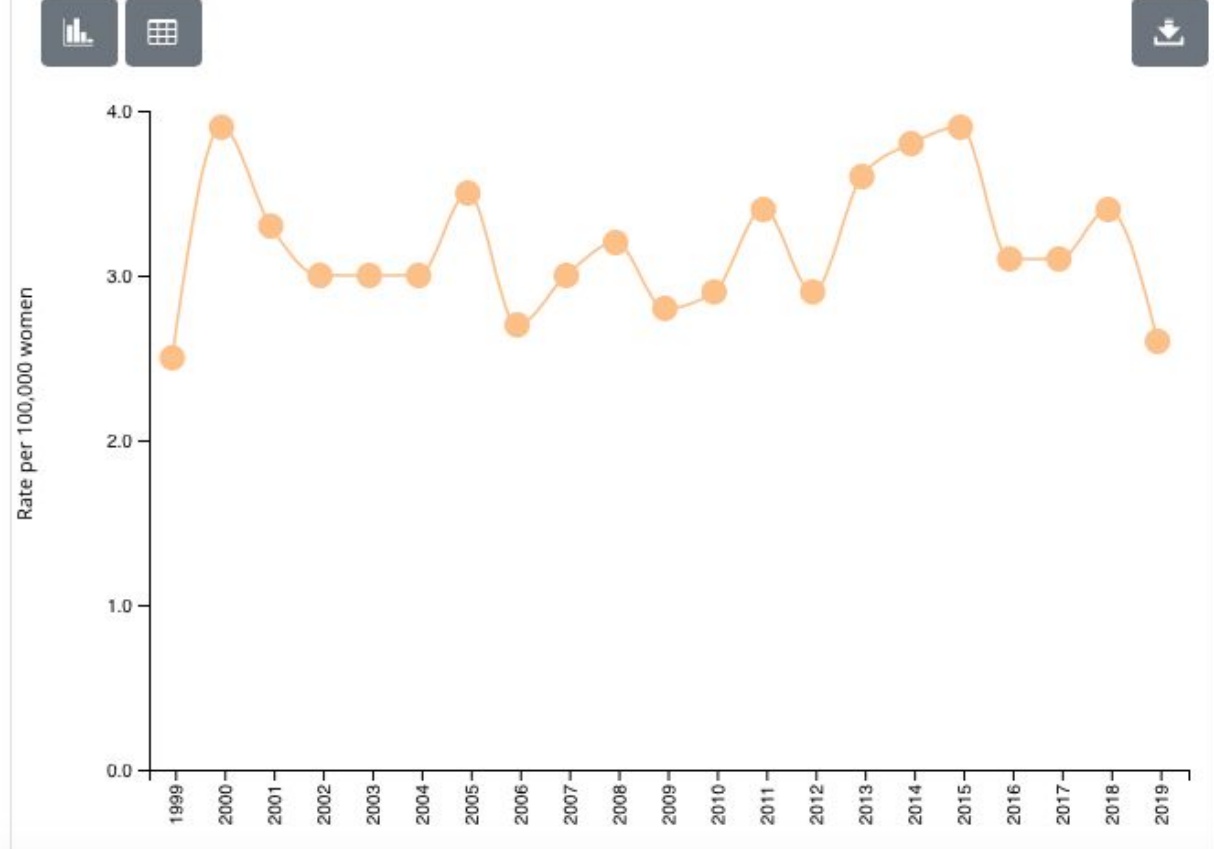
## Annual Rates of Cancer Deaths, 1999-2019

United States



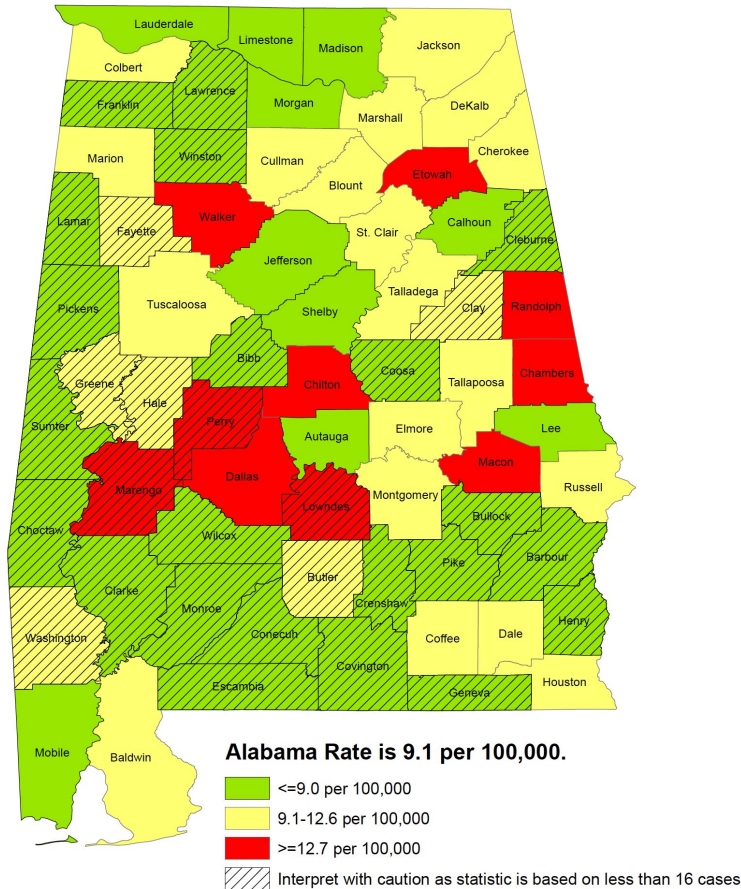
## Annual Rates of Cancer Deaths, 1999-2019

Alabama



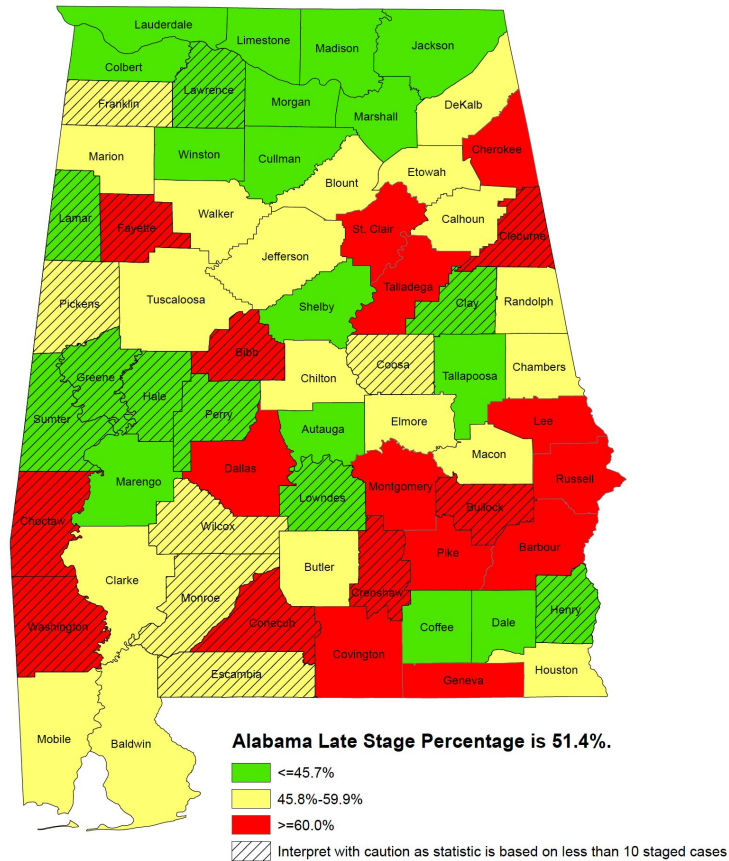
# CERVICAL CANCER IN ALABAMA: 2010 - 2019

Incidence Rates in Alabama  
All Races Combined



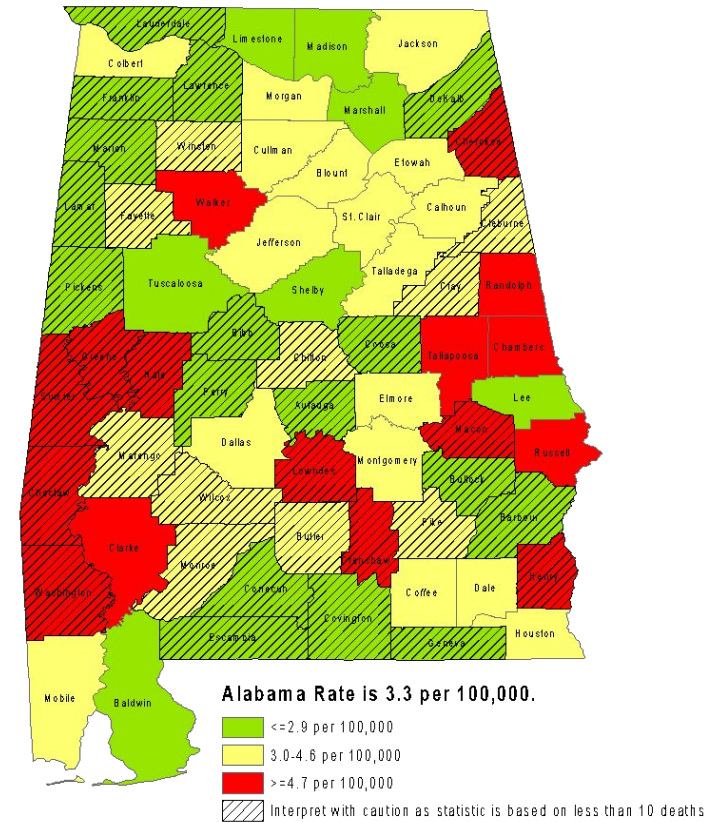
Rates are per 100,000, are for malignant tumors only, and are age-adjusted to the 2000 US (19 age group) standard. County groupings were determined using natural breaks (Jenks).  
Source: Alabama Statewide Cancer Registry, 2022

Late Stage\* Percentage in  
Alabama



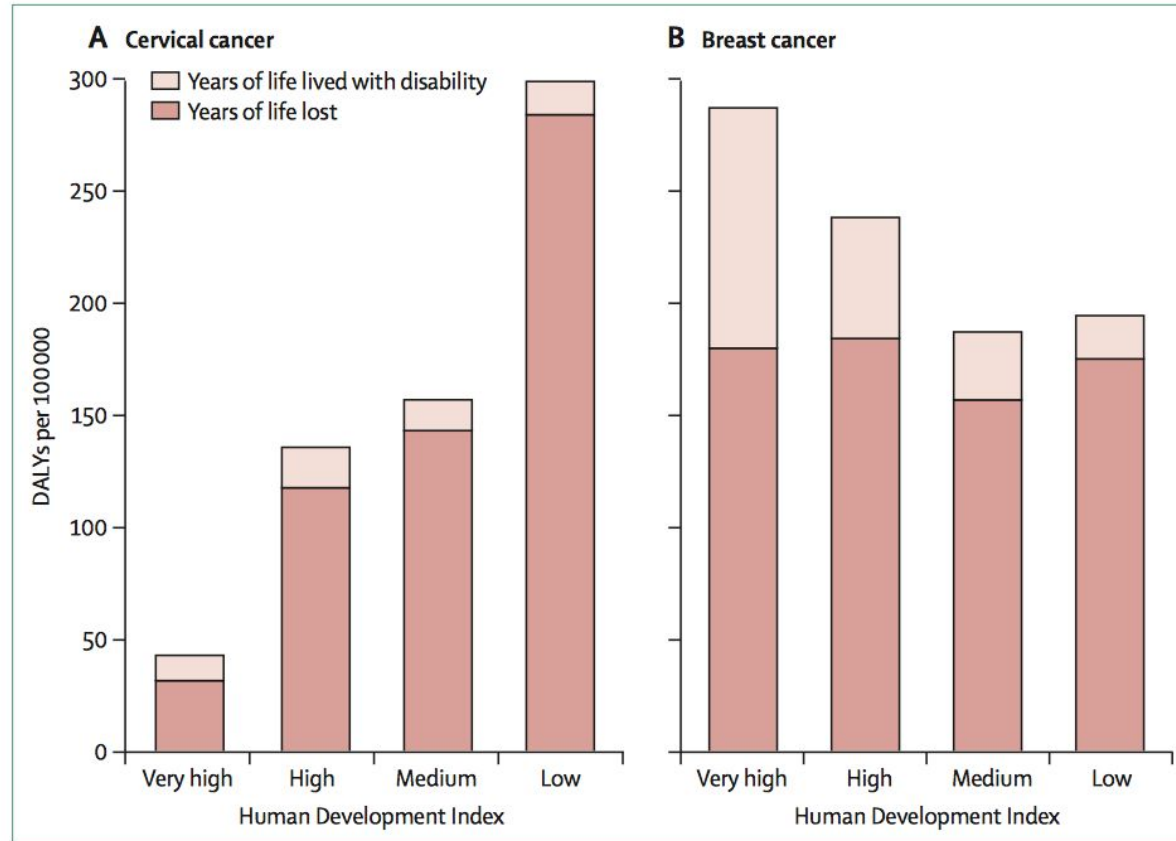
Late Stage is defined as Regional or Distant grouping according to the SEER staging variable for the appropriate year. County groupings were determined using natural breaks (Jenks).  
Source: Alabama Statewide Cancer Registry, 2022

Cervical Cancer Mortality Rates in Alabama  
2010-2019, All Races Combined



Rates are per 100,000, are for malignant tumors only, and are age-adjusted to the 2000 US (19 age group) standard. County groupings were determined using natural breaks (Jenks).  
Source: Alabama Statewide Cancer Registry and Alabama Department of Vital Statistics, 2022

# CERVICAL CANCER AS A DISEASE OF POVERTY



**Figure 5: Age-adjusted DALYs per 100 000 population for cervical and breast cancer in 2008 according to Human Development Index quartile**

(A) Cervical cancer. (B) Breast cancer. DALYs=disability-adjusted life-years. Data are from Soerjomataram and colleagues.<sup>2</sup>

Copied from Ginsburg et al., 2016

# THE DISCOVERY OF HPV AS THE MAIN CAUSE OF CERVICAL CANCER ...

✓ The old stepwise progression pathology model (low-grade to high-grade morphologic changes) has been replaced by a 4-stage approach:

- ✓ HPV acquisition
- ✓ HPV persistence (or clearance)
- ✓ Progression of a persisting infection to cervical pre-cancer
- ✓ Invasion (Wright & Schiffman, 2003)



**HPV Vaccination  
&  
HPV Testing**

# The Discovery-Delivery Disconnect



This ***discovery to delivery*** “disconnect” is a key determinant of the unequal burden of cancer.

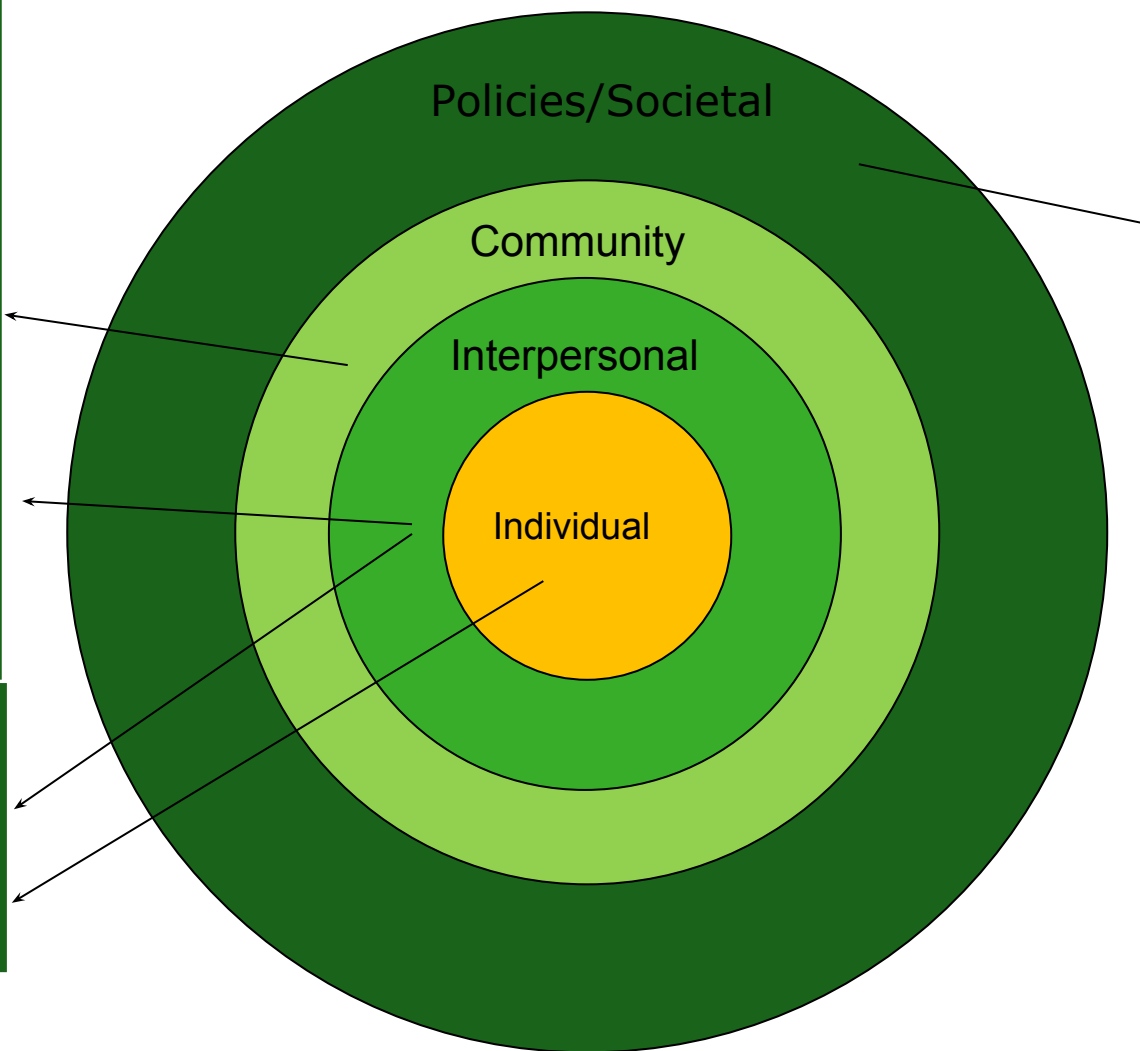
*Voices of a Broken System: Real People, Real Problems*  
President’s Cancer Panel, Harold Freeman, March 2002

# WHY SUCH “DISCONNECT”? THROUGH MY LENS...

- Few studies validating theoretical models of behavior change among populations experiencing high disease burden
- “Culturally-Relevant” programs/interventions are broadly defined with multiple challenges in implementation, dissemination and reproducibility

Limited (or none) involvement of the target audience in the development of interventions





## Social-Ecological Framework



- Guidelines have been mostly based on the “science” without taking into account availability of resources
- Lack of clear definition and/or understanding of sub-populations experiencing high burden of disease
- Behavioral scientists have not been involved in the development of screening technologies & basic/epidemiology scientists are not involved in the delivery

# TOO COMPLEX????

## 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



# LET'S BREAK IT DOWN



- Health disparities vs. health equity
- What can each of us can do?
  - System level
  - Education level
  - Day to day practice
  - Social mobilization

# SYSTEM LEVEL – START AT HOME ...

- Ongoing reliable data collection on social determinants of health
  - Are the demographics of the population we are serving reflective of the demographics of our geographic area?
  - What are our successes? Celebrate them 😊
  - What can we do better?
- Are we providing health care that is equitable?
- How is our research informing the care we deliver?
- How the care we deliver informing research?
- We are the institution !!!

# EDUCATION

*Current Commentary*

## Health Equity Morbidity and Mortality Conferences in Obstetrics and Gynecology

Obstetrics & Gynecology,  
Vol. 138, 2021

*Keith Reisinger-Kindle, DO, MPH, Divya Dethier, MD, Victoria Wang, MD, Preetha Nandi, MD, MPH,  
Erin Tracy Bradley, MD, MPH, Megan L. Evans, MD, MPH, Luu Doan Ireland, MD, MPH,  
David Dhanraj, MD, MBA, and Allison S. Bryant, MD, MPH*

## Health Equity Conference at UAB Ob/Gyn

- Working group
- “Blink”, Malcom Gladwell – address our own biases first

# HEALTH EQUITY CONFERENCE

- PREMISE: conference can serve as a natural stage for the examination of systematic inequities in health care
- Regular schedule
- Involvement of team members who participated in the care of the patients being reviewed
- Senior team member facilitation
- Clearly articulated goals and objectives
- Culture in which all are able to freely speak about medical errors without fear of retribution, punishment, or legal disclosure
- Reinforcement of system-wide priorities of high-quality care
- Focus on areas for improvement

# IMPLEMENTATION RECOMMENDATIONS

- Use caution with case selection
- Invite an inclusive and multidisciplinary list of attendees
- Lead discussions using a trained facilitator
- Create an environment with a focus on “Just Culture”
- Center the patient’s voice
- Analyze beyond implicit bias
- Be purposefully intersectional
  - Involves the examination of categories of race/ethnicity, social class, gender, sexual orientation, place of residence, educational attainment
- Identify ways to interrupt problematic systems
- Organize post session debriefs and feedback

# DAY-TO-DAY PRACTICE

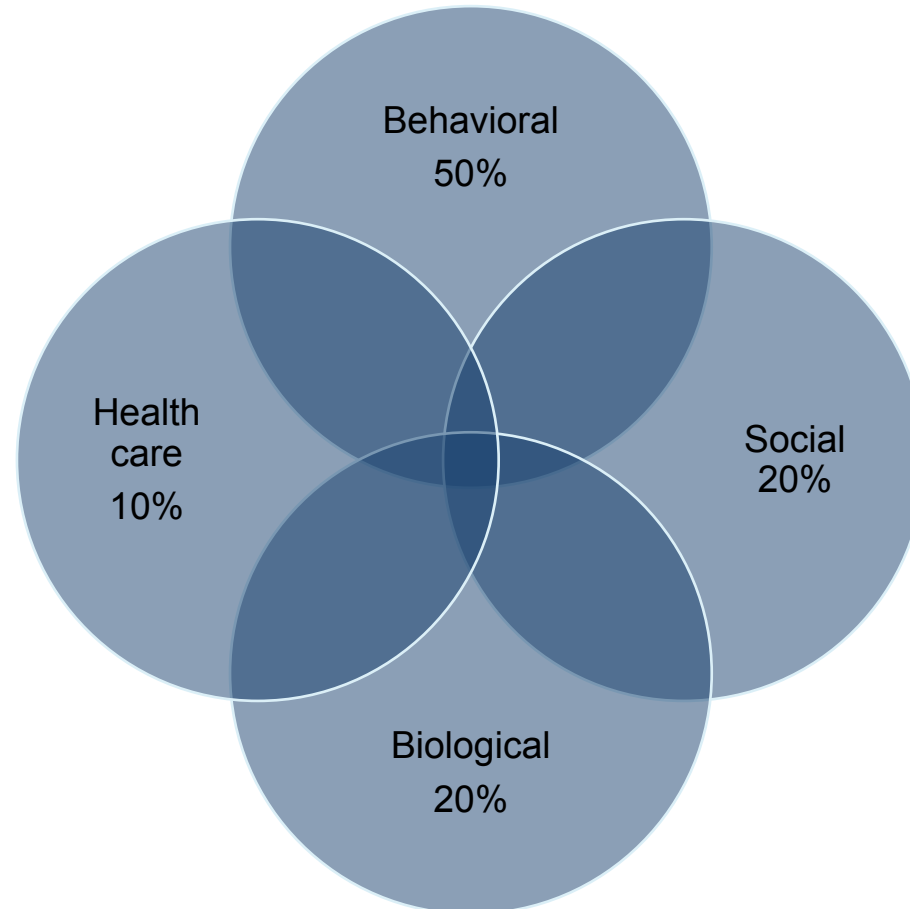
## OPEN QUESTIONS

- Invitation to tell their story without leading the patient in a specific direction
- Listen to their story ...
- “Thin-slicing” vs. snap judgements
  - Help me understand \_\_\_\_?
  - What bother you the most about \_\_\_\_?
  - What do you think you can change?
- From the problem-focused we can expand to the environment – social determinants of health

**Table 2. Behavior Change Strategies Reported by Top- and Bottom-Performing Clinicians**

Strategy	Clinicians Reporting Strategy, No.	
	Top-Performing Clinicians (n = 10)	Bottom-Performing Clinicians (n = 10)
Used mainly by top-performing group		
Emphasizing patient ownership	8	3
Partnering with patients	9	3
Identifying small steps	10	3
Scheduling frequent follow-up visits	7	3
Showing caring	5	1
Used by both groups		
Reliance on team supports	10	7
Used mainly by bottom-performing group		
Describing consequences of bad health behaviors	2	8

# DETERMINANTS OF HEALTH DISPARITIES



McGinnis JM, Foege WH. *Actual causes of death in the United States.*

JAMA. 1993;270(18):2207-12. Epub 1993/11/10.

# WHAT ARE THE SOCIAL DETERMINANTS OF HEALTH?

- The circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness.
- These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics.



Commission on Social Determinants of Health (CSDH), *Closing the gap in a generation: health equity through action on the social determinants of health. Final report of the Commission on Social Determinants of Health*. 2008, World Health Organization: Geneva.



# Assessing Social Determinants of Health

- Screening tools
- Team-based approach (formal or informal)
- Open-ended questions

Be prepared to deal with the answers...

## Addressing Social Determinants of Health in Primary Care

TEAM-BASED APPROACH FOR ADVANCING HEALTH EQUITY

*"Health inequalities and the social determinants of health are not a footnote to the determinants of health. They are the main issue."*

— Sir Michael Marmot

The EveryONE Project™  
Advancing health equity in every community



### HOUSING

1. Are you worried or concerned that in the next two months you may not have stable housing that you own, rent, or stay in as a part of a household?  
 Yes  
 No

2. Think about the place you live. Do you have problems with any of the following? (check all that apply)  
 Bug infestation  
 Mold  
 Lead paint or pipes  
 Inadequate heat  
 Queen or stove not working  
 No or not working smoke detectors  
 Water leaks  
 None of the above

### FOOD

3. Within the past 12 months, you worried that your food would run out before you got money to buy more.  
 Often true  
 Sometimes true  
 Never true

4. Within the past 12 months, the food you bought just didn't last and you didn't have money to get more.  
 Often true  
 Sometimes true  
 Never true

### TRANSPORTATION

5. Do you put off or neglect going to the doctor because of distance or transportation?  
 Yes  
 No

### UTILITIES

6. In the past 12 months has the electric, gas, oil, or water company threatened to shut off services in your home?  
 Yes  
 No  
 Already shut off

### CHILD CARE

7. Do problems getting child care make it difficult for you to work or study?  
 Yes  
 No

### EMPLOYMENT

8. Do you have a job?  
 Yes  
 No

### EDUCATION

9. Do you have a high school degree?  
 Yes  
 No

### FINANCES

10. How often does this describe you? I don't have enough money to pay my bills?  
 Never  
 Rarely  
 Sometimes  
 Often  
 Always

### PERSONAL SAFETY

11. How often does anyone, including family, physically hurt you?  
 Never (1)  
 Rarely (2)  
 Sometimes (3)  
 Fairly often (4)  
 Frequently (5)
12. How often does anyone, including family, insult or talk down to you?  
 Never (1)  
 Rarely (2)  
 Sometimes (3)  
 Fairly often (4)  
 Frequently (5)

13. How often does anyone, including family, threaten you with harm?  
 Never (1)  
 Rarely (2)  
 Sometimes (3)  
 Fairly often (4)  
 Frequently (5)

14. How often does anyone, including family, scream or curse at you?  
 Never (1)  
 Rarely (2)  
 Sometimes (3)  
 Fairly often (4)  
 Frequently (5)

15. Would you like help with any of these needs?  
 Yes  
 No

### ASSISTANCE

15. Would you like help with any of these needs?  
 Yes  
 No

### SCORING INSTRUCTIONS:

For the housing, food, transportation, utilities, child care, employment, education, and finances questions: Underlined answers indicate a positive response for a social need for that category.

For the personal safety questions: A value greater than 10, when the numerical values are summed for answers to these questions, indicates a positive response for a social need for personal safety.

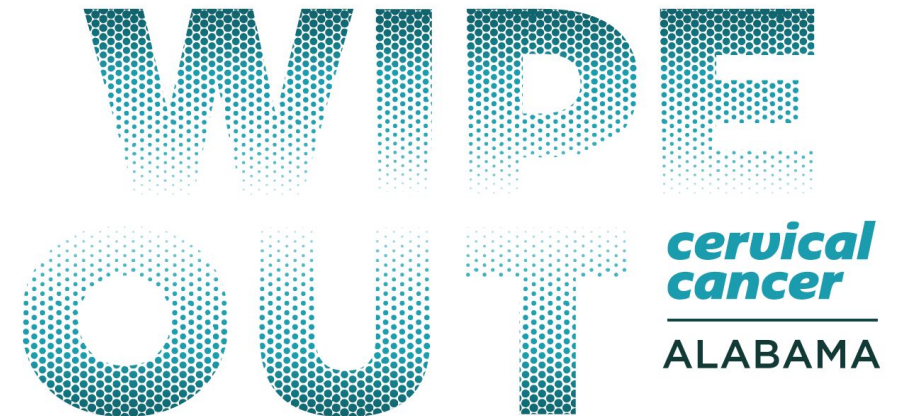
Sum of questions 11-14: \_\_\_\_\_  
Greater than 10 equals positive screen for personal safety.

### REFERENCES

1. [https://www.va.gov/HOMELESS/Universal\\_Screener\\_to\\_Identify\\_Veterans\\_ Experiencing\\_Housing\\_Instability\\_2014.pdf](https://www.va.gov/HOMELESS/Universal_Screener_to_Identify_Veterans_ Experiencing_Housing_Instability_2014.pdf)
2. Manuzamiri N, Boudreau M, Kaurucma K, Olson DP. Making the social determinants of health a routine part of medical care. *J Health Care Poor Underserved*. 2015;26(2):321-327.
3. Hager ER, Quigg AM, Black MM, et al. Development and validity of a 2-item screen to identify families at risk for food insecurity. *Pediatrics*. 2010;126(1):e28-e32.
4. Cook JT, Frank DA, Casay PH, et al. A brief indicator of household energy security: associations with food security, child health, and child development in US infants and toddlers. *Pediatrics*. 2008;122(4):e67-e75.
5. Children's HealthWatch. Final 2013 Children's HealthWatch survey. <http://www.childrenshealthwatch.org/methods/oursurvey/>. Accessed October 3, 2018.
6. Garg A, Balz AM, Dawson RH, Lewis RA, Thompson RE, Somers JR. Improving the management of family psychosocial problems at low-income children's well-child care visits: the WE CARE project. *Pediatrics*. 2007;120(3):547-558.
7. Aldana SG, Lilienquist W. Validity and reliability of a financial strain survey. *J Altern Compl Plan*. 1999;9(2):119.
8. Sherrin KM, Srinivasan JM, Li XQ, Ziller RE, Shakeri A. HTS: a short domestic violence screening tool for use in a family practice setting. *Fam Med*. 1998;30(7):568-572.

# SOCIAL MOBILIZATION

- Utilize our credibility as health care professionals to engage the civil society
- **OPERATION WIPE OUT**
  - Partnership to eliminate cervical cancer as a public health problem in Alabama
  - Started in the county with highest burden of disease – Chambers County
  - Cervical Cancer Summit – primary care providers with representation from most counties in the state
  - Cervical cancer Elimination Plan
  - NOT a university-led effort - true partnership!



# LESSONS LEARNED AND STILL LEARNING ...

- Health equity is everyone's responsibility
- Before we create expectations we must understand the infrastructure, political will, opposition forces & allies, and hidden agendas
- We must practice what we preach
- Commit !!! Then, we can figure it out

**THANK YOU**

