THE CHANGING USE OF HEALTH CARE SERVICES
AMONG UNMARRIED OLDER WOMEN: 1969-1975

A research proposal presented to the Andrus Foundation
June 17, 1980

by

Cora A. Martin, Ph.D.
Co-Principal Investigator/
Project Director

Susan Brown Eve, Ph.D.
Co-Principal Investigator

Center for Studies in Aging
North Texas State University
Denton, Texas 76203
June 13, 1980

Dr. Frederick Ferris
Head, Planning and Research
National Retired Teachers Association
American Association of Retired Persons
1909 K Street, N.W.
Washington, D. C. 20049

Dear Dr. Ferris:

I am happy to endorse the study of "The Changing Use of Health Care Services Among Unmarried Older Women, 1969-1975," which has been submitted to the Andrus Foundation by Drs. Cora Martin and Susan Eve. The proposal addresses a very significant issue. The importance of unmarried women in the older population and their marginal income position as a group have long been known. However, much less is known concerning the relationship of their position to the delivery of services, particularly health services, and as Drs. Martin and Eve point out, such knowledge is needed because of its implications for developing sound public policy.

The two investigators have excellent qualifications for carrying out the proposed research. Both have been trained in medical sociology, and both teach sections of a course on the delivery of health services to the elderly which is an integral part of the curriculum of our program. Both have been engaged in related research, as their vitae indicate, and they have the knowledge of the literature and the statistical skills necessary to carry the project to a successful conclusion.

Since the research will be based upon an analysis of data collected as a part of the Social Security Administration Retirement History Survey, completing it within the time frame outlined in the proposal should pose no problem. Furthermore, they have given careful attention to the question of disseminating their findings in ways that will bring them to the attention of several audiences, including policy makers.

I am pleased that this proposal has originated in our Center, and I trust that the Board of the Andrus Foundation will find it worthy of support.

Sincerely,

H. J. Friedman
Co-Director/Dean, School of Community Service

HJF:gs
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Abstract

Unmarried older women are likely to be an especially vulnerable group among older Americans in terms of their ability to overcome barriers to the use of health care services. And, as one of the researchers discovered in the course of surveying the literature for a reader on the older woman to be brought out in June, too little is known about their health-related behavior. The purpose of this research is to identify the social and economic factors which create barriers for older women to the use of health care services, especially physicians, hospitals, nursing homes, and mental institutions. Identification of these barriers is a prerequisite to social policy aimed at eliminating them, thereby increasing the capacity of older women to achieve and/or maintain their maximum health potential and, thus, their maximum independence, life satisfaction, and economic self-reliance.

The objectives of this research are to determine how use of five health care services—(1) physicians, (2) hospitals, (3) nursing homes, (4) mental institutions, and (5) free medical care—changes over time with changes in the social, economic, and health factors of women as they go through retirement. Social and economic factors to be included in the analysis are age, marital status, education, race/ethnicity, occupation, residential mobility, income, financial assets, public and private health insurance, urban/rural residence, and perceived health status.

The proposed project involves secondary analysis of survey data collected by the Social Security Administration as part of the Longitudinal Retirement History Survey (RHS) designed to study the retirement attitudes, plans, resources, and activities of older Americans. Approximately 2,000
noninstitutionalized, unmarried older women were included in this panel study. These women, who were between 58 and 63 years of age in 1969, have been reinterviewed at two-year intervals for the past ten years. The data for the survey years 1969, 1971, 1973, and 1975 will be used in this analysis. The data will be analyzed using multivariate time series regression analysis.

The results of this research are expected to be relevant to public policy regarding health care among older women. They will be made available to those who can act on them by instituting new, or modifying existing, public and private policies to improve the use of health care services among older women. The implications of the research will also be of interest to organizations of individuals acting as advocates for older persons, social planners, those delivering health care to older women, and others. In order to reach this varied audience, a number of methods of disseminating the final research results are planned, including a final research report to the Andrus Foundation; a magazine article or articles summarizing the research and its implications to be submitted to Modern Maturity; presentation of papers at professional and scientific meetings which include policy-makers, such as the Gerontological Society and Western Gerontological Society; and the publication of articles in professional and scientific journals such as The Gerontologist and Health and Human Behavior. It is too late to carry an article in the reader The Older Woman: Lavender Rose or Gray Panther; however, if a revision is done, an article based on this research will definitely be included.
Statement of Problem and Focus

Health is a major concern of older adults. Factors which create barriers to the use of health care services deny older adults the chance to achieve and/or maintain their maximum health potential and thus their maximum independence, life satisfaction, and economic self-reliance. Identification of these barriers is a prerequisite to social policy aimed at eliminating them and, thus, increasing the quality of life of older people.

Unmarried older women are likely to be an especially vulnerable group among the elderly in terms of their ability to overcome barriers to the use of health care services. Included in this group are widows, women who are separated or divorced, and women who have never married. Women who grow old alone are likely to have less income (Sherman, 1976b) and fewer financial assets (Sherman, 1976b) than married couples or men of the same age. Those older unmarried women who are in the labor force are likely to have lower-status jobs, less education, and less work experience than married men (Sherman, 1976a). These women are less likely to have private health insurance, particularly health insurance which is partially or totally paid for by an employer (Motley, 1976). Furthermore, unmarried women are less likely than married couples to have close relatives, including siblings, who are potential sources of assistance with health care services (Murray, 1976).

Therefore, the central focus of this research is to identify those demographic, social, and economic factors which affect the use of health care services among older women who do not live with a spouse and to determine how the relationships among these factors and use of physicians and institutional health settings change over time as these women age.
Research of this type is particularly relevant to the development of social policy which will improve access to and delivery of health care services to older women, particularly those who enter old age alone.

**Conceptual Framework**

In 1973, Andersen and Newman presented a framework for the study of the individual characteristics which determine the health care services utilization of a given population. The framework assumes that there is a sequence of conditions which affects the health care services utilization. This framework is presented in Figure 1.

The framework contains three basic components: predisposing variables, enabling variables, and illness level. **Predisposing variables** exist prior to the onset of illness and affect the probability of the use of health care services. These variables include demographic characteristics, social structural characteristics, and beliefs of the individuals. The **enabling variables** provide the means for the individuals to use health care services and include family level and community level variables. The most immediate stimulus to use of health care services is **actual illness level**, both as it is perceived by the individual and as it is evaluated by health care practitioners (Andersen and Newman, 1973; 106-111).

This framework is quite comprehensive and has been widely used in previous research on the utilization of health care services. Thus, it was adopted as the conceptual framework for this analysis.

**Literature Review**

A review of the literature provides evidence to suggest that the predisposing, enabling, and illness level variables in Andersen and Newman's model, presented in Figure 1, do influence health care utilization in the
### Figure 1

**Individual Determinants of Health Care Services Utilization**

<table>
<thead>
<tr>
<th>PREDISPOSING</th>
<th>ENABLING</th>
<th>ILLNESS LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
<td><strong>Family</strong></td>
<td><strong>Perceived</strong></td>
</tr>
<tr>
<td>Age</td>
<td>Income</td>
<td>Disability</td>
</tr>
<tr>
<td>Sex</td>
<td>Health insurance</td>
<td>Symptoms</td>
</tr>
<tr>
<td>Marital status</td>
<td>Type of regular source</td>
<td>Diagnoses</td>
</tr>
<tr>
<td>Past illness</td>
<td>Access to regular source</td>
<td>General state</td>
</tr>
<tr>
<td><strong>Social Structure</strong></td>
<td><strong>Community</strong></td>
<td><strong>Evaluated</strong></td>
</tr>
<tr>
<td>Education</td>
<td>Ratios of health personnel and facilities to population</td>
<td>Symptoms</td>
</tr>
<tr>
<td>Race</td>
<td>Price of health services</td>
<td>Diagnoses</td>
</tr>
<tr>
<td>Occupation</td>
<td>Region of country</td>
<td></td>
</tr>
<tr>
<td>Family size</td>
<td>Urban/rural residence</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential mobility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Beliefs**

Values concerning health and illness
Attitudes toward health services
Knowledge about disease

(Andersen and Newman, 1973; 107)
elderly. These findings suggest that the direction of these effects differs for each of the different types of health care. The results of this review of the literature are summarized in Figure II. They are discussed below, focusing particularly on the effects on older women.

**Use of Physicians**

Empirical evidence on the effects of the predisposing demographic variables on use of physicians' services will be reviewed first. Data from the national Health Interview Survey indicate that older women are more likely to have at least one contact with a physician during a year than are men, and are likely to have more visits per year than men of the same age (Andersen, et al., 1976; Berki and Kobashigawa, 1976; Galvin and Fan, 1975; Givens, 1979; Kronenfeld, 1978; Monteiro, 1973). Analysis of data for the 1969 Retirement History Survey interviews also indicates that unmarried older women are more likely to have contacted a physician during the previous year than were men, whether married or unmarried. Furthermore, the percentage of unmarried older women who contact a physician increases with age (Motley, 1976). However, data from the Health Interview Survey suggest that the number of visits to physicians may not increase as much with age for women as it does for men because of the relatively high rate of visits by women at earlier ages (Givens, 1979). Andersen and Newman (1973) find that adults with a history of past illness tend to use health services more than others. Ward (1977) suggests that older adults are probably similarly influenced by past illness.

Predisposing social structure variables believed to affect the use of physicians' services among older adults include education, race/ethnicity, occupation, family size, religion, and residential mobility. Education has
## Figure II

Summary of Effects of the Determinants on Health Care Utilization of the Elderly

<table>
<thead>
<tr>
<th>Determinants of Utilization</th>
<th>Physician</th>
<th>Hospital</th>
<th>Nursing Home</th>
<th>Mental Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Predisposing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demographic:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Sex</td>
<td>F&gt;M</td>
<td>M&gt;F</td>
<td>F&gt;M</td>
<td>F&gt;M</td>
</tr>
<tr>
<td>Marital status</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Past illness</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Social Structure:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>A&gt;N-A*</td>
<td>N-A&gt;A</td>
<td>A&gt;N-A</td>
<td>N-A&gt;A</td>
</tr>
<tr>
<td>Occupation</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Family size</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Religion</td>
<td>P,J&gt;C</td>
<td>P,J&gt;C</td>
<td>P,J&gt;C</td>
<td></td>
</tr>
<tr>
<td>Residential mobility</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Beliefs:</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Values concerning health and illness</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes toward health services</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge about disease</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Enabling</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family:</td>
<td></td>
<td></td>
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<tr>
<td>Income</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Health insurance</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
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<tr>
<td>Transportation</td>
<td>+</td>
<td>+</td>
<td>-</td>
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<tr>
<td>Community:</td>
<td></td>
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<tr>
<td>Ratios of health personnel, facilities to population</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
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<tr>
<td>Price of health services</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Region of country</td>
<td>NE,W&gt;SE,SW</td>
<td>NE,W&gt;SE,SW</td>
<td>NE,W&gt;SE,SW</td>
<td></td>
</tr>
<tr>
<td>Urban/rural</td>
<td>U&gt;R</td>
<td>U&gt;R</td>
<td>U&gt;R</td>
<td>U&gt;R</td>
</tr>
<tr>
<td><strong>Illness Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Need:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disability</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Symptoms</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Diagnoses</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>General state</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Evaluated Need:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Diagnoses</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

* A--Anglo; N-A--Non-Anglo

O P--Protestant; J--Jewish; C--Catholic
been found to positively influence the use of health care services in samples of adults (Andersen, et al., 1976; Ward, 1977). Older people who live alone are more likely to visit physicians for health care (Salloway and Dillon, 1973). In general, the higher the status of the individual, the more likely it is that the individual will use physicians' services because of such factors as greater financial resources and greater knowledge of the health care system (Andersen, et al., 1976; Ward, 1977). Minorities have been found to under-utilize physicians' services compared to Anglos among both males and females (Berkanovic and Reeder, 1973; Eve, 1979; Quesada and Heller, 1977; Torres-Gil, 1977). Use of health care services increases following retirement (Bond, 1976; Eve, 1980). Positive attitudes toward health and health care providers have been found to be positively associated with physician utilization (Andersen and Newman, 1973; Fabrega and Roberts, 1972; Litman, 1971; Suchman, 1966; Torres-Gil, 1977), although attitudes have generally been found to be much less predictive of utilization than financial and illness factors (Battistella, 1968; McKinlay, 1972; Mechanic, 1979).

Among the enabling variables, income and health insurance have generally been among the strongest predictors of physician utilization (Health Services and Mental Health Administration, 1972). Although Medicare has had something of a leveling effect on physician utilization, nevertheless, because of a limited coverage of physician's charges, those with the greater financial resources continue to have more access to physicians. Difficulty in obtaining transportation may also adversely affect use of physician's services (Ward, 1977).

Community variables limit the amount of health services that are readily available to a population and, therefore, place an ultimate limit of the amount of use which can occur (Andersen and Newman, 1973; Kronenfeld, 1978; Wan and Soifer, 1974). Research shows that, other things being equal (especially
financial resources and level of need), those elderly who live in areas such as rural communities that lack health care personnel and facilities have the lowest rates of health services utilization (National Center for Health Statistics, 1972).

Finally, the need for services is generally found to have the strongest direct effect on physician utilization (Andersen and Anderson, 1967; Andersen, et al., 1976; Berki and Kobashigawa, 1976; Bice, et al., 1972; Eve, 1980; Fillenbaum, 1979; Galvin and Fan, 1975; Kronenfeld, 1978; Wan and Soifer, 1974; Wolinsky, 1978). Most research on the utilization of health care services among older adults has relied on the older person's perceived illness level rather than on evaluated need. Research on the relationship between perceived and evaluated illness levels generally indicates that there is considerable congruence between self-ratings and doctors' ratings of health in samples of older adults (Friedsam and Martin, 1963; Johnson, 1972; Maddox, 1964; Suchman, Phillips, and Streib, 1958).

Use of Hospitals

Generally hospital utilization has been found to be influenced in essentially the same ways by the predisposing, enabling, and illness level determinants. Unlike physician utilization, use of hospitals is usually greater among males than among females (Andersen, et al., 1976; Givens, 1979; Motley, 1976; Torres-Gil, 1977). Hospitalization rates are higher for minorities than for Anglos for both sexes (Givens, 1979). Attitudes toward hospitals may be especially likely to influence rates of utilization among members of elderly generations because of the poor quality of such institutions when these cohorts were younger (Fabrega and Roberts, 1972; Phillips, 1970; Suchman, 1966; Torres-Gil, 1977). Also, because of the
greater coverage of hospital as compared to physician expenses in the Medicaid and Medicare programs, hospital utilization is influenced more by the presence of these insurance programs than is physician utilization (Health Services and Mental Health Administration, 1972; Loewenstein, 1971; Palmore and Jeffers, 1971; Pettingill, 1972).

Institutional Care

Short-term use of institutional care has not been researched as thoroughly as the use of physicians and hospitals. According to the 1970 census, approximately four percent of persons aged 65 and older are in long-term care institutions; while another ten percent are considered likely candidates for institutionalization (Shanas and Maddox, 1976).

In 1973-1974, the National Center for Health Statistics surveyed nursing homes throughout the United States. The survey found that approximately 70 percent of nursing home residents were female. Of those female nursing home residents, almost 80 percent were 75 years and over, while only 63 percent of the male residents were 75 years of age or more. Thirty-eight percent of all residents were living in a private residence at the time of admission. The majority were never married or were widowed and were more likely than the noninstitutionalized to have no children. Thirty-five percent were admitted from a general or short-stay hospital, while 24 percent were admitted from some other kind of facility (i.e., a mental hospital, long-term care specialty hospital, another nursing home or related facility, or boarding home). Over 80 percent of the residents were admitted to the home because of physical health. Twelve percent had been admitted for social reasons, seven percent for behavioral reasons, and only one percent for economic reasons (Sirrocia and Koch, 1977).
It is known that there is a large turnover of patients in nursing homes. In 1972, 1.1 million people were admitted to nursing homes and one million were discharged. Seven out of ten of those discharged were alive and were discharged either to other institutions or to their own homes (Shanas and Maddox, 1976). These facts are contrary to popular conceptions. Thus, the research proposed here will be particularly useful in adding to the knowledge of patterns of use of nursing homes among older women living alone, i.e., the group most likely to need these services in old age (Maddox, 1975).

Even less is known about the short-term use of mental hospitals among older adults. There have been several epidemiological studies of the prevalence of psychological impairment in old age (Busse and Pfeiffer, 1969; Kay, 1972; Lowenthal, et al., 1967). These studies indicate that among noninstitutionalized older adults about 20 percent are moderately impaired in psychological functioning and five percent are severely impaired (Shanas and Maddox, 1976).

The ratio of hospitalization for mental disorders increases with age. One-fourth of the admissions to state mental hospitals are older adults, and a high proportion of the long-term residents of these institutions are older adults (Kramer, Taube, and Redick, 1973).

Butler (1977) has pointed out that, when older blacks require institutional care, state mental hospitals are the only facilities that are routinely available. Nationally, only three percent of the residents of nursing homes are black. Older blacks have difficulty finding homes for several reasons. Many black homes have difficulty meeting health, fire, and safety regulations. In addition, many of the nonprofit homes give preference to their own religious/fraternal groups and, thus, are self-selected in terms of race and social class.

In recent years there has been an attempt to decrease the number of older residents in mental institutions. However, this decrease has produced
an increase in the numbers of older adults in nursing homes who are being
treated for psychological disorders (Dittmar, et al., 1979; Shanas and
Maddox, 1976).

From the information which is available it seems that some factors
affect use of nursing homes and mental institutions similarly. The resi-
dents of both types of institutions tend to be older women who are widowed
or were never married. For both, the major factor influencing use is
illness level. However, use of nursing home tends to be more common among
Anglos than among minority group members. Higher social status and income
and availability of health insurance are likely to be positively related to
the use of nursing homes but negatively related to the use of mental institu-
tions.

Procedures

Research Plan and Sample

The proposed project will involve secondary analysis of survey data
collected by the Social Security Administration as part of the Longitudinal
Retirement History Survey (RHS) designed to study the retirement attitudes,
plans, resources, and activities of older Americans. The sample consisted
of 11,153 noninstitutionalized persons aged 58 to 63 who had been interviewed
Only women who were not living with a spouse in 1968 were included in the
survey, because women who were living with a spouse were not found to have
any retirement plans, thus negating the central focus of the survey. The
number of women in the survey not living with a spouse in 1969 was 1,954.
The sample has been reinterviewed at two-year intervals. The data for the
years 1969, 1971, 1973, and 1975 are available from the General Services
Administration, National Archives and Records Service, Washington, D. C.
Model and Hypotheses

Andersen and Newman's conceptual framework and the literature review guided the selection of the variables to be included in the research model. However, as this research involves analysis of secondary data, selection of variables is also limited by the availability of operational measures of the variables in the RHS interview schedule. The goal of variable selection was to include as many variables as possible which could reasonably be expected to have an impact on health care services utilization. The variables which will be included in the analyses of data are presented in Figure III.

The relationship of the predisposing, enabling, and illness level variables to the use of physicians and hospitals will be examined over the four waves of the RHS to determine how the relationships among these variables change as the women age.

This research has five main objectives. These objectives are to determine how the use of five types of health care services, specifically, (1) physicians, (2) hospitals, (3) nursing homes, (4) mental institutions, and (5) free medical care, changes over time as a result of changes in the predisposing, enabling, and illness level variables among older women. Thus, the five major hypotheses implied by Andersen and Newman's framework are as follows:

I. Use of physician's services by older women will change over time as a result of changes in the predisposing, enabling, and illness level variables.

II. Use of hospital services by older women will change over time as a result of changes in the predisposing, enabling, and illness level variables.

III. Use of nursing homes by older women will change over time as a result of changes in the predisposing, enabling, and illness level variables.
IV. Use of mental institutions by older women will change over time, a result of changes in the predisposing, enabling, and illness level variables.

V. Use of free medical services by older women will change over time as a result of changes in the predisposing, enabling, and illness level variables.

Figure III
Identification of Variables to be Included in Research Analysis

<table>
<thead>
<tr>
<th>Predisposing Variables</th>
<th>Enabling Variables</th>
<th>Utilization of Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retirement status</td>
<td>Income</td>
<td>Physicians</td>
</tr>
<tr>
<td>Age</td>
<td>Assets</td>
<td>Hospitals</td>
</tr>
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Perceived general state
Perceived disability

A summary of the effects of the specific predisposing, enabling, and illness level determinants on the use of physicians, hospitals, nursing homes, and mental institutions was presented above in Figure II (p. 5). Knowledge of these effects of the determinants is derived from cross-sectional studies. The purpose of this research is to use longitudinal data to determine whether the changes in the determinants produce the changes in use of health care services that are implied by the Andersen and Newman model and by the previous cross-sectional research.
The specific model that can be tested using variables available from the Retirement History Study is presented in Figure III above. For the use of physicians, hospitals, and nursing homes, this model implies that with retirement and increasing age, the enabling variables of income, assets, private health insurance, and transportation will decrease, while residential mobility may increase. These changes in the enabling variables have the potential to negatively affect the use of physicians, hospitals, and nursing homes. Countering these negative influences are increases in Medicare and Medicaid coverage and increases in illness levels which have the potential to increase use of physicians, hospitals, and nursing homes. Based on previous research and the Andersen and Newman framework, it is expected that as retirement occurs and age increases, education, occupational status, urban residence, and Anglo ethnicity will be positively related to income, assets, private health insurance, Medicare, and access to transportation (i.e., enabling variables which are positively related to the use of these health care services) and, thus, positively related to the use of physicians, hospitals, and nursing homes.

Use of mental institutions and free medical services has not been previously researched using the Andersen and Newman model, even in cross-sectional studies. It is possible that use of free services is an alternative to the use of physicians and hospitals, and that use of mental institutions is an alternative to the use of nursing homes. Thus, it is predicted that changes in the enabling variables which will negatively affect use of physicians, hospitals, and nursing homes will positively affect the use of free medical services and mental institutions, and vice versa. Specifically, decreases in income, assets, private health insurance, and transportation are predicted to increase the use of free services and mental institutions,
while Medicare and Medicaid coverage is predicted to decrease the use of free services and mental institutions.

In testing the model, the researchers will also be especially interested in determining which factors have the greatest effects on changes in use of health care services over time and in how much of the variance in the use of health care services can be accounted for using this model. Such analysis can point to possible points of policy intervention to help older women obtain access to health care services. Further, it is hoped that this research will produce suggestions for refining the model to make it more predictive and suggestions for refining the measurement of the variables.

Operational Measures of the Variables

The numbers of the questions in the RHS interview schedules which will be used as measures of the variables in the research model are presented in Figure IV. As the interview schedules are quite lengthy and the number of variables to be included is large, presentation of the operationalization of the variables in table form is most efficient. The interview schedules for 1969, 1971, 1973, and 1975 are presented in Appendices A-D. However, because of the importance of the measures of the use of services for the study, these measures will be discussed in detail in this section.

Use of Physicians' Services

Operational definitions of volume of use of physicians' services are available for three different kinds of physicians' services or three different sub-variables of the more general variable, volume of utilization of health care services. These three sub-variables are as follows:

1. inpatient visits during the preceding calendar year;

2. outpatient visits during the preceding calendar year; and
### Figure IV

**Operational Measures of Variables in the Social Security Administration Retirement History Study**

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<td>64b</td>
<td>O</td>
<td>43b</td>
<td>O</td>
<td>87</td>
<td>O</td>
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<td>Perceived disability</td>
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<td>Summary measure</td>
<td>71</td>
<td>DO</td>
<td>76</td>
<td>DO</td>
<td>56</td>
<td>O</td>
<td>107a</td>
<td>DO</td>
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<td>Effect on work capabilities</td>
<td>72a-e</td>
<td>O</td>
<td>77a-e</td>
<td>O</td>
<td>57a-e</td>
<td>O</td>
<td>108a-e</td>
<td>O</td>
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<tr>
<td>Effect on mobility</td>
<td>73a-c</td>
<td>O</td>
<td>78a-c</td>
<td>O</td>
<td>58a-e</td>
<td>O</td>
<td>112a-c</td>
<td>O</td>
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<td></td>
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</table>
3. Medical advice obtained via the telephone during the preceding calendar year.

In 1969 and 1971, the respondents were not asked to distinguish between volume of inpatient and outpatient visits with physicians. However, in 1973 and 1975, they were asked to make this distinction. Therefore, when comparing all four years it will be necessary to consider volume of inpatient and outpatient visits combined, although it will be possible to compare these two types of visits separately for 1973 and 1975.

Questions measuring the volume of number of times the respondents received medical advice over the telephone during the preceding calendar year are also available for all four sample years.

Use of Hospitals, Nursing Homes, and Mental Institutions

Use of four different kinds of medical institutions are measured operationally in the SSARHS. These four types of institutions are hospitals, rest homes, sanitariums, and nursing homes. The operationalizations of the variables for each type of institution are presented together as the questions used for each one are identical.

Volume of use of each of the four types of institutions during the preceding calendar year is measured for all four survey years. Average length of stay can be operationalized for each type of institution by adding up the total number of nights that the respondent spent in each type of institution during all stays during the preceding calendar year and dividing the total by the number of stays in that type of institution during the previous calendar year.

For the years 1971, 1973, and 1975, it is possible to determine the type of institution in which the person spent the night—that is, whether
the institution was a hospital, nursing home, or mental institution. Thus, for those years, use of these types of institutions can be analyzed separately.

Use of Free Medical Services

In 1969, 1971, and 1973, the respondents were asked if they had received any free medical services during the preceding calendar year and, if so, what those medical services were. In addition to examining the kinds of free services available, it will also be possible to measure the number of kinds of free services used, i.e., the volume of kinds of free services.

Predictor Variables

Available measures of the predisposing, enabling, and illness level variables will be discussed briefly. The predisposing variables measured include retirement status, age, race/ethnicity, marital status, occupational status, education, and urban/rural residence. Retirement is measured subjectively and objectively. Subjectively, respondents were asked to classify themselves as completely retired, partly retired, or not retired. Atchley (1976) has argued that an individual can be considered retired only if he/she is (1) employed at a paying job less than full-time year round, and (2) his/her income comes, at least in part, from a retirement pension earned through retirement. The questions from which measures of objective retirement status, based on this definition, can be computed are listed in Figure IV. Occupational status is operationalized as major lifetime occupational status as classified by the U. S. Bureau of the Census. Current marital status is available for both years. The other predisposing variables, including age, race/ethnicity, education, and urban/rural residence, are not included in the interview schedules; hence, there are no questions referred to in
Figure IV. However, these items are recorded on the accompanying record cards for each respondent and will be available with the data set.

The enabling variables measurable include income, assets, Medicare coverage, Medicaid coverage, private health insurance coverage, residential mobility, transportation, and other barriers to use of health care services. Three measures of income are available. The first is a measure of the source of all income coming into the family unit, including the respondent and any children less than 18 years old still living at home during the preceding calendar year. The individual sources of family income measured include jobs; self-employment; rent; interest and dividends on savings, stocks, bonds, and other investments; all types of retirement pensions including Social Security, railroad retirement, veterans' pensions, and others; all types of public and private welfare, assistance, or compensation programs; contributions from persons living in the household; and other miscellaneous sources. Whether or not a respondent receives income from these sources will be included in the analysis, as these sources may reflect something of the adequacy of stability of income (i.e., older women receiving income from investments may differ significantly from older women receiving income from public welfare). A second measure of income is a global estimate of annual family income which may be used as is, or converted to a per capita measure, whichever is more informative. The third measure that will be used is the respondent's subjective estimate of how well her income met her needs during the preceding calendar year.

Assets were measured in the RHS and will be included in the proposed study as additional resources which could be used to acquire health services. The specific assets measured are values of homes, farms, business, and other real estate; liquid assets (money in checking and savings accounts); and
other investments (U. S. Savings Bonds, stocks, mutual funds, outstanding personal loans, and insurance policies). The net value of homes, farms, businesses, and other real estate (current value minus amount owned on mortgage and/or debts against the property) will be used. Only the data on homes are available for all four years.

The questions on health insurance coverage measure whether or not the respondent was covered by private health insurance, by Medicare (1971, 1973, and 1975 only, as respondents were not eligible in 1969), or by other public medical assistance. Also measured were the services covered by all types of insurance, including hospital care, surgeon's or doctor's care in the hospital, office visits and house calls, and other medical expenses. These measures provide some measure of adequacy of insurance coverage.

Residential mobility since last interview was measured in 1971, 1973, and 1975, and can be included as a variable. The measure of transportation available is whether or not the respondent owns, or is paying for, or keeping up a car.

Finally, the respondents were asked if they had needed treatment from a doctor which they had not been able to obtain and, if so, why. This question was open-ended and may provide some additional insight into barriers to health care services for these women.

Two types of illness level variables were measured. The first type is a global measure of perceived general state of health, including comparisons with peers. The second type of measure is a measure of disability and includes a global measure of perceived disability, five indicators of work on work capabilities, and three measures of the effectiveness of work on mobility.
Proposed Methods of Analysis

The method of analysis proposed for this research is time series regression analysis. Economists pioneered in the application of regression techniques to time series data in economics as a method for studying social change. More recently, sociologists have begun to apply the techniques to the study of social change. Hannan and Young (1977) have recently advocated the use of regression techniques with panel data. Panel designs, with multiple waves of observations, pose problems for the estimation of parameters in regression equations because the errors are likely to be autocorrelated across waves. Hannan and Young recommended using a pooled regression model in which all waves are analyzed in a single model as a solution to these estimation problems.

Expected Outcomes and Dissemination

The overall purpose of this research is to facilitate the realization of the objective of the Older Americans Act of 1965 to provide "the best possible physical and mental health which science can make available and without regard to economic status" (Administration on Aging, 1978; 3). Since health care is not uniformly available to all older Americans, research to identify the barriers to health delivery is needed. Identification of the barriers is the necessary first step to removing them. Therefore, the results of this study and its policy implications will be made available to those people who can act on them by instituting new or modifying existing public and private policies to improve the health care of older women. The implications will be particularly relevant to policy-makers at the national, state, and local levels as they enact legislation and write regulations that are designed to increase health care for older people; to organizations such as
AARP/NRTA for which an understanding of barriers to health care utilization can enhance their role as advocates for older adults; to social planners drawing up health plans for older adults at the national, state, and local levels; to administrators of health care-related agencies at the national and state levels; to health care service providers; and to researchers interested in health care policy as it relates to older adults. These are the major target groups of this dissemination plan.

The expected outcomes of this research project are summarized in Figure V. The first of the expected outcomes is the final research report to be prepared for the Andrus Foundation and for release to the AARP/NRTA network at the discretion of the Foundation. The final research report will present a summary of all research findings and a discussion of the policy implications of the research. In addition, an article presenting the findings and their implications in journalistic format will be submitted to Modern Maturity, a publication of AARP for its members. Additionally, both of the investigators will be available to speak to local, regional, or state AARP/NRTA meetings.

The second group of expected outcomes includes the policy-oriented publications and presentations aimed at policy-makers, aging advocate organizations, social planners, and service providers. First, the Center for Studies in Aging will publish the results in its Research Report series which is routinely mailed to the aging network in Texas, including all area agencies on aging. This research report will also be advertised in the Center for Studies in Aging newsletter, which is disseminated to the national aging network and made available free to all members of that network who write to request it. Second, papers summarizing the results will be submitted to professional journals aimed at this audience, including The Gerontologist. Third, the research results will be submitted for paper presentations to
**Figure V**

**Summary of Expected Outcomes**

<table>
<thead>
<tr>
<th>Expected Outcomes</th>
<th>Intended Audience</th>
</tr>
</thead>
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<tr>
<td>I. Final research reports</td>
<td>Andrus Foundation and ARRNP/NRTA network</td>
</tr>
<tr>
<td>Final research report to granting agency</td>
<td>Report on research results to be written up in an article to be submitted to <em>Modern Maturity</em></td>
</tr>
<tr>
<td></td>
<td>Personal presentations at chapter meetings as requested</td>
</tr>
<tr>
<td>II. Policy-oriented publications and presentations</td>
<td>Policy-makers</td>
</tr>
<tr>
<td></td>
<td>Aging advocate organizations</td>
</tr>
<tr>
<td></td>
<td>Social planners</td>
</tr>
<tr>
<td></td>
<td>Service providers</td>
</tr>
<tr>
<td></td>
<td>Research report published by the Center for Studies in Aging, North Texas State University</td>
</tr>
<tr>
<td></td>
<td>Paper presentation of results at appropriate professional meetings such as Gerontological Society and Western Gerontological Society meetings</td>
</tr>
<tr>
<td></td>
<td>Paper publications in professional policy-oriented journals such as <em>The Gerontologist</em></td>
</tr>
<tr>
<td></td>
<td>Results incorporated in Center for Studies in Aging course in Health Care Organizations in the Master's Degree Program in Aging</td>
</tr>
<tr>
<td>III. Policy research publications and presentations</td>
<td>Policy researchers</td>
</tr>
<tr>
<td></td>
<td>Publications in policy-oriented journals such as <em>The Gerontologist</em> and the <em>Journal of Health and Human Behavior</em></td>
</tr>
<tr>
<td></td>
<td>Presentation at policy-oriented professional meetings such as Gerontological Society and Western Gerontological Society meetings</td>
</tr>
</tbody>
</table>
meetings of professional organizations such as the Gerontological Society and the Western Gerontological Society, which this audience is likely to attend. Finally, the results of the research will be incorporated into the Center for Studies in Aging course in health care delivery taught to students in the master's degree program in aging, most of whom plan to be either long-term care administrators or social planners.

The third group of publications includes policy research-oriented publications and presentations aimed at researchers interested in health care policy of older adults. Papers presenting the research findings will be submitted to journals which these researchers are likely to read, including *The Gerontologist* and the *Journal of Health and Human Behavior*, as well as to professional meetings such as those of the Gerontological Society and the Western Gerontological Society attended by such researchers.

**Organization and Management Plan**

Included in this section is a discussion of (1) the project personnel and their responsibilities, (2) the facilities to be used, and (3) the timetable showing beginning and completion of the major tasks.

**Project Personnel**

The proposed project personnel consist of two co-principal investigators, two research assistants, and a part-time secretary. The names (where available), position titles, project functions, and approximate time commitments are summarized in Figure VI.

**Organizational Facilities**

The Center for Studies in Aging at North Texas State University has been in existence since 1967. In addition to its major effort in performance
Figure VI
Project Personnel

Position title: Co-principal investigator/Project director
Name: Cora A. Martin, Ph.D.
Time commitment: Twelve months (Jan.–May 1981, Sep.–Dec. 1981:10%;
Jun.–Aug. 1981:30%)
Project functions: 1. Primary responsibility for management and ad-
ministrative details.
2. Primary responsibility for fiscal details.
3. Primary responsibility for publication of lay
and scientific publications.
4. Meeting all project deadlines.

Position title: Co-principal investigator
Name: Susan Brown Eve, Ph.D.
June–Aug. 1981:100%
Project functions: 1. Primary responsibility for conceptual framework,
review of the literature and research in
process, development of hypotheses, and spe-
cification of variables.
2. Primary responsibility for the research design.
3. Responsibility for consultation on research
analysis with research assistants.
4. Primary responsibility for the evaluation and
interpretation of the results.
5. Developing policy suggestions.

Position title: Research assistant I
Name: Not available. Will be chosen from staff of Ph.D.
candidates in sociology (with a concentration in
gerontology) who work for the Center for Studies in
Aging.
Three months (Jun–Aug. 1981):100%
Project functions: 1. Collecting references to and copies of empirical
research studies and studies in progress.
2. Keypunching and running subroutines for data
analysis.
3. Routine transference of data to tables.
4. Performance of routine tasks associated with
writing and publishing reports such as doing
bibliographies, proofreading, collating typed
reports, etc.
Figure VI—Continued

Position title: Research assistant II
Name: Not available. Will be chosen from staff of graduate students in Center for Studies in Aging master's program.
Time commitment: Twelve months (Jan.–Dec. 1981): 25%
Project functions: 1. Assisting principal investigators and research assistant I in collection of references for literature review.
2. Assisting in keypunching and running subroutines.

Position title: Secretary
Name: To be named
Project functions: 1. Typing the rough drafts and finished copies of all publications from the research project.
2. Assisting the project director with management, administrative, and fiscal responsibilities.
for the field of aging, the Center personnel have, over the years, been engaged in many research projects. Multi-year funding from the Andrus Foundation made possible a succession of studies and dissemination of research findings on the subject of crimes against the elderly. A slide-tape presentation has had major impact in police training on a national scale, sensitizing police to special problems of the elderly. Research has also been suggested on a variety of subjects by such funding agencies as the Administration on Aging, the Texas Governor's Committee on Aging, the National Institute on Aging, and private sources. The Center has been diligent in stimulating the conduct of multidisciplinary research and serving as a depository and dissemination center for information and knowledge in aging, as well as improving the training in gerontology of students in related professional areas. In keeping with its practitioner orientation in training, it has always taken seriously the obligation to relate research findings to the practitioner audience.

The Center has formal consortium arrangements with both the Dallas Geriatric Research Institute and the Texas Research Institute of Mental Science, under which joint research projects have been completed. All these resources will be available to the investigators.

North Texas State University has a National Advanced System AS500 computer located on campus which is adequate for the data analysis described in this proposal.

Finally, North Texas State possesses various software packages necessary for the data analysis in this proposal, including OSIRIS and SPSS, and they are currently operational.
Schedule for Major Tasks

The timetable for major tasks discussed above is presented graphically in Figure VII. During Phase I of the research project (January-February 1981) three major tasks will be accomplished. First, data will be ordered from the National Archives and Records Service in Washington, D. C. Second, a research assistant will be hired and trained. Third, the literature reviews will be updated.

During Phase II, the data will be analyzed. The principal investigators, assisted by a research assistant, will spend two months examining the data using programs in OSIRIS II and SPSS which calculates (1) univariate frequency distributions and descriptive statistics (TABLES, FREQUENCIES, CON-DESCRIPTIVE), (2) cross-tabulated tables (TABLES, CROSSTABS), (3) scatterplots (SCAT), and (4) interactions among the variables (AID3). These procedures will be useful in recoding data and selecting variables for inclusion in the subsequent regression analysis.

During the next four months, the principal investigators, assisted by research assistants, will perform time-series regression analysis on the data in order to ascertain the changes in the use of the health care services which occur among the older women included in the Retirement History Study as they age. The OSIRIS III routines REGRESSN and REGR and the SPSS routine REGRESSION will be used. Four months of analysis are allotted in order to give the researchers sufficient time to examine and refine the analysis in order to find the regression model that best fits the data.

Finally, during Phase III, the final research reports and research articles will be written. This time will overlap Phases I and II as some preliminary work which can be carried out concurrently with data analysis.
Figure VII

Timetable for Major Tasks

<table>
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<tr>
<th>Phase I: Preparation</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
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<tr>
<td>Hire research assistants</td>
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<tr>
<td>Complete literature reviews</td>
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| Phase II: Data analysis   |     |     |     |     |     |     |     |     |     |     |     |     |
| Data analysis             |     |     |     |     |     |     |     |     |     |     |     |     |

| Phase III: Interpretation |     |     |     |     |     |     |     |     |     |     |     |     |
| Write final research reports, articles, papers |     |     |     |     |     |     |     |     |     |     |     |     |
Bibliography


Battistella, R. M. Limitations in the use of the concept of psychological readiness to initiate health care. Medical Care, 1968, 6, 308-319.


Berki, S. E. and Kobashigawa, B. Socioeconomic and need determinants of ambulatory care use. Medical Care, 1976, 14, 405-421.

Bice, T., Eichhorn, R., and Fox, P. Socioeconomic status and the use of physician services: a reconsideration. Medical Care, 1972, 10, 261-271.


Dittmar, N., Franklin, J., and Mason, M. Nursing homes: are they effective alternatives to state mental hospitals. Austin, Texas: Office of Program Analysis and Statistical Research, Texas Department of Mental Health and Mental Retardation, 1979.


RESUMES
VITA

NAME: Cora Ann Martin

DATE AND PLACE OF BIRTH: September 24, 1926
Yancey, Texas

ACADEMIC AND PROFESSIONAL PREPARATION:

Diploma in Nursing
Baylor University School of Nursing 1947
Dallas, Texas

B.S. (with honors)
Texas Woman's University 1949
Denton, Texas
Major - Nursing
Minor - Sociology

M.S. North Texas State University 1963
Denton, Texas
Major - Sociology
Minor - Geography

Ph.D. University of Texas 1965
Austin, Texas
Major - Sociology
Social Psychology

Post Doctoral
Summer Fullbright - Singapore 1967
Summer Seminar - University of
Southern California 1969

PROFESSIONAL ORGANIZATIONS:

American Sociological Association, Fellow
Southwestern Sociological Association
Southwestern Social Science Association
Adult Education Association, Chairperson, Section on Aging, 1977-78
The Gerontological Society, Fellow
Texas Association of College Teachers
American Association of Homes for the Aging, House of Delegates, 1977-80

HONORARY ORGANIZATIONS:

Who's Who of American Women
PROFESSIONAL EXPERIENCE:

Research

Research Assistant
Grant from the Social Security Administration (Cooperative Research and Demonstration Grant Program), "The Decision-Making Process Leading to Institutionalization of the Aged." Project Director: H.J. Friedsam, Ph.D., North Texas State University, Denton, Texas. 1961-62

Research Associate
U.S. Public Health Service Grant 6666 (a), "The Validity of Husbands' and Wives' Reports of Frequency of Marital Intercourse as a Measure of Questionnaire Validity." Project Director: Alexander Clark, Ph.D., University of Texas, Austin, Texas. 1963-65

Research Associate
U.S. Public Health Service Grant, "Leadership Training Effectiveness." Project Directors: Dale McLemore, Ph.D., and Richard Hill, Ph.D., University of Texas, Austin, Texas. Summer 1963, Summer 1964

Director
Socialization Study, Omaha, Neb. 1966-67

Project Director
Nursing Needs and Resources Survey, conducted for the Health Department, Hospital Division, State of Nebraska 1967

Research Associate and co-grantee
U.S. Public Health Service Grant CH ER 00258-01 "Community Power, Health Policy, and Administration." 1967

Faculty Research Grant
"Parental Use of TV as a Socializing Agent." 1968

Consultant
Southwestern Medical School, U.S. Public Health Service Grant, "Social Correlates of Cancer of the Cervix." 1968-70

Faculty Research Grant
"Social Correlates of Cancer of the Cervix." 1969

Project Director
Health, Education, and Welfare Grant to develop test of suitability for Nursing Home Administrators 1969-70
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<td>Faculty Research Grant</td>
<td>&quot;The Impact on Childrearing Practices of the Working Mother&quot;</td>
<td>1969</td>
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<td>Project Director</td>
<td>Denton Housing Authority - Housing Survey of the Elderly</td>
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<td>Faculty Research Grant</td>
<td>&quot;Developing an Instrument to Measure a Child's Perception of Old Age and Death.&quot;</td>
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<td>Director of Evaluation</td>
<td>Training Program for Continuing Education in Mental Health for Personnel in Nursing Homes, NIMH-DMTR-72-158</td>
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<td>Director</td>
<td>Health Survey of Black Aged Community</td>
<td>1972</td>
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<td>Consultant</td>
<td>Crimes Against the Aged in the Houston Model Neighborhood Area</td>
<td>1972</td>
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<td>Faculty Research Grant</td>
<td>&quot;A Test of the Generation Gap Hypothesis.&quot;</td>
<td>1972-73</td>
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<tr>
<td>Faculty Research Grant</td>
<td>&quot;A Comparative Study of Three Aged Population Samples&quot;</td>
<td>1972-73</td>
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<td>&quot;Crimes Against the Elderly,&quot; State of Texas</td>
<td>1972-73</td>
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<td>Faculty Research Grant</td>
<td>&quot;Study of Socialization of Osteopathic Students into the Profession.&quot;</td>
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<td>Faculty Research Grant</td>
<td>&quot;Longitudinal Study of Socialization to a Profession&quot; (Osteopathic medicine)</td>
<td>1977-81</td>
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<tr>
<td>Faculty Research Grant</td>
<td>&quot;Comparison of the Social and Psychologic Correlates of Stress with Selected Physiologic Indicators in Two Age Groups&quot;</td>
<td>1977-78</td>
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Teaching

Instructor
Baylor University Technical Nurse Program, Dallas, Texas
1961

Teaching Assistant
North Texas State University
Denton, Texas
1961-61

Teaching Assistant
University of Texas, Austin, Texas
Summer 1963

Assistant Professor
University of Omaha, Omaha, Nebraska
1965-67

Visiting Professor
Inter-American University, Hato Rey, Puerto Rico
Summer 1967

Assistant Professor
North Texas State University
Denton, Texas
1967-69

Associate Professor
North Texas State University
Denton, Texas
1969-73

Professor
North Texas State University
Denton, Texas
1973-present

Administrative

Hospital Administrator
Henderson County Memorial Hospital, Athens, Texas
1949-51

Director of Nurses
Midland Memorial Hospital, Midland, Texas
1951-52

Assistant Director
Center for Studies in Aging, North Texas State University, Denton, Texas
1967-72

Associate Director
Center for Studies in Aging, North Texas State University, Denton, Texas
1972-73

Co-Director
Center for Studies in Aging, North Texas State University, Denton, Texas
1973-present

Editorial Work

Reader for Southwestern Social Science Quarterly

Member of Editorial Committee for "CONCERN" in care of the Aging, The magazine of the American Association of Homes for the Aged. 1975-77
PUBLICATIONS:


C.A. Martin. "The Travel Market Among Older Adults, Research Review." Accepted for publication in International Symposium on Housing and Environmental Design for Older Adults, Wilma Donahue (ed.), 1974.

C.A. Martin. "Retirement--Bane or Blessing?" in The North Texan. Published by North Texas State University, June, 1974.


C.A. Martin, "HMO's and Long Term Care" in CONCERN in Care of the Aging, November-December 1975.


PAPERS PRESENTED AT SCIENTIFIC AND PROFESSIONAL MEETINGS:


Papers Continued:


PARTICIPATION IN NATIONAL AND INTERNATIONAL SEMINARS AND PROFESSIONAL MEETINGS:


PROGRAM PARTICIPATION (SECTION ORGANIZER, PANELIST, OR MODERATOR):

American Association of Homes of the Aging

Gerontological Society

Adult Education Association
Annual Meetings 1975, 1977

American Association for the Advancement of Science
Annual Meetings 1974

PROGRAM CHAIRPERSON:

American Sociological Association
Denver, Colorado, 1971

American Psychiatric Association
1972

Adult Education Association, Section on Older Adults
1973

Association of Gerontology in Higher Education
Tucson, Arizona, 1977
Dallas, Texas, 1978

Association of University Programs in Health Administration
Dallas, Texas, 1978
OTHER PROGRAM PARTICIPATION:

Conference Leader for Regional White House Conference, 1970.

Presided at section of Training at State White House Conference on Aging, 1971.

Seminar Leader for Seminar on "Methods of Implementing Research on Social Indicators", conducted for Regional Administration on Aging personnel, Dallas, Texas, 1971.

Section Organizer, two sections on Medical Sociology, Southwestern Sociological Association, 1972.

Keynote Speaker, County Conference on Aging, Henderson County, Texas, 1972.

Faculty member, Aging and Aging Services Seminar, Urban Renewal Agency of the City of Lubbock, Lubbock, Texas, April 1973.


Speaker, "Criminal Victimization and the Older Adult", Area-Wide Conference on Crime and the Older Adult, sponsored by the Governor's Committee on Aging, AARP/NRTA, NTSU, Dallas, Texas, May 1974.

Faculty Advisor, Consultant and Participant (Series) Aging and Aging Services Fairs, sponsored by Governor's Committee on Aging, Texas Department of Community Services, NTSU School of Community Service, July 1974.

Speaker, "Ethical Issues in Behavior Modification", Behavior Therapy for Geriatric Patients workshop for Professionals Interested in Long Term Care of the Elderly, sponsored by: 6th Texas Association of Homes for the Aging and NTSU School of Community Service and Center for Studies in Aging, Dallas, Texas, October 1974.

Speaker, "Care of the Aged - Aging: Myths and Realities", Area-Wide in-service training for medical and para-medical personnel, sponsored by Baylor University Medical Center and the University of Texas Southwestern Medical School, Dallas, Texas, October 1974.

Speaker, "Retirement", Sigma Iota Epsilon Management Fraternity NTSU, Denton, Texas, November 1974.

Faculty Member, "Nutrition for the Elderly", Title VII Nutrition Workshop sponsored by the Center for Studies in Aging NTSU, at Santa Fe, New Mexico, November 1974.

Conference Coordinator and Participant, Criminal Justice and the Aged (Crime Against the Elderly), Sponsor: Dallas Council of Jewish Women, November 1974.
Other Program Participation continued - 2

Speaker, Public Service Officers Conference, Central State University, Edmond, Oklahoma, December 1974.

Speaker, "Education and the Older Adult", Junior College District of Midland-Odessa, Odessa, Texas, December 1974.

Speaker, "What's Happening to Senior Citizens in Texas, Senior Citizens Seminar, Midland, Texas, December 1974.

Faculty Member, "Nutrition for the Elderly", Title VII Nutrition Workshop sponsored by the Center for Studies in Aging NTSU, at Little Rock, Arkansas, January 1975.

Speaker, "Physiological Aspects of the Aging", Regional Workshop sponsored by Governor's Committee on Aging, Texas Department of Community Affairs, and NTSU School of Community Service, Victoria, Texas, January 1975.

C. Martin and M. Ernst, "Comparison of Aging Problems in Three Ethnic Populations," Texas Research Institute of Mental Sciences, Houston, Texas, January 1975.


Faculty Member, "Training Needs for the Elderly" Faculty Symposium, Center for Studies in Aging, North Texas State University, Denton, Texas, March 1975.

Speaker, "Sociological Aspects of Aging and Sexuality, Attitudes and Values; Interpersonal Relationships; Family Relationships; Isolation", Perspectives on Aging and Sexuality Seminar, Planned Parenthood Association of Northeast Texas, Dallas, Texas, April 1975.

Speaker-Participant, Symposium on Older Women, San Antonio, Texas, April 1975.


Discussion Leader, "You're Not Getting Older You're Getting Better!", co-sponsored by Jewish Family Service and Jewish Community Center of Dallas, Dallas, Texas, June 1975.

Speaker, "The Aging: A Religious Response-Ability" sponsored by the Governor's Committee on Aging, Austin, Texas, July 1975.

Faculty Member, Behavior Therapy for Geriatric Patients presented by the Center for Studies in Aging NTSU at Appalachia State University Center for Continuing Education, Boone, North Carolina, July 1975.

Speaker, "The National Scene" - National and Local Programs in the Field of Aging: Successes and Failures, the Alamo Area Conference on Aging at Trinity University, San Antonio, Texas, September 1975.

Scheduler, Wise County Committee on Aging Workshop, Decatur, Texas, September 1975.
Other Program Participation continued - 3

Speaker, "Older Persons and Their Families," workshop for service providers, social workers, helping professionals at Vernon Regional Junior College, Vernon, Texas, October 1975.

Featured Speaker, "Meeting the Continuing Education Needs of Long Term Care Administration," National Association of Boards of Examiners for Nursing Home Administrators Board of Governors Meeting, Houston, Texas, November 1975.

Speaker, "Public Housing Meets the Needs of Older Americans," Aging and Aging Services Fair, sponsored by the Governor’s Committee on Aging, Texas Department of Community Affairs, NTSU School of Community Service, Fort Worth, Texas, November 1975.


Speaker, Nursing Institute on Alcoholism, sponsored by Baylor University Medical Center and University of Texas Southwestern Medical School, Dallas, Texas, January 1976.


Speaker, "Public Housing Meets the Needs of Older Americans," Aging and Aging Services Fair, sponsored by the Governor’s Committee on Aging, Texas Department of Community Affairs, NTSU School of Community Service, El Paso, Texas, February 1976.

Speaker, "Profile of Aging Now and in the Future," Tarrant County Community College, Fort Worth, Texas, February 1976.

Speaker, Woman's Day, Tarrant County Junior College, March 1976.

Chair-Panel, Conference of Texas Service Providers, Fort Worth, Texas, April 1976.


Speaker, AARP, Denton, Texas, May 1976.


Speaker, National Extension Service Workshop, "Aging Successfully (Psychologically and Sociologically)," Dallas, Texas, September 1976.
Speaker, "Health of Older People," Dickinson Place, Dallas, Texas, March 1977.

Speaker, Seminar for Osteopathic Practitioners, Texas College of Osteopathic Medicine, Fort Worth, Texas, March 1977.


Speaker, "Lavender Rose or Gray Panther: How Did They Get That Way?" The Maturing Woman in America Today sponsored by the Southwest Federal Regional Council, Dallas, Texas, July 1977.


Speaker, "Recent Developments of Aging," First Annual Seminar on Aging sponsored by Home for the Aged Christian Care Center, Dallas, Texas, October 1977.
CURRICULUM VITA

Susan Brown Eve

Office Addresses and Telephones
Center for Studies in Aging
North Texas State University
P O Box 13438, NT Station
Denton, Texas 76203
817/788-2763

Department of Sociology
North Texas State University
P O Box 13408; NT Station
Denton, Texas 76203
817/788-2188

Home Address and Telephone
1932 Casa Loma
Grapevine, Texas 76051

Date of Birth
March 16, 1947

Academic Training
September 1965-January 1968 University of North Carolina at Greensboro
February 1968-January 1969 University of North Carolina at Chapel Hill;
B.A. with Honors in Sociology
September 1970-May 1973 University of North Carolina at Chapel Hill;
Comparison of Children's Sex Role Stereotypes"
(Chairman--James A. Wiggins)
June 1973-August 1975 University of North Carolina at Chapel Hill;
topic: "The Effects of Social Interaction
on Individuals Under Stress" (Chairman--
James A. Wiggins)

Summer Institutes
June 1977-August 1977 Post-Doctoral Study in Gerontology
Center for Studies in Aging
North Texas State University
Summer 1978  Visiting Scholar at Institute for Social Research, University of Michigan, Ann Arbor, Michigan

Summer 1979  Gerontological Society Fellow with the Texas Area-5 Health Systems Agency, Inc. Project report entitled "Health Needs of the Elderly in the Texas Health Service Area 5"

**Academic Employment**

September 1979-Present  Assistant Professor, Center for Studies in Aging and Department of Sociology, North Texas State University

September 1977-August 1979  North Texas State University Assistant Professor and Research Scientist

September 1975-May 1977  Austin College Instructor in Sociology

**Nonacademic Employment**

September 1969-August 1970  Social Worker in the Medicaid section of the Durham County Department of Social Services, Durham, North Carolina

**Honors and Awards**


June 1968-January 1969  Participated in the undergraduate honors program in Sociology at the University of North Carolina at Chapel Hill. Undergraduate honors thesis topic: "Intergenerational Mobility: A Study of Occupational Mobility in Five Western Countries (Chairman--Edgar Butler)

January 1969  B.A. with honors in Sociology from the University of North Carolina at Chapel Hill

May 1969  Inducted into Phi Beta Kappa at the University of North Carolina at Chapel Hill

January 1971-December 1974  Traineeship in Medical Sociology from National Institute of Mental Health
Summer 1977: Post-doctoral fellowship from the Center for Studies in Aging, North Texas State University, under the auspices of the Administration on Aging.

Summer 1978: Stipend under the auspices of the Administration on Aging to attend workshop at the Institute for Social Research, University of Michigan, Ann Arbor, Michigan.

Summer 1979: Gerontological Society Fellowship.

Professional Organizations:
- American Sociological Association
- Gerontological Society
- Society for the Study of Social Problems
- Southwestern Sociological Association
- Southwestern Social Science Association
- Southwestern Gerontological Society

Teaching Experience:
Formal Teacher Training: Graduate level seminar on teaching sociology at the University of North Carolina at Chapel Hill. Taught by Professor Everett K. Wilson, Department of Sociology.

Graduate Teaching Assistantship: Taught four sections of Introductory Sociology at the University of North Carolina.

Instructor:
- Austin College
- September 1975-May 1977

Courses taught include:
- Social Systems: An Introduction to Sociology
- Social Psychology
- Social Theory
- Methods of Social Research
- Medical Sociology
- Minority Group Relations
- Social Structure and Popular Culture
- Policy Research—an Interdisciplinary senior level research course required of all seniors at Austin College

Assistant Professor:
- North Texas State University Center for Studies in Aging

Courses taught include:
- CSAG 570 Seminar on Social Gerontology
- SOCI 520 Seminar on Research Methods and Design
- CSAG 540 Seminar on the Sociology of Health

Assistant Professor:
- North Texas State University Department of Sociology

Courses taught include:
- SOCI 305 Social Research Methods
- SOCI 521 Nonparametric Statistics
- SOCI 620 Seminar on Research Methods: Computer Applications
Research Skills

Experience with empirical data analysis including the use of the following skills:

1. Basic parametric and nonparametric statistics with nominal, ordinal, and interval data, including cross tabular analysis, analysis of variance, multiple and partial correlation analysis
2. Causal analysis
3. Time series analysis
4. Parametric multidimensional scaling techniques (factor analysis)
5. Nonparametric multidimensional scaling techniques (TORCSA and POLYCON)
6. Packaged computer programs used--Statistical Package for the Social Sciences, MANOVA, OSIRIS, Multivariate
7. Design of surveys, laboratory experiments, observation studies, evaluation studies, secondary analysis
Grants Held

September 1977-August 1978  Faculty Research Grant for $2000 from the North Texas State University for project entitled "Multivariate Regression Analysis of Health Services Utilization Among Elderly Texans; A Secondary Analysis of a Needs Assessment Study of 8,000 Elderly Texans."

September 1978-August 1979  Faculty Research Grant for $2000 from North Texas State University for project entitled, "An Exploratory Survey of Social Stress and Utilization of Mental Health Services in a Population of Elderly Residents of Small Towns and Rural Areas in Denton County, Texas."

October 1, 1979-December 31, 1980  "Health Care Services Utilization Among Older Adults. Funded by the National Center for Health Services Research." ($35,252)

October 1, 1979-August 1980  With Thomas J. Fairchild and Russell Gambier "Use of Outpatient Osteopathic Clinic Among Older Mexican-Americans." Funded by Faculty Research Funds from Texas College of Osteopathic Medicine. ($4,000)
Manuscripts Published


Manuscripts Accepted for Publication:


Presentations


Presentations Submitted, Status Pending


Book Reviews

Eve, S. B.

Eve, S.B.

Eve, S.B.

Eve, S. B.
Other Relevant Professional Activities

Discussion leader of session "Mobilizing Community Awareness," at conference entitled "In Search of Safer Senior Years: Abuse, Neglect, Exploitation." Sponsored by the Senior Safety Committee of Dallas, December 6-7, 1977, Dallas, Texas.


Discussion leader at conference entitled "Homes for the Aged: Myths and Realities, A Conference on Residential Care for the Elderly." Sponsored by the Senior Safety Committee of Dallas, December, 1978, Dallas, Texas.

Appendix A

Interview Schedule for the

Retirement History Survey, 1969
BUDGET
**Budget Explanation**

Refer to Figure VIII for a summary of the budget.

1. **Personnel**

   Amount requested: $23,124

   Funds are requested for personnel support as follows:

<table>
<thead>
<tr>
<th>Name and Position</th>
<th>% of Time on Project</th>
<th># of Months</th>
<th>Funds Requested</th>
<th>NTSU Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cora A. Martin, Ph.D.</td>
<td>10.0%</td>
<td>9 mos</td>
<td>2,219</td>
<td></td>
</tr>
<tr>
<td>Project Director and</td>
<td>30.0%</td>
<td>3 mos</td>
<td>2,219</td>
<td></td>
</tr>
<tr>
<td>Co-Principal Investigator</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan Brown Eve, Ph.D.</td>
<td>33.3%</td>
<td>9 mos</td>
<td>5,717</td>
<td></td>
</tr>
<tr>
<td>Co-Principal Investigator</td>
<td>100.0%</td>
<td>3 mos</td>
<td>5,717</td>
<td></td>
</tr>
<tr>
<td>To be hired</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Assistant I</td>
<td>50.0%</td>
<td>9 mos</td>
<td>3,600</td>
<td></td>
</tr>
<tr>
<td>To be hired</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Assistant II</td>
<td>25.0%</td>
<td>12 mos</td>
<td></td>
<td>1,680</td>
</tr>
<tr>
<td>Reassigned</td>
<td>15.0%</td>
<td>12 mos</td>
<td>1,252</td>
<td></td>
</tr>
<tr>
<td>Secretary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Salaries for the principal investigators and secretary are based on the rates that will be in effect from January 1981, to December 1981.

The Research Assistant I will be a doctoral student paid at an hourly rate of $5.00 (consistent with other rates for doctoral-level graduate assistants in effect at NTSU). The estimate of hours and wages is as follows:

- 3 months (June-August) at 100% (12 wks x 40 hrs/wk)($5.00/hr) = $2,400
- 9 months (January-May, September-December) at 50% (36 wks x 20 hrs/wk)($5.00/hr) = $3,600

Total for Year = $6,000
Figure VIII

Budget Summary

<table>
<thead>
<tr>
<th>Item</th>
<th>Requested Support</th>
<th>NTSU Contributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Personnel</td>
<td>$23,124</td>
<td>$1,680</td>
</tr>
<tr>
<td>2. Fringe benefits</td>
<td>5,077</td>
<td>235</td>
</tr>
<tr>
<td>3. Travel</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>4. Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Supplies</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>6. Contractual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Reproduction</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>b. Communications</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>c. Data acquisition and analysis</td>
<td>800</td>
<td>5,000</td>
</tr>
<tr>
<td>9. Total direct cost</td>
<td>$29,981</td>
<td>$6,915</td>
</tr>
<tr>
<td>10. Indirect cost (grantee contributed)</td>
<td></td>
<td>10,753</td>
</tr>
<tr>
<td>11. Total project cost</td>
<td>$29,981</td>
<td>$17,668 $47,649</td>
</tr>
</tbody>
</table>
The Research Assistant II will be a master's level student paid at an hourly rate of $3.50, which is consistent with other rates for master's level students in effect at NTSU. The estimate of hours and wages contributed by NTSU through faculty research funds is as follows:

12 months (January–December) at 50% (48 wks x 10 hrs/wk)
($3.50/hr) = $1,680
Total for Year = $1,680
(NTSU contribution)

2. **Fringe Benefits**

   Amount requested: $ 5,077

   Fringe benefits prorated to percent of salary paid from grant are computed as follows:

   Contribution to employee’s Social Security obligation as required by state of Texas 5.85%
   Social Security (OASI) 6.13%
   Teacher Retirement or Optional Retirement 8.50%
   Texas Unemployment Compensation Act (TUCA) 1.50%
   **Total** 22.50%

   Add $40.00 per month per full-time employee for health insurance.

   Fringe benefits for assistants do not include retirement and are, therefore, computed at 14.00% of wages. (A total of $235.00 will be contributed as fringe benefits for the second research assistant.)

3. **Travel**

   Amount requested: $ 450

   - Partial travel expenses only are included for one trip to the Gerontological Society meeting in Toronto, Canada, November 1981, and one trip to the Western Gerontological Society meeting in Seattle, Washington, to present the research findings. The remainder of the amount necessary for meeting the cost of the two round-trip airfares
(an estimated $100.00) plus per diem will be drawn from other grant funds.

4. **Equipment**  
   Amount requested: $ 0

   Equipment necessary to the conduct of the project will be provided by the Center for Studies in Aging and the North Texas State University Computer Center.

5. **Supplies**  
   Amount requested: $ 200

   An estimated $200 is included for ordinary office and research supplies necessary to conduct this research.

6. **Contractual**  
   Amount requested: $ 0

7. **Construction**  
   Amount requested: $ 0

8. **Other**
   a. **Reproduction**  
      Amount requested: $ 200

      Copying expenses are included for copying materials for the literature review, copies of papers for presentations, copies of papers for publication, and copies of papers for dissemination.

   b. **Communications**  
      Amount requested: $ 130

1) **Long-distance telephone** ($100)

   The base rate will be paid by North Texas State University. One hundred dollars is included for telephone calls routinely necessary to the research project, such as calls to the granting foundation, to the National Archives and Records Service to order data, and to the University of Michigan at Ann Arbor for statistical consulting during the data analysis.

2) **Postage** ($30)

   Postage is necessary for routine mailing of the research report and research articles.
c. Data Acquisition and Analysis  

Amount requested: $ 800

1) Data tapes ($575)

The 1969, 1971, 1973, and 1975 waves of the Social Security Administration's Retirement History Study will be obtained from the General Services Administration's National Archives and Records Service in Washington, D.C. The Social Security Administration's Longitudinal Retirement History Study is currently available for 1969, 1971, 1973, and 1975. The data recorded at 1,600 bpi are available on one reel for 1969, two reels for 1971, usually one reel for 1973, and one reel for 1975. The base cost is $65 a reel. As only the data on older women are desired, these data will be extracted from the master tapes at a cost of $50 a reel. Thus the cost for the magnetic tapes will be as follows:

\[(5\text{ reels})($65 + $50) = $575\]

2) Documentation ($225)

Documentation for tapes is estimated at 1,500 pages. The cost for documentation is $.15 per page. Thus, the estimated cost for documentation is $225. The total estimated cost of obtaining the data and documentation is $800.

3) Data Analysis ($5,000 - NTSU contributed)

Data analysis costs using SPSS and OSIRIS software packages to obtain frequency distributions, cross tabulated tables and time series regression analysis will cost an estimated $5,000. (Refer to pp. 21 and 28 in the narrative for more detail on data analysis.)

9. Total Direct Cost  

Amount requested: $29,981
Grantee contributed: $ 6,915
10. **Indirect Cost**  
46.5% of salaries and wages  
(negotiated with DHEW July 26, 1977)  

Grantee contributed: $10,753

11. **Total Project Cost**  

Amount requested: $29,981  
Grantee contributed: $17,668  
Total: $47,649