



Race Disparities in the Burden of Disease: The Tip of the Ice Berg

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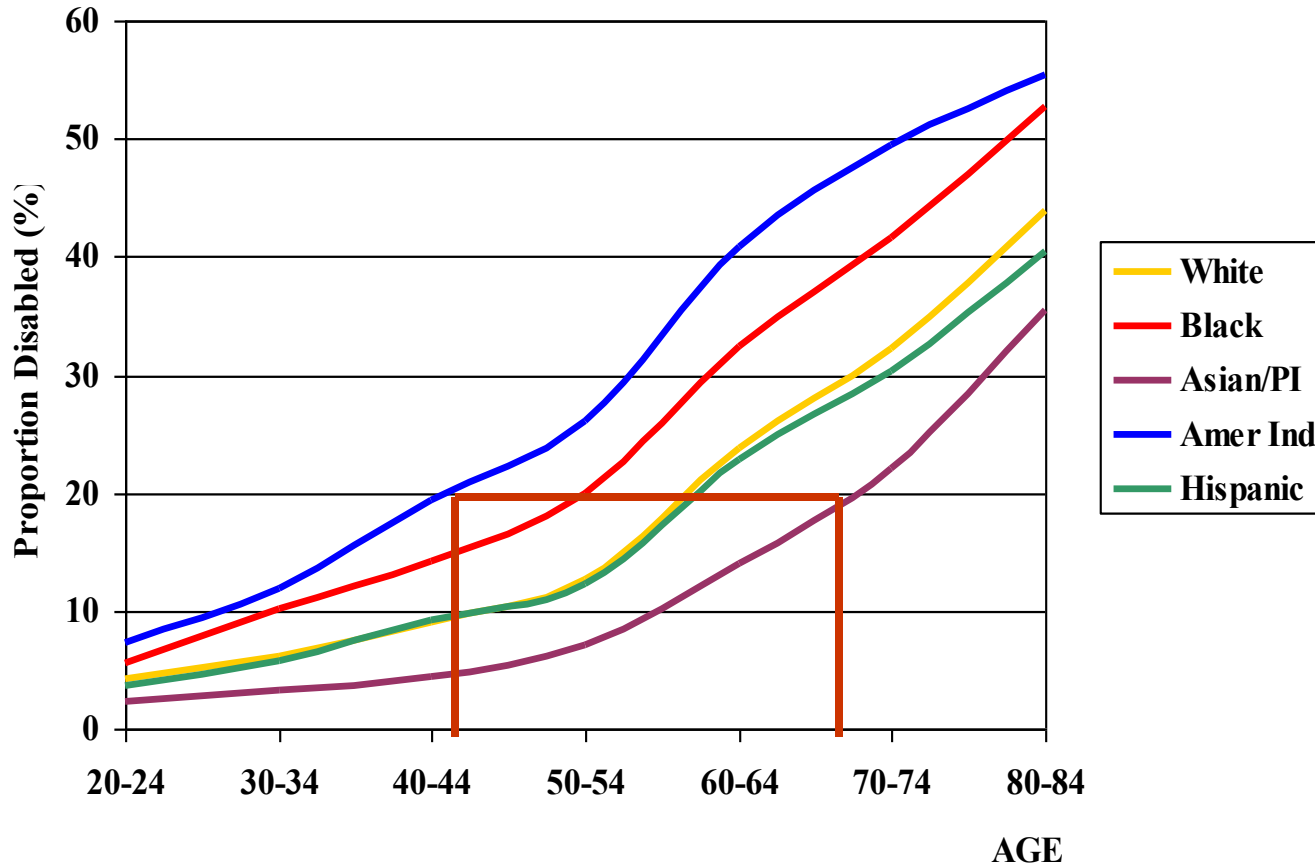
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Race Disparities in Disease Burden Reflect Differences in Morbidity, Disability, and Mortality

- **Disparities in chronic conditions evident in prime adulthood and grow in old age**
- **For some groups, chronic diseases (diseases of the old) are well advanced by middle age**
- **Socioeconomic status is a powerful force that mitigates, but does not totally erase, race disparities in disease burden**
- **Important caveats**
 - Most of what is known is restricted to African Americans and Whites. Morbidity and mortality data for some race/ethnic groups is either non-existent, based on very few cases or the data are of poor quality
 - Use of major race/ethnic categories masks substantial within-group heterogeneity (e.g., Asians and Hispanics) pertaining to nativity, cultural beliefs about health, lifestyle, and economic resources
 - Data for some race/ethnic groups reflect immigration dynamics (movements in and out of the country – who's at risk and who's counted)
 - Challenges arise from study designs that use age as an eligibility criterion. Because of premature mortality, many persons in disadvantaged groups fail to survive to ages for inclusion

Chronic Health Problems Aren't Just for the Old: Disability Prevalence for Males Ages 20 Years and Older by Race/ethnicity: 1990 U.S. Census





Many Chronic Diseases Are Well Advanced by Middle Age Among Blacks Compared to Whites

Death Rates for Selected Major Fatal Chronic Conditions for Persons Ages 45-54 Years, According to Race and Sex, 1990

Cause of Death	Blacks		Whites	
	Males	Females	Males	Females
Heart	328.9	155.3	170.6	50.2
Cerebrovas.	68.4	44.1	15.4	13.5
Cancer	269.5	209.9	138.0	150.9
Lung Diseases	18.8	15.0	8.6	8.4

Source: National Center for Health Statistics. 1999. *Health, United States*. Hyattsville, Maryland. Tables 37, 38, 39, and 42.



The Health Advantages of a Good Education: Age at Which Persons of Different Educational Levels Experience Equivalent Prevalence and Incidence of Specified Diseases. Health and Retirement Survey

Disease Condition	Years of Education		
	8	12	16
<u>Prevalence</u>			
Heart problems	51	54	57
Heart attack	51	58	64
Hypertension	51	55	58
Stroke	51	56	61
Diabetes	51	57	64
Chronic lung disease	51	60	70
<u>Incidence</u>			
Heart problems	52	56	60
Heart attack	52	59	65
Stroke	52	58	64
Death	52	57	61

Source: Crimmins, Hayward, and Seeman. 2003. NAS Panel on Race/Ethnic Differences in Health



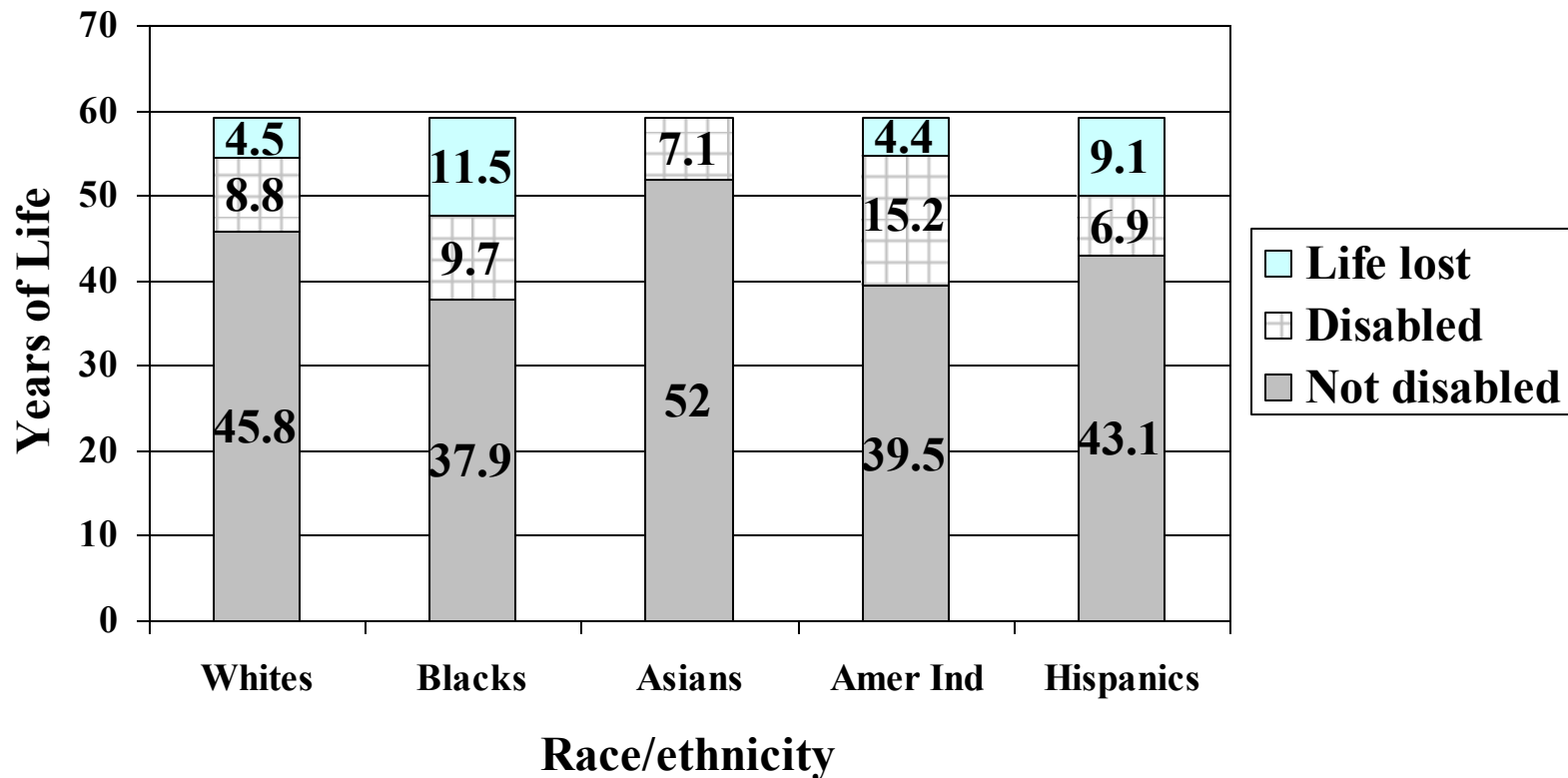
The Cumulative Advantages (and Disadvantages) of Race and SES: Probability of Disease Onset (Percent) by Age 63 by Persons Who Are Age 51 without the Disease HRS 1992-1994

	<u>Years of Education</u>					
	<u>Blacks</u>			<u>Whites</u>		
	8	12	16	8	12	16
<u>Males</u>						
Hypertension ^{ab}	57.6	47.1	38.5	36.0	29.8	24.0
Diabetes ^{ab}	65.5	38.7	22.7	27.3	16.0	9.4
Cancer ^c	4.0	5.3	7.0	5.4	7.2	9.5
COPD ^b	24.0	13.4	7.5	23.1	12.9	7.2
Heart ^{bc}	33.8	25.2	18.8	31.5	23.5	17.5
Stroke ^{ab}	17.9	12.1	8.1	7.9	5.3	3.6
<u>Females</u>						
Hypertension ^{ab}	66.4	54.3	44.7	41.6	34.0	27.8
Diabetes ^{ab}	49.0	28.9	16.9	20.3	11.9	7.0
Cancer ^c	4.1	5.5	7.3	5.6	7.5	10.0
COPD ^b	24.0	13.4	7.4	23.0	12.8	7.1
Heart ^{bc}	29.0	21.7	16.1	27.0	20.2	15.0
Stroke ^{ab}	13.1	8.8	5.9	5.8	3.9	2.6

Hayward, Crimmins, Miles and Yang. 2000. *American Sociological Review*



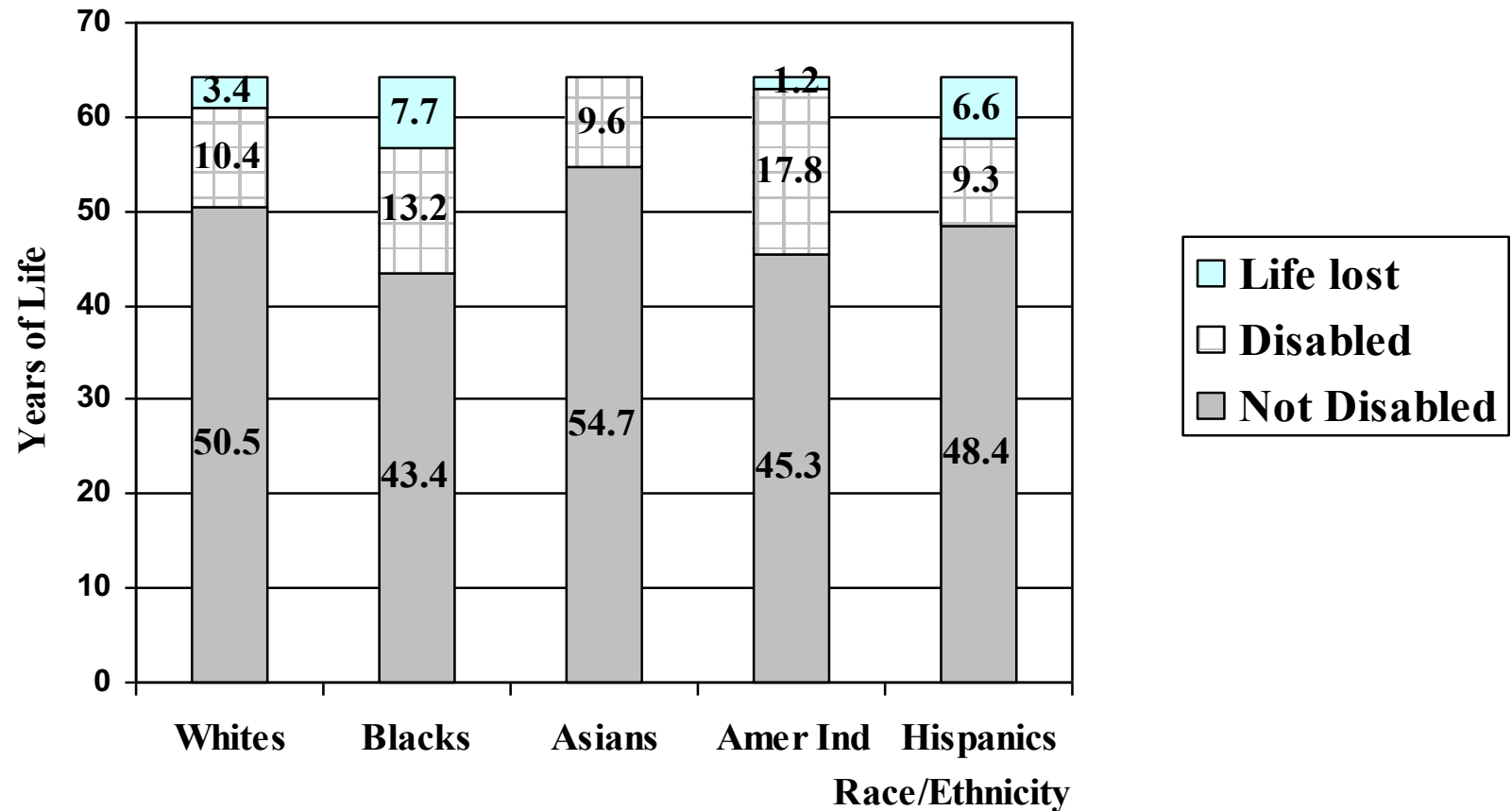
Consequences of Disparities in Mortality and Morbidity for Race/Ethnic Differences in the Burden of Disease: Years of Potential Life Lost, Disabled Life and Disability Free Life: Males Aged 20 Years, 1990



Source: Hayward and Heron. 1999. *Demography*

Data Sources: NCHS Mortality Detail Files (1989, 1990, 1991) and 1990 U.S. Census

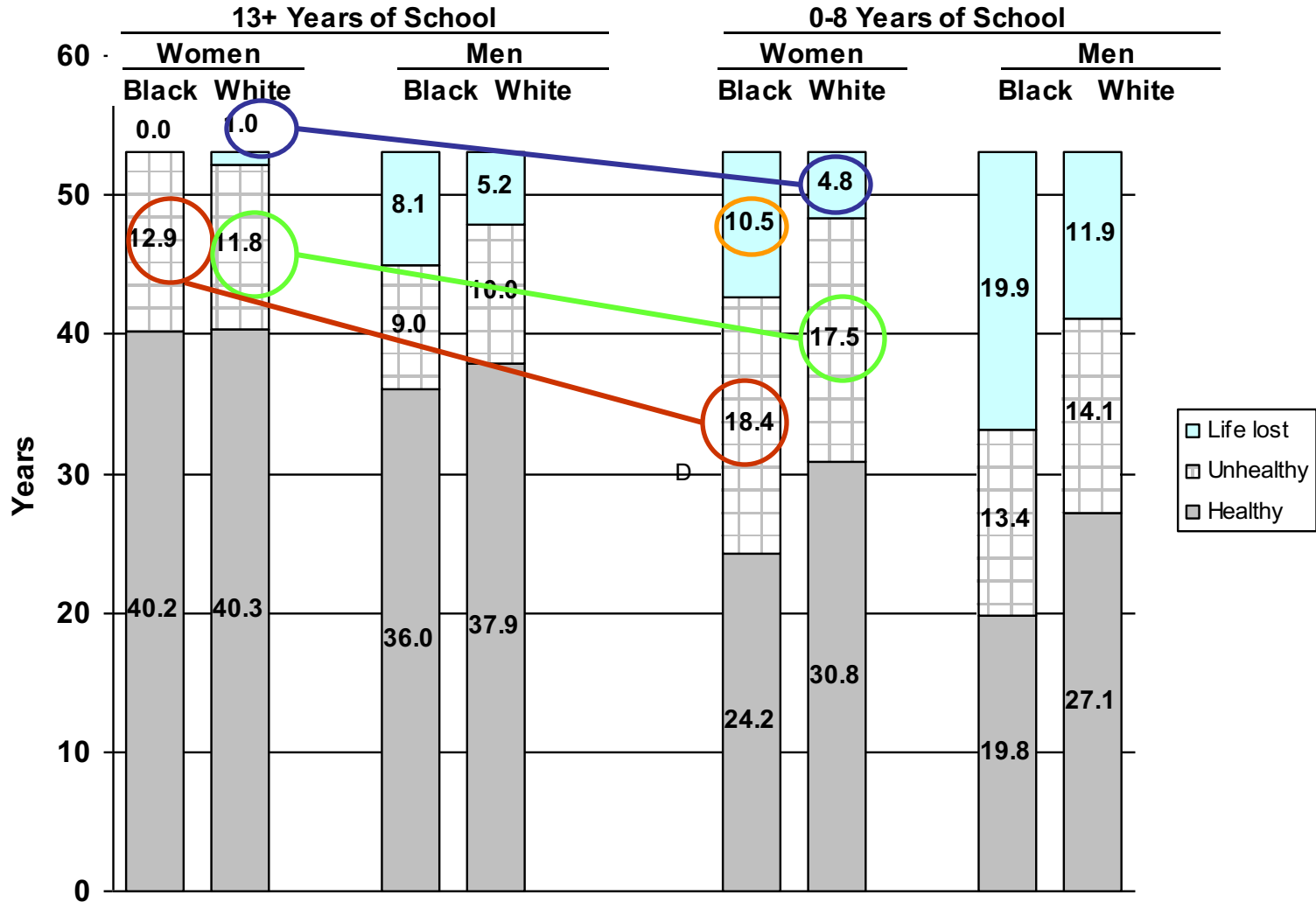
Years of Potential Life Lost, Disabled Life and Disability Free Life: Women Aged 20 Years, 1990



Source: Hayward and Heron. 1999. *Demography*



Expected Years of Potential Life Lost and Years of Disabled and Disability-Free Life at Age 30: Sex-Race Groups with 13+ and 0-8 Years of Schooling



Source: Crimmins and Saito. 2001. *Social Science and Medicine*

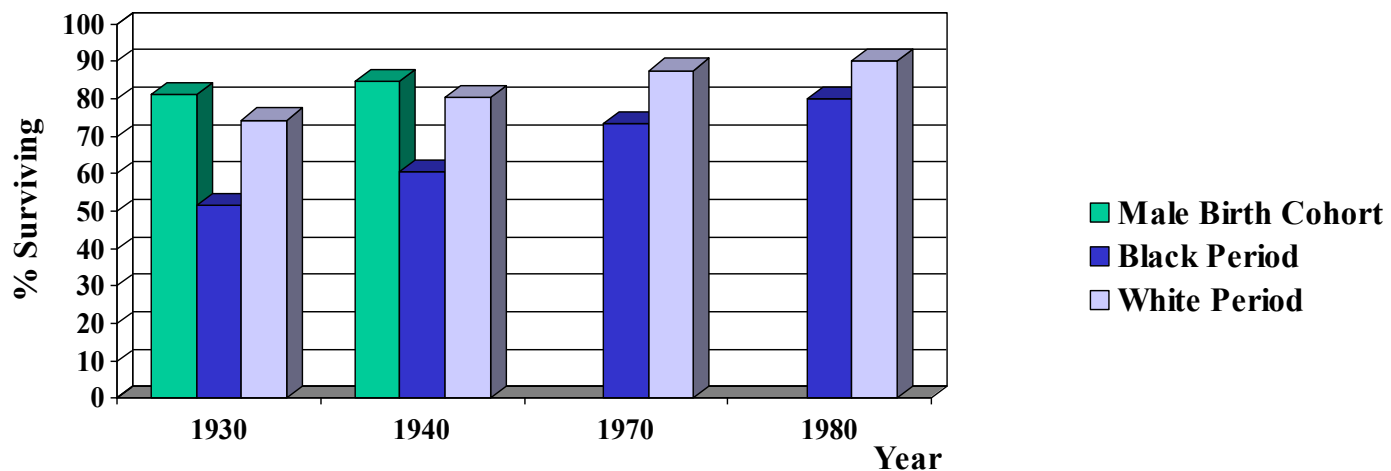
Data Sources: NHIS, Decennial U.S. Censuses, & NLMS



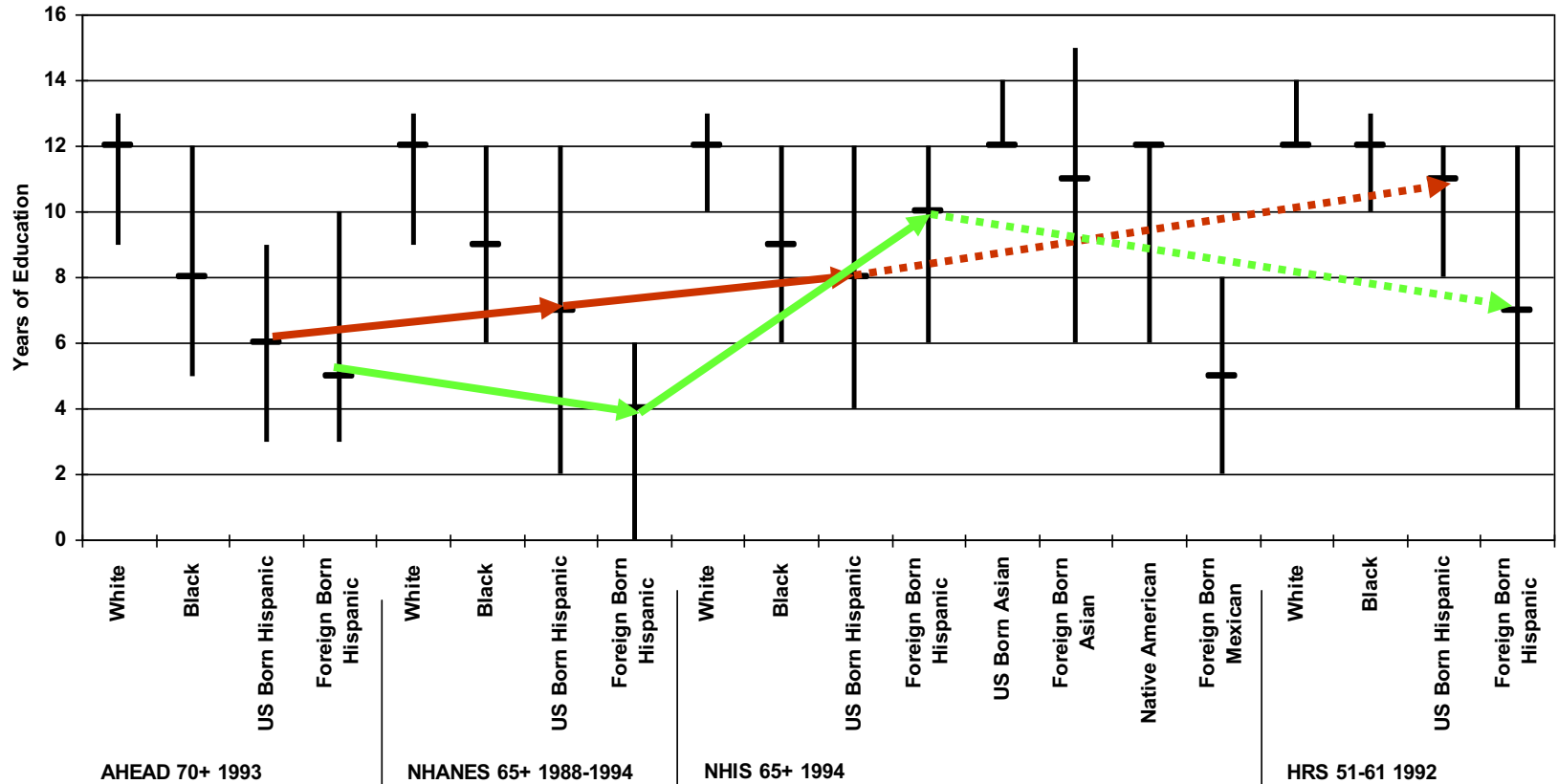
Two (among many) Methodological Caveats to Keep in Mind

- **Mortality selection is occurring throughout life, affecting “snapshots” of health disparities among the surviving population**
 - For groups where fatal conditions occur relatively *early* in life, health disparities in the surviving population may understate disparities that occurred *over* the lifecycle
- **Sampling concerns**
 - Sparse data for many race/ethnic groups
 - Current national-level data collection efforts are not adequate to accurately gauge the extent of health disparities for groups other than Blacks and Whites

Who Survives to be Surveyed in the HRS? Percent of Cohort Surviving to Age 50 by Race and Year: Males



Median Years of Education by Race/Ethnicity with Interquartile Range from Selected Health Surveys



Source: Crimmins, Hayward, and Seeman. 2003. NAS Panel on Race/Ethnic Differences in Health



Recommendations

- **We need better information on the process by which health disparities arise**
 - Details on age and date of onset, severity of conditions, treatment and resolution
 - Data on race/ethnic differences are sparse
 - Much of what we know comes from prevalence or mortality
 - Neither inform us about the process of health change over time and the disease stage at which disparities occur
 - In an aging population that is living longer with more diseases, the group with the highest prevalence can be the group with the “best” health
- **Greater specificity of health problems will add to understanding of health disparities**
 - All cause-specific dimensions of health (e.g., total mortality rates, self-reported health status) yield an incomplete picture of differentials.



Recommendations (cont.)

- **Existing national data should be enhanced with larger samples of some ethnic groups, more information on health status that is not influenced by medical contact or cultural differences, and more information on potential mechanisms by which disparities arise.**
 - Understanding the Asian health advantage is as important as understanding the disadvantage of other groups
- **We need to evaluate the potential for current data collection efforts to provide appropriate samples that reflect the socioeconomic distribution of minority groups.**
- **Health disparities need to be addressed in a lifecycle context**
 - Morbidity, disability and death are dynamic processes, requiring longitudinal approaches to capture the complex interplay between these components of health and differentials across the major race/ethnic groups
 - Some health conditions become problematic at quite young ages – particularly for Black Americans. Data sets using “middle-age” as an inclusion criterion “delete” these problems from the public health radar screen
 - Differentials in the likelihood of reaching old age (or reaching it in good health) may be important in understanding disparities in old age.