

Measuring Racial And Ethnic Disparities in Health Using Data from the National Health Interview Survey

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OBJECTIVES

- **Overview of NHIS**
 - Examples of NHIS data
 - Summary of issues
- **Measuring race and ethnicity under new OMB standards**
 - Examples of NHIS data under new standards
 - Summary of issues
- **Future directions for the NHIS**



Overview of the National Health Interview Survey

- Annual survey conducted by the Census Bureau for the National Center for Health Statistics (NCHS)
- Nationally representative sample of the non-institutionalized civilian population
- Multi-stage probability sample with stratified, cluster design
- Approximately 40,000 households with 1000,000 persons each year



Overview, cont'd

- Sample design revised every 10 years following the Decennial Census (1995-2004, 2005-2014)
- Most recent sample design oversamples **Black** and **Hispanic** households in high density areas
- Household-based interview administered face-to-face via CAPI
- Full Spanish translation of NHIS available beginning in 1998 (prior limited use)
- Questionnaire redesign in 1997



Basic NHIS Module Topic Areas

- Activity Limitations
- Injuries
- Conditions
- Health Behaviors
- Access to Health Care
- Utilization
- Health Insurance
- Demographics
- Income & Assets
- Family Composition



Topical Modules

- Analogous to Supplements from “old” NHIS
- Added flexibility: can address new or specific topics as public health issues arise
- Examples: Prevention, 1998 (Year 2000 Objectives); Prevention, 2001 (baseline for 2010 Objectives), Cancer, 2000



Non-health NHIS measures

- *Household composition* - family size, family relationships
- *Demographics* - age, marital status, ethnicity (Hispanic origin), race (3 AIAN groups, 6 Asian groups, 4 NHOPI groups, single and multiple race, primary race)
- *Socioeconomic status* – sources of income (family and individual), source of public assistance income, highest level of education attained, occupation
- *Geography* – urban/rural residence, Census region of residence, state of residence, residence in an MSA



Non-health NHIS measures, cont'd

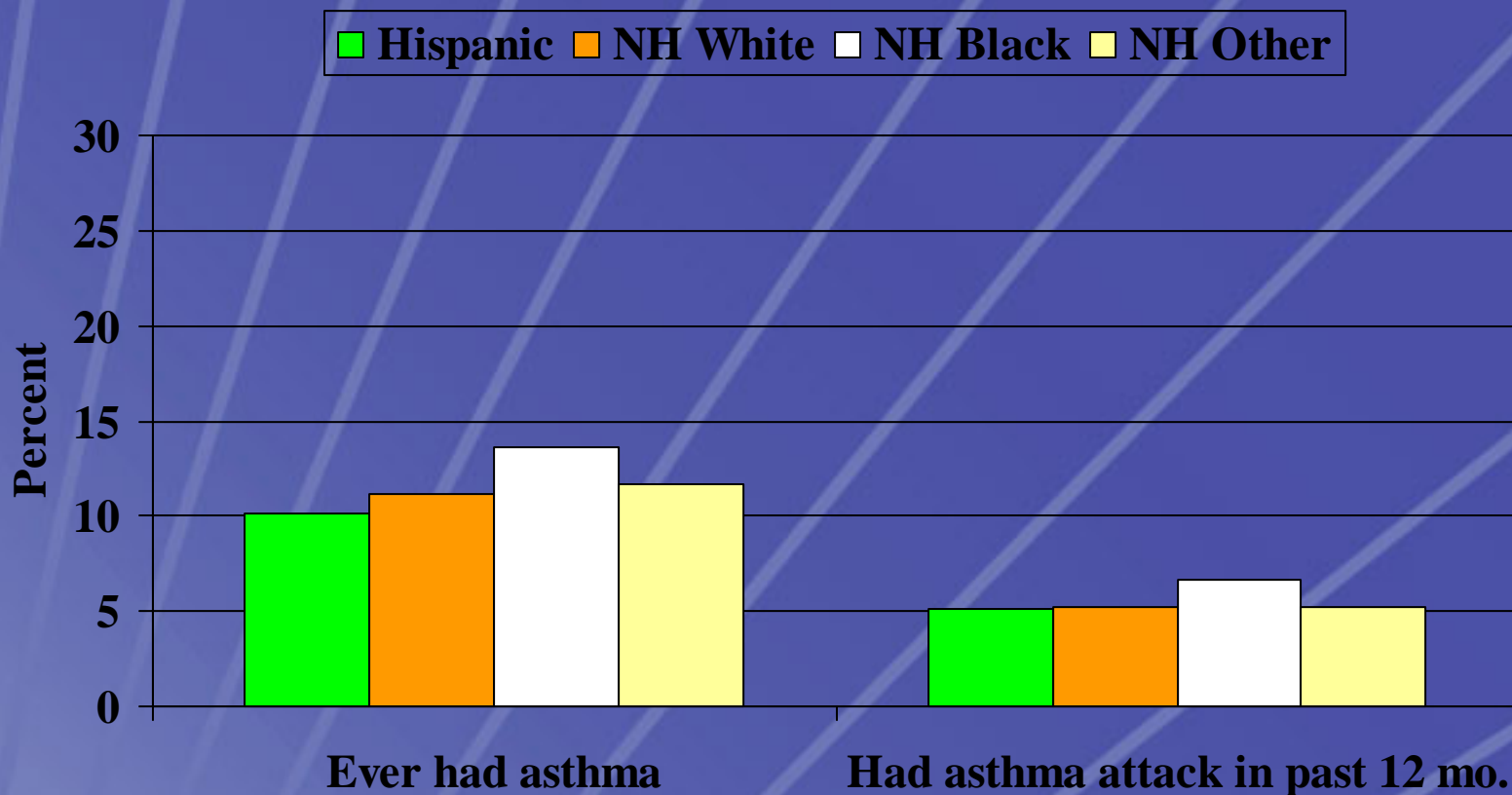
- *Acculturation (proxy measures)* – length of time in the U.S., year came to the U.S., number of years in the U.S., language of interview (Spanish, English, other)
- *Nativity* – state/country of birth, citizenship
- *Contextual* – percent black/Hispanic/Asian, percent with 9th grade education or better , median income (census tract level)



**Examples of NHIS data used to
assess disparities among
racial/ethnic groups**

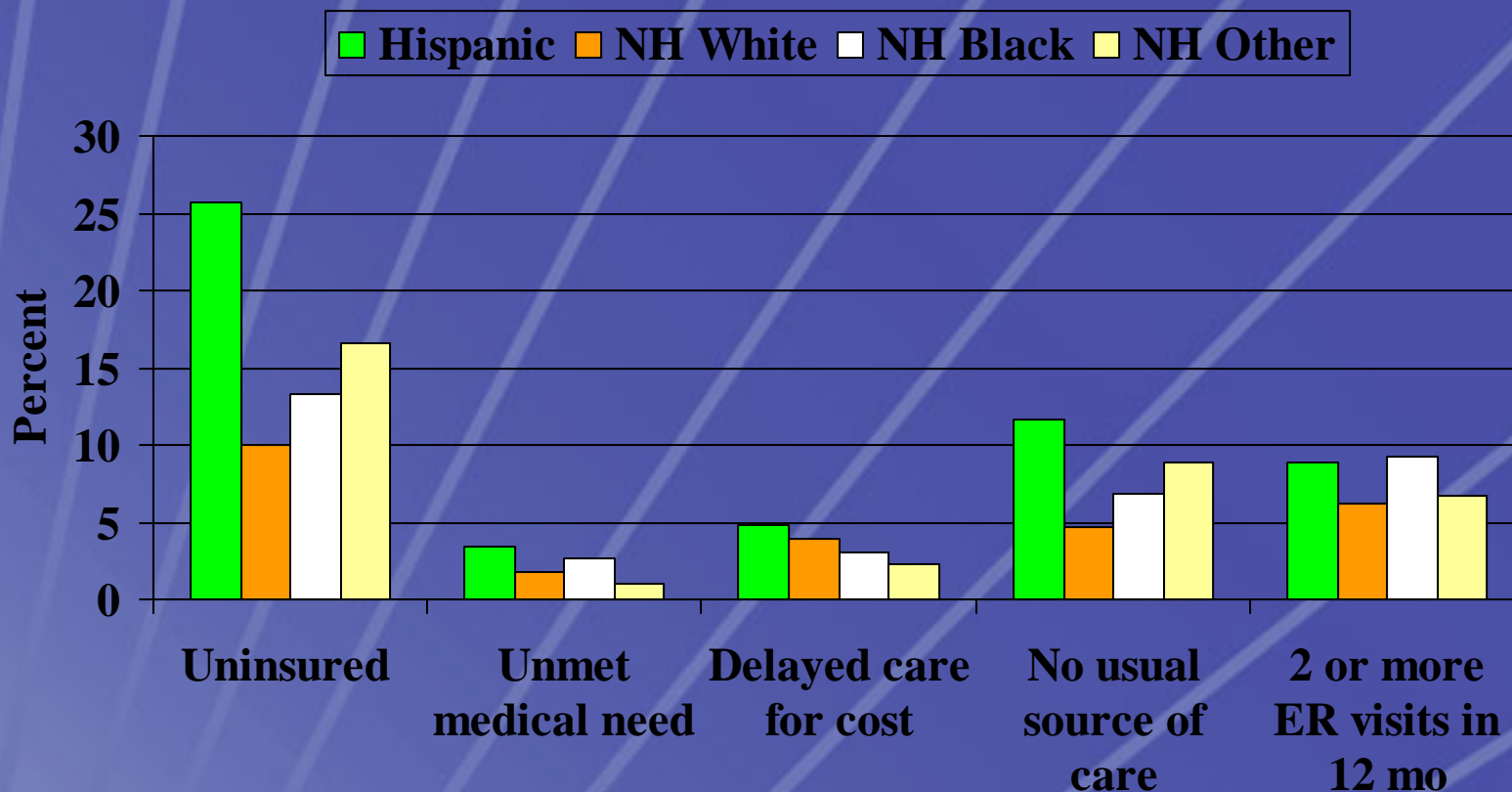


Asthma measures for children age 17 and under: U.S., 1997



SOURCE: 1997 NHIS, Summary Health Statistics

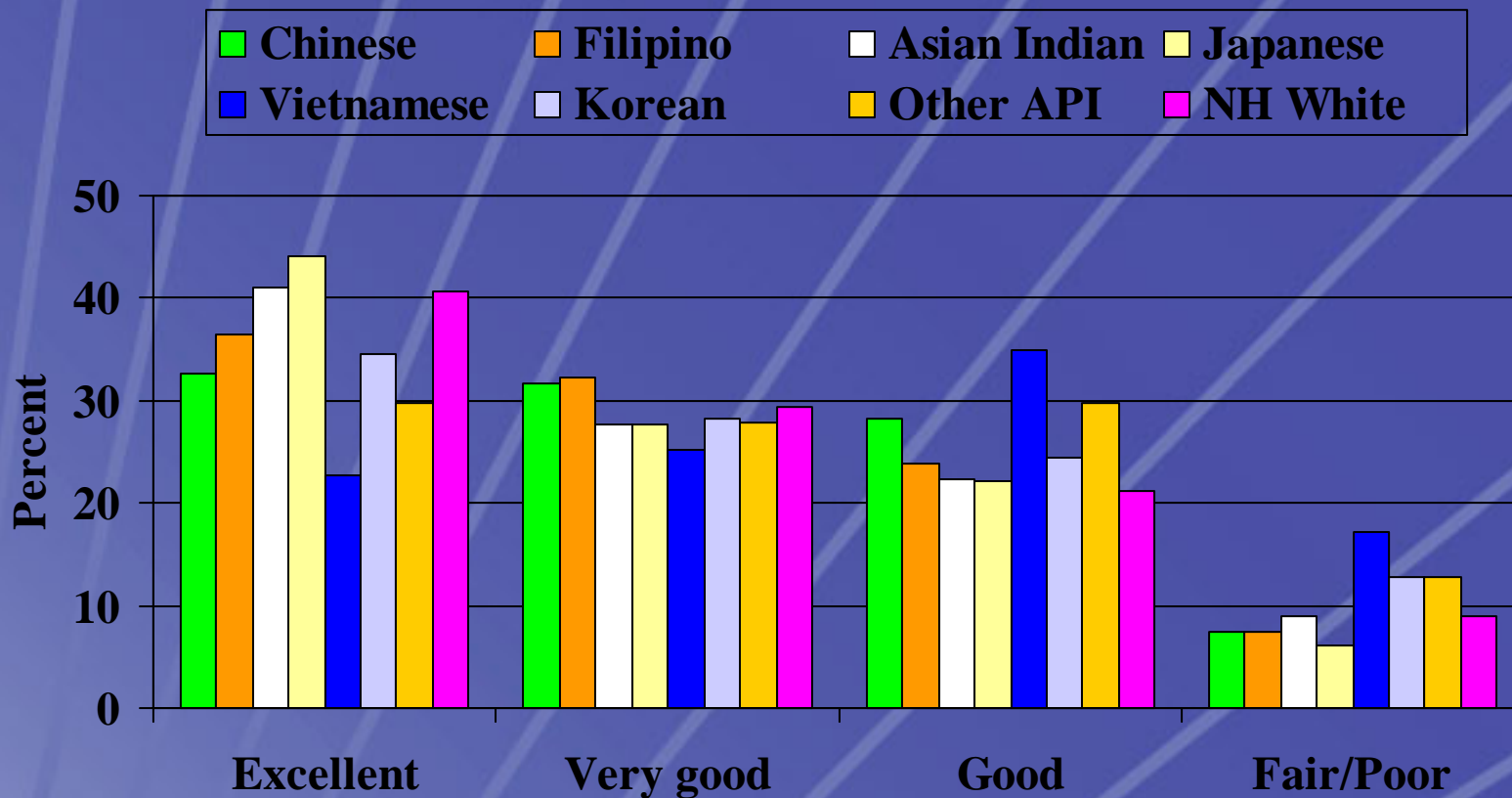
Selected measures of health care risk for children age 17 and under: U.S., 1997



SOURCE: 1997 NHIS, Summary Health Statistics

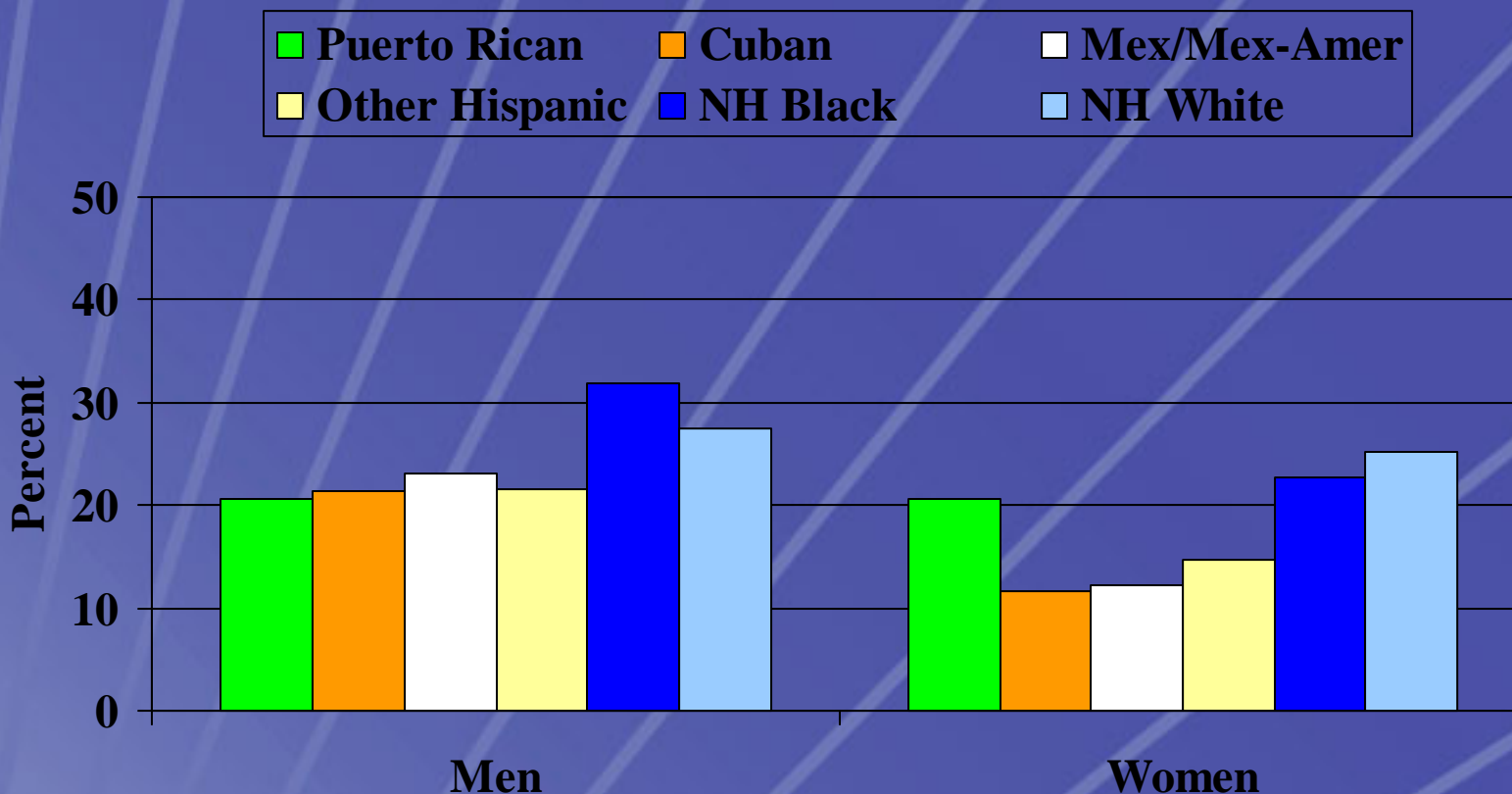


Respondent assessed health status for Asian/Pacific Islander and NH White population groups: U.S., 1992-1994



SOURCE: Kuo, Porter, NCHS 1998

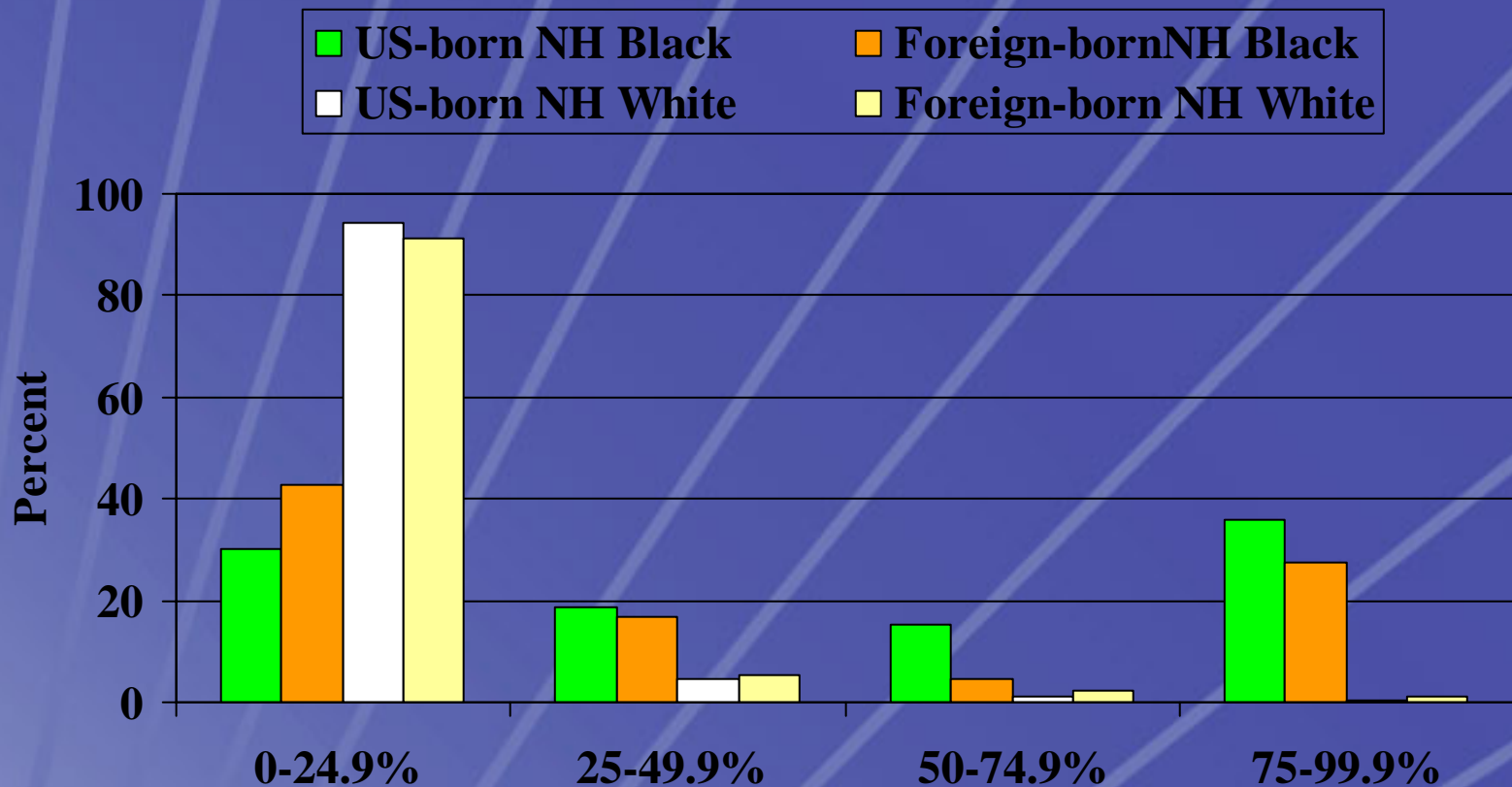
Current smoking status in adults 18 and older, by sex and race/ethnicity: U.S., 1992-1995



SOURCE: Hajat, Lucas, Kington, 2000

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Concentration of black population in the census tract by race, nativity status: U.S., 1992-1995



SOURCE: Unpublished NHIS data, 1992-1995

Other uses of NHIS data to examine racial/ethnic disparities in health

- *Linked file analyses:*
 - **Linked NHIS-NDI** – relationship between health behaviors/preventive health measures and mortality;
 - **Linked NHIS-NSFG** – effects of marital history on health status
- *Multivariate analyses*
 - Do family structure and characteristics predict child health status?
 - Are socioeconomic and demographic factors associated with differential health status among US and foreign born Black and white persons?



Issues related to using NHIS data to assess racial/ethnic disparities in health

- Single year of data for largest groups only – Hispanic, NH White, NH, Black, NH Other (includes API, AIAN)
- Smaller subpopulation group analyses require 2 or more years of data (sample size, precision of estimates)
- Confidentiality requirements restrict the amount of information available on public use data files – some detailed/disaggregated data must be obtained through the RDC



Issues related to using NHIS data, cont'd

- Limited oversampling of smaller racial/ethnic populations
- Cultural competency, non-Spanish languages spoken in the home, language proficiency, and acculturation – limited/no data
- Limited translation of the survey - Spanish only, others ad lib



Measurement of race and ethnicity

- *Central to the issue of assessing racial and ethnic disparities:*
 - measure health outcomes for new population groups
 - maintain trends in data to monitor changes in health outcomes over time
 - assess whether observed population changes are the result of changes in classification of groups or actual behavior changes/successful program interventions



What are the new OMB standards for federal race and ethnicity data collection

- Revised categories:
 - White, Black/African American, American Indian or Alaska Native (AIAN), **Native Hawaiian or Other Pacific Islander (NHOPI) [new]**, **Asian [new]**
- Hispanic origin (Hispanic/Latino)
 - Ask prior to and separately from race

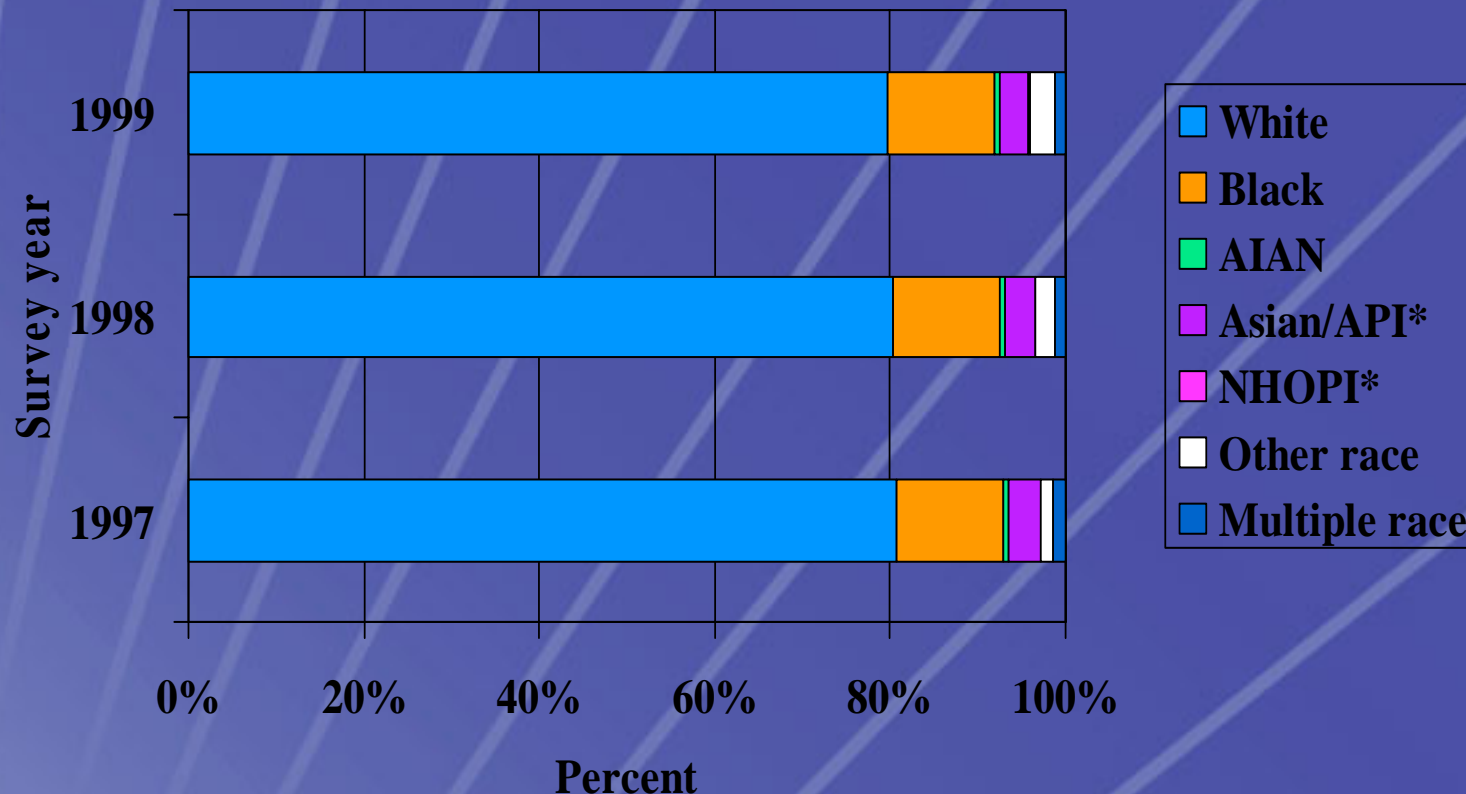


What are the most important effects of the new standards?

- **Changes in tabulation and presentation of data**
shifts in people reported in particular categories
- **Changes in trend data**
monitoring new groups creates breaks in data
- **Changes in the interpretation of data for racial/ethnic groups**
need to understand the effect of reporting and interpreting data for groups whose composition may be changing over time



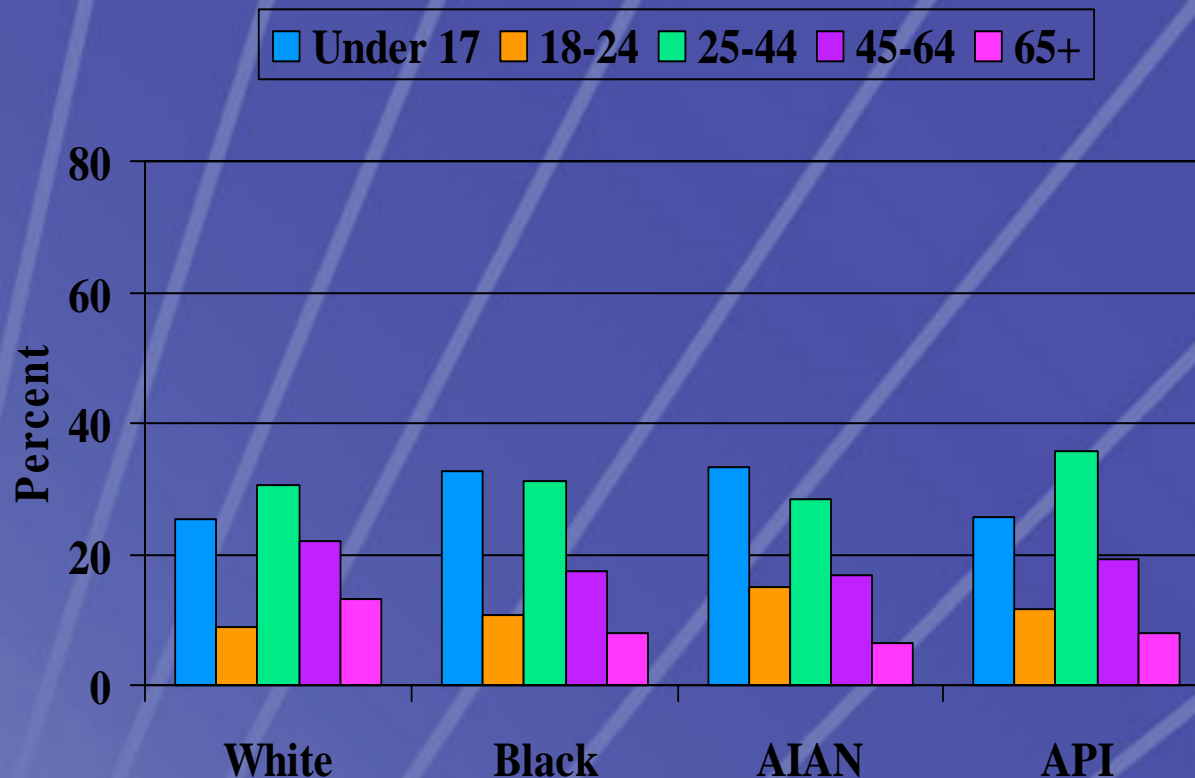
Distribution of racial groups in the NHIS, 1997-1999



SOURCE: CDC/NCHS: National Health Interview Survey; weighted estimates.



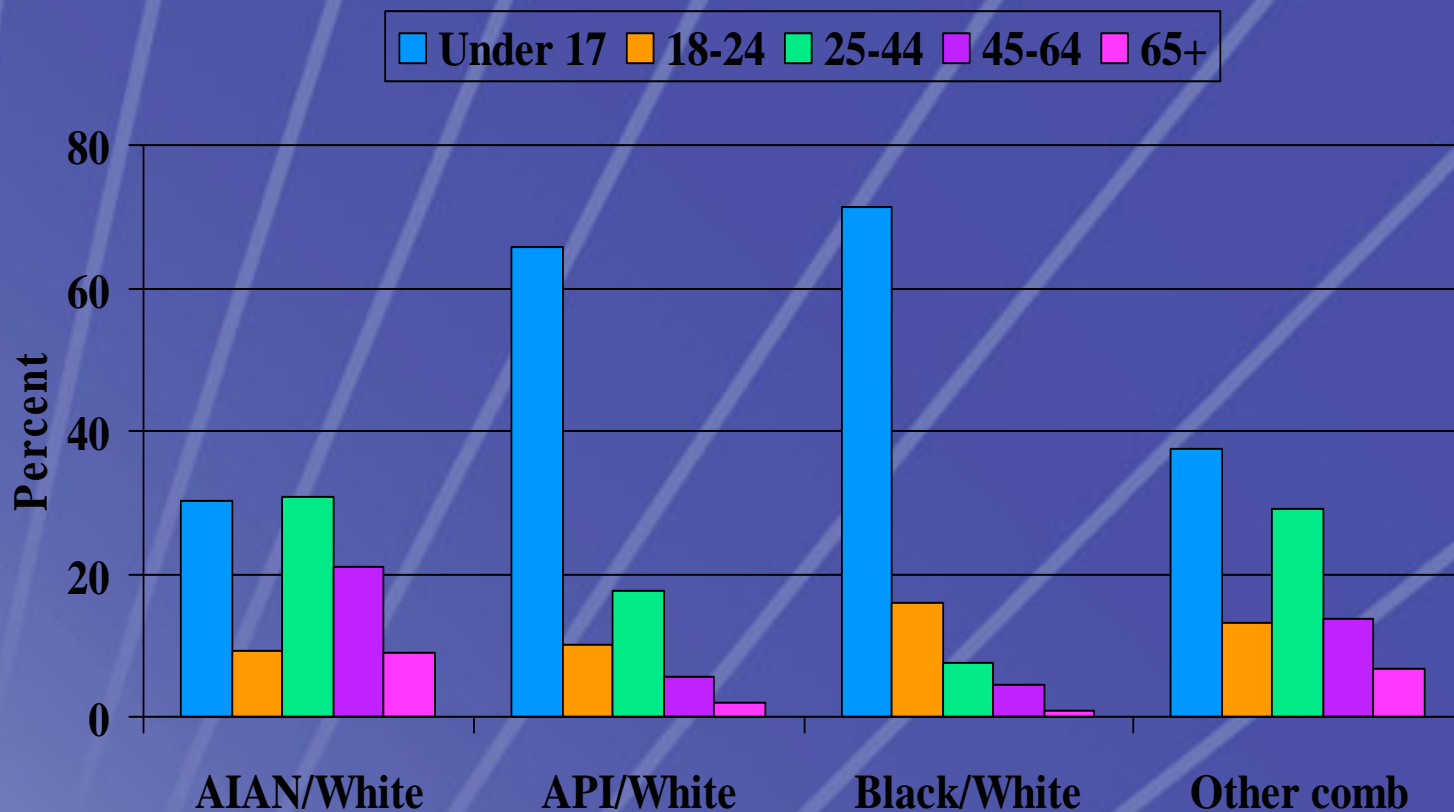
Age distribution of single race groups, 1998 NHIS



SOURCE: CDC/NCHS, 1998 NHIS (weighted data)

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Age distribution of multiple race groups, 1998 NHIS



SOURCE: CDC/NCHS, 1998 NHIS (weighted data)

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Private health insurance coverage for single and multiple race groups , 1998 NHIS

1997 Standards

<i>Race:</i>	<i>Percent</i>	<i>SE</i>
White only	76.1	.33
Black only	54.2	.95
AIAN only	44.1	4.63
API only	70.5	1.56

1977 Standards

<i>Race:</i>	<i>Percent</i>	<i>SE</i>
White	76.0	.35
Black	54.3	.95
AIAN	43.3	4.46
API	70.3	1.51

Multiple race total

Black/White	57.5	5.28
AIAN/White	53.8	4.16
API/White	74.7	4.86



SOURCE: CDC/NCHS; 1998 National Health Interview Survey, weighted estimates

Percent distribution of primary race group selected by largest multiple race groups

	AIAN/White		API/White		Black/White	
	<u>1997</u>	<u>1998</u>	<u>1997</u>	<u>1998</u>	<u>1997</u>	<u>1998</u>
White	81.6	74.6	39.1	44.4	26.7	24.3
Black	-----	-----	-----	-----	50.2	48.5
AIAN	16.5	19.6	-----	-----	-----	-----
API	-----	-----	48.7	41.5	-----	-----
Multiple race	1.8	5.7	12.7	14.1	23.2	27.3



SOURCE: CDC/NCHS, 1997 and 1998 National Health Interview Survey (weighted, age-adjusted)

Issues related to measurement of race/ethnicity in the NHIS

- **Maintaining trends in health data by race:**
 - will require the use of some bridging method (NHIS question may work best for now because of self-allocation)
 - as multiple race groups get larger, bridging methods will be less useful – mo may require starting new trends



Issues related to measurement of race, cont'd

- *Interpretation of data under the new standards:*
 - measuring new population groups - NHOPI and the multiple race groups - whose characteristics and patterns of illness and disease appear to be distinct and must be studied further
 - racial/ethnic identity - fluid, not fixed - changes our concept of race; substantive meaning of primary race
 - relationship between race and health in epidemiologic analyses increasingly more complex



Other uses of NHIS data to examine race/ethnicity reporting

- *Linked file analyses:*
 - Consistency of race reporting in the linked NHIS-NSFG
 - Use of NHIS data to develop a bridging method for vital statistics data
- *Multivariate analyses*
 - Mortality profile of multiple race persons in the U.S. – linked NHIS-NDI, 1986-1994
 - Demographic and health profile of multiple race persons in the U.S. – NHIS data 1997-2000



Future directions for the NHIS

- Examining over sampling of Asian population subgroups
- Consideration of targeted sampling to study smaller groups like AIAN, NHOPI for whom health data is needed
- Cognitive work to examine commitment to a racial identity (primary race vs. multiple race); experiences with discrimination in seeking/receiving health care



Web site information

- **National Health Interview Survey information:**

<http://www.cdc.gov/nchs/nhis.htm>

- **Office of Management and Budget Guidelines for the Collection of Data on Race and Ethnicity:**

<http://www.whitehouse.gov/OMB/inforeg>

