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Disparities in Cardiovascular Health

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Introduction

- The CDC reports heart disease and stroke—the principal components of cardiovascular disease—are the first and third leading causes of death in the United States, accounting for nearly 40% of all deaths.
- Nearly 930,000 Americans die of cardiovascular diseases each year, which amounts to one death every 33 seconds.

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The Cost of Heart Disease and Stroke

- In 2005, the cost of heart disease and stroke in the United States was projected to exceed $394 billion: $242 billion for health care expenditures and $152 billion for lost productivity from death and disability.
- In 2001, the cost of hospitalization for cardiovascular problems among Medicare beneficiaries topped $29 billion.
- In 2005, $60 billion in health care spending was attributed to high blood pressure.

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Changing populations

- There are 45.5 million Hispanics living in the United States (15 percent of the U.S. population).
- Blacks comprise the second-largest minority group, with 40.7 million (13.5 percent).
- Asians, with 15.2 million (5 percent).

May, 2007 U.S. Census Report

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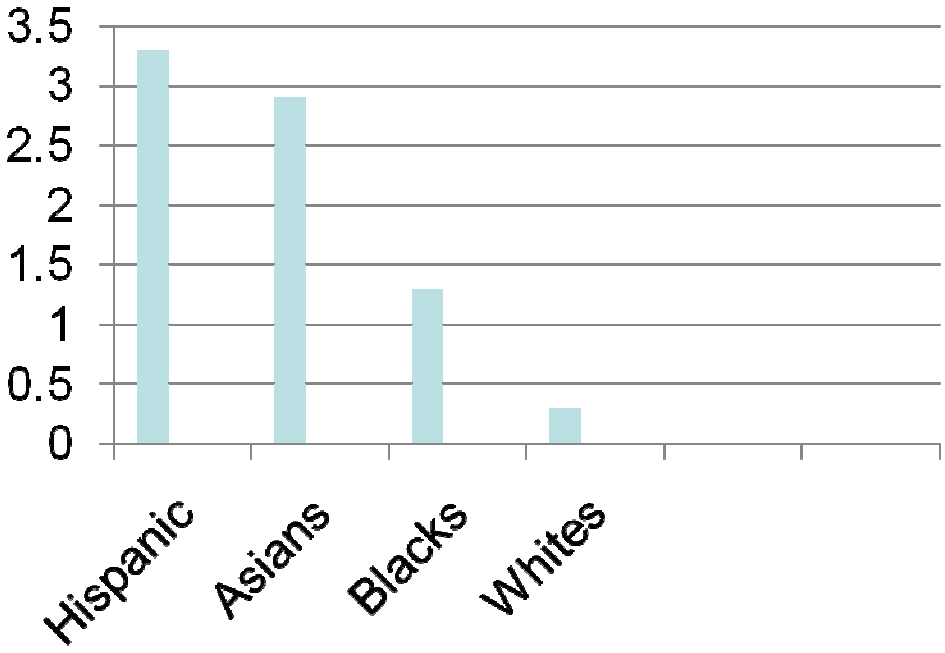
Comparison of minority growth

- **Population growth from July 2007 to June 2008**



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Regional Growth of Minority Populations

- The largest growth of Hispanics was in the South.
- The largest growth of African Americans was in the Bible Belt.
- The largest growth of Asians was in the Northwest and California.

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Changing Majority?

- **Whites are now 66 percent of the population. Today in Hawaii and three other states -- New Mexico, California and Texas -- more than 50 percent of the population is composed of people other than non-Hispanic whites.**

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Defining Disparity

- Disparities are differences in outcomes that are not explained by differences among people.
- Differences in outcomes related to gender, race, ethnicity, or physiology are not to be confused with disparities.

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From the AHA president

- **A disparity occurs when differences in outcomes are "related to bias… systems of care that are not culturally sensitive and that are unfortunately related to discrimination", President of American Heart Association Clyde Yancy, MD, medical director of Baylor University Heart and Vascular Institute.**

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Disparities in Cardiovascular Therapy (A. Jha, MD, PhD)

- **Blacks Receive CV Treatments Less often:**
  - **Systematic Review: Over 600 studies**
  - **28 high quality studies using detailed chart review**
  - **African-Americans were less likely to receive:**
    - » **Cardiac catheterization (15% to 97% lower odds)**
  - **PTCA (13% to 80% lower odds)**
    - » **CABG (32% to 78% lower odds)**

*Source: Kressin. Racial differences in the use of invasive cardiovascular procedures. *Annals of internal medicine*, 2001.

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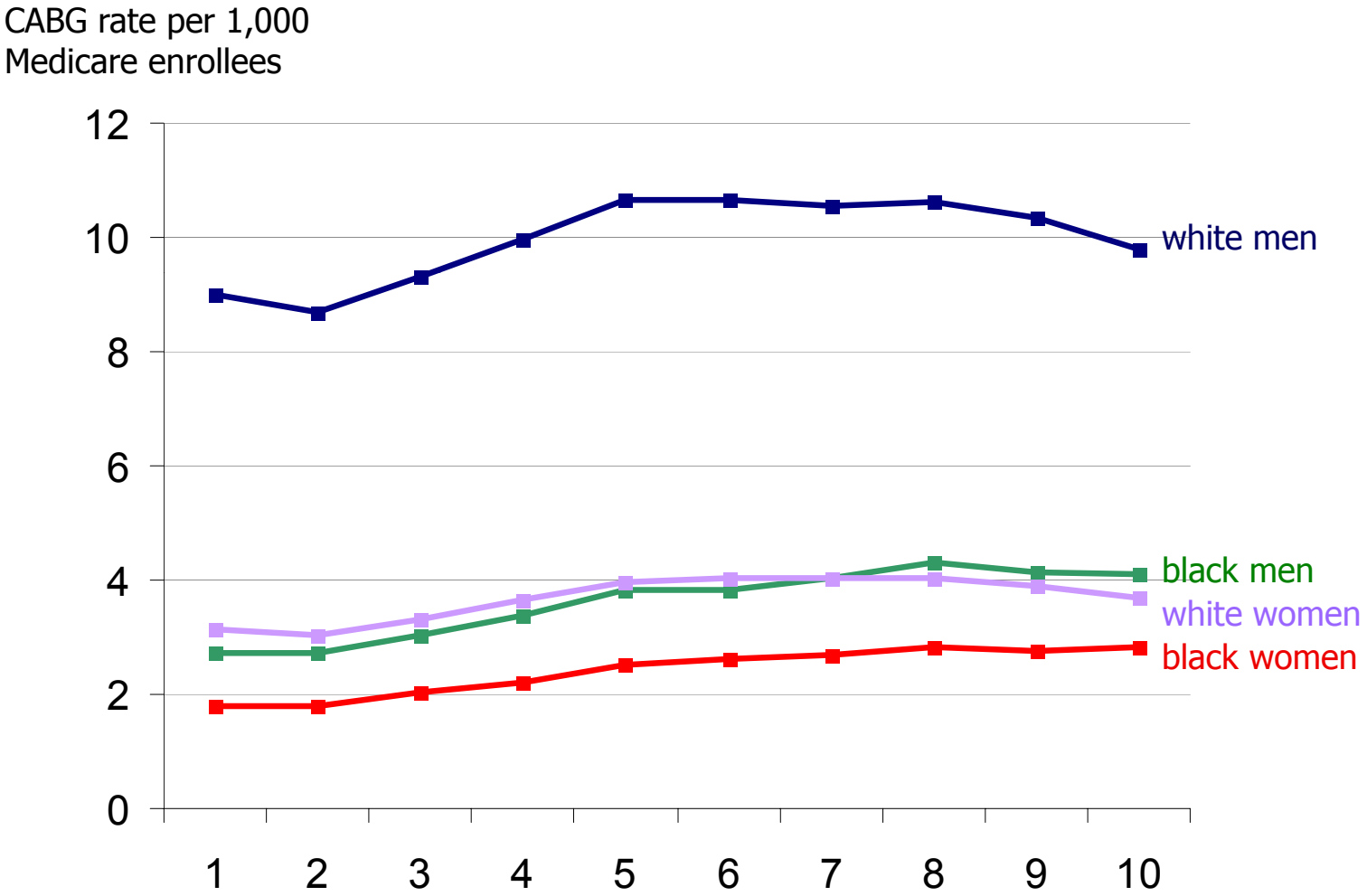
National CABG rates

1992 - 2001



Jha, NEJM, 2005

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Disparities abound

- 43.6% of Caucasian men received ICDs compared with 28.2% of African American women with the same indications.
- From 1999-2006 African Americans and Hispanics had lower blood pressure, A1c, and glycemic control compared with Caucasians.

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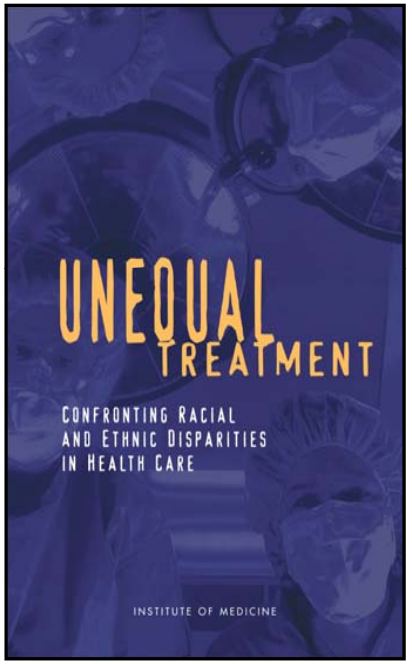
Institute of Medicine, 2002

- "Racial and ethnic minorities tend to receive a lower quality of healthcare than non-minorities"
- Less likely to receive:
  - Cancer screening
  - Cardiac medications
  - Coronary bypass surgery
  - Kidney dialysis
  - Transplants
  - Curative surgery for lung cancer
  - Hip and knee replacement after OA
  - Pain medicines in the ER



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Why do disparities exist?

- "Appropriate" differences
  - Differences in disease
    - » Severity, treatment efficacy, etc.
  - Patient-preference
    - » Minorities may opt for less
- Poor quality providers
  - Care concentrated among a small number of providers
  - Providers who care for minorities provide worse quality
- Regional variation
  - Minorities live in poor quality areas
- Discrimination and stereotyping
  - Limited data

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Current thinking

- **Three influential studies that shape current thought:**
  - **Bach: Poor quality providers**
  - **Baicker / Chandra: Low quality regions**
  - **Asch: Poor quality for all**

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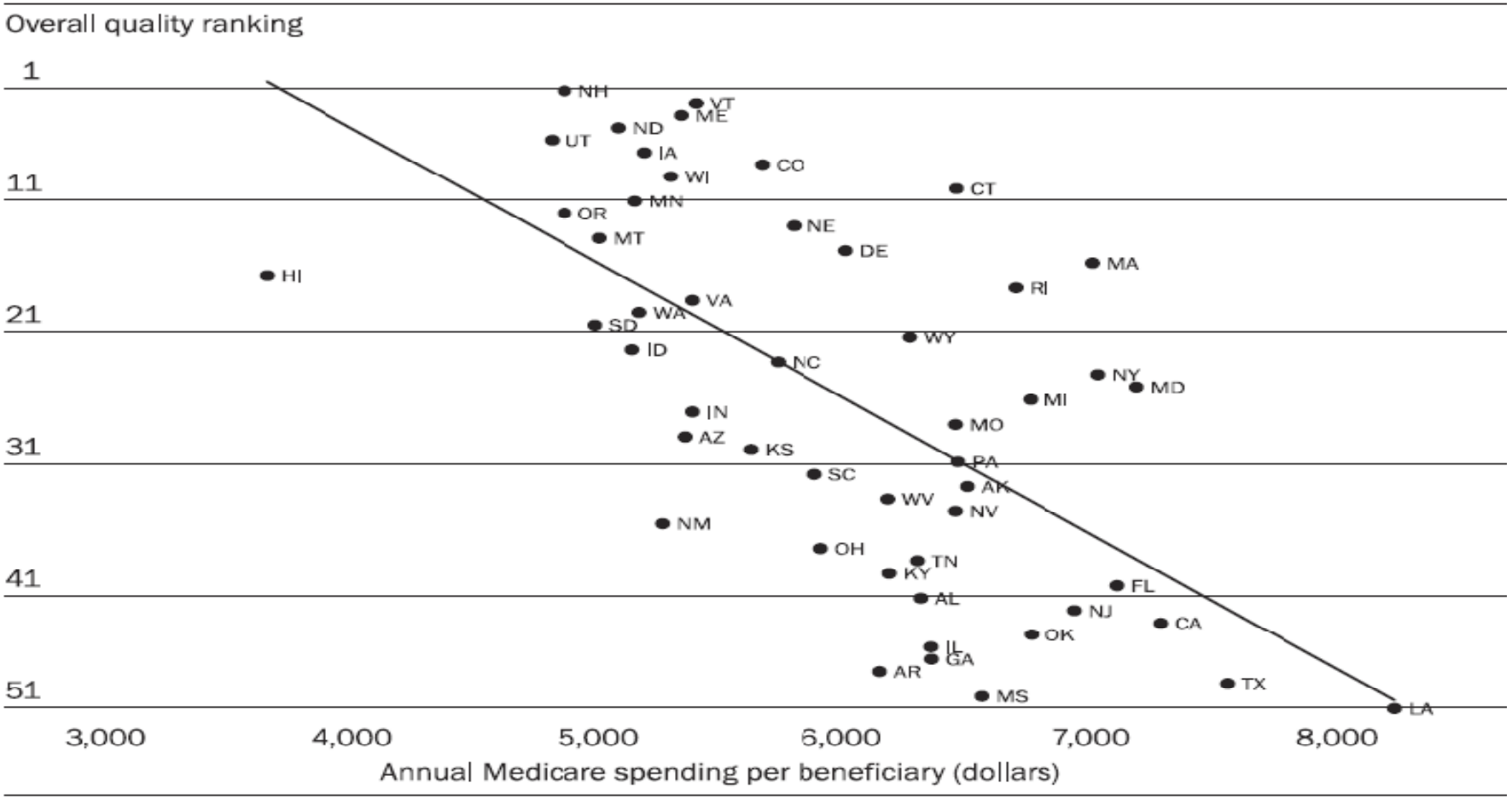
Regions with worse quality?

EXHIBIT 1
Relationship Between Quality And Medicare Spending, As Expressed By Overall Quality Ranking, 2000–2001



SOURCES: Medicare claims data; and S.F. Jencks et al., "Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998–1999 to 2000–2001," *Journal of the American Medical Association* 289, no. 3 (2003): 305–312.
NOTE: For quality ranking, smaller values equal higher quality.

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Poor quality providers?

- 22% of PCPs care for 80% of elderly blacks*
- High Minority Serving Physicians:
  - Less likely to be board certified
    - » 77% vs. 86%
  - More likely to report trouble providing high quality care
    - » 24% vs. 17%
  - Quality of care?

*Bach, NEJM 2005

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Disparities Summary

- **Racial and Ethnic disparities in care:**
  - **Exist**
  - **Are sizeable**
  - **Are likely multi-factorial**
- **Unlikely to account for gap:**
  - **Patient preferences play small role**
  - **Disease biology unlikely to be major factor**
- **Poor quality providers?**
  - **Possible role in the ambulatory care setting**
  - **Less clear in hospital setting**

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Explaining Disparities

- **Discrimination?**
  - Data very limited
  - Lower rates of pain medication use in ER
- **Regional variation?**
  - Large variations in quality of care
  - Blacks may live in geographically bad quality areas
  - Unlikely to be the major factor
  - QI is the main policy prescription if true
  - Negative attitudes by providers in surveys
  - Lack of cultural competence and stereotyping?

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Addressing Disparities

- **The IOM study did not isolate a single cause to explain disparities, but they suggest centers "[p]romote the consistency and equity of care through the use of evidence-based guidelines."**

- **Robert Wood Johnson Foundation initiates nationwide collaborative study called "Expecting Success: *Excellence in Cardiac Care*" to implement strategies to improve care.**

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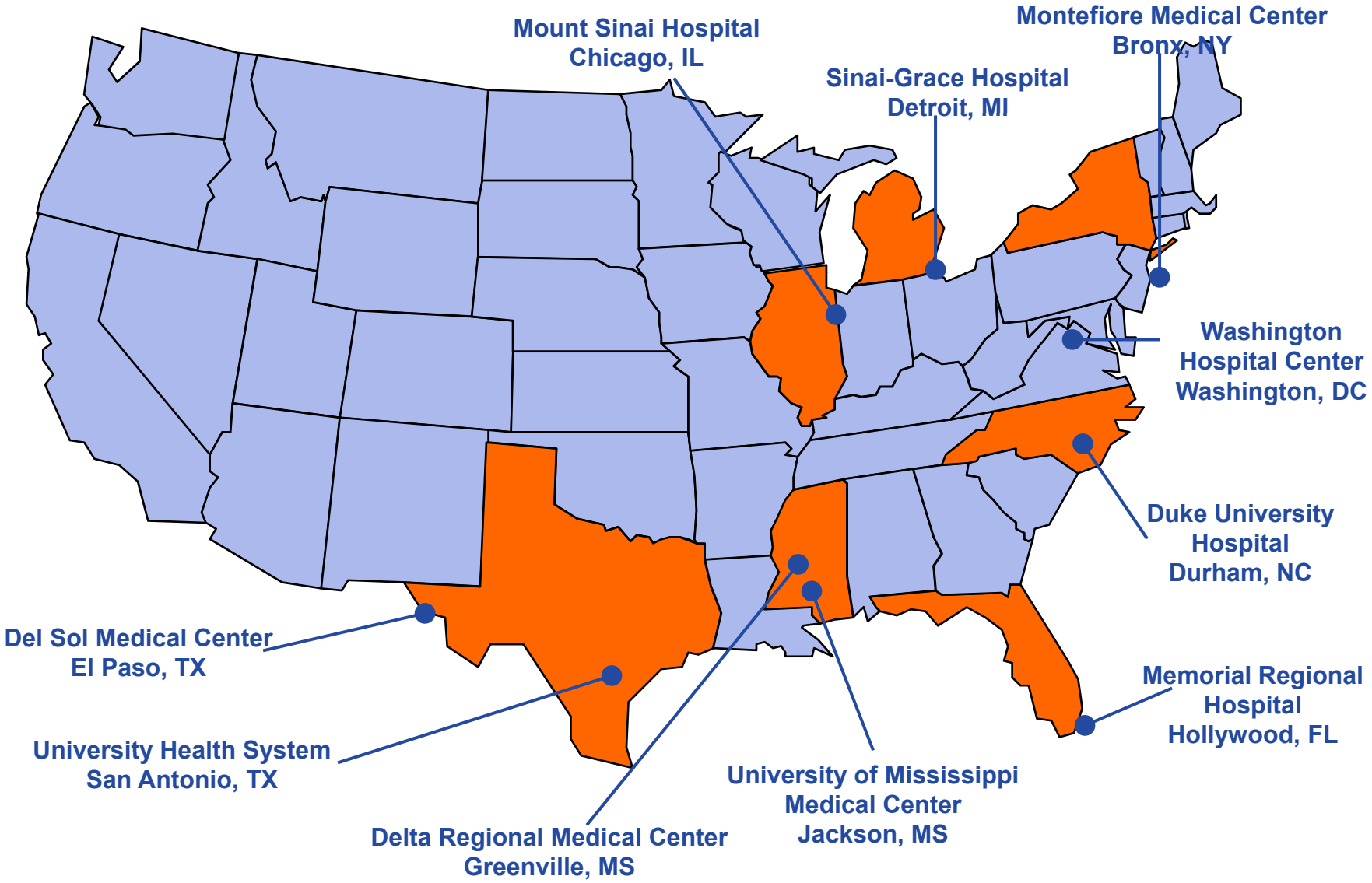
10 sites were selected:



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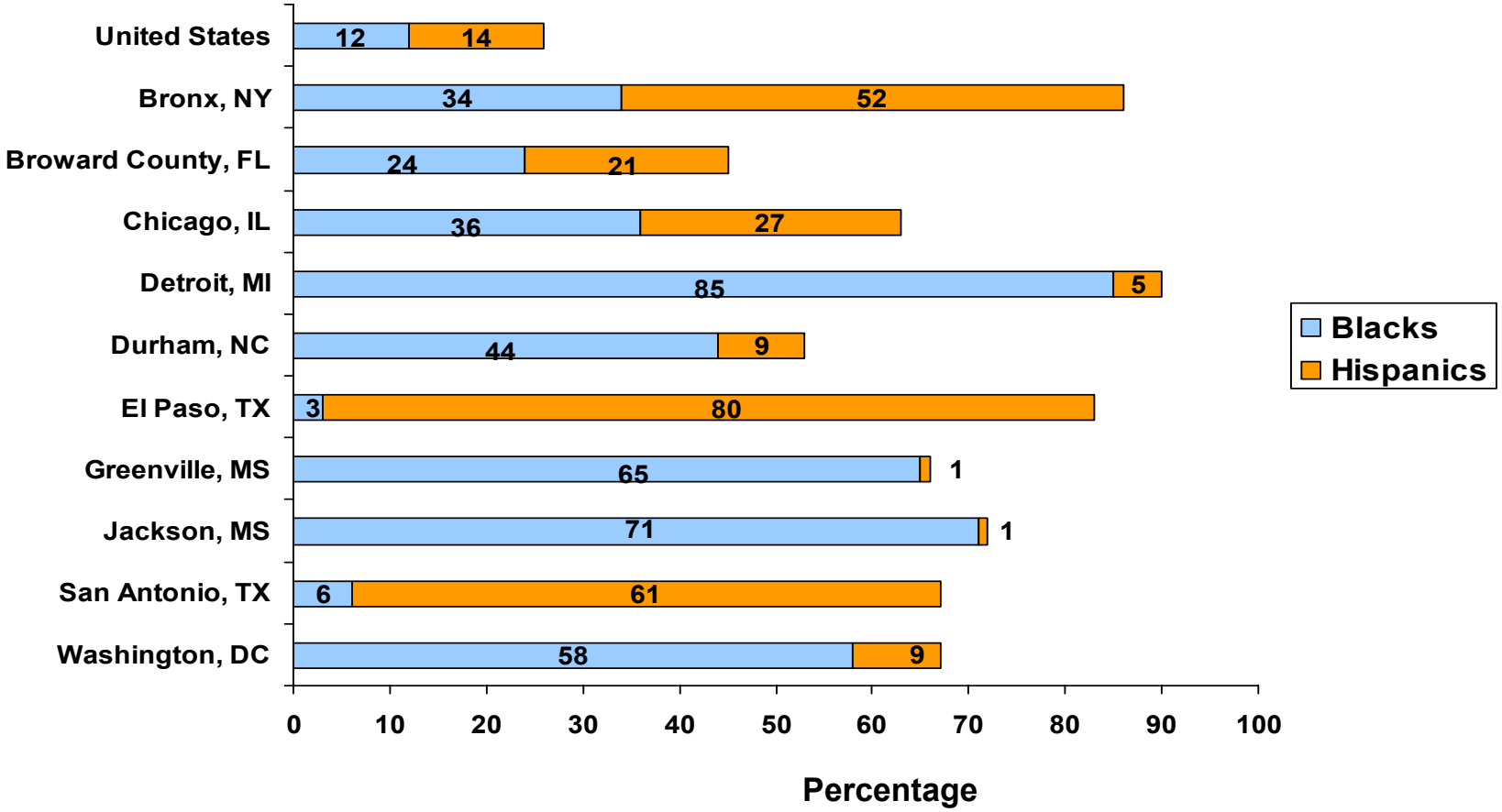
Percentage of African American and Hispanic Residents in *Expecting Success* Communities (2004)



Sources: 2004 American Community Survey, U.S. Census Bureau; 2000 Census, Profile of Demographic Characteristics, U.S. Census Bureau. Durham, Greenville, and Jackson, data are for 2000. Data for Greenville are for the county.

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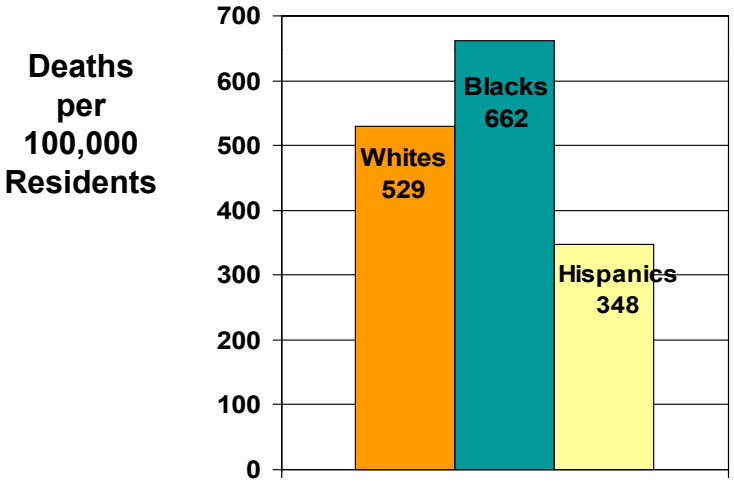
Burden of Heart Disease for Racial and Ethnic Minorities

Heart Disease Death Rates Among 35+ Population by Race, United States, 1996-2000



Source: Centers for Disease Control and Prevention, Heart Disease and Stroke Maps. The data are age-adjusted heart disease mortality deaths per 100,000 between the years 1996-2000 for adults ages 35 years and above.

- Blacks have a higher heart disease death rate than whites or Hispanics.
- Blacks have a higher prevalence of cardiac disease than whites or Mexican Americans.
- Mexican Americans are more likely to have higher cholesterol than whites or blacks.
- Blacks and Mexican Americans are more likely than whites to be diagnosed with diabetes.

Source: American Heart Association, Heart Disease and Stroke Statistics – 2006 Update.

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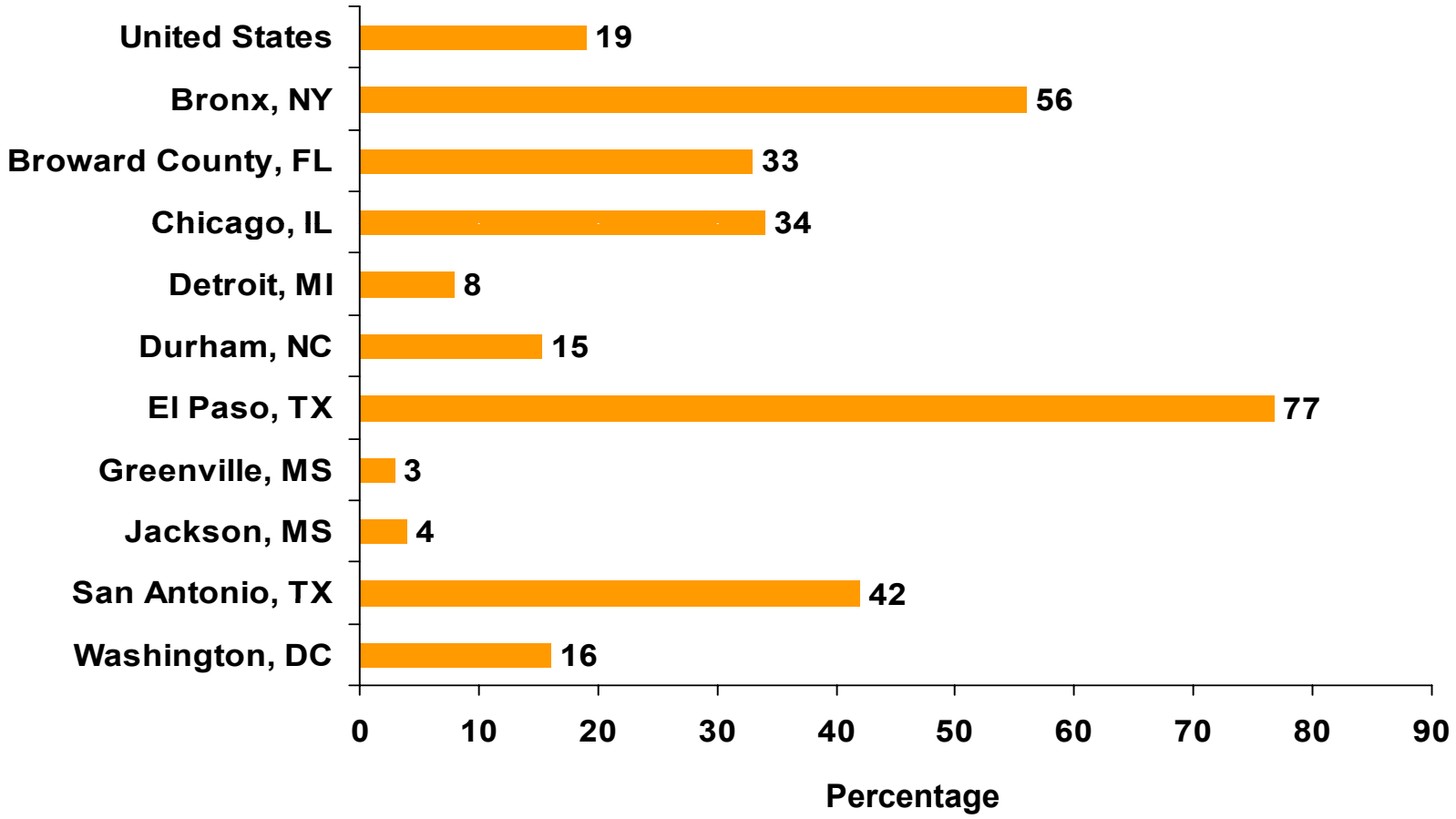
Percentage of Population Who Speak a Language other than English at Home, 2004



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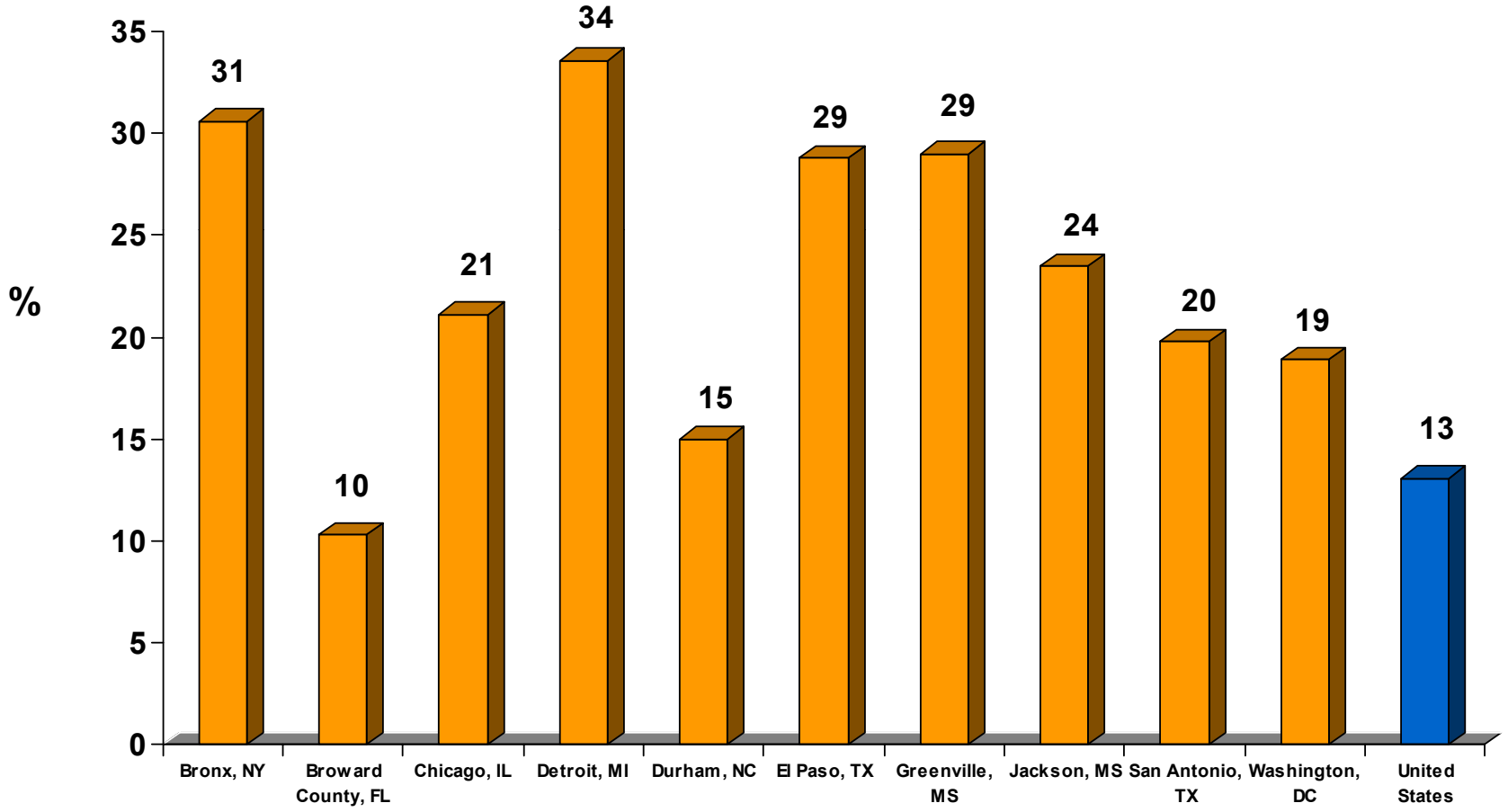
Percentage of Population Living Below Poverty among Grantee Communities, 2004



Sources: U.S. Census Bureau, 2004 American Community Survey, and 2000 Census, Profile of Demographic Characteristics. Durham, Greenville, and Jackson data are for 2000. Greenville data are for the county.

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Study Goals

- Making significant and measurable system level and clinical improvements across the continuum of care.
- Obtaining a better understanding of the communication and cultural barriers that stand between our patients and optimal outcomes.

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Outcomes

- **The UHS reached its overall goal of providing a score of 85% or more of our patients with heart attacks and heart failure the highest quality care as measured by a composite indicator of care.**

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Implications for practice in quality and disparities

- Real time data collection
- Electronic Medical Record
- Multi-disciplinary teams
- Accurate racial, ethnic and language preference data
- Celebration of successes

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The UHS Expecting Success Team

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CREDO Update 2010

- **Coalition to Reduce Racial and Ethnic Disparities in Cardiovascular Outcomes.**

- **Objective: Identify evidence-based principles of provider education that would lead to equitable CV care and options.**

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Recommendations

- Provide cultural competency to health care providers-in-training.
- Encourage data collection based on race and ethnicity to help identify disparities.
- Improve communication skills of health care providers working with diverse populations.