Distribution of African Americans in Residential Care/Assisted Living and Nursing Homes: More Evidence of Racial Disparity?

Daniel L. Howard, PhD, Philip D. Sloane, MD, MPH, Sheryl Zimmerman, PhD, J. Kevin Eckert, PhD, Joan F. Walsh, PhD, Verita C. Buie, MS, Persephone J. Taylor, BS, and Gary G. Koch, PhD

Objectives. In this study, we examined racial separation in long-term care.

Methods. We used a survey of a stratified sample of 181 residential care/assisted living (RC/AL) facilities and 39 nursing homes in 4 states.

Results. Most African Americans resided in nursing homes and smaller RC/AL facilities and tended to be concentrated in a few predominantly African American facilities, whereas the vast majority of Whites resided in predominantly White facilities. Facilities housing African Americans tended to be located in rural, nonpoor, African American communities, to admit individuals with mental retardation and difficulty in ambulating, and to have lower ratings of cleanliness/maintenance and lighting.

Conclusions. These racial disparities may result from economic factors, exclusionary practices, or resident choice. Whether separation relates to inequities in care is undetermined. (*Am J Public Health.* 2002;92:1272–1277)

Although nursing homes and other long-term care facilities have in the past served a predominantly White population,[1–4] the proportion of African Americans in long-term care has increased steadily over the past 4 decades.[1,5] In 1963, an estimated 27 White and 10 minority elderly persons per 1000 persons in the general population resided in nursing homes, yielding a minority–White ratio of 37%. In 1969 this ratio stood at 46%; by 1977 it had risen to 60%, and by 1989 it was 65%.[1] The racial gap in use of long-term care is therefore narrowing. However, questions about the nature and quality of long-term care received by different racial groups remain unaddressed, a matter of relevance in light of the industry's organizational evolution.

Within the United States, nursing homes have traditionally provided most institutional long-term care to elderly persons. Recently, however, residential care/assisted living (RC/AL) facilities have grown rapidly as a source of long-term care. RC/AL facilities are regulated by the states, often under multiple licensure categories, and vary widely in size, clientele, services, and characteristics. Growth of the RC/AL sector over the past decade and a half has far exceeded that of nursing homes, and analysts predict that the number of RC/AL beds will equal or exceed that of nursing homes by the year 2005.[6]

Previous studies have suggested that individual nursing homes[7,8] and RC/AL facilities[9–11] tend to serve predominantly 1 race. However, the extent to which racial separation exists across facility subtypes is unknown. Understanding the degree of racial separation and the factors associated with it may determine whether matters of access within long-term care or other factors, such as community characteristics and personal choice, are the primary determinants of separation.

The aim of this study was to determine whether the long-term care industry is racially separated across all facility types, and if so, to what degree this is the case and whether and to what extent this racial separation correlates with facility and community characteristics. We used data from a 4-state sample of 220 facilities and US census data to examine the prevalence and distribution of African American and White residents in the study facilities and to evaluate the association between racial distribution and facility, resident, and community characteristics.

METHODS

Sample

These analyses used data from the Collaborative Studies of Long-Term Care (CS-LTC), a study of 193 licensed RC/AL facilities and 40 nursing homes in Florida, Maryland, New Jersey, and North Carolina. The CS-LTC defined an RC/AL as a facility or discrete portion of a facility, licensed by the state at a non–nursing home level of care, that provided room, board, 24-hour oversight, and assistance with activities of daily living. Within each state, the CS-LTC selected a sample of counties that was representative of the state in terms of a variety of demographic and health services and economic indicators.

Within each state's sampling region, a random sample of all licensed facilities was selected in each of 4 strata: RC/AL facilities with fewer than 16 beds; new-model RC/AL homes (≥16 beds, built after January 1, 1987, and having 1 or more of the following: multiple private pay rates; ≥20% of residents requiring transfer assistance, ≥25% of residents incontinent daily, and a nurse on duty 24 hours a day); traditional RC/AL homes (≥16 beds, not fulfilling the new-model criteria); and nursing homes. Stratification of RC/AL facility sampling was undertaken to ensure representation of the range of facility types. The new-model stratum was created to ensure representation of the recent boom in assisted living;[12] the operational definition was derived empirically by comparing characteristics of "new-type, purpose-built assisted living facilities," identified by an expert (J.K.E.), with those not so designated.

The study sample excluded the following: facilities primarily serving persons with mental illness or developmental disabilities; RC/AL facilities with fewer than 16 beds and fewer than 4 residents aged 65 and older; larger RC/AL facilities with fewer than 10 residents

aged 65 and older; and nursing homes with fewer than 40 residents aged 65 and older. Exclusions due to size resulted in minimal loss to the sampling pool. Small RC/AL facilities were oversampled to achieve the desired resident sample sizes for the longitudinal aims of the CS-LTC study. Across the 4 study states, it was estimated that RC/AL homes with fewer than 16 beds represented 1216 facilities and 10 301 beds, traditional RC/AL homes represented 877 facilities and 44 420 beds, new-model RC/AL homes represented 407 facilities and 25 547 beds, and nursing homes represented 1551 facilities and 175 990 beds.

Among eligible facilities, the overall recruitment rate was 59%. Participating and nonparticipating facilities did not differ by age, size, or occupancy or by resident age, race, or ethnicity. Nonparticipating RC/AL facilities tended to have owners that worked more hours in the facility, more variety in the rates that residents are charged, and a slightly less impaired resident population in comparison with participating RC/AL facilities. Nonparticipating nursing homes tended to have higher occupancy rates and less resident impairment than participating nursing homes. Details about the CS-LTC have been published elsewhere.[12]

Data were collected between October 1997 and November 1998. For the analyses described here, 13 facilities that had incomplete or unavailable data on resident racial characteristics were excluded. The final analytic sample included 105 small RC/AL facilities, 37 traditional RC/AL facilities, 39 new-model RC/AL facilities, and 39 nursing homes, distributed approximately equally across the 4 study states. At the time of data collection, these facilities housed an estimated 6838 Whites and 1187 African Americans.

Independent Variables

Facility characteristics. Facility administrators provided information regarding the physical plant, staffing, finances, capacity and occupancy, and admission and discharge policies, as well as their own race, sex, age, education, and length of experience at the facility and in long-term care. Observational data on the physical environment were gathered by study research assistants and were used to complete 3 scales of the Therapeutic Environment Screening Survey for Nursing Homes: safety, lighting, and cleanliness/maintenance.[13] The safety scale included 9 items (e.g., handrails, floor surface, exit control); the Cronbach α was .77, and the interrater reliability (intraclass correlation coefficient) was .98. The lighting scale included 9 items (rating light intensity and evenness); α was .84 and reliability .93. The cleanliness/maintenance scale contained 8 items (e.g., bedroom maintenance, bedroom cleanliness); α was .91 and reliability .92.

Resident characteristics. Administrators estimated the number of residents present in their facility who were aged 19 to 64, 65 to 84, and 85 years and older; who were male, chairfast, bedfast, mentally retarded, mentally ill, or demented; who had alcohol-related problems; or who presented behavioral problems to the facility.

Community characteristics. We obtained 1990 census data associated with each facility's surrounding zip code area from the US Census Bureau's Panel Survey of Income Dynamics.[14] These data included selected measures of community racial mix, economic indicators, family/social networks, and urbanicity.

Dependent Variables

Percentage of African Americans in residence. The racial composition of each facility was calculated by dividing the estimated number of facility residents of a given racial type by the facility's occupancy. The number of non-White, non–African American residents in the overall sample was negligible; these "other" residents were included in the analyses as a separate racial category. Analyses stratified homes into 6 categories based on the percentage of African Americans residing in each home: 0%, 1% to 25%, 26% to 50%, 51% to 75%, 76% to 99%, and 100%. For some analyses, homes were dichotomized into those that had all White residents and those that had any African American residents.

Analysis

Using standard statistical software packages, we calculated descriptive statistics within each facility stratum. Next, bivariate associations were examined between the presence or absence of African Americans in a facility and selected resident, facility, and community characteristics. The Spearman correlation coefficient was used to test associations for statistical significance; results were reported as significant if $P \leq .05$.

To test the hypothesis that racial variation within facilities reflected underlying community characteristics, multivariate logistic regression was employed to simultaneously control for multiple community variables that could potentially influence African Americans' access to facilities. The dependent variable was the presence or absence of African American residents in a facility; independent variables included measures of racial, economic, family/social, and urban/rural status. Because the sample size did not permit simultaneous evaluation of all variables, only characteristics demonstrating bivariate associations at $P \leq .10$ were entered into the final logistic model.

RESULTS

Characteristics of the Sample Facilities

Table 1 summarizes selected characteristics of the study sample, by facility type. Considerable variation was identified both across RC/AL facility types and between RC/AL facilities and nursing homes in facility age, mean bed size, monthly rates, African American administration, and other facility characteristics.

Proportion and Distribution of Facility Residents by Race

A total of 127 facilities (58%) had no African American residents (Table 2). Fifty-nine facilities (27%) housed 25% or fewer African American residents, whereas in the remaining 34 facilities (15%) African Americans composed more than 25% of the residents. Among those 34 facilities, African Americans represented between 26% and 50% of residents in 15 facilities, between 51% and 75% of residents in 5 facilities, between 76% and 99% of residents in 7 facilities, and all of the residents in 7 facilities. Of the 4 strata, only the stratum of RC/AL facilities with fewer than 16 beds contained homes that were exclusively African American (n=7). Across both larger strata of RC/AL settings, only 1 of 76 facilities (a traditional home) was predominantly African American.

The proportion of African Americans varied widely by study stratum. African Americans represented an estimated 24% of the nursing home population. Among the RC/AL

TABLE 1—Characteristics of Study Facilities, by Facility Type

	Nursing Home Residential Care/Assisted Living			
	<16 Beds (n=105)	Traditional, ≥16 Beds (n=37)	New-Model, ≥16 Beds (n=39)	(n=39)
Facility characteristic				
Mean facility age, y	12.7	26.2	5.3	24.1
For-profit, %	91	65	72	57
Mean no. beds	9	46	65	116
Mean minimum monthly rate, $	1428	1649	2014	3479
Has entrance fee, %	12	16	26	10
Has waiting list, %	38	47	46	41
Nursing services covered by minimum monthly rate, %	24	80	62	85
Has African American administrator, %	17	7	5	10
Mean cleanliness/maintenance score (maximum=8)	7.0	6.8	7.7	7.2
Mean lighting score (maximum=9)	6.8	6.8	8.0	6.9
Mean safety score (maximum=9)	4.6	6.1	6.9	8.0
Resident characteristic, %				
Aged 19–64	10	8	3	5
Aged 65–84	47	46	50	51
Aged ≥85	42	45	47	44
Male	28	28	24	26
Chairfast	9	7	13	52
Bedfast	1	0	1	6
Mentally retarded	5	2	0	1
Dementia diagnosis	43	35	48	63
History of alcohol problems	8	7	4	6
Mental illness	16	14	12	16
Behavior problems	12	8	10	25

facilities, the smaller homes contained the highest proportion of African American residents (13% of total residents). Traditional and new-model RC/AL facilities contained few African American residents (5% and 4% of total residents, respectively). In the 2 settings where African Americans were most prevalent, the majority (73% of residents in smaller RC/AL homes, 58% of residents in nursing homes) resided in facilities that were predominantly African American. Across all 4 strata, the vast majority of Whites (93%–100%) lived in facilities that were predominantly White.

Facility Characteristics Associated With Facility Racial Composition

Among RC/AL facilities with fewer than 16 beds, the presence of African Americans was associated with the administrator's being African American ($r=0.25$, $P<.01$). This relationship was not observed in other strata; however, the traditional and new-model RC/AL homes had too few African American administrators to test this hypothesis. In addition, in both small ($r=-0.36$, $P<.0001$) and new-model ($r=-0.37$, $P<.01$) RC/AL facilities, poor facility cleanliness/maintenance was associated with the presence of African American residents; in small RC/AL facilities, poor lighting ($r=-0.23$, $P<.05$) was also associated with the presence of African American residents. No association was noted in any facility type between the presence of African Americans and any of the following: other administrator characteristics (age, sex, education, and years of experience); the facility's capacity, occupancy, profit or nonprofit status, entrance fee, monthly fee, or nursing care provision; the existence of a waiting list; or scores on the safety scale of the Therapeutic Environment Screening Survey for Nursing Homes.

Among 12 admission criteria examined, the presence of African Americans was associated in some facility types with willingness to admit individuals who were bedfast (new-model RC/AL; $r=0.39$, $P<.05$) or mentally retarded (traditional RC/AL; $r=0.45$, $P<.01$). Significant ($P<.05$) associations were not noted between any facility type and admission policies regarding ambulation, feeding, bathing, dressing, grooming, incontinence, communication abilities, mental illness, or drug/alcohol problems.

Resident Characteristics and Facility Racial Composition

Numerous associations were identified between resident characteristics and the presence of 1 or more African Americans in a facility (Table 3). Across all strata, the presence of 1 or more African Americans in a facility was positively correlated with the proportion of younger residents and, in the majority of strata, inversely correlated with the proportion of residents aged 85 and older. Other resident characteristics positively associated with African American presence included the proportion who were male or mentally retarded (RC/AL facilities with <16 beds and nursing homes), the percentage who were chairfast or bedfast (new-model RC/AL facilities), the percentage with mental illness (RC/AL facilities with <16 beds), and the percentage with alcohol problems (all but the new-model RC/AL facilities). No associations were noted between racial composition and the reported prevalence of dementia or behavioral problems among facility residents.

Community Characteristics and Facility Racial Composition

Across all facility types, the proportion of African Americans residing in the surrounding community was related to the presence of African American residents in the facility (for RC/AL facilities with <16 beds, $r=0.43$, $P<.0001$; for traditional RC/AL facilities, $r=0.39$, $P<.05$; for new-model RC/AL facilities, $r=0.51$, $P<.001$; for nursing homes, $r=-0.36$, $P<.01$). The converse was true for the proportion of Whites in the surrounding community (for RC/AL facilities with <16 beds, $r=-0.43$, $P<.0001$; for traditional RC/AL facilities, $r=-0.36$, $P<.05$;

TABLE 2—Racial Composition of Study Facilities, by Facility Type

	Nursing Home Residential Care/Assisted Living			
	<16 Beds (n=105)	Traditional, ≥16 Beds (n=37)	New-Model, ≥16 Beds (n=39)	(n=39)
No. (%) of facilities with[a]:				
No African Americans	75 (71)	25 (68)	18 (46)	9 (26)
1%–25% of residents African American	11 (9)	9 (24)	20 (51)	19 (49)
26%–50% of residents African American	6 (6)	2 (5)	1 (3)	6 (15)
51%–75% of residents African American	3 (3)	0 (0)	0 (0)	2 (5)
76%–99% of residents African American	3 (3)	1 (3)	0 (0)	3 (8)
All residents African American	7 (7)	0 (0)	0 (0)	0 (0)
Facilities with any African American residents, %	29	32	54	77
Avg %, by facility type:				
Of residents who are African American	13	5	4	24
Of all African American residents who reside in facilities >50% African American	73	30	0	58
Of all White residents who reside in facilities >50% White	99	100	100	93

[a]Percentages may not add up to 100 owing to rounding.

TABLE 3—Spearman Correlation (*r*) Between Selected Resident Characteristics and the Presence of African Americans,[a] by Facility Type

	Nursing Home Residential Care/Assisted Living			
	<16 Beds (n=105)	Traditional, ≥16 Beds (n=37)	New-Model, ≥16 Beds (n=39)	(n=39)
Aged 19–64 y	0.33***	0.47**	0.34*	0.37*
Aged 65–84 y	0.09	0.03	0.37*	0.45**
Aged ≥85 y	–0.36***	–0.19	–0.50**	–0.50**
Male	0.33***	0.22	–0.12	0.41**
Chairfast	0.03	0.19	0.44**	0.02
Bedfast	–0.02	–0.12	0.34*	0.38*
Mentally retarded	0.27**	0.27	0.06	0.32*
Demented	–0.08	–0.04	0.03	–0.08
Alcohol problems	0.36†	0.48***	–0.22	0.47**
Mentally ill	0.23**	0.18	–0.13	0.23
Behavioral problems	–0.04	–0.21	0.13	0.09

[a]Facilities with no African Americans vs facilities with some African Americans.
*$P<.05$; **$P<.01$; ***$P<.001$; †$P<.0001$ (Spearman correlation).

for new-model RC/AL facilities, $r=-0.40$, $P<.05$; for nursing homes, $r=-0.29$, $P<.1$). One economic indicator, the percentage of elderly below the poverty line, showed a relationship with the presence of African Americans in RC/AL facilities with fewer than 16 beds ($r=0.17$, $P<.05$) but not with their presence in other facility types; mean family income and the percentage of persons below the poverty line were not associated with the presence of African Americans in any facility type.

Of the 3 family/social network indicators tested—the percentage of single female–headed households, the number of households with nonfamily members, and the percentage of households with public assistance income—none was associated with the presence of African Americans in any facility type. The location of a facility in an urban area (represented as a dichotomous variable) was negatively associated with the presence of African Americans in RC/AL facilities with fewer than 16 beds ($r=-0.20$, $P<.01$) and new-model RC/AL facilities ($r=-0.46$, $P<.01$), but not with their presence in traditional RC/AL facilities or nursing homes. The percentage of workers whose occupation was farming was not associated with the presence of African Americans in any facility type.

Multivariate logistic regression demonstrated that, across all facility types, the presence of African Americans in a facility was positively associated with facility type and neighborhood racial characteristics and negatively associated with community urbanicity and the percentage of elderly below the poverty line (Table 4).

DISCUSSION

Between 2000 and 2030, the ethnic composition of the elderly population will change substantially, with the older African American population expanding by 168% and the older White population increasing by 90%.[15] A growing African American elderly population could accentuate existing racial disparities in long-term care. Therefore, it is critical to improve our understanding of the extent, causes, and implications of uneven racial distribution across the spectrum of long-term care.

This study's results substantiate widespread racial separation both across and within facility types. In the study sample, nearly all Whites lived in predominantly White facilities, and the majority of African Americans resided in facilities that were predominantly African American (Table 2). Furthermore, in 2 of the RC/AL types (facilities with <16 beds and traditional homes), most facilities housed no African Americans whatsoever. These results concur with those of prior studies.[7–10]

Study results also reveal that the proportion of African American residents varied widely by facility type. Nursing homes served the highest proportion of African Americans (24%); among RC/AL facilities, the smaller homes housed the greatest proportion (13%) and the other types housed very few. Of note

TABLE 4—Community Characteristics Associated With the Presence of African Americans Within Residential Care Facilities[a]: Results of Multivariate Logistic Regression

Variable	Coefficient	SE	Odds Ratio	95% Confidence Interval
Intercept	−1.02*	0.46		
Facility capacity (per 20-bed increase)[b]	0.01	0.006	1.21	.97, 1.51
Facility type (reference group, <16 beds)				
Nursing home	1.49*	0.71	4.42	1.11, 17.63
Traditional RC/AL	0.36	0.50	1.43	0.54, 3.78
New-model RC/AL	1.11*	0.53	3.03	1.07, 8.62
% African Americans in facility zip code area[c]	0.08†	0.02	5.25	2.72, 10.15
% elderly below poverty line[c]	−0.08*	0.04	0.20	0.05, 0.83
Facility located in relatively urban area	−1.05**	0.38	0.350	0.168, 0.731
χ^2 for covariates	80.654			
P	.0001			

Note. RC/AL = Residential care/assisted living.
[a]Facilities with no African Americans vs facilities with some African Americans (all facility types).
[b]The variable coefficient and corresponding odds ratio have been converted to represent a 20-bed increase in facility size.
[c]The variable coefficient and corresponding odds ratio have been converted to represent a 20% increase in the variable.
*P < .05; **P < .01; ***P < .001; †P < .0001.

is that the most rapidly growing stratum, new-model RC/AL facilities, served the lowest percentage of African Americans, raising concern that the recent growth in assisted living may exacerbate existing racial disparities in access to long-term care. Although no comparable data are available from RC/AL facilities, Fennell et al. suggest that a similar albeit less prominent separation phenomenon exists in nursing homes.[16]

The underlying cause of this racial separation is unclear, and it is also unclear whether this separation is cause for concern. One contributing factor appears to be economics. In nursing homes, where African Americans are most prevalent, most facility revenues nationally come from Medicaid.[17] The reliance of nursing homes on Medicaid reimbursement ensures access for poor elderly African Americans.[5,18] RC/AL is financed quite differently, and variation exists across facility types in the way services are funded. Small homes are largely operated by poor, older women and primarily serve low-income elderly.[9] In this "housing of last resort" for poor elderly Americans, residents pay with Supplemental Social Security Insurance and State Supplemental Payments, although Medicaid waivers are increasingly being explored.[19] Lower costs of care in these homes reflect what the near-poor (those who have not yet spent down personal resources) are able to pay. By contrast, most newer assisted living facilities are marketed toward middle- and upper-income people. Thus, the 2 types of homes providing the best access for low-income persons—nursing homes and small RC/AL facilities—also house the highest proportion of African Americans.

Another potential explanation of the observed racial separation is exclusionary practices. Predominantly African American facilities were more apt to have admission criteria favoring admittance of individuals who were mentally retarded and unable to ambulate. This is significant because, in general, African American elderly are in poorer health and have more chronic and disabling conditions compared with White elderly.[20] Accordingly, Smith[11] maintains that long-term care facilities have preserved the ability to control who gets admitted through control of payer mix, case mix, duration of stay, and race. Data reported in Table 3 support this hypothesis, showing that, compared with those without African Americans, facilities that house African Americans had higher proportions of residents who were younger, male, mentally retarded, mentally ill, and functionally disabled. As a result, African American race may be associated with both lower reimbursement and higher care expenses, which would make them undesirable residents for long-term care facilities do not want. Thus, some African Americans may be excluded from certain long-term care settings through de facto segregation.

A final potential explanation of the unequal racial distribution may be that African Americans freely choose to enter facilities with significant proportions of residents or caregivers of their own race. Study analyses revealed that in RC/AL facilities with fewer than 16 beds, there was a strong positive relationship between the facility administrator's being African American and the presence of African American residents; they also demonstrated that the only facilities that were exclusively African American were RC/AL facilities with fewer than 16 beds (Table 2). According to Howard et al.,[21] African Americans may benefit from receiving care in facilities with significant proportions of residents and caregivers of their own race for 2 reasons: (1) African Americans require care specifically targeted to them because of the uniqueness of the problems that they face and (2) African American care providers better understand the cultural and social context of illness within the African American community. Thus, either by default or by design, racial separation may result in "culturally responsive" care for African Americans.

One potentially inconsistent result is the finding that, in spite of housing very few African Americans, new-model RC/AL facilities are more likely than smaller residential care facilities to have at least 1 African American resident (Table 4). Smith[11] provides a possible explanation for this admission of just a few minorities by many facilities. He argues that long-term care facilities are influenced by both social and economic forces to admit primarily White (i.e., private pay) patients. In this context, having 1 African American resident may be innocuous, but having many might adversely influence the number of White residents who choose to reside in a facility. Alternatively, it is quite plausible that this racial diffusion merely reflects community racial distributions, as shown in these analyses (Table 4).

These data must be interpreted cautiously. Although the sample was randomly chosen from eligible facilities, the study excluded

RC/AL facilities specializing in care for persons with developmental disabilities and mental retardation, to whom results may not apply. Furthermore, multiple bivariate comparisons were conducted to evaluate the relationships between the presence of African Americans and a variety of resident and facility characteristics; therefore, statistical results must be evaluated in that context. Finally, it should be acknowledged that most of the facility data used in these analyses, including data on the racial composition of the residents, were reported by administrators and not validated by direct observation. However, the data were gathered during in-person interviews by trained field personnel who remained in the facility for several days; data collected in this manner are likely to be more reliable than questionnaire data.

Although this study clearly demonstrates the presence of racial separation, it is not known whether quality of care differs by race. The study identified lower scores on cleanliness/maintenance and lighting among facilities that served African Americans; however, the cross-sectional nature of these data precludes drawing any inferences about cause and effect, and these are just 2 facility indicators among many dozens that relate to the quality of care. Nevertheless, it is of concern that facilities serving primarily African Americans may have fewer funds, and consequently fewer services and amenities, compared with facilities serving mostly private-pay residents.[5] Published studies from other settings demonstrating racial inequities in quality of care, including recent data suggesting that early pressure sores often go undetected in African American nursing home residents, lend weight to these concerns.[16]

Certain questions follow from this documentation of demographic disparity. What are the effects of differences in access, racial separation, and facility characteristics on outcomes, and do outcome discrepancies by race exist? If outcomes vary little or not at all, then less incentive will exist for policy initiatives to reduce the amount of racial separation. However, if outcomes vary considerably, it becomes imperative to seek improved methods of ensuring equivalent quality care to all elderly in long-term care, irrespective of race. ■

About the Authors

Daniel L. Howard and Persephone J. Taylor are with the Department of Natural and Physical Sciences, Environmental Science Program, Shaw University, Raleigh, NC. Philip D. Sloane is with the Department of Family Medicine and Sheryl Zimmerman is with the School of Social Work, and both are with the Program on Aging, Disability, and Long-Term Care of the Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. J. Kevin Eckert is with the Department of Sociology and Anthropology at the University of Maryland, Baltimore County. Verita C. Buie is with the Department of Epidemiology and Preventive Medicine, University of Maryland, Baltimore. At the time of the study, Joan Walsh was with the Aging, Disability, and Long-Term Care Program, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. Gary G. Koch is with the Department of Biostatistics, School of Public Health, University of North Carolina at Chapel Hill.

Requests for reprints should be sent to Philip Sloane, MD, MPH, 725 Airport Rd, CB 7590, Chapel Hill, NC 27599–7590 (e-mail: psloane@med.unc.edu).

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Contributors

D.L. Howard, P.D. Sloane, S. Zimmerman, J.K. Eckert, J.F. Walsh, and V.C. Buie contributed to the conception and design. D.L. Howard, J.F. Walsh, and G.G. Koch provided analysis and interpretation of data. All authors contributed to drafting and revision of the final article.

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Human Participant Protection

This study was approved by and conducted under the guidance of the Committees for the Protection of the Rights of Human Subjects of the University of North Carolina at Chapel Hill and the University of Maryland, Baltimore.

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