FUNCTIONAL CHARACTERISTICS AND STATUS OF RURAL KANSANS AGED 85 AND OLDER

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ABSTRACT

This study assessed the functional characteristics of 142 persons aged 85 and older living independently in seven counties of northeastern and northcentral Kansas. Subjects were selected randomly from a list of Medicare beneficiaries provided by the Health Care Financing Administration. A modified form of the instrument developed for the Older Americans Resources and Services Program at Duke University was used for data collection. Functional profiles were constructed for each of the five subscales: social resources, mental health, physical health, activities of daily living, and economic resources. The five subscales were added to form a cumulative impairment score (CIS). Approximately three-fourths of the subjects were completely unimpaired mentally and economically, whereas only one-half presented no physical impairments or limitations of daily activities. None of the subjects were classified in the most severely impaired group for mental health functioning or current economic resources. The mean CIS for the group was 11.8 on a scale of 5 (excellent functioning) to 30 (totally impaired in all areas). No significant gender differences occurred in mean scores for any of the subscales or the CIS, although some differences did occur in responses to specific questions. Overall, mean subscale scores were best (1.98) for mental health and worst (2.68) for physical health. Thus, poor functioning in physical health was balanced by high functioning in mental health. High social and economic resources also offset the impact of lower ratings in physical health and limitations of daily activities. The results of this study can be used to develop statewide programs and educational materials to help older Kansans adapt their lifestyles to maintain functional independence.

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THE RESEARCH PROBLEM

Need for the Study

People aged 85 and older constitute the fastest growing population segment in Kansas and the nation, yet Longino (1) cites a paucity of information about the characteristics, life conditions, and needs of this group. Research on the rural residents aged 85 and older in Kansas is nonexistent, and yet 70% of them live in the 101 counties that house only 56% of the state's population (2).

The proportion of persons 85 years and older in the state of Kansas has grown at an unprecedented rate, increasing 198% from 1950 to 1990 (Appendix A, pg. 41). Over the next 40 years, the post-World War II baby boomers will be approaching age 85, causing a significant increase in this group by about the year 2030 (3). If Kansans follow the national pattern of continuing mortality decline, the oldest age group will continue to show a highly disproportionate growth in numbers (4). Sheer numbers of persons over age 85 will have a major impact on the need for health and social services, especially in rural areas where their concentrations are the greatest and services are the fewest.

Historically, research has virtually ignored the healthy, independent elderly, particularly ages 85 and older, and has focused instead on dependency. More recently though, factors contributing to well-being and independence were the focus of a study in rural Wales (5). Two projects in the United States described interventions designed to help older women preserve their independence (6-7). Although neither project focused specifically on the rural elderly, the Beck and Pearson project (6) identified isolation, which often is associated with rural life, as a risk factor to independence.

Purpose

In a national Extension publication, the number and needs of dependent elders were ranked as the most pressing social trends in family and economic well-being (8). In Kansas, Extension specialists in community development and local government have identified the need for programs that promote community services and flexible health care for older Kansans, both of which are expected predictors of functional independence. Program development teams in Human Health and Well-Being and in Family Strengths and Economic Well-Being at Kansas State University have identified objectives that would promote functional independence of older adults.

Thus, the overall aim of our project was to assess the level of functional independence in a representative sample of adults aged 85 and older in northeastern and northcentral Kansas and to use the resulting data to establish programmatic interventions that contribute to a reduction in the need for premature institutionalization.

Specifically, the study reported here attempted to describe the functional characteristics of persons aged 85 and older living independently,

and determine whether significant gender differences existed in their functional characteristics.

REVIEW OF LITERATURE

Sociodemographic Characteristics

From 1980 to 1990, the population of adults aged 85 and older in Kansas increased from 33,000 persons to 42,241 persons, a 28% increase (Appendix A, pg. 42). By contrast, the population 65 years and older increased by 12.3%, and the entire state population increased by a mere 4.8% in the same time period. The Kansas Division of the Budget is projecting approximately 96,000 persons, or more than double the current number, over age 85 by the year 2015 (9).

As a proportion of the 1990 state population (2,477,574), the subgroup aged 85 and older represents 1.7%. When a subset of a population falls below 10%, it may be considered a "rare" population (10). Thus, by definition, the age group 85 and older in Kansas constitutes a rare population. In addition to having a higher proportion of the oldest cohort than in the United States as a whole (1.2%), Kansas has the distinction of having the county, Smith, with the highest percentage of residents (5.2%) over age 85 (265 out of 5,078). Kansas ranks fifth in the nation behind Nebraska, South Dakota, Iowa, and Minnesota in the proportion (12.3%) of the 65+ population who are aged 85 and older (11).

Data from the 1990 Census (2) reveals some interesting profiles of this rare population in Kansas. The oldest residents in Kansas are concentrated predominantly in the northcentral counties of the state. Of the 13 counties along the northern border, eight have between 3.5 and 5.2% of the population over age 85, whereas only three of the 14 southern border counties are in this range. A total of 21 counties in 1990 had at least 3.5% of their population over age 85.

As age increases, the proportion of women in each of the three population subgroups of older adults increases. Women represent 56% of the "young old" (ages 65-74 years), 63% of the "old old" (ages 75-84 years), and 73% of the "oldest old" (85+ years) in Kansas. The proportion of older adults living alone also increases with advancing age. Forty-one percent of the oldest old lived alone in 1990. Of these, 82% were women. The risk of entering a nursing home increases dramatically after age 84. Only 8% of all Kansas residents aged 75 to 84 were institutionalized in 1990, but 30% of all residents over age 85 resided in long-term care institutions (11).

Data on the number and proportion of Kansans 85 and older living in poverty (incomes of $5947 for one person or $7501 for two persons) is not available. However, national data on the 65 to 74 and 75+ age groups indicate a widening gender gap with increasing age. Six percent of men and 11% of women between the ages of 65 and 74 were living in poverty in 1989, whereas 10% of men and 21% of women over 74 were in the lowest economic group (12).

Mental Health Characteristics

Popular stereotypes of old persons depict the aged as cognitively impaired and depressed. Neither cognitive impairment nor depression are inevitable or normal with advancing age. Cognitive impairment is due to a specific physiological cause (13). Although Alzheimer's disease is the most prevalent cause, other causes include stroke, drug intoxication, congestive heart failure, hypothyroidism, renal failure, depression, anemia, vitamin B-12 deficiency, and azotemia.

Data on the prevalence of cognitive impairment among the oldest old living outside of institutions is limited. Community surveys conducted in New Haven, Connecticut and Baltimore, Maryland found that about 35% of those 85 and older were cognitively impaired (14). Of these survey participants reporting any cognitive impairment, more than 40% were severely impaired. According to Rowe (13:831), "the most common precipitating cause of institutionalization is severe cognitive impairment" and it "is found in over 50% of the nursing home population."

Clinical depression is a serious mental illness in all age groups, but mental health problems in general and depression in particular often are assumed to be normal aspects of aging. Yet epidemiological evidence (14) from community-dwelling persons shows that people aged 65 and older are least likely to suffer from clinical depression (1%) compared to younger adults aged 25-44 years (2-4%). In addition, the likelihood of developing clinical depression and other serious mental health problems is no greater for those aged 85 and older than for those aged 65 to 74.

The term "pervasive depression" has been used to describe nonclinical forms of depression amenable to specific therapeutic intervention. Gurland and co-investigators (15) conducted a community survey in New York City and found that 13% of subjects over age 65 suffered from pervasive depression. Many of the symptoms are caused by unmanageable problems of daily living, recent loss of a spouse, abuse by hostile relatives, or drug side effects. Significant gender and age differences are evident in the prevalence of pervasive depression. Depressive symptoms among men are four times as prevalent for those aged 80 and older than for those aged 65 to 79, whereas the prevalence rates for women are similar across all age groups.

Another major gender difference in mental health characteristics of the oldest old is indicated by differences in suicide rates (16). The age-sex specific rates are 60/100,000 per year for men and only 5/100,000 per year for women. Results of age-group comparisons across the adult life span by Atchley (17) showed that suicide rates are highest in the oldest age group (85+ years) for men but lowest in this age group for women.

Physical Health Characteristics

Health data on the oldest Kansans have not been systematically collected, analyzed, or published. Data sets compiled by the National Center for Health Statistics (NCHS) do not code by

state. Thus, this review will be limited to the most recent comprehensive data available for the oldest old at the national level (18). All data cited here are based on household interviews of the civilian noninstitutionalized population. These data will reflect health characteristics of community-dwelling older persons only, and thus, will not represent the total population. Approximately 78% of the U.S. population aged 85 and older reside outside long-term care facilities.

Self-rated general health. Self-rated general health is a simple yet informative measure of health. It correlates highly with more objective health measures such as physician ratings (19) and mortality (20). Response categories in the National Health Interview Survey (18) were "excellent", "very good", "good", "fair", and "poor". Among the oldest-old white respondents, the proportion rating themselves as excellent or very good was 35.3%; 31.1% rated themselves as good; and 33.6% rated themselves as fair or poor. There were no significant gender differences in the proportion of responses by rating. Data were not stratified by age for black respondents, so racial comparisons cannot be made for the oldest age group.

Acute conditions. Three specific categories of acute conditions (respiratory, digestive, and injuries) were based on respondents' reports of illnesses occurring during the 2 weeks prior to the week of the interview. Incidence was reported as number of conditions per 1000 persons. Among whites 85 years and older, injuries were the most frequently reported acute conditions (297.4/1000 persons), followed by respiratory illnesses (271.6/1000 persons), and digestive conditions (100.7/1 000 persons). White males had significantly lower rates (210.8, 204.8, 29.7, respectively) in all three categories than did white females (384.0, 338.3, 171.6, respectively). The female to male ratios of these rates were 1.82 for injuries, 1.65 for respiratory illnesses, and 5.78 for digestive conditions. Whether the extremely high rate of digestive conditions among the oldest-old white females is an artifact of willingness to report these symptoms or a true gender difference is unknown.

Reported impairments. Data on reported impairments were available for vision, cataract, hearing, and orthopedic deformities. Incidence was reported as the number of impairments by type per 1000 persons. The order of incidence from highest to lowest for white respondents was 579.3 for hearing impairment, 299.8 for cataract, 241.4 for deformity or orthopedic impairment, and 182.5 for visual impairment. White males had lower rates for three of the four types of impairment, but reported significantly higher rates of hearing impairment than did white females (643.9 vs. 514.6). Of all respondents aged 85 and older, approximately one-half (530 per 1000) reported a hearing impairment.

Chronic conditions. Rates for three selected chronic conditions (ischemic heart disease, hypertension, and diabetes) were presented in the NCHS report (18). However, data were not grouped separately for the oldest old. Nevertheless, noteworthy sex patterns emerged in younger age-group comparisons for both ischemic heart

disease and hypertension. Rates of ischemic heart disease increased for both men and women from the group aged 55-64 to those 65-74 years of age. For women, an increase in the rates by age group continued even though the rates within each age group were lower compared to those for men. However, women reported significantly higher rates of hypertension than men in every age group except the youngest (55-64). For both sexes, almost 40% of respondents over age 65 reported being hypertensive. For males, the rate declined in the 75 and older age group relative to the two younger groups (55-64 and 65-74), whereas the rate for females increased and remained high. Whether these patterns persist among the extreme aged cannot be determined from existing data. For both sexes, rates of diabetes were significantly higher (99.0 per 1000 persons) for the age group 65-74 than for the age group 55-64 (76.1 per 1000 persons). Unlike ischemic heart disease and hypertension, however, no significant sex differences occurred in the reported rates of diabetes.

Frequency of acute medical care. Data on the frequency of acute medical care of the oldest old (21) were available for outpatient physician visits and for inpatient visits to short-stay nonfederal hospitals. Age and sex were factors affecting the number of annual physician visits for persons over 65 years of age. The number of physician visits per person per year (7.5) was significantly higher for white males over aged 85 than for white males aged 65-69 (4.8 visits per person per year). The same age pattern prevailed for white females: 6.6 visits per person per year in the 85+ age group versus 5.3 visits per person per year in the 65-69 year age group. Comparison of rates by sex for persons in the oldest age group showed no significant differences.

Hospitalization diagnoses. In 1987, heart diseases were the most common reasons for hospitalization for both males and females aged 85 and older. For males, pneumonia was the second most frequent diagnosis, followed by malignant neoplasms, cerebrovascular disease, fractures, and hyperplasia of the prostate. For females, the second most frequent diagnosis was fractures, followed by cerebrovascular disease, pneumonia, malignant neoplasms, and volume depletion or dehydration. Average length of stay in days was longer for the oldest age group of women than for men in each of the six diagnostic categories. The combined average length of stay for the oldest-old males was 9.4 days, whereas it was 11.3 days for the oldest-old females.

Drug prescription patterns. The 1985 National Ambulatory Medical Care Survey (NAMCS) provided the latest data on drug prescribing patterns for the population aged 55 and over living in the community (22). However, drug use cannot be assumed automatically from the data on prescriptions written. The oldest old cohort was not stratified separately from the 75+ cohort in the 1985 NAMCS report. Also data were not presented separately by sex. The most pertinent information from the 1985 NAMCS report relative to the present study was the ranking of the most commonly prescribed generic ingredients and their therapeutic use for outpatients aged 75 years and older.

The 10 most frequently mentioned are shown in Table 1 (pg. 20).

Medication use. Results of studies published between 1978 and 1982 indicated that between 76 and 92% of older adults were using either a prescription or nonprescription drug (23-25). However, most of those studies were based on responses from subjects in urban clinical settings. Only one population-based household survey of medication use in rural elders has been published (26). Eighty-eight percent of all respondents in the Iowa 65+ Rural Health Study (RHS) reported using at least one drug. Data in the RHS were reported by age and sex. The percentage of men taking prescription and nonprescription drugs increased with increasing age across all age groups. The pattern was similar for women with the exception of a slight decrease in the percentage of respondents taking prescription drugs in the oldest age group (85+ years). A higher percentage of women (79.6%) than men (74.7%) in the oldest old group used prescription drugs, but the reverse was reported for nonprescription drug use (73.0% for men and 67.3% for women).

The types of prescription drugs reportedly used by the elderly have remained consistent in all studies published since 1968 (26). In the Iowa RHS, 75% of prescription drugs were cardiovascular, central nervous system, or analgesic drugs. Nonprescription drug use also has remained similar over time, with the most common drugs being analgesics, vitamins and minerals, laxatives, and antacids.

Activities of Daily Living

Beginning in 1986, the National Health Interview Survey (NHIS) added the Functional Limitations Supplement to focus on activities of daily living (ADLs) and instrumental activities of daily living (IADLs) for the entire elderly population living in a community (18). Seven personal care activities: eating, toileting, dressing, bathing, walking, transferring in and out of a bed or chair, and getting outside were covered in the supplement. The six home management tasks reported were preparing meals, shopping, managing money, using the telephone, doing heavy housework, and doing light housework. An affirmative response to the question, “Because of a health or physical problem, do you have any difficulty in performing the activity?” constituted difficulty with either an ADL or an IADL. Proxy responses were included for some subjects.

Slight variance in prevalence rates of difficulties with ADLs and IADLs occurred across different national surveys because of differences in classification and selection of activities, wording of questions, the time frame, and data collection methods (27). However, the data from all surveys have shown that difficulties in ADLs and IADLs are related to age and sex. The latest national data from the 1986 were consistent with these findings. The proportion of males aged 85 and older who reported difficulty performing at least one ADL was 35% compared to 48% for females in the same group. Both sexes of the oldest old showed a significant increase in the proportion reporting difficulty in performing at least one ADL compared to respondents

between the ages of 65 and 69 (15% for each sex).

Similar patterns of age and sex differences were shown with difficulties in performing IADLs. For men aged 85 years and older, 43% reported difficulty in performing at least one IADL compared to 15% of men aged 65-69 years. In all age groups, the proportion reporting difficulty in performing IADLs was significantly higher for women than for men. In the youngest age group (65-69 years), 24% of women reported difficulty with at least one IADL, whereas 64% in the oldest age group (85+ years) of women reported difficulty with at least one IADL.

The sex differences reflected in these data may be related more to sex roles in performing household tasks rather than to real functional differences between men and women. For example, a male who does not prepare meals or do housework is classified as not having difficulty whereas a female who cannot do these tasks is classified as having difficulty. Because men commonly perform fewer IADLs, their reports of difficulty may be underestimated.

Economic Resources

Data from 1984 as reported by Grad (28) and Atkins (29) will be highlighted in this review. More recent income and asset levels would be higher but would not substantially affect the age-related patterns described by these analysts. The oldest cohort in their studies was defined as aged 80 and older, and the youngest cohort was aged 65 to 69.

Annual cash income was substantially lower for the oldest group than for the youngest group. Data gathered during the March 1985 Current Population Survey (CPS) revealed that the median cash income in 1984 of married couples aged 80 and older was $13,190 compared with $19,500 for couples aged 65 to 69. For the same time period, the median cash income for unmarried persons aged 80 and older was $5,940 compared with $7,510 for persons aged 65 to 69.

The official U.S. government poverty standards in 1984 for elderly persons were $5,160 for single persons and $6,510 for married couples. In 1984, 17% of the oldest cohort had incomes below the poverty level, compared with only 9% of the youngest cohort. Another means of viewing the relative income picture of the age groups over 65 is a comparison of the income distribution curves. A high concentration of the oldest cohort lay within the income range of $3000 to $7000, whereas the youngest cohort was distributed fairly evenly across the income range from $3000 to $20,000.

Atkins (29) proposed that two factors contribute significantly to the decline in income associated with aging: change in marital status and change in sources of income. “Most of the difference between the income distributions of the oldest old and the youngest old can be attributed to the greater concentration of single persons in the oldest-old population (pp. 361-362)." Thus, Atkins concluded that marital status, especially loss of a spouse, has more of an effect on the shape of the income distribution than does age. The decline in the median income for the oldest old also may be attributable to the decline in earnings

income and the increased reliance on pension income, Social Security, and asset income. The oldest cohort had lower earned income, fewer income-earning assets, and shorter periods of contributions to Social Security and private pensions than did the youngest cohort.

Data on the assets of the very old are limited by small sample sizes and high rates of nonresponse to questions about types and values of assets. The 1984 Survey of Income and Program Participation (SIPP) provided more complete data than previous cross-sectional studies because of substantially improved response rates (30). Nearly 75% of the respondents in the SIPP reported owning their homes. More than 80% of these were owned "free and clear." Although home equity provided the most substantial asset for most elderly persons, financial assets were neither as widespread nor as evenly distributed. Nearly one out of four SIPP respondents aged 65 and older reported no income from interest or dividend-earning financial assets. Among respondents who reported assets other than home equity, one-third owned less than $10,000 total, and only 15% owned $100,000 or more.

The median net worth of the oldest cohort was significantly lower than that of younger elderly persons. When home equity was excluded, the median net worth for persons aged 80 and older ($13,425) was slightly less than two-thirds as high as the median net worth ($20,942) for persons aged 65 to 69 (30). The oldest cohort also had a higher percentage (6.0%) of persons with zero net worth than the youngest cohort (4.3%).

Little information is available on the noncash or in-kind benefits received by the oldest old, other than Medicare. Studies conducted by the U.S. Department of Health and Human Services (31) and the U.S. Senate (32) found that only about one-fifth of all persons aged 65 and older receive such government-provided noncash benefits as Medicaid, energy assistance, food stamps, or subsidized housing.

RESEARCH PROCEDURES

Study Population

Permission was obtained from the Health Care Financing Administration (HCFA) to use the Medicare enrollee data for Kansas residents 85 years of age and over. Seven rural counties in the northeastern and northcentral parts of the state were selected for participation in the study. The number of potential subjects by county is presented in Table 2 (pg. 21). Of the 1,995 enrollees on the HCFA list, 289 did not meet the criterion of living independently in their own home or apartment for inclusion in the sampling frame. Thus, 85.5% of the potential subjects in the area were eligible for selection.

Potential subjects were stratified by gender, and a total of 300 names were selected randomly. No further stratification was done by county, race, or other demographic characteristics because of the relatively homogeneous nature of the oldest-old population in this area.

Each potential subject was sent a beneficiary notification letter on HCFA letterhead explaining the study and requesting participation. Approximately

1 week after the letters were mailed, individuals were contacted by phone to request an interview. Nonrespondents (n=158) included persons who could not be reached by phone as well as individuals who were either unable to do an interview because of physical disabilities or who were not interested in participating. Of the 142 remaining persons contacted, 98 women and 44 men completed interviews for a final response rate of 47.3%. An informed consent statement was signed by each subject at the time of the interview.

Instrument

The instrument selected for this study was the Multidimensional Functional Assessment Questionnaire (MFAQ) developed by the Older Americans Resources and Services (OARS) Program at Duke University (33). The MFAQ is designed to provide a comprehensive profile of the level of functioning and need for services of older persons living at home.

The MFAQ consists of two distinct parts: the functional- assessment section and the services-utilization section. The functional-assessment section includes items on social resources, mental health, physical health, activities of daily living, and economic resources. Questions covering basic demographic information also are included. The services-utilization section covers 24 services received and/or needed from community agencies and organizations as well as from family members and friends. Only data from the functional-assessment section will be included in the present report. Data from the services-utilization section will comprise a subsequent report. The entire questionnaire was administered by a trained interviewer in the subject's own home or apartment. The average time for each interview was approximately 1 hour.

The scoring system for the functional-assessment section consisted of five overall ratings, one for each of the five subsections, made by the interviewer based on information collected in the interview (34). The level of functioning for each subsection was based on a six-point scale: 1 =outstanding functioning, 2= good functioning, 3=mild impairment, 4=moderate impairment, 5=severe impairment, 6=complete impairment. The five ratings then were added to form a Cumulative Impairment Score (CIS) with a range from 5 to 30 points.

Statistical Analysis

For this report, the data were analyzed by gender for sociodemographic characteristics, mental and physical health characteristics, activities of daily living, economic resources, and cumulative functional status. Because marital status, educational level, income, and rurality are more problematic variables in determining subgroups, gender was selected to reduce misclassification errors.

The CROSSTABS procedure in SPSS-X (35) was used to quantify the relationship between gender and the selected variables of interest. The chi-square distribution using Fisher's exact test is reported along with the observed significance level of the test. All comparisons were tested at the 5%

level of significance.

RESULTS AND DISCUSSION

Sociodemographic Characteristics

Tables 3 (pg. 22) and 4 (pgs. 23-24) present the demographic and social characteristics of the 142 study participants with gender comparisons. The distribution of participants between the two age groups varied considerably by gender. The proportion of women in the older age group was significantly higher ($p=0.036$). Across age groups, 73% of the men were in the younger group, whereas 54% of the women were aged 85 to 89 years.

The distribution by race for the entire population aged 85 and older of Kansas in 1990 (2) was 96.3% white and 3.7% nonwhite. For the seven counties represented in the present study, the distribution by race for the population aged 85 and older was 98.8% whites and 1.2% nonwhites. The extremely small proportion (0.7%) of nonwhites among the study participants thus was closely representative of the proportion available within the region for sampling.

No significant gender differences occurred in the educational level, type of housing, or residence, but some important distribution patterns are worth noting. The three educational levels were almost equal in proportion within the total group, but a greater proportion of men compared to women completed only an elementary level of education. An almost equal proportion of men and women had schooling beyond the high school level. Men were more likely than women to live in an individual home rather than in an apartment. Only 17 of the study participants lived outside a town at the time of the interviews. Many of this cohort had lived on farms prior to retirement and continued to be involved with younger family members in making decisions regarding current farm operations.

Significant gender differences occurred in marital status, living arrangements, and frequency of telephone conversations. Women, compared to men, were less likely to be married, more likely to live alone, and more likely to talk with someone on the telephone at least once a day. One out of every five of the study participants had no living children. Almost equal proportions of men (84.1%) and women (82.5%) knew five or more people well enough to visit in their homes. The frequencies of actual visits outside the home were comparable for both men and women. Almost 90% of the study participants made visits outside the home more than once a week. Only one man and one woman reported not having a confidante, but women were more likely to report feeling lonely at least sometimes. More than half of both men and women reported being able to visit relatives and friends as often as they desired. No significant gender differences occurred in the availability of a helper for times of sickness or disability. Only 7% of the participants reported that no one was available for help.

Mental Health Characteristics

The mental health section of the MFAQ consists of six questions designed to determine the adequacy of

cognitive functioning and the presence or absence of psychiatric disorder. The first question is the Short Portable Mental Status Questionnaire containing items developed to determine whether the participant is capable of answering the MFAQ questions reliably. Four or more errors indicate to the interviewer that the respondent is unable to participate in the study. In the present study, all of the participants passed the screening assessment, so that knowledgeable informants were not necessary to obtain reliable information.

The second question contains 15 items comprising the Short Psychiatric Evaluation Schedule (SPES), a subset of the items constituting the 71-item Mini-Mult developed by Kincannon (36). The SPES is designed to distinguish good mental health functioning from poor mental health functioning. The items selected for the SPES measure the main mental health problems of older adults, i.e., depression, hypochondriasis, paranoid reactions, and adjustment reactions of late life. SPES scores of 4 or less are considered to indicate unimpaired psychiatric functioning, whereas scores of 5 or greater indicate impaired psychiatric functioning. Figure 1 (pg. 40) shows the proportion of study participants by gender who scored at each level. No significant gender difference occurred in the overall level of psychiatric functioning as measured by the SPES.

Gender comparisons of individual items in the SPES are shown in Table 5 (pg. 25) No significant differences occurred between men and women for any of the items, although "interesting daily activities" and "feelings of being plotted against" almost meet the significance criterion. Over 90% of both men and women reported feeling happy most of the time. However, slightly more women (90.8%) than men (88.6%) reported feeling well most of the time.

The remaining questions in the mental health section focused on life satisfaction and self assessment of mental health. Although no major significant differences occurred between men and women (Table 6, pg. 26) interesting patterns emerged for several items. For example, men were twice as likely as women to feel that life is "dull" and three times as likely to report "poor satisfaction with life." By contrast, three-fourths of the men rated their current mental health as "good" or "excellent" compared to only 62% of the women. A smaller proportion of women than men reported that their mental health had worsened over the previous year. Inconsistencies in the answers to these questions may have been due to their subjective nature and/or interpretation of the forced (fixed) response categories.

Physical Health Characteristics

The physical health section employs 15 questions as indicators of physical health functioning and of functional limitations caused by physical health problems. Table 7 (pg. 27) shows the responses for five questions pertaining to days of physical disability and receipt of medical care in the 6 months prior to the interview, plus the study participants' perception of the need for additional medical care. Eighty-four percent, of the study group had seen a physician at least once, and over 90% had not suspended their usual

activities for more than a week. A small proportion of the total participants had been hospitalized (16.9%) or in a nursing home (4.2%). Less than 10% of the participants reported a need for medical care beyond what they were currently receiving. The observed differences between men and women were small and not statistically significant.

Responses to questions of physical disabilities, sensory impairment, drinking problems, exercise, and self-rated health status are shown in Table 8 (pg. 28). No physical disabilities were reported by 94% of the participants. Approximately one-half of the respondents rated their eyesight as "fair" or "poor" even with glasses, and 56% rated hearing without an aid as "fair" or "poor". The contribution of alcohol to poor health was minimal (2.1%) in the study group. Regular exercise in the form of yard/garden work or walking was practiced by approximately 50% of the group. The differences between men and women were striking. Men (70.5%) were much more likely than women (39.8%) to engage in regular physical activity. Ratings of overall health were similar for both men and women, with approximately two-thirds of the group responding "excellent" or "good". However, men were more likely than women to have experienced a decline in their health within the past 5 years and to report more interference with activities from health problems.

Two questions focus on the presence of currently diagnosed physical illnesses or conditions and use of prescribed medications during the month prior to the interview. A common practice is to count the number of chronic illnesses or the number of different prescribed medications taken and report these as indicators of physical health status. However, this practice obscures the importance of particular items and the relative frequency of specific illnesses or medications. We have chosen to present the data on illnesses and medications by order of frequency from most to least often reported for the group as a whole. The additional data in Tables 9 (pg. 29) and 10 (pg. 30) show the distribution of observed responses by gender and the statistical analyses.

Six illnesses on the MFAQ were not reported by any of the study participants. These are tuberculosis, liver disease, cerebral palsy, multiple sclerosis, muscular dystrophy, and effects of polio. In addition none of the men reported thyroid disorders, fractures, or skin disorders. Parkinson's disease, kidney disease, and epilepsy were not reported by any of the women. The most frequently reported illnesses were arthritis/rheumatism, cataracts, and cardiovascular diseases. The patterns of occurrence varied considerably by gender, with significantly more women than men reporting arthritis (78.6% vs. 56.8%) and high blood pressure (48.0 vs. 20.5%).

One of every four men in the study and almost one of every two women took prescribed medication for high blood pressure (Table 10). None of the men reported use of thyroid medication, hormones, or cortisone. Although four women reported having diabetes, none of them currently were using insulin. Only one man reported being an epileptic and using seizure

medication. Only 4% of the women currently were receiving hormone therapy.

Activities of Daily Living

Fifteen questions in the activities of daily living section assess the extent of capacity to do those tasks needed for continued independent living in the community. Seven questions measure instrumental activities such as use of the telephone, shopping, cooking, doing housework, taking medicine, and handling personal finances. Another seven questions measure personal care activities including feeding oneself, dressing, grooming, walking, transferring into and out of bed, bathing, and remaining continent. The final question pertains to the availability of someone to help with personal activities.

Difficulties with activities requiring greater mobility, strength, and stamina (i.e., getting to places out of walking distance, shopping, and housework) were more prevalent than difficulties with "light" activities, such as using the telephone, cooking, taking medications, and managing money (Table 11, pg. 31). Only one person was completely unable to use the telephone, get to a location out of walking distance, and take her own medication. Women were more likely than men to need some help with transportation and shopping. Men were more likely than women to need assistance with taking medications.

Virtually all of the study participants were able to eat, dress, groom themselves, and transfer in and out of bed without help (Table 12, pg. 32). Proportionally more women than men needed help walking and bathing. A significantly greater proportion of women (38.8%) than men (15.9%) had problems getting to the bathroom on time. When personal care help was needed, women (68.4%) were more likely than men (52.3%) to have someone available. However, this gender difference was not statistically significant. The categories of personal care helper are shown in Figure 2 (pg. 40). Only 7.6% of the women had a spouse who could provide help, whereas 52.2% of the men named the spouse as the major helper.

Economic Resources

Questions eliciting information on economic resources are selected to assist the interviewer in estimating the adequacy of income and income resources. Standard questions used in economic surveys inquire about current employment status, major occupation of self and spouse, source and amount of income, and cost of home ownership or rent. Additional questions unique to the MFAQ include self-perceived adequacy of assets to meet expenses, receipt of food and meals from others, need for food stamps, the presence of health or medical insurance, and subjectively assessed income adequacy.

Tables 13-16 (pgs. 33-35) present the distribution of responses and gender analyses, where appropriate, from the four standard questions of economic resources. Because of the age of the study participants, we assumed prior to data collection that all would be retired. Surprisingly, one man and three women reported full-time employment. Of those who were retired, almost half of the women (49.1%) were homemakers, with

the other half distributed among various professional and blue-collar occupations (Table 13). The three most common occupations among the retired men were farming, clerical/sales, and skilled positions. Approximately one half of the men (only one man never married) were married to fulltime homemakers, and approximately one half of the women (six women never married) were married to farmers.

Only five of the study participants (one man and four women) did not receive Social Security payments (Table 14). Rentals and investments were the other major sources of income. Only one of every five study participants received a retirement pension. Although remarkable similarity by gender existed in the sources of income for this group of people aged 85 and older, the amount of income varied significantly between men and women. Not all of the participants were willing to reveal the amount of their income or were sure of the amount. Of those who answered this question (Table 15), half of the women received less than $10,000 per year, whereas only 26.3% of the men were in the lowest income category. In the highest income category, the gender gap was relatively less.

The cost of home ownership or rent for the study participants is shown in Table 16. Almost three-fourths of the group owned their homes, with the remaining one-fourth living in rental housing. Not all of the home owners knew the worth of the home. Among those who could give an estimate, no significant gender differences occurred. Women (81%) were more likely than men (19%) to be renters. Almost 90% of the renters paid all or some of their monthly costs. Approximately half of the renters paid between $100 and $349 a month. Gender differences were not significant for the amount of monthly rental payments.

Study participants were asked to assess the sufficiency of their financial resources for household emergencies and health care crises (Table 17, pg. 36). Nine people could not answer the former, and 10 people could not answer the latter. Ninety-five percent of the respondents thought they were prepared for household emergencies, but one in five could not finance a health care crisis. Payment of usual expenses was no problem for 92% of the study participants. An almost equal proportion of men (84.1%) and women (84.5%) did not need additional financial assistance. Approximately 20% of the study participants received some assistance with food purchases or meals, but only 5% reported the need for food stamps. Only one person reported not having health or medical insurance. The predominant type of health insurance coverage for the study participants was Medicare (Table 18, pg. 34). Almost 80% of the study group reported supplemental coverage with Medigap policies. Insurance coverage for cancer and long-term care was less common (13.6%). Patterns for all five types of health insurance coverage were similar for both men and women.

Self-perceived assessment of income adequacy showed considerable variation across response categories but consistency between men and women, with the exception of the response category “comparison with others in the same age group” (Table 19, pg. 38). Although the probability level did not

reach the 0.05 criterion, men (41%) were more likely than women (23.5%) to perceive themselves better off financially than their peers. In other words, women (70.6%) were more likely than men (53.8%) to see themselves as about the same as other members of their cohort. We can only speculate as to whether this difference reflects a higher level of financial information or a greater tendency toward "economic pride" among men or some other unknown influence. Responses to questions of "current financial needs", "enough money for small luxuries", and "enough money for future needs" were similar for men and women. About half of the study participants stated that their current financial needs were "very well" met, with only 5 % of the study group placing themselves in the poorest category. Having enough money for small luxuries and for future needs was a problem for about 13% of the group.

Cumulative Functional Status

The functional assessment section of the MFAQ used in the present study contains 72 numbered questions, many with subparts. Collectively, this constitutes a massive amount of information. If these data are to be useful for other than descriptive purposes, they must be condensed into some meaningful format. Within each of the five areas of functioning, a summary rating scale was assigned to the study participant at the conclusion of the interview. Each area scale ranged from 1 (outstanding functioning) to 6 (complete impairment). The five area scores were added, producing the Cumulative Impairment Score (CIS) with values ranging from 5 (indicating excellent functioning in all areas) to 30 (totally impaired in all areas). The CIS assumes that each of the five areas of functioning are weighted equally as contributors (34). The use of a CIS provides a means of comparing selected groups.

Classifying the entire group of participants by level for each of the subscales gives a functional profile for all five areas simultaneously (Table 20, pg. 38). Aggregating persons with ratings of 1 and 2 creates a group whose functioning is unimpaired. This group then can be compared to the mild to moderately impaired (ratings of 3 and 4) and to the most severely impaired (ratings of 5 and 6). The areas of functioning vary considerably in the proportion of the oldest old at each level of functioning. Whereas approximately three fourths of the participants were completely unimpaired mentally and economically, only one-half presented no physical impairment or limitations of daily activities. Social functioning lies midway between the previously mentioned areas. None of the oldest old in the present study were classified in the most severely impaired group for mental health functioning and current economic resources.

Mean scores for each of the five functional areas and cumulative functioning are shown in Table 21 (pg. 39). No significant gender differences occurred in the mean scores for any area or for the cumulative impairment score. Mean scores were lowest, or best, for mental health and highest, or worst, for physical health. Thus, on the group level, poor functioning in the physical area was balanced by good

functioning, in mental health. Good social and economic resources also offset the impact of lower ratings in physical health and limitations of daily activities.

IMPLICATIONS

Results of this study can assist Extension personnel and Kansas State University teams at the state level as they develop programs. County staff can benefit from educational materials based on data from the interviews. Finally, older Kansans and their families can benefit from programs they attend by adapting their lifestyles to maintain functional independence.

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Table 1. Ranking of the Most Commonly Prescribed Generic Ingredients and Their Therapeutic Use for Outpatients Aged 75 Years and Older

Rank	Generic Ingredient	Therapeutic Use
1	Digoxin	Cardiotonic
2	Hydrochlorothiazide	Diuretic, antihypertensive
3	Furosemide	Diuretic, antihypertensive
4	Potassium replacement solutions	Replacement preparation
5	Nitroglycerin	Vasodilator
6	Triamterene	Diuretic, antihypertensive
7	Aspirin	Analgesic, antipyretic, anti-inflammatory
8	Acetaminophen	Analgesic, antipyretic
9	Timolol	Glaucoma
10	Methyldopa	Antihypertensive

Source: NCHS: Data from the 1985 National Ambulatory Medical Care Survey

Table 2. Potential Subjects by County

County	Total Cases	Nursing Homes	Guardian Care	Total Excluded	Net Cases
Clay	342	22	1 8	4 0	302
Geary	246	12	27	39	207
Morris	180	5	11	16	164
Pottawatomie	310	6	16	22	288
Riley	522	60	64	124	398
Smith	239	14	18	32	207
Wabaunsee	156	1	15	16	140
TOTALS	1995	120	169	289	1706

Net cases as a proportion of potential subjects: 1706/1995 = 85%
Number of names selected for interviews: 300
Selected names as a proportion of net cases : 300/1706 = 17.6%

Table 3. Demographic Characteristics of Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
Characteristic	No.	%	No.	%	No.	%	X^2	P
Age								
85-89 years	85	59.9	32	72.7	53	54.1	4.394	0.036
90 + years	57	40.1	12	27.3	45	45.9		
Race								
White	141	99.3	44	100.0	97	99.0	n.c.*	
Nonwhite	1	0 . 7	0	0.0	1	1.0		
Education								
Elementary (0-8 yrs.)	45	31.7	18	40.9	27	27.6	2.996	0.224
High school (9-12 yrs.)	47	33.1	11	25.0	36	36.7		
Post secondary (13+ yrs.)	50	35.2	15	34.1	35	35.7		
Housing								
Individual home	111	78.2	39	88.6	72	73.5	2.892	0.089
Apartment	31	21.8	5	11.4	26	26.5		
Residence								
Town	125	88.0	40	90.9	85	86.7	0.644	0.725
Rural non-farm	10	7.0	2	4.5	8	8.2		
Farm	7	5.0	2	4.5	5	5.1		

*nc= not computed

Table 4. Social Characteristics of Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
Characteristic	No.	%	No.	%	No.	%	X^2	p
Marital status								
Married	42	29.6	30	68.2	12	12.2	45.616	0.000
Not married	100	70.4	14	31.8	86	87.8		
Living arrangement								
Alone	77	54.2	12	27.3	65	66.3	18.659	0.000
With another	65	45.8	32	72.7	33	33.7		
Number of living children								
None	31	21.8	7	15.9	24	24.5	1.310	0.252
One or more	111	78.2	37	84.1	74	75.5		
Number of people known well enough to visit	(n = 141)		(n = 44)		(n = 97)			
5 or more	117	83.0	37	84.1	80	82.5	2.605	0.457
3-4	18	12.8	5	11.3	13	13.4		
1-2	5	3.5	1	2.3	4	4.1		
None	1	0.7	1	2.3	0	0.0		
Frequency of telephone conversations								
1+ times/day	77	54.3	11	25.0	66	67.3	25.189	0.000
2-6 times/week	49	34.5	22	50.0	27	27.6		
1 time/week	9	6.3	6	13.6	3	3.1		
Not at all	7	4.9	5	11.4	2	2.0		
Frequency of visits outside the home								
1+ times/day	56	39.4	16	36.4	40	40.8	0.855	0.836
2-6 times/week	69	48.6	22	50.0	47	48.0		
1 time/week	13	9.2	4	9.1	9	9.2		
Not at all	4	2.8	2	4.5	2	2.0		

(continued)

Table 4. Social Characteristics of Rural Kansans Aged 85 and Older, 1994 (continued)

	Total (n=142)		Men (n=44)		Women (n=98)			
Characteristic	No.	%	No.	%	No.	%	X^2	P
Has a confidante								
Yes	140	98.6	43	97.7	97	99.0	0.343	0.558
No	2	1.4	1	2.3	1	1.0		
Feelings of loneliness								
Quite often	13	9.2	6	14.0	7	7.1	5.394	0.067
Sometimes	48	34.1	9	20.9	39	39.8		
Almost never	80	56.7	28	65.1	52	53.1		
Visit relatives and friends as often as desired								
Yes	82	57.7	24	54.5	58	59.2	0.268	0.605
No	60	42.3	20	45.5	40	40.8		
Helper available if sick or disabled								
Yes	131	92.9	41	93.2	90	92.8	0.005	0.944
No	10	7.1	3	6.8	7	7.2		

Table 5. Mental Health Items on the Short Psychiatric Evaluation Schedule (SPES), Rural Kansans Aged 85 and Older, 1994

Item	Total (n=142)		Men (n=44)		Women (n=98)			
	No	%	No	%	No	%	X^2	p
Do you wake up fresh and rested most mornings?	96	67.6	33	75.0	63	64.3	1.592	0.207
Is your daily life full of things that keep you interested?	119	83.8	33	75.0	86	87.8	3.640	0.056
Have you, at times, very much wanted to leave home?	6	4.2	3	6.8	3	3.1	1.059	0.303
Does it seem that no one understands you?	17	12.0	8	18.2	9	9.2	2.333	0.127
Have you had periods of days, weeks, or months when you couldn't take care of things because you couldn't "get going?"	26	18.3	9	20.5	17	17.3	0.196	0.658
Is your sleep fitful and disturbed?	39	27.5	15	34.1	24	24.5	1.405	0.236
Are you happy most of the time?	132	93.0	40	90.9	92	93.9	0.409	0.523
Are you being plotted against?	4	2.8	3	6.8	1	1.0	3.729	0.054
Do you feel useless at times?	78	54.9	25	56.8	53	54.1	0.092	0.762
During the past few years, have you been well most of the time?	128	90.1	39	88.6	89	90.8	0.162	0.687
Do you feel weak all over much of the time?	27	19.0	8	18.2	19	19.4	0.029	0.866
Are you troubled by headaches?	12	8.5	3	6.8	9	9.2	0.220	0.639
Have you had difficulty in keeping your balance in walking?	79	55.6	21	47.7	58	59.2	1.615	0.204
Are you troubled by your heart pounding and by a shortness of breath?	37	26.1	8	18.2	29	29.6	2.052	0.152
Even when you are with people, do you feel lonely much of the time?	11	7.7	3	6.8	8	8.2	0.077	0.782

Table 6. Mental Health Characteristics of Rural Kansans Aged 85 and Older. 1994

Characteristic	Total (n=142) No.	%	Men (n=44) No	%	Women (n=98) No	%	X^2	P
Frequency of worrying								
Very often	27	19.0	8	18.2	19	19.4	0.091	0.955
Fairly often	37	26.1	11	25.0	26	26.5		
Hardly ever	78	54.9	25	56.8	53	54.1		
Feelings about life	(n=139)		(n=43)		(n=96)			
Exciting	44	31.7	12	27.9	32	33.3	1.982	0.371
Pretty routine	85	61.2	26	60.5	59	61.5		
Dull	10	7.1	5	11.6	5	5.2		
Satisfaction with life								
Good	111	78.2	34	77.3	77	78.6	2.648	0.266
Fair	24	16.9	6	13.6	18	18.4		
Poor	7	4.9	4	9.1	3	3.0		
Rating of current mental health								
Excellent	18	12.7	4	9.1	14	14.3	5.433	0.143
Good	76	53.5	29	65.9	47	48.0		
Fair	44	31.0	9	20.5	35	35.7		
Poor	4	2.8	2	4.5	2	2.0		
Change in mental health over past 5 years								
Better	15	10.6	3	6.8	12	12.2	5.362	0.069
About the same	87	61.3	23	52.3	64	65.3		
Worse	40	28.1	18	40.9	22	22.5		

Table 7. Medical Care Requirements of Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
Characteristic	No.	%	No	%	No	%	X^2	P
Frequency of doctor's visits during the past 6 months								
None	23	16.2	7	15.9	16	16.7	0.026	0.987
1-6 times	107	75.3	34	77.3	73	76.0		
7+ times	12	8.5	3	6.8	7	7.3		
Frequency of illness requiring suspension of usual activities during the past 6 months								
None	107	75.3	37	84.1	70	71.4	8.767	0.067
A week or less	21	14.8	3	6.8	18	18.4		
More than a week but < 1 month	7	4.9	4	9.1	3	3.1		
1-3 months	6	4.3	0	0.0	6	6.1		
4-6 months	1	0.7	0	0.0	1	1.0		
Days of hospitalization for physical health problems during the past 6 months								
None	118	83.1	36	81.8	82	83.7	1.751	0.417
1-7 days	17	12.0	7	15.9	10	10.2		
8+ days	7	4.9	1	2.3	6	6.1		
Days in a nursing home for physical health problems during the past 6 months								
None	136	95.8	43	97.7	93	94.9	0.757	0.685
1-7 days	1	0.7	0	0.0	1	1.0		
8+ days	5	3.5	1	2.3	4	4.1		
Need medical care beyond what is currently being received								
Yes	12	8.6	5	11.4	7	7.3	0.638	0.424
No	128	91.4	39	88.6	89	92.7		

Table 8. Physical Health Characteristics of Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
Characteristic	No.	%	No	%	No	%	X^2	P
Physical disabilities								
None	133	93.7	41	93.2	92	93.8	3.766	0.288
Broken bones	5	3.5	2	4.5	3	3.1		
Missing limbs	1	0.7	1	2.3	0	0.0		
Partial paralysis	3	2.1	0	0.0	3	3.1		
Quality of eyesight with glasses								
Excellent	14	9.9	4	9.1	10	10.3	1.694	0.638
Good	58	41.1	21	47.7	37	38.1		
Fair	46	32.6	14	31.8	32	33.0		
Poor	23	16.4	5	11.4	18	18.6		
Quality of hearing without hearing aid								
Excellent	13	9.2	6	13.6	7	7.2	2.382	0.497
Good	49	34.5	13	29.5	36	36.7		
Fair	40	28.2	11	25.1	29	29.6		
Poor	40	28.2	14	31.8	26	26.5		
Drinking-related health problems								
Yes	3	2.1	0	0.0	3	3.1	1.376	0.241
No	139	97.9	44	100.0	95	96.9		
Regular work in yard or garden or take long walks								
Yes	70	49.3	31	70.5	39	39.8	11.419	0.001
No	72	50.7	13	29.5	59	60.2		
Rating of overall health								
Excellent/good	92	64.8	27	61.4	65	66.3	0.328	0.567
Fair/poor	50	35.2	17	38.6	33	33.7		
Comparison of health now to 5 years ago								
Better	9	6.3	2	4.5	7	7.1	5.066	0.080
About the same	69	48.6	16	36.4	53	54.1		
Worse	64	45.1	26	59.1	38	38.8		
Health problems interfere with activities								
A great deal	43	30.5	17	39.5	26	26.5	2.836	0.242
A little	51	36.2	12	27.9	39	39.8		
Not at all	47	33.3	14	32.6	33	33.7		

Table 9. Presence of Current Physical Illnesses or Conditions, Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
Illness or Condition	No.	%	No	%	No	%Yes	X^2	p
Arthritis/rheumatism	102	71.8	25	56.8	77	78.6	0.102	0.008
Cataracts	70	49.3	27	61.4	43	43.9	0.715	0.054
High blood pressure	56	39.4	9	20.5	47	48.0	0.618	0.002
Heart trouble	44	31.0	11	25.0	33	33.7	0.068	0.301
Circulation trouble in arms or legs	34	23.9	12	27.3	22	22.4	0.388	0.533
Macular degeneration	18	12.7	5	11.4	13	13.3	0.099	0.753
Glaucoma	16	11.3	2	4.5	14	14.3	0.881	0.090
Stomach/intestinal disorders	15	10.6	2	4.5	13	13.3	0.444	0.118
Ulcers (digestive system)	13	9.2	5	11.4	8	8.2	0.374	0.541
Effects of stroke	10	7.0	2	4.5	8	8.2	0.607	0.436
Thyroid or other glandular disorders	9	6.3	0	0.0	9	9.2	0.314	0.038
Urinary tract disorders (including prostate)	7	4.9	4	9.1	3	3.1	0.356	0.125
Emphysema/chronic bronchitis	6	4.2	2	4.5	4	4.1	0.016	0.899
Diabetes	6	4.2	2	4.5	4	4.1	0.016	0.899
Asthma	4	2.8	1	2.3	3	3.1	0.069	0.793
Cancer or leukemia	4	2.8	3	6.8	1	1.0	0.728	0.054
Fractures-hip, back, wrist	4	2.8	0	0.0	4	4.1	0.848	0.174
Anemia	3	2.1	1	2.3	2	2.0	0.008	0.929
Parkinson's disease	2	1.4	2	4.5	0	0.0	0.518	0.034
Skin disorders	2	1.4	0	0.0	2	2.0	0.911	0.340
Speech impediment	2	1.4	1	2.3	1	1.0	0.343	0.558
Kidney disease	1	0.7	1	2.3	0	0.0	0.243	0.134
Epilepsy	1	0.7	1	2.3	0	0.0	0.243	0.134

Table 10. Use of Prescription Medications during the Previous Month, Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
Medication or Condition	No	% Yes	No	% Yes	No.	% Yes	X^2	P
High blood pressure	57	40.1	11	25.0	46	46.9	5.661	0.017
Diuretic	38	26.8	13	29.5	25	25.5	0.339	0.561
Arthritis	28	19.7	8	18.2	20	20.4	0.061	0.805
Digitalis	21	14.8	6	13.6	15	15.3	0.043	0.836
Drugs to improve circulation	17	12.0	3	6.8	14	14.3	1.553	0.213
Nitroglycerin	16	11.3	6	13.6	10	10.2	0.391	0.532
Sleeping pills	16	11.3	7	15.9	9	9.2	1.496	0.221
Pain killer (analgesic)	14	9.9	3	6.8	11	11.2	0.603	0.437
Eye drops for glaucoma	13	9.2	1	2.3	12	12.2	3.513	0.061
Blood thinner	12	8.5	1	2.3	11	11.2	3.089	0.079
Ulcer (digestive)	12	8.5	5	11.4	7	7.1	0.772	0.380
Thyroid	12	8.5	0	0.0	12	12.2	5.755	0.016
Antibiotics	12	8.5	1	2.3	11	11.2	3.040	0.081
Tranquilizers	8	5.6	3	6.8	5	5.1	0.196	0.658
Oral medication for diabetes	5	3.5	1	2.3	4	4.1	0.269	0.604
Hormones	4	2.8	0	0.0	4	4.1	1.806	0.179
Insulin injections	2	1.4	2	4.5	0	0.0	4.624	0.032
Cortisone pills or injections	2	1.4	0	0.0	2	2.0	0.890	0.345
Seizure	1	0.7	1	2.3	0	0.0	2.295	0.130

Table 11. Instrumental Activities of Daily Living (IADL) of Rural Kansas Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
IADL	No.	%	No	%	No	%	X^2	P
Use the telephone								
Without help	131	92.3	40	90.9	91	92.9	2.244	0.326
With some help	10	7.0	3	6.8	7	7.1		
Completely unable to	1	0.7	1	2.3	0	0.0		
Get to places out of walking distance								
Without help	74	52.1	35	79.5	39	39.8	19.309	0.000
With some help	67	47.2	9	20.5	58	59.2		
Completely unable to	1	0.7	0	0.0	1	1.0		
Go shopping for groceries or clothes								
Without help	81	57.0	33	75.0	48	49.0	8.396	0.015
With some help	45	31.7	8	18.2	37	37.7		
Completely unable to	16	11.3	3	6.8	13	13.3		
Prepare own meals								
Without help	117	82.4	33	75.0	84	85.7	2.483	0.289
With some help	21	14.8	9	20.5	12	12.2		
Completely unable to	4	2.8	2	4.5	2	2.1		
Do housework								
Without help	77	54.2	26	59.1	51	52.0	0.770	0.681
some help	52	36.6	15	34.1	37	37.8		
Completely unable to	13	9.2	3	6.8	10	10.2		
Take own medicine								
Without help	130	91.5	37	84.1	93	94.9	6.320	0.042
With some help	11	7.7	7	15.9	4	4.1		
Completely unable to	1	0.7	0	0.0	1	1.0		
Manage own money								
Without help	114	80.3	36	81.8	78	79.6	1.448	0.485
With some help	20	14.1	7	15.9	13	13.3		
Completely unable to	8	5.6	1	2.3	7	7.1		

Table 12. Personal Activities of Daily Living (PADL) of Rural Kansans Aged 85 or Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
PADL	No.	%	No	%	No	%	X^2	P
Eating								
Without help	139	97.9	43	97.7	96	98.0	0.008	0.929
With some help	3	2.1	1	2.3	2	2.0		
Completely unable to	0	0.0	0	0.0	0	0.0		
Dressing								
Without help	138	97.2	43	97.7	95	96.9	0.069	0.793
With some help	4	2.8	1	2.3	3	3.1		
Completely unable to	0	0.0	0	0.0	0	0.0		
Grooming								
Without help	138	97.2	44	100.0	94	95.9	1.848	0.174
With some help	4	2.8	0	0.0	4	4.1		
Completely unable to	0	0.0	0	0.0	0	0.0		
Walking								
Without help	124	87.3	43	97.7	81	82.7	6.266	0.044
With some help	16	11.3	1	2.3	15	15.3		
Completely unable to	2	1.4	0	0.0	2	2.0		
Getting in and out of bed								
Without help	137	96.5	44	100.0	93	94.9	2.327	0.127
With some help	5	3.5	0	0.0	5	5.1		
Completely unable to	0	0.0	0	0.0	0	0.0		
Bathing or showering								
Without help	107	75.4	38	86.4	69	70.4	4.613	0.100
With some help	32	22.5	6	13.6	26	26.5		
Completely unable to	3	2.1	0	0.0	3	3.1		
Problems getting to the bathroom on time								
Yes	45	31.7	7	15.9	38	38.8	7.335	0.007
No	97	68.3	37	84.1	60	61.2		
Availability of someone to help with personal activities								
Yes	90	63.4	23	52.3	67	68.4	3.389	0.066
No	52	36.6	21	47.7	31	31.6		

Table 13. Employment Characteristics of Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)	
Characteristic	No.	%	No.	%	No.	%
Employment status						
Employed full-time	4	2.8	1	2.3	3	3.1
Retired	138	97.2	43	97.7	95	96.9
Occupation						
Professional	19	13.4	2	4.5	17	17.3
Manager, proprietor	8	5.6	2	4.5	6	6.1
Farmer	25	17.6	19	43.2	6	6.1
Clerical, sales, technical	20	14.1	11	25.0	9	9.2
Skilled worker	6	4.2	5	11.4	1	1.0
Semi-skilled	4	2.8	0	0.0	4	4.1
Service worker	7	4.9	1	2.3	6	6.1
Unskilled	2	1.4	1	2.3	1	1.0
Farm laborer	3	2.1	3	6.8	0	0.0
Homemaker	48	33.8	0	0.0	48	49.1
Spouse's occupation						
Professional	8	5.6	3	6.8	5	5.1
Manager, proprietor	9	6.3	1	2.3	8	8.2
Farmer	57	40.1	3	6.8	54	55.2
Clerical, sales, technical	14	9.9	7	15.9	7	7.1
Skilled worker	10	7.0		2.3	9	9.2
Semi-skilled	5	3.5	1	4.5	3	3.1
Service worker	3	2.1	2	2.3	2	2.0
Unskilled	1	0.7	1	2.3	0	0.0
Farm laborer	2	1.4	1	0.0	2	2.0
Homemaker	26	18.3	0	54.5	2	2.0
Not applicable (never married)	7	4.9	24	2.3	6	6.1

Table 14. Sources of Income for Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n=44)		Women (n=98)			
Source	No.	% Yes	No.	% Yes	No.	% Yes	X^2	p
					94			
Social Security	137	96.5	43	97.7	81	95.9	0.292	0.589
Rental and investments	119	83.8	38	86.4	18	82.7	0.808	0.579
Retirement pension	32	22.5	14	31.8	10	18.4	0.147	0.076
Employment earnings	17	12.0	7	15.9	4	10.2	0.937	0.333
Family members	6	4.2	2	4.5	1	4.1	0.016	0.899
Veterans benefits	4	2.8	3	6.8	1	1.0	0.729	0.053
Disability payments	3	2.1	2	4.5	1	1.0	0.825	0.177
Supplemental Security Income (SSI)	2	1.4	1	2.3	1	1.0	0.343	0.558
Private organizations/ churches	2	1.4	1	2.3	1	1.0	0.343	0.558
Welfare payments	2	1.4	1	2.3	0	1.0	0.343	0.558
Alimony	1	0.7	1	2.3		0.0	0.243	0.134

Table 15. Annual Income of Rural Kansans Aged 85 and Over. 1994

	Total (n=116)		Men (n=38)		Women (n=78)			
Source	No.	%	No.	%	No.	%	X^2	p
Less than $10,000	49	42.2	10	26.3	39	50.0	5.916	0.052
$10,000 - $19,999	47	40.5	20	52.6	27	34.6		
$20,000 or more	20	17.3	8	21.1	12	15.4		

Table 16. Housing Characteristics of Rural Kansans Aged 85 and Older, 1994

	Total		Men		Women			
Characteristic	No.	% Yes	No.	% Yes	No.	% Yes	X^2	p
Home ownership	(n=141)		(n=44)		(n=97)			
Yes	104	73.8	37	84.1	67	69.1	3.528	0.060
No	37	26.2	7	15.9	30	30.9		
Worth of the home	(n=87)		(n=34)		(n=53)			
Less than $25,000	22	25.3	6	17.6	16	30.2	1.771	0.412
$25,000 - $59,999	55	63.2	24	70.6	31	58.5		
$60,000 or more	10	11.5	4	11.8	6	11.3		
Renting	(n=37)		(n=7)		(n=30)			
Subject pays total rent	27	73.0	4	57.1	23	76.7	2.781	0.249
Subject contributes to rent	6	16.2	3	42.9	3	10.0		
Someone else pays rent	4	10.8	0	0.0	4	13.3		
Monthly rental payments	(n=35)		(n=7)		(n=28)			
$0-$99	11	31.4	2	28.6	9	32.1	0.298	0.861
$100 -$349	17	48.6	4	57.1	13	46.4		
$350 or more	7	20.0	1	14.3	6	21.5		

Table 17. Sufficiency of Financial Resources of Rural Kansans Aged 85 and Older, 1994

Sufficiency of Resource	Total		Men		Women			
	No.	% Yes	No.	%	No.	%	X^2	p
Assets and financial resources sufficient for household emergencies	(n=133)		(n=41)		(n=92)			
Yes	126	94.7	39	95.1	87	94.6	0.018	0.894
No	7	5.3	2	4.9	5	5.4		
Assets and financial resources sufficient for health care crises	(n=132)		(n=41)		(n=91)			
Yes	104	78.8	33	80.5	71	78.0	0.463	0.496
No	28	21.2	8	19.5	20	22.0		
Burden of expenses	(n=142)		(n=44)		(n=98)			
Subject cannot meet payments	1	0.7	1	2.3	0	0.0	4.158	0.125
Subject can barely meet payments	10	7.0	5	11.4	5	5.1		
Payments are no problem	131	92.3	38	86.3	93	94.9		
Need of additional financial assistance	(n=141)		(n=44)		(n=97)			
Yes	22	15.6	7	15.9	15	15.5	0.005	0.946
No	119	84.4	37	84.1	82	84.5		
Payments for food	(n=142)		(n=44)		(n=98)			
Subject pays for own food	113	79.6	36	81.8	77	78.6	0.197	0.657
Subject receives help	29	20.4	8	18.2	21	21.4		
Need for food stamps	(n=142)		(n=44)		(n=98)			
Yes	7	4.9	2	4.5	5	5.1	0.020	0.887
No	135	95.1	42	95.5	93	94.9		
Health or medical insurance	(n=142)		(n=44)		(n=98)			
Yes	141	99.3	44	100.0	97	99.0	0.452	0.501
No	1	0.7		0.0	1	1.0		

Table 18. Types of Health insurance Coverage for Rural Kansans Aged 85 and Older, 1994

	Total		Men		Women			
Health insurance	No.	% Yes	No.	% Yes	No.	% Yes	χ^2	p
Medicaid	(n=140)		(n=44)		(n=96)			
Yes	2	1.4	1	2.3	1	1.1	0.325	0.569
No	138	98.6	43	97.7	95	98.9		
Medicare Plan A only	(n=139)		(n=44)		(n=95)			
Yes	40	28.8	10	22.7	30	31.6	1.150	0.284
No	99	71.2	34	77.3	65	68.4		
Medicare Plans A and B	(n=139)		(n=44)		(n=95)			
Yes	121	87.1	38	86.4	83	87.4	0.027	0.870
No	18	12.9	6	13.6	12	12.6		
Medigap	(n=140)		(n=44)		(n=96)			
Yes	110	78.6	34	77.3	76	79.2	0.064	0.800
No	30	21.4	10	22.7	20	20.8		
Other insurance (cancer, long-term care)	(n=140)		(n=44)		(n=96)			
Yes	19	13.6	6	13.6	13	13.5	0.000	0.988
No	121	86.4	38	86.4	83	86.5		

Table 19. Financial Assessment by Rural Kansans Aged 85 and Older, 1994

	Total		Men		Women			
Economic resource	No.	% Yes	No.	% Yes	No.	% Yes	X^2	p
Financial comparison to others in same age group	(n=124)		(n=39)		(n=85)			
Better	36	29.0	16	41.0	20	23.5	3.993	0.136
About the same	81	65.3	21	53.8	60	70.6		
Worse	7	5.7	2	5.2	5	5.9		
Financial needs are met	(n=142)		(n=44)		(n=98)			
Very well	74	52.1	23	52.3	51	52.0	0.524	0.770
Fairly well	61	43.0	18	40.9	43	43.9		
Poorly	7	4.9	3	6.8	4	4.1		
Enough money to buy small luxuries	(n=142)		(n=44)		(n=98)			
Yes	123	86.6	39	88.6	84	85.7	0.224	0.636
No	19	13.4	5	11.4	14	14.3		
Enough money for future needs	(n=129)		(n=41)		(n=78)			
Yes	104	87.4	37	90.2	67	85.9	0.461	0.497
No	15	12.6	4	9.8	11	14.1		

Table 20. Proportion of Rural Kansans Aged 85 and Older at Aggregate Levels of Functioning, 1994

	Excellent to Good Functioning (Ratings 1 and 2)		Mild to Moderate Impairment (Ratings 3 and 4)		Severe to Total Impairment (Ratings 5 and 6)	
Scale	Number	Percent	Number	Percent	Number	Percent
Social	86	60.6	50	35.2	6	4.2
Mental	111	78.2	31	21.8	0	0
Physical	72	50.7	67	47.2	3	2.1
ADLs	68	47.9	66	46.5	8	5.6
Economic	105	73.9	37	26.1	0	0

Table 21. Mean Subscale Scores* and Cumulative Impairment Score** of Rural Kansans Aged 85 and Older, 1994

	Total (n=142)		Men (n-44)		Women (n-98)			
Scale	Mean	SD	Mean	SD	Mean	SD	F	[a]
Social	2.44	1.02	2.36	1.06	2.47	1.01	1.10	0.68
Mental	1.98	0.74	2.00	0.72	1.97	0.75	1.11	0.72
Physical	2.68	0.93	2.59	1.04	2.72	0.88	1.39	0.18
ADLs	2.59	1.14	2.48	1.29	2.64	1.07	1.45	0.14
Economic	2.11	0.83	1.98	0.88	2.16	0.81	1.17	0.51
Cumulative	11.80	3.24	11.41	3.64	11.97	3.05	1.42	0.16

* Range=1 (excellent functioning) to 6 (completely impaired)
** Range=5 (excellent functioning in all areas) to 30 (totally impaired in all areas)

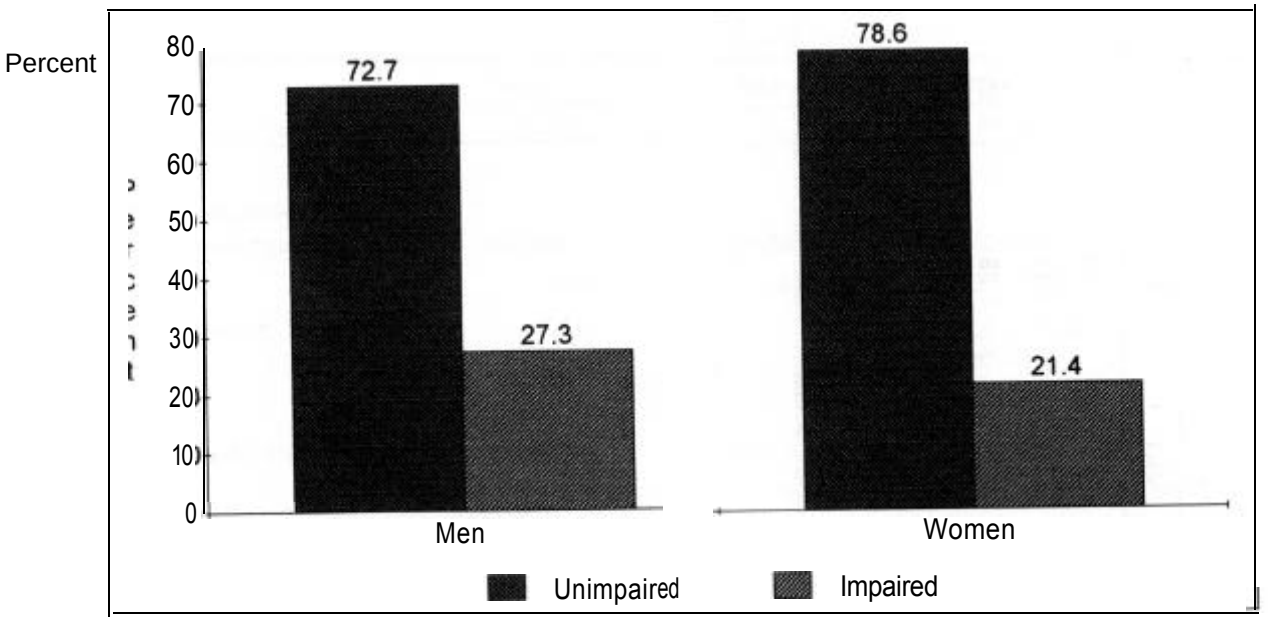

Figure 1. Mental Health Functioning of Rural Kansans Aged 85 and Older, 1994.

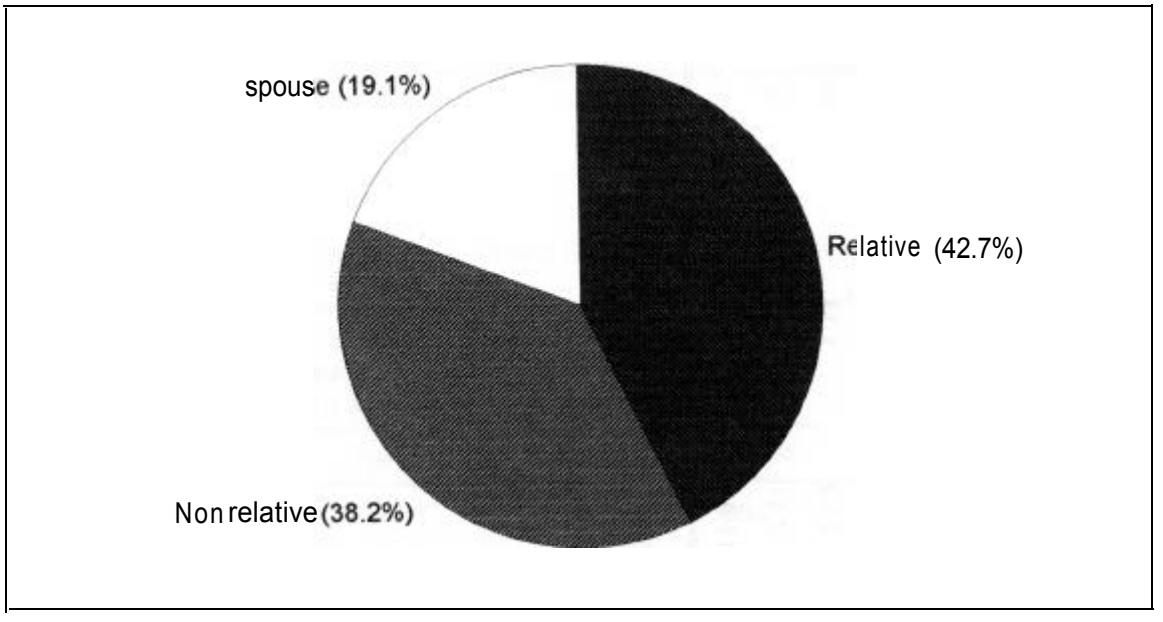

Figure 2. Personal Care Helpers for Rural Kansans Aged 85 and Older, 1994.

Appendix A
Proportion of Residents Aged 85 and Older

County	Percent Population 1950	Percent Population 1990	Percent Change 1950-1990
Allen	0.88	2.77	214.80
Anderson	0.94	3.19	239.40
Atchison	0.69	2.53	266.70
Barber	0.48	2.50	420.80
Barton	0.28	2.14	664.30
Bourbon	0.68	2.69	295.60
Brown	0.85	3.48	276.80
Butler	0.53	1.64	209.40
Chase	0.72	3.41	373.60
Chautaugua	0.69	3.29	376.80
Cherokee	0.55	1.99	261.80
Cheyenne	0.44	3.27	643.20
Clark	0.33	3.64	1003.00
Clay	0.90	3.88	331.10
Cloud	0.91	4.40	383.50
Coffey	0.94	2.90	208.50
Comanche	0.59	4.15	603.40
Cowley	0.78	2.19	180.80
Crawford	0.68	2.69	295.60
Decatur	0.71	4.43	523.90
Dickinson	0.79	2.98	277.20
Doniphan	0.63	2.11	234.90
Douglas	0.63	1.13	79.40
Edwards	0.47	3.46	636.20
Elk	0.70	4.42	531.40
Ellis	0.25	1.47	488.00
Ellsworth	0.97	3.34	244.30
Finney	0.31	0.86	177.40
Ford	0.43	1.46	239.50
Franklin	0.80	2.22	177.50
Geary	0.34	0.75	120.60
Gove	0.34	2.48	629.40
Graham	0.38	3.27	760.50
Grant	0.19	0.81	326.30
Gray	0.43	1.76	309.30
Greeley	0.20	1.97	885.00

(continued)

Appendix A

Proportion of Residents Aged 85 and Older

County	Percent Population 1950	Percent Population 1990	Percent Change 1950-1990
Greenwood	0.72	3.81	429.20
Hamilton	0.19	3.30	1636.80
Harper	0.60	3.73	521.70
Harvey	0.59	2.74	364.40
Haskell	0.15	1.16	673.30
Hodgeman	0.24	2.89	1104.20
Jackson	0.87	2.14	146.00
Jefferson	0.90	1.84	104.40
Jewell	0.72	3.41	373.60
Johnson	0.38	0.88	131.60
Kearny	0.40	1.51	277.50
Kingman	0.69	2.47	258.00
Kiowa	0.42	2.38	466.70
Labette	0.65	2.31	255.40
Lane	0.53	3.12	488.70
Leavenworth	0.44	0.99	125.00
Lincoln	0.81	4.79	491.40
Linn	0.96	3.26	239.60
Logan	0.45	2.95	555.60
Lyon	0.69	1.74	152.20
McPherson	0.57	2.60	356.70
Marion	0.64	3.55	454.70
Marshall	0.77	3.40	341.60
Meade	0.58	2.80	382.80
Miami	0.86	1.73	101.20
Mitchell	0.79	3.48	340.50
Montgomery	0.66	2.59	292.40
Morris	0.79	2.81	255.70
Morton	0.31	1.81	483.90
Nemaha	0.65	2.95	353.80
Neosho	0.68	2.37	248.50
Ness	0.52	3.00	476.90
Norton	0.83	3.80	357.80
Osage	0.96	2.73	184.40
Osborne	0.49	4.29	775.50
Ottawa	0.77	3.07	298.70

(continued)

Appendix A

Proportion of Residents Aged 85 and Older

County	Percent Population 1950	Percent Population 1990	Percent 1950-1990
Pawnee	0.89	2.10	136.00
Phillips	0.57	3.75	557.90
Pottawatomie	0.68	2.02	197.10
Pratt	0.51	2.82	452.90
Rawlins	0.47	3.14	568.10
Reno	0.50	2.00	100.00
Republic	0.72	4.49	523.60
Rice	0.46	2.75	497.80
Riley	0.48	0.74	54.20
Rooks	0.41	2.96	622.00
Rush	0.59	3.28	455.90
Russell	0.45	2.73	506.70
Saline	0.54	1.60	196.30
Scott	0.33	2.10	536.40
Sedgwick	0.39	1.14	192.30
Seward	0.31	1.02	229.00
Shawnee	0.66	1.55	134.80
Sheridan	0.39	2.96	659.00
Sherman	0.53	2.11	298.10
Smith	0.93	5.22	461.30
Stafford	0.50	2.70	440.00
Stanton	0.09	1.50	1566.70
Stevens	0.20	1.53	665.00
Sumner	0.82	2.26	175.60
Thomas	0.29	1.74	500.00
Trego	0.37	2.90	683.80
Wabaunsee	0.86	2.26	162.80
Wallace	0.40	2.58	545.00
Washington	0.77	4.02	422.10
Wichita	0.42	2.28	442.90
Wilson	0.76	2.51	230.30
Woodson	0.76	3.50	360.50
Wyandotte	0.37	1.38	273.00
THE STATE	0.57	1.70	198.20

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