

NC Rural Health Research and Policy Analysis Program

Cecil G. Sheps Center for Health Services Research

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Findings Brief

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RACE AND PLACE: URBAN-RURAL DIFFERENCES IN HEALTH FOR RACIAL AND ETHNIC MINORITIES

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In his February 21st, 1998 radio address, the President announced an initiative to eliminate the access and outcomes disparities in health status experienced by racial and ethnic minority populations, with the goal of eliminating these disparities by the year 2010. The initiative focused on six health areas: infant mortality, cancer screening and management, cardiovascular disease, diabetes, HIV infection, and child and adult immunizations.

This findings brief investigates urban-rural disparities for racial and ethnic minorities in the six health areas in the President's initiative. Although it is well established that there are disparities in health status and access to health care between whites and racial and ethnic minorities, less is known about how the health status and health care access of minorities residing in rural areas compares to that of their urban counterparts and to rural whites. The gap in health status and reduced access to a full range of health care services that exists for minorities nationwide may be exacerbated by a variety of factors in rural areas, such as poverty, transportation problems, and limited provider availability. In addition, recent migration of new ethnic and minority groups into rural areas may be creating the need for a more diverse provider base to overcome cultural and language differences.

CURRENT LITERATURE

Literature addressing the question of whether a larger gap in health status between whites and minority populations exists in rural areas is sparse. Few studies assess the interaction between race/ethnicity and rural residence with respect to either health status or access to care. The vast majority of studies that look at differences across racial and ethnic groups do not consider geographic place of residence. Although some studies report race-specific rates after controlling for rural or urban residence, such control only indicates that there may be a differential gap in health for minorities who live in rural areas. Firm conclusions cannot be derived without examining the interaction of race/ethnicity and rurality. In addition, few race/ethnicity and rural residence studies examine the entire United States. Thus, the results are limited in generalizability. Health condition specific findings from the literature review are reported elsewhere (Slifkin, et. al, 2000).

DATA ANALYSIS

To understand whether there is a distinct rural component to differences in health status and access between racial and ethnic populations, analyses were conducted using secondary databases, stratifying on rural or urban residence. Data sources used include the 1994 National Health Interview Survey (NHIS), the Immunization Supplement to the 1994 NHIS, the 1993 Medicare Current Beneficiary Survey (MCBS), and the National Center for Health Statistics 1991-1995 Compressed Mortality Files.

Infant Mortality Rates

Nationally, infant mortality rates for blacks are substantially higher than for either whites or individuals that fall into the “other” (non-black and non-white) category. For the first half of this decade, urban blacks had higher rates of infant mortality than rural blacks (Figure 1). In 1995, the rate for rural blacks (15.4 deaths per 1000 live births) was slightly higher than for urban blacks (15.1), but it is not known whether this represents the beginning of a new trend. There is substantial heterogeneity across rural counties.

Rural individuals who are categorized as “other” races have lower infant mortality rates than blacks, but still have substantially higher rates than their urban counterparts (7.8 deaths per 1000 live births in 1995 compared to 4.5).

Cancer Screening and Management

Analysis of the 1993 MCBS found rural minority women to be disadvantaged. Among female Medicare beneficiaries, rural non-whites have fewer mammograms than all other groups of individuals (19% receive mammograms, compared to 35% of urban whites and non-whites, and 29% of rural whites). The percentage of non-white rural female Medicare beneficiaries who have received a Pap test (17%) is also significantly lower than both the rates for rural whites (23%) and urban women of all races (29% of whites and 28% of women of other races).

Cardiovascular Disease

The rural black population has a higher age-adjusted death rate from heart disease than urban blacks, rural whites, or individuals in the “other” category (Figure 2). In addition, the gap between rural and urban blacks is greater than the gap between rural and urban whites. Although individuals who fall into the “other race” category have low rates of heart disease death, there is a large gap across place of residence, with much higher rates among rural residents.

Diabetes

Secondary data were available to consider both the prevalence of diabetes and its mortality rate. Simple frequencies of data from the Conditions File of the 1994 NHIS show that the national rate of diabetes is significantly higher for blacks

Figure 1
Infant Mortality by Race by Metro/NonMetro Status, 1991-1995

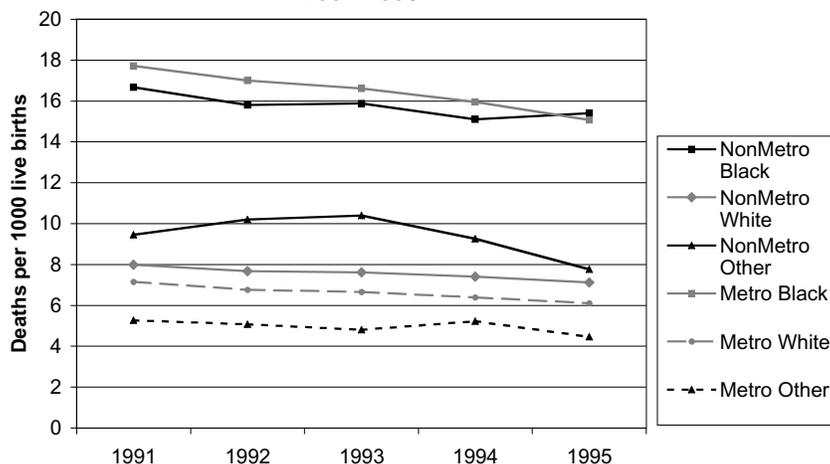


Figure 2
Heart Disease Deaths by Race by Metro/NonMetro Status, 1991-1995

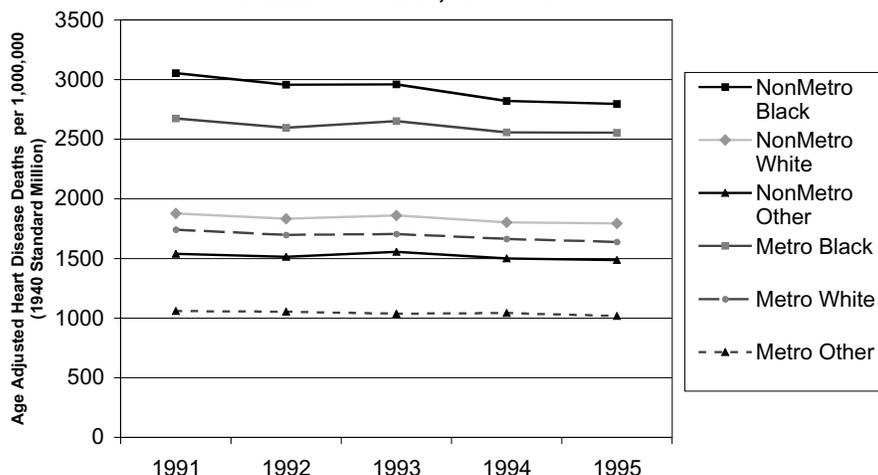


Table 1
Percent of the Population with Diabetes, by Race, 1994 NHIS, weighted

	MSA (95% Confidence Interval)	Non-MSA (95% Confidence Interval)	Total U.S. (95% Confidence Interval)
White	1.93 (1.81; 2.04)	2.31 (2.09; 2.51)	2.03 (1.92; 2.12)
Black	3.61 (3.21; 4.00)	5.34 (4.24; 6.43)	3.88 (3.50; 4.25)
Other	2.64 (2.18; 3.10)	2.86 (1.65; 4.06)	2.67 (2.24; 3.10)
Total	2.19 (2.08; 2.30)	2.55 (2.34; 2.76)	2.28 (2.18; 2.37)

than for whites and those individuals classified as “other” (Table 1). In addition, the rate of diabetes among rural blacks is significantly higher than the rate for blacks that live in urban areas and all other racial groups.

The age-adjusted death rates from diabetes show patterns that are similar to the prevalence of diabetes, with the exception of rates for individuals who fall into the “other” category (Figure 3). The death rate is highest for rural blacks, closely followed by urban blacks and rural “other” race individuals.

HIV Infection

Although data were not available to analyze comparative HIV infection rates across races in urban and rural areas, data exist on AIDS death rates. Age-adjusted AIDS death rates for blacks are much higher in urban areas (Figure 4). It is important to note that differences in AIDS death rates across groups can result from both different HIV infection rates and in differential access to and compliance with treatment.

Child and Adult Immunization

In an analysis of the 1994 NHIS Immunization Supplement, no significant differences in childhood immunization rates were found between racial groups in rural areas and across geographic categories. The evidence is mixed with respect to differential immunization rates in white and minority adults in rural areas. Analysis of the 1993 MCBS found that rural non-whites are significantly less likely than rural whites to have received a pneumonia shot, and the gap between these racial groups is substantially greater than the gap between urban whites and non-whites. Place of residence does not appear to be a contributing factor within racial groups as to whether or not Medicare beneficiaries receive influenza shots.

DATA LIMITATIONS

Although there is growing interest in understanding whether the gap in health status between racial and ethnic groups is in some way different in rural areas, analyses of this sort have rarely been conducted. The lack of research that specifically considers the interaction of race and place as factors affecting health care receipt and status is in part due to limitations in available secondary data. Confidentiality requirements of national datasets often constrain rural health research. In addition, due to the higher survey costs associated with reaching individuals who reside outside of cities, rural residents are often under-represented in national surveys. The problems introduced by small sample sizes are compounded when the analysis focuses on a sub-population of rural residents, such as a specific minority group. As analysis cells become smaller, the standard error associated with any statistic increases, decreasing the researcher’s ability to know whether insignificant findings reflect the lack of a true difference across populations, or simply that the sample size was too small to detect a statistically meaningful difference.

The problem of small cell sizes becomes particularly acute when studying members of a sub-population who have a particular health condition. For example, in the Conditions File of the 1994 NHIS, which contains information on a subset of individuals who meet certain criteria for having a chronic condition, there are only 99 individuals who have a diagnosis of diabetes, are black, and reside in a nonmetropolitan county (Table 2). Although small cell sizes reflect in part the under-representation of rural populations, they also reflect the reality of the minority presence in rural areas. In many rural areas of the U.S., when the minority population is further sub-sampled by a specific disease or condition, there are not enough cases to allow for statistical analyses.

Figure 3
Diabetes Deaths by Race by Metro/NonMetro Status
1991-1995

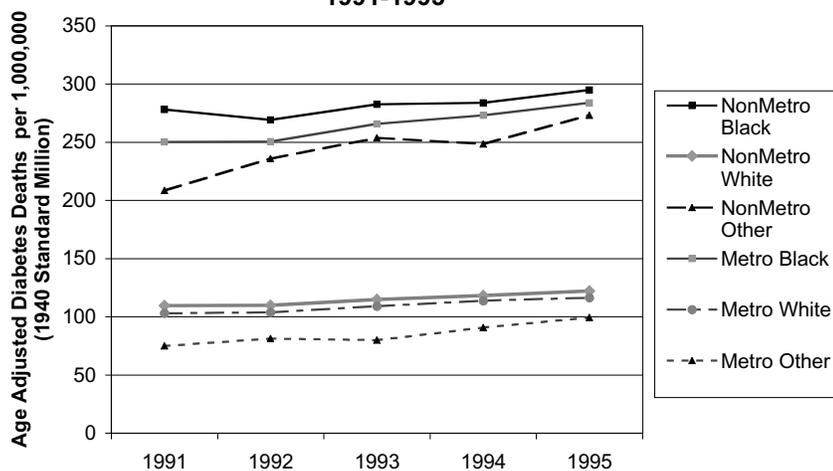


Figure 4
AIDS Deaths by Race by Metro/NonMetro Status
1991-1995

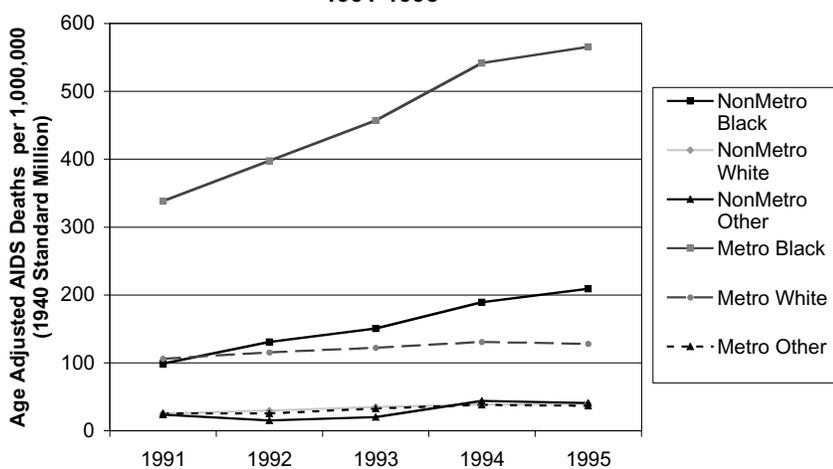


Table 2
Cell Sizes in Conditions File, 1994 NHIS

	All persons			Persons with diabetes		
	MSA	Non-MSA	Total	MSA	Non-MSA	Total
White	51,795	20,036	71,831	1,016	458	1,474
Black	10,382	1,716	12,098	417	99	516
Indian American	680	345	1,025	14	12	26
Other	2,925	223	3,148	85	3	88
Unknown	988	109	1,097	24	2	26

SUMMARY

Analyses of the limited number of indicators that are available for the six health areas in the President's initiative suggest that, in addition to the known national disparities between whites and other races, rural minorities are even furthered disadvantaged than their urban counterparts in certain health areas. Findings do not point to a rural-specific differential regarding minority rates of HIV infection, infant mortality or immunization receipt. However, rural minorities do appear to be further disadvantaged regarding cancer screening and management, cardiovascular disease, and diabetes. The differential in both the prevalence and death rate from diabetes is the greatest, and also one of the most troubling, since this is a highly prevalent disease whose incidence is increasing.

The question that this analysis is not able to address is why the gap in health status between whites and minorities is greater in rural areas, and why rural minorities fare worse than their urban counterparts. Without understanding the mechanisms that result in poorer access and outcomes for rural minorities, it will be difficult to design programs and policies that will be effective in reducing the gap between rural and urban racial and ethnic groups. Although such research can be conducted for specific minority populations in small geographic areas, national surveys will need to be enhanced if they are to facilitate statistical analysis of sub-groups in rural areas.

Reference

Slifkin, R.; Goldsmith, L.; Ricketts, T. "Race and Place: Urban-Rural Differences in Health for Racial and Ethnic Minorities." January 2000. NC RHRP Working Paper Series, No. 66.

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