

Economic Inequality and Social Differentials in Mortality

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INTRODUCTION

Nationally, the age-adjusted relative risk of death for people at the bottom of the distributions of education, income, and occupational standing is two to three times as high as it is for people at the top of such distributions (Sorlie et al. 1995). The association between socioeconomic position and mortality shows a gradient such that each increment in level of education, occupational status, or income is associated with a reduced risk of death (Adler et al. 1993; Sorlie et al. 1995).

However, at least with respect to income, the relationship to health is not linear: Health improves rapidly as one moves from the lowest levels of income to average or median levels, with increasingly diminishing returns to health from gains to income above that level. In addition, there are marked racial differences in health that are not wholly explained by income (Williams et al. 1997). Racialized stress and high levels of racial and economic segregation also appear deleterious to the health of African-Americans (Williams et al. 1997; Polednak 1996). Recent advances in social epidemiology suggest the importance of

aspects of residential areas more broadly as modifiers of the effects of individual socioeconomic characteristics on health (Davey Smith et al. 1998; Geronimus et al. 1996). Thus, the health of equally low-income individuals varies across locales.

Taken together, the above findings suggest that general patterns of the relationship between economic inequality and health may mask extremes for those isolated by persistent poverty and segregation or those exposed to a full range of hazards in their social and physical environment. Furthermore, over the last twenty-five years, the absolute and relative economic circumstances of those in the lower economic strata in the United States have generally stagnated and deteriorated rather than improved (Karoly 1993). Thus, the relative health of those in poverty—low-income African-Americans in particular—may have worsened in recent decades.

In this paper, I draw on analyses that aimed to determine whether impoverished U.S. locales varied by race or urban/rural location in their rates and causes of excess mortality, and whether mortality gaps between impoverished and other U.S. populations widened over the decade from 1980 to 1990. The focus on urban versus rural areas reflects the fact that in the first half of the Twentieth Century, rural Americans enjoyed longer life expectancies than urban dwellers (Fox et al. 1970). Evidence based on

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more recent cohorts is mixed and suggests little, if any, mortality advantage for rural residents compared with urban dwellers in young and middle adulthood (Kitagawa and Hauser 1973; Miller et al. 1987; Elo and Preston 1996). However, with some resurgence of infectious disease entities as important causes of death in urban areas and general perceptions of central cities as having become more dangerous and unhealthy in the most recent decades (Wilson 1987; Brown 1993), the fortunes of rural dwellers—even those in poverty—may have again increased relative to their urban counterparts. In addition, recent comparisons of rural and urban dwellers do not focus on those in poverty. Important interactions between race, poverty, and rural/urban residence may exist, but may be unobserved in analyses of national data sets where only the main effects of residence are estimated as a product of averaging across all rural versus urban dwellers.

In the analyses, we also examined what causes of death were the primary contributors to excess mortality among the poor and whether these varied across locales or time periods. We focused, in particular, on how the HIV/AIDS epidemic and homicide may have influenced changes in mortality over the decade.

To address these questions, we limited our analyses to mortality among young and middle-aged adults. Social differentials in morbidity and mortality are pronounced at these ages (Geronimus 1992; House et al. 1994), and mortality data are of high quality for young through middle-aged adults. Their deaths represent a great loss to population life expectancy and have a great impact on families and communities. Reproductive- and working-age adults play critical roles as economic providers and caretakers in families. In low-income African-American communities, adults in this age group often face multiple obligations in supporting family economies and caretaking systems (Chatters and Jayakody 1995). High levels of early health deterioration in this population may be both cause and consequence of expanded caretaking obligations among the relatively healthy (Geronimus 1992; Pariente et al. 1997). Moreover, current antipoverty programs, emphasizing the prevention of teen childbearing and the movement from welfare to work, are based on the implicit

assumptions that young and middle-aged adults in poverty are able-bodied and that teens can expect to remain healthy through their reproductive and working ages. If these assumptions prove incorrect, it would have important implications for the chances of successful implementation of these policies and the impact of these policies on the well-being of their target populations.

As I elaborate below, we found that poor local populations pay a heavy toll in the loss of potentially productive members in their prime of life. However, important differences exist among and within persistently impoverished populations by race, gender, geographic location, and time period in the degree to which their poverty translates into excess mortality. African-American residents of persistently impoverished urban areas suffer the worst mortality profiles. Men in these areas face staggering probabilities of early death. Between 1980 and 1990, this already severe disadvantage grew larger. Popular images portray urban health disadvantages as applying mainly to inner-city youth and highlight the contributions of homicide and HIV/AIDS. Yet our results reveal that important social disparities in morbidity and mortality apply not only to youth but also extend throughout the young-adult and middle ages. Moreover, homicide and HIV/AIDS deaths contribute to this excess, but other causes are more important. In contrast to popularized perceptions, homicide explains none of the increase in death rates of urban black men over the 1980s. Death rates among African-Americans in poor rural areas are substantially lower than they are for their urban counterparts. Here, too, homicide and HIV/AIDS explain less of the difference than popularized images suggest.

DATA AND METHODS

Details of our methodological procedures are available elsewhere (Geronimus et al. 1996; Geronimus et al. 1999). In brief, we studied all African-American or non-Hispanic white residents, ages fifteen to sixty-four, of twelve regionally diverse, impoverished areas consisting of aggregated census tracts or ZIP codes in urban areas and groups of counties or parishes in rural areas. They included African-American residents of urban communities in New York

City's Harlem, Detroit's Central City, and Chicago's South Side; African-American residents of rural communities in the Louisiana Delta, the Black Belt region of Alabama, and Eastern North Carolina; and non-Hispanic white residents of urban areas in Cleveland and Detroit, of a poor mountain area in Appalachian Kentucky (a region where some of the poorest U.S. whites reside), and of poor rural communities in South Central Louisiana, Northeastern Alabama, and Western North Carolina. These areas were selected based on comparatively low race-specific mean family incomes and relatively high percentages of families with incomes below the poverty threshold. For comparison, we also analyzed data for whites and blacks nationwide.

In Table 1, summary economic information is reported for each population. Reflecting the national distribution of income, the African-American populations were often substantially less well off than the white populations studied. Appalachian Kentucky was the only white population with a poverty rate exceeding that of blacks nationwide. Otherwise, among whites, rural/southern populations tended to be better off economically than urban/northern ones. Among blacks, the rural populations were generally as or more poor than the urban ones.

All of the populations were poorer than their race-matched national average in 1980 and 1990. According to our economic indicators, none of these poor populations experienced a substantial increase in its economic well-being over the decade. However, some populations experienced notable deterioration in their economic well-being. Most dramatic was the white Detroit population. In 1980, that population was less advantaged than whites nationwide, but it was better off than any other study population and far better off than it became a decade later. Other local populations that experienced smaller, but noticeable, increases in their concentration of poverty were blacks in Chicago and Detroit and whites in Cleveland and Louisiana. These findings are consistent with the broader trend of stagnation or deterioration among the poor in their economic well-being during that decade and the particular impact in the midwest.

We combined population-specific death certificate information for 1979-81 and 1989-91 with age-stratified

counts of men and women in each population taken from the 1980 and 1990 U.S. Census, respectively, to calculate age- and sex-specific death rates overall and due to specific causes of interest. To mitigate biases due to Census undercounting, we adjusted population counts using national undercount adjustments.

We computed several standard measures of mortality:

- *Excess mortality rate (EDR)*: This measure shows how many more deaths per year occurred among fifteen-to-sixty-four-year-olds, per 100,000 population in the black or local population, than would have

Table 1
FAMILIES IN POVERTY, SELECTED AFRICAN-AMERICAN AND WHITE POPULATIONS, 1980 AND 1990

Population / Area	Year	Percentage of Families Below the Poverty Level
U.S. population		
Total	1980	9.6
	1990	10.0
African-Americans	1980	26.5
	1990	26.3
Whites	1980	7.0
	1990	7.0
African-Americans		
Harlem, New York City	1980	33.4
	1990	33.1
Central City Detroit	1980	38.5
	1990	44.3
South Side Chicago	1980	46.7
	1990	58.2
Delta Louisiana	1980	48.0
	1990	48.1
Black Belt Alabama	1980	45.1
	1990	48.7
Eastern North Carolina	1980	34.9
	1990	32.8
Whites		
Cleveland	1980	16.4
	1990	21.4
Detroit	1980	10.9
	1990	22.0
Appalachian Kentucky	1980	32.9
	1990	34.6
South Central Louisiana	1980	12.8
	1990	18.9
Northeastern Alabama	1980	14.3
	1990	13.6
Western North Carolina	1980	14.5
	1990	13.6

Source: U.S. Census Bureau.

Notes: Figures refer only to African-American residents or only to white residents of the area studied. The poverty levels are defined by the U.S. Census Bureau. See Geronimus et al. (1999) for a more detailed description of the geographic areas encompassed by each population.

occurred if they experienced the same number of deaths per 100,000 population as whites of these ages experienced nationwide. For example, an EDR of 374 for black men nationwide indicates that of the 791 annual deaths per 100,000 black men, ages fifteen to sixty-four, 374 would have been averted if black men had the same age-adjusted death rates as white men.

- *Age-adjusted rate ratio (RR)*: This measure shows how many times higher the age-adjusted death rate is in the black or local population for ages fifteen to sixty-four than it is for whites of these ages in the nation.
- *P (45) and P (65)*: These measures show the probability that a typical fifteen-year-old in a national or local population will survive to age forty-five or age sixty-five.
- *Average number of years of life lost between ages fifteen and sixty-five (YOLL)*: This measure averages across every person in a specific locale who dies between the fifteenth and sixty-fifth birthday. Each person who dies contributes to the average the number of years remaining between the age at death and the sixty-fifth birthday. (For example, a man who dies at age twenty contributes forty-five years to the overall average; a man who dies at age sixty contributes only five years to the average.)

Each of these measures can be defined for all-cause mortality or by any specific cause. In combination, these measures provide a more complete and nuanced picture of a population's mortality experience than a single measure. The RR is the simplest summary statistic. The EDR is required to estimate the number of deaths that are theoretically preventable in a disadvantaged population. The YOLL gives greater emphasis to those who die in the younger years of the age range than the older. Thus, it provides a better sense of the loss of productive life to a community and the role played by causes of death that are more likely to strike young adults, such as homicide. P (45) and P (65) point to the ages when mortality differentials are most pronounced and serve as rough indicators of the vantage point of youth in a population.

RESULTS

The general patterns we found by race, locality, or time period pertain to men and women. In any specific population

and time period, men suffer greater mortality than women. For reasons of space and focus, here I report results only for men. I pay particular attention to African-American men, whose mortality profiles from youth through middle age most starkly illustrate the major points.

Table 2 shows that the great inequalities in levels of excess death for men in the prime of life widened between 1980 and 1990. Nationwide, African-American men experienced about twice the mortality rate of white men in both years, with evidence that the gap increased over the decade as national death rates fell more for whites than for blacks. By 1990, African-American men showed an annualized rate of excess deaths relative to whites of almost 400 deaths per year. This level of social disparity, disturbing as it is, vastly understates the level of excess mortality experienced by young-adult through middle-aged African-American male residents of central cities. In the study areas, 1980 annualized excess death rates ranged from 695 (in Harlem) to 955 (in Chicago). Moreover, by 1990 excess death rates had grown in all three urban African-American localities, doubling in Harlem over the decade and achieving rates of 1,296 per 100,000 population in both Harlem and Chicago. By 1990, the age-adjusted mortality rate ratio ranged from almost 3.00 in Detroit to more than 4.00 in Harlem and Chicago, relative to whites nationwide.

The final 3 columns of Table 2 show estimated probabilities of survival to ages forty-five or sixty-five (conditional on survival to age fifteen) and the average number of years of life lost between ages fifteen and sixty-five in each population. Social inequalities in these outcomes are evident in both years. In 1980 or 1990, almost every white youth could expect to survive to age forty-five and three-quarters or more could expect to survive to age sixty-five. For black youth nationwide, about 88 percent could expect to survive to age forty-five, but only about 60 percent to age sixty-five. Residents of poor African-American urban populations fared substantially worse than this in both years. The chances of survival to age sixty-five for youth in poor African-American urban/northern populations were never more than fifty-fifty, and decreased over the decade. *By 1990, African-American youth in the poor urban study areas*

Table 2
MEASURES OF MORTALITY AMONG AFRICAN-AMERICAN AND WHITE MEN AGES FIFTEEN TO SIXTY-FOUR IN SELECTED POPULATIONS, 1980 AND 1990

Population/Area	Year	Annual Death Rate	Excess Death Rate	Age-Adjusted Rate Ratio	P45	P65	YOLL
Total U.S. male population							
African-Americans	1980	809	332	1.70	0.89	0.60	5.59
	1990	791	374	1.90	0.88	0.62	5.78
Whites	1980	477	0	1.00	0.94	0.74	3.36
	1990	417	0	1.00	0.94	0.77	3.10
Urban African-American locales							
Harlem, New York City	1980	1172	695	2.46	0.80	0.50	8.92
	1990	1713	1296	4.11	0.71	0.37	11.33
Central City Detroit	1980	1182	705	2.48	0.82	0.48	8.47
	1990	1163	746	2.79	0.81	0.50	8.63
South Side Chicago	1980	1432	955	3.00	0.78	0.42	9.79
	1990	1713	1296	4.11	0.73	0.37	11.71
Rural African-American locales							
Delta Louisiana	1980	716	239	1.50	0.89	0.65	5.33
	1990	808	391	1.94	0.91	0.60	5.40
Black Belt Alabama	1980	791	314	1.66	0.89	0.61	5.74
	1990	755	338	1.81	0.91	0.63	5.39
Eastern North Carolina	1980	925	448	1.94	0.87	0.55	6.19
	1990	906	489	2.17	0.89	0.57	6.13
Urban white locales							
Cleveland	1980	886	409	1.86	0.88	0.58	6.28
	1990	717	300	1.72	0.91	0.64	4.96
Detroit	1980	730	253	1.53	0.91	0.63	5.19
	1990	838	421	2.01	0.88	0.60	6.20
Rural white locales							
Appalachian Kentucky	1980	762	285	1.60	0.90	0.63	5.44
	1990	574	157	1.38	0.92	0.70	4.41
South Central Louisiana	1980	589	112	1.24	0.92	0.70	4.40
	1990	498	81	1.19	0.93	0.73	3.75
Northeastern Alabama	1980	542	65	1.14	0.93	0.71	3.88
	1990	544	127	1.30	0.93	0.71	3.83
Western North Carolina	1980	504	27	1.06	0.94	0.73	3.69
	1990	394	-23	.94	0.95	0.78	2.94

Source: See Geronimus et al. (1999) for details of the estimation procedures.

Note: P45 is probability of survival to age forty-five; P65 is probability of survival to age sixty-five; YOLL is average years of life lost between ages fifteen and sixty-five.

faced lower probabilities of survival to age forty-five than white youth nationwide faced of survival to age sixty-five. In Harlem and Chicago in 1990, a full two-thirds of fifteen-year-old males could not expect to survive to age sixty-five. This represents less than half the probability of survival to age sixty-five of white males nationwide.

Considering mortality rates in terms of years of young and middle adult life lost to the community, the findings are equally sobering. All three urban African-Americans populations studied experienced substantially larger numbers of years of life lost among men of these ages than among blacks or whites nationwide. This number also grew over the 1980s in all three cases. By 1990, African-

American men in Harlem or Chicago experienced an average of more than eleven years of life lost between the ages of fifteen and sixty-five, almost twice the number lost for blacks nationwide and almost four times the number for whites.

AFRICAN-AMERICAN RURAL POPULATIONS

As staggering as the excess mortality experienced by African-American men residing in persistently poor urban areas is, the findings for their rural counterparts offer a surprise of a different kind. Despite higher than average poverty rates in the rural areas studied, men's excess mortality experience is generally comparable to that of black men nationwide. So, too, are their probabilities of survival to

ages forty-five or sixty-five and their average years of life lost. They do far better than their urban counterparts. This is true in both years studied. While evident in 1980, by 1990 the urban/rural divide had grown substantially among African-American populations, because increases in excess deaths were smaller in the rural/southern than in the urban/northern populations.

POOR WHITE POPULATIONS

Most of the poor white populations exhibited some excess mortality relative to whites nationwide in both years, but there are specific instances of little or no excess in rural/southern poor white populations. Changes in excess mortality between 1980 and 1990 were modest among the white study populations. Only the poor white population in Detroit clearly experienced an increase, while all of the remaining poor white populations remained stable or gained some improvement. An urban/northern-rural/southern divide is suggested for poor whites, but it is of smaller magnitude than among poor African-Americans. Generally, members of the white populations fare substantially better than members of the black populations, yet whites in the poor urban/northern locales experience excess death rates and mortality rate ratios of size roughly comparable to those experienced by blacks nationwide or by residents of the African-American poor rural/southern areas.

Residents of the poor white rural/southern populations face approximately the same probabilities of survival to or through middle age as whites nationwide, while those residing in Detroit, Cleveland, and Appalachian Kentucky fare worse in their probabilities of survival than whites nationwide. The age profiles of mortality in these three white populations are comparable to those of blacks nationwide and blacks residing in rural/southern study areas.

CAUSES OF EXCESS MORTALITY

Decompositions of excess death rates show that circulatory diseases are important contributors to excess mortality in every poor urban African-American population studied in both years (Table 3). By 1990, circulatory diseases alone constituted about one-fourth of all excess deaths in these locations (range = 16 to 30 percent). Circulatory diseases

are the leading cause of excess deaths for black men nationwide and in Detroit and Chicago, and the second leading cause of excess deaths in Harlem. They often outpace other contributors to excess deaths by a wide margin—an order of magnitude in some locales. This is particularly notable because, of all the causes of death studied, the base rate for white men nationwide—against which any excess to black men is measured—is the highest for circulatory disease deaths. For example, in the Chicago population, in 1990 there were 310 excess deaths due to circulatory disease and 241 to homicide. If these numbers are added to their respective base rates, there are 433 circulatory disease deaths per year for young-adult through middle-aged men in Chicago, compared with 253 homicide deaths, or *71 percent more circulatory disease than homicide deaths*.

Much has been made in the popular media about AIDS and homicide in inner cities. And, indeed, in Harlem HIV/AIDs, while unknown in 1980, became the leading cause of excess death for men by 1990. By then, HIV/AIDS alone accounted for almost 300 excess deaths per year for men. No other area studied showed this magnitude of impact from HIV/AIDS. In Chicago, AIDS deaths for men are notable in 1990, but account for a much smaller proportion of the total excess than in Harlem. In Detroit, AIDS deaths are not particularly important contributors to excess mortality, and they contribute very little elsewhere—that is, for poor women, generally, or for men and women in the full range of urban and rural poor populations studied (Geronimus et al. 1996; Geronimus et al. 1999).

Among African-American men, but not women, in Harlem, Chicago, and Detroit, the contribution of homicide to excess mortality is sizable, accounting for at least 20 percent of excess deaths in each of those populations in 1980. However, between 1980 and 1990 the absolute numbers of homicide deaths among men remained relatively stable while the percentage of excess deaths accounted for by homicide witnessed notable declines. In Harlem, homicide deaths fell from 25 percent of excess deaths for men in 1980 to 14 percent in 1990; and in Chicago, from 22 percent to 19 percent. Among black men in Detroit, the percentage of excess deaths due to homicide stayed stable at 25 percent in both time periods.

Thus, *homicide, while an important cause of death among urban, African-American men, accounts for virtually none of the growth in excess death rates in these populations.* Growth in excess death rates over the decade is accounted for instead by increases in deaths due to circulatory disease, cancer, AIDS (in Harlem), and accidents (in Chicago). Some of these increases were dramatic. For example, in Harlem, *deaths due to circulatory disease or to cancer each doubled for men in this time period*—from 95 to 205 excess circulatory disease deaths in 1980 and 1990, respectively, and from 66 to 118 excess cancer deaths per year per 100,000 population. For Harlem women, cancer deaths also doubled over the decade, while excess circulatory disease deaths rose by 40 percent (Geronimus et al. 1999).

AIDS or homicide disproportionately kills people earlier in their adult lives than other important causes such as circulatory disease or cancer. Thus, of all the summary measures we present, YOLL will emphasize the contribution of AIDS or homicide to total mortality. This is because those who die at younger ages (that is, those who are more likely to die from AIDS or homicide) will contribute more

to the average years of life lost than those who die at older ages (that is, those who are more likely to die from circulatory disease or cancer). For example, a nineteen-year-old homicide victim will contribute forty-six years toward the average years of life lost, while a forty-nine-year-old dying from heart disease contributes only sixteen.

However, even with this “magnification” of the importance of deaths due to AIDS or homicide, these causes alone explain only a share of the observed mortality differences between African-American men in poor urban areas and white or black men nationwide. In the absence of deaths due to AIDS or homicide, the average years of life lost by men between ages fifteen and sixty-five in each urban population would be: Harlem: 7.25, Detroit: 5.83, and Chicago: 8.26. These figures are:

- two to three times the number for U.S. white men;
- 1.4 to 2.0 times the number for U.S. black men;
- about 33 percent higher than for African-American women in the same locales; and
- 55 to 78 percent higher than for African-American men in impoverished rural areas.

Table 3
CAUSES OF EXCESS MORTALITY AMONG AFRICAN-AMERICAN MEN AGES FIFTEEN TO SIXTY-FOUR RESIDING IN URBAN POVERTY, 1980 AND 1990

Area	Year	Circulatory Disease	Cancer	Accident	Homicide	HIV	Infection/Pneumonia/ Influenza	Other
Number of excess deaths per 100,000 African-American men								
United States	1980	92	57	9	73	0	20	82
	1990	95	61	11	73	38	23	72
Harlem, New York City	1980	95	66	-50	175	0	39	370
	1990	205	118	20	175	296	150	332
Central City Detroit	1980	189	69	2	176	0	39	231
	1990	192	76	-2	187	38	37	217
South Side Chicago	1980	189	69	2	176	0	39	231
	1990	310	168	109	241	79	82	308
Memo: Death rate per 100,000 white men								
United States	1980	177	108	72	14	0	9	97
	1990	123	103	54	12	23	11	92

Note: Figures are based on the underlying cause of death using diagnostic categories from the International Classification of Diseases (ninth revision).

Excess deaths among urban African-American men attributed to cardiovascular disease and cancer contribute importantly to the significant disparities that remain.

Blacks in Middle-Class Metropolitan Areas

We also studied the mortality experience of young through middle-aged black residents of communities with higher mean incomes and lower poverty rates, but within the same major metropolitan areas as some of the poor local populations (Geronimus et al. 1996). The mortality experience of black men in these areas is similar to or better than that for black men nationwide and, therefore, notably better than that of their counterparts in poor urban neighborhoods. A direct comparison of mortality rates of the urban poor population in a specific metropolitan area with those of the better-off suburban population shows that male residents of the poor area had age-adjusted mortality rate ratios ranging from 1.5 to 3.5 times the mortality rate of male residents of the higher income locality. In 1990, African-American men in the higher income area in New York City faced a mortality profile that approximated that of white men nationwide. This finding suggests that when a black population enjoys the same level of economic advantage or municipal services as a white population, it also has a favorable mortality rate.¹

DISCUSSION

Our findings document a poignant dimension of social disparities in health—that young people in some U.S. communities cannot expect to survive through middle adulthood. While highly publicized causes of premature death such as AIDS and homicide do contribute to this tragedy, they do so by adding to social disparities in mortality experience that are already substantial and result primarily from chronic disease in young and middle adulthood. The evidence reviewed reinforces the centrality of cardiovascular disease as a leading threat to the health and well-being of residents of poor communities.

Further research is required to explain the reasons underlying these findings. The social epidemiological literature already provides some promising clues that can

be used as a basis for continued scientific inquiry and policy discussion.

CHRONIC STRESS AND UNCERTAINTY

Chronic, stress-related diseases, such as circulatory disease and cancer, are major contributors to excess mortality in poor populations. Thus, when searching for explanations and solutions, it is important to consider the complex interplay between adverse life circumstances, psychosocial stress, and high-effort coping in the production of stress-related diseases. For example, in the case of hypertensive disease, James (1994) originated and empirically validated the construct of “John Henryism,” a strong behavioral predisposition to engage in persistent high-effort coping with social and economic adversity. His ongoing empirical research suggests that high levels of John Henryism interact with low socioeconomic status to increase the risk of hypertensive disease, at least among African-American men.² Thus, contrary to the stereotype that young, urban, poor African-American men’s fatalism predisposes them to engage in unhealthy behaviors that place them at risk of disease or death, it may be that their persistent, active, effortful coping with widespread forms of social and economic adversity exacts the physical price of a high risk of early cardiovascular mortality. For example, in one study, James et al. (1987) found that differences by socioeconomic status in hypertension prevalence among young adult and middle-aged blacks were small for those scoring low on John Henryism. For those with high scores, however, hypertension prevalence was three times greater for those of low socioeconomic status compared with those of higher socioeconomic status (31.4 versus 11.5 percent).

Similarly, Geronimus’ (1992) concept of “weathering” suggests that excess mortality among young through middle-aged African-Americans in poverty might be the consequence of their *cumulative* exposure to the risks associated with material hardship and social inequality. For African-Americans in poverty, the health of young through middle-aged adults might progressively worsen through multiple routes. They include cumulative exposure to hazards in residential and work environments; increased

psychosocial stress as obligations to dependents multiply and the resources of social support networks are spread thin; continued temptation to engage in unhealthy behaviors to cope with increasing stress and uncertainty; the progression of undiagnosed or unmanaged chronic conditions and diseases; and the increasingly deleterious impact of medical underservice in light of escalating health needs. Urban African-American men may fare the worst of all if, unlike other African-Americans, they are systematically exposed to the *full range of these risks* and do so in a context that provides *few protective or identity-affirming* opportunities. That is, the dominant American cultural framework provides powerful negative stereotypical characterizations of young urban African-American men. Negative stereotypical judgments appear to affect the treatment decisions of health providers, to the detriment of black men's health (Schulman et al. 1999), to reduce black men's economic opportunities (Wilson 1996), and to fuel distrust by black men of public health initiatives that have a history of treating them poorly (Dalton 1989). The dominant cultural framework also denies urban black men many identity-affirming symbols. James (1993) speculates that lack of such symbols may also contribute to poor health to the extent that it forecloses constructive avenues to mitigate psychosocial stress.

POVERTY

Poverty carries with it increased exposure to nearly all health risks, including hunger, homelessness, and other material hardships; acute and chronic stress; unhealthy behaviors; overburdened or absent social supports; and depression (Geronimus 1992; Williams and House 1991; Marmot et al. 1987). All of the local populations studied were poor and, as evidenced in Table 1, the urban African-American locales were characterized by extreme poverty. Moreover, poverty rates grew over the decade in almost all the urban populations, while they more often remained stable or lessened in the rural areas. Given the nonlinearity in the relationship of income to health noted earlier, extreme and intensifying poverty rates would be expected to create and exacerbate inequalities in health. As a corol-

lary, policies that improve the economic status of lower income populations can be expected to improve dramatically the health of those at the extremes of poverty.

Our findings also suggest that the detrimental effects of poverty are modified by residence in rural versus urban areas. Whites in Appalachian Kentucky were from the poorest white population, yet their mortality rates were lower than exhibited by poor white populations in the North, including the 1980 Detroit white population that had a poverty rate one-third the rate of the Kentucky population. Indeed, white residents of Cleveland and Detroit had mortality profiles roughly comparable to those of the rural/southern African-American populations or to blacks nationwide, despite having dramatically lower poverty rates.

For African-Americans, the rural/southern populations tended to be as socioeconomically disadvantaged as (or, in some cases, more disadvantaged than) the northern/urban populations. Yet as a group, they had substantially better mortality profiles than their counterparts in northern cities. These differences persisted even after adjustment for cost-of-living differences (Geronimus et al. 1996).

URBAN DECAY

As noted, whites and African-Americans living in economically depressed areas suffered worse mortality if they were urban rather than rural, and this urban disadvantage became increasingly severe for African-Americans. Possible explanations include the reductions in municipal services to central cities witnessed in recent decades. Wallace and Wallace (1990) outline how these reductions resulted in a cascade of threats to the social and physical environments of urban residents, including: the deterioration of housing stock, the movement of drug users and traffickers into burned-out buildings, increased rates of homelessness, the "doubling up" of marginally housed families, overburdened or disrupted social networks, and environmental insults. Such aspects of urban decay are implicated in health-related problems such as increased stress (and hence stress-related disease), violence, HIV/AIDS, homicide, cancer, asthma, reproductive disorders, neurological impediments, accidental injuries, and fire deaths. In addition, northern

urban central cities are among the most segregated areas in the country. Black residents of segregated, low-income areas have lower levels of access to medical care, public services, safe housing, sanitation, recreation, education and training, and good jobs; yet they have increased environmental exposure to the chemical, physical, and social hazards outlined above. Urban decay may also indirectly affect health to the extent that it depreciates the value of housing or undermines private investments in poor communities.

In fact, revitalizing central cities and addressing urban housing problems may well be important policy approaches for improving the health of urban populations. For example, coincident with worsening urban health, family homelessness has shown a dramatic upsurge in the last two decades, mushrooming in some cities including New York (Bassuk et al. 1996; Thompson 1997). The homeless suffer starkly elevated rates of many mental and physical disorders and experience particular difficulties in accessing medical care (Gelberg 1997). The urban homeless are the tip of an iceberg comprised of a larger group who are marginally housed. Most of the extremely poor avoid literal homelessness by being given housing at little or no charge by kin (Bassuk et al. 1996; Thompson 1997). Yet “doubling-up” in poor communities can have negative health implications for all residents of the doubled-up household. They suffer increased space pressures and household crowding; less privacy; lower food quality and quantity; increasingly unsanitary or unsafe housing conditions; more concentrated cooking, smoking, and use of electricity (often on overage wiring systems); increased wear and tear on household facilities; and increased potential for interpersonal conflict and the spread of infectious disease (Sontag 1996; Bruni 1996; Thompson 1997).

While features of urban life have become increasingly deleterious to health, our findings might also reflect the possibility that aspects of rural life are protective. This possibility is understudied and should be explored.

MEDICAL CARE AND INDIVIDUAL BEHAVIOR

What of the common beliefs, that by improving access to medical care—primarily through extending health insurance coverage—and by changing the unhealthy behaviors

of poor individuals, social disparities in health will be importantly reduced? Each of these factors plays a role in the full process that culminates in social inequalities in health, and should be addressed. But a full reading of the social epidemiological literature along with key aspects of our empirical results suggests that other concerns are more fundamental.

Regarding medical care, there is ample evidence of deficiencies in what is provided to African-Americans at every stage of life (Geiger 1996; Whittle et al. 1993). Black men receive lower rates of some forms of life-saving treatment, including organ transplantation and specific high-tech treatments for ischemic heart disease (Whittle et al. 1993; Ford and Cooper 1995). Provider prejudice plays a role (Schulman et al. 1999). The urban poor have witnessed declines in their access to quality medical care in recent years owing to the closing of many inner-city outpatient departments, staff reductions in public hospitals, and reduced incentives for hospitals to provide uncompensated care in a managed care environment (Schlesinger 1987). Community representation on the boards of local health care facilities has also declined. Macroeconomic restructuring intensifying black male joblessness in inner cities has reduced access to private insurance. Moreover, few health care providers locate their practices in central cities. Fossett et al. (1990) conclude that access to care for the poor in urban areas is constrained more by the lack of accessible physicians than by the lack of insurance, noting the need for concerted efforts to increase physician supply in depressed urban areas.

Thus, medical underservice and its intensification in recent years are likely to have contributed to excess mortality in urban areas and its growth over the 1980s. However, it is unlikely to explain the rural/urban differences we found. As bad as they are in urban areas, the problems of medical underservice are most acute in isolated and impoverished rural areas of the country.

Regarding individual behavior change, residents of poor communities often do have worse behavioral health risk profiles than members of more advantaged populations (Northridge et al. 1998). Yet socioeconomic differences in mortality are due to a wider array of factors and additional

measures are necessary to improve the health of the poor (Link and Phelan 1995; Lantz et al. 1998). Furthermore, there is little evidence on the question of whether the urban poor are more likely to engage in unhealthy behaviors than the rural poor. In some cases that are linked to cardiovascular disease and cancer deaths—such as smoking and high-fat diets—there is some reason to believe the reverse may be true.

Unhealthy behaviors themselves are best addressed when interactions between behavior and environment are taken into account. For example, high smoking rates in poor urban African-American communities are likely, in part, to reflect coping responses to the pervasive psychosocial stress residents experience. Short of addressing the stressors, smoking cessation will be hard to achieve. This is especially true in a context where tobacco companies selectively target urban minority groups for advertising (King 1997). In addition, successful behavior change at the individual level often requires participation in health education or rehabilitation programs. Yet interventions to reduce the impact of unhealthy behaviors on mortality in poor communities are hampered by insufficient resources and by inadequate knowledge about the prevalence and patterns of unhealthy behaviors within poor urban communities, apart from national averages or stereotypes. The financial or time costs of participation may be prohibitive for many. Finally, in the context of institutionalized barriers to achievement, full consideration of the role of behavior in the

health of the poor must also include the ways that socially approved behavior—such as persistent, active, effortful coping, as discussed above—may be harmful to health.

In closing, eliminating the staggering disparities in the probability of survival to or through middle age should be recognized as a high-priority policy goal. It may be prior to progress toward other important social policy goals. For example, high levels of health-induced disability among working-age African-American men contribute to their relatively low rates of labor force participation (Bound et al. 1996). Such disabilities also pose practical challenges for the members of the family or the larger informal social networks who care for the disabled, often women. These challenges may undermine the caretakers' efforts to fulfill competing obligations to family and work. For some women, these challenges can be expected to intensify as they try to adhere to the rigid work requirements of welfare reform.

If this reading is correct, it would mean that policymakers committed to improving population health should consider a broad array of policy levers *and* that they should require health impact statements for proposed economic or social welfare policies with other primary goals. This would reduce the chances that the health of the poor—and of urban African-Americans in particular—is further eroded by programs targeted at them, but proposed or evaluated on grounds other than their health implications.

ENDNOTES

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1. The higher income area in New York City included a large number of West Indian immigrants (30 percent), but even when looking only at the mortality experience of native-born African-American residents, we see that their mortality rates were comparable to those for white men nationwide.

2. John Henryism is measured by a twelve-item scale. The items reflect the following themes: 1) efficacious mental and physical vigor, 2) a strong commitment to hard work, and 3) a single-minded determination to succeed. For each item, the respondent answers on a scale of 1 to 5, where 1 is "completely false" and 5 is "completely true." Examples of the items are: "I've always felt that I could make of my life pretty much what I wanted to make of it." "Once I make up my mind to do something, I stay with it until the job is completely done." "When things don't go the way I want them to, that just makes me work even harder."

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