

Healthy People 2030 Methods Proposal to Address Lack of SES Data for Some HP 2030 Objectives

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Presenter Disclosure

I, James L. Hadler,
have no potential conflicts of interest.

Outline

Introduction

- CSTE, its committees and position statements
- HP 2030 methods proposal (position statement)

Background

- HP 2010 and 2020 Objectives
- Relevant work with area-based SES measures at local and national levels

Conclusions

Discussion

CSTE

- Begun in 1951 at request of CDC director Alex Langmuir
 - annual conference of State Epidemiologists to advise CDC on which diseases should be reportable.
- Since the 1990s, membership and mission have expanded:
 - CSTE now organization of member states and territories representing public health epidemiologists AND the professional organization of applied public health epidemiologists at all gov't levels.
- Mission: Promote effective use of epidemiologic data to guide public health practice and improve health

CSTE (cont)

- Supported through state and member dues
 - Also large cooperative agreement with CDC for specific consultative services
- Organization
 - Full time Executive Director and staff
 - Elected Board of state epidemiologists
 - Committees with Board member chairs
 - Subcommittees with member chairs
 - Annual national meeting open to all members
 - Position statements voted on by member states – usually addressed to CDC

CSTE Health Disparities Subcommittee

- In 2010, revived interest in health disparities → establishment of Health Disparities subcommittee
- Subcommittee chairs noted that surveillance data on many public health conditions lacked SES data
- 2010 – 2016: explored and applied area-based methods recommended by the Public Health Disparities Geocoding Project to county and state-level surveillance data.
- During 2015 and 2016, began discussing a possible position statement based on what had been learned → Position Statement 16-CC-01, which was passed at the 2016 annual meeting.

Position Statement

- Title: “Use of Area-based SES to Generate National Data on Health Outcomes with Proposed HP 2030 Objectives for Which Individual SES Data are Not Routinely Collected”*

Position adopted:

CDC and NCHS convene a workgroup to:

1. determine whether use of census tract-level SES data provided by a sample of states would fill the need for national SES data for HP health outcomes lacking it;
2. develop a specific proposal for the HP2030 goal to eliminate health disparities and achieve health equity to include census tract-level SES as a valid population-based measure for HP2030 objectives lacking SES data at the individual level.

*http://c.ymcdn.com/sites/www.cste.org/resource/resmgr/2016PS/16_CC_01.pdf

Objective of Presentation

Get your input on whether CDC and NCHS should convene a workgroup to determine whether use of census tract-level SES data provided by a sample of states would fill the need for national SES data for HP health outcomes lacking it

Two contexts:

- For HP 2030 objectives
- As a routine way to look at national surveillance data otherwise lacking SES measures

Background information on area-based SES and readiness to use it for surveillance data in the national context

Healthy People and SES 1

- Describing health disparities/inequities and monitoring progress in reducing them has been a national priority (HP 2010 and 2020).
- HP 2020 Public Health Infrastructure (PHI) Objective 7.3 – increase the proportion of population-based objectives for which national data are available by SES (currently 64%).

Healthy People and SES 2

- NCHS recommended HP 2020 SES measures: individual education or individual/family income
- Many HP objectives lacking individual SES are for reportable infectious diseases, malignancies and vital statistics data – conditions based on case reporting without individual SES
 - Have street address → geocoding → link to census data → area-based SES (ABSES).
- Potential to get national data on these conditions using ABSES.

Healthy People and SES 3

- Much data underlying population-based HP objectives come from surveys (e.g., NHANES, NHIS) or sentinel case-based surveillance systems (e.g., EIP – 10 states)
- Sentinel case-based surveillance systems data generally lack individual SES
- Potential to get geocoded data from sentinel surveillance systems or a subset of states is high – demonstrated feasibility

Are we ready to use ABSES measures routinely to describe health outcome disparities?

- What measures have been used – are there any standards or consensus on what measure to use?
- Do the analyses identify meaningful disparities?
- Are state-level data currently being geocoded and linked to census tract data?
- Are states willing to pool geocoded data for analysis by a central group (e.g., CDC/NCHS)?

What ABSES measures have been used in public health data 1

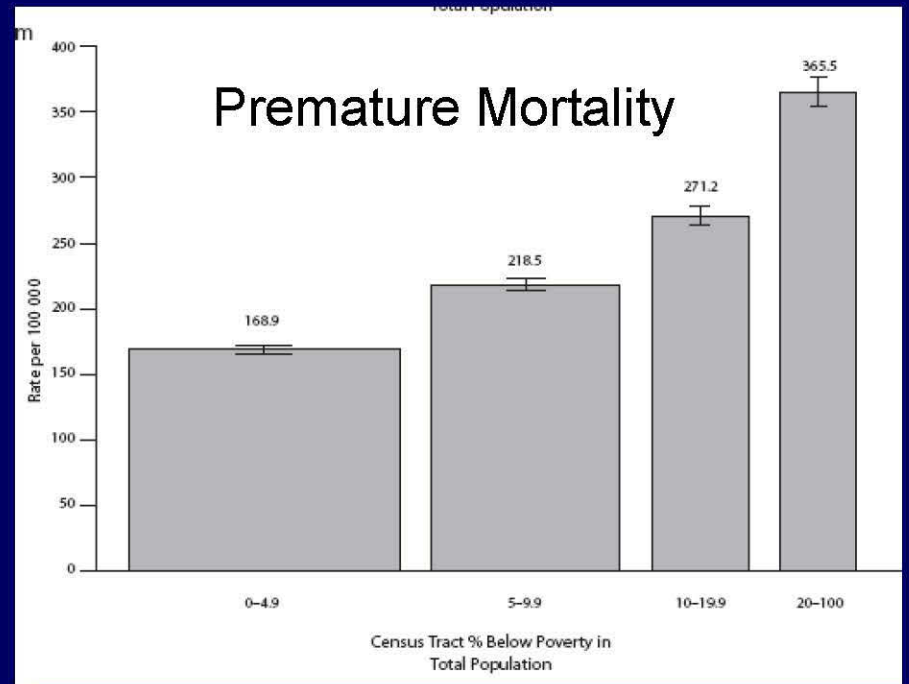
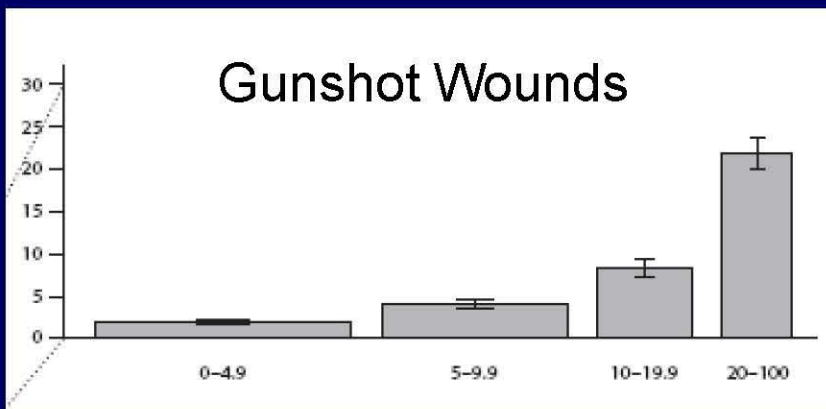
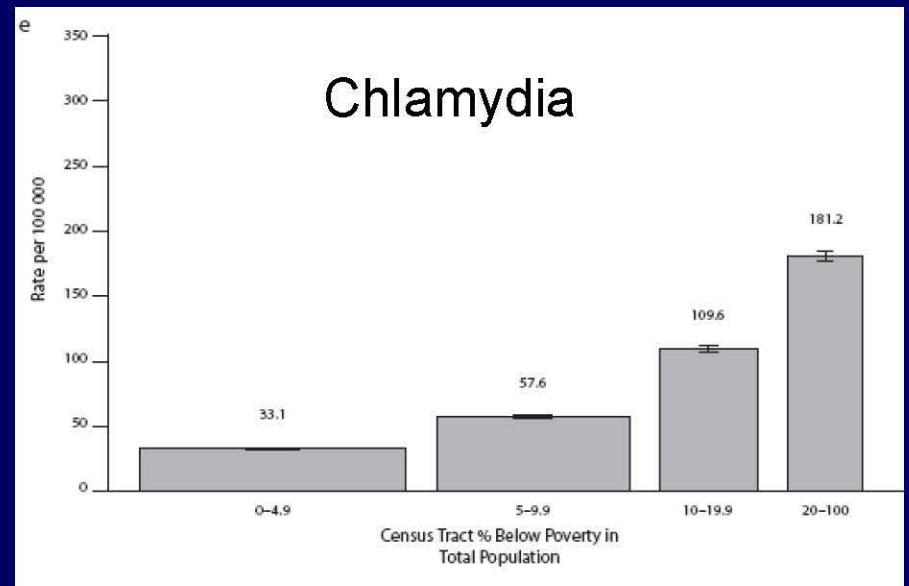
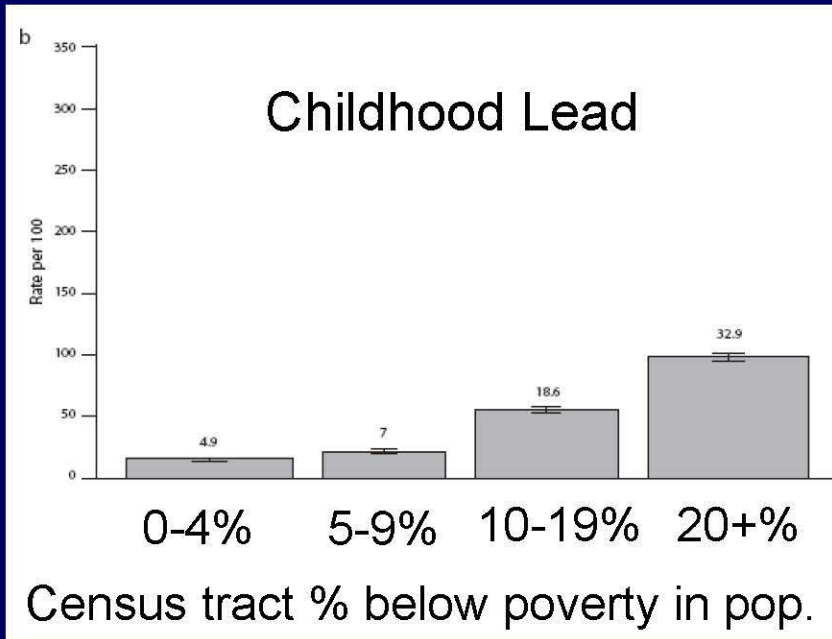
- US has no recommended SES measure for routine collection, analysis and display of surveillance data
- A lot of individual jurisdictional analyses using various area sizes (e.g., census block group, census tract, ZCTA, county) and various SES measures (e.g., % below poverty, median household income, % with various education levels)
- Public Health Disparities Geocoding Project
 - Laid the groundwork for a standard, national measure.

Public Health Disparities Geocoding Project 1

- Harvard-based lead by Nancy Krieger, ~1998 - 2004
- Recognized potential in public health data for analysis using ABSES
- Explored seven health outcomes using MA and RI data from 1990 using different area sizes and 18 different SES indices
 - Treated SES indices as categorical variables: quartiles or quintiles

Public Health Disparities Geocoding Project 2

- Found a strong SES gradient for most:
 - lower incidence in high SES census tracts & higher incidence in low SES census tracts
 - SES incidence gradient present in all race-ethnic groups.
- Recommended using census tract poverty level “% of people living below the federal poverty line” with four fixed categories (<5%, 5-<10%, 10-<20%, ≥20%)
 - consistently detected expected SE gradients in health across a wide range of health outcomes
 - was readily interpretable to and could feasibly be used by state health department staff.



Am J Public Health. 2005;95:312–323

Painting a Truer Picture of US Socioeconomic and Racial/Ethnic Health Inequalities: The Public Health Disparities Geocoding Project

Nancy Krieger, PhD, Jarvis T. Chen, ScD, Pamela D. Waterman, MPH, David H. Rehkopf, MPH, and S.V. Subramanian, PhD

The extent of US socioeconomic inequalities in health and their contribution to racial/ethnic health disparities is poorly documented and cannot readily be monitored, given the lack of socioeconomic data in most US public health surveillance systems, apart from educational level in the birth and death certificates.^{1,2} This failure to include socioeconomic data severely impedes efforts to understand, routinely monitor, and address social disparities in health in the United States. Because of an absence of baseline data, 70% of the 467 US public health objectives for the year 2010 lack socioeconomic targets.³

The critical importance of documenting the social patterning of disease and death has

Objectives. We describe a method to facilitate routine monitoring of socioeconomic health disparities in the United States.

Methods. We analyzed geocoded public health surveillance data including events from birth to death (c. 1990) linked to 1990 census tract (CT) poverty data for Massachusetts and Rhode Island.

Results. For virtually all outcomes, risk increased with CT poverty, and when we adjusted for CT poverty racial/ethnic disparities were substantially reduced. For half the outcomes, more than 50% of cases would not have occurred if population rates equaled those of persons in the least impoverished CTs. In the early 1990s, persons in the least impoverished CT were the only group meeting *Healthy People 2000* objectives a decade ahead.

Conclusions. Geocoding and use of the CT poverty measure permit routine monitoring of US socioeconomic inequalities in health, using a common and accessible metric. (*Am J Public Health.* 2005;95:312–323. doi: 10.2105/AJPH.2003.032482)

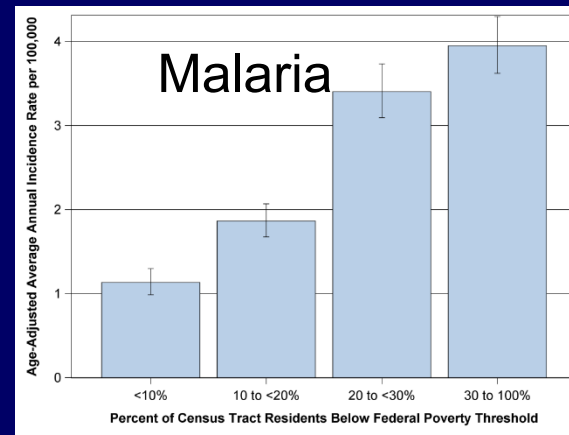
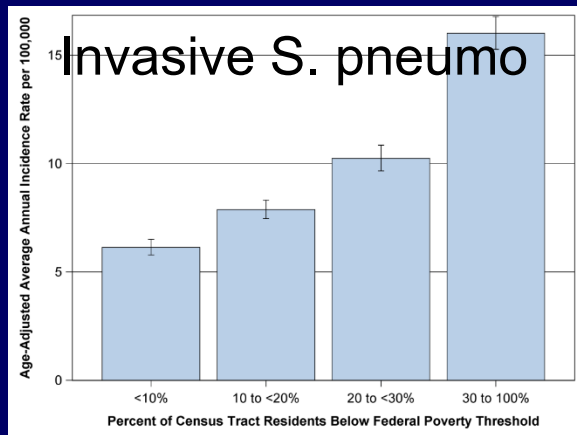
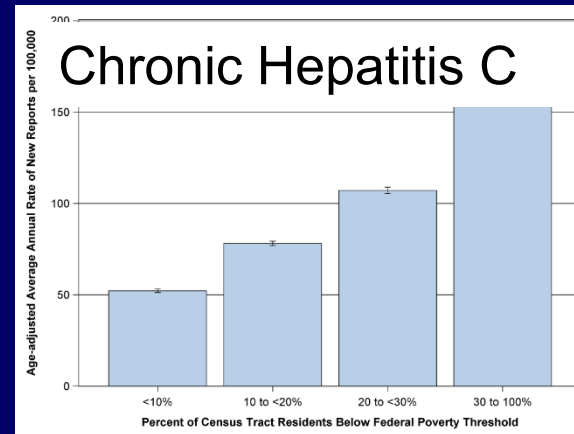
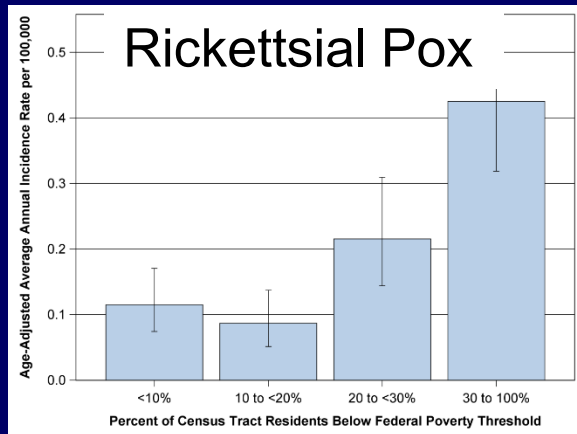
What does census tract-level poverty measure?

Broad measure – not just a single factor:

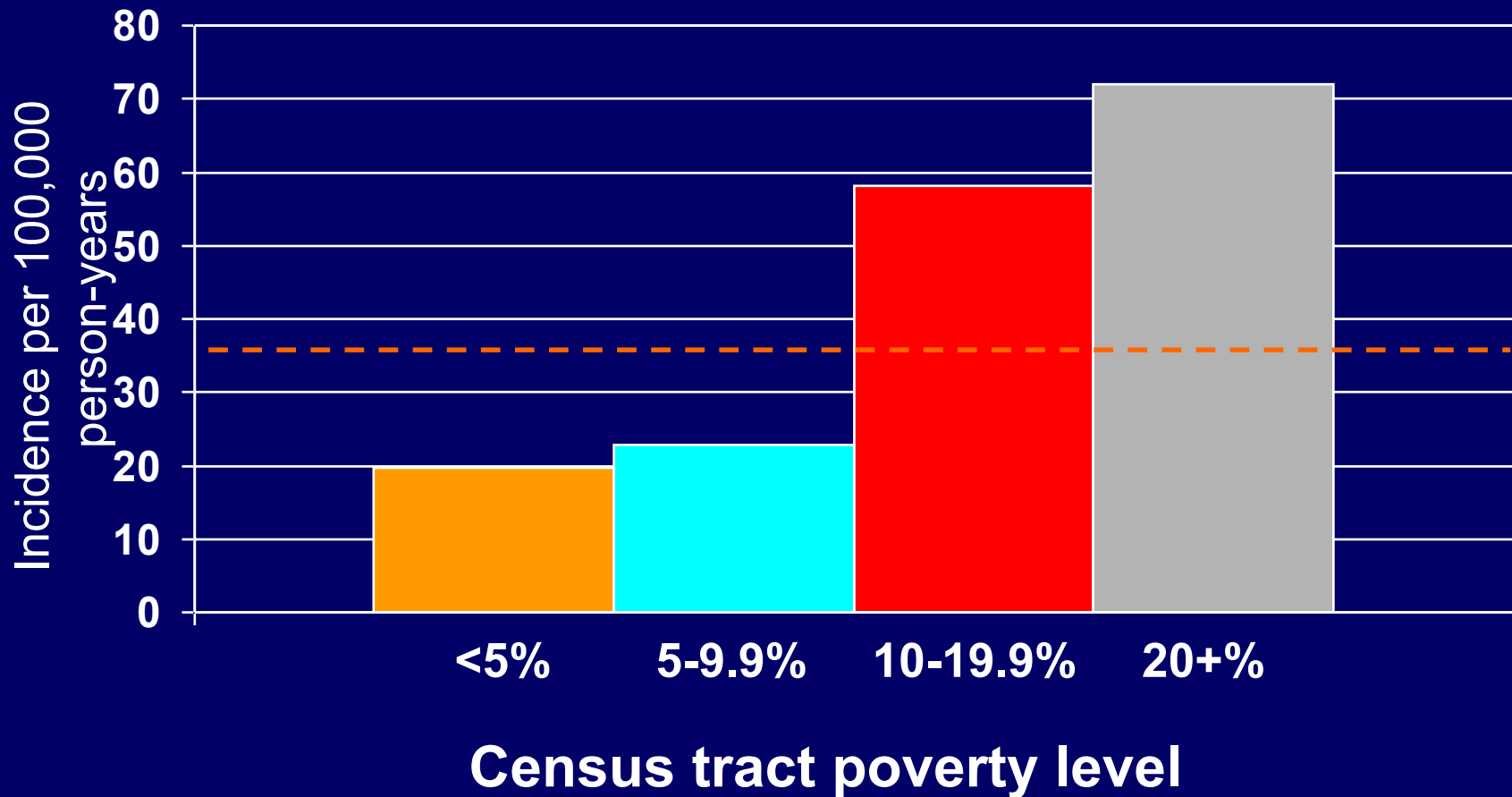
1. Surrogate for individual poverty
 - Poorer neighborhoods have more poor people.
 - But not a perfect surrogate: not all in the neighborhood are necessarily poor or equally poor.
2. Ecologic measure – neighborhood poverty.
 - Characteristic of the neighborhood – tends to correlate with higher crime, poorer housing stock and grocery store availability, crowding, poorer schools, lower average education level, higher % of minorities (race/ethnic segregation/discrimination)

**Do the analyses capture meaningful
disparities?**

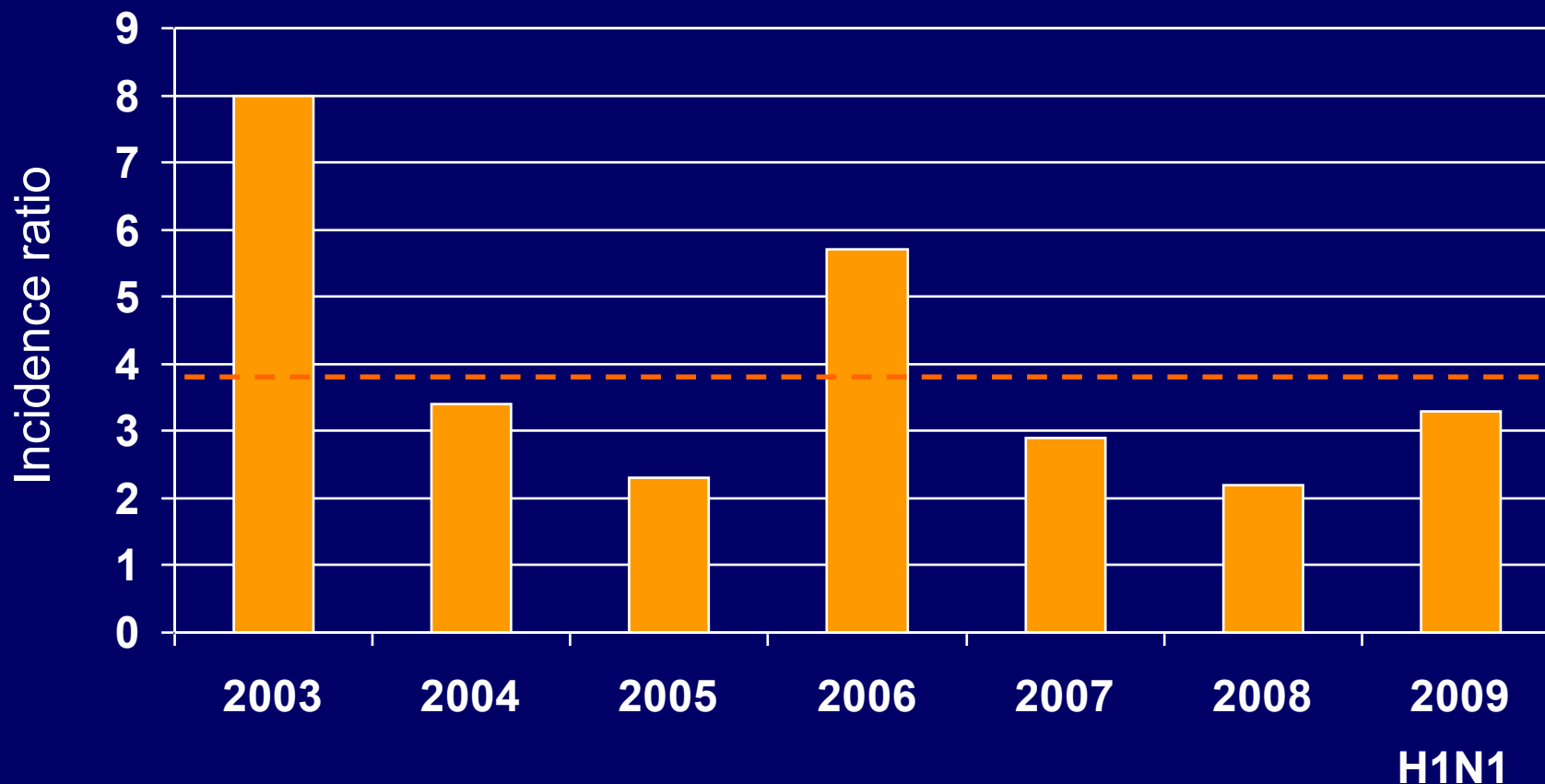
Selected Diseases Associated with High Census Tract Poverty, NYC 2006-13



Incidence of influenza-associated hospitalizations by census tract poverty level, Children 0-17 years, NH County, CT, 2003/04 -2009/10

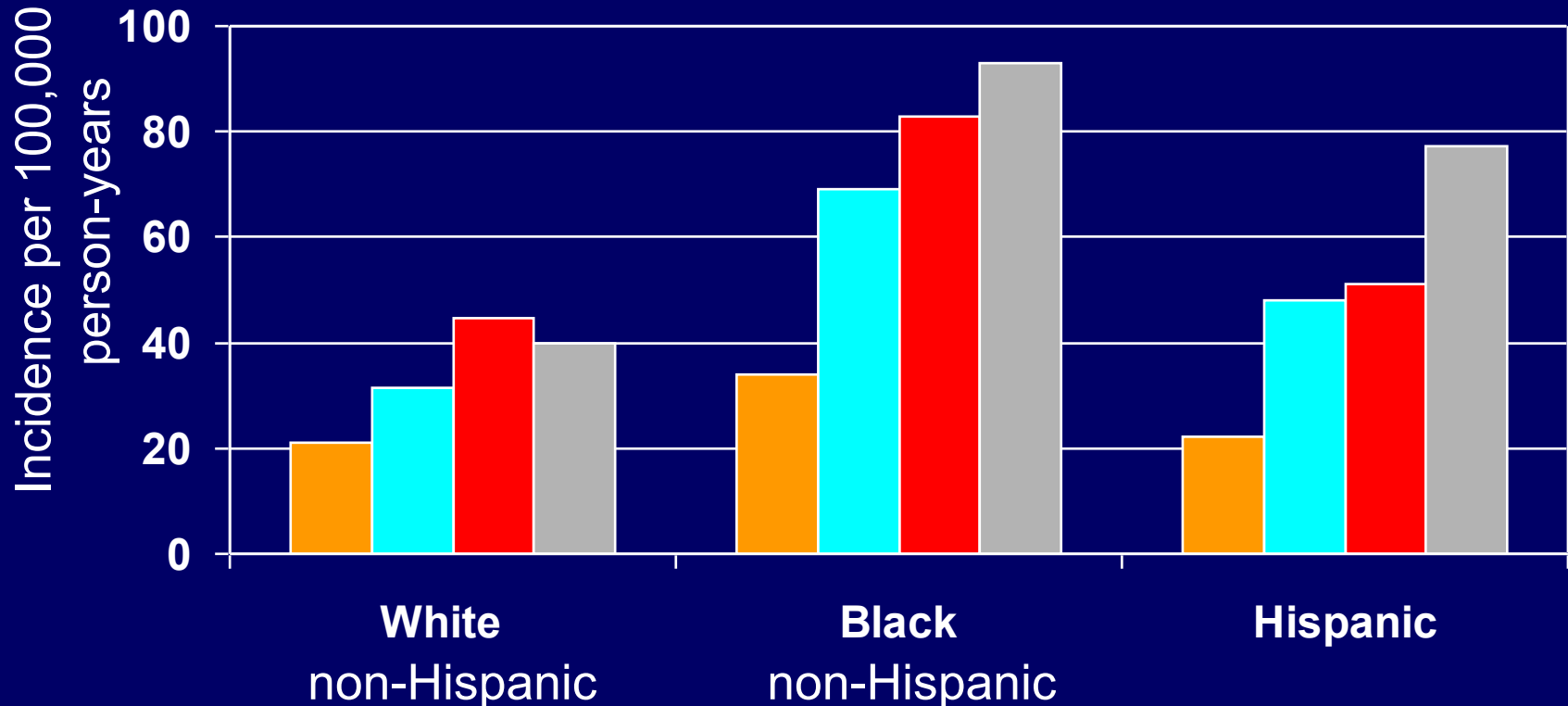


Ratio of highest to lowest census tract-level poverty incidence of influenza-associated hospitalizations by year, Children 0-17 yrs, CT, 2003/04 – 2009/10



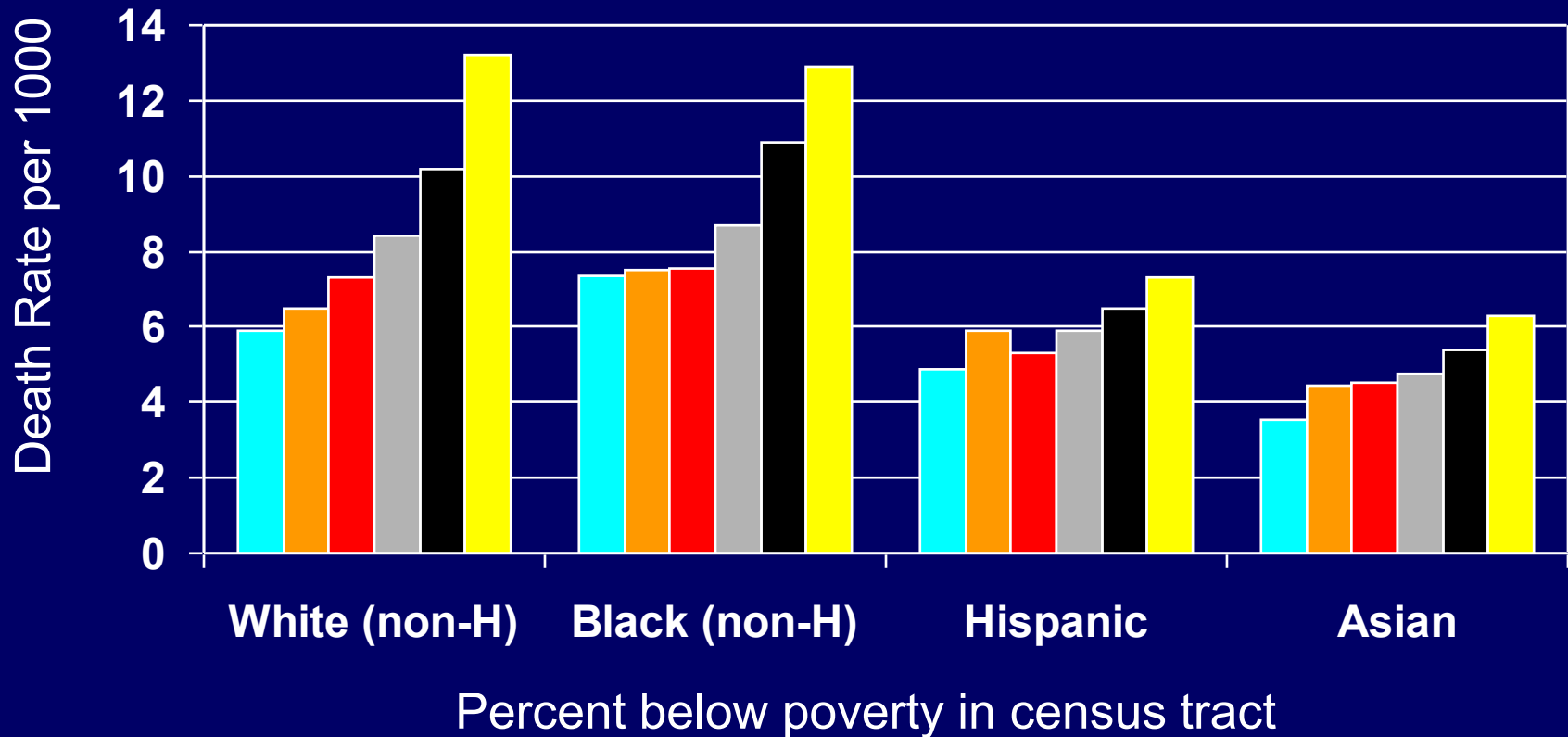
Age-adjusted incidence of influenza-associated hospitalizations of adults 18+ yrs by poverty level* and race/ethnicity, NH County, CT, 2005-2011

■ <5% ■ 5-9% ■ 10-19% ■ 20+%

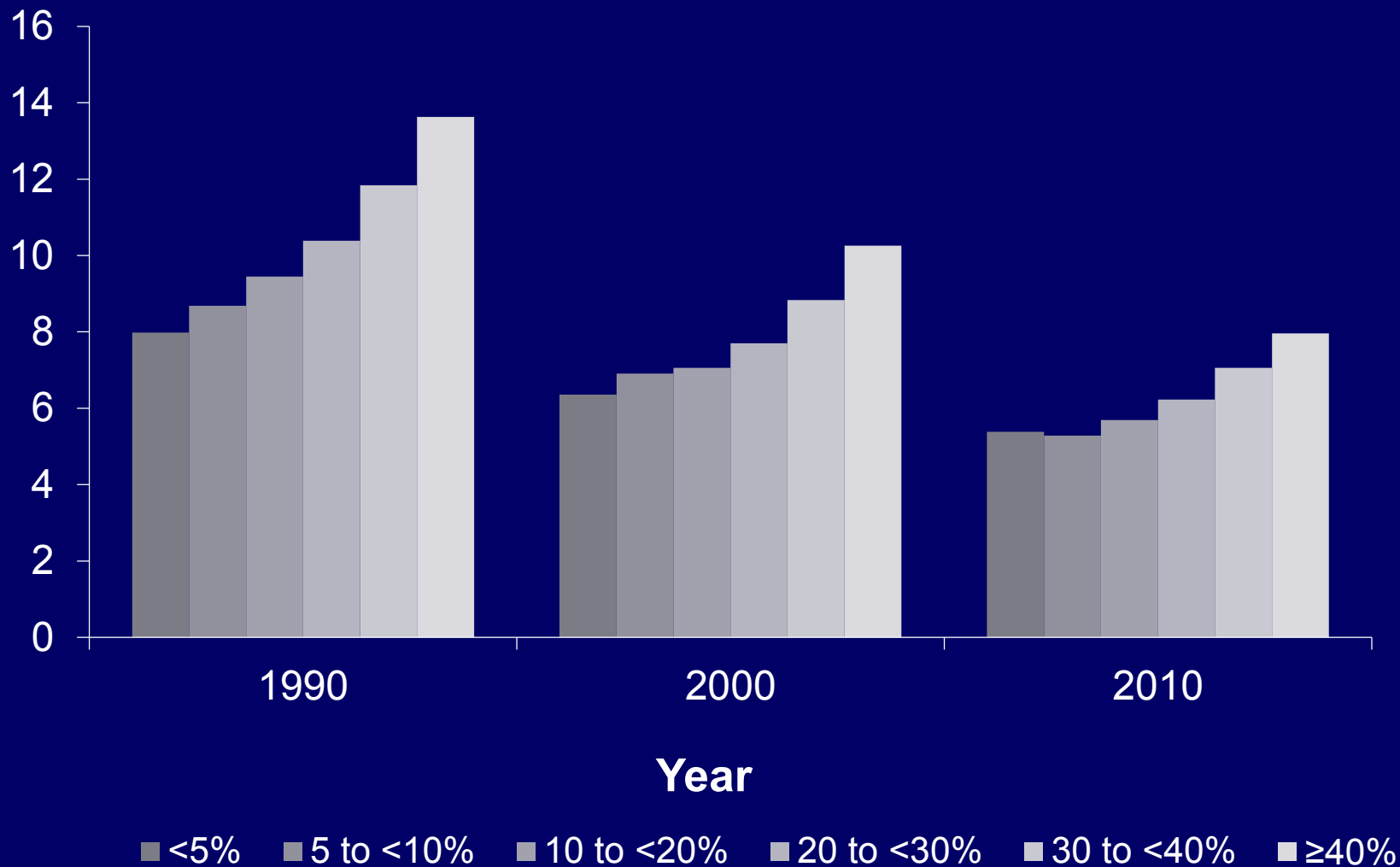


Age-adjusted Mortality Rate by % in census tract who live below poverty by race/ethnicity, NYC, 2000

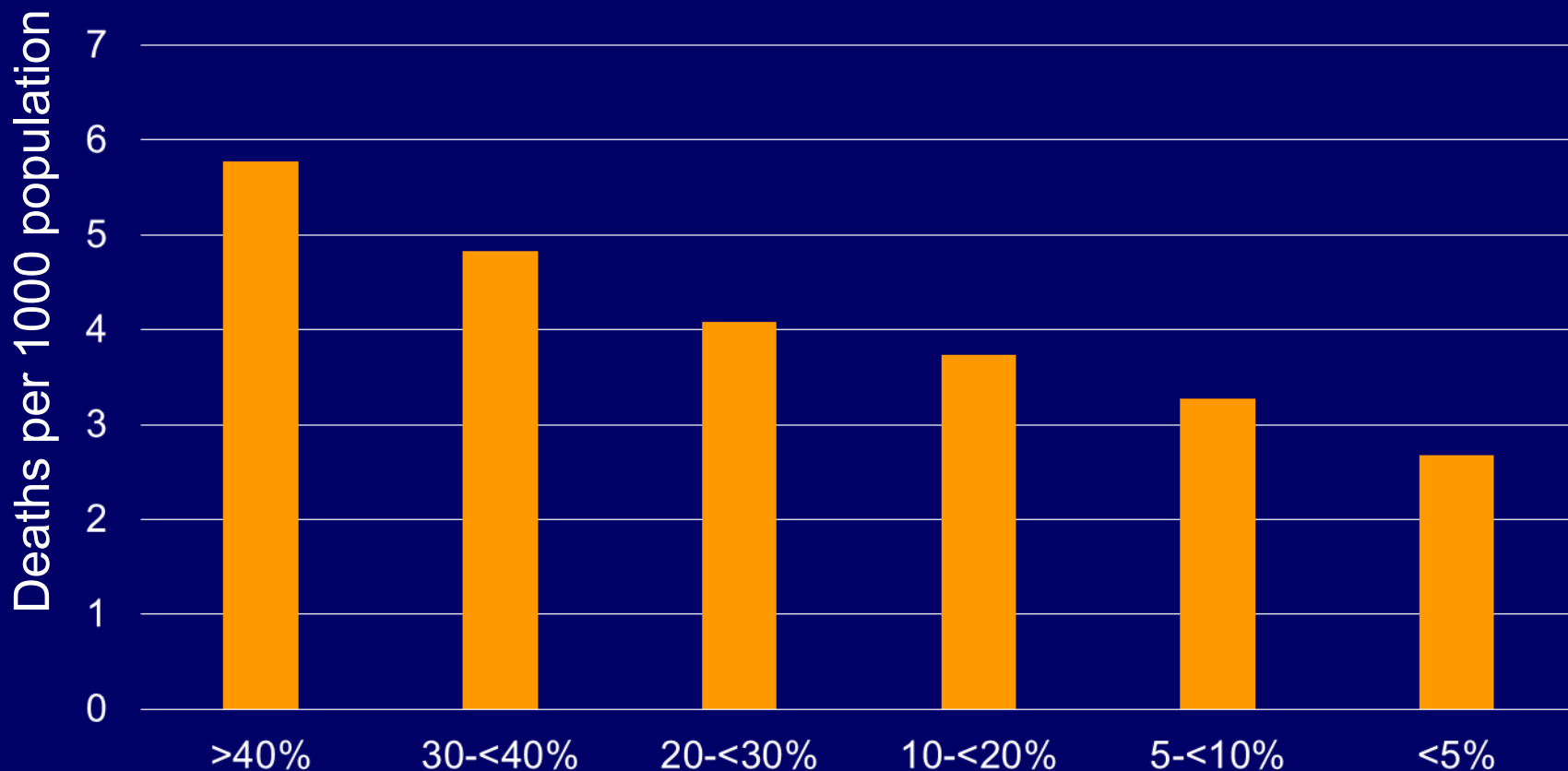
<5% **5-9%** **10-19%** **20-29%** **30-39%** **40+%**



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



Difference in Age-adjusted Mortality Rates from 1990 to 2010 by Census Tract Poverty



Are state-level data currently being geocoded and linked to census tract data?

2015 Health Disparities Assessment of States by CSTE*

- Depends on health outcome (43 respondents)

Malignancies – 30 routinely geocode; 22 routinely link

Inf. Disease - 20 “ “ ; 8 “ “

Births/Deaths – 26 “ “ ; 14 “ “

*http://c.ymcdn.com/sites/www.cste.org/resource/resmgr/PDFs/PDFs2/Final_CSTE_Health_Disparitie.pdf

Are states willing to pool geocoded data for analysis by a central group (e.g., CDC/NCHS)?

Two sources of information:

- CSTE 2015 Health Disparities Assessment
- Precedent

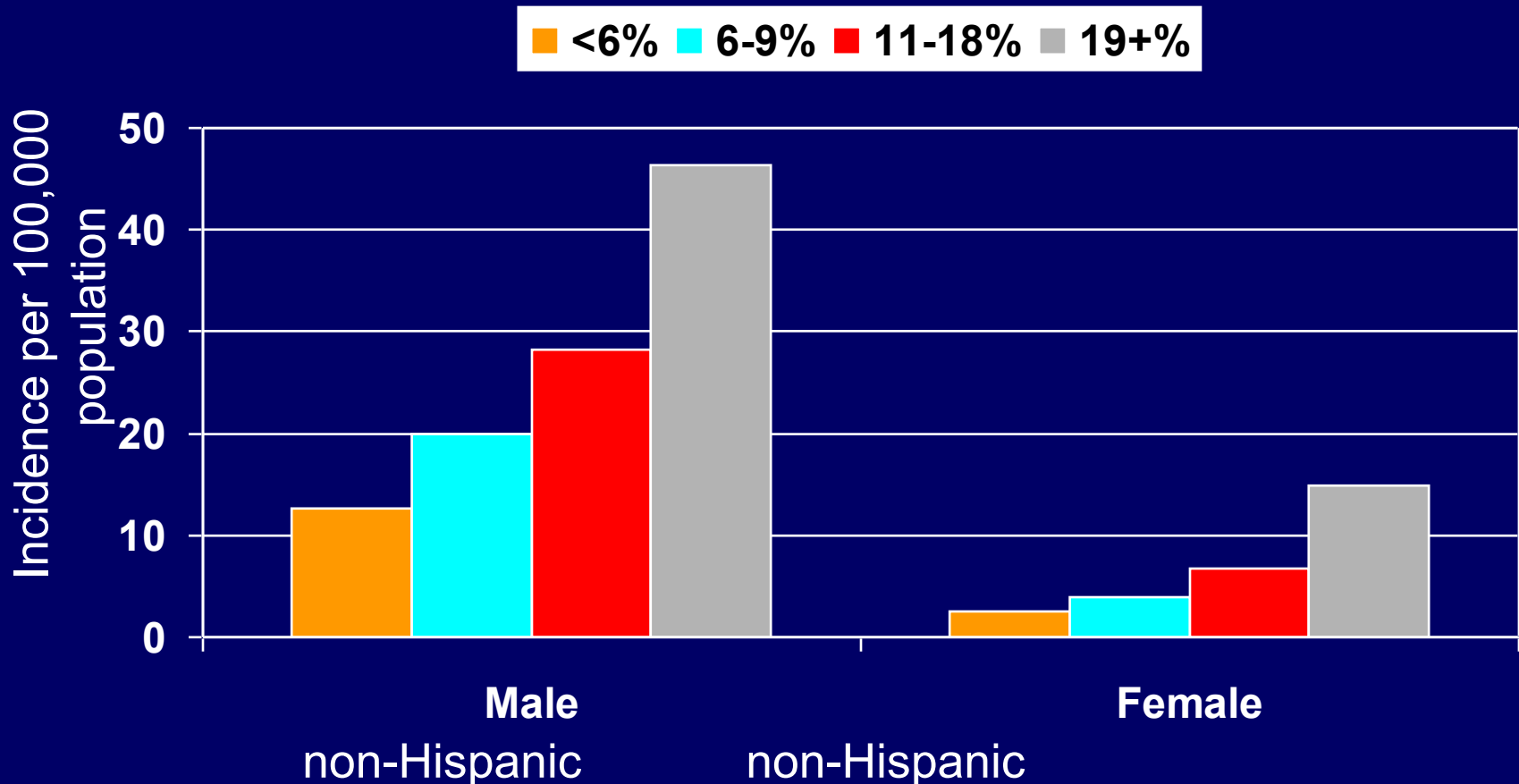
2015 Health Disparities Assessment

- 18 (69%) of states that routinely geocode willing to send geocoded data to CDC

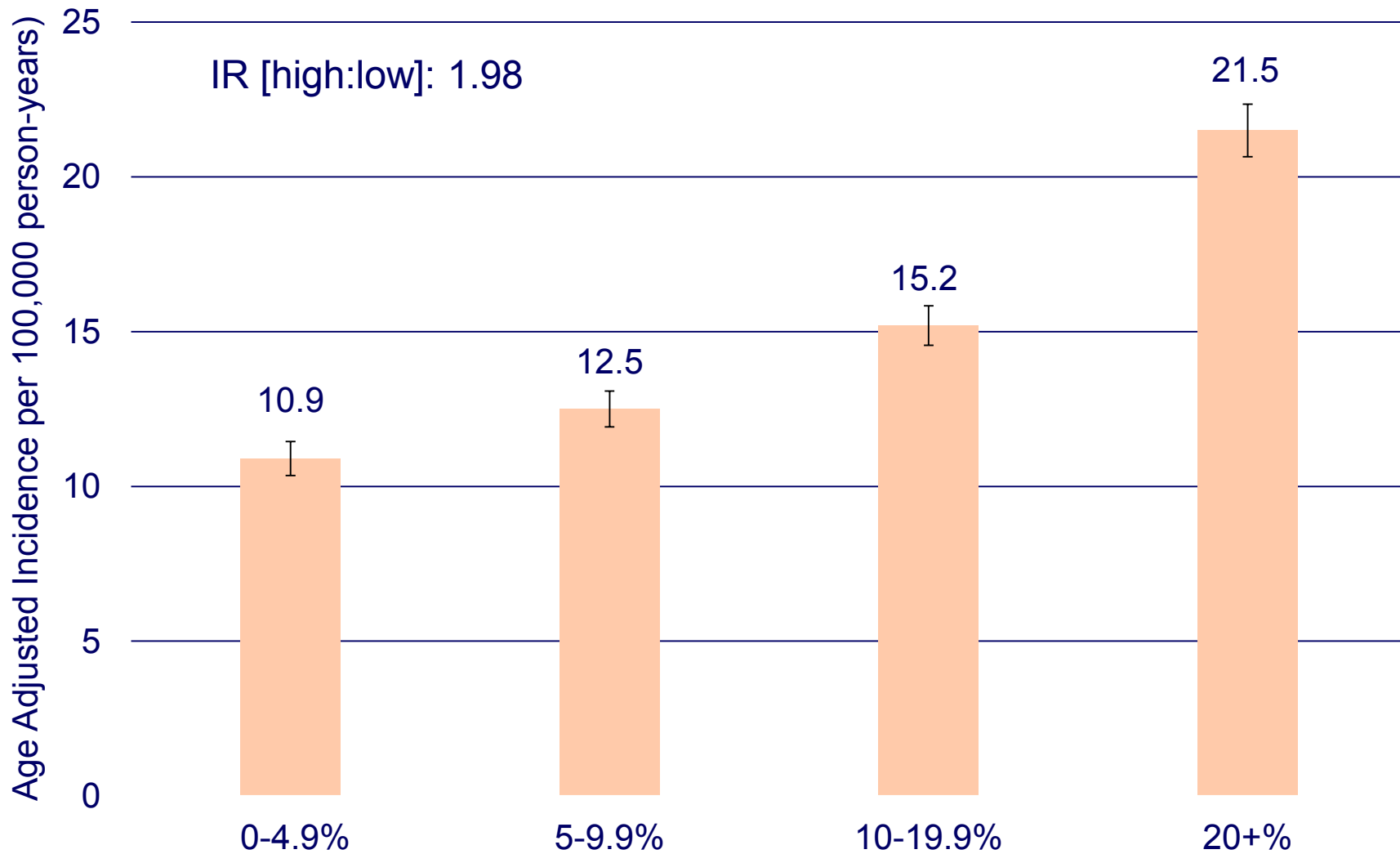
Precedent for collecting census tract SES data from multiple states and analyzing it.

- HIV
 - Since 2010, CDC has funded >20 state and local health departments to geocode HIV case data, link it to specific census tract SES measures and send to CDC.
- Emerging Infections Program – sent to CDC
 - ABCs – all invasive bacterial disease
 - FoodNet - campylobacteriosis, STEC, salmonellosis
 - Other - influenza hospitalizations
- Malignancies
 - Since 2011, NAACCR has collected cancer incidence data with census tract poverty from 16+ state cancer registries

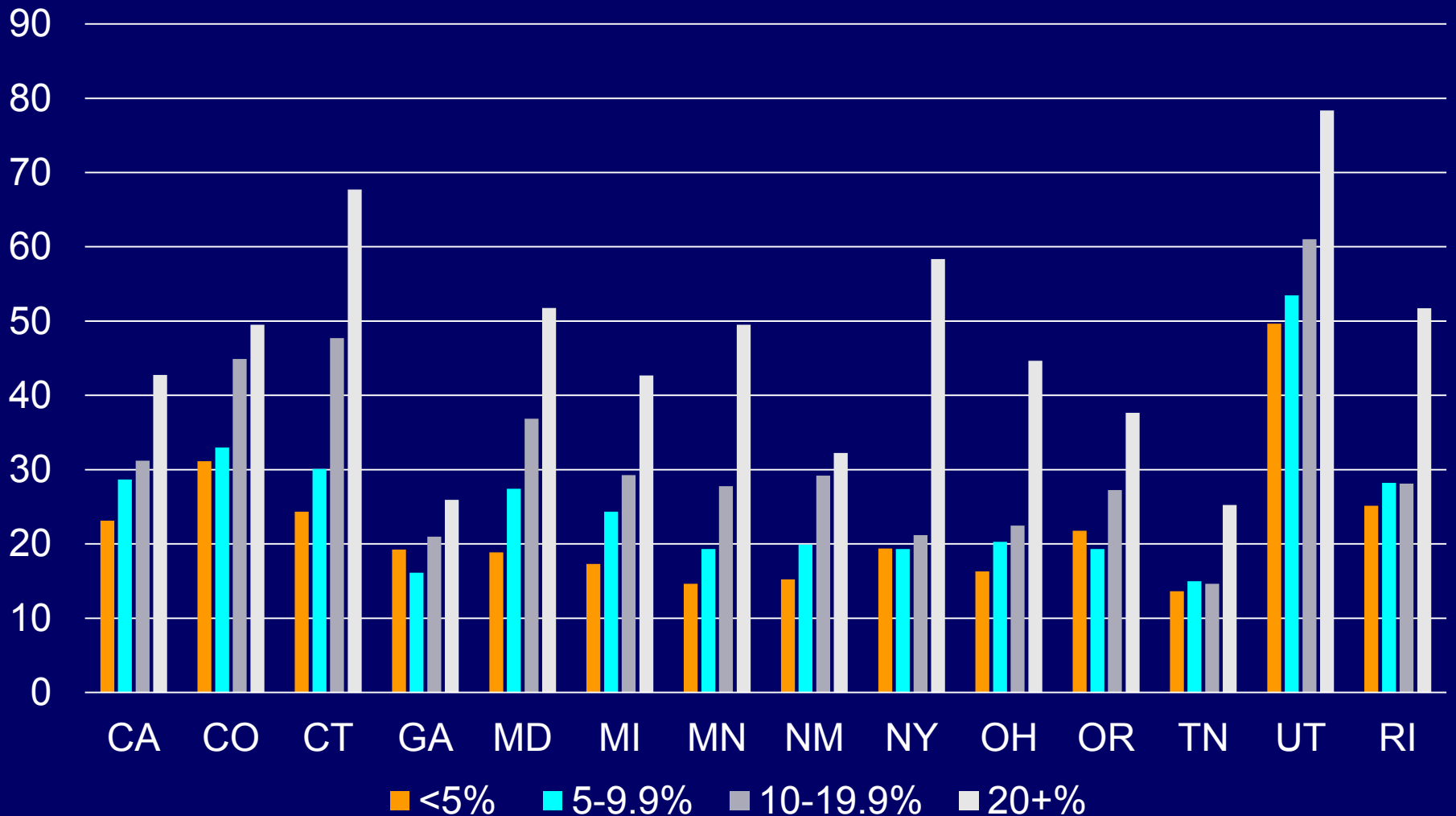
Overall rate of diagnosis of HIV infection among adults by sex and census tract poverty, 20 states, DC and Puerto Rico, 2010



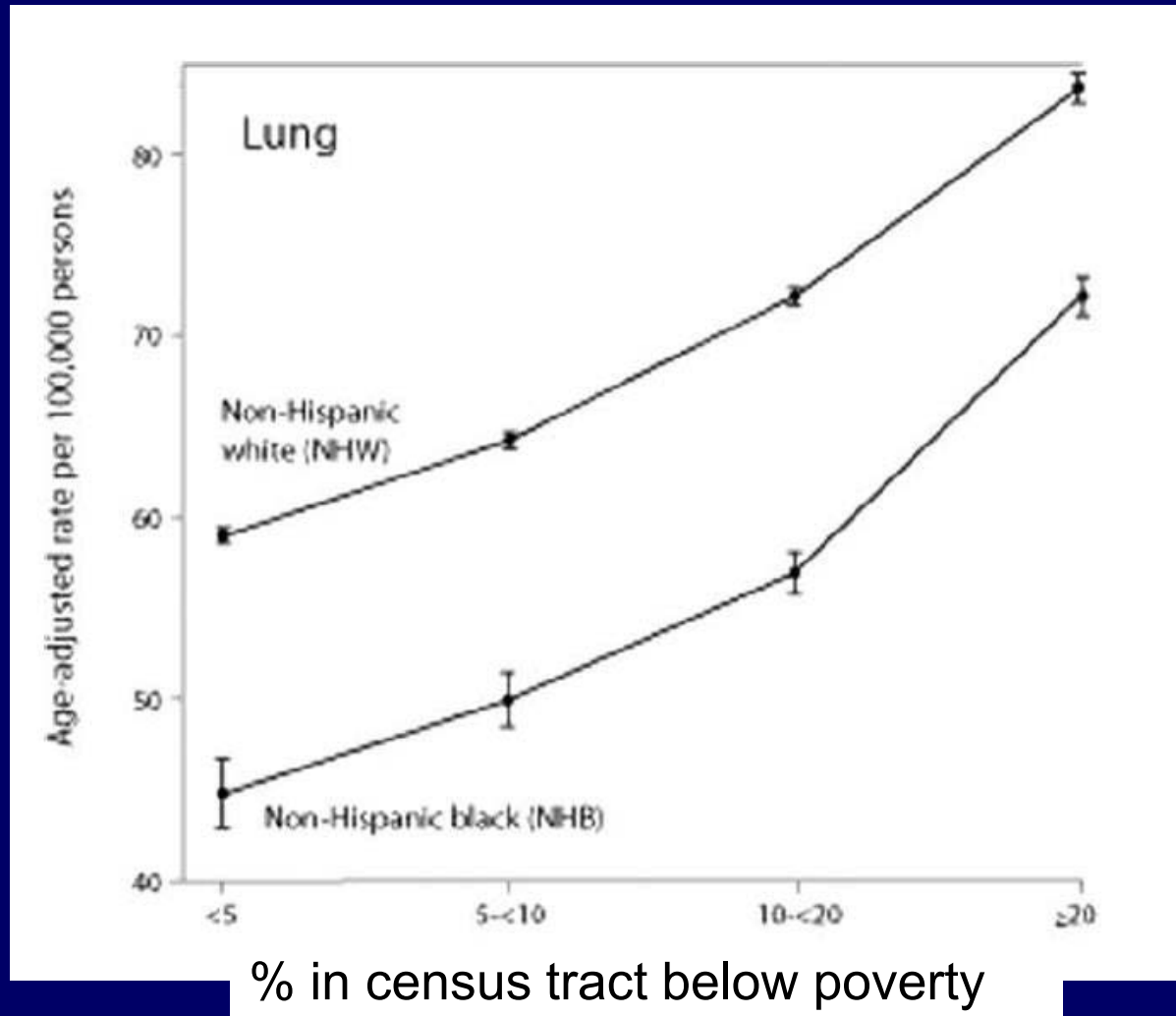
Age-adjusted incidence of Influenza-related Hospitalization by Census Tract Poverty, FluSurv-NET, 2010-2012



Site Specific Age-Adjusted Influenza Hospitalization Incidence by Census Tract Poverty

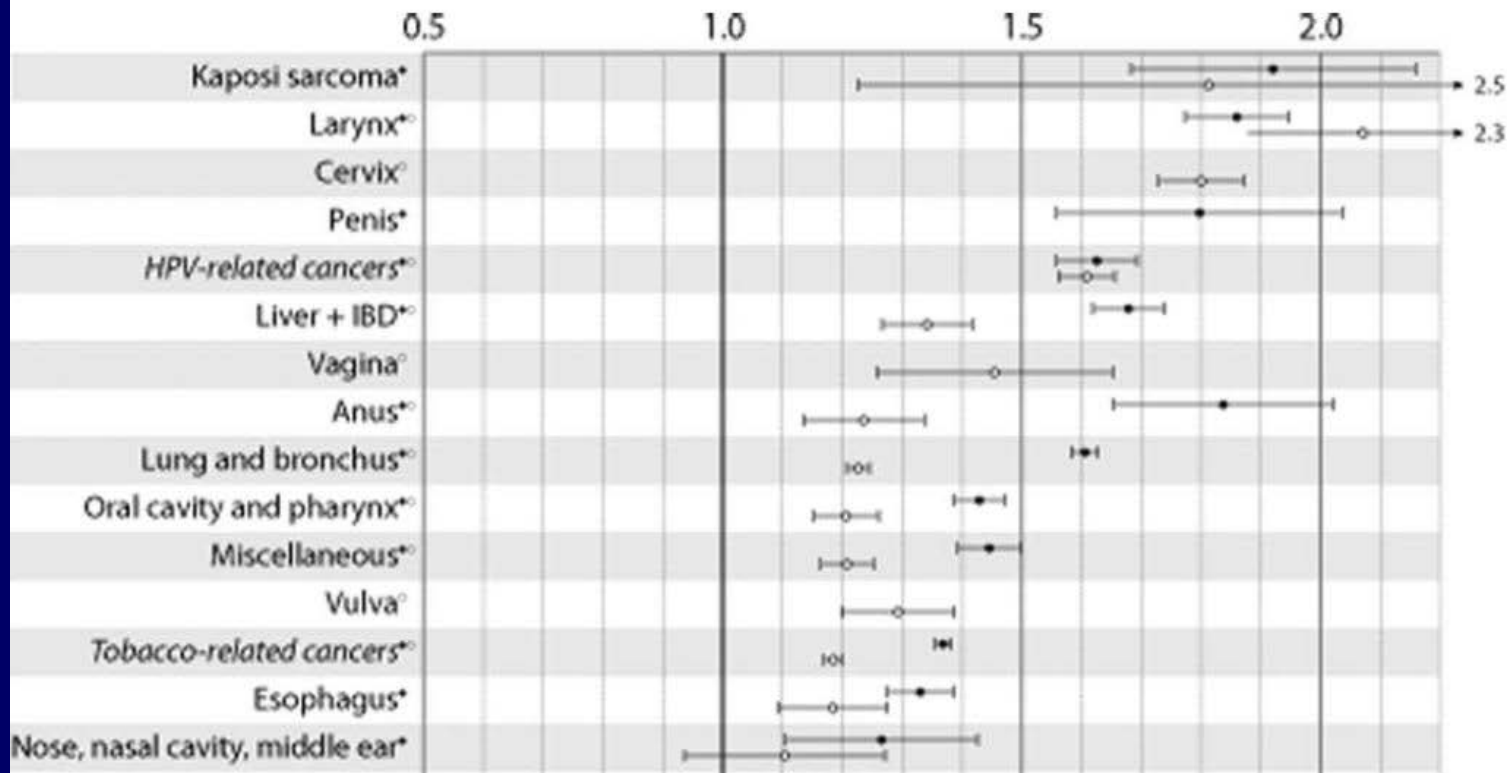


Age-adjusted lung cancer incidence, 16 states and LA County, 2005-2009



Relative Incidence of Selected Cancers, High vs Low Poverty Census tracts, 16 states and LA County, 2005-2006

Poverty and Cancer Incidence in the USA



Conclusions

- An ABSES measure is needed to describe SES disparities in selected health outcomes without individual data.
- Census tract-level poverty (CTP) is the ABSES measure with which there is the most experience.
- CTP describes substantial disparities in health outcomes by SES (when they exist)
- Most states have the capacity to geocode and link geocoded data to census tract SES measures
- It is currently feasible to generate national-level data from a sample of states using census tract poverty or other census tract-level SES measures.

Position Statement

Position adopted:

CDC and NCHS convene a workgroup to:

1. determine whether use of census tract-level SES data provided by a sample of states would fill the need for national SES data for HP health outcomes lacking it; *and if yes,*
 - a. *what SES variable(s) should be used,*
 - b. *standards for geocoding, analysis and presentation of national-level data*
2. develop a specific proposal for the HP2030 goal to eliminate health disparities and achieve health equity to include census tract-level SES as a valid population-based measure for HP2030 objectives lacking SES data at the individual level.

Questions/Discussion