

Trends in Mortality Disparities by Area-based Poverty in New York City, 1990–2010

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Northeast Epidemiology Conference

October 1, 2015



Background

- ❑ Major goal of HP 2020 is to eliminate health disparities
- ❑ Low socioeconomic status (poverty) is associated with mortality, but magnitude of association can change over time
- ❑ Knowledge of trends in mortality by SES/poverty can inform public health practice

Objectives

- ❑ Document changes in NYC mortality disparities from 1990-2010 by census tract poverty
 - Race/ethnicity
 - Nativity
- ❑ Determine causes of death for which disparities are greatest

Census Tract Poverty

- ❑ Percent of individuals in a census tract living below federal poverty threshold
 - Threshold for four-person household with two children in 2015 is \$24,250
- ❑ Validated SES measure
- ❑ Independently predicts health outcomes
- ❑ Standard variable for NYC Health Department analyses

Methods

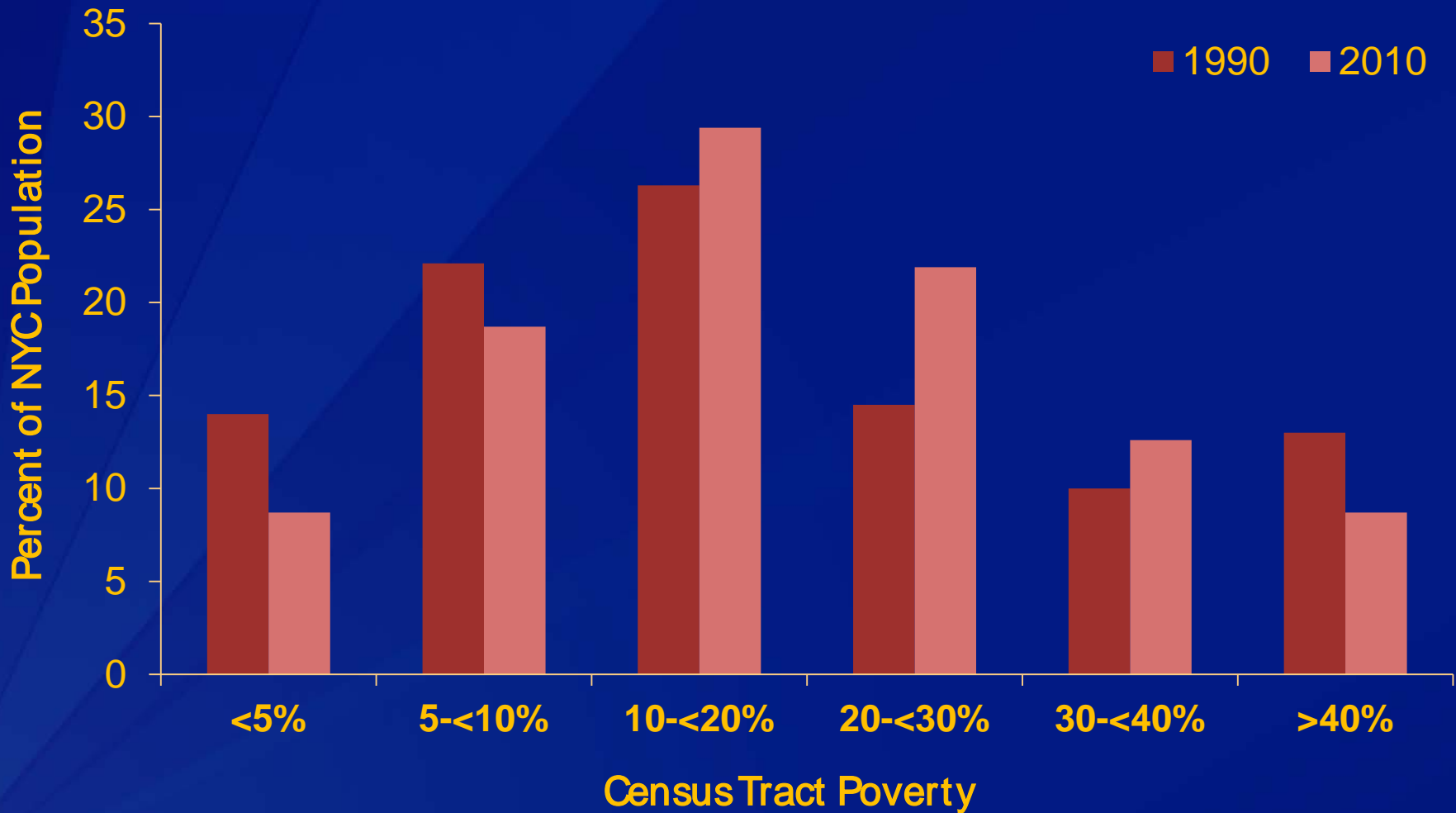
- ❑ New York City and New York state mortality data 1990, 2000 and 2010
- ❑ Geocoded to census tract based on residential street address at death
- ❑ Census tract poverty from Census 1990, 2000, American Community Survey 2008-2012
- ❑ Population data from Census 1990, 2000, 2010

Methods

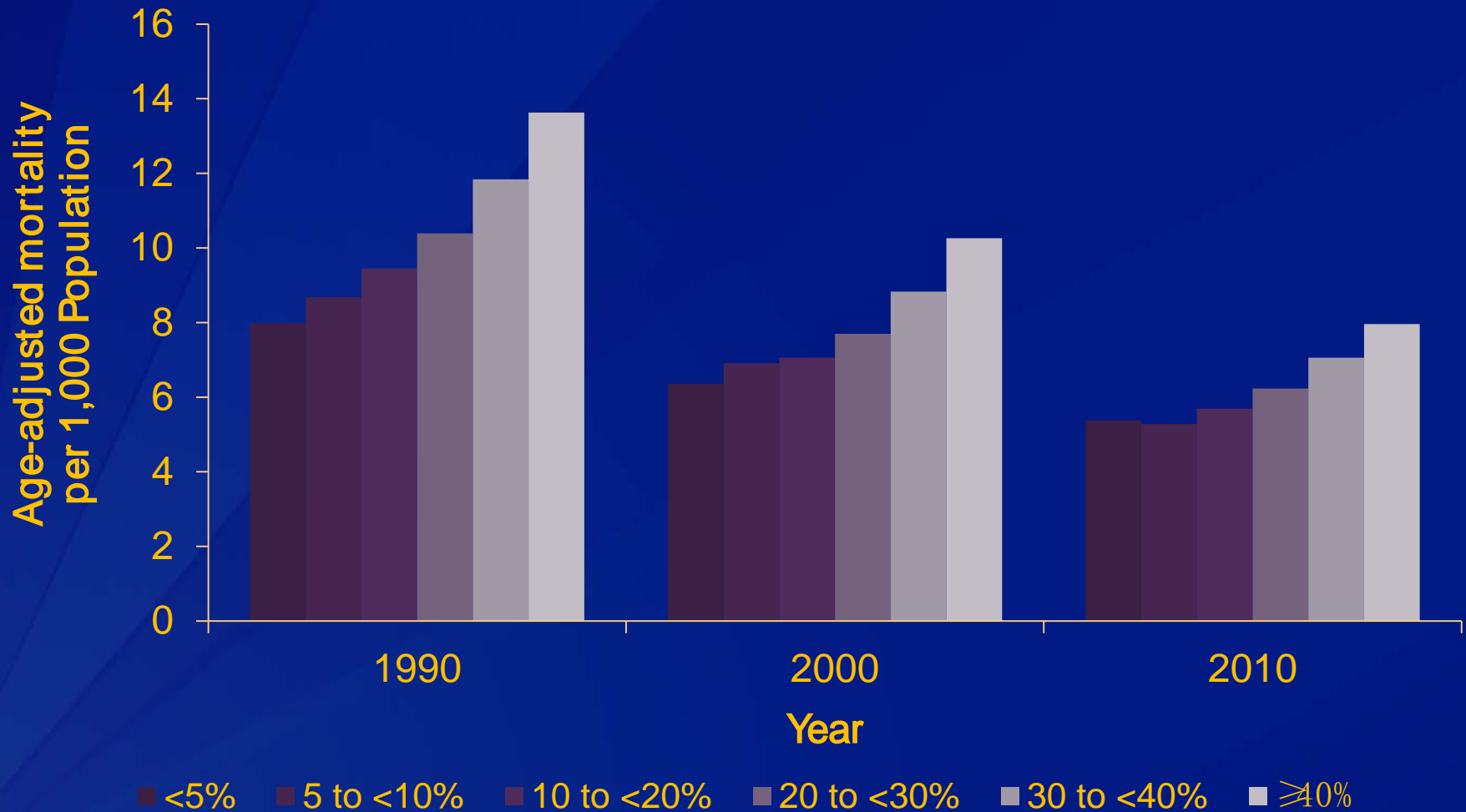
- ❑ **Age-adjusted all-cause mortality rates by census tract poverty**
 - Race/ethnicity
 - Nativity
- ❑ **Age-adjusted cause-specific mortality by census tract poverty for leading causes of death**
- ❑ **Mortality disparities**
 - Difference in age-adjusted mortality rates between highest ($\geq 30\%$) and lowest ($< 10\%$) poverty groups

RESULTS

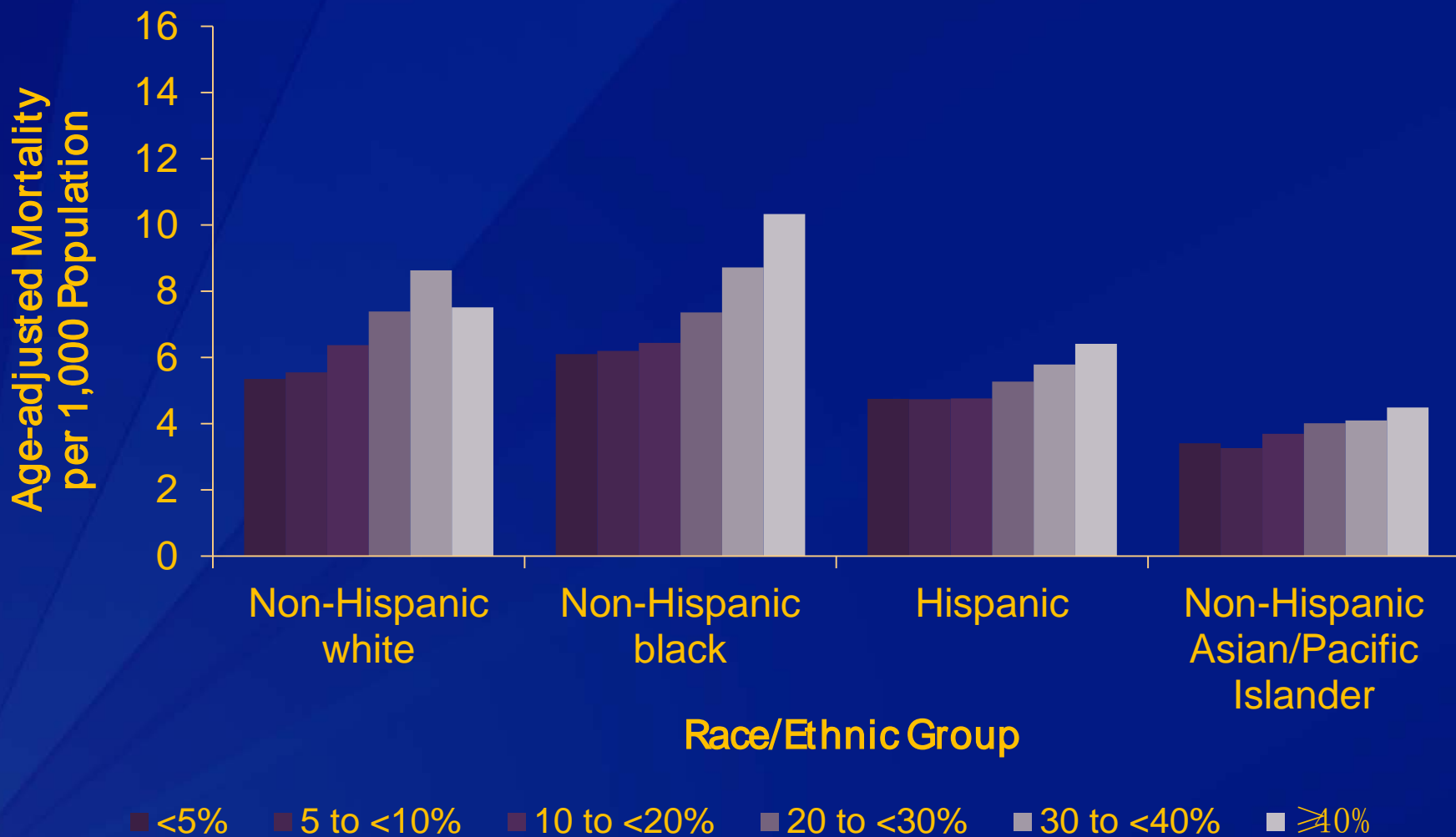
Percent of NYC Population by Census Tract Poverty, 1990 and 2010



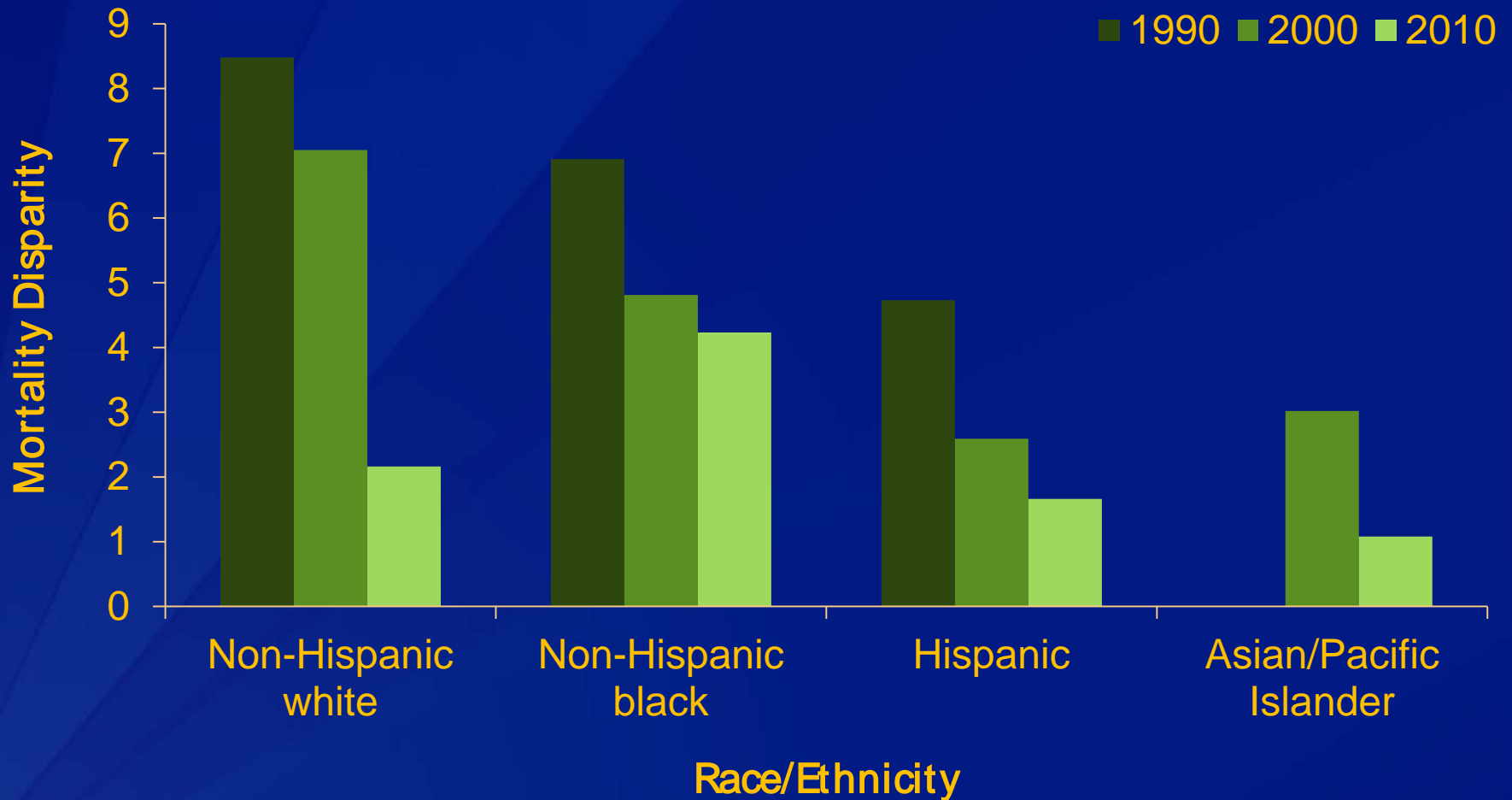
All-cause Age-adjusted Mortality by Census Tract Poverty, 1990, 2000, 2010



All-cause Age-adjusted Mortality by Race and Census Tract Poverty, 2010

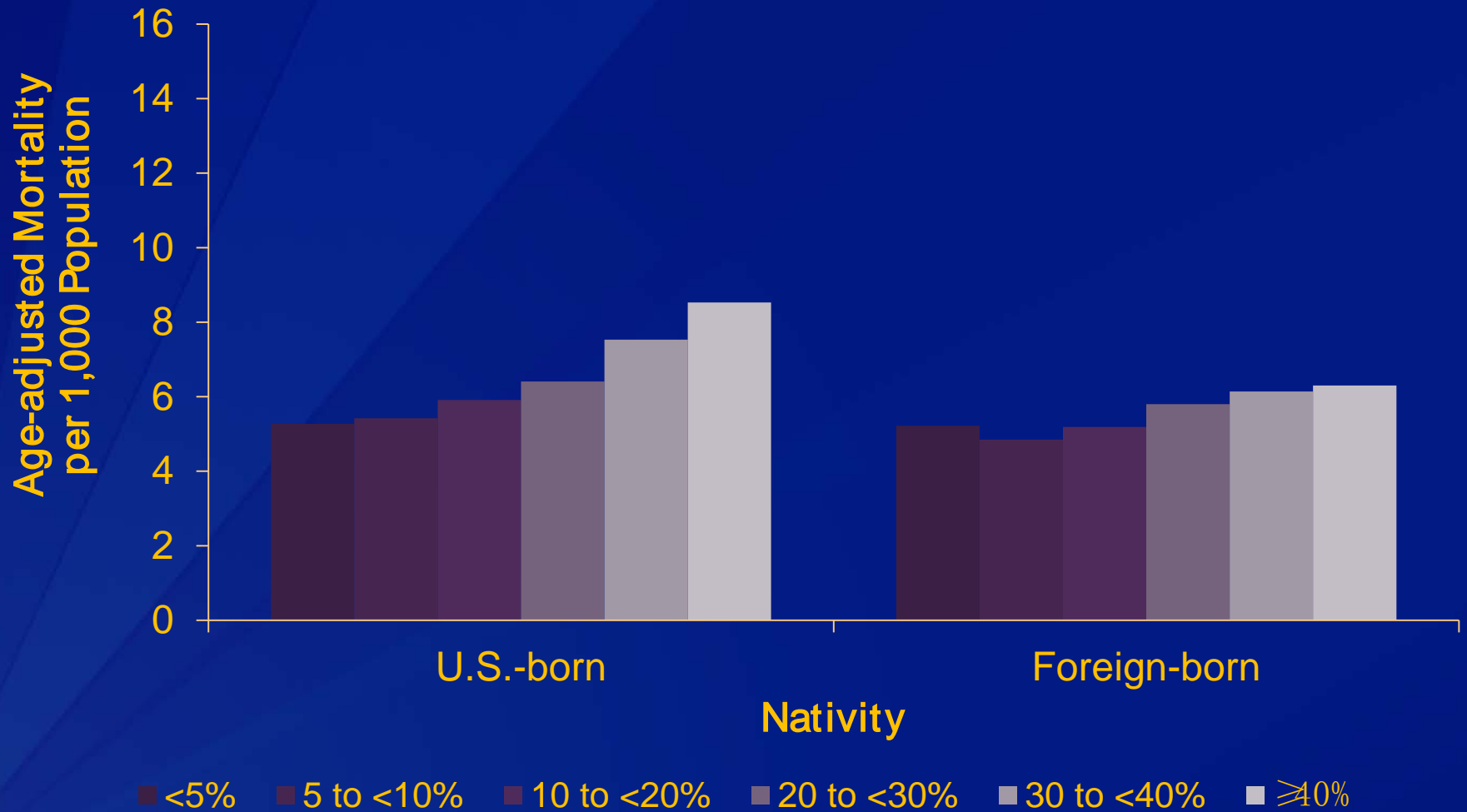


Mortality Disparity* by Race/ethnicity NYC, 1990, 2000, 2010

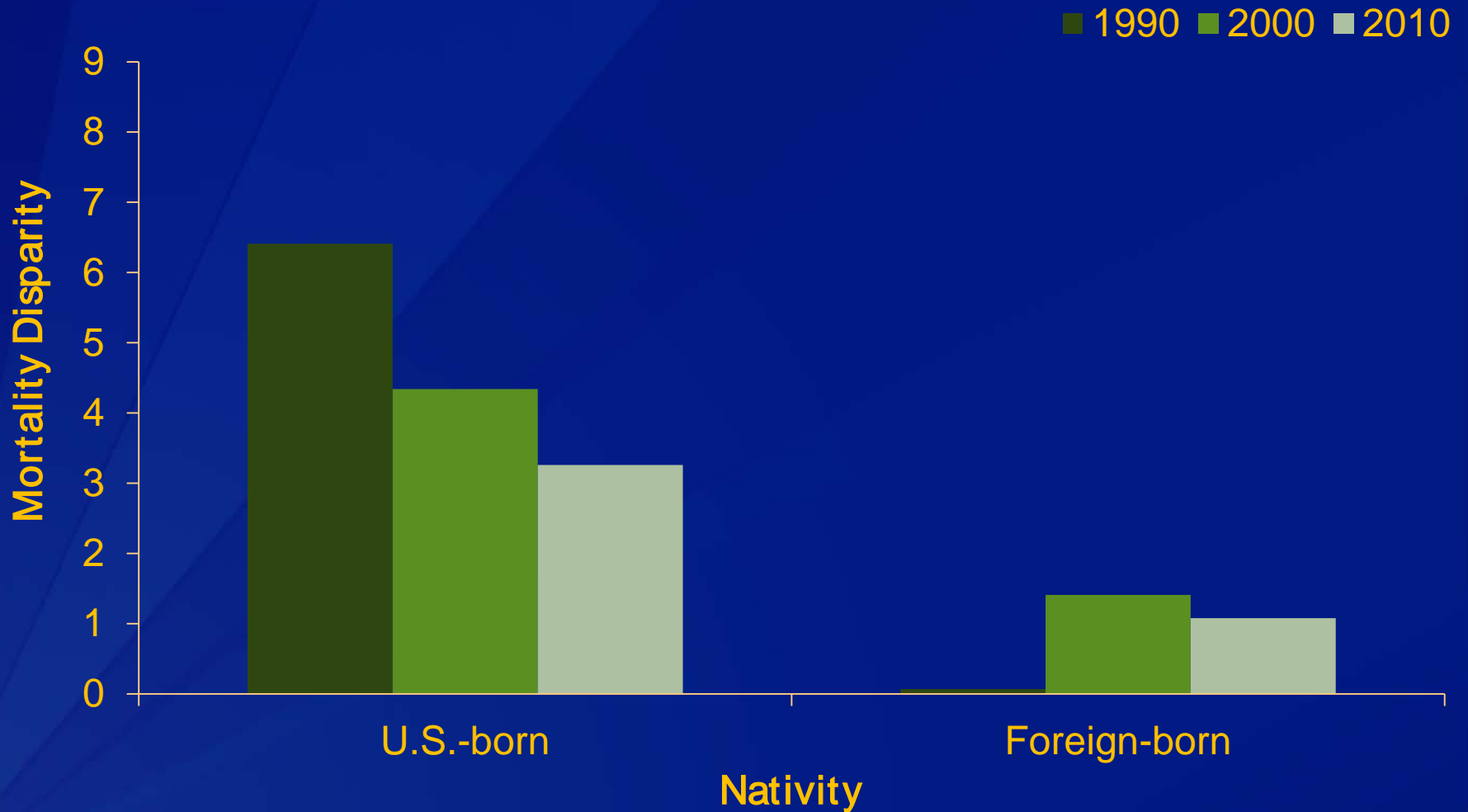


* Difference between highest and lowest poverty groups

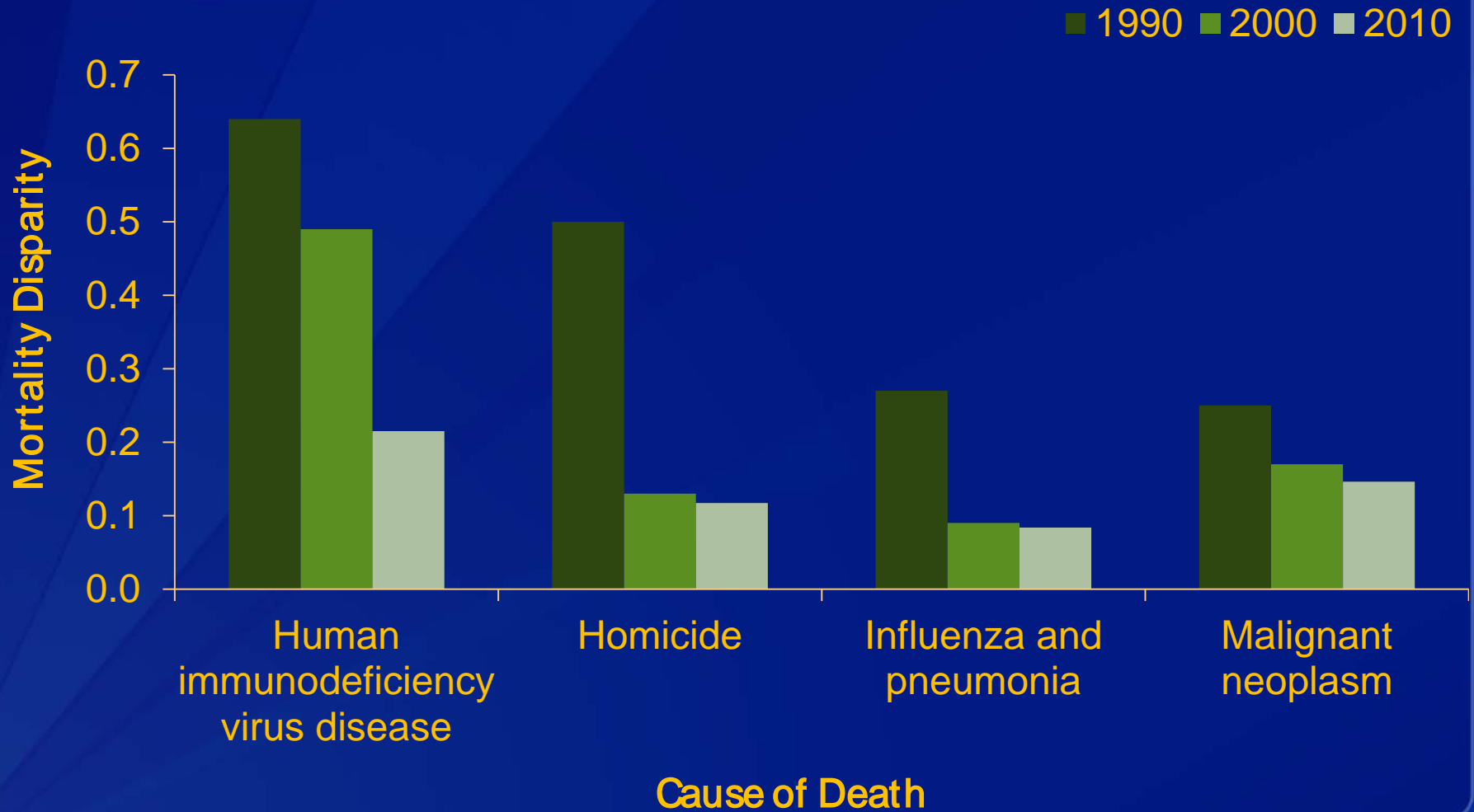
All-cause Age-adjusted Mortality by Nativity and Census Tract Poverty, 2010



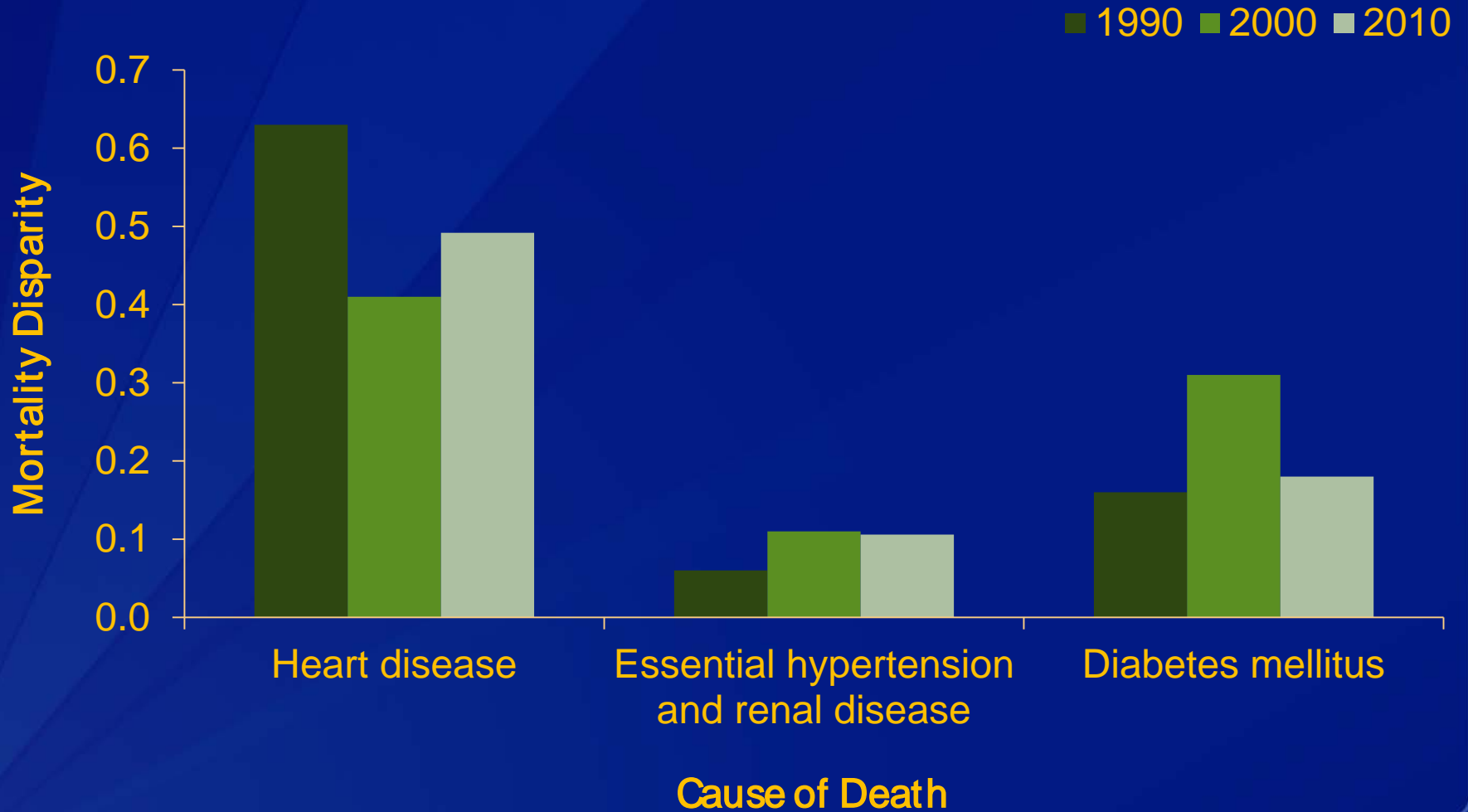
Mortality Disparity by Nativity NYC, 1990, 2000, 2010



Mortality Disparity by Selected Cause of Death New York City 1990, 2000, 2010



Mortality Disparity by Selected Cause of Death New York City 1990, 2000, 2010

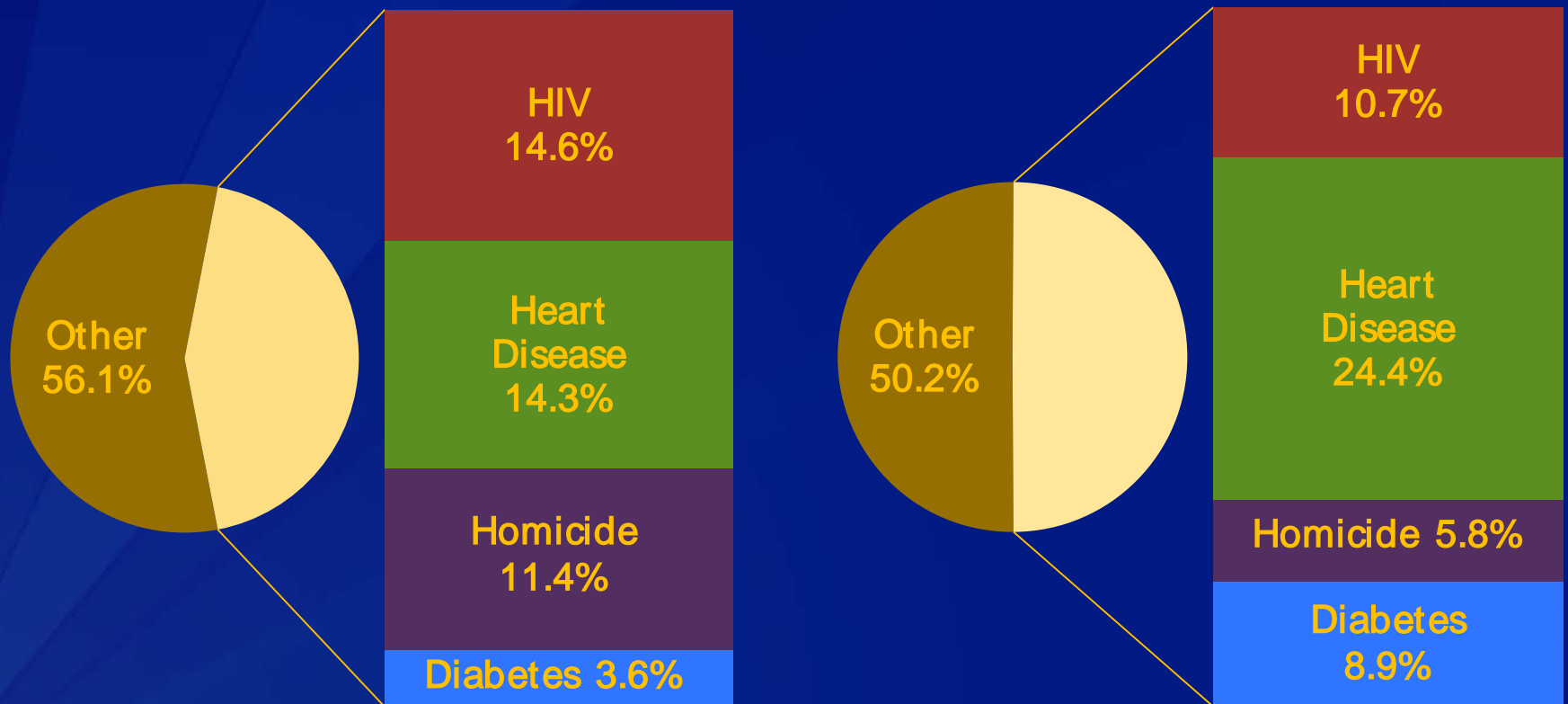


Selected Causes of Death and Contribution to Mortality Disparities, 1990 and 2010

Percent of Total Disparity

1990

2010



Summary

- ❑ Higher mortality with higher CTP in almost every subgroup
- ❑ Mortality disparities narrowed from 1990 to 2010 for all-cause mortality and within race/ethnic groups
- ❑ Disparities progressively narrowed for most causes of death but increased for diabetes and hypertension
- ❑ Heart disease and HIV comprise large proportion of 2010 disparities

Limitations

- ❑ Exclude deaths outside of New York state (3% of total)
- ❑ Poverty groups assigned by residence at time of death
- ❑ High population turnover and variable migration patterns
- ❑ Changes in death reporting
 - Multiple race/ethnicity option available 2003
 - Intervention reducing heart disease overreporting 2009-2010

Conclusions

- ❑ Relationship between socioeconomic status and mortality can change
- ❑ Focus on areas contributing most to current disparities

Acknowledgments

Elizabeth Begier

Gil Maduro

Julie Magri



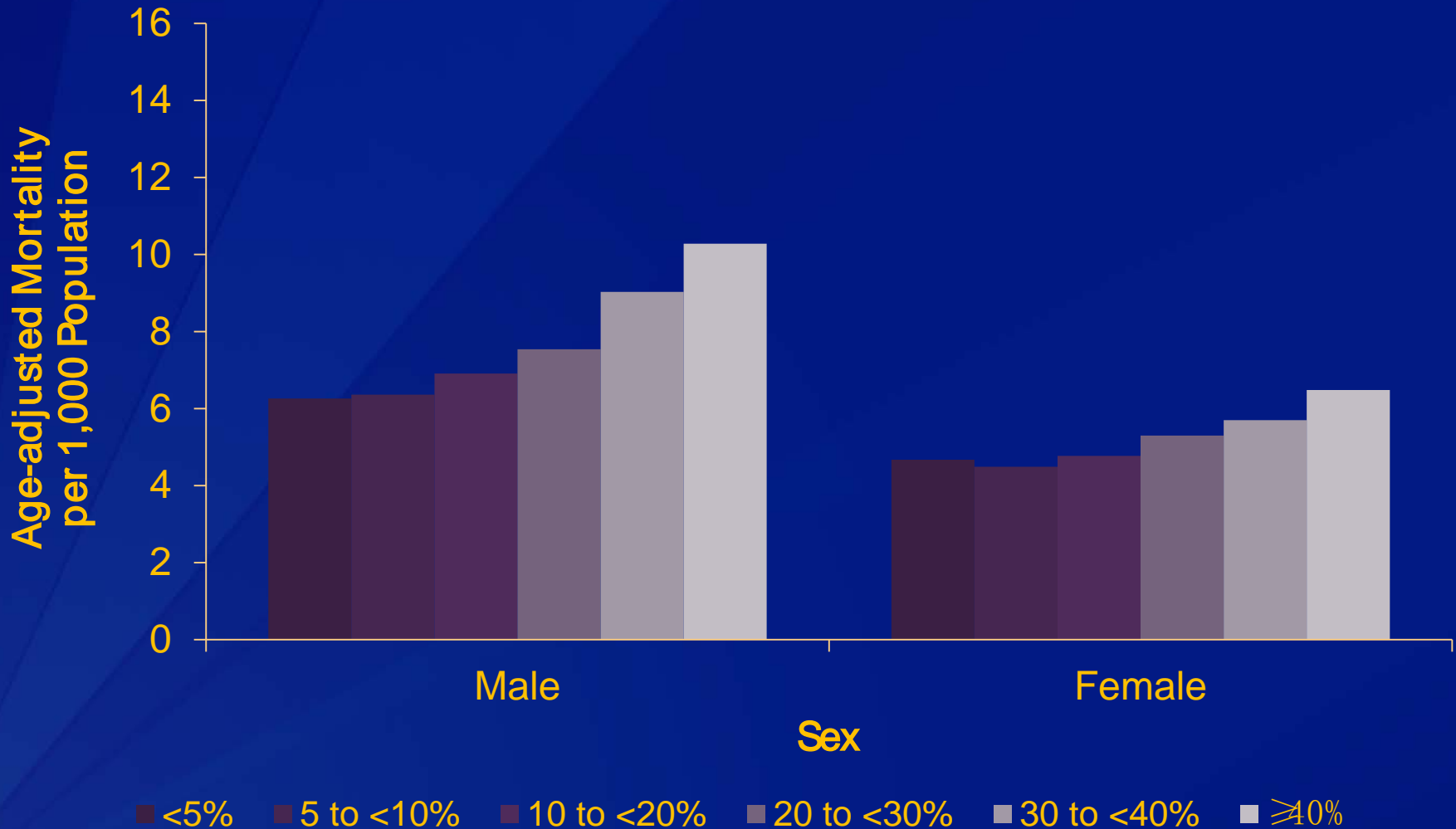
Area-based Poverty Measures

- ❑ Describe socioeconomic conditions of geographic areas
- ❑ Widely available
- ❑ Independently predict health outcomes
- ❑ Used in addition or as proxy for individual SES

Federal Poverty Threshold (FPT)

- ❑ **Income thresholds defined by Census Bureau**
 - Thresholds vary by family size and composition
 - Income includes pretax earnings and cash benefits (unemployment, Social Security)
 - Does not include non-cash benefits (food stamps)
- ❑ **Created in 1963–1964 using food budgets designed by Department of Agriculture**
- ❑ **Updated annually for inflation**
- ❑ **FPT for four-person household with two children in 2015 is \$24,250**

All-cause Age-adjusted Mortality by Sex and Census Tract Poverty, 2010



Mortality Disparity by Sex NYC, 1990, 2000, 2010

