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General Session III

At the completion of this activity, participants will be able to:

- Identify factors important to the development of health disparities; and
- Discuss research findings and lessons learned in the quests to understand health disparities.

Ann R. Barbre, PhD, RPh

OPENING REMARKS

Thomas A. LaVeist, PhD

KEYNOTE

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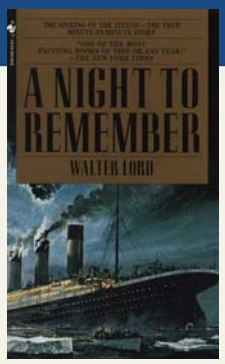
JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH

My Search for the Reasons for Health Disparities: What I have learned and what I haven't

Thomas A. LaVeist, PhD
William C. and Nancy F. Richardson Professor in Health Policy
Director, Hopkins Center for Health Disparities Solutions
Johns Hopkins Bloomberg School of Public Health

Imagine

"Exploration and Intervention for Health Equality…"



"Exploration and Intervention for Health Equality…"

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Survival status of female passengers of the Titanic by class of ticket

	Died	Lived	Total	% Died	% Lived
1st class	4	139	143	2.8%	97.2%
2nd class	15	78	93	16.1%	83.9%
3rd class	81	98	179	45.3%	54.7%
Total	100	318	415	24.1%	76.6%

Source: Walter Lord (1955) "A Night to Remember" New York: Bantom Books, page 105

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Who survived the Titanic?

- The Titanic's life boats could accommodate 53% of those onboard
- 2nd class females 5 times more likely to die
- 3rd class 16 times more likely to die

"Exploration and Intervention for Health Equality…"

US Airways Hudson River landing January 15, 2009

"Exploration and Intervention for Health Equality…"

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"Exploration and Intervention for Health Equality…"

EXCESS DEATHS in 2006

- 286,551 African American deaths
- 44,707 Asian American deaths
- African American crude death rate 1330.2
- Asian American crude death rate 414.7

"Exploration and Intervention for Health Equality…"

What if African Americans had the Asian American death rate in 2006?

- There would have been 115,750 African American deaths in 2006
- 170,831 fewer deaths
- 59.61% of all African American deaths

"Exploration and Intervention for Health Equality…"

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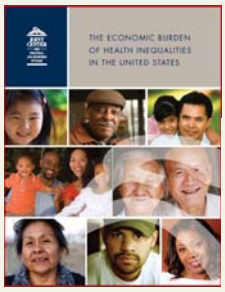
EXCESS DEATHS

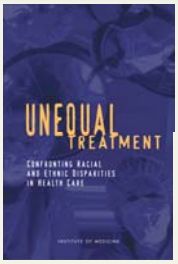
- 14,236 deaths per month
- 3,285 deaths per week
- 468 deaths per day
- 20 deaths per hour
- 1 excess death every 3 minutes

"Exploration and Intervention for Health Equality…"



- Direct Medical Care Costs $229.4 billion for the years 2003-2006.
- Indirect Costs of disability and illness $50.3 billion
- Cost of Premature deaths were $957.5B
- Total **$1.24 trillion** (in 2008 inflation-adjusted dollars).

"Exploration and Intervention for Health Equality…"



"Exploration and Intervention for Health Equality…"

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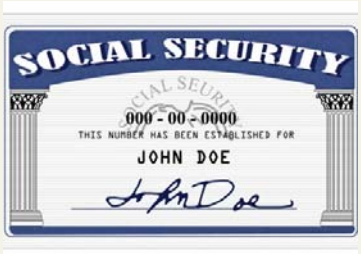
"A key test for any new system is its ability to provide access to quality care for the poorest and sickest among us. The elimination of health disparities must be a critical goal: No American can be left out."

Former Speaker of the House Newt Gingrich

"African American males die sooner than other males do, which means the system is inherently unfair to a certain group of people. And that needs to be fixed."

President George W. Bush, January 2005



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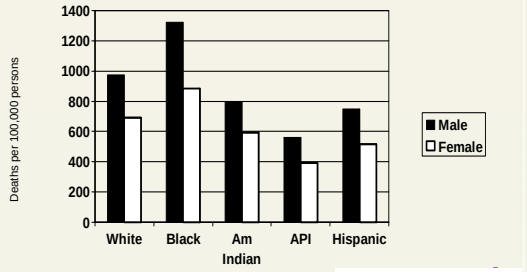
Age-adjusted mortality rates by race/ethnicity and gender, 2003



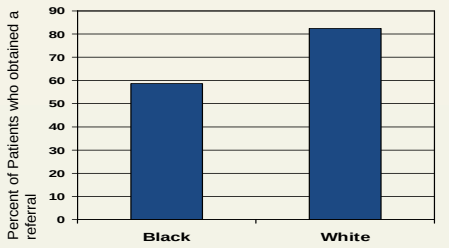
Note: API= Asian/Pacific Islander

Source: CDC NCHS The Health, United States List 2006 Edition Table 35, pg. 198

"Exploration and Intervention for Health Equality…"

Healthcare Disparity

Studies of patients who were appropriate candidates for **coronary angiography** have found race differences in obtaining a referral for this diagnostic procedure.



Source: LaVeist TA, Arthur M, Morgan A, Rubinstein M, Kinder J, Kinney LM, Plantholt S. The cardiac access longitudinal study. A study of access to invasive cardiology among African American and white patients. J Am Coll Cardiol. 2003 Apr 2;41(7):1159-66.

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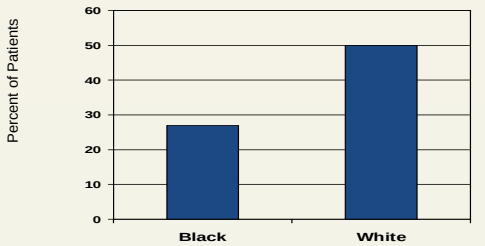
Healthcare Disparity

A race disparity in **coronary revascularization** was found among patients in the **Veteran Affairs** health system, where there are no race differences in ability to pay and providers are paid a salary.



Source: Ibrahim SA, Whittle J, Bean-Mayberry B, Kelley ME, Good C, Conigliaro J. Racial/ethnic variations in physician recommendations for cardiac revascularization. Am J Public Health. 2003 Oct;93(10):1689-93.

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WHY MUCH OF WHAT WE ARE DOING WILL FAIL…

INCORRECT DIAGNOSIS OF HEALTH DISPARITIES

"Exploration and Intervention for Health Equality…"

What is race?

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BAD GENES

"I'd Like to Go Straight But I've Got Crooked Genes."

"Exploration and Intervention for Health Equality…"

Case Study: BiDil

- 2005 FDA approves BiDil, heart failure drug for African Americans
- BiDil is combination of two existing generics
- Strong advocacy from African American groups

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Who gets BiDil?

Vijay Singh

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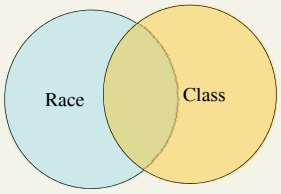
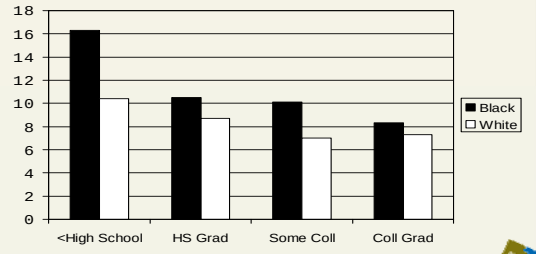
It's really income and not race/ethnicity



"Exploration and Intervention for Health Equality…"

Education and Disparities in Diabetes, Age-Adjusted



Source: Original analysis of 2005 National Health Interview Survey

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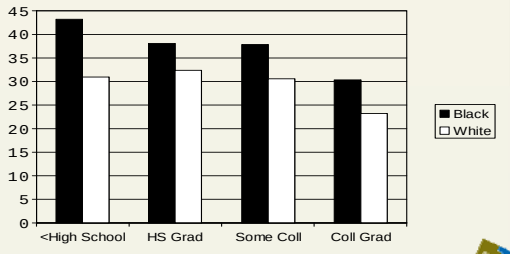
Education and Disparities in Obesity, Age-Adjusted



Source: Original analysis of 2005 National Health Interview Survey

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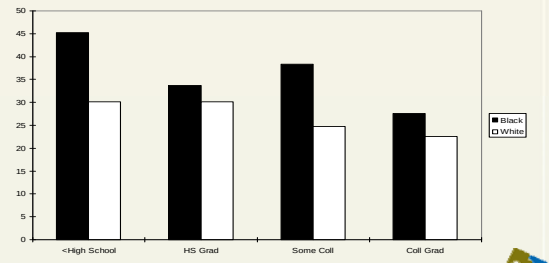
Education and Disparities in Hypertension, Age-Adjusted



Source: Original analysis of 2005 National Health Interview Survey

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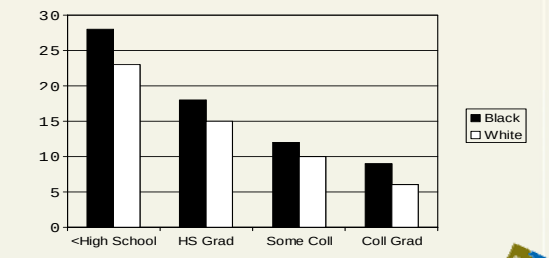
Education and Disparities in Self Reported "Fair" or "Poor" Health, Age-Adjusted



Source: Original analysis of 2005 National Health Interview Survey

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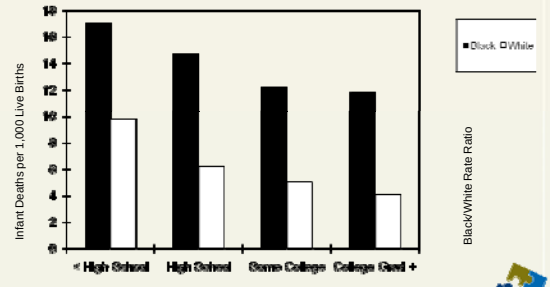
Infant mortality rates by Mother's education, 1995



Source: U.S. National Center for Health Statistics

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A BRIEF MESSAGE TO RESEARCHERS

"Exploration and Intervention for Health Equality…"

Example

- 2002 National Health Interview Survey (NHIS), n=93,386
- N=33,148 adults age 40+ with complete data on income, race and ADL
- African Americans, n=4473 (12%)
- Income, <$20K=6813; $20K-$75K=19,504; >$75K=6831
- At least 1 ADL = 1043 (2.8%)

"Exploration and Intervention for Health Equality…"

ADL regressed on race

	Odds Ratio	95% Confidence Interval
African American (Binary variable)	1.46	1.23 – 1.72

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ADL regressed on Income

	Odds Ratio	95% Confidence Interval
$20K - $75K	.35	.31 -- .39
>$75K	.18	.15 -- .23

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ADL regressed on race

	Odds Ratio	95% Confidence Interval
African American (Binary variable)	1.18	.98 – 1.41
$20K - $75K	.32	.28 -- .37
>$75K	.15	.12 -- .20

"Exploration and Intervention for Health Equality…"

Cross tabulation of race and ADL within income groupings

	White	Black	Total	P-Value
>$20K	6.1% e=304	7.6% e=97	6.4% e=401	.031
$20K-$75K	2.1% e=343	2.1% e=45	2.1% e=388	.50
>$75	1.0% e=56	1.7% **e=8**	1.0% e=64	.10

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A Baltimore Area High School

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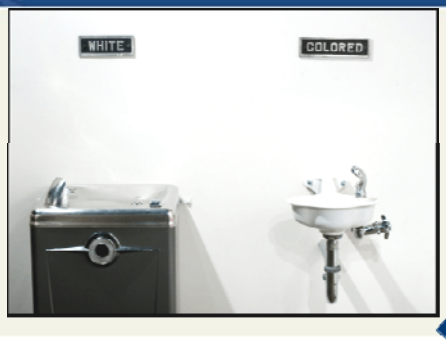
"But I adjusted for SES…"



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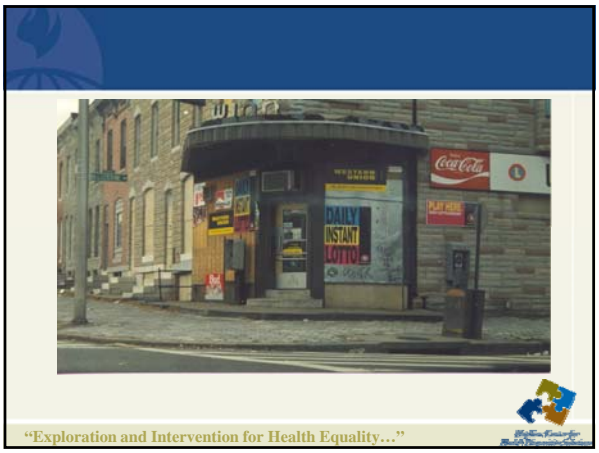

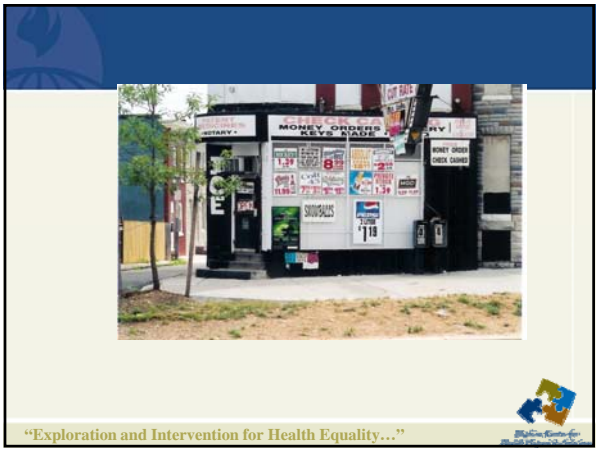

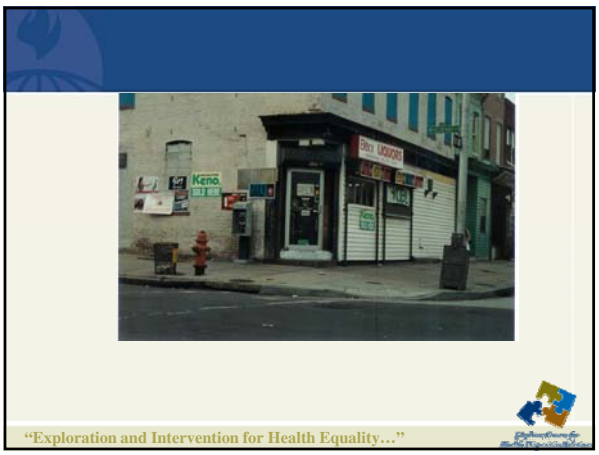

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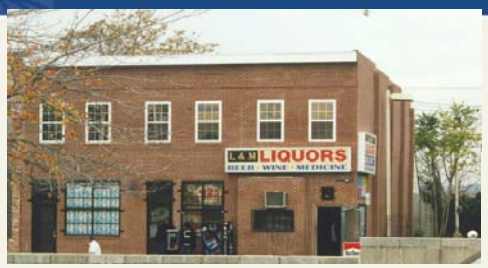

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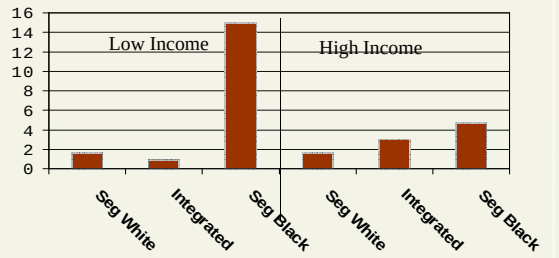
Per Capita Liquor Stores by Race and Income



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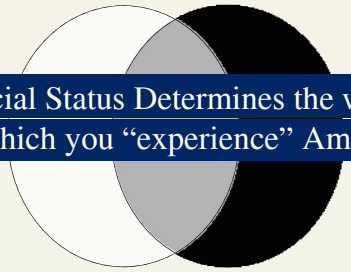
Race is Racism



Racial Status Determines the way in which you "experience" America

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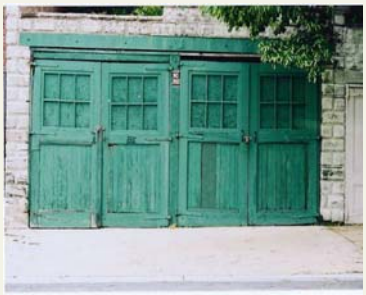
Exploring Health Disparities in Integrated Communities (EHDIC)

- Census tracts
  - 35% African Americans AND 35% white
  - b/w median income ratio 0.85-1.15
  - b/w percent high school grad 0.85-1.15

"Exploration and Intervention for Health Equality…"

Profile of the Community



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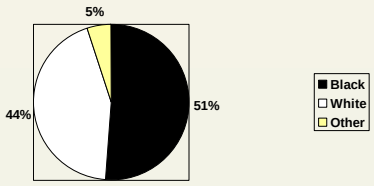
Racial Distribution



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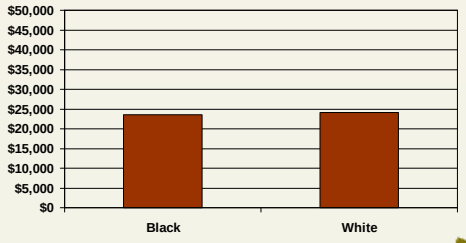
Median Income



Source: US Censes 2000

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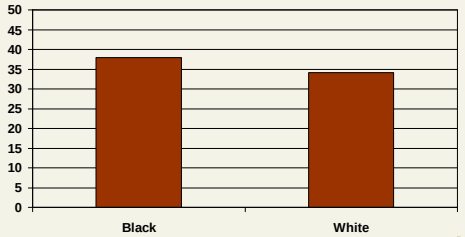
Percent Living Below Official Poverty Level



Source: US Censes 2000

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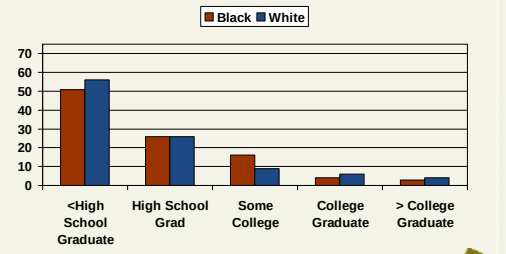
Educational Status



Source: US Censes 2000

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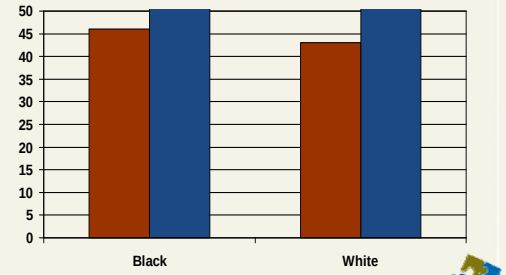
Sex



Source: US Censes 2000

"Exploration and Intervention for Health Equality…"

The Study

- Adult Residents of the 2 census tracts
- 40 Minute Interview
- Interviews In-person at home or at health fair
- 3 Blood pressure measurements
- Cuffs calibrated at Johns Hopkins Hospital
- 35 Interviewers
- Interviewer Incentives
- Respondent Incentives
- Interviewed N=1498 (42.14%)

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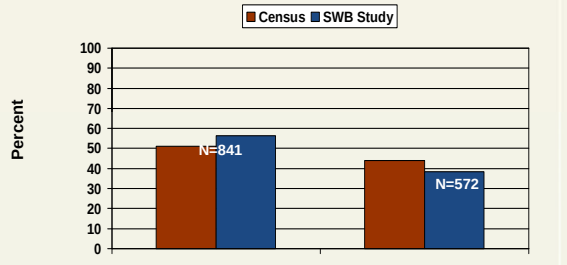
Representativeness of the Sample and Race Differences in the Sample

"Exploration and Intervention for Health Equality…"

Racial Distribution of EHDIC Sample



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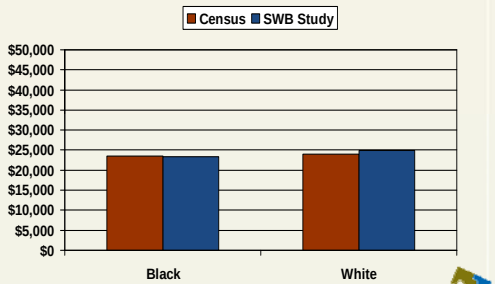
Median Income By Race



T = -1.942 df=1284 95%CI(-.464,.002)

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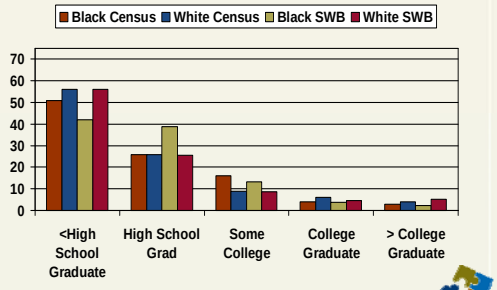
Educational Status by Race



X^2 = 45.96 df=4 p<.0001

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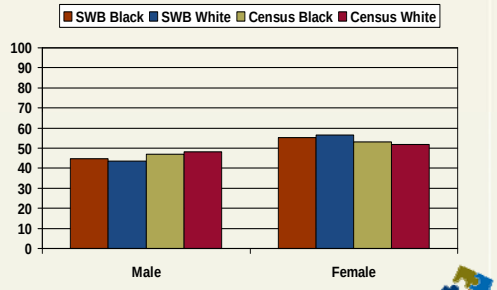
Sex



X^2 = .22 df 1 p=.312

"Exploration and Intervention for Health Equality…"

Odds Ratios and 95% Confidence Intervals for the Association between Race and Blood Pressure Status in the EDHIC Study

	NHANES 99-04	EHDIC	Percent difference
	O.R. (95% CI)	O.R. (95% CI)	
Model 1	2.25(1.95-2.59)	1.48 (1.16-1.89)	34
Model 2	2.07(1.79-2.40)	1.45 (1.12-1.88)	29
Model 3	2.08(1.80-2.42)	1.43 (1.11-1.85)	31
Model 4	2.01(1.63-2.48)	1.42 (1.09-1.86)	29

"Exploration and Intervention for Health Equality…"

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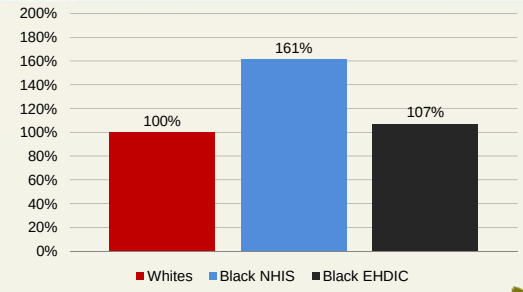
Odds Ratios and 95% Confidence Intervals for National Studies vs. EHDIC

Condition	National Data (Segregated)	EHDIC (Integrated)
Diabetes[1]	1.61 (1.26-2.04)	1.07 (0.71-1.58)
Obesity[2]	1.87 (1.48-2.36)	1.25 (0.90-1.75)
Hypertension[3]	2.01 (1.63-2.48)	1.42 (1.09-1.86)

1 LaVeist, et al. (2009) Journal of General Internal Medicine
2 Bleich, et al. (in press) Journal of Epidemiology and Community Health
3 Thorpe, et al. (2008) Social Science and Medicine

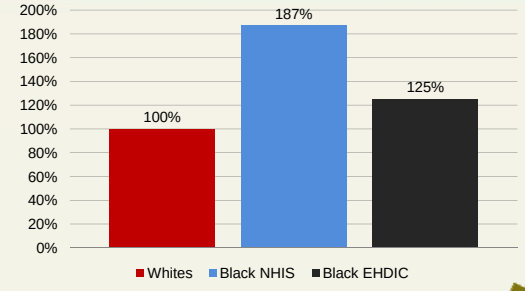
"Exploration and Intervention for Health Equality…"

Relative odd of self-report of a diagnosis of diabetes in NHIS vs. EHDIC



Source: LaVeist, et al. (2009) Journal of General Internal Medicine

Relative odd of self-report of a diagnosis of obesity among women in NHIS vs. EHDIC



Source: Bleich, et al. (in press) Journal of Epidemiology and Community Health

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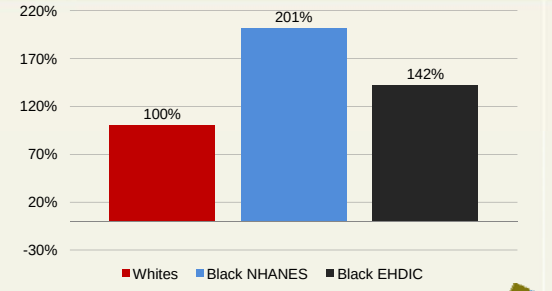
Relative odd of self-report of a diagnosis of hypertension in NHANES vs. EHDIC



Source: Thorpe, et al. (2008) Social Science and Medicine

"Exploration and Intervention for Health Equality…"

Imagine

"Exploration and Intervention for Health Equality…"

More black men in prison than college?

2006 black men in prison	2006 black men in college
• 836,800	• 896,000

DIFFERENCE = 53,200

MORE BLACK MEN IN COLLEGE!

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More black men age 20-29 in prison than college?

2006 black men in prison	2006 black men in college
• 310,000	• 480,000

DIFFERENCE = 170,000

MORE BLACK MEN IN COLLEGE!

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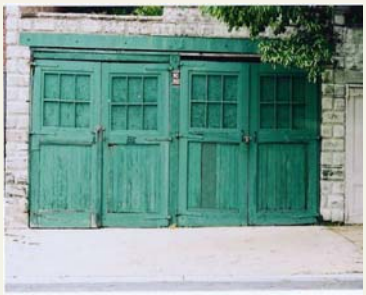
The causes of racial health inequalities



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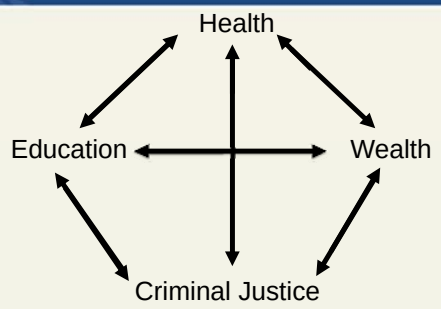
The 4 Great Race Disparities



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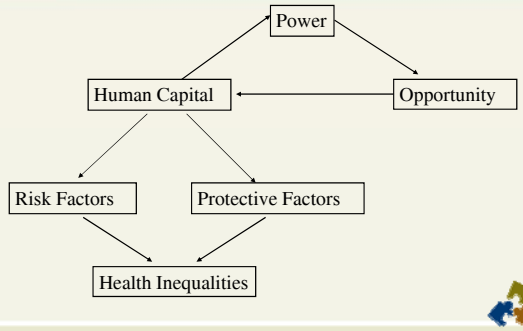

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Four Ways Policy Can Address Social Determinants of Health

- Decreasing social stratification (e.g., power, prestige, wealth, human capital, etc.)
- Decrease exposure to risk
- Lessen the vulnerability to risk or improve the ability to cope with risk among disadvantaged groups
- Intervene through healthcare to reduce the unequal consequences of social determinants

Source: World Health Organization "Action on the Social Determinants of Health: Learning from Previous Experiences, 2011

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FIFTH HEALTH DISPARITIES CONFERENCE
NEW ORLEANS · LOUISIANA

Thank you for your participation!

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