To Live and Die in the United States:

Race, Place, and Black/White Health Inequalities During the 1990s

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Introduction

In the field of population health, there are not many things we can state with certainty. However, the existence of stark racial disparities in health between African Americans and Whites is one such trend that has been apparent throughout recent history. Although current cohorts of Americans can expect to live longer than previous generations, racial disparities in mortality remain substantial. Due to higher mortality risks across the lifecourse, today the average African American can expect to live 5 years less at birth than their White counterpart (U.S. Census Bureau 2007).

While a great deal of information and insight can be gleaned by examining aggregate population trends over time, it is not enough to simply compare health outcomes among African Americans to those among Whites. It is essential that the patterning of morbidity and mortality *within* as well as *across* racial categories is critically assessed. Doing so will allow us to understand on a deeper, more nuanced level how stratification processes interact to produce population health disparities. The past decade has witnessed growing conceptual and empirical interest in the possibility that the association between socioeconomic status (SES) or race/ethnicity and health are influenced by geographically distinct neighborhood conditions that contextualize and structure these relationships (Cummins et al. 2007; Diez-Roux 2001; Hayward et al. 1997; LeClere et al. 1997; Weden et al. 2008; Wilson and Daly 1997**).**

With this objective in mind, we produced a series of previous investigations which provided descriptive evidence of intriguing and sometimes striking differences in mortality across a regionally diverse set of 24 local area populations in 1980 and 1990 (Geronimus et al. 1996, 1999, 2001). Each local area represented a specific geographic

location with distinct demographic characteristics, histories, and identities. In choosing these neighborhoods, we sought geographically proximate locales that were comprised of contiguous census tracts in urban areas or counties in rural areas, contained approximately 100,000 individuals, and were matched on race, socioeconomic status, and level of urbanization. Most striking, black individuals in high-poverty urban areas faced extremely disadvantageous mortality schedules through middle and old age - not only in comparison to national averages or to black residents of more affluent communities but in contrast to black residents of rural communities that were equally poor. Between 1980 and 1990 this urban disadvantage worsened (Geronimus et al. 1999).

In the current study, we describe changes in detailed mortality profiles among the same select local areas between 1990 and 2000 to investigate the interplay between SES, race, and place and its subsequent influence on population health disparities. Given the consistency of local area definitions, the comparability of death certificate data, and the ability to make comparisons across both time and place, we sought to gain a more thorough understanding of how racial inequalities in mortality are solidified and reproduced over time. To address these dual objectives, we address the following three research questions:

1. How did overall mortality profiles of African Americans living in high-poverty urban and high-poverty rural locations changed during the 1990s - a decade of unprecedented economic expansion?

2. Do rural high-poverty Black populations still benefit from a mortality advantage compared to their urban counterparts? If so, what is the magnitude of this advantage?

3. To what extent do specific underlying causes of death, such as circulatory disease, HIV/AIDS, and homicide, account for the excess mortality evident in both urban and rural high-poverty Black communities?

Background

For much of the 20th century, rural residents enjoyed better health outcomes than their urban counterparts. However, for more recent cohorts, the rural health advantage has eroded and produced a more complicated set of outcomes. Currently, rural residents have somewhat worse self-rated health as well as slightly higher mortality rates. Among both men and women, there is a stepwise increase in all-cause mortality as the level of urbanization decreases (National Center for Health Statistics 2007).

Examining urban/rural health inequalities without also carefully considering the impact of other stratification processes – such as those operating along the lines of race, socioeconomic status, and gender – may mask important trends and has the potential to incorrectly inform public policy decisions. Previous research has revealed a rural mortality *advantage* among high-poverty, African American populations (Geronimus et al. 1996, 1999, 2001). When comparing high-poverty, predominantly Black, urban neighborhoods to high-poverty, predominantly White, rural neighborhoods, residents of urban areas experienced substantially accelerated mortality profiles. These striking patterns remained evident even after adjusting for differences in cost of living between various locales. Excess mortality among high-poverty urban areas appeared to be primarily attributable to deaths from circulatory disease and cancer in both men and women as well as homicide in men (Geronimus et al. 1996, 1999). More recent evidence suggests that the rural mortality advantage among impoverished Black populations is attributable to high levels of social support and integration, marital and family stability, improved employment opportunities, and the increased availability of health insurance coverage in nonmetro areas (Geronimus et al. 2006).

These studies were conducted using data from the 1980s and the early 1990s. Therefore, it remains unclear how the life chances of African Americans living in high-poverty neighborhoods – both urban and rural – changed during the time period between 1990 and 2000. Harper et al. (2007) find that between 1993 and 2003, the Black-White gap in life expectancy narrowed by 0.5 years for women and 2.1 years for men. However, because these analyses were conducted solely with national level data, the authors were not able to examine potentially important sociodemographic differences within African American populations.

The decade of the 1990s witnessed a unique combination of social, economic, and political trends that could have influenced the health of minority populations – either individually or in conjunction with one another. There are reasons to hypothesize that excess mortality among high-poverty urban Blacks would decline during the 1990s. First, it was a period of unprecedented economic growth that witnessed unemployment rates falling to all-time lows and substantial poverty deconcentration (Jargowsky and Yang 2006). Second, the incidence of homicide and other violent crime declined dramatically within inner-city neighborhoods (Travis and Waul 2000). Third, highly active anti-retroviral therapy (HAART), which is capable of slowing the disease progression of HIV and thus subsequent mortality due to AIDS, was introduced on a widespread basis in 1995. Fourth, many inner-city neighborhoods experienced revitalization and gentrification during the late 1990s.

However, there is good reason to question whether the beneficial transformations that took place during this decade were able to reach minority populations living in extremely poor, highly segregated, politically divested urban communities. The extent to

which the economic boom of the 1990s actually impacted the employment opportunities and financial realities of poor, urban populations is subject to debate and appears to vary significantly by race and gender (Freeman and Rodgers 2000; Holzer and Offner 2004; Jargowsky 2003). Moreover, due to the passage of PWORA and the establishment of TANF, which shifted control and budgetary authority of welfare provision from the federal government to state legislatures, established lifetime limits to benefits, and set stringent work requirements, safety-net programs were curtailed. This, in conjunction with the ever increasing ubiquity of health maintenance organizations, the push to make medical care provision profitable in the face of rising administrative costs, and the skyrocketing cost of malpractice insurance may have deteriorated access to medical care in high-poverty urban areas. Finally, the spread of HIV, although increasing in rural locales, remained primarily an urban phenomenon. In 1990, the disease was limited to specific disease epicenters such as San Francisco, Los Angeles, and New York City. By 2000, it was more widespread across urban locales of varying sizes and socioeconomic profiles, whereas anti-retroviral treatment was not equally available across sociodemographic groups (Ghani et al. 2003).

Data & Methods

Study Populations

Our level of analysis was the local area population within 24 diverse communities across the United States. Therefore, we included all Black or White residents aged 16 to 64 living within aggregated census tracts (or zip codes) in urban areas or clusters of counties (or parishes) in rural areas. We also estimate mortality schedules for Black and White

populations, nationwide. Local areas consist of socioeconomically disadvantaged populations, seven predominantly Black and six predominantly White, and where data permitted, corresponding nonpoor populations within constrained geographic proximity to high-poverty locales with similar racial compositions. Each local area was not randomly selected but originally identified according to stringent selection criteria (see Geronimus et al. 1999 for further details) and reflects populations of 100,000 individuals living within contiguous census tracts or counties matched on race, SES, and urban/rural designation. These selection processes allowed us to maximize racial, socioeconomic, and geographic diversity across populations of interest. Due to data constraints, we were not able to identify distinct non-poor, rural Black locales to be matched to high-poverty, rural Black locales.

Tables 1A and 1B display summary characteristics for each of the 24 local areas including number of inhabitants, mean family income, and the percent of families living below the federal poverty line. Specific census tract or county identifiers are available upon request from the authors. Reflecting national trends, Black populations were generally less well off economically than their White counterparts. This pattern held true when comparing Black and White local areas within high-poverty or non-poverty designations. Thus, these descriptive data reify the notion that socioeconomic status is not equivalent across racial categories (Patillo 2005; Williams 2003; Williams and Jackson 2005)

Since the purpose of this project is to investigate the health of entire race-specific working age populations within each local area, we rely on aggregate data sources. Individual level survey data do not capture enough respondents within each local area to

estimate reliable mortality estimates. Death certificate data, geocoded at either the census tract or zip code level for urban areas and the county level for rural areas, were obtained for each study population from state health departments for two time periods: 1989-1991 and 1999-2001. Combining data within three-year intervals, allows us to account for short-term, random fluctuation in the number of deaths and more accurately reflect all-cause and cause-specific mortality in a given locale. We were able to link local area death certificate to summary file data from both the 1990 and 2000 Decennial Censuses. Population counts by sex, race, and single year of age were employed to estimate the denominators for mortality calculations.

Statistical Analyses

Several summary measures of all-cause mortality for 16-64 year olds within each local area were computed. These included annual mortality rates, excess death rates, as well as mortality ratios with 95% confidence intervals. We also analyzed mortality schedules for each local area population according to underlying cause of death including circulatory disease, cancer, accidents, homicide, HIV/AIDS, infections (including influenza and pneumonia), and all remaining causes of death. International Classification of Diseases, Versions 9 and 10 were employed for 1990 and 2000 estimates, respectively. While NCHS cautions investigators from using different versions of ICD codes to conduct longitudinal analyses focusing on specific causes of death (National Center for Health Statistics 2000), this concern is less problematic when looking at trends over time for broadly defined categories, such as the ones used here. We focus on these seven

classifications because they have been found to be most influential in explaining existing health disparities in the United States (Williams and Jackson 2005).

To ensure that the measures were comparable across populations, all calculations were directly standardized to the age distribution of the U.S. White population by sex. For each local area population, we determined the number of deaths that could be expected in the U.S. White population if it experienced the mortality age- and cause- To mitigate biases because of census undercounting, which is likely to be especially problematic within high-poverty, urban Black populations, we adjusted population counts using national adjustment factors. In previous analyses, we found national undercount estimates to produce extremely stable mortality estimates that were virtually identical to those calculated using local area estimates (Geronimus et al. 2001).

We relied on standard life table methodology to calculate additional mortality measures including life expectancy at age 16, probabilities of survival at different ages, as well as the average number of years of life lost between the ages of 15 and 65. Greville's method was used to derive probabilities of survival to a given age for 16 year-old residents of the selected local areas (Greville 1943; Siegel and Swanson 2004). We employed multidecrement life tables to estimate how many years of life lost could be attributable to each particular cause of death while simultaneously taking into account competing mortality risks.

Results

All-Cause Mortality

Tables 2 and 3 provide summary measures of mortality for high-poverty local area populations as well as Blacks and Whites, nationwide. Although the 1990s witnessed improvements in life chances for Blacks living in low-income communities, death rates still remained elevated compared to the U.S. Black population as a whole. Residents of impoverished urban areas continue to face accelerated mortality schedules – both compared to Blacks nationwide and inhabitants of low-income rural areas. In 2000, the standardized death rate (SDR) for U.S. Black men was 717 per 100,000. Among high-poverty urban male populations, SDRs range from a low of 877 in Harlem to a high of 1294 in South Side Chicago, with Central Detroit and Watts revealing mortality probabilities similar to Chicago's. However, during the decade of the 1990s, interesting patterns in both all-cause and cause-specific mortality among local area populations emerged.

Among high-poverty, Black populations, declines in death rates were more pronounced in urban areas than rural ones. For example, SDRs for Black men in South Side Chicago decreased from 1701 in 1990 to 1294 in 2000. This represented a 24% reduction in age-adjusted mortality. Black male residents of Central Detroit experienced the most modest declines in all-cause mortality during the 1990s (SDR90 = 1197, SDR00 = 1091), while their counterparts in Harlem experienced the most dramatic declines (SDR90 = 1701, SDR00 = 1294).

Although similar longitudinal trends were evident for Black women living in high-poverty, urban locales, they were not as pronounced as those for Black men. Life

chances among female residents of South Side Chicago, Watts, and Harlem increased between 1990 and 2000, while Black women in Central Detroit actually saw their life chances erode during this time period (SDR90 = 595 & SDR00 = 662). Once again, inhabitants of Harlem appear to have benefited greatly during the decade of the 1990s – at least in terms of longevity. Age-standardized death rates among Black women of working age in Harlem fell from 778 per 100,000 in 1990 to 558 per 100,000 in 2000. This is a reduction of almost 30%.

Similar patterns were apparent for relative measures of all-cause mortality where the comparison group was U.S. Whites. Instead of quantifying the absolute level of mortality in a given local area, these measures highlight disparities between local populations and Whites nationwide. For example, between 1990 and 2000, the standardized mortality ratio (SMR) among Black men in South Side Chicago fell from 4.34 to 3.32. Among their female counterparts, the SMR decreased from 3.67 in 1990 to 3.15 in 2000. Once again, the most dramatic reductions were evident for Black residents of Harlem. In 1990, all-cause mortality among Black men and women in Central Harlem was more than 4.5 and 3.6 times, respectively, that of U.S. Whites. By 2000, these local area residents still faced a mortality disadvantage compared to Whites, nationwide, but now it was only slightly more than twice that of U.S. Whites (SMR00 for men = 2.25 & SMR00 for women = 2.36). Harlem is now the only high-poverty, urban area in which mortality among Black inhabitants approaches that of Blacks, nationwide.

Although among high-poverty Blacks, absolute levels of mortality are substantially lower for rural inhabitants than their urban counterparts, declines in mortality during the 1990s were much less pronounced in rural locales. This pattern is

more noticeable among men than women. For example, SDRs for Black men in Delta Louisiana and East North Carolina decreased by 7% and 16%, respectively. Black male residents of Black Belt Alabama actually experienced an acceleration of all-cause mortality when the SDR increased from 773 per 100,000 in 1990 to 864 in 2000. Thus, the rural mortality advantage among high-poverty Black populations still exists in 2000 but is less pronounced than in 1990. This is not due to increases in death rates for rural local areas; rather it appears to be a consequence of less stringent mortality schedules in high-poverty urban locales.

While absolute and comparative measures of all-cause mortality are useful in that they provide a snapshot of the likelihood of death facing working age populations in select local areas, they do not fully address how the chances of survival fluctuate over the lifecourse. Figures 3A-4B illustrate the probability of dying at various ages for 5 select local area populations as well as Whites and Blacks, nationwide. These particular locales were chosen from the larger group of 24 because they (1) are representative of the five types of local areas originally selected: urban high-poverty Black, rural high-poverty Black, urban nonpoverty Black, urban high-poverty White, and urban nonpoverty White and (2) allow us to highlight comparisons across different populations.

By comparing Figures 3A & 3B, it becomes evident that by the end of the 1990s Black residents of low-income, urban locales, such as South Side Chicago, faced lower chances of death at every age – but especially between 50 and 70 years of age. For example, in 1990, a typical 50 year-old Black man living on the South Side of Chicago had a 65% chance of surviving until his next birthday, but by 2000, that same Black man

could expect to make it until his 58th birthday before his survival probability would fall below 65%.

Figures 3A and 3B also clearly demonstrate how rural/urban differences in longitudinal mortality trends amongst high-poverty, Black locals changed during the 1990s. At the beginning of the decade, male inhabitants of Black Belt Alabama encountered mortality schedules that were significantly more advantageous than Black men in South Side Chicago and virtually identical to those faced by Blacks, nationwide. However, by 2000, the mortality advantaged once enjoyed by men living in Black Belt Alabama – especially between the ages of 45 and 75 - was constrained by slightly elevated death rates in rural locales as well as substantial increases in survival probabilities in South Side Chicago. This trend is also apparent, although less pronounced, for Black women (Figures 4A & 4B).

By 2000, we also notice increasing disparities in survival probabilities between high-poverty and low-poverty locales, regardless of race. This is true for both men and women. In Figures 3B & 4B, this cleavage becomes apparent at age 50 and continues to widen throughout the lifecourse. High-poverty populations such as Blacks in South Side Chicago and Black Belt Alabama as well as Whites in Detroit face mortality schedules that are similar to those of Blacks, nationwide, while Blacks in the Bronx and Whites in Sterling Heights encounter mortality schedules that are reflective Whites, nationwide. It should be noted, however, that these results do not suggest race is no longer an important predictor of health disparities. What they do indicate is that in *certain* local areas, probabilities of death among low-income Whites are now approaching levels typically seen among low-income Blacks. In other locales, such as sections of the Bronx, mortality

among nonpoor Blacks is bypassing that of U.S. Whites and approximating levels typically seen among nonpoor White communities.

Cause-Specific Mortality

Tables 4 and 5 display cause-specific excess death rates (EDRs) for men and women, respectively, living in high-poverty local areas. We will use these results to decompose the broad trends in all-cause mortality discussed thus far: (1) substantial reductions in both absolute and comparative measures of life chances among Black residents of high-poverty, urban locales; (2) a narrowing of the rural mortality advantage among high-poverty, Black populations; and (3) increasing disparities in survival probabilities driven which, in some cases, appear to transgress racial categories.

Tables 4 & 5 illustrate that the major causes of death driving accelerated mortality schedules among high-poverty, urban populations did not change during the 1990s. These are circulatory disease and cancer for both men and women as well as homicide for men. However, it appears that the considerable improvements in life chances among male residents of low-income, predominantly Black locales, such as South Side Chicago, are primarily the result of declines in deaths attributable to homicide and cancer – not circulatory disease. Between 1990 and 2000, the only local area to experience a substantial reduction in excess deaths from circulatory disease among men was Harlem, which witnessed sizeable reductions in all types of cause-specific mortality.

Among women, a very different picture emerges. Although compared to Black men living in high-poverty communities, reductions in all-cause mortality between 1990 and 2000 among Black women were not as pronounced, these declines appear to be

driven largely by reductions in deaths attributable to circulatory disease. Excess death rates due to most other causes either held steady or increased during the 1990s; however, excess deaths from diseases of the circulatory system decreased in South Side Chicago, Harlem, and Central City Detroit as well as Delta Louisiana and East North Carolina. Homicide mortality also fell between 1990 and 2000 for women, but this was less of a consequence for overall mortality because the absolute numbers of homicide deaths are lower among women than men.

Why were reductions in all-cause mortality less noticeable for Black residents of high-poverty, rural areas than urban areas? Tables 4 & 5 suggest that between 1990 and 2000 excess deaths due to cancer increased for both men and women in rural locales (Black Belt Alabama, Delta Louisiana, and East North Carolina). Furthermore, excess deaths due to circulatory disease frequently held steady or increased, especially among men. Because homicide accounts for a much smaller proportion of all-cause mortality in rural areas compared to urban areas, reductions in deaths attributable to homicide did not result in substantial improvements in the life chances of these local area inhabitants. It should also be noted that while HIV/AIDS still accounts for a relatively few excess deaths in these locales, EDRs attributable to this cause of death did increase at a surprising rate among both male and female residents of nonmetro locales.

While Black residents of Harlem experienced substantial declines across all types of cause-specific mortality, White residents of Detroit witnessed noticeable increases in almost all types of cause-specific mortality, excluding deaths attributable to cancer among men. One of the most evident trends is the increase in circulatory mortality among White inhabitants of Detroit – both male and female. Between 1990 and 2000, the EDRs

associated with circulatory disease increased from 150 to 251 for men and 100 to 126 for women. Moreover, homicide among White male residents of Detroit did not change and actually increased among their female counterparts. These trends in cause-specific mortality, along with sizeable reductions in HIV/AIDS mortality in Harlem seem to be driving, at least in part, increasing disparities in life chances based upon socioeconomic status.

Discussion

The 1990s was a unique decade in many ways. It was a time of unprecedented economic growth, dramatic declines in violent crime rates, as well as reinvestment and revitalization of many inner-city neighborhoods. Specific to the health of high-poverty populations, the 1990s also witnessed the introduction of HAART, the passage of welfare reform, and the ubiquitous dominance of health maintenance organizations which emphasize profitability in the face of rising administrative costs. Given these important structural level changes and their potential impacts on population health, we have sought to thoroughly investigate changes in both all-cause and cause-specific mortality between 1990 and 2000. Relying on previously defined local area data allowed us to examine how race and place interact to (re)produce inequalities in life chances among high-poverty populations.

Results presented here support the conclusion that not all segments of the U.S. population were able to benefit, at least in terms of their ability to avoid death, from the positive social and economic changes of the 1990s. Although general trends emerged as a result of the analyses presented here, a great deal of variation still exists within broad

categories typically used to stratify subpopulations (ie. race, socioeconomic status, and urbanization). For example, the South Side of Chicago, Harlem, Central City Detroit, and Watts are all categorized as high-poverty, urban, predominantly Black locales, but their residents witnessed mortality declining at different rates during the 1990s. Harlemites experienced enormous gains in life expectancy, while inhabitants of Central Detroit and Watts could expect to live only slightly longer by the end of the decade compared to the beginning. The pace of reductions in probabilities of death on the South Side of Chicago fell somewhere in between. Local area variations in life chances were not relegated to Black populations but were also seen among Whites living in high-poverty, urban locales such as Detroit and Cleveland. However, there appears to be much less variation across low-income, rural populations – both Black and White – than their urban counterparts.

Local area distinctions not withstanding, we have presented evidence to support the existence of several general trends in mortality during the decade of the 1990s. First and foremost, between 1990 and 2000, mortality among high-poverty Black populations did decline, but it did so at different rates for urban as opposed to rural locales. Although Black residents of high-poverty, inner-city neighborhoods could still expect to face accelerated mortality schedules compared to both their rural counterparts as well as Black, nationwide, their life chances did improve during the 1990s. This was especially true in Harlem where standardized death rates for both men and women approached those seen in high-poverty rural areas.

Second, largely due to the faster pace at which all-cause mortality declined among urban as opposed to rural, high-poverty, Black populations, the rural mortality advantage that was so apparent during the previous decade eroded. This pattern holds true for

residents of impoverished, predominantly Black but not White locales. For the most part, by 2000, White residents of low-income communities, both urban and rural, experienced mortality schedules that were either similar to or greater than those noted in 1990. Cleveland was the one exception to this overarching pattern.

Finally, during the 1990s, we note increasing disparities in life chances between high- and low-poverty populations. Thus, by 2000, survival probabilities for residents of locales characterized by concentrated poverty are more similar to one another than they were in 1990. We also find similar clustering for residents of more middle-class communities, most notably inhabitants of nonpoor Black enclaves in the Bronx and Queens for which life chances improved to such an extent that they surpassed U.S. Whites and approached those of well established, middle-class White neighborhoods. While this trend is evident for both sexes, it is more pronounced for men.

In terms of mortality, the 1990s was not a decade during which the rising socioeconomic tide raised all boats. Black residents of high-poverty, urban areas – especially Harlem and South Side Chicago – faced better life chances in 2000 than in 1990. These changes appear to be the result of falling death rates due to cancer and homicide in men and circulatory disease in women. In Harlem and Watts, two locales hardest hit by the HIV/AIDS epidemic, reductions in mortality attributable to this disease are also noted. However, their counterparts in equally impoverished rural communities did not fare as well. Our results suggest that Black inhabitants of inner-city communities, even those with severely limited economic resources, may have been able to translate tighter labor markets, falling crime rates, and advances in HIV/AIDS treatment into more

favorable survival probabilities, while Black residents of high-poverty, rural locales were unable to do so.

Given that there was continued and increasing migration among Blacks from the rustbelt states of the Northeast and Midwest to the sunbelt states of the Southeast and West (Frey 2004), the smaller declines in all-cause mortality witnessed in rural areas, which are clustered in the Southeast, may be due to recent changes in migration flows. However, this would affect our findings only if migrants from the urban centers of the Northeast and Midwest were less healthy than residents of their receiving communities and they were settling in rural, as opposed to urban or suburban, areas in the Southeast. Unfortunately, our current data cannot be used to test these important hypotheses regarding the health impacts of recent urban/rural migration within the United States.

Although our findings do reflect that the 1990s was a time when life chances among both Blacks and Whites improved, they did not do so equally across all locales. Furthermore, the underlying causes of death that were responsible for these aggregate level trends were different for men as opposed to women. These distinctions, which can only become apparent by analyzing local area data, are important ones – especially for policymakers engaged in making decisions regarding the availability of healthcare services, the future of existing safety net programs, and funding for programs designed to address health disparities. It is essential to find out why residents of predominantly Black, high-poverty, urban communities, such as the South Side of Chicago and Central Harlem, that had witnessed prolonged and pronounced economic divestment, residential segregation, and concentrated poverty, experienced such dramatic improvements in mortality. What unique characteristics of the neighborhood environment, social networks,

or local populations allowed inhabitants of these areas to maximize the potential health benefits of the 1990s? These recent changes in survival probabilities cannot be simply attributed to increasing socioeconomic status since all of the high-poverty local areas examined in our study experienced uptakes in common economic indicators such as mean family income and the percent of families below the poverty line (Tables 1A & 1B). Furthermore, given recent shifts in high-quality manufacturing jobs, which often have unionized pay scales and established benefit plans, from the rustbelt cities of the Northeast and Midwest to sunbelt cities of the Southeast, it is even more surprising that residents of high-poverty, rural locales would not have similarly benefited – at least in terms of their health – from the economic boom of the 1990s. Hopefully, future research efforts will continue to investigate these as well as other local area trends to shed light on the structural processes that either enable or hinder individuals in low-income communities from maximizing their life chances during times of sustained economic growth and development.

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Table 1A. Demographic Characteristics of High-Poverty Study Areas, by Race (1990 & 2000)

	Year	Population Size	Adjusted Mean Family Income	% Families Below Poverty
U.S. Whites	1990	199,827,064	61,041	7.0
	2000	216,930,975	68,776	6.5
U.S. Blacks	1990	29,930,524	37,759	26.3
	2000	36,419,434	44,214	21.6
Blacks				
Central Harlem	1990	101,697	31,850	33.1
	2000	103,555	36,992	31.9
South Side Chicago	1990	101,895	21,938	58.2
	2000	80,066	34,328	42.7
Central Detroit	1990	98,833	26,141	44.3
	2000	82,517	35,130	32.2
Watts	1990	98,488	31,282	35.4
	2000	81,372	33,081	35.2
Black Belt Alabama	1990	93,695	22,690	48.7
	2000	97,519	27,732	38.4
Delta Louisiana	1990	101,928	20,453	48.1
	2000	103,671	25,639	41.4
East N Carolina	1990	107,573	27,407	32.8
	2000	121,376	34,973	26.1
Whites				
Detroit	1990	126,752	38,648	22.0
	2000	74,186	44,842	19.9
Cleveland	1990	104,207	36,514	21.4
	2000	89,992	43,092	17.2
Northeast Alabama	1990	167,037	40,158	13.6
	2000	188,844	48,147	10.8
South Central Louisiana	1990	87,682	38,569	18.9
	2000	92,609	45,256	14.2
West N Carolina	1990	167,524	40,415	12.0
	2000	186,162	48,801	9.1
Appalachia	1990	109,794	28,495	34.6
	2000	116,336	31,532	29.1

Table 1B. Demographic Characteristics of Nonpoor Study Areas, by Race (1990 & 2000)

	Year	Population Size	Adjusted Mean Family Income	% Families Below Poverty
U.S. Whites	1990	199,827,064	61,041	7.0
	2000	216,930,975	68,776	6.5
U.S. Blacks	1990	29,930,524	37,759	26.3
	2000	36,419,434	44,214	21.6
Blacks				
Bronx	1990	90,999	47,008	6.1
	2000	113,574	45,291	7.6
Queens	1990	79,381	77,101	3.8
	2000	104,843	72,416	5.4
Southwest Chicago	1990	100,647	47,960	15.1
	2000	94,191	50,505	12.1
Northwest Detroit	1990	132,668	54,186	16.0
	2000	136,531	59,872	16.4
Crenshaw/Baldwin Hills	1990	100,744	53,253	15.7
	2000	109,182	58,020	17.3
Whites				
Sterling Heights	1990	113,452	71,705	2.7
	2000	115,818	75,583	4.0
Western Cleveland	1990	171,677	75,319	3.2
	2000	169,907	83,014	3.0
Southwest Alabama	1990	102,527	48,090	8.6
	2000	97,109	54,419	7.8
Southeast Louisiana	1990	82,569	52,681	6.9
	2000	84,646	60,957	6.4
West Central NC	1990	122,920	52,613	5.1
	2000	159,834	62,631	4.5
Western Kentucky	1990	113,163	40,846	14.1
	2000	120,749	49,694	9.7

Table 2. All-Cause Mortality Among Men in High-Poverty Local Areas, 1990 & 2000

Local Area	Year	Deaths	SDR	EDR	SMR	95% CI	
US Whites	1990	734902	392	0	1.00	1.00	1.00
	2000	739015	390	0	1.00	1.00	1.00
US Blacks	1990	194022	781	389	1.99	1.98	2.00
	2000	197969	717	327	1.84	1.83	1.85
Blacks							
South Side Chicago	1990	1190	1701	1309	4.34	4.09	4.59
	2000	704	1294	904	3.32	3.07	3.56
Harlem	1990	1598	1771	1379	4.52	4.30	4.74
	2000	696	877	487	2.25	2.08	2.42
Central City Detroit	1990	1874	1197	805	3.05	2.91	3.19
	2000	1432	1091	700	2.80	2.65	2.94
Watts	1990	1441	1246	854	3.18	3.01	3.34
	2000	845	1127	737	2.89	2.69	3.09
Black Belt Alabama	1990	510	773	381	1.97	1.80	2.14
	2000	641	864	474	2.21	2.04	2.39
Delta Lousiana	1990	582	840	448	2.14	1.97	2.32
	2000	576	780	389	2.00	1.83	2.17
East North Carolina	1990	779	914	522	2.33	2.17	2.50
	2000	738	764	374	1.96	1.82	2.10
Whites							
Detroit	1990	897	864	472	2.20	2.06	2.35
	2000	573	1061	671	2.72	2.50	2.94
Cleveland	1990	665	734	342	1.87	1.73	2.02
	2000	488	681	291	1.75	1.59	1.90
Northeast Alabama	1990	907	526	134	1.34	1.25	1.43
	2000	1011	560	169	1.43	1.35	1.52
South Central Louisiana	1990	418	516	124	1.32	1.19	1.44
	2000	426	515	124	1.32	1.19	1.44
West North Carolina	1990	704	406	14	1.03	0.96	1.11
	2000	767	409	18	1.05	0.97	1.12
Appalachia	1990	604	595	203	1.52	1.40	1.64
	2000	685	619	229	1.59	1.47	1.70

Table 3. All-Cause Mortality Among Women in High-Poverty Local Areas, 1990 & 2000

Local Area	Year	Deaths	SDR	EDR	SMR	95% CI	
US Whites	1990	402460	217	0	1.00	1.00	1.00
	2000	442895	236	0	1.00	1.00	1.00
US Blacks	1990	108593	430	214	1.99	1.97	2.00
	2000	129362	449	213	1.90	1.89	1.91
Blacks							
South Side Chicago	1990	696	797	580	3.67	3.40	3.95
	2000	498	744	508	3.15	2.87	3.43
Harlem	1990	800	778	561	3.59	3.34	3.83
	2000	513	558	322	2.36	2.16	2.57
Central City Detroit	1990	956	595	378	2.74	2.57	2.92
	2000	877	662	426	2.80	2.62	2.99
Watts	1990	790	598	381	2.76	2.56	2.95
	2000	553	596	360	2.52	2.31	2.73
Black Belt Alabama	1990	340	435	218	2.00	1.79	2.22
	2000	420	510	274	2.16	1.95	2.37
Delta Lousiana	1990	370	488	271	2.25	2.02	2.48
	2000	377	495	259	2.10	1.88	2.31
East North Carolina	1990	422	436	220	2.01	1.82	2.21
	2000	475	441	205	1.87	1.70	2.04
Whites							
Detroit	1990	439	439	222	2.03	1.83	2.22
	2000	261	557	321	2.36	2.07	2.65
Cleveland	1990	344	380	163	1.75	1.57	1.94
	2000	229	339	102	1.43	1.25	1.62
Northeast Alabama	1990	490	281	64	1.30	1.18	1.41
	2000	544	293	57	1.24	1.14	1.34
South Central Louisiana	1990	212	263	46	1.21	1.05	1.38
	2000	257	316	79	1.34	1.17	1.50
West North Carolina	1990	335	195	-22	0.90	0.80	1.00
	2000	453	242	6	1.02	0.93	1.12
Appalachia	1990	313	314	97	1.45	1.29	1.61
	2000	399	369	133	1.56	1.41	1.72

Figure 1. Standardized Mortality Ratios in High-Poverty Local Areas, Black Men (16-64)

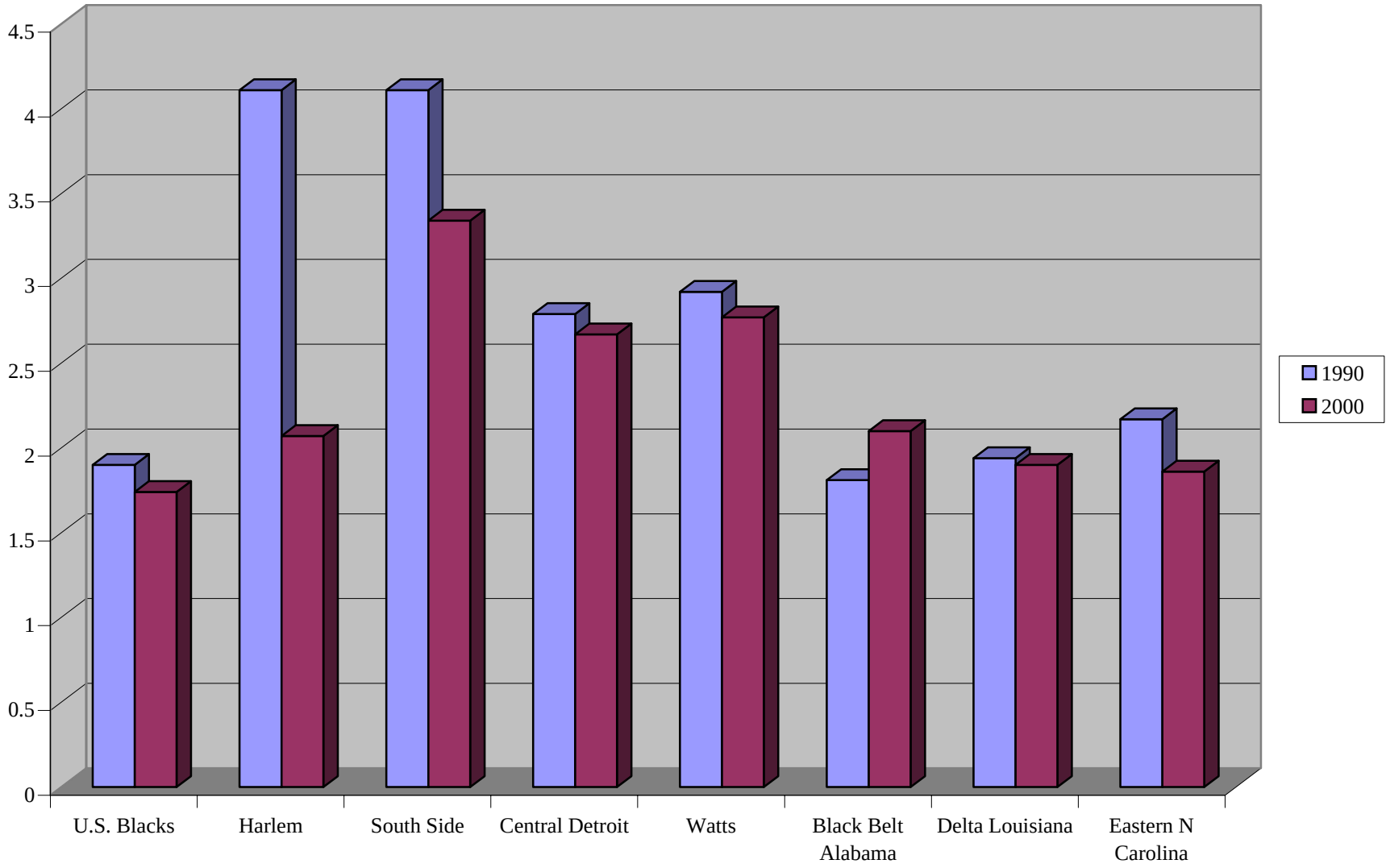

Figure 2. Standardized Mortality Ratios in High-Poverty Local Areas, Black Women (16-64)

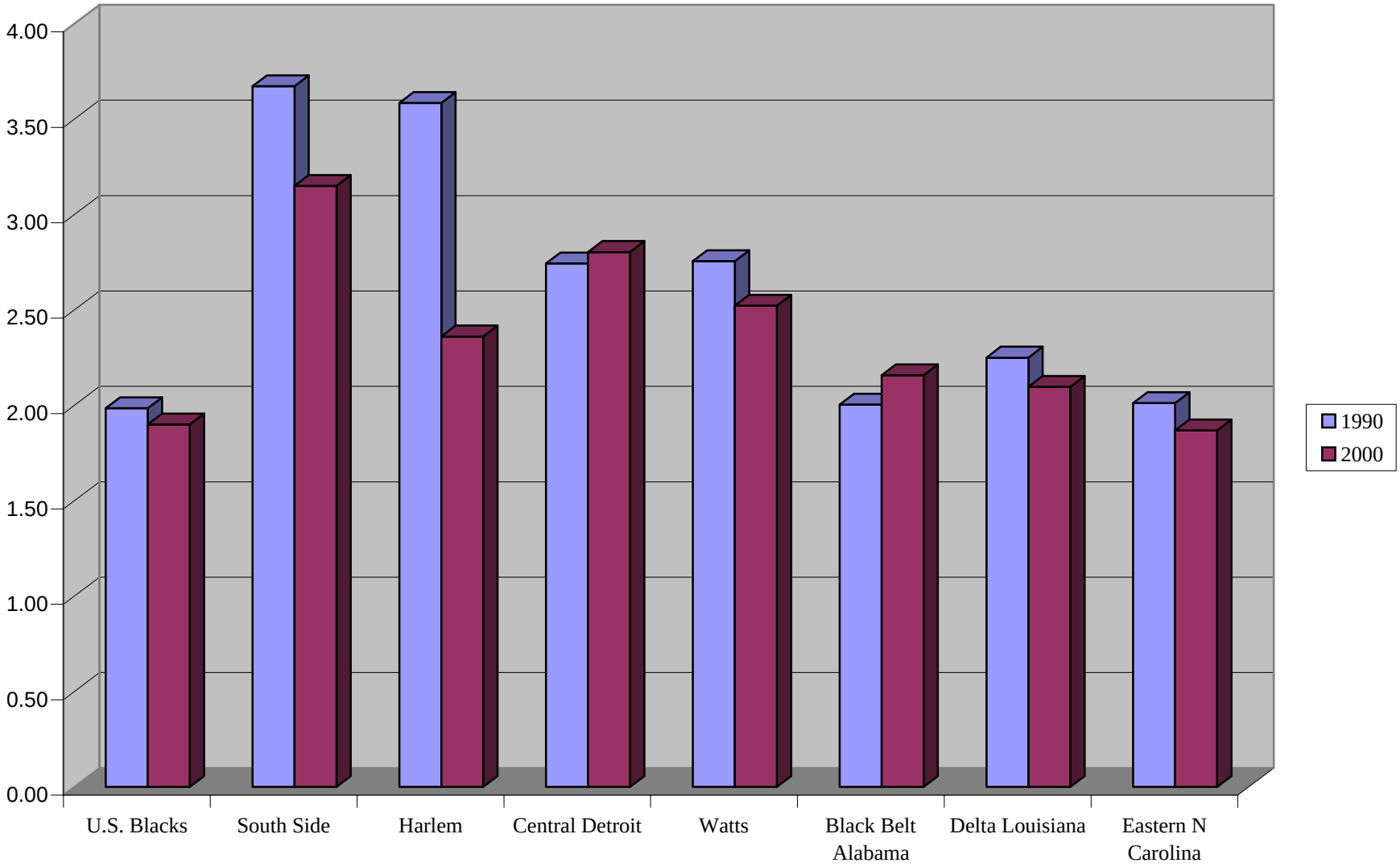

Figure 4A. Probability of Death by Various Ages in Select Local Areas, Women (1990)

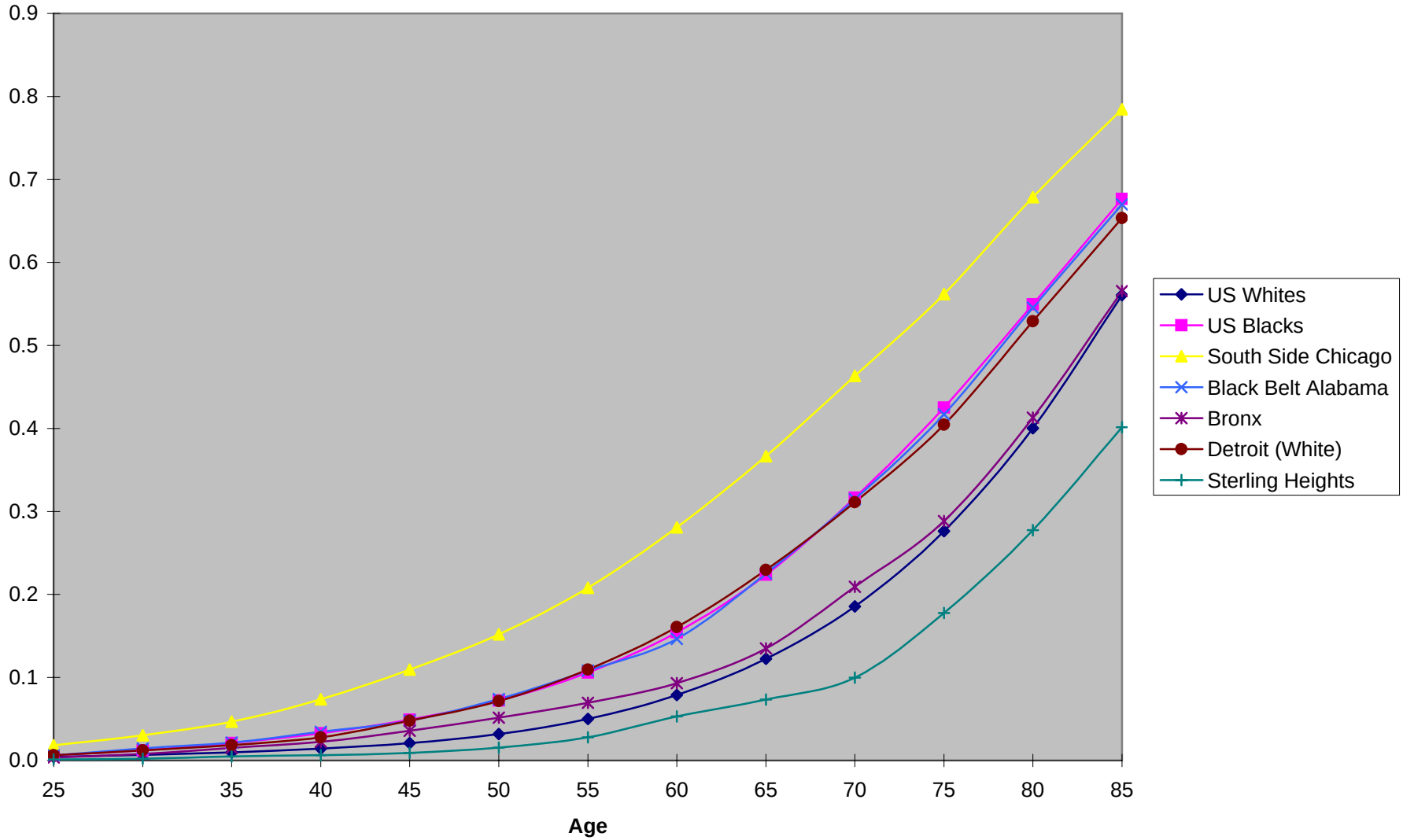

Figure 3B. Probability of Death by Various Ages in Select Local Areas, Men (2000)

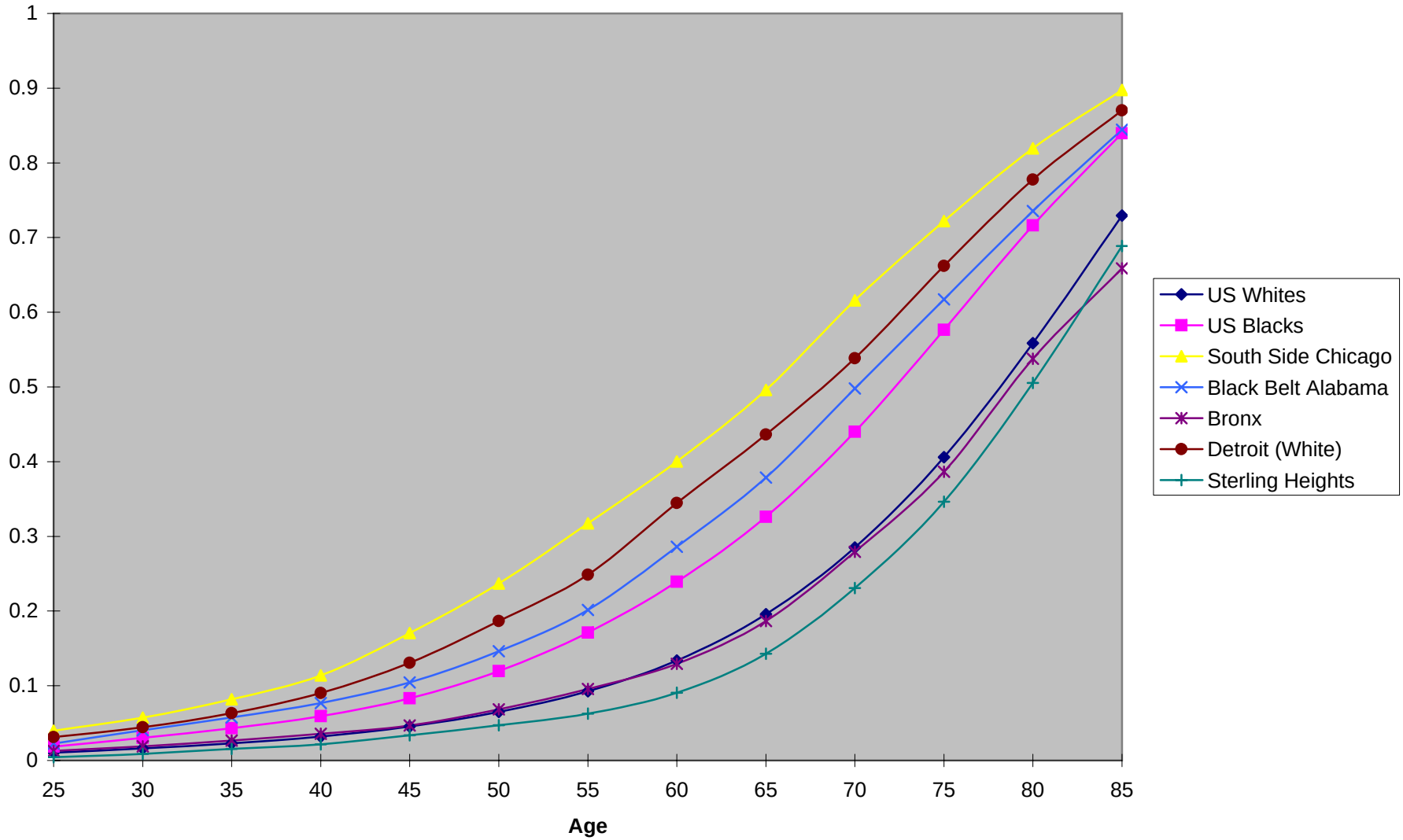

Figure 3A. Probability of Death by Various Ages in Select Local Areas, Men (1990)

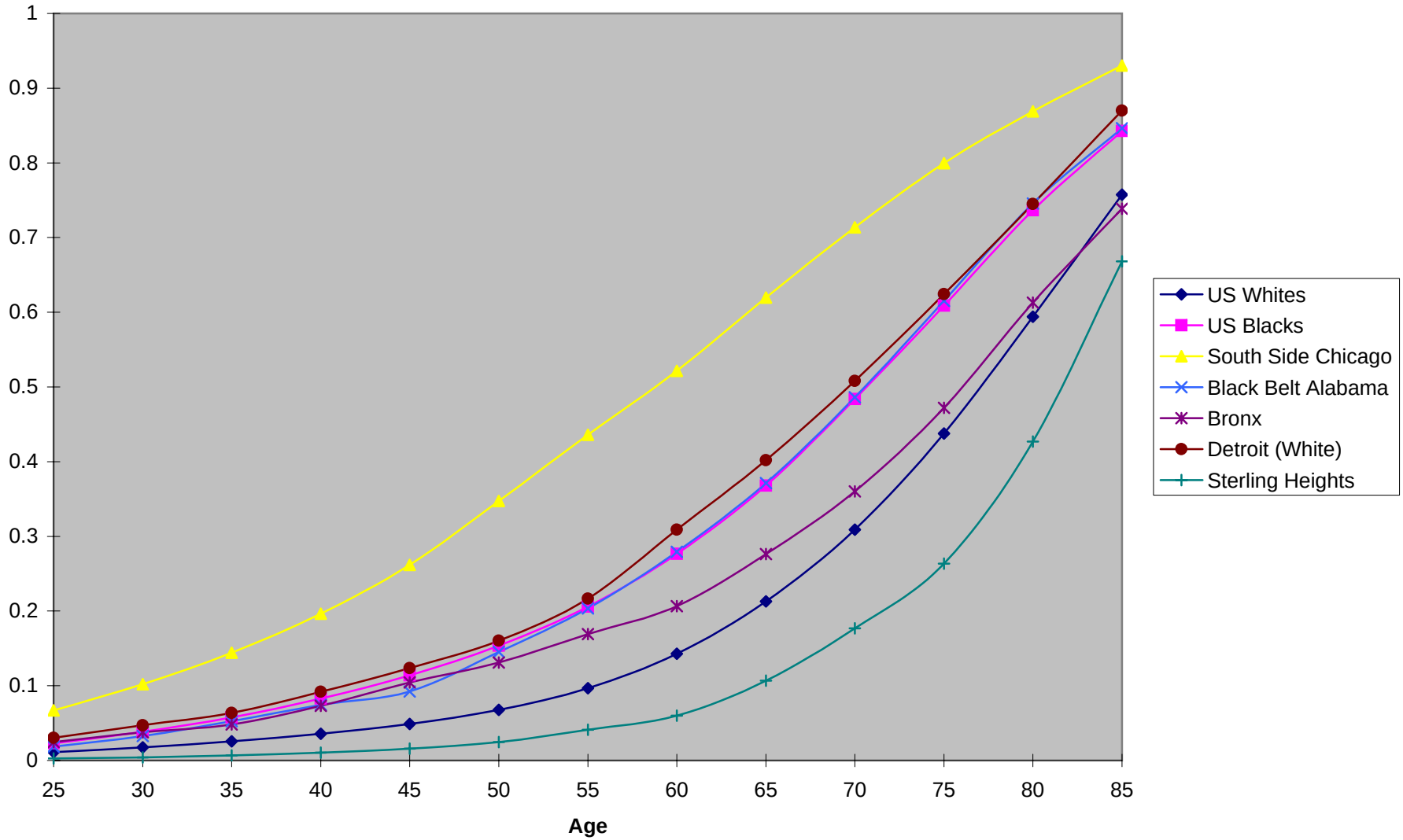

Figure 4B. Probability of Death by Various Ages in Select Local Areas, Women (2000)

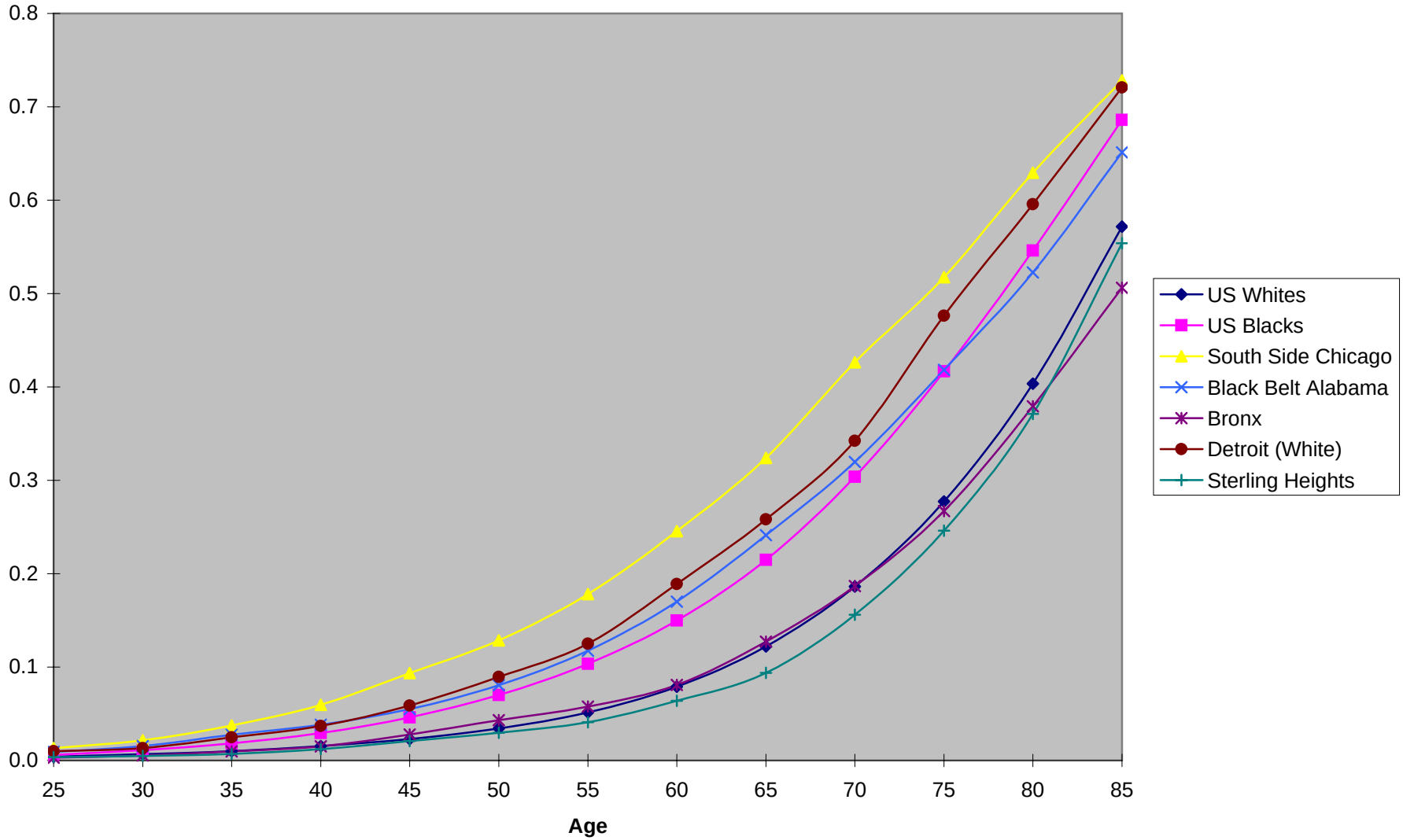

Table 4. Age-Standardized Excess Death Rates (per 100,000) Among Men in High-Poverty Local Areas, 1990 & 2000

Local Area	Year	Circulatory	Cancer	Accidents	Homicide	HIV/AIDS	Infections	All Others
US Whites	1990	0	0	0	0	0	0	0
	2000	0	0	0	0	0	0	0
US Blacks	1990	99	59	17	73	42	24	75
	2000	106	51	11	42	44	17	55
Blacks								
South Side Chicago	1990	319	174	112	237	69	78	320
	2000	310	125	91	125	68	74	111
Harlem	1990	221	128	28	182	310	157	352
	2000	112	66	-20	41	140	26	121
Central City Detroit	1990	206	84	6	193	43	39	232
	2000	228	82	18	108	54	46	164
Watts	1990	255	84	44	263	67	14	128
	2000	236	98	15	203	36	16	134
Black Belt Alabama	1990	124	43	88	38	-4	12	79
	2000	182	82	70	17	20	16	87
Delta Lousiana	1990	183	97	61	43	-6	9	60
	2000	183	100	16	9	8	27	47
East North Carolina	1990	173	99	46	42	12	33	117
	2000	121	74	32	23	32	11	81
Whites								
Detroit	1990	150	62	15	68	3	20	154
	2000	251	54	54	66	2	33	212
Cleveland	1990	152	63	20	24	17	-1	67
	2000	123	46	23	11	5	9	76
Northeast Alabama	1990	60	19	25	6	-12	-1	38
	2000	65	26	34	5	-4	5	38
South Central Louisiana	1990	62	29	36	0	-1	4	-7
	2000	46	19	41	6	0	7	6
West North Carolina	1990	8	-10	24	3	-19	-2	9
	2000	1	-4	20	2	-6	-5	11
Appalachia	1990	62	27	68	29	-17	4	30
	2000	76	47	45	17	-4	9	39

Table 5. Age-Standardized Excess Death Rates (per 100,000) Among Women in High-Poverty Local Areas, 1990 & 2000

Local Area	Year	Circulatory	Cancer	Accidents	Homicide	HIV/AIDS	Infections	All Others
US Whites	1990	0	0	0	0	0	0	0
	2000	0	0	0	0	0	0	0
US Blacks	1990	89	29	3	13	13	13	54
	2000	87	32	2	7	20	11	54
Blacks								
South Side Chicago	1990	194	86	22	39	10	44	185
	2000	177	87	30	30	27	56	101
Harlem	1990	143	59	3	21	102	74	158
	2000	94	57	-12	9	78	14	82
Central City Detroit	1990	154	45	-1	40	16	22	103
	2000	140	57	30	19	19	30	130
Watts	1990	168	56	16	36	6	11	88
	2000	179	53	11	12	9	6	90
Black Belt Alabama	1990	125	12	12	12	5	8	44
	2000	134	39	13	8	10	13	57
Delta Lousiana	1990	161	29	18	5	1	6	50
	2000	118	56	15	3	7	9	50
East North Carolina	1990	109	27	5	7	5	14	53
	2000	90	40	1	8	18	3	45
Whites								
Detroit	1990	100	35	1	13	2	7	64
	2000	126	52	2	22	19	21	80
Cleveland	1990	78	37	6	2	-1	2	38
	2000	56	7	-4	2	1	1	39
Northeast Alabama	1990	44	-6	21	3	-1	0	3
	2000	29	-5	11	3	0	5	14
South Central Louisiana	1990	24	20	9	-1	-1	-3	-3
	2000	21	41	2	-2	-1	2	17
West North Carolina	1990	-1	-23	2	0	-1	1	-1
	2000	1	-12	7	0	-1	-3	14
Appalachia	1990	41	23	20	4	-1	1	8
	2000	60	36	22	8	-1	-1	9