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A RURAL-URBAN COMPARISON OF PREFERENCES EXPRESSED BY ELDERS FOR LONG-TERM CARE ARRANGEMENTS[1]

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ABSTRACT This paper examines the long-term care (LTC) arrangements selected by rural older people, identifies the characteristics associated with their selections, and compares patterns of selection and related factors with those of elderly urban residents. The research is based upon 1,240 cases selected from a larger statewide area probability sample of noninstitutionalized persons at least 60 years old. Results, based upon tabular and logistic regression analysis, suggest that older rural residents are more likely than their urban counterparts to select LTC arrangements that involve both formal and informal forms of care as well as arrangements that are mole likely to facilitate remaining at their current residences. Furthermore, there appear to be rural-urban differences in the major factors that explain selection of specific LTC arrangements. Implications for future research and for long-term care policy are discussed.

Introduction

Long-term care (LTC) needs of older rural Americans are of increasing concern to gerontological service planners and providers. Compared with urban areas, rural sections of the country receive a lower than equitable portion of state and federal funds for public services, have fewer trained program administrators, have poorer transportation systems covering larger geographic areas, and provide a smaller number of community services that are more costly to deliver and more difficult for consumers to access (Coward and Lee 1985; Lassey and Lassey 1985). Rural older adults are less likely than their urban counterparts to know about existing services, and they may be more reluctant to accept public services (Coward and Rathbone-McCuan 1985; Glenn and Hill 1977; Osgood 1977). Thus, provision of LTC to older rural residents must overcome geographic constraints and deficits in funding, personnel, and support services. On the other hand, the rural older person's informal support system, which is likely to be as extensive as that of urban elders (Kivett 1985; Lee and Cassidy 1985), is a resource that analysts of LTC should take into account (Coward 1979). For example, Stoller and Earl (1983) found that both metropolitan and nonmetropolitan older adults relied on family members, friends, and (or) neighbors for assistance in activities of daily living.

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Although a number of studies have identified predictors of the need for LTC, or the likelihood of using it (e.g., Branch and Jette 1982; Greenberg and Ginn 1979; Palmore 1976), few have compared rural and urban samples. Moreover, as we discussed previously (McAuley and Blieszner 1985), it is important to consider not only demographic predictors of LTC and the logistics of providing various services in a given geographic setting, but also the older adults' attitudes regarding alternate forms of LTC. Without an understanding of the expressed preferences of rural elderly people, and the variables associated with such selections, forms of LTC that could be unacceptable to potential users may be developed or advocated. This paper examines the LTC arrangements selected by rural older people, identifies demographic and social characteristics associated with their selections, and compares the patterns of selection and related factors with those of urban elderly respondents.

Method

Data Source

Information for this study is from the Statewide Survey of Older Virginians, a household survey of people aged 60 and over conducted in 1979. Respondents were selected for face-to-face interviews by means of a multi-stage area probability technique designed to produce a representative sample of noninstitutionalized older persons (McAuley et al. 1980). Field staff screened 7,122 housing units and identified 2,463 age eligibles. Information was collected on 2,146 persons, or approximately 87 percent of all individuals who were identified as age eligible. A weighting scheme based upon selection probabilities and response rates was designed to enhance the representativeness of the sample. Cases were weighted so that the overall sample size was not altered. Except where otherwise noted, the results in this report are based upon weighted data.

In a small proportion of cases (8 percent), informants provided some or all of the survey information because the target respondents were not able to complete the interview. Because of the nature of the present research problem, it was felt that only responses obtained directly from eligible respondents should be considered. Therefore, cases based upon informant information were excluded from the analysis. The research sample also excludes persons deemed to be cognitively impaired based upon scores on Pfeiffer's Short Portable Mental Status Questionnaire (Pfeiffer 1980) and those currently living with persons other than their spouses. Therefore, the research sample consists of those 1,240 cases in which the respondents a) completed their own interviews, b) lived with no one other than their spouses (if married), and c) were cognitively intact. The actual sample size is generally somewhat below 1,240 because of missing values on some variables.

The sample was divided into rural and urban components based upon the population size of the community in which the respondent resided. Persons living in the open country or in towns of less than 25,000 population were classified as

rural, while those in communities of 25,000 or more as well as persons living in suburbs of large cities were classified as urban. This procedure led to 720 rural and 520 urban respondents.

Instrument and measures

The questionnaire used in the face-to-face interviews was based on the Older Americans Resources and Services (OARS) milti-dimensional functional assessment strategy (Duke University Center for the Study of Aging and Human Development 1978). One modification to the OARS instrument was the addition of a series of questions designed to elicit attitudes about long-term care arrangements. Respondents were asked to express their agreement or disagreement with each of the following arrangements: "If you became sick or disabled for a long time, would you a) have a housekeeper or nurse (who you pay or an agency pays for) take care of you in your own home, b) have a relative (such as your spouse, child, or other relative) care for you in your own home, c) go to live in a home of a relative, d) go to a nursing home, and e) go to a place during the day, such as an Adult Day Care Center where care, rehabilitation, and social activities take place, and return home in the evening." Responses to these statements were coded so that agreement received a 1 and uncertainty or disagreement received a 0. These expressed attitudes about long-term care arrangements served as the dependent variable in the analysis.

At present there is no clear theoretical rationale for identifying independent variables associated with LTC selection. It is reasonable to assume, however, that a number of demographic and social variables are likely to affect one's need for LTC and one's perception of acceptable LTC options. Five demographic variables were included because of their potential impact on LTC selection and in order to analyze selection patterns of various groups. Age (five categories) was included since older respondents might have more immediate concerns about LTC than younger ones. Sex (1 if male, 0 if female), race (1 if white, 0 if nonwhite), and marital status (1 if married, 0 if any other) permitted examination of LTC selection differences between groups that may be based on previous life experiences. Economic status, measured by means of income (five categories based on the pre-tax income of the respondent and his or her spouse, if married), may influence one's perception of realistic potential forms of care based on financial resources.

A number of physical and mental health measures were included in the analyses, because existence of current health problems may affect a person's view of appropriate LTC locations should the problems worsen. They may prefer sources of LTC which they perceive to be medically sophisticated. Health problem is a dummy variable assigned a 1 if the respondent has one of several diseases common to old age, or poor vision, poor hearing, paralysis, paresis, a missing limb, or a broken limb. A 0 is assigned if the respondent has none of these problems. Perceived health is a four-category variable, with better health receiving a higher score. Emotional problems, based on Pfeiffer's Short

Psychiatric Evaluation Schedule (Pfeiffer 1980), has scores ranging from 1 to 3, with a higher score indicating a greater likelihood of mental health problems. The variable ADL is a three-category measure ranging from 0 (no impairment in instrumental or physical activities of daily living) to 2 (impairment in two or more instrumental or physical activities of daily living). Medical need is assigned a score of 1 if the respondents believe they require medical assistance beyond what they currently receive and 0 if they believe otherwise.

Finally, the set of independent variables included two measures of social support. The individual's ability to depend on and confide in close relatives or friends is likely to affect the perceived acceptability of forms of LTC that involve assistance from nonprofessionals. Long-range support is assigned 1 if the respondent has someone who can help for an indefinite period and 0 otherwise. Confidant is assigned a score of 1 if the respondent has someone he or she can trust or confide in and 0 otherwise.

Results

For both rural and urban residents, the most frequently selected arrangements were those that allowed the individual to receive assistance at home and moving into the home of a relative was least likely to be selected (Table 1). Significance tests based on the chi-square statistic showed that rural residents were significantly more likely than urban to select adult day care, care from relatives in their own homes, and paid in-home care. Actual differences in percentages selecting each arrangement were small, however.

Table 1. Percentage selecting each LTC arrangement

	Percentage in agreement	
Type of LTC arrangement	Rural	Urban
Adult day care	33.8	28.2*
Move to relative's home	15.8	13.6
Care from relative in your home	69.5	61.5**
Paid in-home care	72.2	65.9*
Nursing home	25.7	30.2

Note: Significance tests are based upon the chi-square statistic. The smallest number is 716 for rural residents and 519 for urban residents.

* $P < .05$.
** $P < .01$.

Because we elicited respondents' attitudes about arrangements for long-term care through independent items, it was possible to examine the associations among responses (Table 2). In general, the size and direction of the associations were similar for rural and urban residents. There were significant positive associations between moving into a relative's home and both care from a relative in the respondent's home and adult day care within the rural sample, whereas these associations were not statistically significant in the urban sample. Selection of a nursing home and paid in-home care were significantly associated among urban respondents, whereas this association was not significant among rural respondents.

Table 2. Association among LTC selections

Type of LTC arrangement	Adult day care	Move to relative's home	Care from relative in your home	Paid in-home care	Nursing home
Adult day care	--	.10	.16	.54***	.34**
Move to relative's home	.27**	--	.12	.09	-.19
Care from relative in your home	.04	.35**	--	.36**	.59**
Paid in-home care	.42***	-.09	.33***	--	-.20*
Nursing home	.42***	.14	-.38***	-.16	--

Note: Numbers above diagonals are gammas for urban residents, those below diagonals are gammas for rural residents. Significance tests are based on the chi-square statistics. The smallest number is 712 for rural residents and 517 for urban residents.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

We also carried out an analysis to determine the proportions of respondents selecting each LTC arrangement to the exclusion of other possibilities (data not presented in tables). Among urban respondents, approximately 27.5 percent selected only one of the five arrangements, whereas among rural respondents, 22.7 percent chose only one arrangement. In both samples, care from a relative in the respondent's own home was most likely to be selected as the sole choice (10.5 percent of urban and 9.6 percent of rural respondents). Nursing homes were somewhat more likely to be selected as the only choice by urban respondents (7.8 percent) than by rural respondents (3.4 percent).

Table 3. Summary of two dimensions of LTC selections (percent)

Dimension	Rural	Urban
Formal-informal		
Formal only	23.0	28.3*
Informal only	12.1	13.6
Both	60.5	52.6**
Neither	4.4	5.5
Total	100.0	100.0
Move-stay		
Move only	5.0	10.0***
Stay only	59.2	53.5*
Both	31.3	31.0
Neither	4.4	5.5
Total	99.9	100.0

Note: The dimensions were defined as follows: Formal = paid in-home care, adult day care, or nursing home. Informal = move to relative's home or receive care from relative in your home. Move = move to relative's home or nursing home. Stay = paid in-home care, adult day care, or care from relative in your home. Significance tests are based on the chi-square statistic, with each component compared separately across rural and urban residents. This number is 708 for rural residents and 516 for urban residents.

* $P < .05$.
** $P < .01$.
*** $P < .001$.

Another way to examine the patterns of selection among the five LTC arrangements is to compare how respondents selected among formal and informal forms of care and how they selected among arrangements that involve a change of residence versus those that do not. These patterns may be examined in Table 3. Urban respondents were significantly more likely that rural to select LTC arrangements involving only formal forms of care, whereas rural respondents were significantly more likely to select a combination of formal and informal arrangements.

Urban respondents were significantly more likely than rural to select LTC arrangements that involve moving, whereas rural respondents were significantly more likely than their urban counterparts to select arrangements that involve remaining at their current residences.

A number of characteristics of respondents, including demographic variables, mental and physical health measures, and social support measures were incorporated as independent variables into a series of stepwise logistic regression analyses in which selection of long-term care arrangements served as the dependent variables. The stepwise logistic

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Table 4. Results of stepwise logistic regressions for selection of LTC arrangements

Independent variables	Long-term care arrangements: Adult day care	Move to relative's home	Care from relative in your home	Paid in-home care	Nursing home	Mean	SD
			RURAL				
Demographic							
Age	-.20**					2.41	1.23
Male		.58*	.43*			.42	.49
White	-.55*			.81**		.90	.31
Married		-1.04***	1.72***		-.94***	.63	.48
Income		-.18**	-.32***		.15**	4.74	1.85
Health							
Health problem						.40	.49
Perceived health						2.58	.81
Emotional problems			.48*		-.40*	1.30	.54
ADL						.36	.68
Medical need						.10	.31
Social support							
Long-range support		.64*	1.13***			.74	.44
Confident				1.35**	-.78*	.95	.21
Intercept	0.35	-.81	-.13	-1.01	0.06		
Model Chi Square	12.45**	41.13***	115.42***	24.64***	32.38***		

Table 4 continued

			URBAN				
Demographic							
Age					.30**	2.45	1.24
Male		.65*				43	.50
White	-.81*				-1.02**	.81	.39
Married			2.09***		-.72**	.58	.49
Income		-.39***	-.17*		.28**	5.50	1.74
Health							
Health problem						.33	.47
Perceive d health	.42**					2.80	.79
Emotional problems						1.22	.49
ADL				-.30*		.36	.70
Medical need						.09	.28
Social support							
Long-range support			.69*		-1.09 **	.74	.44
Confident						.97	.18
Intercept	-1.39	-.02	-.23	.70	-.96		
Model Chi Square	14.73***	24.75***	81.13***	4.08*	45.87 **		

Note: Numbers represent multiple logistic regression coefficients. Models were terminated when a variable failed to meet .05 significance level for inclusion. Because of listwise deletion of cases, the smallest number is 645 for rural residents and 376 for urban residents. The limited dispersion of Confident makes it a poor candidate for the two models.

* $\underline{P} < .05$.
** $\underline{P} < .01$.
*** $\underline{P} < .001$.

regression runs were carried out separately for the rural and urban samples. Models were terminated when a variable failed to meet the .05 significance level for inclusion. Results of the stepwise multiple logistic regressions, including the multiple logistic regression coefficients or "Betas" as produced by the Statistical Analysis System LOGIST procedure, are presented in Table 4.

Results of the models for the rural and urban samples suggested both similarities and differences in factors associated with LTC arrangements. Nonwhites were most likely to select adult day care in each sample. Younger people were most likely to select adult day care in rural areas, whereas persons with better perceived health were most likely to select adult day care in urban areas. Among both rural and urban respondents, moving into the home of a relative was most likely among men and respondents having less income. However, among rural residents, having long-range assistance and being unmarried were associated with moving to a relative's home.

Three of the independent variables (being married, having a low income, and having long-range social support) had significant associations with the selection of care from a relative in the respondent's home in both samples. However, in rural areas, being male and having more emotional problems also contributed significantly to the choice of this arrangement. The two samples did not share any significant predictors of paid in-home care. In rural areas, whites and those with a confidant were more likely to select paid in-home care, whereas among rural respondents, those with fewer ADL impairments were more likely to select this arrangement.

Unmarrieds and persons with higher incomes were more likely to select nursing homes in both the rural and urban samples. Additionally, rural respondents who selected nursing homes tended to have fewer emotional problems and were not as likely to have a confidant. Among urban respondents, younger persons, nonwhites, and persons without long-range social support were more likely to select a nursing home.

Discussion

If they should become sick or disabled for an extended period, older people in rural areas are more likely than their urban counterparts to select care from a relative in their own homes, paid in-home care, and adult day care. A common thread in these LTC arrangements is that they allow the individual to receive care without necessarily undertaking a change of residence. Urban residents are apparently more willing to consider a residential change as part of their decisions regarding LTC arrangements. Future research should examine why this is the case. The greater likelihood of selecting adult day care and paid in-home care among older rural residents is noteworthy, since adult day care, home health, homemaker, companion, and similar services are generally less available in rural environments. This offers a challenge to agencies that serve older rural populations to develop creative methods of providing these forms of long-term care.

Our analysis of the choices suggests that the patterns of relationships are, in general, similar for the rural and urban samples. However, older people in rural areas who select moving into relatives' homes are also likely to select adult day care and care from a relative in their own homes. This suggests that for the rural elderly population, moving into a relative's home may be considered in conjunction with some form of service that would reduce the burden on the family caregivers and relieve the need for constant interaction between the older person and family. It also suggests that older people in rural areas might consider moving into the home of a relative only after they are no longer able to receive care in their own homes. Future research should examine this issue in more detail. it would be valuable in subsequent studies of selection of LTC arrangement to consider whether respondents view certain alternatives as more important than others, whether they see certain arrangements as being appropriate only in conjunction with certain others, and whether they would consider some arrangements only after the alternatives have been exhausted.

The findings suggest that urban residents are more likely to consider combinations of LTC arrangements that include only formally provided care. We cannot be sure whether this is because older persons in urban areas are more likely to be acquainted with formal services, they are less able to depend upon informal sources, they feel less comfortable about seeking help from family members, or because formal services are more readily available in urban areas. Both rural and urban older people are likely to select a combination of formal and informal care; however, rural residents are significantly more likely to select combinations of formal and informal care. This suggests that in rural areas it is particularly important to design services that support and supplement, rather than supplant, family caregiving.

The stepwise logistic regression analysis suggests that there are some variables influencing LTC selection in both the rural and urban samples, but there are also some variables that influence selection in only one of the samples. Even though patterns of predictors of LTC selection within each sample are difficult to interpret, they suggest that this may be a fruitful area for research addressing rural-urban differences in LTC selection.

Since our literature review showed no studies of preferences for long-term care other than our own (McAuley and Blieszner 1985), we do not know the extent to which our data on older Virginians agree with attitudes of older adults in other states and regions. We believe, however, that a number of factors associated with geographic location are likely to affect long-term care opportunities, preferences, and utilization.

For instance, urban areas and regions with high proportions of older adults, as well as those with favorable local tax bases, are likely to contain a wider variety of LTC options than rural communities and poorer localities or those with few elderly residents relative to other age groups. Also, Medicaid and other forms of payment for various types of institutional and community-based LTC vary

from state to state. This, in turn, influences the opportunities individuals have for choosing among types of care. Finally, the growth of retirement communities in the Sunbelt places increasing pressure on southern states to find innovative ways to address the LTC needs and interests of older residents.

The foregoing observations point to the need for comparative regional research on LTC preferences, in addition to more studies of rural and urban differences. A firmer empirical base would permit the design of programs that fit the needs, expectations, and desires of diverse groups of older adults (Coward and Lee 1985).

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