





Advancing Equity in Diabetes Management - The Role of Racial Disparities in outcomes: How to address in the clinic

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Chair, Clinical Affairs Core Committee



Science Advisory Group for the Know
Diabetes by Heart Initiative



Co-Chair, Social Determinants
of Health Committee

Biography

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NIH-Clinical Research Training Program Fellow
Internal Medicine Residency, Yale University School of Medicine
Clinical Instructor, Yale University School of Medicine
Endocrinology Fellowship, Johns Hopkins University School of Medicine
Associate Professor of Medicine, The Ohio State University School of
Medicine

- Clinical Focus: Diabetes and Cardiovascular Disease
- Research Focus: Diabetes and Cardiovascular Disease Health Equity through evaluation of: 1) Stress Hormones; 2) Clinic-Community Linkages; and 3) Community-Based Participatory Research



Relevant Disclosures

Financial Disclosures: None

Unlabeled/Unapproved Uses Disclosure: None

Grant Funding:

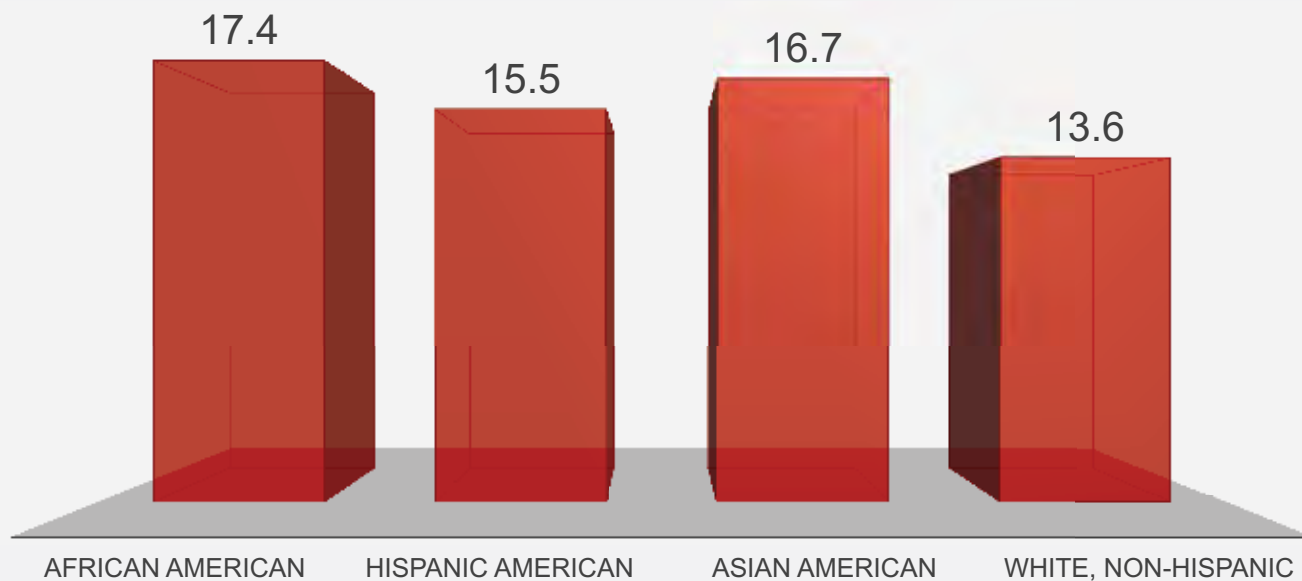
- NIH-NIDDK (R01, R01, K23)
- AHRQ (R01)
- Robert Wood Johnson Foundation
- US Department of Defense
- AHA Strategically Focused Research Network
- OSU - Quality, Safety, Community and Innovation Grant
- OSU - Patient Care Delivery Awards Program

Objectives

- Define the inequities and underlying root causes of inequities in diabetes rates, treatment, and outcomes
- Quality Improvement to Address Diabetes Disparities in the Clinic
- Explore potential solutions to diabetes treatment and care inequities through “Clinic-to-Community” Linkages



Prevalence of diagnosed and undiagnosed diabetes by race/ethnicity among adults aged ≥ 18 years, United States, 2017-2020

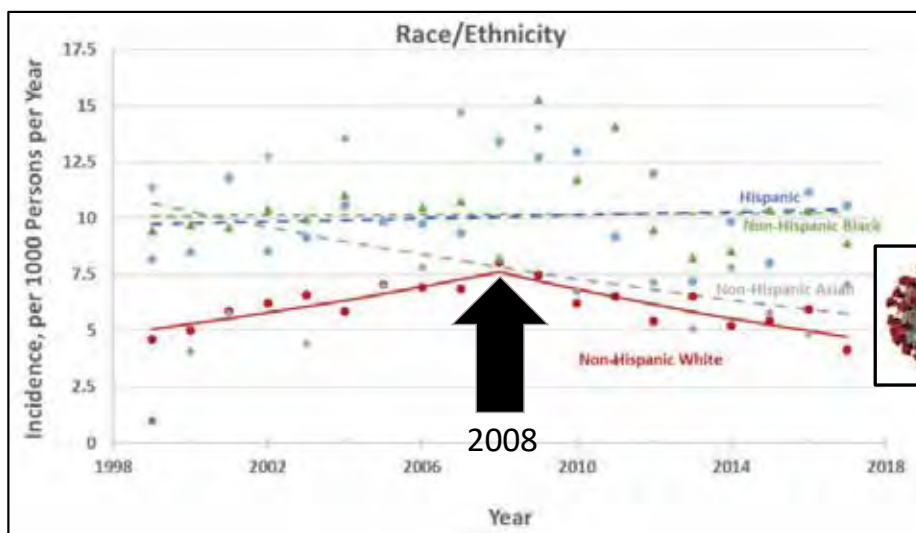


■ Percentage

National Diabetes Statistics Report, CDC, 2022

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Incidence of Diabetes by Race/Ethnicity 1998-2018

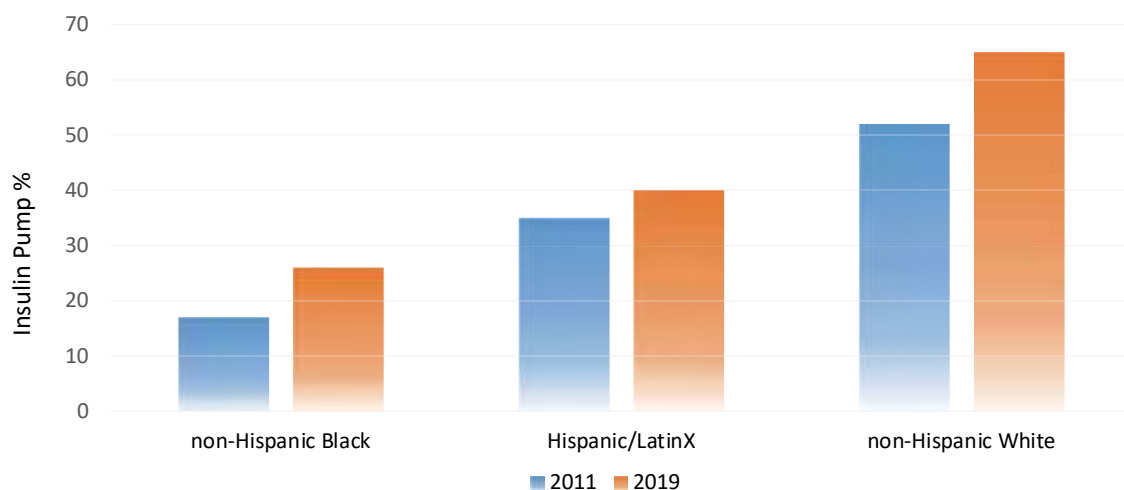


Geiss LS et al, *JAMA*, 2014; Benoit...Gregg, *BMJ Open Diabetes Res & Care*, 2019



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INSULIN PUMP USE IN CHILDREN 2005–2019



Similar Findings When Adjusted for Insurance Status

Terri H. Lipman et al. Insulin pump use in children with type 1 diabetes: Over a decade of disparities. *Journal of Pediatric Nursing* (2020).



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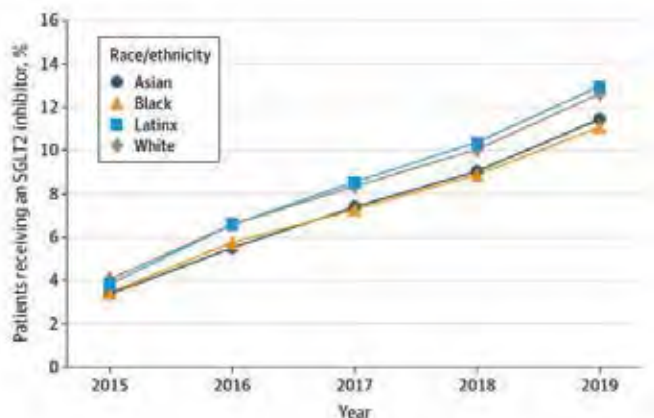
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SGLT-2 Inhibitor Use by Race/Ethnicity



Eberly, Essien, et al. *JAMA Open*, 2021

GLP-1 RA use by Race/Ethnicity & Socioeconomic Status

Compared with White individuals:

- Asian (aOR, 0.59; 95% CI, 0.56-0.62)
 - Black (aOR, 0.81; 95% CI, 0.79-0.83)
 - Hispanic (aOR, 0.91; 95% CI, 0.88-0.93)
- individuals had lower GLP-1 RA use

Higher annual median household incomes (>\$100,000 and \$50,000-\$99,999) vs. <\$50k were associated with higher GLP-1 RA use:

- aOR 1.13 [95% CI, 1.11-1.16]
- aOR 1.07 [95% CI, 1.05-1.09]

Eberly, Essien et al., *JAMA Health Forum*, 2021

OptumInsight Clinformatics Data Mart database (Optum Inc), a large administrative private payer claims database of recipients of commercial health insurance and Medicare Advantage health plans.



Pitt School of Medicine

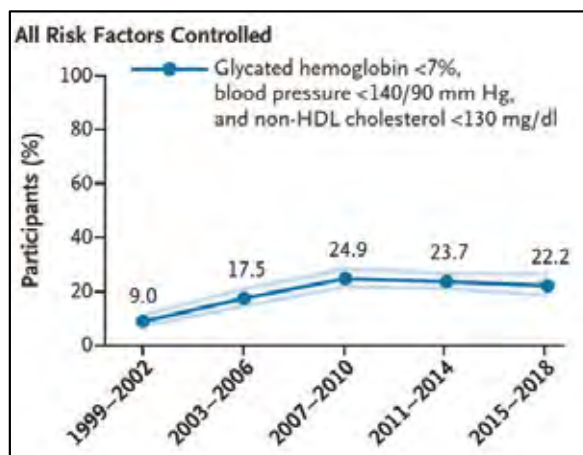
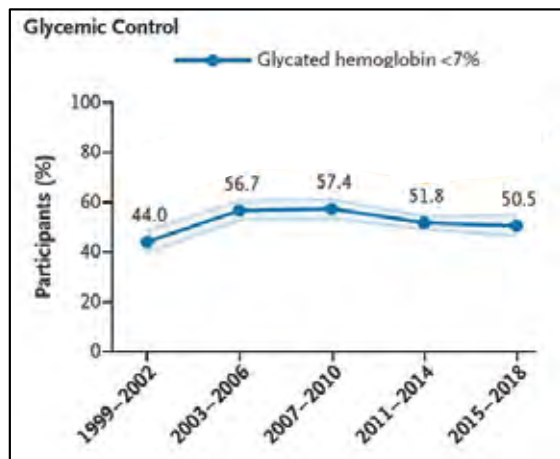
UTIBE R. ESSIEN, MD, MPH



@URESSIEN



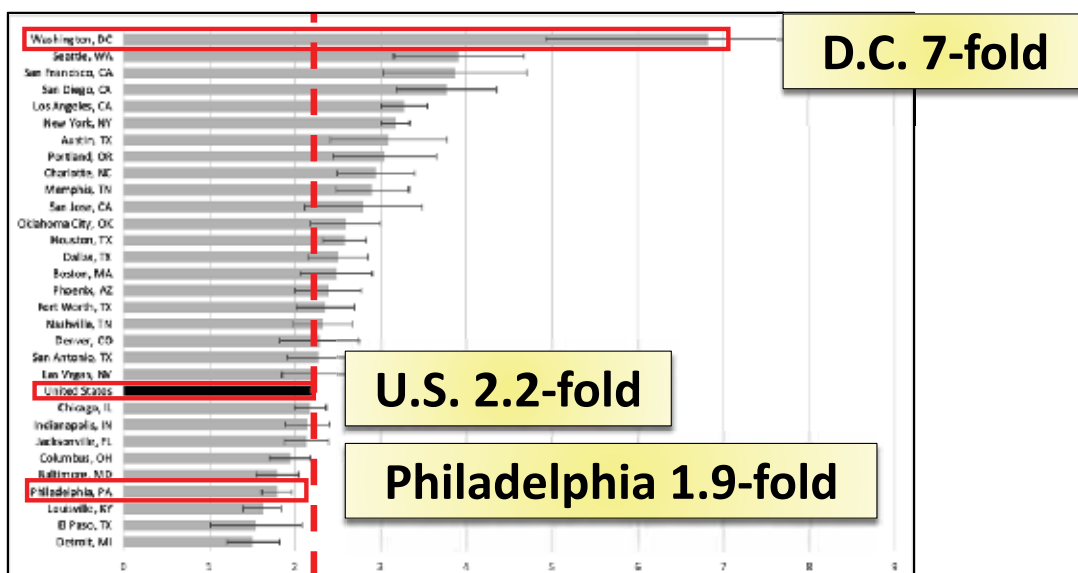
Prevalence of Diabetes Control from 1999 to 2018



Disparities in Minoritized, Rural & Lower Socioeconomic Status Populations

Fang, Wang, Coresh, Elizabeth Selvin, NEJM 2021

U.S. Black/white mortality rate ratios 2013-2017

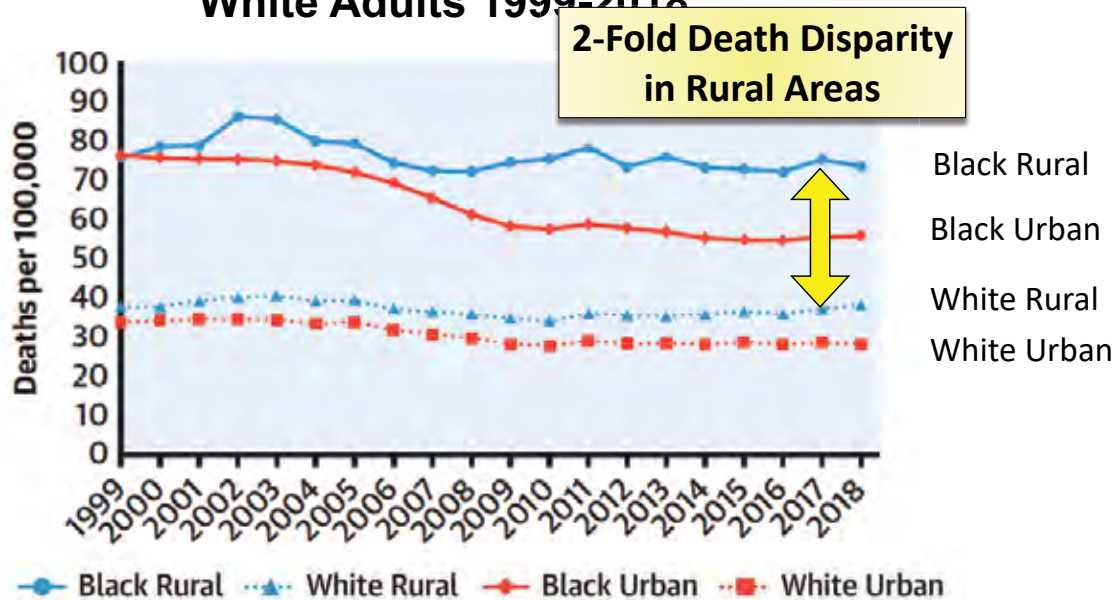


US Diabetes Mortality Ratio 2.2

Buscemi et al., Diabetes Research and Clinical Practice, 2021



Rural-Urban Disparities in Diabetes Mortality Among Black and White Adults 1999-2018



Aggarwal et al, JACC 2021

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JACC Focus Seminar: RACE, ETHNICITY, AND HEART DISEASE

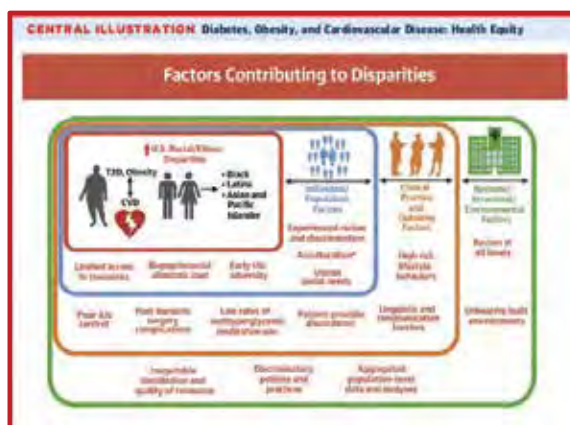
Cardiovascular Impact of Race and Ethnicity in Patients With Diabetes and Obesity

JACC Focus Seminar 2/9

Joshua J. Joseph, MD, MPH,* Rukar Ota, MD,* Tucker Ashburn, MD, MPH,* Shontia H. Golden, MD, MBS,* Lenny López, MD, MPH, MEd,* Prakash Deedwania, MD*

ABSTRACT

Obesity and type 2 diabetes mellitus are highly prevalent and increasing in the United States among race/ethnicity groups. Type 2 diabetes mellitus, which is driven by many factors including elevated levels of adiposity, is an example health disparities disease. Persistent disparities exist at every level from risk factors through outcomes for U.S. racial/ethnic minority groups, including African American, Hispanic/Latino American, and Asian American populations. Disparities in clinical care exist including hemoglobin A1c control, lower prescription rates of newer antihyperglycemic medications, along with greater rates of complications postoperative surgery. Understanding these disparities are the social determinants of health affecting provider-patient interactions, access to resources, and healthy food environments. We review the best practices to address cardiovascular disparities in the current cardiovascular guidelines and describe recommendations for cross-cutting strategies to advance equity in obesity and type 2 diabetes across U.S. racial/ethnic groups. (J Am Coll Cardiol 2021;118:2475-2482) © 2021 by the American College of Cardiology Foundation.



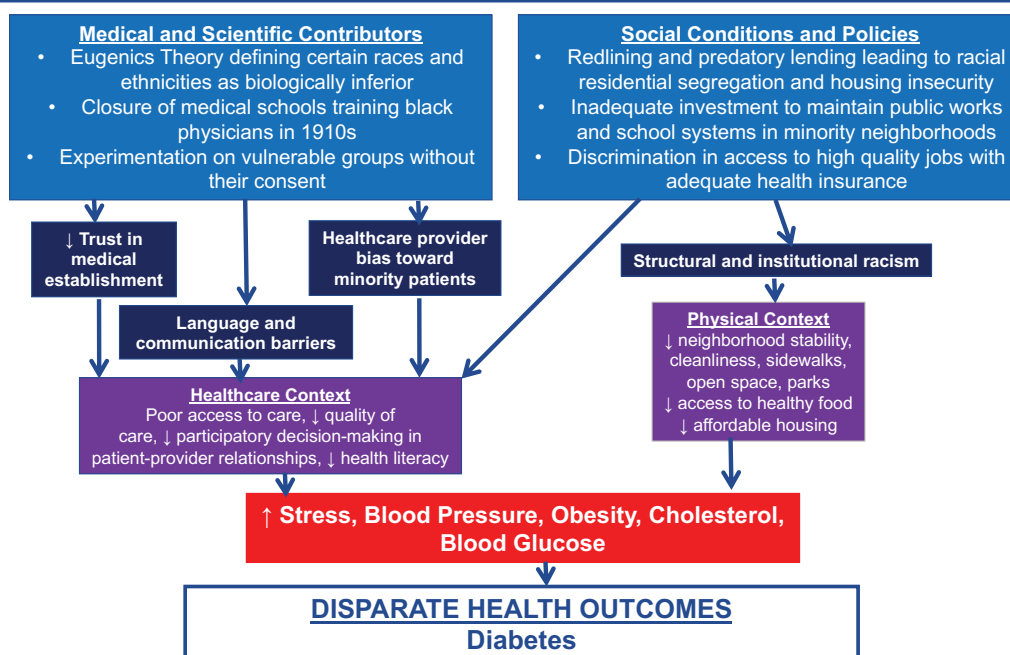


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What are the Roots of Diabetes Inequities?

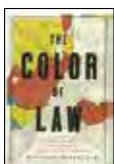
HISTORICAL DISCRIMINATION AND RACISM DURING SLAVERY AND POST-CIVIL WAR





Redlining

- The Federal Housing Administration (FHA), operated through the New Deal's National Housing Act of 1934, promoted homeownership by providing federal backing of loans—guaranteeing mortgages
- 1936 Residential Security Maps were developed color-coded by first the Home Owners Loan Corp. and then the Federal Housing Administration and then adopted by the Veterans Administration, and these color codes were designed to indicate where it was safe to insure mortgages for appraisers
- **Best – green, still desirable – blue, yellow – declining, red – hazardous**
- The FHA subsidized mass produced subdivisions for White Americans — with the requirement that none of the homes be sold to African Americans
- Areas where African-Americans lived were colored **red** to indicate to appraisers that these neighborhoods were too risky to insure mortgages
- **Redlining**



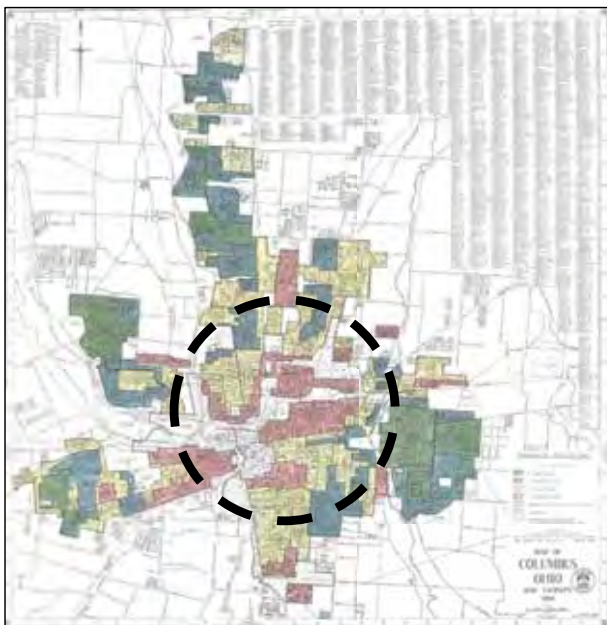
➤ Richard Rothstein – The Color of Law

➤ <https://www.segregatedbydesign.com> (17 min)

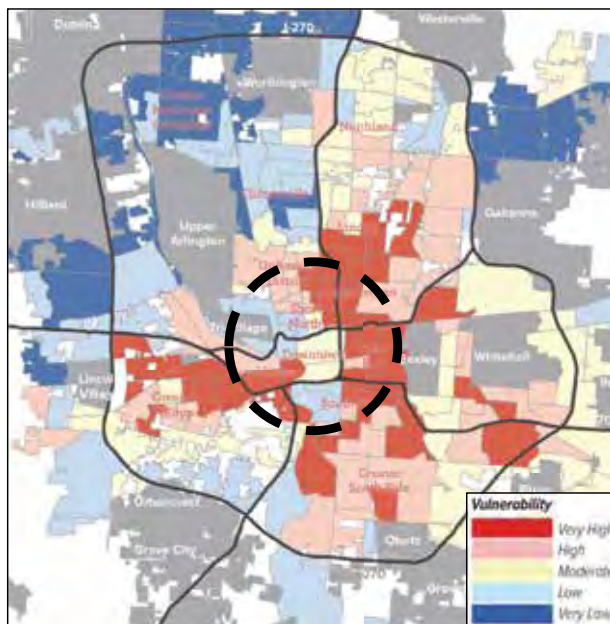
➤ <https://www.npr.org/2017/05/03/526655831/a-forgotten-history-of-how-the-u-s-government-segregated-america> (35 min)

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1936 – HOLC MAP



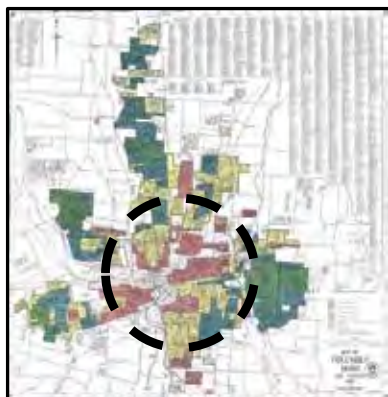
Present-day Social Vulnerability





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Residential Security Map



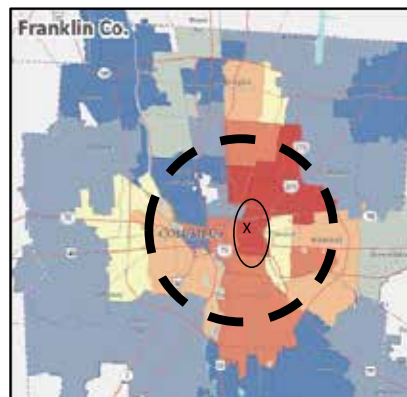
Green - Best
Blue - Still desirable
Yellow - Declining
Red - Hazardous

Diabetes Prevalence



Blue = high prevalence
Yellow = low prevalence

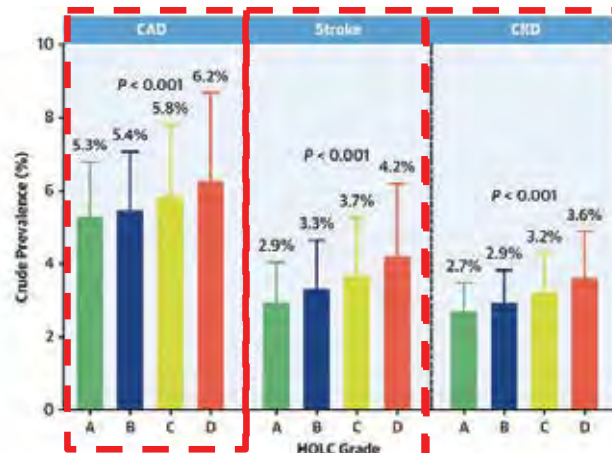
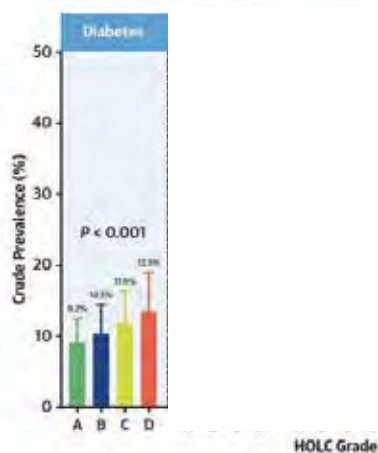
Diabetes Hospital Admissions



Red = high
Blue = low

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Historical Neighborhood Redlining and Contemporary Cardiometabolic Risk



Motairek et al, JACC, 2022



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1 unit-higher HOLC grades are associated with:

- 54% higher diabetes mortality
- 67% higher rate of diabetes years of life lost

Home Owners Loan Corporation (HOLC) redlining score explains census tract variation in:

- 45-56% diabetes mortality
- 51-60% diabetes years of life lost



Historic Residential Redlining and Present-day Diabetes Mortality and Years of Life Lost: The Persistence of Structural Racism: From Policy to Pathways to Biology – Linde, Walker, Campbell and Egede, *Diabetes Care*, 2022

Unjust Housing Practices Today





Objectives

- Define the inequities and underlying root causes of inequities in diabetes rates, treatment, and outcomes
- **Quality Improvement to Address Diabetes Disparities in the Clinic**
- Explore potential solutions to diabetes treatment and care inequities through “Clinic-to-Community” Linkages

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Sharing Best Practices to Improve Cardiovascular and Diabetes Health

Who We Are
Founded in 2017, the Ohio Cardiovascular and Diabetes Health Collaborative (CARDI-OH) is a statewide initiative of health care professionals who share knowledge to improve health outcomes of Medicaid patients and eliminate health disparities throughout Ohio.


What We Do
Experts at Ohio's seven medical schools identify, produce, and disseminate evidence-based cardiovascular and diabetes best practices to primary care teams.

How We Do It
Best practices resources are available via an online library at Cardi-OH.org, including monthly newsletters, podcasts, webinars, and virtual clinics using the Project ECHO[®] training model.



Learn more at Cardi-OH.org

Statewide Diabetes Quality Improvement with Reductions in A1c & Improvement in Process Measures



Achieving Cardiovascular Equity
Primary Care Hypertension Quality Improvement Project

- Quality Improvement Project
 - Meet frequently with practices
 - Frequent data collection & analysis
 - “Plan Do Study Act” cycles
- Goal: Reduce Hypertension Disparities

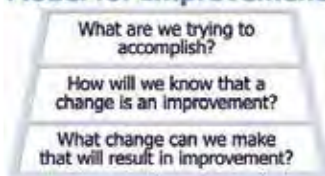


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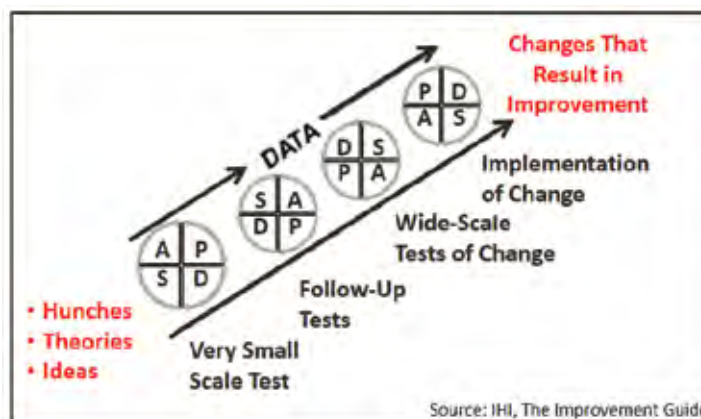
IHI Model for Improvement

3 Fundamental Questions

Model for Improvement



Plan-Do-Study-Act (PDSA) Cycles



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Accurate Assessment

- To reduce health disparities, accurate, consistent measurement and recording of race, ethnicity, and non-medical health-related social needs

Areas of focus include:

- Training staff to ask patients to self-report race
- Implicit bias and associations
- Screening for non-medical health-related social needs

Tools available:

- Implicit Associations Tests

<https://implicit.harvard.edu/implicit/takeatest.html>

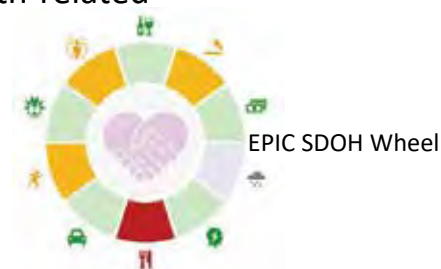


Photo source: PBS Learning Media



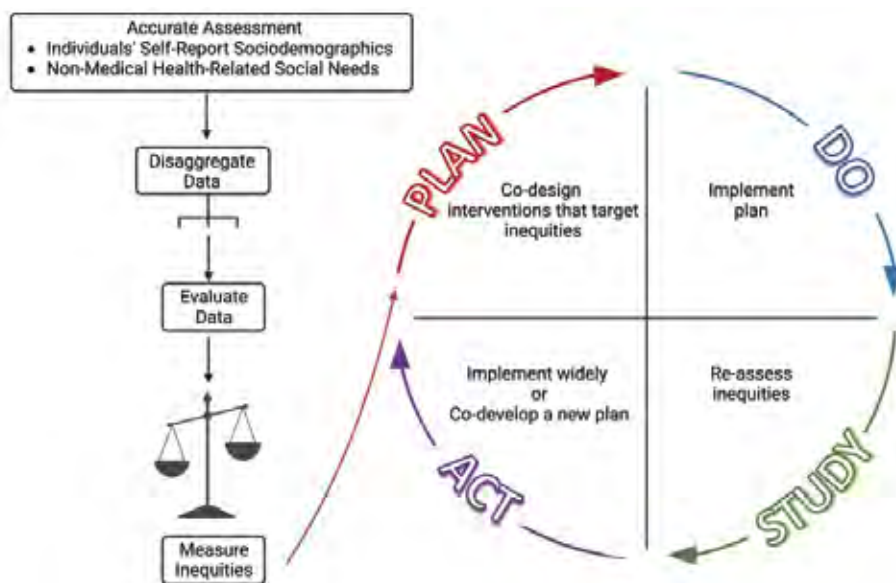
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The National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care Standards aim to improve health care quality and advance health equity by establishing a framework for organizations to serve the nation's increasingly diverse communities.



<https://thinkculturalhealth.hhs.gov/assets/pdfs/EnhancedNationalCLASStandards.pdf>

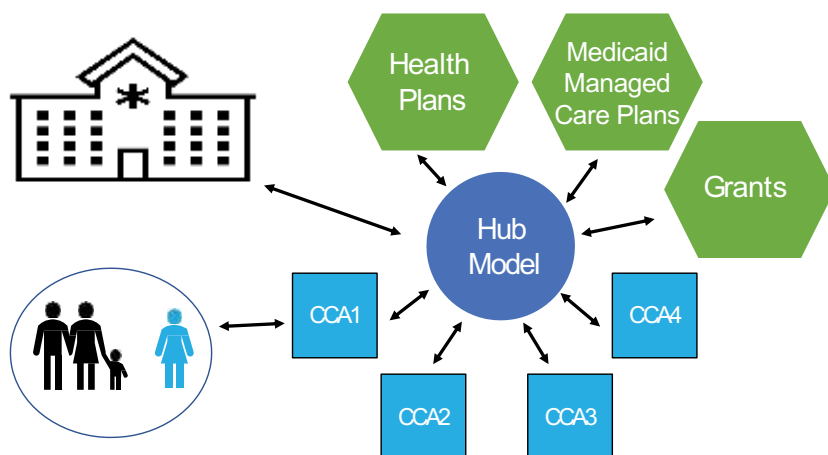
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Joseph, Under Review, 2023



Addressing Social Needs is Critical



- Screen
- Address Social Needs
- Gather Data
- Community Engagement
- Use Data and Community Engagement to Advocate for Policy
- Invest in Communities

Pathways Community HUB Institute
Sarah Redding + Mark Redding

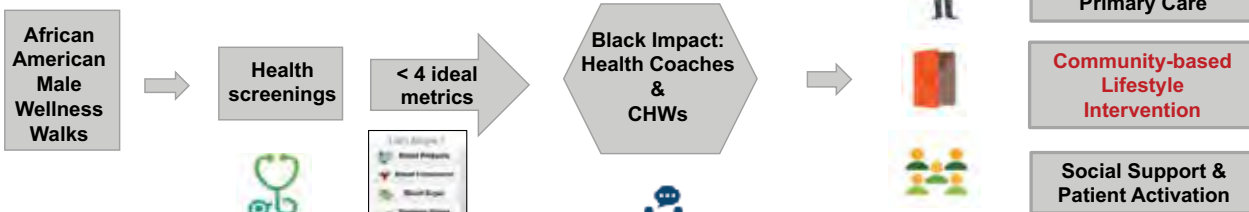


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Creating Healthier Communities through Meaningful Partnerships

A National African American Male Wellness Initiative – OSU Partnership

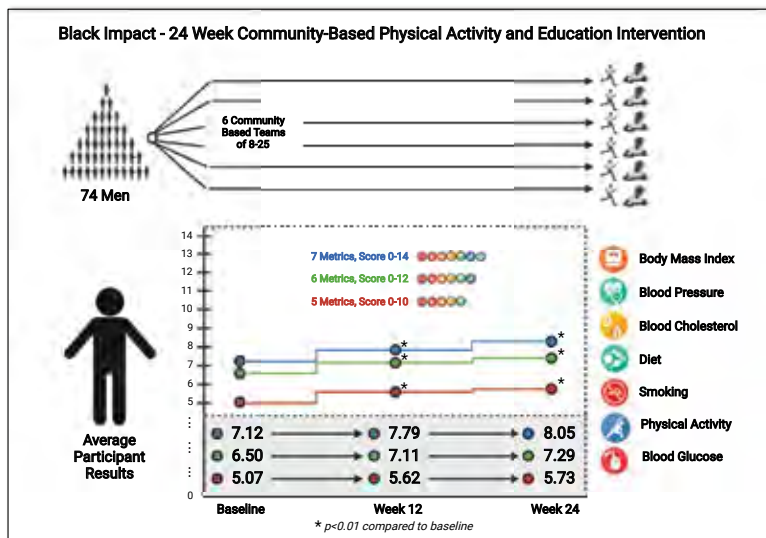


Partners





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At 24 Weeks:

- Reduced BMI
- Reduced Weight – 4 lbs
- Reduced Fasting Glucose 22 mg/dL
- Reduced Total Cholesterol 16 mg/dL
- Improved Diet
- **19% LOWER RISK OF MORTALITY!!!**



Joseph et al., *AJPC* 2022



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Physical activity **Reduces** Effects of psychosocial stress **And** improves Cardiovascular Health



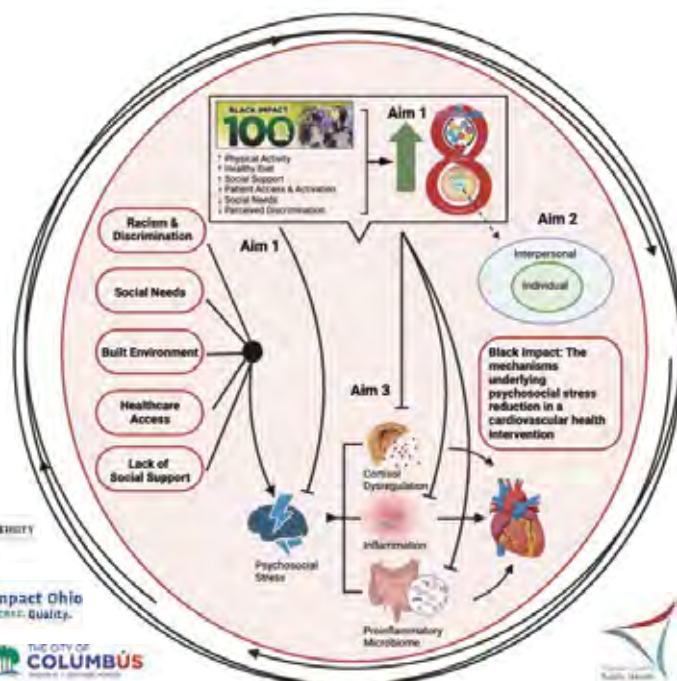
Black Impact: The Mechanisms Underlying Psychosocial Stress Reduction in a Cardiovascular Health Intervention

Project PI:

Joshua J. Joseph, MD, MPH, FAHA

Project Co-Is:

Timiya Nolan, PhD, APRN-CNP, ANP-BC,
Shannon Gillespie, PhD, RN,
Guy Brock, PhD & Tamar L. Gur, MD, PhD





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LINK - Linking education, produce provision, and community referrals to improve diabetes care

Funder: NIH – NIDDK-R01 - 5 Year Award



Goal: Improve glycemic control among individuals with type 2 diabetes and food insecurity, linking Ohio State with Community Partners including the Mid-Ohio Food Collective, Health Impact Ohio and Cooking Matters for Diabetes

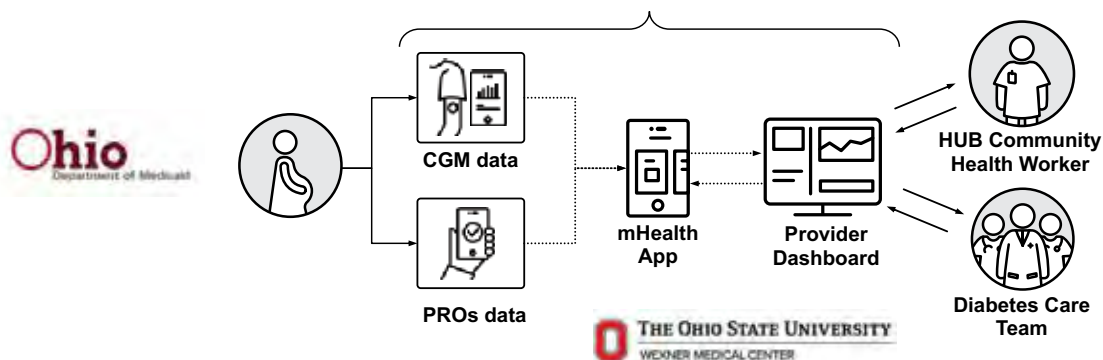


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ACHIEVE: Achieving and Maintaining Euglycemia during Pregnancy for Medicaid-enrolled patients with T2D through Technology and Coaching



* Funded through OSU Wexner Medical Care Innovation and Community Improvement Program



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Policy

Endocrine Society urges Congress to pass bill to make insulin more affordable for people with diabetes

The Endocrine Society endorses by endorsement of the bipartisan insulin bill introduced by Sen. Ben Ray Lujan (D-NM) and Susan Collins (R-ME) that would like help to reduce out-of-pocket costs of insulin, the staggering price of insulin, and temporary manufacturers for people with diabetes.



Endocrine Society celebrates passage of historic insulin affordability measure



Eradicating Racism: An Endocrine Society Policy Perspective



Ruban Dhaliwal



Rocio I. Pereira



Alicia M. Diaz-Thomas



Camille E. Powe



Licy L. Yanes Cardoza



Joshua J. Joseph

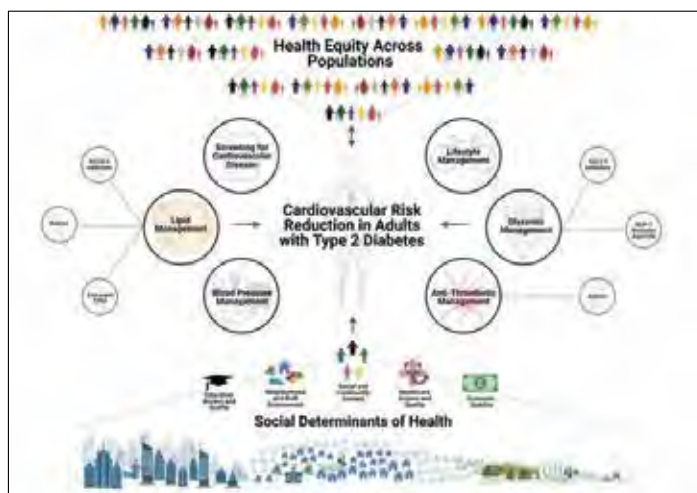




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Joseph, J. J., Comprehensive Management of Cardiovascular Risk Factors for Adults With Type 2 Diabetes: A Scientific Statement From the American Heart Association. *Circulation*, 2022.



What Can You Do to Advance Diabetes Equity?

Today...

This Week...

This Month...

This Year...

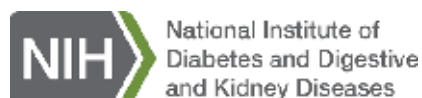
“Together”

References

- Joseph, J. J., Comprehensive Management of Cardiovascular Risk Factors for Adults With Type 2 Diabetes: A Scientific Statement From the American Heart Association. *Circulation*, 2022.
- Joseph, J. J., et al. Cardiovascular Impact of Race and Ethnicity in Patients With Diabetes and Obesity: JACC Focus Seminar 2/9. *JACC*, 2021.
- Golden, S. H., Joseph, J. J., & Hill-Briggs, F. Casting a Health Equity Lens on Endocrinology and Diabetes. *JCEM*, 2021.
- Dhaliwal, R., Pereira, R., Diaz-Thomas, A.M., CE Powe, C.E., Yanes Cardozo L.L., , Joseph, J.J., Eradicating Racism: An Endocrine Society Policy Perspective, *JCEM*, 2022.



Thank You!



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Health Equity in Hypertension

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Disclosure of Financial Relationships

ABLATIVE SOLUTIONS: SITE INVESTIGATOR FOR A CLINICAL TRIAL

Sample Footer Text



Objectives

Review	Review the health disparities related to hypertension
Discuss	Discuss factors that contribute to the health disparities to hypertensive disease
Consider	Consider approaches to health disparities by care providers, health systems, educators, and the community

Top 10 Leading Causes of Death in the U.S. by Gender

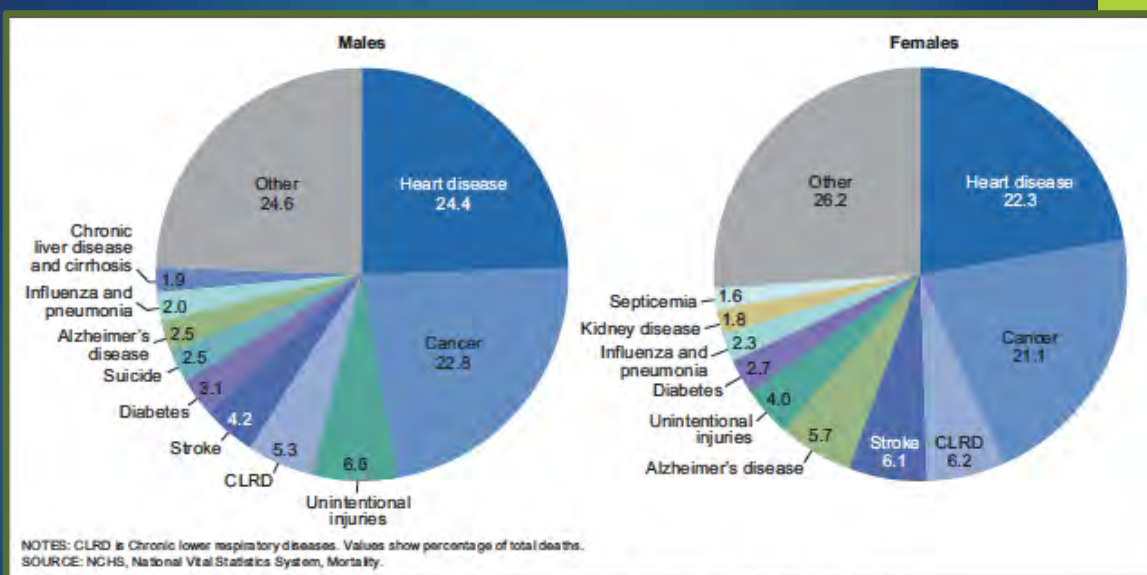
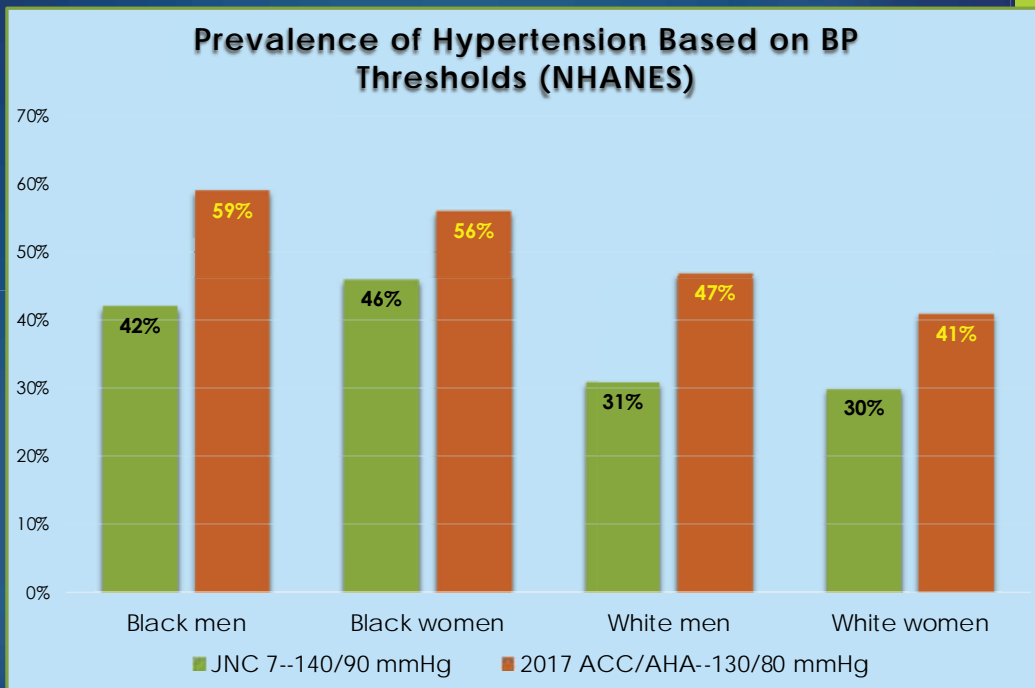
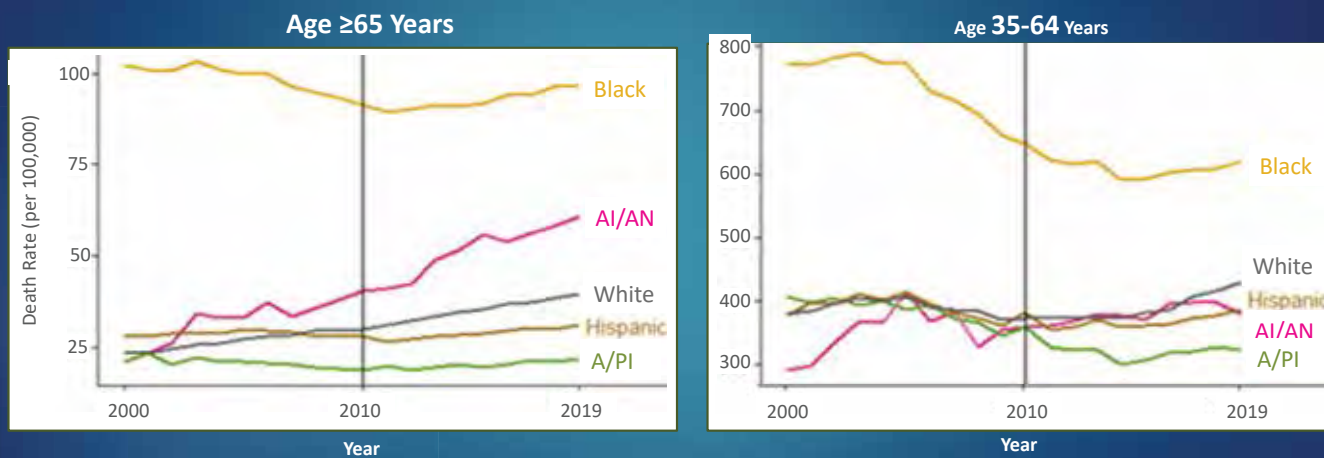


Figure 1. Percent distribution of the 10 leading causes of death, by sex: United States, 2015



Muntner, P et al. "Potential US Population Impact of the 2017 ACC/AHA High Blood Pressure Guideline." *Circulation* 2017.

Hypertension-Related Cardiovascular Disease Mortality



Vaughan A et al. *JAHA* 2022;11:e024785.



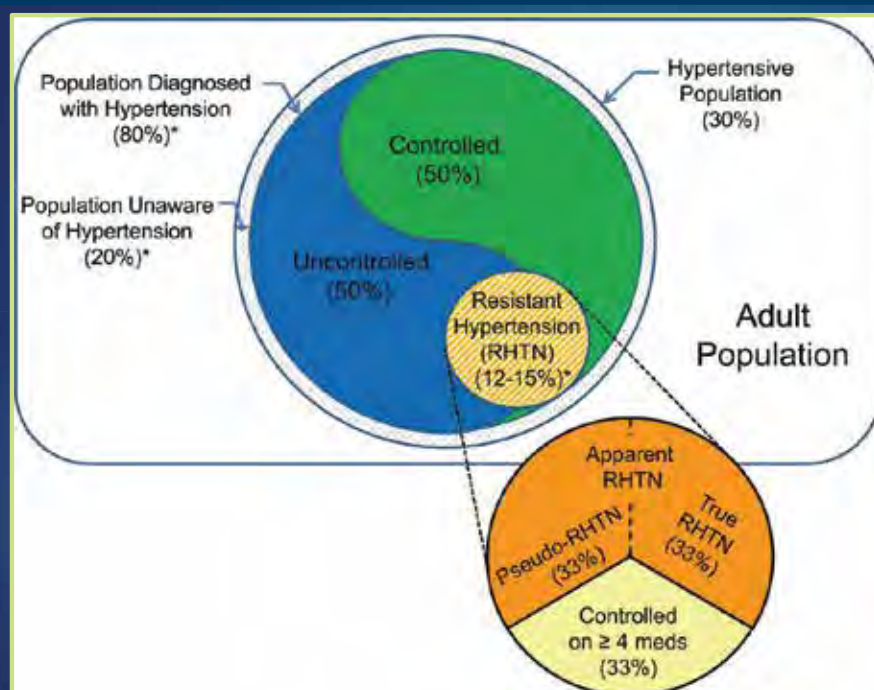
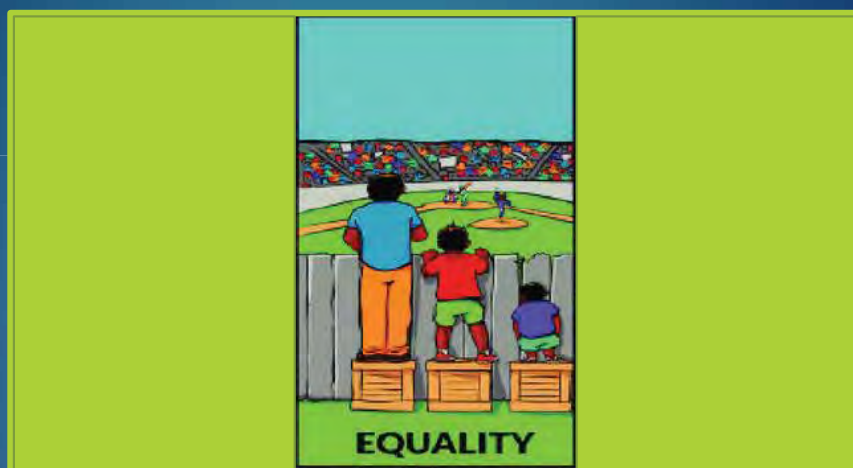
What is a health care disparity?

- ▶ “Health care disparity is not simply a difference in health outcomes by race or ethnicity, but a disproportionate difference attributable to variables other than access to care.”

Gomes C, McGuire TG. Identifying the source of racial and ethnic disparities. In: Smedley B, Stith AV, Nelson AR, eds. Unequal Treatment. National Academies Press: 2003

What is Health Equity ?

- ▶ Healthy People 2020 defines health equity as "attainment of the highest level of health for all people. Providing the opportunity for every individual to reach their optimal level of health.
- ▶ Health Equity does not mean giving everybody the same thing.

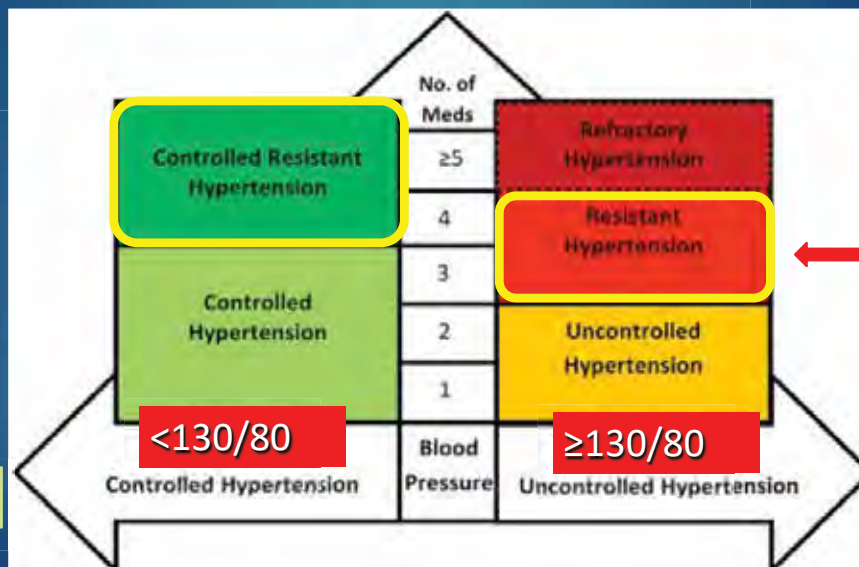


Hypertension Prevalence In U.S.



AHA: "RESISTANT" HYPERTENSION

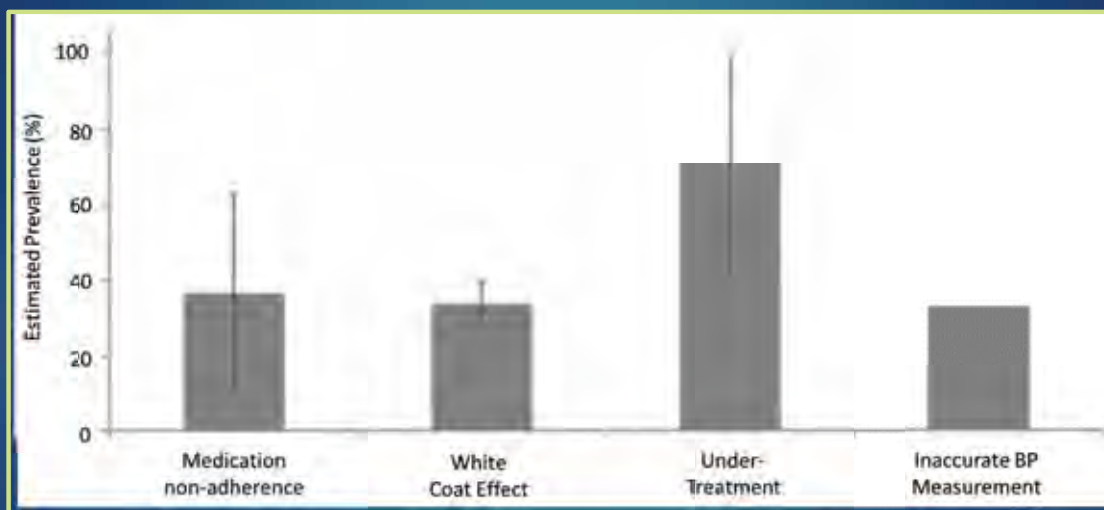
BP >130/80 on 3-drugs of different classes at optimal doses
(≥4 meds: any BP level, even controlled)



BP > "Goal"

Hypertension
2018; 72: e53-90

Causes of Pseudo-Resistant Hypertension



Bhatt H. J Am Soc Hypertension 2016;10(6):493-499
Carey R et al. Hypertension 2018;72:e53-e90



Under-Treatment of RH in Black Patients

- ▶ Pooled data from Black patients in the Jackson Heart Study and REGARDS study
- ▶ **28.3%** of patients had aTRH
- ▶ Low utilization of evidence-based lifestyle and pharmacological interventions

4 Ideal lifestyle factors:

1.2%



3 Ideal lifestyle factors:

14.5%



Taking chlorthalidone or indapamide:

5.9%

Taking spironolactone or eplerenone:

9.8%



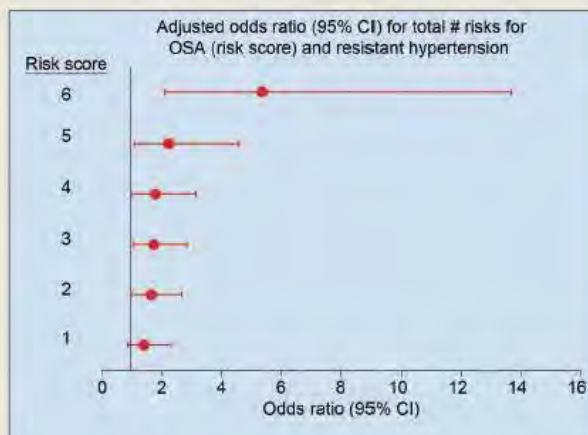
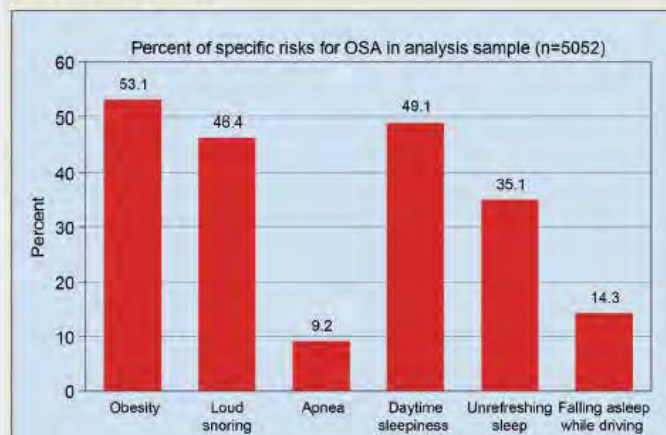
Langford A et al. *Hypertension*. 2020;76:1600-1607

13

Risk Of Sleep Apnea Is Associated With Resistant HTN And Higher Aldosterone In African Americans In The Jackson Heart Study

Risks for OSA are associated with resistant hypertension and higher aldosterone level in African-American adults.

Jackson heart study



Koo P. *Am J Hypertension* 2022;35(10):875



The Southern Diet: REGARD Study

- ▶ **High Southern diet intake: largest mediator of HTN difference blacks vs. whites for both men and women.**
- ▶ Fried foods, organ meats, processed meats, eggs/egg dishes, added fats, high-fat dairy foods, sugar-sweetened beverages, and bread.
- ▶ Other research, associated increased risk of incident stroke, CHD, ESRD, and CKD, sepsis, cancer mortality, and cognitive decline.



JAMA. 2018;320(13):1338-1348

Racial and Ethnic Considerations in HTN treatment

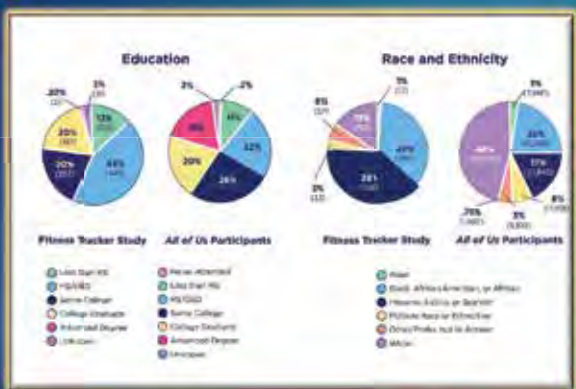
Two or more anti-HTN medications are recommended to achieve a BP target of less than 130/80 mm Hg in most adults with HTN, especially in Black adults with HTN.

HTN = Hypertension

Whelton PK. et al. *JACC* . 2018;71 (19):e127-e248



Wearable Fitness Tracker Use in Federally Qualified Center Patients: "All of Us Study"

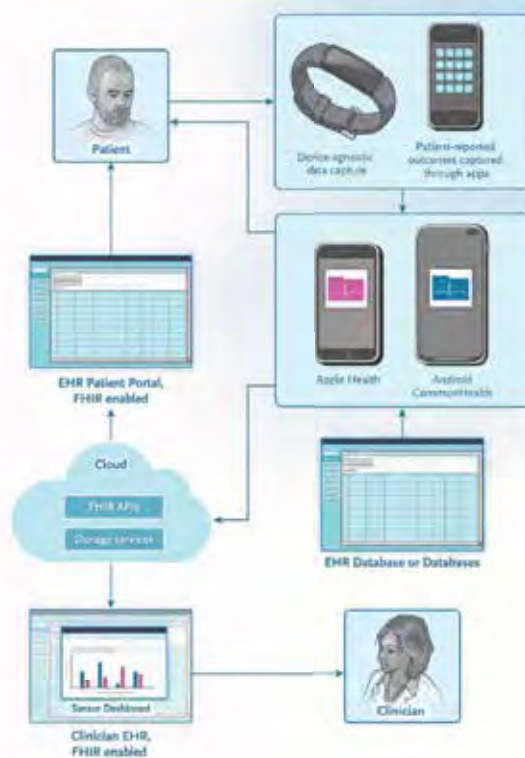


Recommendations to Mitigate Disparities with the Use of Digital Health Technology

- | Hindering factors | Helping factors |
|---|--|
| 1. Awareness of fitness trackers | 1. Majority would like to have and use a device |
| 2. Cost is a barrier | 2. Most would share data for research |
| 3. Language may be a barrier | 3. Most have a smartphone and know how to download and use apps |
| 4. Most would like more knowledge and high touch support, including tutorials, informational sessions, and training | 4. Most believe that the devices could provide relevant health information |
| 5. Many requested over the phone assistance from research staff versus completing the survey independently | 5. Most would like to learn more about how devices could be useful for obtaining personalized health information |
| | 6. Most would like to get reminders about their device (via text) |

Holko M NPJ Digit Med 2022;5:53

Integration of Sensor, Smartphone, and Electronic Health Record (EHR) Data for Patients and Clinicians



Sim I. N Engl J Med 2019;381:956-968



Cost Benefit Analyses of Out of Office Blood Pressure by Health Plan Type and Age Group

Plan/Age Group	Investment Horizon			
	Year 1	Year 3	Year 5	Year 10
Employee plan: 20–44 y				
Net savings (dollars)	\$33.75	\$155.11	\$245.36	\$414.81
ROI	0.94	4.34	5.52	8.37
Employee plan: 45–64 y				
Net savings (dollars)	\$32.65	\$161.79	\$255.32	\$439.14
ROI	0.85	4.20	4.98	7.50
Medicare: ≥65 y				
Net savings (dollars)	\$166.17	\$557.00	\$846.86	\$1364.27
ROI	3.75	12.59	13.83	19.34

ROIs are expressed as the ratios of net savings to costs. indicates return on investment.

Arrieta A. Hypertension 2014;64:891

Potential Benefits of Cuffless Blood Pressure

- Ease of wear during daily activities
- Visualization of home blood pressures
- Provides a window into the patient lived experience
- Potential applications
- May help to individualize therapies for patients
- May help to initiate earlier treatment plan
- Potential improving comfort and adherence
- Potential for motivating stronger relationship with physician/care providers

Bradley CK American J Hypertension 2022;35(5):380
Sim I. N Engl J Med 2019;381:956-968



Social Determinants of Health



Itchhaporia D et al. *J Am Coll Cardiol* 2021;77:2613-2616

21

Social Factors in Blood Pressure Control

Data from 18,262 adults with HTN in NHANES registry - percentages reflect patients with controlled BP defined as <140/90

Insurance Status	<ul style="list-style-type: none">• Private Insurance: 48.2%• Medicare: 53.4%• No Health Insurance: 24.2%
Healthcare Access	<ul style="list-style-type: none">• Usual healthcare facility: 48.4%• No usual healthcare facility: 26.5%• Healthcare visit in past year: 49.1%• No healthcare visit in past year 8%
Race	<ul style="list-style-type: none">• White Patients: 48.2%• Black Patients: 41.5%

How can Primary Care Physicians and Cardiologists coordinate to improve outcomes in BP control and address social factors in diverse patient populations?

Munter P et al. *JAMA* 2020;334:1190-1200

22



Factors Contributing to HTN Disparities

Multi-Level Factors Contributing to Hypertension Disparities and Clinical Approaches

Racial/Ethnic Disparities

- HTN rates in Black adults is among the highest globally
- High Prevalence of HTN in American Indian/Alaskan Native adults
- Worse HTN control rates in Black, Hispanic, and Asian males

Social Determinants of Health

- Socio-economic status
- Physical environment
- Social Support
- Education
- Racism and discrimination
- Access to quality health care

Clinical Approaches

- ❖ Assessing social determinants
- ❖ Implementing team-based care
- ❖ Self-measured blood pressure
- ❖ Strengthening community-clinical linkages
- ❖ Utilizing evidence-based guidelines

Addressing these factors will help contribute to reducing/managing

Hypertension-Related Complications

Coronary artery disease, heart failure, stroke, peripheral artery disease, abdominal aortic aneurysm, chronic/end-stage renal disease, dementia

Ogunniyi M, Commodore-Mensah Y, and Ferdinand K. *J Am Coll Cardiol* 2021;78:2460-2470.

23

Framework for Reducing Disparities in Health Care Systems

DETECTING

- Define health disparities
- Define vulnerable populations
- Measure disparities in vulnerable populations
- Consider selection effects and confounding factors



UNDERSTANDING

- Identifying determinants of health disparities at the following levels:
- Patient/Individuals
 - Provider
 - Clinical encounter
 - Health care system

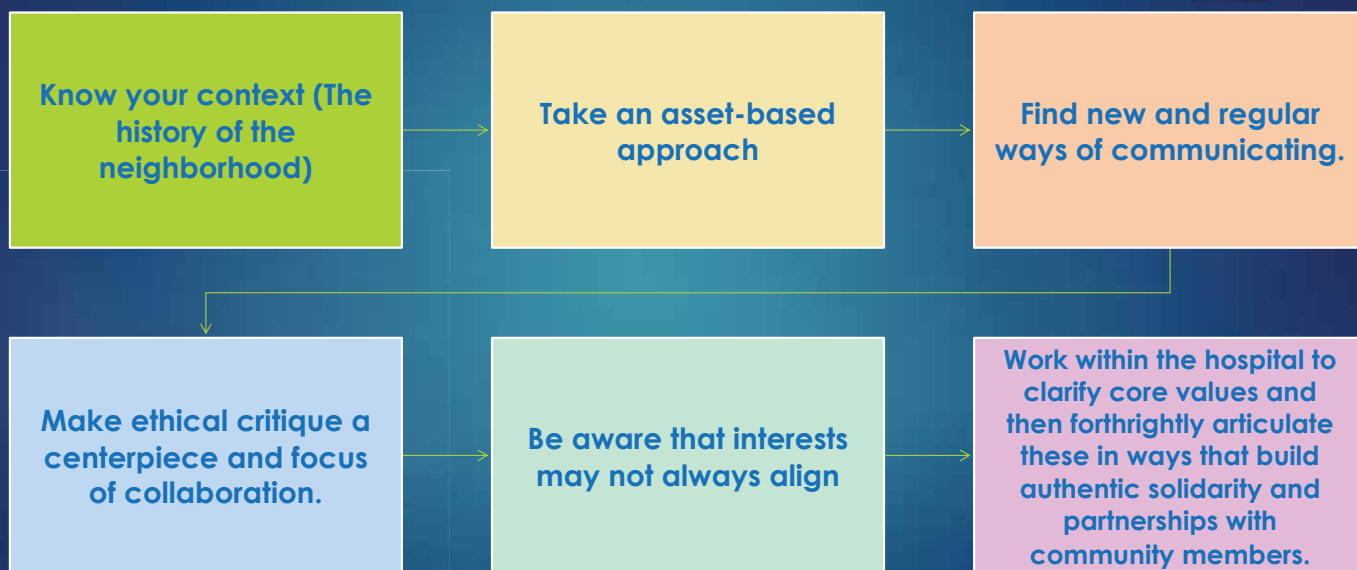


REDUCING

- Intervene
- Evaluate
- Translate and disseminate
- Change policy

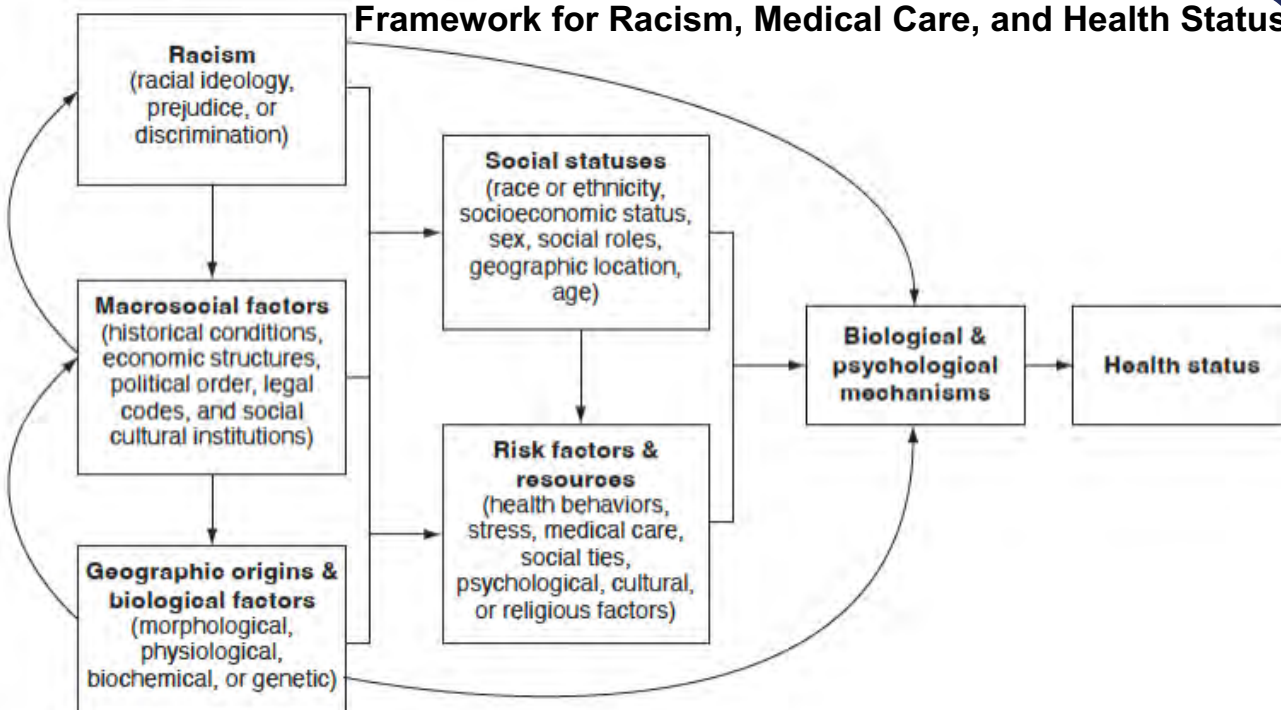


How should Health Care Organizations Work Together to Improve Neighborhood Conditions?



Skinner D, Franz B, Kelleher K. AMA Journal of Ethics 2019;21(3):E281

Framework for Racism, Medical Care, and Health Status



Public Health Reports 2009

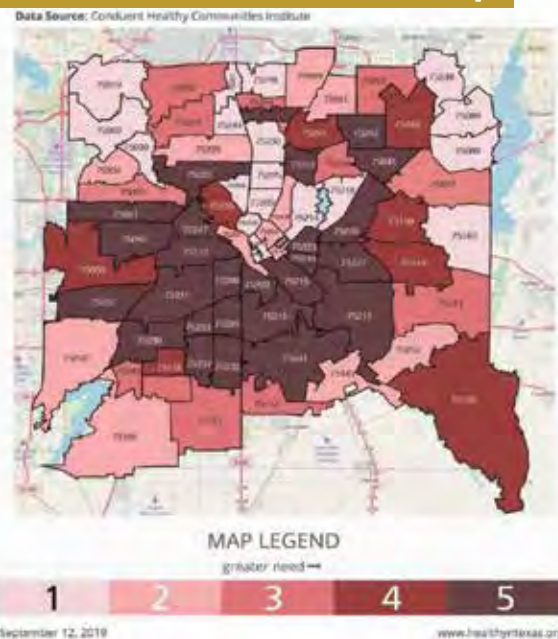


1937 Dallas Redlining Map



WWW.HEALTHYTEXAS.ORG
TEXAS DEPARTMENT OF STATE HEALTH SERVICES

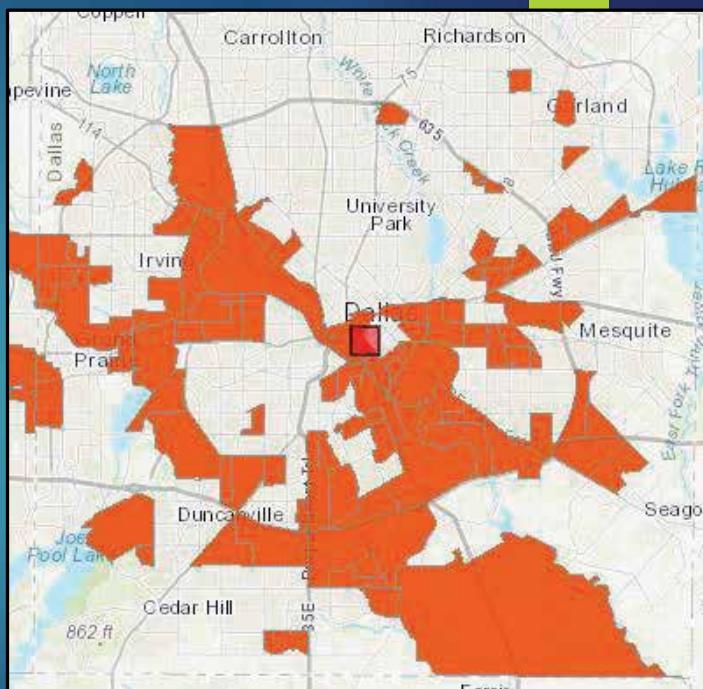
2019 SocioNeeds Index Map



Indicators: Education, Income, language, occupation, poverty, unemployment

Current Food Deserts in Dallas TX in 2022

A food desert is an area that lacks access to affordable fruits, vegetables, whole grains, low fat milk, within a 1 mile with no transportation.

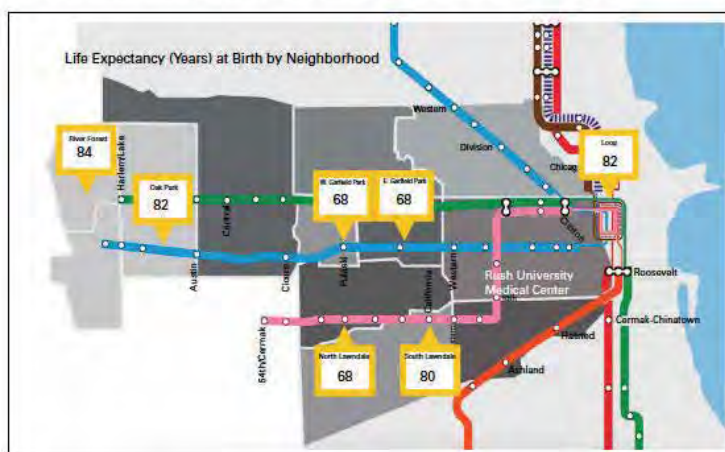


* Food Deserts shown in orange



Life Expectancy Along the Chicago Transit Authority Tracks

This map illustrates the significant variation of life expectancy among communities that are close to each other, all of which are near the Rush University Medical Center campus.



Source: The authors. Based on 2017 Chicago Data. Chicago Health Atlas. Accessed March 18, 2021. <https://www.chicagohealthatlas.org/>.
NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

9/29/23

Wealth and Health Connection

- ▶ Income is strongly associated with morbidity and mortality across income distribution.
- ▶ Income influences health and longevity through clinical, behavioral, social, and environmental mechanisms
- ▶ Poor health contributes to reduced income.
- ▶ Income inequality has grown substantially perpetuating health disparities
- ▶ Policy initiatives that supplement income and improve education, housing and social mobility.

9/29/23



What is the role of the physician?

AMA CODE OF MEDICAL ETHICS

AMA PRINCIPLES OF MEDICAL ETHICS*

Preamble:

The medical profession has long subscribed to a body of ethical precepts developed primarily for the benefit of the patient. As a member of this profession, a physician must recognize responsibility to patients first and foremost, as well as to society, to other health professionals, and to self. The following Principles adopted by the American Medical Association are not laws, but standards of conduct that define the essence of honorable behavior for the physician.

Principles of medical ethics:

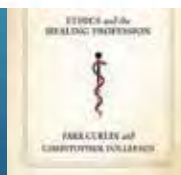
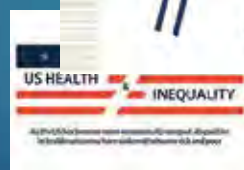
- I. A physician shall be dedicated to providing competent medical care, with compassion and respect for human dignity and rights.
- II. A physician shall uphold the standards of professionalism, be honest in all professional interactions, and strive to report physicians' deficiencies in competence or competence, or engaging in fraud or deception, to appropriate entities.
- III. A physician shall respect the law and also recognize a responsibility to seek changes in the requirements which are contrary to the best interests of the patient.
- IV. A physician shall respect the rights of patients, colleagues, and other health professionals, and shall safeguard patient confidentiality and privacy within the constraints of the law.
- V. A physician shall continue to study, apply, and advance scientific knowledge, maintain a commitment to medical education, make relevant information available to patients, colleagues, and the public, obtain certification, and use the talents of other health professionals when indicated.
- VI. A physician shall, in the provision of appropriate patient care, accept no assignment, be free to choose whom to serve, with whom to associate, and the appointment in which to provide medical care.
- VII. A physician shall recognize a responsibility to participate in activities contributing to the improvement of the community and the betterment of public health.
- VIII. A physician shall, while caring for a patient, regard responsibility to the patient as paramount.
- IX. A physician shall support access to medical care for all people.

* Revised June 2001.

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AMA Code of Ethics

- ▶ VII. A physician shall recognize a responsibility to participate in activities contributing to the improvement of the community and the betterment of public health.
- ▶ "A Doctor's job doesn't stop at individual care."



Bryan CS. What is the Oslerian Tradition? Ann Intern Med 1994;120:682

The Effect of Race and Sex on Physicians' Recommendations for Cardiac Catheterization

“Men and whites were significantly more likely to be referred than women and blacks.”



Kevin Schulman, MD. NEJM, 1999;340:618-625



What is bias?

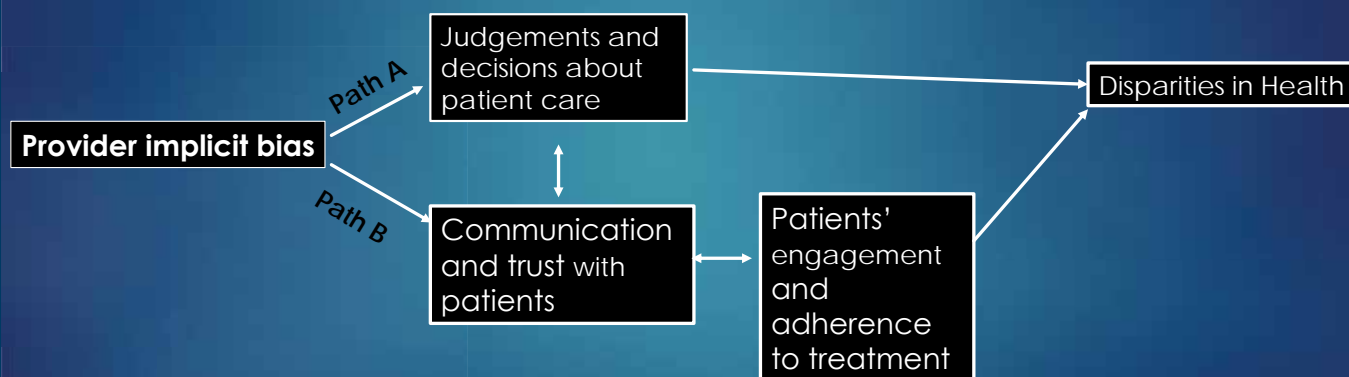
A tendency or inclination that results in judgment without question.

An automatic response

A shortcut to interact with our world



Paths Modeling Provider Implicit Bias on Health Disparities





Cultural Competency Development is...

- A journey – not a goal
- A process of self-reflection
 - Understanding our own beliefs and biases
 - Knowing what we bring to clinical encounter or research experience



Alternative Concept to Cultural Competence: "Cultural Humility"

Jernigan VB J Health Disparities Pract 2016;9(3):150





Educating Physicians & Providers on Cultural competence

Institute of Medicine Report on Unequal Treatment Recommendations for Education addressing disparities through training

- 1 Increase awareness of racial/ethnic disparities in health care.
- 2 Increase the proportion of underrepresented minorities in the health care workforce.
- 3 **Integrate cross-cultural education into the training of all health care professionals**
- 4 Incorporate teaching on the impact of race, ethnicity, and culture on clinical decision making.

Betancourt JR Acad Med 2006;81:788

Cultural Educational Enhancement

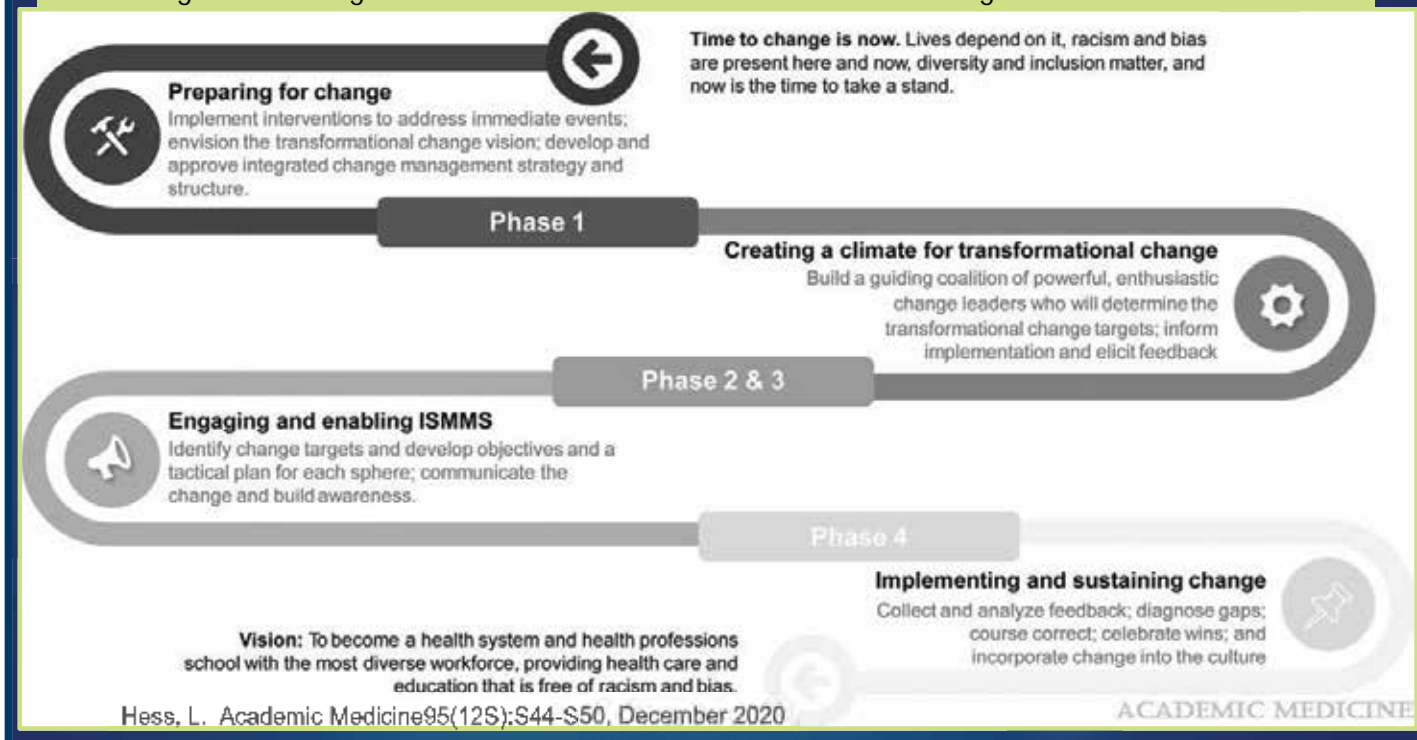
Healthcare in Underserved Communities Elective Class

- ▶ Create educational experiences in the community: Immersion experience
- ▶ Discussions with leaders in the community
- ▶ Learn about the challenges that patients face on a daily basis
- ▶ Learn about the resources for patients in the local community

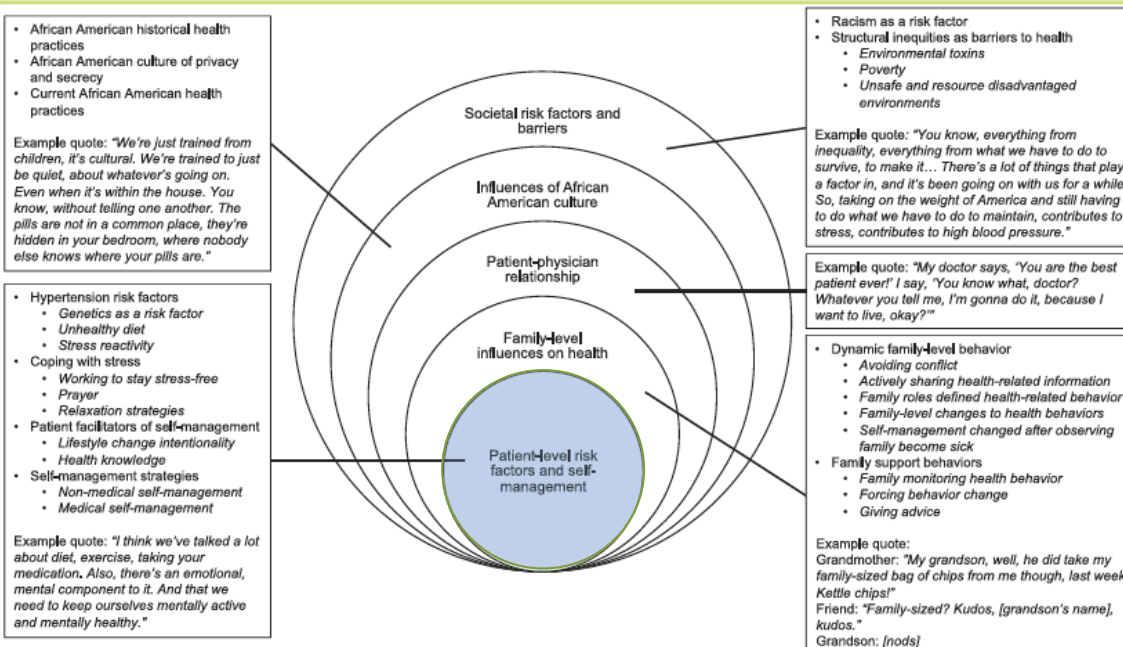




Addressing and Undoing Racism and Bias in the Medical School Learning and Work Environment



'They should walk with you': the perspectives of African Americans living with hypertension and their family members on disease self-management





Summary

- ▶ Hypertension is a common illness with longstanding health disparities
- ▶ It is important to recognize the many factors that contribute to the health disparity in hypertension.
- ▶ The remedies to the health disparities in hypertensive disease requires intentional interventions at multiple levels from care providers, educators, health systems, health insurers, health policymakers, and the community at large.



Strategies for Increasing Colorectal Cancer Screening Rates in New York City



Dr. Gopal Narasimhan
Washington Heights G.I., PC
Mt. Sinai School of Medicine
October 5, 2023

Disclosures

- No relevant financial disclosures

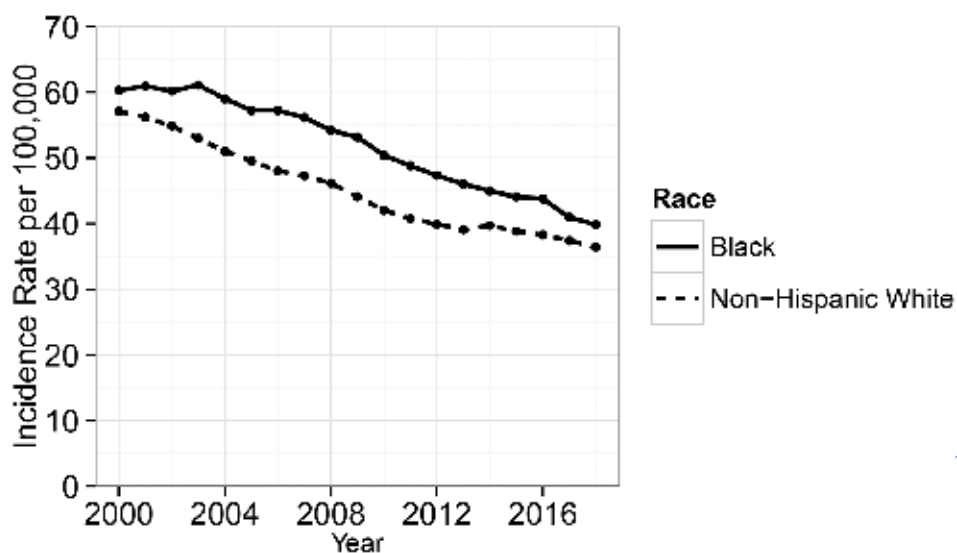


Objectives

- Describe the National Colorectal Cancer Roundtable and the 80% by 2026 initiative
- Define what colorectal cancer is and who is at risk
- Define colorectal cancer screening recommendations
- Describe and compare colorectal cancer screening options
- Describe strategies to increase colorectal cancer screening rates

Incidence of Colorectal Cancer

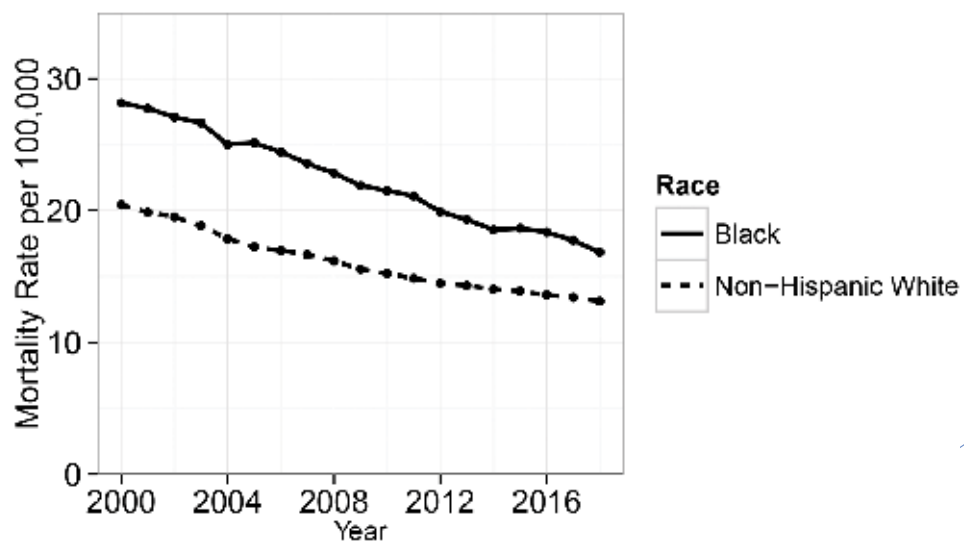
Siegel RL, Miller KD, Goding Sauer A, et al. Colorectal cancer statistics, 2020. *CA Cancer J Clin.* 2020;70:145–164.



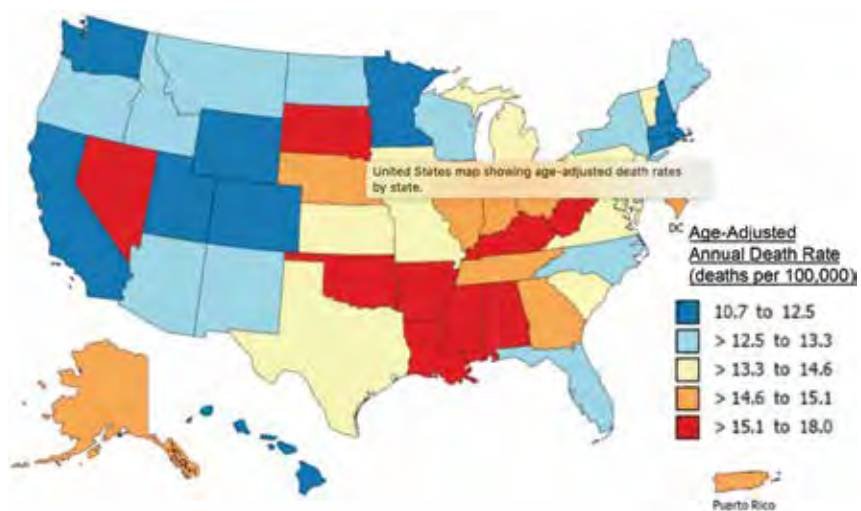


Mortality in Colorectal Cancer

National Cancer Institute; *Surveillance Epidemiology, and End Result Program*;
SEER*EXPLORER



Incidence Of Colorectal Cancer - States





National Colorectal Cancer Roundtable

- The National Colorectal Cancer Roundtable, established by the American Cancer Society (ACS) and the Centers for Disease Control and Prevention (CDC) in 1997, is a national coalition of:
 - Public Organizations
 - Private Organizations
 - Voluntary Organizations, and
 - Invited Individuals
- Dedicated to reducing the incidence of and mortality from colorectal cancer in the U.S., through coordinated leadership, strategic planning, and advocacy.
- The ultimate goal of the NCCRT is to increase the use of proven colorectal cancer screening tests among the entire population for whom screening is appropriate.



The 80% by 2026 Initiative

- Public health goal
- Launched by the National Colorectal Cancer Roundtable (NCCRT)
- Over 1,500 organizations have committed to reducing colorectal cancer as a major public health problem and are working toward the shared goal of reaching 80% screened for colorectal cancer by 2026.

80% Reduction in Colorectal Cancer from 2016 - 2026 !!!
We can do it together - SOMOS



New York Colorectal Cancer Roundtable

- Statewide coalition of organizations dedicated to reducing incidence of and mortality from colorectal cancer (CRC) by increasing the use of proven screening test among the entire population for whom screening is appropriate
- Working towards achieving the 80% by 2026 screening goal in New York City
- Co-led by the American Cancer Society and New York Cancer Action Network
- Diverse group of Steering Committee members
- Held a Summit in January 2022 and established workgroups to continue work on the ground here in New York on topics related to: Health Insurance, Community Health Worker Engagement, and a Charity Care Network

What is Colorectal Cancer and why is this important?



Colorectal Cancer (CRC)

- Cancer that begins in either the colon or the rectum
- Often called “colon cancer” or CRC
- Usually develops from a pre-cancerous growth called a “polyp” in the lining of the colon or rectum
- Finding and removing polyps can prevent cancer
- Detecting polyps is with screening

Who Is At Risk?



Colorectal Cancer Statistics

- Colorectal cancer (CRC) is the **second leading cause** of cancer-related deaths in New York and the United States
- CRC is the **third** most common cancer in men and women in New York and the United States
- An estimated 206,430 new cases of CRC cases are expected to be diagnosed in the United States
- An estimated **50,269** deaths are expected to occur from CRC cancer in the United States

Colon Cancer At-A-Glance*





CRC Screening Recommendation

In 2021, the U.S. Preventive Services Task Force issued a new recommendation that [colorectal cancer screening for people at average risk](#) should start five years sooner.

The change to 45 was based on the trend of growing cases among younger adults.

“It’s unclear what the exact cause is, however there are multiple factors that have been associated including genetics, environmental, diet and obesity-related risks,” Dr. Kokoy-Mondragon said.

Colorectal cancer is the third-leading cause of cancer death in men and women.

A family history of colon cancer as well as obesity, inflammatory bowel disease, smoking and heavy alcohol use are risk factors.

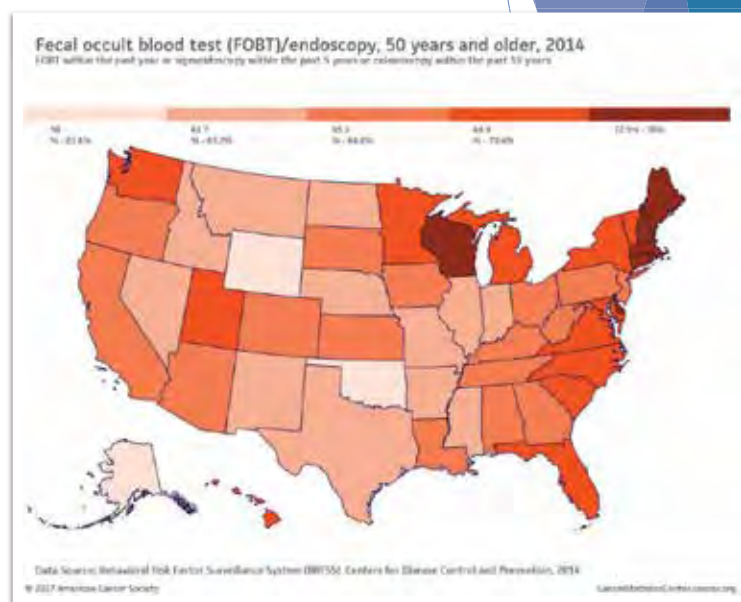
U.S. Preventive Services Task Force recommendation statement (2016)

The State of Colorectal Cancer in New York



Colorectal Cancer Screening

- New York has a higher CRC screening rate (68.9%) compared to the U.S. screening rate (67.6%)
- However, certain groups in New York have a lower screening rate than the state rate



BRFSS, 2014

Lower rates in New York:

NYers ages 45-75 who have completed recommended colorectal cancer screening that have an income level below \$24K: **54.4%**

NYers ages 50-75 who have completed recommended colorectal cancer screening that do not get annual checkups: **55%**

NYers ages 50-75 who have completed recommended colorectal cancer screening that do not have a PCP: **43%**

NYers ages 50-75 who have completed recommended colorectal cancer screening that are uninsured: **26%**





CRC Screening Recommendation & Types of Tests

Overview of CRC Screening Options

Screening Method	Frequency ^b	Evidence of Efficacy	Other Considerations
Stool-Based Tests			
gFOBT	Every year	RCTs with mortality end points: High-sensitivity versions (eg, Hemoccult SENSE) have superior test performance characteristics than older tests (eg, Hemoccult II)	Does not require bowel preparation, anesthesia, or transportation to and from the screening examination (test is performed at home)
FIT ^c	Every year	Test characteristic studies: improved accuracy compared with gFOBT Can be done with a single specimen	Does not require bowel preparation, anesthesia, or transportation to and from the screening examination (test is performed at home)
FIT-DNA	Every 1 or 3 y ^d	Test characteristic studies: Specificity is lower than for FIT, resulting in more false-positive results, more diagnostic colonoscopies, and more associated adverse events per screening test Improved sensitivity compared with FIT per single screening test	There is insufficient evidence about appropriate longitudinal follow-up of abnormal findings after a negative diagnostic colonoscopy; may potentially lead to overly intensive surveillance due to provider and patient concerns over the genetic component of the test
Direct Visualization Tests			
Colonoscopy ^e	Every 10 y	Prospective cohort study with mortality end point	Requires less frequent screening. Screening and diagnostic followup of positive results can be performed during the same examination.
CT colonography ^f	Every 5 y	Test characteristic studies	There is insufficient evidence about the potential harms of associated extracolonic findings, which are common
Flexible sigmoidoscopy	Every 5 y	RCTs with mortality end points: Modeling suggests it provides less benefit than when combined with FIT or compared with other strategies	Test availability has declined in the United States
Flexible sigmoidoscopy with FIT ^g	Flexible sigmoidoscopy every 10 y plus FIT every year	RCT with mortality end point (subgroup analysis)	Test availability has declined in the United States Potentially attractive option for patients who want endoscopic screening but want to limit exposure to colonoscopy



Advantages of Stool Blood Testing

- Less expensive
- Can be offered by any member of the healthcare team
- Requires no bowel prep
- Can be done in the privacy of the home
- Does not require time off work or assistance getting home after the procedure
- Is non-invasive and has no risk of causing pain, bleeding, bowel perforation, or other adverse outcomes.

Many Patients Prefer Home Stool Testing

Colonoscopy recommended:	38% completed colonoscopy
FOBT recommended:	57% completed FOBT
Colonoscopy or FOBT:	59% completed a test



Colonoscopy of Positive Test Result

- Patients who select stool blood testing must also be prepared to accept follow-up colonoscopy if the stool blood test comes back abnormal



Stool Based Options:

- There are several stool-based options such as: gFOBT- guaiac based-fecal occult blood test, FIT- Fecal Immunochemical Test, & FITDNA- Known as Cologuard, FDA approved- 2014
- **GOLD STANDARD:** FIT

FITs Should Replace Guaiac (gFOBT)

- Demonstrative superior sensitivity and specificity
- Are specific for colon blood and are unaffected by diet or medications
- Some can be developed by automated readers
- Some improve patient participation in screening



FIT(Fecal Immunochemical Test)

- Direct measure of Hemoglobin in stool
- 1 to 2 stool samples
- Annual test

PROS:

- No direct risk to the colon
- Sampling done at home
- Inexpensive
- No pre-test dietary or medication restrictions
- No time off work or sedation required
- 80% sensitive for detecting cancer and 20%-30% sensitive for detecting advanced neoplasia

CONS:

- Can miss many polyps and some cancers
- Poor sensitivity for Sessile serrated polyp detection (20-30% of all CRC)
- Positive or abnormal FIT -> Colonoscopy
- Needs to be done yearly

Recommended FIT Brands

Brand	Type	Manufacturer	Location
HemeSelect	FIT	SmithKline Diagnostics	San Jose, CA
OC-Hemodia	FIT	Elken Chemical Co.	Tokyo, Japan
Mochham	FIT	Nihon Pharmaceutical	Tokyo, Japan
Magstream HemSp	FIT	Fujirebio	Tokyo, Japan
FlexSure OBT	FIT	Beckman Coulter	Fullerton, CA
OC-Micro	FIT	Elken Chemical Co.	Tokyo, Japan
OC-Light	FIT	Elken Chemical Co.	Tokyo, Japan
OC-Sensor	FIT	Elken Chemical Co.	Tokyo, Japan
Ridascreen	FIT	R-Biopharm	Darmstadt, Germany
OC-FIT CHEK	FIT	Polymedco	Cortland Manor, NY
FOB Gold	FIT	Sentinel Diagnostics	Milan, Italy
Bionesia FOBplus	FIT	DIMA	Göttingen, Germany
ImmoCARE-C	FIT	CAREdiagnostica	Voerde, Germany
FOB advanced	FIT	Uti med	Ahrensburg, Germany
QuickVue iFOB	FIT	Quidel	San Diego, CA
PreventID CC	FIT	Preventis	Bensheim, Germany
HM-Jack	FIT	Kiowa	Tokyo, Japan
InSure/Insure II	FIT	Enterix	North Ryde, NSW, Australia
Hemoccult ICT	FIT	Beckman Coulter	Fullerton, CA
Immudia-HemSp	FIT	Fujirebio	Tokyo, Japan
iChroma	FIT	Boditech	Chuncheon, South Korea
Hemasure	FIT	W.H.P.M Inc	Innsdale, CA
Hemoccult Sensa	FOBT	Beckman Coulter (formerly SmithKline Diagnostics)	Fullerton, CA
Hemofec	FOBT	Roche Diagnostics	Barcelona, Spain
Hemoccult II	FOBT	Beckman Coulter	Fullerton, CA
HemOccult	FOBT	Beckman Coulter	Krefeld, Germany

Recommendations on Fecal Immunochemical Testing to Screen for Colorectal Neoplasia: A Consensus Statement by the US Multi-Society Task Force on Colorectal Cancer. Gastroenterology 2016



Direct Visual Testing Options:

- There are many DVT options such as: CT Colonography, Flexible Sigmoidoscopy, Double- Contrast Barium Enema, & Colonoscopy
- **GOLD STANDARD:** Colonoscopy

Colonoscopy

- Average risk patient with no polyps- Test recommended every 10 years
- One big advantage to a colonoscopy is detection and removal of adenomas, usually at the same visit
- Disadvantages- risks with sedation, complications like bleeding and colonic perforations, may still miss some lesions
- Colonic perforation risk - 4 in 10,000, Bleeding risk- 8 in 10,000

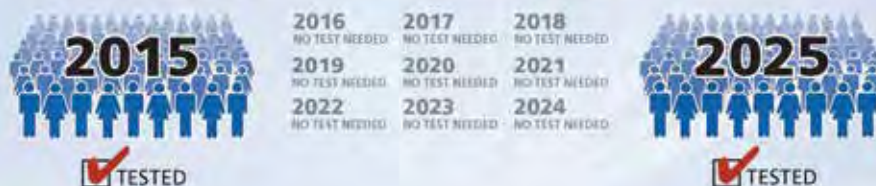
Three Key Components of Colonoscopy Quality

1. Screen the right patients at the right intervals.
2. Maximize bowel prep quality and patient show rates.
3. Monitor adenoma detection rate.

However, most clinics don't have the capacity, space, staff time, or resources to provide a colonoscopy to every age eligible patient.



COLONOSCOPY: Good for 10 years



FIT: Only good for one year BUT... may be best for your clinic!



Best Practices for Increasing
Colorectal Cancer Screening



Know your screening rates!

- Each year, Health Resources and Services Administration (HRSA) funded Health Centers (HC) are required to report a core set of information that includes data on patient demographics, services provided, clinical indicators, utilization rates, costs, and revenues. Since 2012, colorectal cancer screening has been included as a clinical quality measure (CQM).

There are simple steps you can take:



<https://bphc.hrsa.gov/uds/datacenter.aspx>

Best Practices for Primary Care Physicians

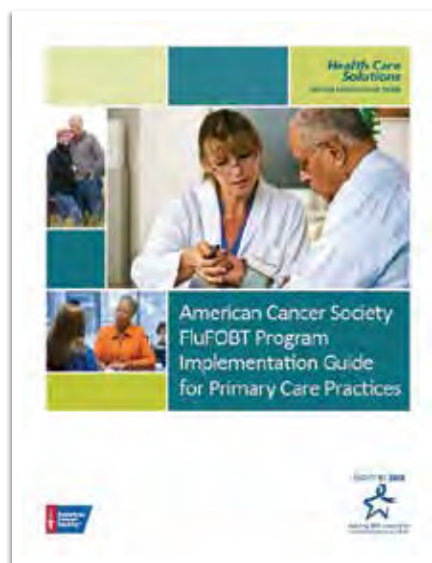
- Provider recommendation
- Measure colorectal cancer screening rates, set goals, and recognize clinicians/staff meeting goals
- Use evidence-based practices
 - Provider reminders
 - Client reminders
 - Policies and standard practices to ensure eligible patients receive recommendation for screening at every visit (same messaging every time)
- Understand screening options and make sure they get communicated to every eligible patient
- Understand insurance coverage of screening options and resources and support for those that are uninsured

<http://nccrt.org/resource/primary-care-physicians-advance-80-by-2018/>



FluFIT

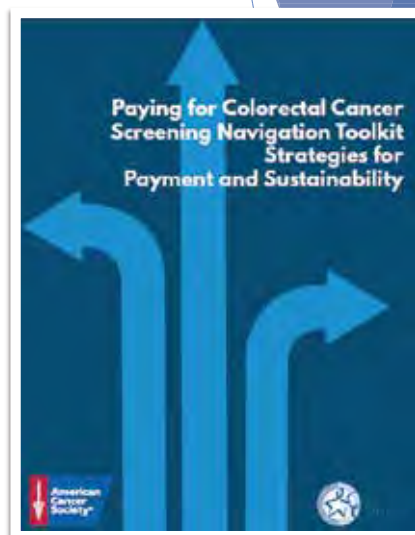
- Combine annual flu shot with FIT test - recommend at same time
- Like flu shots, FIT tests are recommended annually
- FluFIT programs have shown to increase CRC screening rates
- Incorporate into clinic flow



<http://flufit.org/program-materials/>
<https://www.cancer.org/content/dam/cancer-org/cancer-control/en/reports/american-cancer-society-flufobt-program-implementation-guide-for-primary-care-practices.pdf>

Paying for CRC Screening Patient Navigation Toolkit

- Toolkit is designed for a variety of health care professionals
- Toolkit provides strategies for sustainability and payment for navigation services
- Patient Navigation is:
 - Patient-centered health care delivery model
 - Aims to reduce health disparities
 - Requires a team approach (not just a patient navigator)
 - Promotes system level coordination

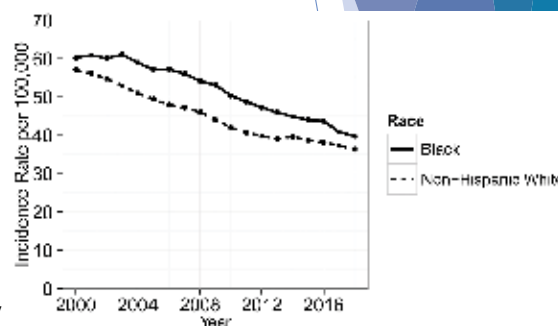


<http://nccrt.org/resource/paying-colorectal-cancer-screening-patient-navigation-toolkit/>



Replication Manual: Patient Navigation Model

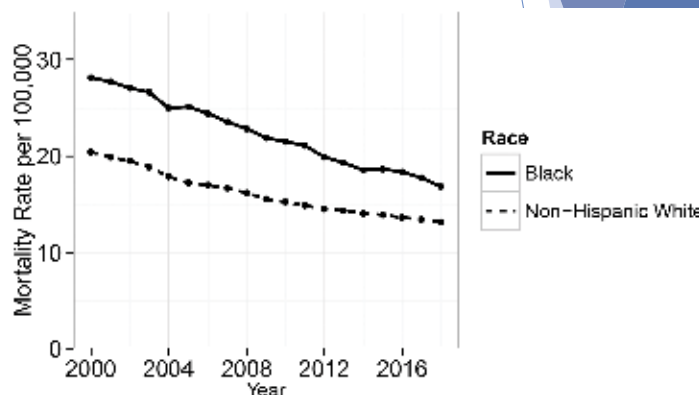
- Step-by-step instructions for implementing a patient navigation program
- Developed by the New York Colorectal Cancer Screening Program
- Program was very effective at increasing the completion of colonoscopy screening and surveillance among statewide underserved groups
- Patients in this program were 11 times more likely to complete colonoscopy than non-navigated patients



<http://nccrt.org/resource/cdc-replication-manual-colorectal-cancer-screening-patient-navigation/>

80% by 2028 Communication Guidebook: Recommended Messaging to Reach the Unscreened

- Designed to help educate, empower, and mobilize key audiences
 - Newly insured
 - Insured, procrastinator/rationalizer
 - Financially challenged
- Two Companion Guides
 - Messages to reach Asian Americans
 - Messages to reach Hispanics/Latinos



<http://nccrt.org/resource/2017-80-2018-communications-guidebook-recommended-messaging-reach-unscreened/>



What Community Organizations Can Do to Advance 80% by 2028

- Partner with neighborhood organizations, physicians, hospitals, and local public officials to make initiative a community-wide goal
- Learn your community's colorectal cancer screening rate and set a goal for improvement
- Leverage local leaders to communicate with those in your community who are less likely to be screened
- Designate relevant spokesperson
- Provide education to the community about screening options, coverage, and local resources

<http://nccrt.org/resource/can-communities-advance-80-by-2018/>



What Can YOU Do To Improve CRC Rates in Your Setting?



Understanding Disparities in Colorectal Cancer Screening

Patient-Level Factors

Social Determinants of Health <ul style="list-style-type: none">IncomeEducationOccupationInsuranceHealth LiteracySocial SupportFood SecurityHousingTransportationRurality	Health Beliefs <ul style="list-style-type: none">Knowledge of diseaseSelf-efficacyPaternalistic viewpointsPhysician Trust Health Behaviors <ul style="list-style-type: none">Paternalistic ActivationLifestyle Genetics <ul style="list-style-type: none">Tumor Biology
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Provider/Health-System Factors

Access <ul style="list-style-type: none">Time/HoursAvailabilityPaperwork	Structural Issues <ul style="list-style-type: none">Implicit biasUnderrepresentation Quality of care <ul style="list-style-type: none">Screening advocacyGuideline concordance
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Public Policy Factors

Recommendation <ul style="list-style-type: none">Screening recommendationsScreening cost coverage

Racial Disparities:
Prevention
Detection
Treatment
Surveillance

Racial disparities in colorectal cancer mortality

How Can We Improve?

- **Patient-related factors**
- **Lack of knowledge, Symptomatology**
- **-Perceived risks and benefits**
- **-Perceived susceptibility**
- **Barriers in costs, time, availability, and transportation.**[7,15](#)
- **Social/community support**
- **Understanding religious concerns**



How Can We Improve

- **Understanding religious obstacles**
- **Recommendation for screening from PCP**
- **Risk related recommendations and urgency**
- **Quality Providers**
- **Gender Related Concerns**