In-depth interviews conducted with 12 rural widowers participating in a population-based study of nutritional strategies of rural adults 70 years and older were analyzed to (a) identify factors that place widowers at risk for nutritional problems and (b) understand how rural residence is related to this risk. The nutritional strategies that successfully accomplished three groups of food-related tasks (food acquisition, food use, and maintaining food security) focused on one of three resource domains: self-care, informal support, and formal support. Resources that facilitated these nutritional strategies are identified, as are those conditions that led to nutritional strategies inadequate to ensure food acquisition, food use, and food security. These findings can be used to help identify rural elderly widowers who are at nutritional risk.

Key Words: Aging, Diet, Gender, Marital status

On Their Own: Nutritional Self-Management Strategies of Rural Widowers

Juliana McDonald, MA,1 Sara A. Quandt, PhD,2 Thomas A. Arcury, PhD,3 Ronny A. Bell, PhD,1 and Mara Z. Vitolins, DrPH, RD1

This analysis focuses on the nutritional strategies of widowed men in rural communities, bringing concerns about gender and marital status together with those of nutrition of rural elders. In general, there has been less study of elderly men than of elderly women and less attention given to men in the provision of services for older adults (Kosberg & Kay, 1997), perhaps because men constitute a minority of the older population. Yet the need for research focusing specifically on men is demonstrated by the fact that older men have earlier mortality than women and are less likely to practice good health behaviors, including consuming a health-promoting diet (Eckert & Rubenstein, 1999; Satariano, 1997).

An estimated 17% of widowed persons in the United States are men (Brabant, Forsyth, & Melancon, 1992), and the proportion of men who are widowed increases with age. In the age group 65–74 years, about 9% of men are widowed; among those 75 years and older, 23.7% of men are widowed (U.S. Bureau of the Census, 1990). In rural areas, males constitute a greater proportion of the population than in urban and suburban areas so the proportion of widowers in the general population is higher, simply because of rural–urban differences in sex ratios (Krout, McCulloch, & Kivet, 1997). In addition, men are less likely than women to move to urban settings when widowed. The result is that a significant proportion of rural men eventually live as widowers. After the age of 84, 40% of rural men are widowed (Coward, Bull, Kukulka, & Galliher, 1994).

Although elderly women living in rural communities have drawn greater attention for research and service provision in recent years (e.g., Kivett, 1990; McCulloch & Kivett, 1998), rural older men have continued to be ignored (Krout et al., 1997). Research on nutritional needs of elders in rural environments has not looked specifically at widowed men.

The benefits of being married for health and longevity are well established. Those who are married are healthier and live longer than single, widowed, or divorced persons (Hu & Goldman, 1990; Smith & Zick, 1996). Umberson (1987) found that marriage has positive effects on younger aged marrieds, and Goldman, Kerenman, and Weinstein (1995) extended this research to find that the positive effect of marriage on health continues into older ages. Both men and women benefit from marriage, but there is evidence that the effects tend to be greater for elderly men than for elderly women (Schone & Weinick, 1998). Men may gain more from marriage because their wives promote healthier lifestyles for them (Umberson, 1992) and because wives place an “intrinsically higher value on health” (Schone & Weinick, 1998, p. 625). Although the disadvantages of widowhood for women are well-known (e.g., low income), men may lose disproportionately in areas such as nutrition, because they no longer are subject to the health-promoting behaviors of their wives. Krout and colleagues (1997) suggested that the detrimental effects of widowhood for men may be greater in rural than in urban communities because of traditional...
gender roles, more limited services, and greater social isolation due to geographic distance. Because older men have lifelong experience of the male gender role that promotes independence, agency, and "toughing it out" (Eckert & Rubenstein, 1999), the isolation of rural living may result in behaviors detrimental to health status.

We expected pronounced gender differences in nutrition among widowed persons. Much of the activity related to food preparation is gender based. Women tend to plan meals or do the food shopping and carry out tasks related to food preservation (Quandt, 1998; Quandt, Arcury, McDonald, Bell, & Vitolins, 2000). DeVault's (1991) analysis shows that women's household concerns with food entail caring for other household members, including tailoring meals to the needs and preferences of men. Such gender roles place men at a disadvantage at widowhood.

Although there is virtually no research specifically aimed at understanding the nutritional patterns of widowers, research on living arrangements and diet suggests possible nutritional effects of widowhood. Among 3,477 adults aged 65 to 74 years who participated in National Health and Nutrition Examination Survey I, men living with a spouse had a higher quality diet than men living alone or with someone other than a spouse (Davis, Randall, Forthofer, Lee, & Margen, 1985). Men in low-income categories not living with a spouse were at highest risk of poor dietary intake. These findings are consistent with a second study based on data from NHANES II (Ryan, Martinez, Wysong, & Davis, 1989). Persons living alone ate more meals alone, consumed a higher proportion of total calories away from home, and skipped meals (Davis, Murphy, & Neuhaus, 1988). Men living alone consumed a poorer quality diet and consumed fewer calories than men living with a spouse, particularly those older than 75 (Davis, Murphy, & Lein, 1990).

Rosenbloom and Whittington (1993) examined the effect of widowhood on eating behaviors of a sample of 50 elders over the age of 60 in the Atlanta metropolitan area. Although widowhood had a significantly negative effect on eating behaviors, dietary quality, and weight loss in this study, most of the participants were female, and it was not possible to evaluate gender differences.

Older adults living in rural areas are disadvantaged in health care, housing, and overall services compared with other populations (Coward et al., 1994; Krout, 1986, 1994). Although research on nutrition of rural elderly persons is limited, the existing data suggest that nutrition is an area of health in which elders may have particular problems due to geographical isolation, lack of transportation, and such personal factors as inability to continue home food production and preservation (Quandt, Arcury, & Bell, 1998; Quandt, Popyach, & DeWalt, 1994). In rural areas, lack of services, lower income, geography, and lack of transportation all act as barriers to nutrition for elders (Arcury, Quandt, Bell, McDonald, & Vitolins, 1998; Quandt, Arcury, McDonald, Bell, & Vitolins, in press; Quandt, McDonald, Arcury, Bell, & Vitolins, 2000).

In an earlier article in the journal, we presented findings that indicate that rural widows make a variety of changes in foods they eat, meal frequency, and food preservation practices in response to the loss of a spouse (Quandt et al., 2000). Some of these are health promoting, but many are likely to be negative. These changes may compromise nutritional status in a population segment already nutritionally vulnerable. In this article, we extend this analysis to elderly rural widowers. Men are of particular interest because many are less equipped than women with the knowledge and skills to manage their nutritional needs. In addition, the cultural ideology of male independence may prevent them from seeking help from service providers and social support networks (Eckert & Rubenstein, 1999). As will be seen, widowers, too, vary in their response to widowhood. Functional status and economic resources appear to determine how successfully widowers can meet their nutritional needs. Because there are fewer widowers than widows in rural communities, the needs of men may not be as apparent to families or to service providers.

In this article, we focus on the dietary behaviors of widowed men in rural communities. Our goals are to (a) describe different strategies used by these men to meet their nutritional needs and (b) identify factors that may place widowers at nutritional risk. We first present the conceptual model that guides our analysis. We then describe our research methods. Finally, we present examples of different nutritional strategies used by widowers and discuss their implications for rural widowers and for service providers.

**Conceptual Model**

This analysis is framed by the conceptual model of nutritional self-management developed by Quandt and colleagues (1998). In this model, nutritional status is determined by a set of behaviors that individuals use to acquire food, use food, and maintain food security (Figure 1). These behaviors together comprise a *nutritional self-management strategy*. If an individual has assured ways to acquire food, can prepare and consume this food in health-maintaining amounts and combinations, and can be confident of a steady supply of food without resorting to socially unacceptable means, then that individual's nutritional self-management strategy can be considered successful. To the extent that any one of these three parts of the self-management strategy is jeopardized, the person is nutritionally vulnerable, and nutritional status may be adversely affected. The concept of food security draws on a growing literature that defines food security as a state in which an individual or household has access at all times to a ready supply of nutritionally adequate food and assumed ability to obtain acceptable food in socially acceptable ways (Anderson, 1990; Campbell, 1991; Wolfe, Olson, & Frongillo, 1996).

To carry out this nutritional strategy, individuals draw on a combination of self-care, informal support, formal support, and medical care resources. The re-
The sources available to an individual vary depending on personal factors (his or her life course, health, functional status, knowledge and beliefs), household factors (family, income, housing, transportation), and community factors (culture, economics, services).

The loss of a spouse can affect nutritional self-management strategies and therefore influence nutritional well-being. The conceptual model suggests that these effects will vary by gender because food-related tasks are, in most households, divided on gender lines, as are, in some cases, nutrition knowledge and belief. For many husbands, wives are responsible for planning and implementing much of the household nutritional self-management strategy, making food shopping decisions, planning meals, and preparing them (DeVault, 1991). Husbands are more likely to influence the nutritional strategy by wives’ incorporation of their preferences and health needs, as well as by providing essential assistance by generating income, contributing heavy labor for home food production, and assisting with transportation.

This model is used to understand how widowers living in rural areas fulfill their nutritional needs. This model suggests that widowhood will be a significant life course factor influencing what a widower eats, how nutritionally adequate his dietary intake is, and whether he is able to be food secure. Those widowers who have sufficient self-management resources—whether self-care, informal support, formal support, or medical care—will be able to maintain an adequate nutritional self-management strategy. Those who do not may be at risk for significant nutrition-related health problems.

Methods

This analysis uses data collected by the Rural Health and Nutrition study, a 3-year ethnographic study funded by the National Institute on Aging. The aims of this study are to specify the nutritional self-management strategies of rural older adults, understand the sources of variation in these self-management strategies (including gender, ethnicity, and income), and delineate the relationship of nutritional self-management to health status (Arcury, Bell, & Carlton-LaNey, 1998; Quandt et al., 1998).

Communities

Data were collected in two rural, central North Carolina counties. The 1990 populations of these two counties, for which we use the pseudonyms Plains and River Counties, were approximately 120,000 and 70,000, respectively. About 7,300 residents of Plains County were aged 70 and older, and about 5,300 residents of River County were aged 70 and older. Each county was ethnically diverse, with substantial numbers of African American and Native American residents. In River County, approximately 19% of the residents aged 70 and older were minority group members. For Plains County, approximately half of the residents aged 70 and older were minority group members. A large proportion of the populations in both counties were poor; 26% of River County elderly residents had incomes below the poverty line, compared with 32% in Plains County. We chose these counties for study because they included characteristics typical of rural environments, such as low population density, lack of major urbanized areas, a mix of long-term residents and recent migrants, and economies based on agriculture and small manufacturing.

Informants

We recruited female and male African American, European American, and Native American adults, aged 70 and older, using a site-based approach that is described more fully elsewhere (Arcury & Quandt, 1999). This approach resulted in a representative, nonrandom sample of 145 adults, drawn to represent the range of health and economic statuses in the research area. Sites are places, organizations, or services used by members of the population of interest. We selected sites that varied in terms of the gender, ethnicity, household economic status, and health status of the persons who used the sites; these are characteristics expected to be related to variation in health- and nutrition-related behaviors. Seventy-three sites were identified for this study, including home health care agencies, senior centers, social clubs, churches, social service agencies, and veterans’ organizations.

We recruited participants from 45 of the 73 identified sites. At most sites, the site “director” introduced us to potential participants. In a few situations (particularly senior centers and churches), we gave a short presentation on the project and asked for volunteers or approached potential participants. In some sites, a combination of these methods was used. We recruited participants over 11 months. We maintained
counts of recruited participants by gender and ethnicity. Emerging patterns of health and economic status across the sample were reviewed regularly, and additional sites were added as needed during data collection to help achieve target distributions of participants. Minorities and men were oversampled. Thirty-nine percent of the sample was male, compared with 34% in the general population. Sixty-six percent were minorities, compared with 37% in the general population.

Data Collection

The primary method of data collection was the in-depth, semistructured personal interview. All interviews were conducted by study investigators. We attempted to follow each participant over a 1-year period, and each was interviewed up to four times at approximately quarterly intervals. All interviews were tape recorded. The open-ended interviews were supplemented with fixed-response instruments, including a food frequency questionnaire (Block & Hartman, 1994), an instrumental activities of daily living scale (Lawton, Moss, Fulcomer, & Kleban, 1982), and a self-rated health scale. The initial interview included questions on background characteristics and life history, health status, obtaining and using food, food security (Burt, 1993), and self-care behaviors, as well as use of informal support, formal services, and medical care. Follow-up interviews with participants reviewed changes in health, diet, self-care, and use of medical care, informal support, and formal services over the year. These interviews also included modules containing open-ended and fixed-response items on specific topics (e.g., nutrition problem solving, widowhood, health behaviors).

Data Analysis and Interpretation

Each interview was transcribed verbatim. A systematic procedure was established for analyzing interview text materials to ensure accurate, valid, and reliable presentation and interpretation of results. We used a computer-assisted approach to analysis of the textual data. A coding dictionary was constructed based on a preliminary review of the transcribed interviews and the project's conceptual model. This coding dictionary included key words representing themes contained in the transcripts. We wrote the unique, mutually exclusive definition for each theme/key word.

Each transcript was read independently by Bell, McDonald, or Vitolins, who tagged lines of the transcript that contained information about a theme. Any transcript line or group of lines could be coded for more than one theme. Quandt or Arcury then reviewed the coded transcript and made modifications as necessary to better reflect the theme definition. Any disagreements or questions in coding the text were discussed and resolved. The lines for each interview referring to the different themes were entered into The Ethnograph v4.0 (Seidel, Friese, & Leonard, 1995).

The analysis presented here uses a case-based approach (Ragin, 1987). Transcripts for each informant were reviewed, and a synopsis was produced based on all of the interview transcripts, field notes, and coded segments for that case. Completed cases were reviewed to find underlying similarities and systematic associations among nutritional self-management strategies. For each case we described the participant's nutritional self-management strategy and the nutritional self-management resources available to the individual. To facilitate this analysis, a 3 × 4 matrix was constructed for each participant that described the nutritional self-management strategy for food acquisition, food use, and maintaining food security in four resource domains of self-care, informal support, formal support, and medical care. This matrix approach to data display (Miles & Huberman, 1994) has previously been applied to food by Quandt and colleagues (1998). Mapping food-related behaviors on a matrix of self-management tasks and resources allowed us to identify the dominant resource domain in an individual's self-management strategy. The dominant resource domain is that domain by which the widower covers the majority of food-related tasks and on which he appears to depend. Thus, a widower could attend a formal support program such as congregate meals but receive most assistance in acquiring food, using it, and maintaining food security through his children or neighbors. His dominant resource domain would be informal support.

We then reviewed the breadth of the coverage for self-management tasks (acquiring food, using food, and maintaining food security) to identify successful strategies (all tasks covered) and those that left the widower vulnerable to nutritional risk (tasks not covered). We defined a successful nutritional strategy as being able to acquire food, prepare food or have it prepared, and being able to maintain access to a guaranteed and stable food supply. An unsuccessful strategy was one in which one or more of the tasks was not covered.

Results

In keeping with the overall proportion of widowers in the population, our sample was small (Table 1). Of 145 informants, only 11 men were widowed at the beginning of the study; 1 became widowed as the study proceeded. Of these 12, 6 were African American, 4 were European American, and 2 were Native American. They ranged in age from 70 to 96 years and in self-rated health from excellent to poor. The length of widowhood varied from an informant who was widowed during the course of the study to 1 who had been widowed for 21 years. Two had been married and widowed twice. All had been married more than 20 years (whether first or second marriage). All of the wives died following an extended illness, which ranged from 6 months to many years. Only 2 widowers of the 12 had relocated away from the home they shared with their wives. One of those 2 kept his house and planned to renovate it and move
back within a year. The other had lived and worked away from the county for 40 years and moved back when his wife became terminally ill. Our analysis showed that 10 of the 12 widowers had developed a successful strategy for accomplishing all three food-related tasks. The two remaining cases were of individuals who were nutritionally vulnerable in that they failed to manage one or more of the three food-related tasks of food acquisition, food use, and food security. Each of the 10 successful widowers had developed a strategy that was dominant in one of the four domains of resources (self-care, informal support, formal support, or medical care) for obtaining food, using food, and maintaining food security as described in the conceptual model. Dominance was demonstrated by the fact that the matrix for each individual indicated a predominance of food-related activities in one of the four domains. Dominance is not based on a quantitative assessment but on a qualitative understanding of the primary sources where food is obtained, how the food is used (i.e., prepared), and how access to a secure food supply is maintained. In all of the 10 successful cases we examined, each person was able to fulfill all three food-related tasks consistently and reliably by one of the four domains, although other means were available. For example, although an individual might have been able to drive to obtain food, if he depended on a child to do all food shopping (rather than shopping himself), the informal support cell was filled in on the matrix. As another example, an individual might receive occasional food gifts from informal sources but not be dependent on the food gifts for food acquisition or for food security because he did all his own food shopping. This is demonstrated more fully in each of the cases and tables we present below.

### Nutritional Strategies Based on Self-Care

Three of the widowers were independent in their nutritional self-management strategy, relying on self-care to accomplish food-related tasks. These men could drive, were financially stable and in good or excellent health, and considered themselves to be self-sufficient. All three used local restaurants as a significant source of food acquisition and were conscious of healthy food choices. They were all nutrition and weight conscious. All were very active socially, and some of their meals were based on social obligations, such as club memberships or regular visits with a family member. The following case is an example of a widower whose nutritional strategy was dominant in self-care resources (Table 2).

**Mr. Smith.** Mr. Smith is Native American and 70 years old [all names used are pseudonyms]. He lost his wife of many years 2 years ago after she had been totally disabled from a brain tumor for 16 years. They had lived in another state for over 40 years, where he was a machinist for an industrial plant. About a year before her death, he came back to his home county for a hip operation and brought his wife with him, finally placing her in a local nursing home where she died about a year later. He now lives alone in a rented house next door to his sister. All three of his children live out of town; he sees two of them about once a month. Mr. Smith is fairly health and weight conscious, controlling his weight for the past 20 years through diet and regular exercise. He was a devoted jogger for 25 years until his hip gave out. He rides a bicycle almost daily, something he frequently mentions with pride in conversation. He has mild arthritis, and minor back problems limit him mostly in lifting. He prays daily for his health and is thankful for the good health he continues to enjoy.

Because he is well off financially, Mr. Smith could afford to hire almost continuous care for his wife, including food preparation for her at home. For part of this period, he was working and learned to fend for himself mostly by eating at restaurants and buying deli foods or prepared foods that he could heat easily in the microwave or in a small toaster oven. He continues this pattern now as a widower. He is “not into
Mr. Smith’s nutritional strategy formed while his wife was disabled. His good health and financial security allowed him to be extremely independent and self-reliant. The other widowers for whom self-care was the dominant resource domain had life courses that resulted in similar outcomes. Mr. Brown, for example, was an 89-year-old retired educator, who rose through the ranks of public school administration to superintendent. He claimed that his only competence in the kitchen was fixing breakfast. His only child, a retired college professor, called him daily by long distance just to check on him, but he was self-reliant for food-related tasks. He relied on restaurant meals, including meetings at a variety of civic and professional organizations for his noon and evening meals. His health, secure financial status, and ability to drive made this possible.

Nutritional Strategies Based on Informal Support

Five of the widowers depended primarily on informal support resources of kin and friends. All were financially stable. In contrast to those dependent on self-care, their health ranged from poor to very good. Four of the five had children who lived near them, and the other, though having no children, had nephews and nieces who provided produce and cooked food regularly. Four of the five drove. The fifth was able to call on a girlfriend or his children (with whom he lives) for transportation. All of the men attended congregate meal programs because they enjoyed the social aspect of being with others. The next case demonstrates a widower whose nutritional strategy was dependent on informal support (Table 2).

Mr. Gray. At the age of 78 years, Mr. Gray is in very good health. He is African American. He is a spry, affable individual, always with a big smile that shows a

Table 2. Examples of Three Widowers’ Behaviors Comprising Nutritional Strategies

<table>
<thead>
<tr>
<th>Mr. Smith</th>
<th>Food Acquisition</th>
<th>Food Use</th>
<th>Food Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-care</td>
<td>Eats majority of meals at local restaurants</td>
<td>Heats tv dinners occasionally</td>
<td>Financially well-off</td>
</tr>
<tr>
<td>Informal support</td>
<td>Eats about twice per week with family member-social</td>
<td>Eats cereal for evening meal</td>
<td>—</td>
</tr>
<tr>
<td>Formal support</td>
<td>—</td>
<td>Consumes juices and bran for health</td>
<td>—</td>
</tr>
<tr>
<td>Medical care</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Mr. Gray

| Self-care | Can drive to food store | Eats cereal for evening meal | Co-resident daughter cooks breakfast and evening meal daily |
| Informal support | Co-resident daughter does all food shopping regularly | Co-resident daughter preserves food and owns large freezer filled with food | — |
| Formal support | Attends congregate meal three days per week for social interaction | Acquires food information from congregate meal site | — |
| Medical care | — | — | — |

Mr. Hall

| Self-care | Can drive to food store | Eats cereal for evening meal | Co-resident daughter cooks breakfast and evening meal daily |
| Informal support | Receives food stamps | Co-resident daughter preserves food and owns large freezer filled with food | — |
| Formal support | CAP/DA aide shops for food | Co-resident daughter cooks breakfast and evening meal daily five days per week | Can call on granddaughter for food if needed |
| Medical care | — | — | Can depend on CAP/DA aide for food anytime |

Notes: Components of dominant strategy are indicated in italics. CAP/DA = Community Alternatives Program for Disabled Adults.
perfect set of dentures. He dresses well in clothes that are some of the frequent gifts from his six children. Mr. Gray was widowed once before, and he remembers having to cook and keep house for himself and his small children. He remarks that he “despises” doing both and refuses to cook anything for himself now, including using the microwave to warm food. He feels that he never really learned to cook. He never had to cook much and could never eat his own cooking.

He remarried a short time after his first wife’s death, and the second marriage lasted for more than 30 years. His second wife was seriously ill with the complications of diabetes for over a year before her death. She had had significant health problems for more than 10 years. During their marriage, Mr. Gray did all the grocery shopping. He began attending the congregate meal at this time because his wife volunteered to deliver meals, and they attended together. He continues to attend about 3 days a week for the social interaction, because he really does not like the food and admits that he eats little there. He can drive and sometimes goes into town for a restaurant meal or to get a snack for lunch if he does not go to the congregate meal that day.

As his wife’s condition worsened, one of his daughters moved in, taking charge of all food-related tasks. After his wife’s death a year ago, his children would not allow him to stay alone. He moved in with his youngest daughter who lives out in the country. He talks about how he loved home life and admits he would rather be living with one of his children than living alone. His only complaint is that none of them will let him do anything. His daughter cooks breakfast and the evening meal each day, food shops, and does all the cleaning and laundry. She owns a large freezer filled with food she has purchased, prepared, and frozen. Mr. Gray knows very little about her food preservation except that there is plenty of food in the house. His brother and brother-in-law both provide produce once or twice a week when he drives over to visit them. His eldest daughter often brings a plate of his favorite foods. He has said that both of his daughters are wonderful cooks, and he obviously enjoys the attention. Mr. Gray considers himself to be a very blessed person in that he has children who care for him and because he is financially able to pay his bills and give his daughter money to buy food. He says that his least worry in life is about food. Mr. Gray’s diet is dependent on his daughter’s decisions of what and how to prepare food. He thinks that she tends to cook greasy foods and not enough vegetables to suit him. He tries to buy vegetable juice to make up for the vegetables he thinks are missing from his meals, although his daughter cannot understand why he buys food when she takes care of the task.

The dominant role of informal support is clear for all aspects of Mr. Gray’s nutritional strategy. Like the other widowers for whom this is the dominant resource domain, a life course that has resulted in younger family members with sufficient resources to share has led to an acceptable and successful nutritional strategy for these widowers. Coresidence with children or other kin is not necessary for a widower to depend on informal support. Mr. Black, for example, lived alone in the home he shared with his wife. He cared for her with the help of his son and daughter through a series of illnesses in the years before her death. His daughter continued to assist with grocery shopping, food preparation, and food preservation.

**Nutritional Strategies Based on Formal Support**

Two of the 12 widowers depended on formal support resources to fulfill nutritional needs. Neither was able to drive. Both received 40 hours of unskilled assistance each week through the Community Alternatives Program for Disabled Adults (CAP/DA). CAP/DA is a social services program designed to keep adults with severe functional limitations in their homes in the community, rather than being placed in a nursing home (Bratesman, 1997; Table 2).

*Mr. Hall.* Mr. Hall, a European American, is in poor health at the age of 96. He has been widowed for less than 5 years. He needs but does not wear dentures and has prostate and heart problems. He is no longer able to drive and often seems confused. Mr. Hall lives alone when his CAP/DA aide is not with him. His children help him when they can with rides to the doctor or bringing him food on the weekends, but he is heavily dependent on the CAP/DA aide, who refers to him as “Papa Hall.” The CAP/DA aide controls the majority of food-related tasks including grocery shopping and food preparation. She has made sure Mr. Hall obtains food stamps and goes to pick up meals from the congregate meal site for him. Sometimes they go out to eat together at a restaurant. She prepares breakfast and the noon meal and usually leaves another meal so that he can warm it for the evening meal. When questioned about food security he said that he can call the CAP/DA aide for food if he needs to.

Both of the widowers for whom formal support is the dominant resource domain relied on one primary formal program (CAP/DA) through which they were linked to others, such as the Title III-C nutrition programs. Mr. Johnson, the other widower with a CAP/DA aide, reported that his aide had been instrumental in his obtaining the food he needed and in guaranteeing his food security. She helped him register for food stamps and register at food pantries in two different counties. She took him to each on alternating weeks to get bags of food. She helped him get garden produce, with which he stocked his freezer. As long as these widowers continue with the formal program, there appears to be little chance of their being unable to obtain and consume the food they need.

**Nutritional Strategies Based on Medical Care**

None of the widowers had any significant support in the domain of medical care. This is not unexpected, as none was in an adult care facility or nursing home or cared for by home health nurses. A few had been given a standard diet sheet by a physician for a diabetic diet, although they did not follow the
diet. Several reported general recommendations not to eat salt, fried foods, or pork. One individual had attended nutrition classes at a local hospital when diagnosed with diabetes. He subsequently has self-managed his “sugar” by either eating something sweet when he thought his glucose level was too low or switching from sugar to a sugar substitute when he thought his “sugar” was too high. One person discussed in the next section had been prescribed Ensure. Another received some diet instruction from a nurse who came once a month to check on his health conditions. One man’s physician had instructed him on diet, but finally told him just to eat what he wanted after he did not comply.

Two Cases of Vulnerability

Two of the widowers were most at nutritional risk. For both, a combination of life circumstances and lack of resources in the four domains put each in a precarious situation regarding food acquisition, food use, and food security. Because of serious health problems, self-care was difficult. They had virtually no informal support and had trouble obtaining formal support services or medical care (Table 3).

Mr. Davis. Mr. Davis died during the course of the study. He was 78 years old and lived alone in a rundown trailer about 3 miles from town. Mr. Davis’s parents and grandparents included African American, European American, and Native American individuals. His mixed heritage caused him to be what he called “outcast” in his family. He had no children, his African American stepsisters and stepbrothers never accepted him, and thus he had virtually no family. Very little had ever been dependable in his life, and he admitted that his life had been difficult. He kept a loaded shotgun behind the front door out of fear of intruders. He was completely dependent on a small Social Security check each month and often ran out of money for food after paying bills and filling prescriptions. His one joy in life had been a close and loving relationship with his wife of over 50 years. Although his wife had been in poor health for several years, her death had apparently taken him by surprise. After 3 years, he still cried when he talked about her. Mr. Davis said that all his problems began when she died. He described how she would prepare his favorite foods, foods he no longer ate because he did not know how to prepare them. He had never learned to cook because his wife did all food preparation tasks. He laughed as he remembered how she would “run him out of the kitchen” when she was cooking.

Mr. Davis had serious health problems and could not walk or stand for long periods of time. He drove but was limited to short trips to town, and some days he just did not feel up to the task. He patronized only one grocery store where he was familiar with the ar-

| Table 3. Examples of Two Widowers’ Behaviors Comprising Vulnerable Nutritional Strategies |
|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| **Food Acquisition** | **Food Use** | **Food Security** |
| **Mr. Green** | | |
| Self-care | Cannot drive | Physically unable to prepare purchased or home produced food | Has small deep freezer but unable to do own food preservation | Cuts back on food to pay bills |
| | Raises small garden | | | |
| Informal support | Pays sister for ride to store | Eats only canned foods | Sister sometimes cooks produce for him (has cancer, less able to help him now) | |
| | Eats with sister occasionally | Unable to prepare fish so gives to sister | | |
| | Neighbors give fresh fish or food from cookout a few times per year | Sister sometimes cooks produce for him (has cancer, less able to help him now) | | |
| Formal support | Local agency provides Ensure at cost | Sometimes cannot afford Ensure | | |
| Medical care | Rx: Ensure | Rx: no salt, no fried, no pork, no grease | | |
| **Mr. Davis** | | |
| Self-care | Makes two meals from home-delivered meal | Can only eat soft foods (no teeth) | Budgets for food | Goes without food to pay bills |
| | Can drive to food store but difficult to shop and cannot read well | Diet limited to canned soups, snack cakes because of teeth | Cannot cook | |
| | Leans on grocery cart to be able to walk in grocery store | | | |
| Informal support | Pays for plate from niece or stepsister occasionally | Eats at fast food restaurant or buy plate when he can afford to (not often) | | |
| | People who know him help him at food store | | | |
| Formal support | Home-delivered meals five days a week | | | |
| Medical care | Rx: No salt | | | |

*Notes: Negative components of strategies are indicated in italics.*
rangement of items because he could not read. He used a piece of metal from an old yard chair as a cane and leaned on the grocery cart to do his limited shopping. Although he did try to keep some food stocked ahead of time, this food supply consisted mostly of canned soups. He had a deep freezer that was empty. When he ran out of money, he would simply do without food.

Two relatives brought a plate of food “occasionally” for which Mr. Davis had to pay. Two elderly neighbors whom he had known since childhood occasionally gave him some canned food or garden produce such as tomatoes. He received Meals on Wheels daily from a local church and stretched each to make two meals. He did not like the food because it was not seasoned the way his wife had cooked, and he could not eat some items because he had no teeth and no dentures. The only medical advice he had received was not to eat salt. His diet consisted of mostly soft foods such as peanut butter, bananas, canned soups, and snack cakes. On rare occasions when he had a little extra money he would buy a plate of one of his favorites, fried fish, from the grocery store.

Mr. Davis’s nutritional strategy was limited in all three domains due to low income, poor health, and lack of social support. Although he received five meals per week through the Title III-C nutrition program, this was the only service he used. It was not enough to supply all his nutritional needs.

Mr. Green. Mr. Green is a 77-year-old African American widower who lives alone in a small frame house in a neighborhood known for drug trafficking on the edge of the county seat. Usually he plays the television or radio loudly to let anyone who comes to the door know that someone is there. The house smells from years of extreme neglect. His wife of more than 40 years was an alcoholic; she died 20 years ago. Mr. Green was accustomed to caring for her, especially in the last few years before her death from liver failure. He worked long hours at an industrial plant both before and after her death. She managed the household, food tasks, and flowers; he took care of the garden and yardwork. As her condition worsened, he said that he just did the best he could with food shopping and preparation and let the housework go.

After his wife died, Mr. Green began to buy only the few things that he knew how to cook. His eating habits have changed little since then. His own health gradually deteriorated, and 6 years ago he suffered a massive stroke that left him severely disabled. He smells unwashed and admits that he has great difficulty bathing and changing his clothes. He stopped attending church because it is so difficult to dress. He often wears the same clothes for days at a time. He has great difficulty walking and using the left side of his body. Through great effort, he continues to raise some produce on a small lot he owns a short distance down the street. He keeps a chair at both ends of the garden so that he can rest often and uses the hoe to lean on when he feels faint. He only raises items that are easy for him to gather such as okra. It is impossible for him to prepare much fresh produce because he can only use one hand effectively.

Mr. Green is afraid to cook because the stroke left him confused, and he often falls asleep. His first house on this lot burned down, and he is terrified of fire. He is not able to stand for the length of time required to cook. He has high blood pressure and serious circulation problems. He knows that if his condition continues to decline, he will no longer be able to care for himself at all. This drives him to keep going on a daily basis. He has only a few teeth left. Because he often has severe toothaches and his gums have become too swollen for him to eat, his diet is limited to cereal, milk, snack cakes, and canned foods that have pull-tab openings, such as sardines and beans. Sometimes he pays one of the neighborhood children to bring him fast food such as fried chicken from a nearby restaurant.

Mr. Green has one son, whom he sees once a month, and one daughter, who is an alcoholic. Although Mr. Green is no longer able to go to church, his religious beliefs against alcohol are strong, and he does not want her in his home when she is drinking. She tries to clean and do laundry for him, but when she is drunk, she just “messes it up.”

Mr. Green’s income is quite limited, but he does not like to ask for help. He cuts back on buying food so that he can pay bills and buy the Ensure prescribed for him after the stroke. He needs hearing aids and cannot see well. His income falls $20 above the level to qualify for Medicaid and personal care services. Because of negative experiences with local social services, he has become suspicious of agencies. A local church and community center advocate offered to help him get hearing aids, but he would not pay the $60 application fee. He cannot read well and does not understand the letters the Department of Social Services sends him. The church advocate was finally able to get glasses for him but can do no more. Although he qualifies for Meals on Wheels, most of the volunteers who deliver the meals are White, and none is willing to go into his part of town.

Mr. Green is an optimist, in spite of all his difficulties. He believes that with the good Lord’s help, he will “get better” from the stroke and be able to do what he used to do someday, so he keeps fighting to live from day to day with prayer and great determination.
Like Mr. Davis, Mr. Green was nutritionally vulnerable. His limited income, poor health, and social isolation made it difficult for him to obtain and prepare enough food. Both men attempted to meet their needs with minimal assistance from formal programs.

Discussion

Being widowed is a life course transition for men that has consequences in a number of ways. Most widowed men live alone. Many find themselves without the skills, knowledge, and labor that their wife had used to put meals on the table and to stock the freezer and pantry.

This study shows that there are a variety of ways by which widowers produce a reliable nutritional strategy after being widowed. Although some depend primarily on self-care, others depend on informal support or other resources. We have demonstrated that by focusing on the three nutrition-related tasks of food acquisition, food use, and maintaining food security, one can identify the dominant resource domain being used by any individual widower. Our analysis also points to the key factors that facilitate dominance of the different resource domains. For self-care to be dominant, a man must be fairly healthy, have access to transportation (which, in a rural community, usually means driving), and have sufficient and stable income. We suspect that the required income level might be lower in a rural community like this where food production is common than in an urban or suburban community where most food is purchased. On the other hand, private transportation is more necessary in the rural setting. For informal support to be the dominant resource domain, a man needs the presence of kin or friends who are willing to be supportive and who have sufficient resources themselves to be supportive. These resources include health and income. For formal support to be dominant, a man must qualify for the programs and, if he lacks the knowledge and skills to do so himself, must have an interested party to make sure he is registered for the program. Some formal programs, such as Title III-C congregate meals, have only a minimum age as a criterion for participation. However, if arranging transportation is necessary to reach the meal site, the help of children, friends, or social workers is sometimes needed. As with most programs for elders in rural communities, transportation is a major limiting factor for congregate meals (Arcury et al., 1998). Other formal programs, such as the CAP/DA aide program used by two widowers described in this study, require considerably more effort to have a man certified for participation. Because their waiting list is long, the widower must have a way of coping until an aide is available.

We have also identified key risk factors for not having an adequate nutritional strategy: low income and poor health, coupled with a lack of social integration. In both of the cases of vulnerability, the widowers had low literacy skills and had participated primarily in manual labor occupations. They had had negative experiences in their communities with racism, crime, and difficult communications with social service providers, and these experiences had contributed to their self-isolation.

In articulating the conceptual model of nutritional strategies, Quandt and colleagues (1998) pointed out that the goal of nutritional strategies—adequate dietary and nutritional status—allows the strategy to be evaluated as successful or not. A successful strategy is one that is adaptive; that is, it conveys benefit to the older adult. Likewise, the individual resource domains can be evaluated as affecting the overall nutritional strategy in positive or negative ways. In the present study, those dimensions of the nutritional strategy within the dominant resource domain make the clearest contribution to its success or benefit. As Quandt and colleagues (1998) have argued, behaviors with a positive effect may represent adaptations to a stressor. Mr. Gray’s moving in with his daughter after the death of his spouse and allowing the daughter to take over almost all food-related tasks is an example of such an adaptation. In contrast, Mr. Smith adopted the practice of getting most of his meals at restaurants before his wife’s death, a practice that proved beneficial to his nutritional strategy after he was widowed. This is what Quandt and colleagues (1998) termed an exaptation, a change made earlier that later conveys benefit.

To the extent that earlier practices equip a man to handle food-related tasks, they may be preadaptive to widowhood. Because most of the wives experienced extended illnesses, these widowers had reasons to become less dependent on their wives for food and cooking and to become more self-sufficient. Caregiving has been found to be a usual precursor to widowhood and may help prepare older people for widowhood (Wells & Kendig, 1997). We suggest here that not only did these widowers prepare, but that they had also implemented strategies for living alone. In the two cases of vulnerability, the men had not done so. Despite his wife’s failing health, Mr. Davis was unprepared for her death. In coping with his wife’s disability and terminal illness, Mr. Green was not prepared to take over almost all food-related tasks. Mr. Gray’s moving in with his daughter after the death of his spouse and allowing the daughter to take over almost all food-related tasks is an example of such an adaptation. In contrast, Mr. Smith adopted the practice of getting most of his meals at restaurants before his wife’s death, a practice that proved beneficial to his nutritional strategy after he was widowed. This is what Quandt and colleagues (1998) termed an exaptation, a change made earlier that later conveys benefit.

One of the limitations of the present study is that we could not exhaustively inventory the possible nutritional strategies of men in rural communities. Some widowers with successful and with unsuccessful strategies may have been missed because they were no longer in the community. Any who left the community (e.g., to live with children in urban areas) or who were no longer community dwelling (e.g., entered assisted care facilities in the rural community or elsewhere) were not evaluated. In addition, there was a survival bias: Any widowers who died before recruitment for the study were missed. If an unsuccessful nutritional strategy contributes to lowered nutritional risk, one would presume that extremely vulnerable individuals would be at greater risk of nutrition-related illnesses and might not survive.

Because we concentrated on men who were wid-
Widowers at the time of the study, we did not consider one important way by which many widowers take care of food-related needs—remarriage. Demographers and ethnographers have noted the dearth of widowed men in historic and contemporary rural communities (Arcury, 1986; van Willigen, 1989). They attributed this to men needing to “capture labor” through remarriage. Indeed, Mr. Jones, an 85-year-old widower in the present study who had been alone for more than 10 years, cheerfully announced at his last interview that he had started eating home cooking more than restaurant meals. He was dating and has since remarried.

Widowers in rural areas have to cope with a distinctive set of circumstances compared with their urban and suburban counterparts. Transportation services especially are sparse, and other services are sometimes very limited (Krot, 1994). Because of greater dependence on gardening and food preservation, which have traditionally been women’s work, rural men may be ill equipped to carry on these tasks. Others have noted the rural tendency to “make do” and have argued that this kind of attitude is common among rural elders, who may be used to periods of plenty and scarcity due to rural employment and agricultural cycles (Heltsley, 1976; Quandt & Rao, 1999; Quandt et al., in press; Ralston & Cohen, 1994). Such attitudes may prevent widowers from seeking help with nutrition. On the other hand, the fact that many elders have children and other kin nearby and the cultural value placed on informal support may provide an advantage to some rural widowers.

**Recommendations**

Service providers in rural areas should be aware of the diversity in widowers’ food-related circumstances. Some are quite well equipped to manage. They can drive, they have the skills to prepare food, they have the economic resources to buy food or labor to prepare food, or they have kin and friends to help. In contrast to women, who are expected to know about food needs, men may attract more informal support because they are assumed to be less competent. Some are able to access formal support. Some widowers, however, are vulnerable. Risk factors include physical and economic limitations, both their own and among their close kin, and the quality of the relationship with kin. This may be exacerbated by an attitude of making do. Others, particularly minority elders, may have experienced a life history of being denied access to programs that makes them suspicious of efforts aimed at helping them (Arcury, et al., 1998; Wood & Wan, 1993).

The conceptual model’s separation of nutritional strategies into three tasks—acquiring food, preparing and using food, and maintaining food security—makes a good checklist for identifying elders at nutritional risk related to dietary sufficiency. For some, just getting food is an issue, but for others the nutritional strategy breaks down just at the point of food preparation. They may not know how or may be physically unable to prepare food in culturally acceptable ways. In the rural South many foods are preferred fried, and the weight of heavy skillets makes these utensils unmanageable for some. Standing at a stove is also difficult for those with mobility and balance problems. For some, gifts of produce (e.g., cabbage, turnips, melons) may not be used because of problems cutting them into small pieces to cook or consume. Some rural widowers have acceptable food early in the month but are not food secure because their money runs out before the end of the month. If they are unable to prepare their own food, purchasing more expensive prepared food or single-serving containers may contribute to their running out of money. These different aspects of nutritional risk related to dietary sufficiency are for some, the gifts of produce (e.g., cabbage, turnips, melons) may not be used because of problems cutting them into small pieces to cook or consume. Some rural widowers have acceptable food early in the month but are not food secure because their money runs out before the end of the month. If they are unable to prepare their own food, purchasing more expensive prepared food or single-serving containers may contribute to their running out of money. These different aspects of nutritional risk related to dietary sufficiency are

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