Sociodemographic Investigation of an Elevated 2004 Washington, D.C. Hypertension Death Rate

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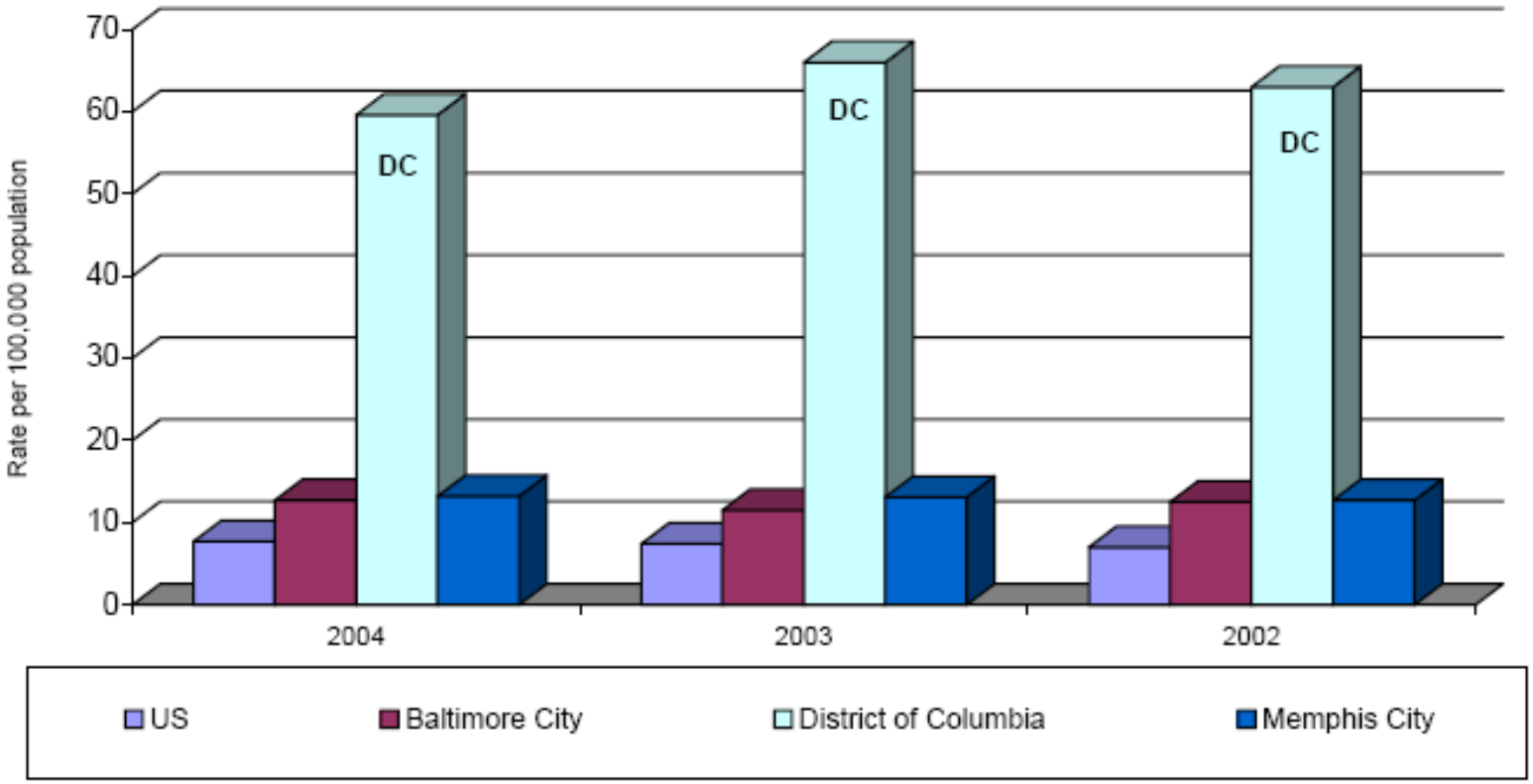
Overview

- Purpose: DC DOH Hypertension findings
- Background Data
    - Literature
    - DC demographics
- Data Analysis
    - Age of death by gender, race, ward
- Recommendations

Hypertension Age-Adjusted Rates: U.S. and Selected Cities, 2003-2004



DC Department of Health - Research and Analysis Division (2007) Major Causes of Death for the District of Columbia, U.S., and Selected Cities, 2002-2004. State Center for Health Statistics, Center for Policy, Planning and Epidemiology. 6-7.

Purpose

- Find possible explanations for why DC has a comparatively elevated Hypertension death rate
- Hypertension a risk factor for Heart Disease
  - First leading cause of death in DC
- Maximize use of existing death certificate information
  - Identify health disparities and launch further inquiries

Background Information

- Prevalence of hypertension has increased
  - greatest increase among white women
  - increases also in male and female black populations (Hertz 2005)

- Racial and ethnic minorities “continue to have poorer access to high quality health care services and different patterns of use than those of whites”
  - Fewer prevention services
  - Less likely to have usual source of care
  - Less likely to have health insurance (Zuvekas 2003)

- 6 million African Americans with hypertension
  - Only 27% have their blood pressure controlled (Wilson 2002)

Background Information Cont.

- Poor, urban minorities bear higher burdens of Hypertension morbidity and mortality than affluent, suburban racial majorities (Benbow 2003)

- Neighborhoods influence individual access to education, quality housing, and employment opportunities (Cozier 2007)

- Persons living in poorer residential neighborhoods have increased prevalence of risk factors for Coronary Heart Disease mortality (Chobanian 2003, Cozier 2007)

DC Demographics

- Race (US Census Bureau 2005)
  - 38% White
  - 57% Black
- Neighborhood (Benbow 2003)
  - Wards geographically, economically, ethnically diverse
  - Socioeconomic and health indicators tend to worsen in SE region

Variables of Interest

Independent:

- Gender
- Race (black and white)
- Ward of residence

Dependent:

- Age at death
  - Insight to factors contributing to survival

Hypotheses

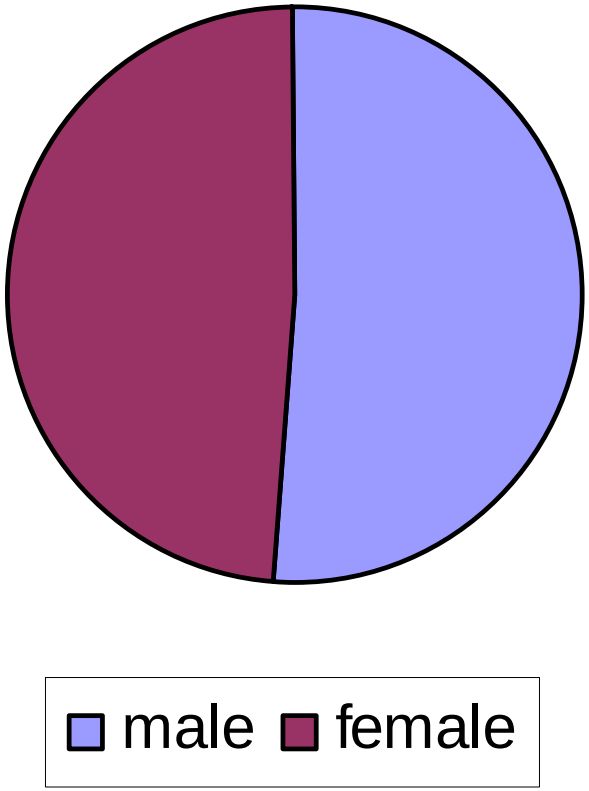
- Gender differences will be observed with regard to average age at death from hypertension
- Blacks will have a significantly lower average age of death than Whites
- There will be a difference in average age of death among wards of residence

Dataset – 2004 DC Death Certificates

- 330 observed hypertension deaths
  - January 1 - December 31, 2004
- Data cleaning performed – exclude:
  - 7 deaths occurred outside DC
  - 9 deaths due to hypertensive renal disease
  - 3 individuals not White or Black
- Valid hypertension related deaths
  - 311 – primary hypertension (I10)

Breakdown of Dataset

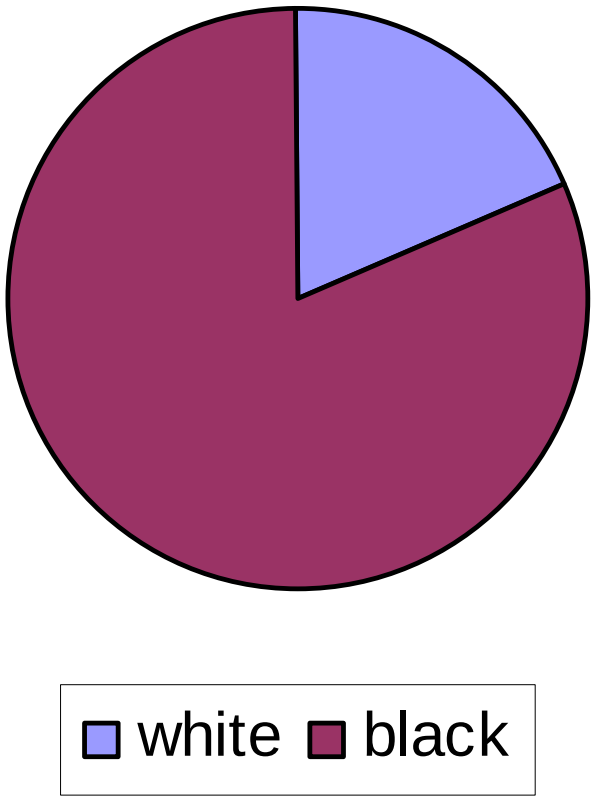
Gender Distribution



Male	159
Female	152

Breakdown of Dataset

Racial Distribution



White	58
Black	253

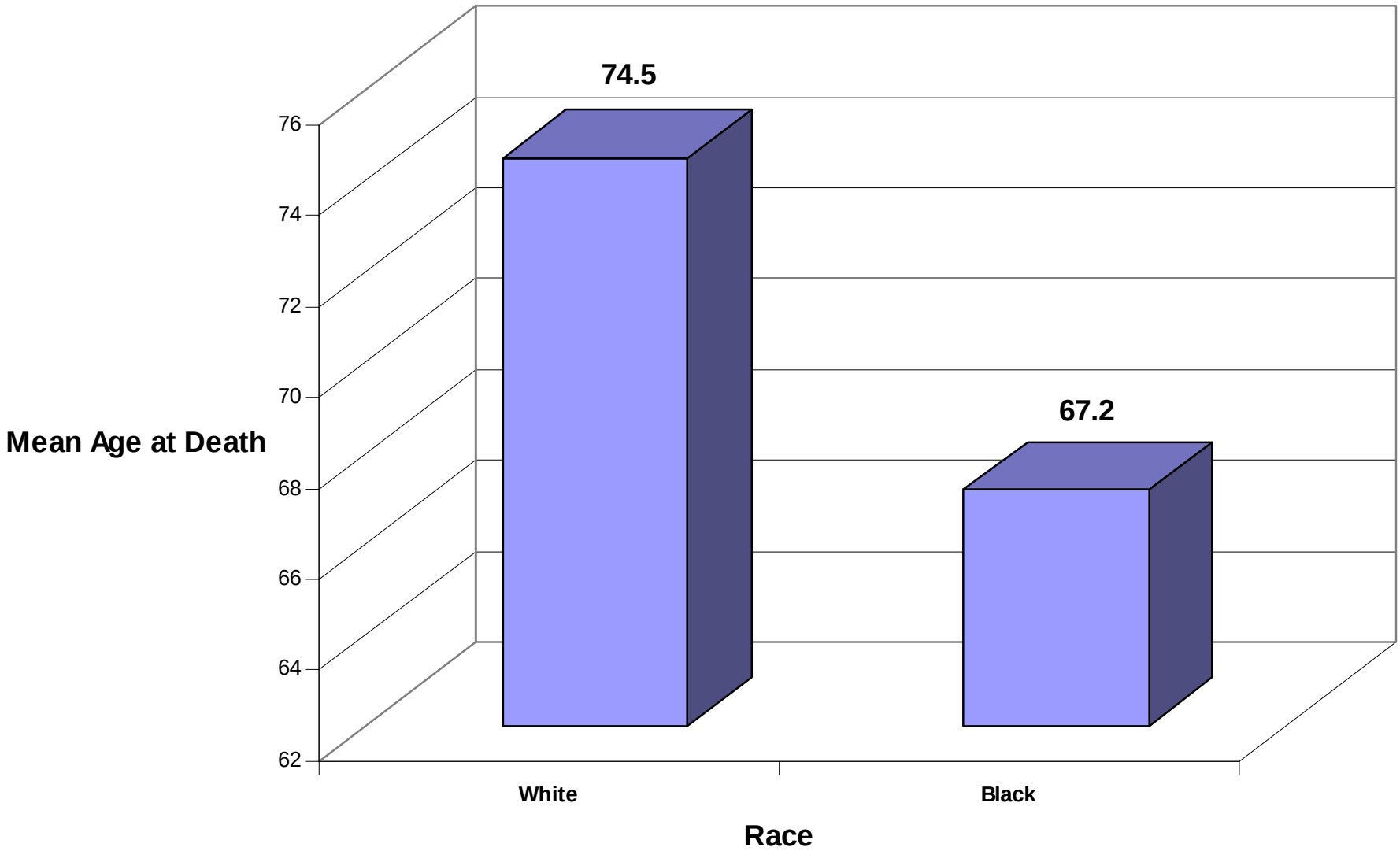
Breakdown of Dataset

Ward of Residence Distribution

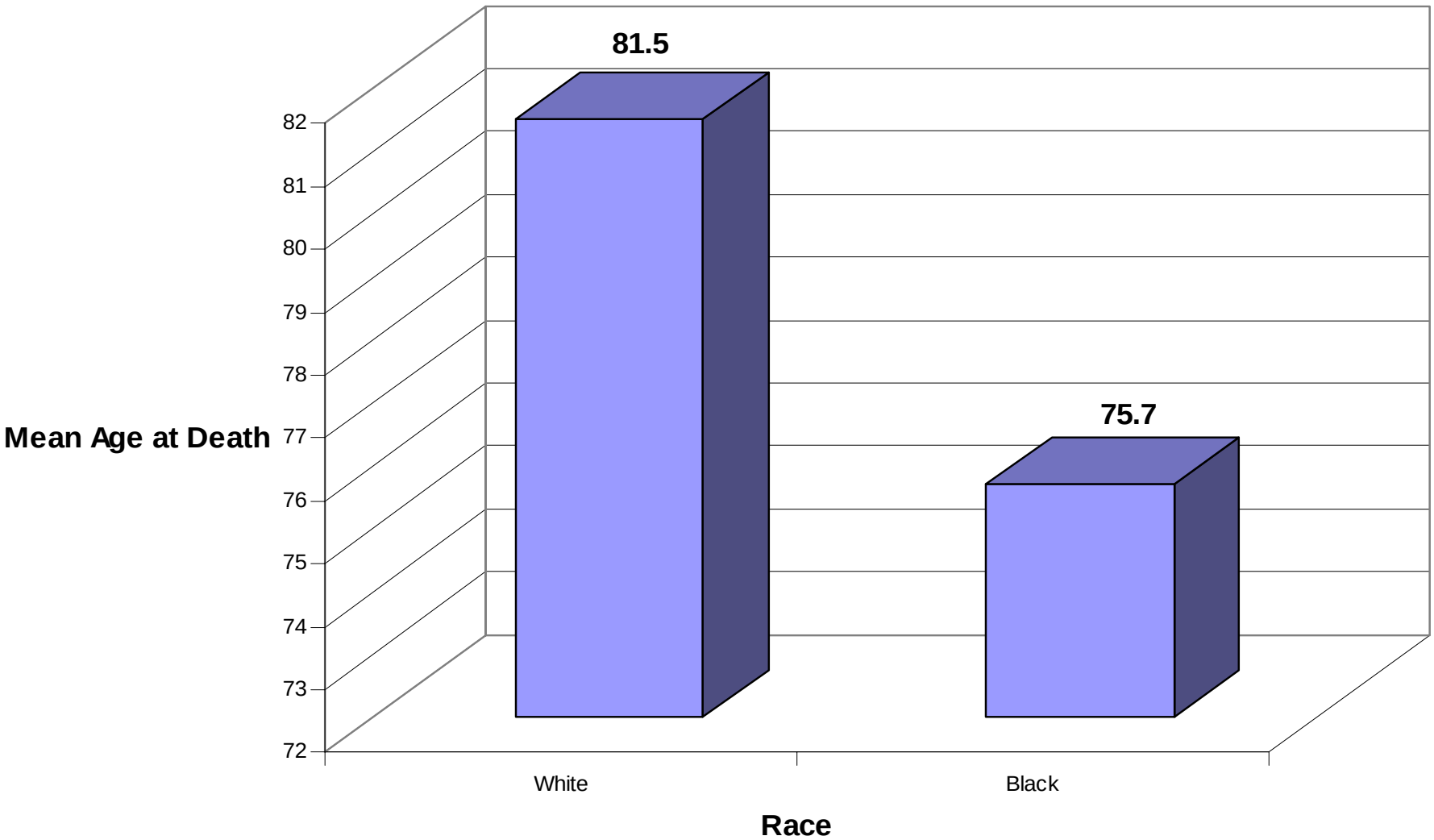
Ward	Frequency
1	31
2	43
3	30
4	42
5	54
6	33
7	42
8	36

Mean Age of Death due to Primary Hypertension by Gender in Washington, DC in 2004

Mean Age of Death in Males due to Primary Hypertension in Washington, DC in 2004

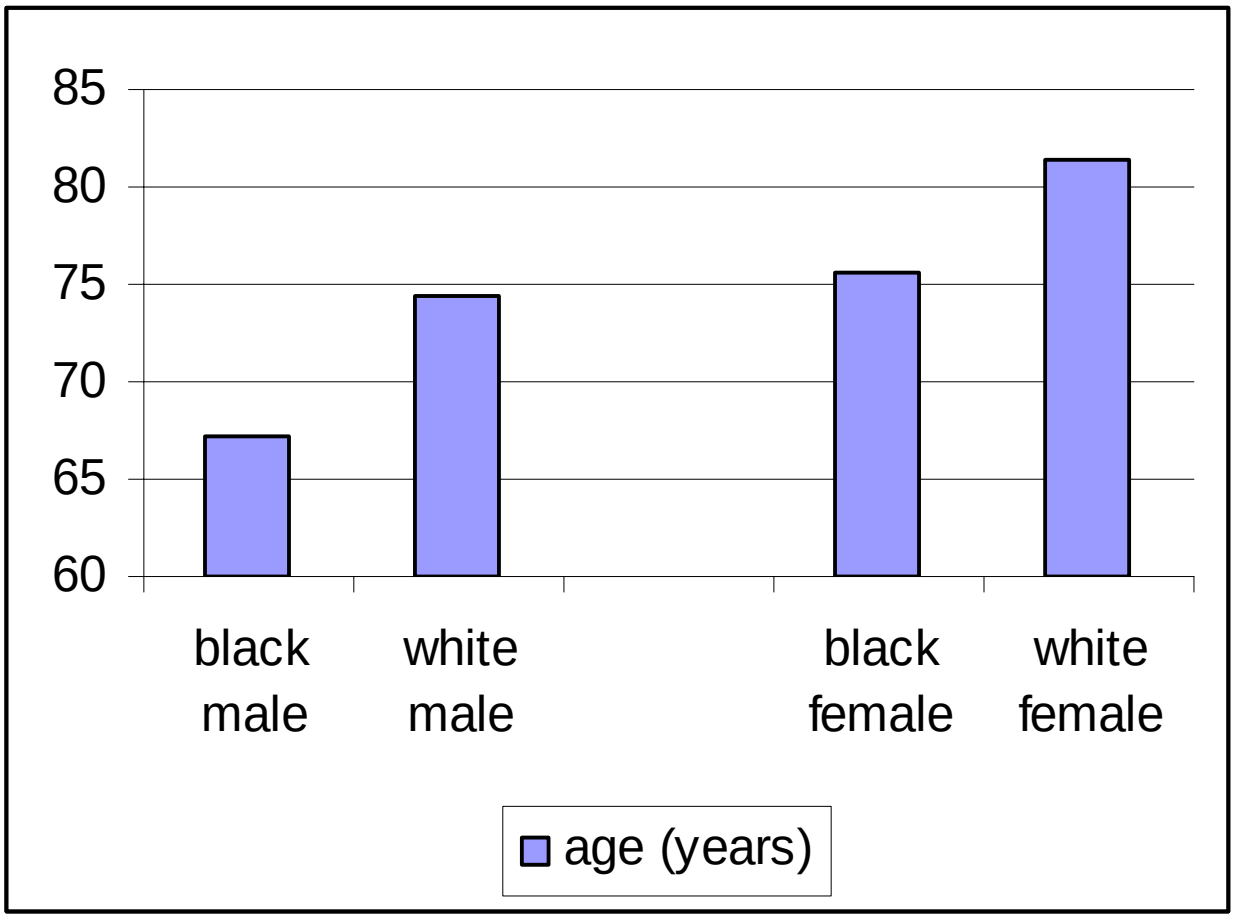


Mean Age of Death in Females due to Primary Hypertension in Washington, DC in 2004



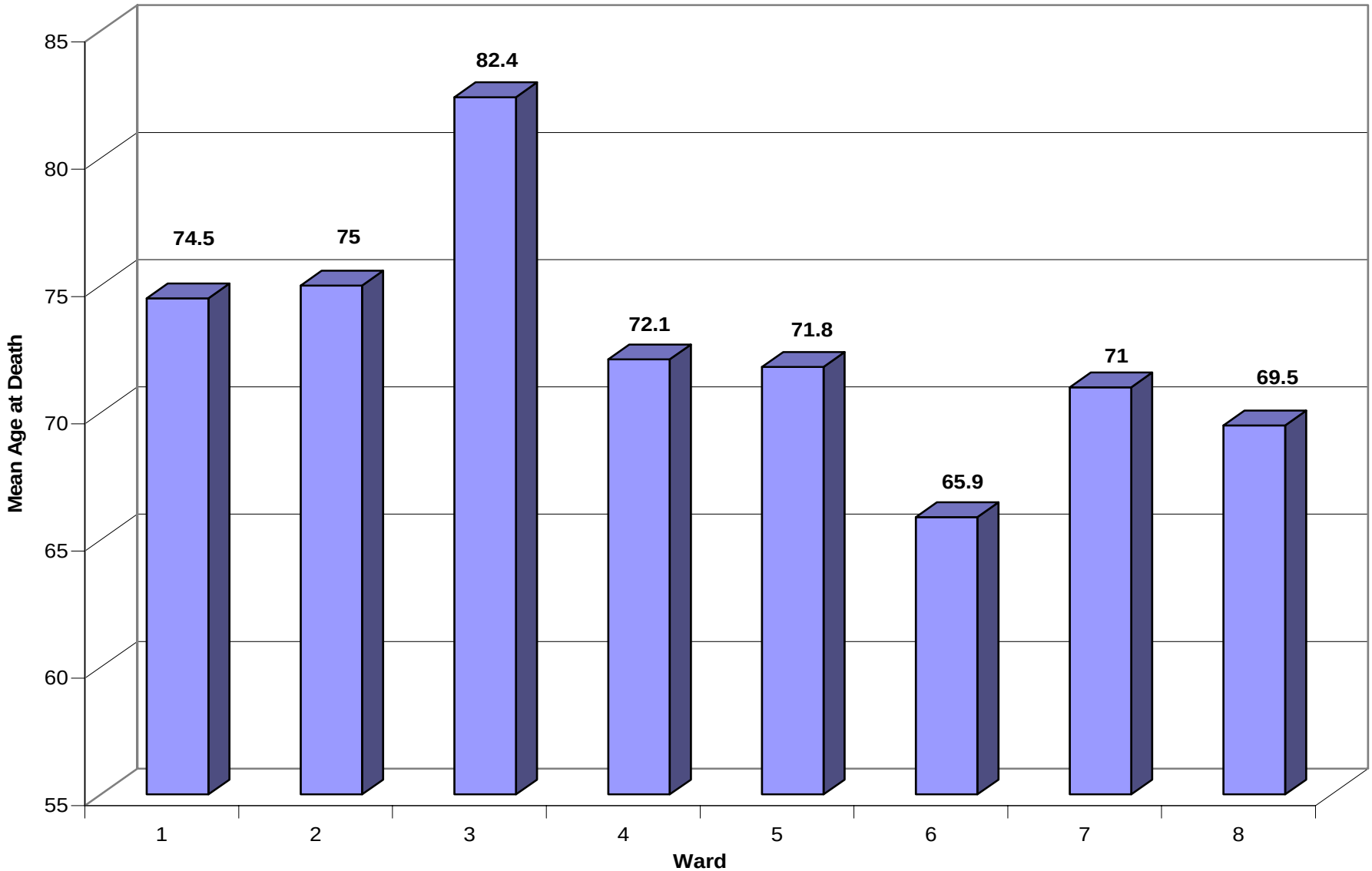
Breakdown of Dataset

Gender & Race vs. Age Stratification of Hypertensive Mortality Cases



	Difference	P-Value
Male	7.27	0.006
Female	5.8	0.049

Mean Age of Death due to Hypertension by Ward in Washington, DC in 2004



Significant Findings

- Age-related differences in death due to hypertension with respect to:
  - Gender
  - Race
  - Ward of residence

Recommendations

- Look at characteristics of Wards influencing health
  - availability of resources and services
  - sense of inequality and position in social hierarchy
  - psychological stress
  - higher crime and violence
  - poor housing
  - lack of transportation
  - residents' health behavior
- Autopsies being performed
  - Focus groups with DC physicians
- Utilizing GIS

Limitations

Conclusion