



Improving Population Health and Reducing Health Disparities in North Carolina

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NCIOM Task Force on Prevention
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Topics Covered

- *Improving population health and reducing health disparities in North Carolina: The challenge*
- *Two intervention approaches: Public policies & community-based participatory research, CBPR*
- *Two examples of “health disparities” CBPR Research*
- *How can these two approaches complement each other?*

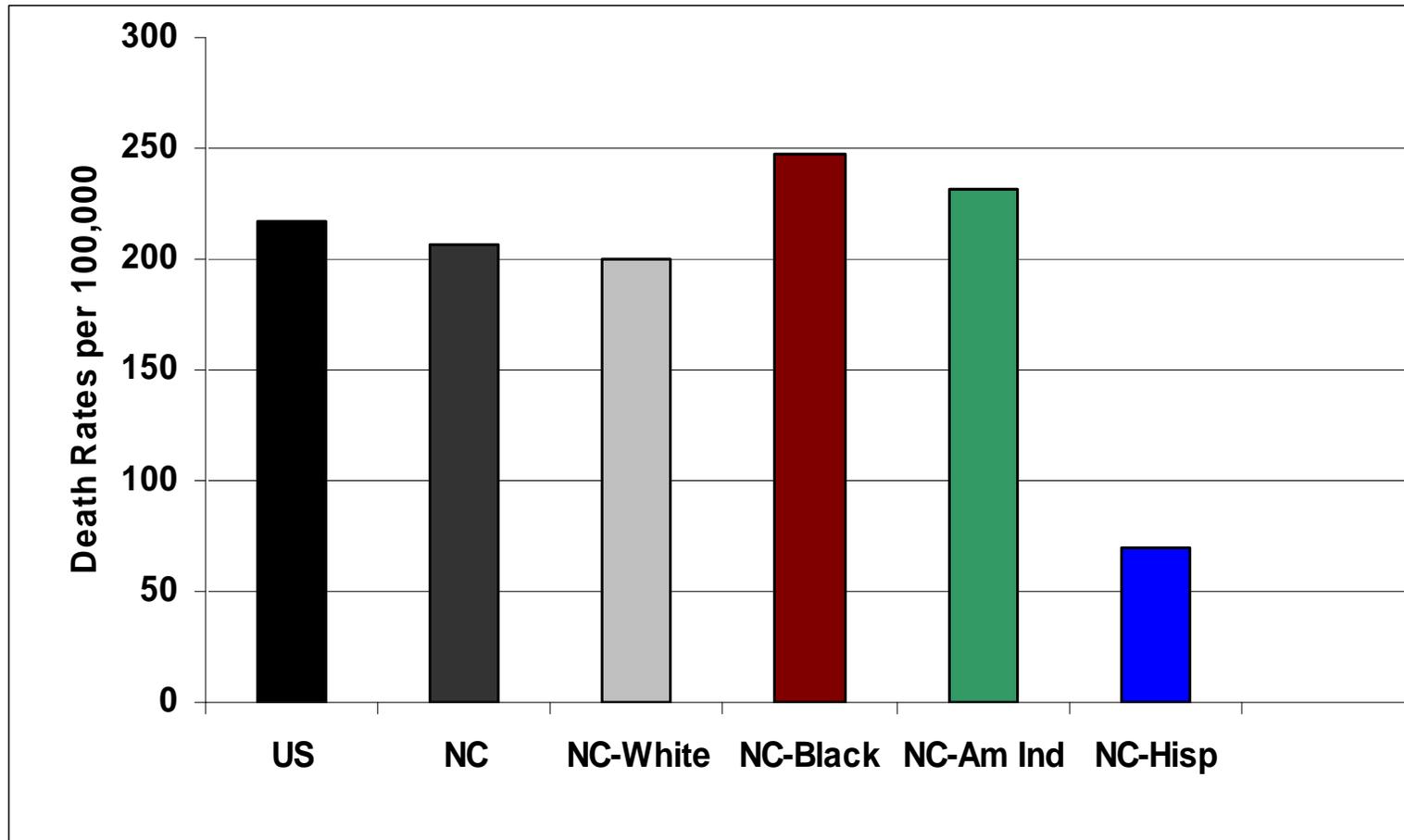
Estimated North Carolina Population by Race/Ethnicity: 2007

<i>Race/Ethnicity</i>	Est. Total Pop =9.1 million % Total
White (not Hispanic)	67.5
Black/African American	21.7
American Indian and Alaskan Native	1.2
Asian	1.9
Native Hawaiian and other Pacific Islander	0.1
Hispanic (any race)	7.0

English Not Spoken at Home = 8%

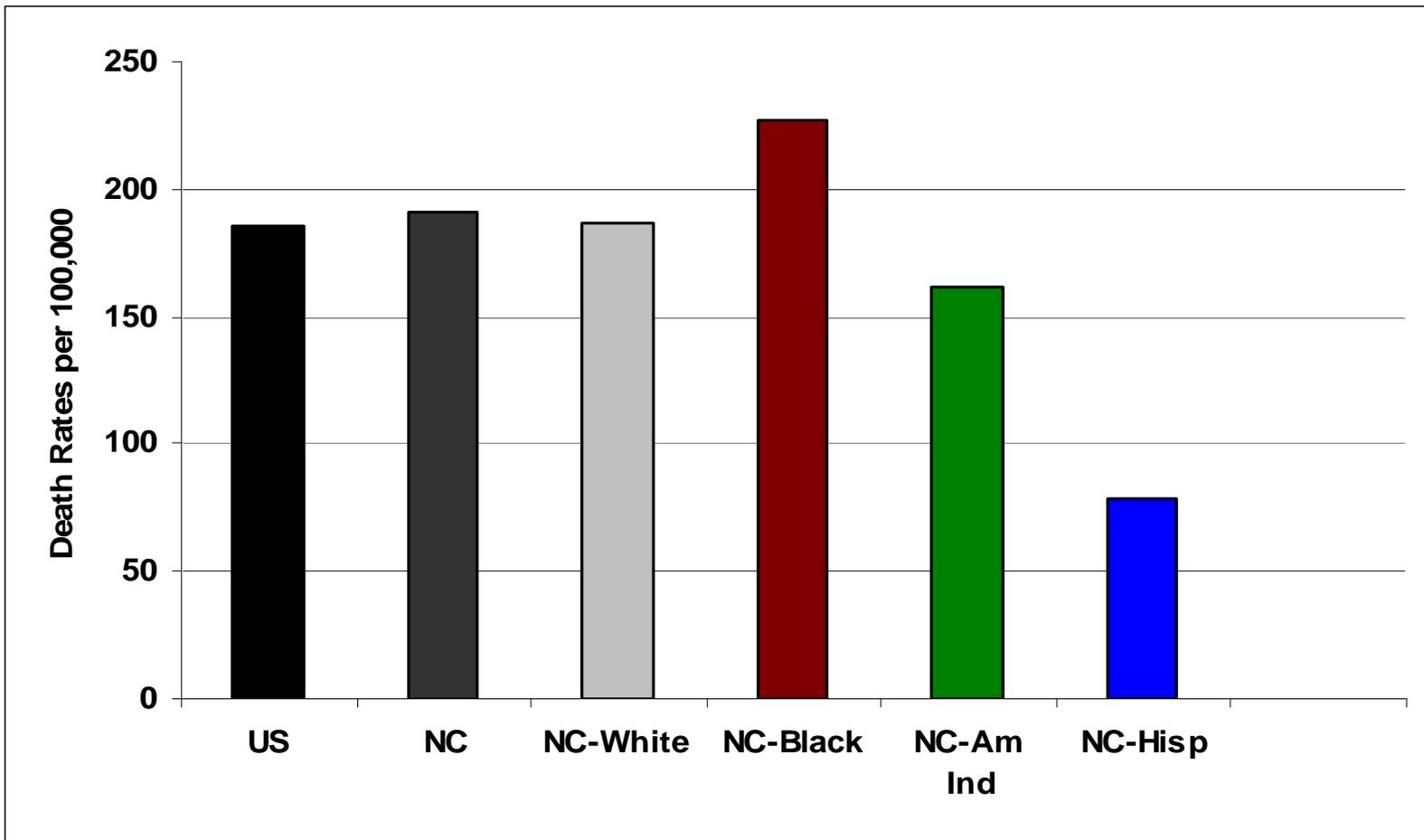
Source U.S. Census Bureau

Heart Disease Death Rates per 100,000 for the US and North Carolina by Race/Ethnicity, 2003-2007



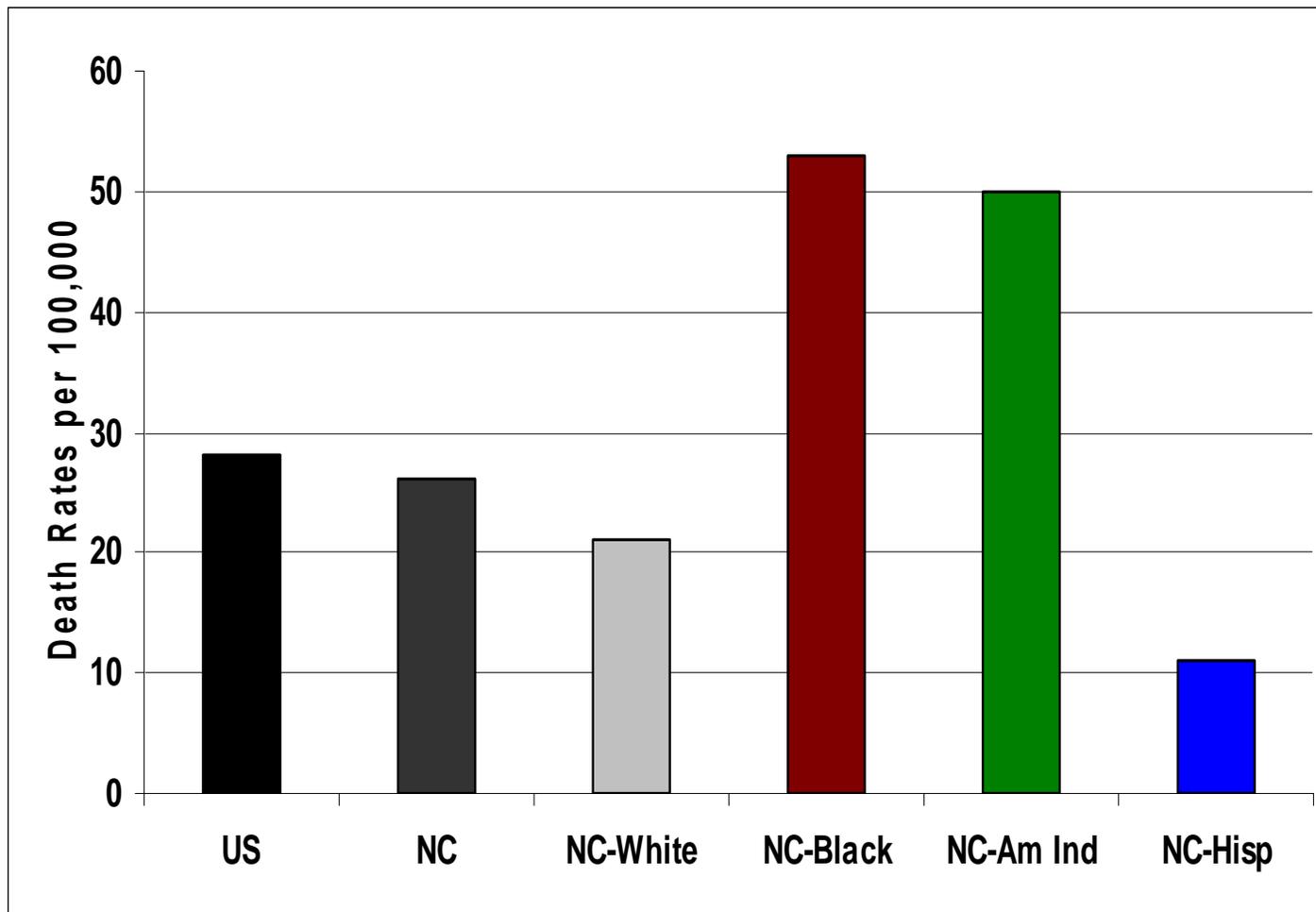
Sources: *Health US 2007*, table 29; and *North Carolina Vital Health Facts*, North Carolina DHHS State Center for Health Statistics

Cancer Death Rates per 100,000 for the US and North Carolina by Race/Ethnicity, 2003-2007



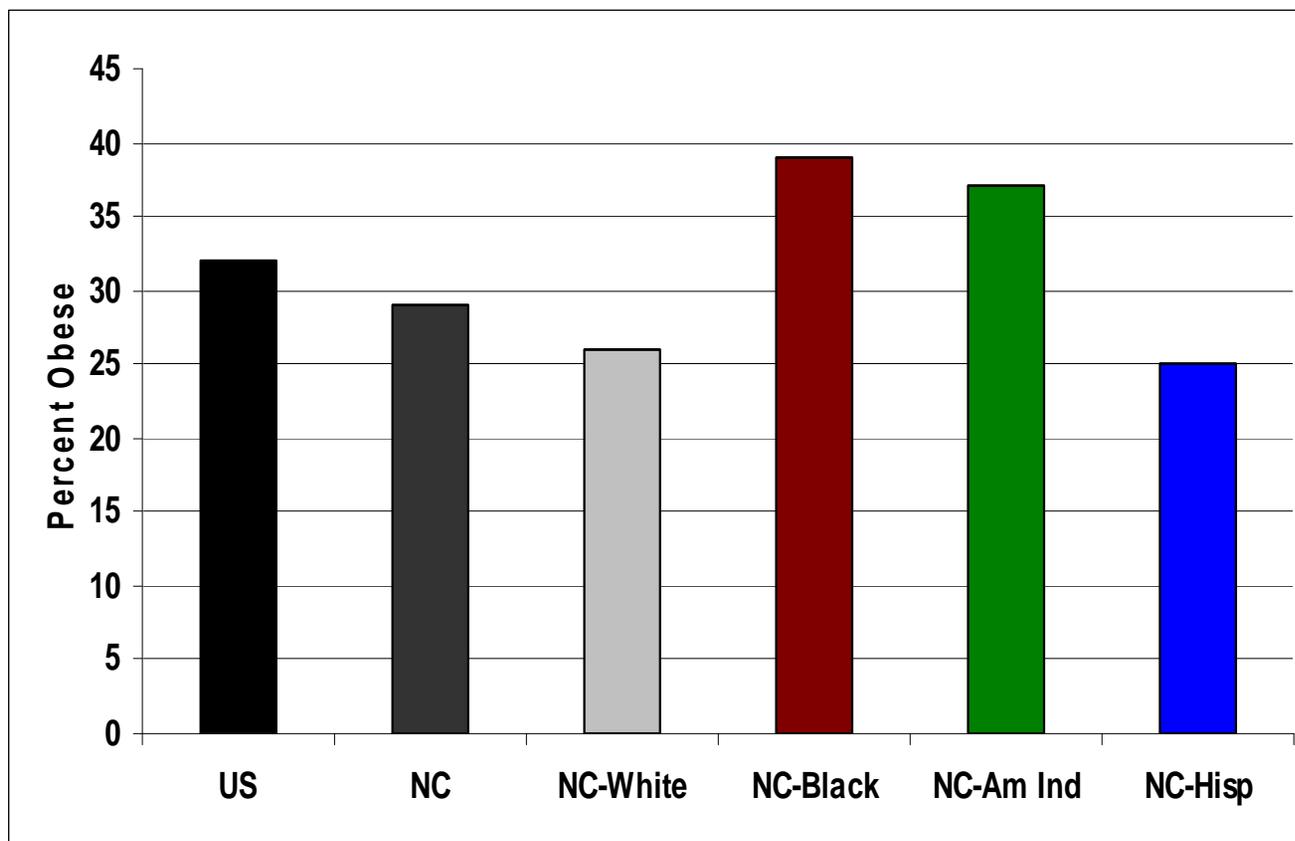
Sources: *Health US 2007*, table 29; and *North Carolina Vital Health Facts*, North Carolina DHHS State Center for Health Statistics

Diabetes Death Rates per 100,000 for the US and North Carolina by Race/Ethnicity, 2003-2007



Sources: *Health US 2007*, table 29; and *North Carolina Vital Health Facts*, North Carolina DHHS State Center for Health Statistics

Prevalence of Obesity¹ in for the United States² and North Carolina³ by Race/Ethnicity

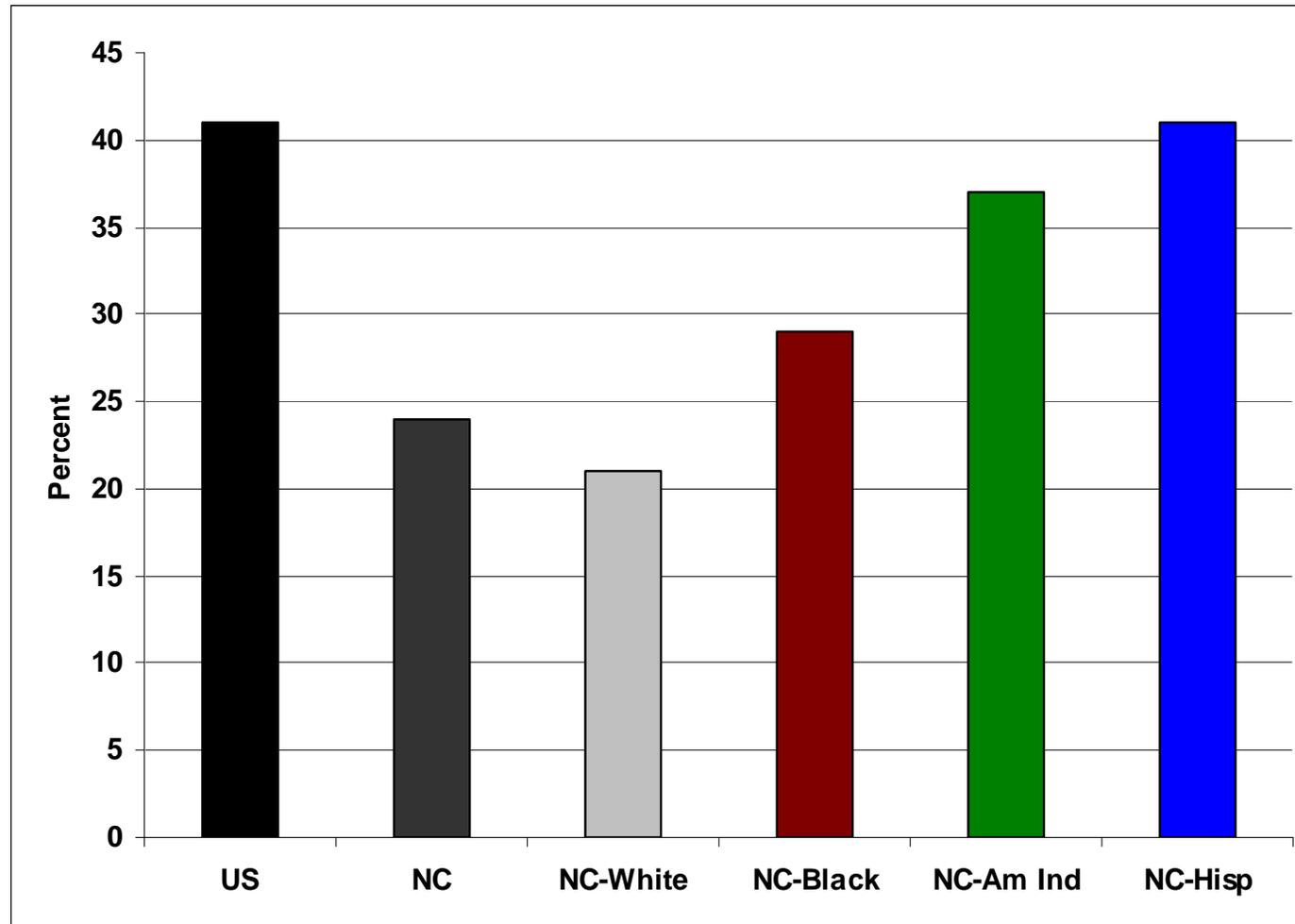


¹BMI > 30

²Source: NHANES 2001-2004

³Source: 2007 BRFSS in *North Carolina Vital Health Facts*, North Carolina DHHS State Center for Health Statistics

Percent No Leisure Time Physical Activity the US¹ and North Carolina² by Race/Ethnicity



¹Source: NHANES, 2005

²Source: 2007 BRFSS in *North Carolina Vital Health Facts*, North Carolina
DHHS State Center for Health Statistics

Improving Population Health and Reducing Health Disparities: Public Policy Approaches

A General Rule¹...

If public health interventions are structured so they have effects independent of the motivation, resources, or actions of individuals, they are less likely to be a source of (health) disparities:

- **water fluoridation**
- **seat belt use**
- **mandatory desegregation of hospitals in 1965**
- **increase taxes on tobacco products²**
- **nutrition/physical activity standards in schools²**

¹David Mechanic, *Population Health: Challenges for Science and Society*, *The Milbank Memorial Quarterly*, vol. 85, 2007; pp. 533-559

²Included among the recommendations of the NC-IOM Interim Report, *Prevention for the Health of North Carolina*, March 2009

Improving Population Health and Reducing Health Disparities: Community-Based Approaches

But, when efforts to improve population health depend on *individual motivation plus adequate economic resources*, disadvantaged communities will need “tailored” interventions to help them change social norms influencing preventive health behaviors such as dietary habits, physical activity, and self-management of chronic diseases.

Enter CBPR interventions...

Community-Based Participatory Research Principles¹

- *Builds on a community's strengths and resources*
- *Emphasizes equity and power-sharing between researchers and community partners*
- *Focuses on the local relevance of public health problems*
- *Involves a long term process and commitment to sustainability*

¹Four of 9 principles

Source: Paula Lantz et al, Community-Based Participatory Research: Rationale and Relevance for Social Epidemiology in Oakes and Kaufman (eds.) *Methods in Social Epidemiology*, San Francisco, Jossey Bass 2006; pp. 239-266.

What is Known about the Effectiveness of CBPR?

A 2004 review found:

- *Of 12 published CBPR studies, enhanced participant recruitment in 8*
- *Improved research methods in 4*
- *Improved intervention outcomes in 2*
- *With little evidence of diminished research quality*

CBPR and Improved Blood Glucose Control among Blacks and Hispanics in Detroit, MI

During a 6 month CBPR intervention, ten (5 Black, 5 Hispanic) lay community health workers,¹ provided informational, emotional, and instrumental support to 118 individuals (77 Blacks, 41 Hispanics) with type 2 diabetes resulting in a statistically significant greater decrease in A1c values for study participants compared to individuals receiving “usual” medical care.

¹Also called promotoras, family health advocates, health ambassadors, etc

Source: J. Two-feathers et al, Racial and Ethnic Approaches to Community Health (REACH) Detroit

Partnership: Improving Diabetes-Related Outcomes among African American and Latino Adults
Am J Pub Health, 2005; vol. 95; pp. 1552-1560

African American Health Improvement Partnership in Durham, NC: Working to Improve Diabetes Control Through CBPR

Partners

- ❖ 11 Churches
- ❖ 15 member Community Advisory Board
- ❖ Duke University
- ❖ Community Health Coalition
- ❖ North Carolina Central University

Goal

- ❖ Help type 2 diabetics control blood glucose through sustainable improvements in diet, physical activity and body weight

Methodology

- ❖ Bi-weekly social support groups led by Health Ambassadors, supported by professional health educators – *6 months*

*Pilot Study Funded by NIH/NCMHHD Grant no. R24 MD001655 to the Department of Community and Family Medicine, Duke University: 9/30/05-6/30/08; Phase II (2008-2013) recruitment now underway

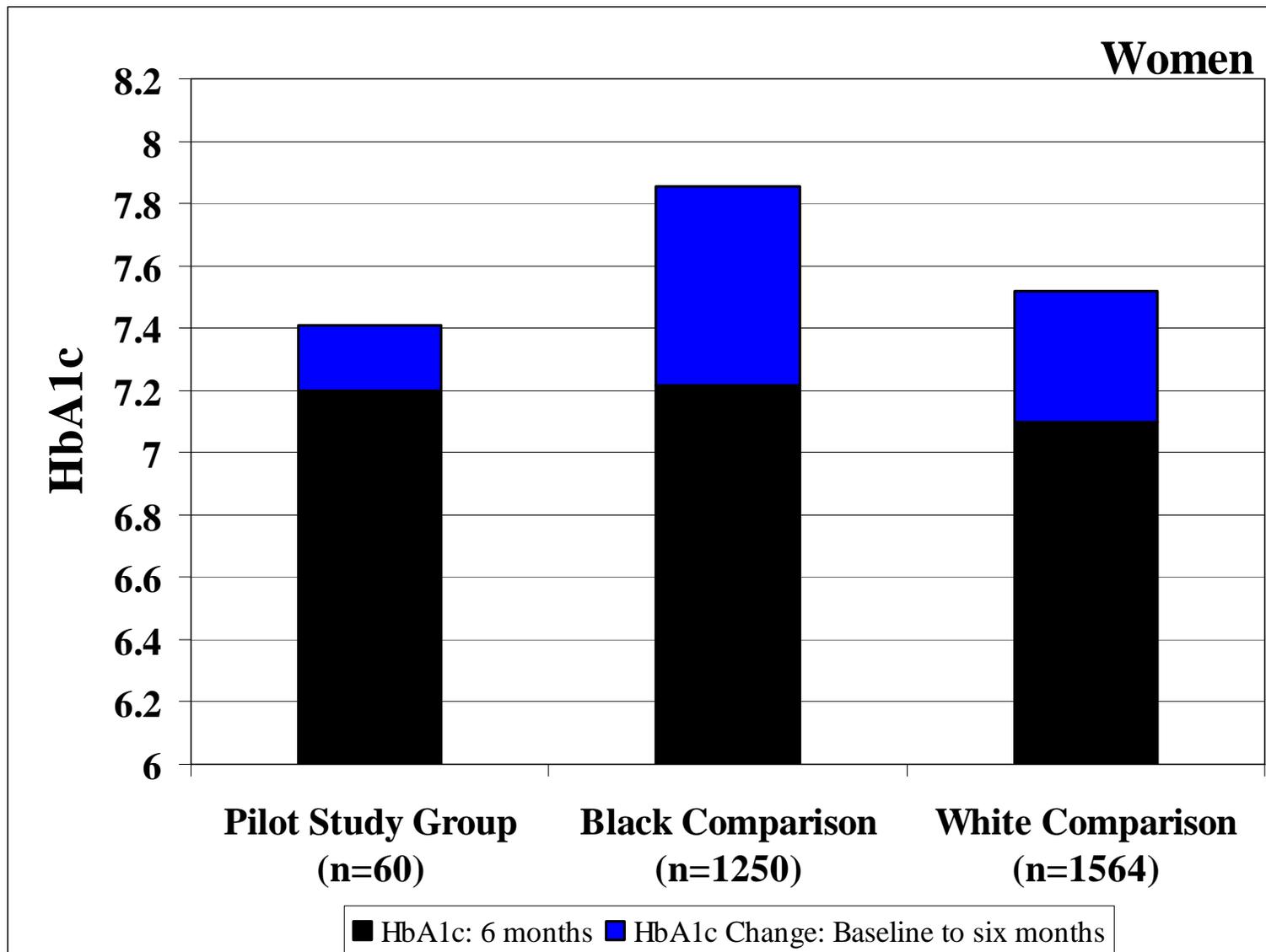
Selected Baseline Characteristics of Pilot Study Group¹ and Two Comparison Groups of Type 2 Diabetics in the DUHS²

<i>Pilot Study Group</i>	DUHS Comparison Groups		
	<i>Black</i>	<i>White</i>	
N	89	1,974	3,210
Mean age	58	61	62
% Women	67	63	49
Baseline A1c	7.6	7.7	7.2

¹120 individuals enrolled, but only 89 provided complete data at baseline and 6 months later.

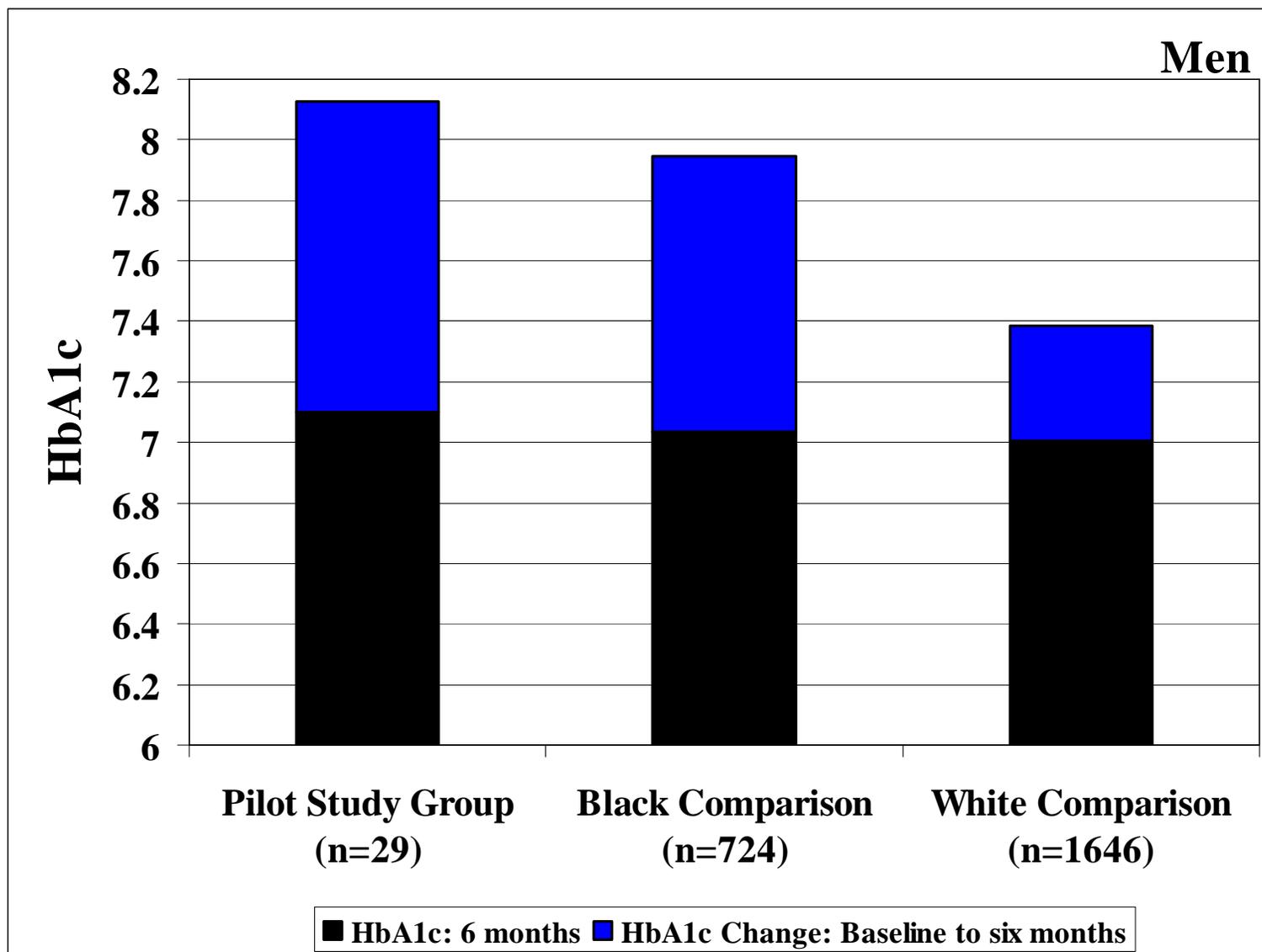
²Duke University Health System

Adjusted* Mean Baseline and Six Month HbA1c among Women: Pilot Study Group vs. Black and White Comparisons



*Adjusted for age and insurance status

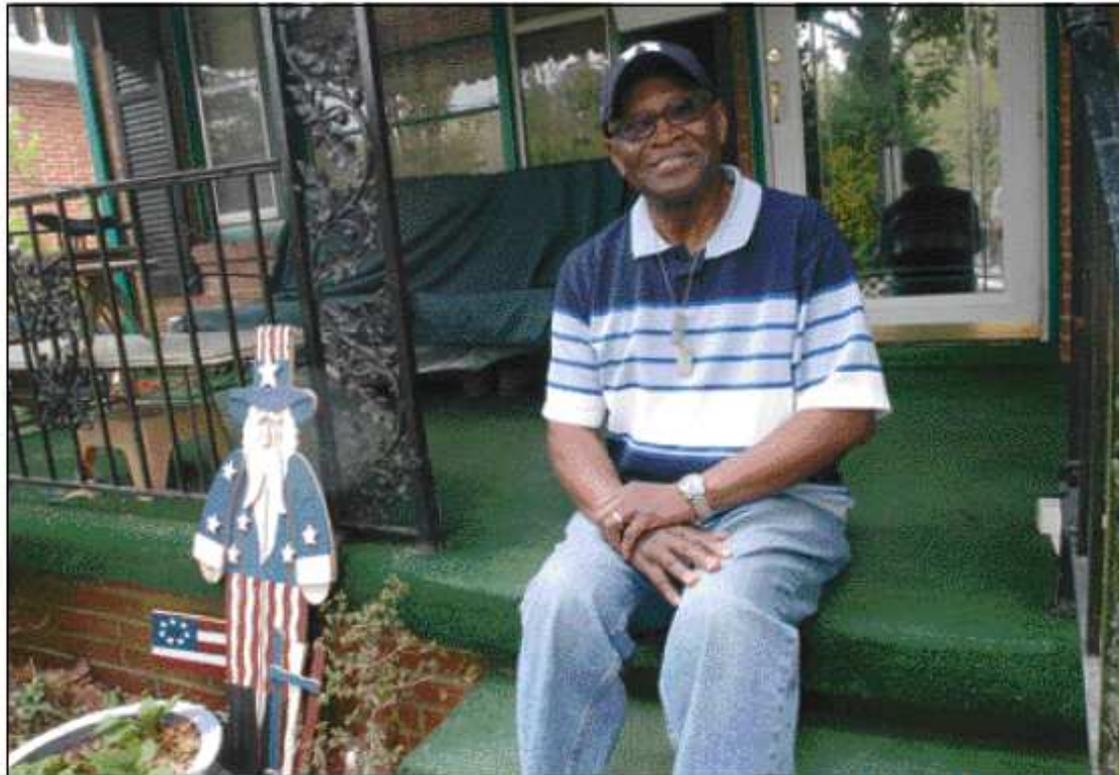
Adjusted* Mean Baseline and Six Month HbA1c among Men: Pilot Study Group vs. Black and White Comparisons



*Adjusted for age and insurance status

“Program Helps Black Diabetes Sufferers”

‘I knew a lot of what to do, but I lost focus’



THE HERALD-SUN | BERNARD THOMAS

Diabetes afflicts 25 percent of African-Americans between the ages of 65 and 74, including James Reaves, 73, a retired postal worker and self-described “exercise freak,” who in 2005 joined a Duke pilot program that has helped him manage his sweet tooth.

Source: Gregory Childress, *The Durham Herald-Sun*, April 20 2009

Some Limitations and Strengths of CBPR Research

Limitations

- *Selective participation*: attracts/retains only highly motivated individuals
- *Labor intensive*: economically disadvantaged individuals require considerable support to make lifestyle changes

Strengths

- Interventions are responsive to needs of the disadvantaged and can be tailored to address the needs of low income men
- Interventions can be embedded in pre-existing social networks which favors sustainability and replication

Searching for complementarities between Public Policy and CBPR approaches to improving Population Health

CBPR interventions can ameliorate the health damaging effects of *life course* socioeconomic deprivations affecting the poor and US racial minorities, but available evidence is scarce that they can undo the *structural* factors that both undermine population health and generate health disparities. History teaches us that structural barriers to health are best engaged through *public policy* interventions.

Public policy interventions, however, are limited in their power to change (legal) individual health behaviors; hence changes in community norms governing important health behaviors will be needed if new, *prevention-oriented health policies* in North Carolina are to be effective. CBPR interventions may be our best strategy to foster such changes in community health norms.

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