Final Report – Contract No. 400-24-05

Prepared for
The Iowa Commission on Aging
State of Iowa

September 1971

A STUDY OF THE PATTERNS OF LIVING OF THE ELDERLY

IN

IOWA NON-URBAN POPULATION CENTERS

Home Economics Research Institute Project No. 65
College of Home Economics
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The author is indebted to many persons for the efforts necessary to initiate and complete this research contract in a period of 14 months. Actually much work remains, but the major directions and implications of the findings are now quite evident.

An especially important role was played by Dr. Margaret Liston throughout the project. The final impact of the research will owe much to her wisdom, patience and effort -- especially in making the author more sensitive to the research techniques and strategies in the areas of patterns of living. She should not however bear the burden of any shortcomings in this report since she did not -- due to timing -- have an opportunity to make suggestions prior to publication.

The efforts of graduate assistants Nola Ferguson Franzke and William Angell were also critical to the completion of the project. Many other graduate students and undergraduates contributed mightily to the project through interviewing and editing, coding and tabulating of the data. The final manuscript and all the rough drafts were cheerfully prepared by my secretary, Mrs. Buchholtz.

Four very professional and competent interviewers made the household survey work by their skill and persistence in obtaining responses.

Not the least of my debts are owed to the 209 households of elderly who were gracious enough to let us bother them for the sake of learning something which might help others. Also, the retail food store owners and other community businessmen who were willing to let us gather pricing data. In both instances we promised to preserve confidence and this has been done.

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Ronald C. Powers
Professor of Family Environment.

INTRODUCTION

There are approximately 350,000 Iowans over 65 years of age. Of these, an estimated 308,000 are receiving some benefits from Social Security and another 24,000 are receiving Old Age Assistance. Another way of stating it: 881 of every 1000 persons over 65 in Iowa receive benefits from Social Security, 69 of each 1000 receive OAA. Some are receiving benefits from both. The level of Social Security payment received is contingent upon the quarters of coverage and the level of salary or wages during the time of coverage. The average Social Security monthly check for retired workers was approximately $116.00 as of December 1970. Many of the oldest elderly receive considerably less than this due to the coverage which they had in earlier years.

The Iowa Department of Social Services currently administers the Old Age Assistance (OAA) program which is a categorical assistance program to provide resources to eligible elderly who are not covered by Social Security or other public assistance programs and/or whose benefits under such programs do not equal the amount of money defined as the minimum welfare benefit for elderly persons. This minimum is currently defined in Iowa as $122.00 per month for a one person household and $178.00 per month for a two-person household. These are 100% of need figures derived from the state's study of basic needs and associated costs plus the periodic change which is related to the Consumer Price Index. Actual payments in August 1971 were $117.00 for a one person household and $151.00 for two-person households.[1]

In Iowa, on July 1, 1971, the Social Services department was providing OAA

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[1] Private communication, Family and Children's Services, Iowa Department of Social Services. August 4, 1971.

to 22,433 elderly Iowans. Of these, 8,852 were in group care facilities.[2] Approximately 75 percent of the total OAA cases are female. In the context of the nation's economic trends, especially during the last years when inflation has occured at the rate of five percent plus per year and health care costs have risen at an even faster pace, there is a continual concern whether the benefits are at a sufficient level. Particularly aggravating to those Iowans receiving OAA and Social Security is the practice of subtracting any increases in Social Security benefits from the OAA payment. This means that those persons whose total Social Security benefits fall below the minimum are forced to continue on a constant dollar level of resources despite the rate of inflation and the recognition of this fact in increased Social Security benefits. The level of maximum OAA payment has also increased, from $113.00 per month to $117.00 per month in Iowa on July 1, 1971, but this is largely, if not completely, negated by inflation and/or the substitution for added Social Security on a dollar for dollar basis. A highly relevant question, regardless of the above practice, is whether the OAA assistance guidelines used are appropriate for those eligible for this assistance. In practice, each state derives its own guidelines for public assistance. The above procedure is modified through state studies of food costs, shelter costs and the like. The exact manner in which the state derived guidelines are related to the federal government's procedure could not be determined. The federal procedure is approximately as follows. The minimum food cost

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[2]Division of Statistics, Report Series E. Iowa Department of Social Services. July 12, 1971.

budget is established for four person urban families and adjusted for one- and two-person families at ages 65 and over. This food cost budget is then multiplied by a factor of three (3) to establish the minimum budget. The food costs are determined from pricing data collected in urban areas of 10,000 or more people. The food items priced do not necessarily represent the diet practices of the elderly, nor necessarily the diet needs since the basic referent is a four person (two adult - two child) family.

Many of Iowa's elderly live in rural and rural non-farm areas. In viewing their situation, the question of adequacy of benefits turns on several aspects of the manner in which the benefits are initially determined compared to the economic environment in which those people live. Does food cost more, the same, or less in small towns than urban areas? Is the factor of 3 more, the same, or less useful in rural areas than urban areas as a means of accounting for the costs of housing, transportation, health care and clothing? If living in rural areas is less expensive, dollar-wise, than living in urban areas the rural elderly are relatively better off than their urban counterparts, albeit they may still have moderate resources. If living in the rural areas is more expensive however, they are relatively worse off. Such a finding would argue strongly for the differentiation of benefits by place of residence as well as indirectly providing data for determining the level of benefits. A related question which has only partially been answered to date is the actual resource (money and non-money) situation of the elderly, especially the rural non-farm elderly living in their own homes.

The Iowa Commission on the Aging, as one of its functions, attempts to articulate the needs of the elderly to the legislature and executive

departments. An area of high priority is to opt for a level of benefits which will provide the basis of a minimum decent living. Their "constituency" (the elderly) have continued to identify income as a major problem of the elderly in Iowa. The 1971 State White House Conference on Aging and the Task Force on Income Maintenance concurred on the severity of the problem[3].

In order to gain additional knowledge about the elderly's patterns of living in Iowa (including costs of living) the Iowa Commission on the Aging invited the Department of Family Environment to do a study of the costs of living of the elderly in Iowa's rural non-farm areas. A proposal (Appendix A) was submitted and approved. This original proposal was modified in several aspects. The household sample was doubled to 200 (209 completed interviews were actually obtained) and all eight of the communities in the related study were included[4]. Twenty seven communities ranging in size from less than 1000 to the capitol city were included in the pricing study -- with the main emphasis being on food costs. As the study procedure was developed it became apparent from previous studies, as well as available resources for this study, that detailed expenditure data from households was not a realistic objective. There was also a realization that cost data from the communities in the areas of housing, medical care, repair services and

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[3]Policy Recommendation Report Sheet, Income Maintenance, State White House Conference on Aging. Iowa Commission on the Aging, Des Moines, Iowa. May 13, 1971.

[4]Patterns of Living Among Disadvantaged Families, North Central Regional Project - 90. Iowa State University's Agricultural and Home Economics Experiment Project - 1726. College of Home Economics. Department of Family Environment.

transportation would be difficult to obtain. An attempt was made to do this and the results are reported with the attendant qualifications.

The major objectives which evolved from the interests of the Commission on the Aging and the project directors may be summarized as follows:

1. To determine the resource situation of the rural non-farm elderly.
2. To determine the household patterns of obtaining and using the goods and services which they need with special attention to food, housing, transportation, medical care and socially oriented activities.
3. To assess the relationships existing between the patterns of living and the resource (money and non-money) situation.
4. To compare the cost of selected items in a sample of communities of varying size.

FRAMEWORK OF THE STUDY

The original study request focused on a pricing study with the intent of identifying the cost of a "market basket" of goods and services (foods, housing, clothing, transportation and medical care) in towns and cities of various sizes in Iowa. The objective being a comparison of the prices by size of town which would lead to an "index" of prices by community size. A further objective was to "relate" the findings from such a pricing study to the Consumer Price Index which is utilized in adjusting a wide variety of benefit, insurance and wage schedules.

The monetary resources to do an exhaustive pricing study were not available. Moreover, such a study, though helpful, would miss many of the aspects of the elderly's patterns of living which are important in determining monetary assistance policies and programs of activities and services. Items used in the CPI, the quantities priced and the like are not necessarily the items used by the elderly. A specific example would be butter. Less than 10 percent of our sample of elderly households purchased any butter. The pricing of this commodity in a market basket of goods and services for the elderly would thus be largely irrelevant and misleading. Other items, such as housing costs are very difficult to obtain at the rural non-farm community level. Realtors and bankers in each of the 27 communities were asked to estimate rental costs for houses like those being lived in by our household sample. The range of estimates within several communities was so great that the validity of the data was highly suspect. In the defense of those who tried to provide us with data -- we basically were asking a hypothetical question. Most communities have few, if any, houses for rent of the age and size we were asking about. Many of the smaller communities did not have rental apartments

either. Another approach to actually estimate the housing costs for the elderly in small towns will need to be developed if accurate comparisons on shelter costs between different size communities are to be obtained.

The final research proposal included two distinct phases. Phase I, referred to hereafter as the Household Survey, was a random cluster sample of households, where the main female homemaker (or male if only a male was present) was over 65, from eight randomly selected communities in southwestern Iowa within the population range of 1000 -- 2500. The basic aim of the household survey was to determine the patterns of living of these elderly persons. By patterns of living is meant the process, or how, the elderly went about obtaining the goods and services they needed. We did not include all goods and services, but focused on those of primary concern to the elderly and the persons responsible for policy making in the field of aging, namely: housing, food, transportation and medical care. A second overall aspect of the pattern of living was to identify the basic composition of the households by age, sex, marital status, proximity to children, health status and the like. A third concern was centered on the elderly's orientation to their life situation, i.e., loneliness, morale, participation in activities and so on. Finally, a major emphasis was directed toward the identification of amount and kind of resources -- money and non-money -- which each family (household) had available to obtain the goods and services needed and wanted.

Conceptually our study fits the general notion of the situation approach to the study of the family. In the <u>structure</u>, <u>process</u> and <u>content</u> trilogy of the situational approach articulated by Bossard and Boll[1] we

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[1]Bossard, James H.S. and Eleanor Stoker Boll. Family Situations. Philadelphia, Penn., University of Pennsylvania Press. 1943.

focused heavily on the structure of the situation and moderately to lightly on the process and content dimensions.

To a large extent the primary variable which policy makers and administrative agencies consider varying in programs for the elderly is income. The unavoidable centrality of this variable in policy and programming led us to examine the relationships between this "independent" variable and a host of presumed outcomes, e.g., housing adequacy, health care, activity levels, outlook on life and the like. The continued concern about who is and who isn't impoverished also led us to examine the relationships using various methods of evaluating income resources against income needs.

The findings to be reported here will focus on selected aspects of the total data believed to be of first concern to persons reviewing the situation of rural non-farm elderly living in their own homes. Several additional studies focusing on specific aspects of these data are in process or will be done in the next year.

Phase II, referred to hereafter as the Community Pricing Study, focused on price comparisons for selected food items, housing, utilities, home and appliance repair and medical care. The specific food items priced were partially selected on the basis of food data secured in the Household Survey. The types of houses used to gather price (rental) information were also derived from the Household Survey. The following section reports the results from the study. The detailed description of sampling procedures and a description of the various "scores", e.g., loneliness score, total housing quality and the like are included in the appendices.

FINDINGS

Household Survey

Introduction

This section of the report will present the data obtained from the household interviews. The first part will present the frequency distributions for selected variables. These descriptive data will outline the main characteristics of the sample of households. The rationale and an elaborated discussion of the measures used are included in the appendices B and C.

Demographic data

Table 1 indicates the respondents age distribution. The median age of the respondents falls in the category of 70-74 years of age. The oldest respondent in the sample was 99 years old. Several respondents were below the selection criterion of 65. This was due to several situations. Basically it involved a person in the household other than the over 65 female or male head providing the data. For example a husband in the household under 65 providing the information when the wife who was over 65 could not do so.

Table 1. Respondents age distribution.

Age of respondent	Number	Percentage
Below 65	28	13.4
65-69	36	17.2
70-74	56	26.8
75-79	43	20.6
80-84	32	15.3
89-95	11	5.3
90 or more	3	1.4
Total	209	100.0

As indicated in Table 2 just over 46 percent of the sample was comprised of individuals living alone. Women living alone constituted 37.3

percent of the 209 households and single male households comprised 9.1 percent of the total. There were 42.1 percent of the households where only the husband-wife pair were present. Slightly more than 11 percent of the households were composed of female-others and male-others. These combinations included a variety of relationships. The most common was the female respondent and her sister(s) or daughter. Other combinations included the female respondent and her brother, or son, or father, or niece. In four cases the husband-wife pair plus at least one other person made up the household. This explains the discrepancy between 88 husband-wife pairs and 92 married couples in Table 2.

Table 2. Household composition and marital status.

Characteristic	number	percent
Household composition		
Female only	78	37.3
Male only	19	9.1
Husband and wife	88	42.1
Female and others	23	11.0
Male and others	1	0.5
Total	209	100.0
Marital status		
Married	92	44.0
Widowed	96	45.9
Divorced or separated	5	2.4
Single (never married)	16	7.7
Total	209	100.0

Nearly 46 percent of the sampled households were occupied by a respondent who was widowed. Noting the divorce rates among younger couples it is interesting to observe that only five (2.4%) of the households in this sample involved respondents who were divorced or separated.

Nine of 10 respondents were female. Data presented later on attitudes and activities should be viewed with this in mind. As one writer[1] has

[1]Safilios-Rothschild, Constantina. The study of family power power structure: a review 1960-1969. Journal of Marriage and the Family. Volume 32, 1970.

suggested, this provides a "female" family study. In the case of the elderly this limitation is partially eliminated since nearly 40 percent of the households are women only.

As seen in Table 3, the median education of the sample was less than 9 years -- a characteristic expected for a population of this age. Slightly more than 32 percent had graduated from high school. A special count showed 12 respondents with a 5th grade education or less.

Table 3. Respondents level of formal education.

Education of respondent	Number	Percent
Below 9 grades	113	54.0
9-11 grades	29	13.9
12 grades	43	20.6
Beyond high school	24	11.5
Total	209	100.0
Mean years education, $\bar{X}$ = 9.7		

Almost 62 percent of the sample, according to the data in Table 4, had lived in the same house they were presently residing in for at least 10 years. Nearly 27 percent had resided at their present address for more than 25 years. Slightly over 68 percent have resided in their present community for more than 30 years. Almost one-third had resided there over 60 years -- in effect, all of their lives.

These two characteristics -- same house and same community -- indicate a high degree of residential stability, or perhaps negatively, immobility. The impact of this persistence depends largely on the ability of the near community to provide the goods and services necessary for well being and the quality of their present housing.

Over 85 percent of the elderly lived in homes which they owned. The data also indicate that they do not owe additional money on their homes. Only five households were still paying on a home mortgage.

Table 4. Years in house, community and right of occupancy.

Characteristics	Number	Percentage
Years in present house		
Below 10	86	38.3
10-24	73	34.9
25 years or more	56	26.8
Total	209	100.0
Mean, $\bar{X}$ = 17		
Years in present community		
Below 30 years	66	31.6
30-59 years	75	35.9
60 years or more	68	32.5
Total	209	100.0
Mean, $\bar{X}$ = 43.9		
Right of occupancy		
Own	182	87.1
Rent	21	10.0
Other	6	2.9
Total	209	100.0

More than half (54.0%) of the households were characterized by a total money income of less than $3,000 for 1970. The relevance of this depends of course on such factors as household composition, health and non-money income. These factors will be explored more fully in the section where an index of income adequacy is related to such factors as those above and many other variables. The mean income of $4105 is largely due to a few households with exceptionally high incomes. For example, a special count indicates six husband-wife pairs and one single male with incomes of more than $10,000 a year. These seven households had an average income in 1970 of $14,950.

Table 5. Household money income for 1970.

Total money income (1970)	Number	Percent	Cumulative percent
Below $1,000	8	3.8	3.8
$1,000-$1,999	60	28.7	32.5
$2,000-$2,999	45	21.5	54.0
$3,000-$3,999	26	12.4	66.4
$4,000-$4,999	23	11.1	77.5
$5,000-$5,999	15	7.2	84.7
$6,000-$6,999	8	3.8	88.5
$7,000-$7,999	7	3.3	91.8
$8,000-$ or more	11	5.3	97.1
No information	6	2.9	100.0
Total	209	100.0	
Mean, $\bar{X}$ = $4,105			

Table 6 summarizes the employment data by married pair households and the non-married households. In the married households nine females and 23 males were employed. In 10 cases both were employed. In 50 cases neither spouse was employed for as much as $100 earnings in 1970. Among the non-married households (117), 14 females and one male were employed. Eighty-four females and 18 males were unemployed. Of the 209 households, 152 (72.7%) had no one who was employed.

Table 6. Employment in 1970[a].

Employment	Number		Percent	
Married Households	92	92		44.0
Female employed alone	9		4.3	
Male employed alone	23		11.0	
Both spouses employed	10		4.8	
Neither spouse employed	50		23.9	
Non-married households		117		56.0
Female without spouse employed	14		6.7	
Female without spouse unemployed	84		40.2	
Male without spouse employed	1		0.5	
Male without spouse unemployed	18		8.6	
Total	209	209	100.0	100.0

[a]Persons were counted as employed if they earned more than $100 during 1970. Returns on assets were not counted here.

Housing data

Angell's[2] thesis is an intensive analysis of the housing situation of the elderly represented by this sample. This thesis will be submitted to the Iowa Commission on the Aging as an addendum to this report. In the interim some descriptive data will be presented and the relationships of housing to income will also be reported in the following section. Tables 7 through 9 include a summary of housing characteristics.

Table 7. Age and space characteristics of housing.

Housing characteristic	Number	Percent	Cumulative frequency
Age of structure			
Less than 10 years	13	6.2	6.2
10 - 19	24	11.5	17.7
20 - 29	11	5.3	23.0
30 - 39	9	4.3	27.3
40 - 49	10	4.8	32.1
50 - 59	31	14.8	46.9
60 - 69	19	9.1	56.0
70 - 79	49	23.4	79.4
Over 80	43	20.6	100.0
Total	209	100.0	
Mean, $\bar{X}$ = 55.8 years			
Number of rooms[a]			
Less than 4	20	9.5	
4 - 5	95	45.5	
6 or more	94	45.0	
Total	209	100.0	
Mean, $\bar{X}$ = 5.4 rooms			
Number rooms/person			
Less than 2.5	41	19.6	
2.5 - 4.4	111	53.1	
Over 4.5	57	27.3	
Total	209	100.0	
Mean, $\bar{X}$ = 3.8 rooms			

[a]The number of rooms does not include bathrooms, unfinished basements and closets or other storage rooms (e.g. pantrys)

2 Angell, William J. Resources Related to Housing of the Elderly in Rural Non-farm Households. Unpublished Master's thesis (in process). 1971.

The median age of the houses, as indicated in Table 7, fall in the 50 - 59 years of age category. Ninety-two (44.0%) of the structures are 70 years old or more. The relatively old age of the structures suggests the likelihood of substantial repair needs and/or annual maintenance costs. It also suggests the likelihood of few adjustments or adaptations having been made for those persons with chronic health conditions, such as heart or arthritis. Over one-third of the houses were judged by the respondents as currently needing at least three types of repairs. Another third felt their houses needed at least two types of repairs.

Over 90 percent (189) of the sample households were single dwellings. Apartments (6.7%) and mobile homes (2.4%) accounted for the remainder. This suggests the likelihood of substantial space per person and associated characteristics such as high utility costs (heating in particular). Though actual square footage was not gathered in this study an approximation of space can be seen in the number of rooms. Over 90 percent of the homes had four or more rooms, 45.0 percent had six or more. Slightly over 80 percent had an average of 2.5 or more rooms/person, 27.3 percent had 4.5 rooms or more per person. Rooms counted in the above did not include bathrooms, basements (unfinished) or closets. A general comment from several respondents indicated a concern with space -- "too much to care for". In several instances rooms, even entire second floors, were more or less permanently shut off.

Table 8 summarizes the respondents images of their housing: the estimated dollar value, the safety score and a utility score.

Table 8. Estimated dollar value, safety and utility of housing.

Respondents estimate of housing	Number	Percent
Estimated dollar value		
Less than $5,000	44	21.1
$5,000 - $10,000	115	55.0
Over $10,000	50	23.9
Total	209	100.0
Mean, $\bar{X}$ = $8,703		
Safety score[a]		
More than 1.2 (least safe)	56	26.8
1.1 - 1.2	64	30.6
Less than 1.1 (safest)	89	42.6
Total	209	100.0
Mean, $\bar{X}$ = 1.18		
Utility score[b]		
Less than 8	92	44.0
8 or more	117	56.0
Total	209	100.0
Mean, $\bar{X}$ = 7.2		

[a]The safety score was derived from the number of hazards from a list of 13 which respondents felt existed in their home. This list included items like: piles of rags, multiple appliances on a single outlet and the like. See Appendix B.

[b]The utility score was derived from the availability of flush toilets, bathtubs/showers and type of heating. See Appendix B.

The age of structures is reflected in the estimated house dollar value. Over 26 percent of the houses were judged by their occupants to be worth $10,000 or less. More than 20 percent were valued at less than $5,000. The extent to which this valuation corresponds to actual "market value" is largely unknown. The task of "valuing" housing, i.e., the community market value or a rental equivalent is very difficult in rural communities. The volume of housing sales is relatively low. The houses being sold in smaller communities is even less likely to be over (say) 70 years of age.

Respondents were also asked to indicate how many of 13 different items might present a safety hazard in their home. Items included such hazards as steps without handrails, exposed electrical wiring and the like. This procedure does not objectively measure the number of hazards, only the occupants image of the number of hazards. The data in Table 8 indicate that only about one of four (26.8%) identified as many as two hazards. Given the age of the house structure, the repairs needed and the number assessed to be deteriorating, it is likely that the safety of these houses is overestimated by the occupants. The acceptance and/or familiarity with a condition often eliminates it from conscious awareness.

The utility score indicates that over half of the households had flush toilets, bathtub or shower and heating of the forced air or radiant type.

Interviewers were instructed to evaluate the interior, exterior and yard and neighborhood on several dimensions such as furnishings, orderliness, structural condition and the like. Each dimension was rated on a five point scale. The dimensions were summed and a score computed for the interior, exterior and yard and neighborhood. These three scores were summed into an aggregate score called total assessed housing quality. A house rated as <u>midway</u> between very deteriorated and very sound (or other appropriate descriptive continua) on all dimensions would have had a total assessed quality score of 51. As can be noted from the data in Table 9, nearly half (47.8%) were rated in the range including this score. The mean for all houses was 51.0. Over one-fourth were rated low, i.e., toward the deteriorated end of the continuum. The interior and exterior ratings, which are part of the total assessed quality, also show the same general distribution.

Table 9. Interviewer ratings of housing.

Score	Number	Percent
Total assessed housing quality		
Less than 45 (low)	55	26.4
45 - 59 (middle)	100	47.8
Over 60 (high)	54	25.8
Total	209	100.0
Mean score, $\bar{X}$ = 51.0		
Interior score		
Less than 15	52	24.9
15 - 20	104	49.8
21 or more	53	25.3
Total	209	100.0
Mean, $\bar{X}$ = 17.4		
Exterior score		
Less than 15	49	23.4
15 - 20	112	53.6
21 or more	48	23.0
Total	209	100.0
Mean, $\bar{X}$ = 17.2		

Health

Respondents were asked to evaluate their health on a continuum from

Table 10. Health ratings and weeks restricted to bed.

Health item	Number	Percent
Weeks restricted to bed		
Less than 1	173	82.8
1 - 2 weeks	20	9.6
3 - 8 weeks	12	5.7
Over 8 weeks	4	1.9
Total	209	100.0
Self health rating		
Excellent (4)	22	10.5
Good (3)	61	29.2
Fair (2)	102	48.8
Poor (1)	24	11.5
Total	209	100.0
Mean, $\bar{X}$ = 2.39		

excellent to poor and to indicate the number of weeks restricted to bed in 1970. The following table shows these two responses. As can be seen, relatively few of the respondents were confined to bed for as much as three weeks or more. One respondent was confined to bed for the entire year. Most respondents rated their health as fair or better. An inspection of the interview schedules suggests that the elderly are generally satisfied with their health status and perhaps over estimate their physical well being. This observation is based on the fact that many who rated their health as fair were actually suffering from a variety of chronic conditions. In short, their self rating may be based (and probably is) on a comparison with others of similar age with similar problems rather than an objective physiological criterion. This is not intended to suggest that their health was poor, indeed the low frequency of restriction to bed opts for the conclusion that on the average these elderly were getting along reasonably well as far as health is concerned. The sample was somewhat selective in regard to health. Only households where the elderly were living alone were interviewed. No institutionalized elderly were included in this study. Also, no households were included where the primary female homemaker was under 65. This eliminated those households where the elderly are living with a daughter or daughter-in-law. The proportion of elderly with these living arrangements in our sample communities is unknown.

Three separate scores were combined to obtain a measure of mental health. These three scores were anomie, morale and loneliness. Each is measured by response to several items which require a response of Strongly Agree to Strongly Disagree. The distribution for these scores and the aggregated overall mental health score is summarized in Table 11.

Table 11. Anomie, morale, loneliness and mental health scores.

Score	Number	Percent
Anomie		
Most anomic (over 16)	80	38.3
Middle 14 - 16	61	29.2
Least anomic (13 or less)	68	32.5
Total	209	100.0
Mean, $\bar{X}$ = 15.4		
Range 7 - 25		
Morale		
Lowest morale (< 26)	59	28.2
Middle (26 - 27)	64	30.6
Highest morale (> 27)	86	41.2
Total	209	100.0
Mean, $\bar{X}$ = 26.3		
Range 11 - 34		
Loneliness		
Most lonely (< 12)	25	12.0
Middle (12)	138	66.0
Least lonely (> 12)	46	22.0
Total	209	100.0
Mean, $\bar{X}$ = 12.1		
Range 8 - 15		
Mental health		
Lowest (< 8)	53	25.4
Middle	99	47.4
Highest (> 10)	57	27.2
Total	209	100.0
Mean, $\bar{X}$ = 9.01		
Range 3 - 15		

The highest possible score a person could receive on anomie was 25, the lowest score 5. A person who was consistently uncertain about the items would have had a score of 15. As can be observed in Table 11, 38.3 percent scored 16 or more which indicates some degree of anomie. A better indication is the number scoring 20 or more. There were 26 such respondents, or 12.4 percent of the sample. This score should not be equated to mental illness. It simply means that these respondents tend to view the world

with a fairly high degree of hopelessness and a "what's the use" feeling. Equally important is the large number who generally disagree with statements such as, "these days a person doesn't really know whom he can count on", thus indicating a more positive outlook on life.

The morale score was constructed from responses to eight items such as "I feel that there is just no point in living" and "Things are getting worse and worse for me as I grow older". The maximum possible score was 40, the minimum was 8. The midpoint would be 24. This would suggest a neutral feeling about morale by the elderly in this sample. The mean score of the sample was 26.3, slightly above the midpoint and suggestive of a positive morale, i.e., feeling about how things are going. Inspecting those with the most negative view we found only three respondents with a score of less than 16. Such a score would suggest a fairly strong tendency to agree with the negative statements above and disagree with positive statements like, "I am satisfied with my life".

Loneliness was measured by responses to three items such as the following, "I have so few friends that I am lonely most of the time". Scores could range from 3 - 15. The mean score was 12.1, suggesting that most respondents did not consider themselves lonely. Only 12 percent scored less than 12 which would suggest neutrality or slightly lonely. Only five respondents had scores of nine or less.

The responses to the anomie, morale and loneliness items were summed to form an overall measure of perceived mental health. Scores were coded to a minimum-maximum possible range of 3 - 15. Data in Table 11 indicate about 47.0 percent scored between 8 and 10, suggesting a neutrally oriented self rating on mental health, i.e., almost half the respondents did not perceive

themselves to be positive or negative, just in the middle. One fourth scored less than eight. Perhaps the main interpretation is that respondents do perceive their mental well-being differentially, but qualitative interpretations of the high and low ends of the distribution cannot be directly made, i.e., a score of (say) 5 cannot be interpreted as bad or poor mental health, nor can a score of 14 be interpreted as good or excellent. One can only conclude that the respondents do differentiate themselves on a continuum designed to measure mental health. The distribution is bunched in the middle. The summing of all the scores tends to mask the differences observed in the anomie scale. Thus, taken by itself, the anomie scores suggest more respondents with a feeling of hopelessness even though they may not feel particularly lonely or have low morale.

Interaction and Activities

Respondents were specifically asked to list the number of contacts and types of interaction which they had had during the week immediately preceeding the interview. These data were coded into a general contact/interaction score, one point for each contact with children and/or grandchildren, siblings and other relatives and friends and neighbors through visits, telephone and/or letters. The actual range of contacts for a seven day period varied from 0 - 174. The respondent with 174 contacts reported 140 telephone contacts with friends or neighbors during the preceeding week -- an average of 20 phone calls per day!

Table 12 summarizes several aspects of the contact/interaction of the respondents.

These contact data indicate an average of nearly 30 contacts per week,

Table 12. Summary of contact/interaction for the week prior to the interview by persons contacted.

Persons contacted	Number	Percent
Children/grandchildren		
No contact	9	4.3
1 - 7	63	30.1
8 - 14	40	19.1
15 - 21	28	13.4
22 - 29	10	4.8
30 and over	18	8.6
Not applicable	41	19.7
Total	209	100.0
Siblings and other relatives		
No contact	60	28.8
1 - 7	97	46.4
8 - 14	28	13.4
15 - 21	7	3.3
22 - 29	4	1.9
30 and over	4	1.9
Not applicable	9	4.3
Total	209	100.0
Friends and neighbors		
No contact	21	10.0
1 - 7	59	28.2
8 - 14	61	29.2
15 - 21	34	16.3
22 - 29	15	7.2
30 and over	16	7.7
No information	3	1.4
Total	209	100.0
Total of all contacts		
No contact	1	0.5
1 - 7	16	7.7
8 - 14	38	18.2
15 - 21	36	17.2
22 - 29	33	15.8
30 and over	85	40.6
Total	209	100.0
$\bar{X}$ total = 29.4 contacts/week		

or just slightly over 4/day. About one fourth (26.3%) averaged two or less contacts per day.

An evaluation of the type of contact enables a sort into three degrees of interaction; face-to-face (visits), two-way (telephone) and one-way (letters).

Table 13. Contact/interaction by type of contact and persons contacted.

Type of contact	Number	Percent
Total visits	1772	100.0
Children/grandchildren	701	39.6
Siblings/other relatives	199	11.2
Friends/neighbors	872	49.2
Total telephone	3547	100.0
Children/grandchildren	1198	33.8
Siblings/other relatives	680	19.2
Friends/neighbors	1669	47.0
Total letters	689	100.0
Children/grandchildren	363	52.7
Siblings/other relatives	200	29.0
Friends/neighbors	126	18.3
Total interaction	6008	100.0
Children/grandchildren	2262	37.6
Siblings/other relatives	1079	18.0
Friends/neighbors	2667	44.4

The real role of friends and neighbors -- conceptually of friendliness and neighborliness -- in providing contacts is strongly supported. In both face-to-face visits and telephone contact, friends and neighbors provided the most contact, followed by children and/or grandchildren. Only in the case of letters, as expected, did the major source of contact come from children and/or grandchildren. Face-to-face visits constituted 29.5 percent of the contacts, 59.4 percent were telephone contacts and the remaining 11.1 percent were letters.

Overall, the contact/interaction data do not support a view of physical isolation. These rural elderly -- living in towns in their own homes -- have fairly continuous contact. In a Detroit study[3] only 34.4 percent had contact of more than one/week with their children. In our sample over 94 percent of those with children had contact at least once a week, 63 percent had contact with children two or more times per week. In our rural non-farm sample over 70 percent had two or more contacts per week with neighbors and friends. In the Detroit study, only 49.2 percent had two or more weekly contacts.

Activities

Respondents were also asked to check a list of activities and to indicate those in which they participated and their frequency of participation. Each activity was scored as follows: 3 = daily, 2 = weekly, 1 = once in awhile, and 0 = does not do. Activity participation data were collected for winter and summer. A person who participated daily in summer and winter in all activities could have had a score of 120. The actual scores ranged from 12 - 72 with the median at 44. Table 14 summarizes the activity frequency. These data do not indicate the proportion of activity which is "active" versus that which is more "passive", e.g., just watch television.

Table 14. Activity frequency of respondents.

Frequency	Number	Percent
Less than 40	74	35.4
40 - 49	69	33.0
50 and over	66	31.6
Total	209	100.0

[3]Rosow, Irving. Social Integration of the Aged. The Free Press, New York. 1967.

Respondents with an activity index of less than 24 were inspected to determine their pattern of activity. As expected the majority of their activity was confined to such activities as watching TV, listening to radio, just sitting and thinking and the like. These persons are also quite likely to have poor health, no car, low income, poor housing and so on.

Summary of descriptive household data

Averages do not have much relevance for assessing the individual household situation. A statement of several averages may however provide a departure point for some summary implications and observations at this point.

In our sample of 209 households of elderly from eight rural non-farm areas we found that the average:

1. respondent was 73.3 years old.
2. educational attainment was 9.7 years.
3. respondent had lived in the present community 43.9 years.
4. respondent had lived in the present house 17.0 years.
5. household income in 1970 was $4105.
6. house was 55.8 years old.
7. number of rooms was 5.4.
8. number of rooms per person in the house was 3.8.
9. estimated dollar value of the houses was $8,703.
10. assessed housing quality was 51.0, the midpoint between very deteriorated and very sound.
11. self health rating was 2.39, nearly midway between fair and good.
12. mental health score was 9.01, suggesting a neutral perception of mental well being.
13. number of contacts per week was 29.4, about four per day.

Other data, where means are inappropriate, show our household sample to be characterized as follows:

1. Forty-four percent are husband-wife households.
2. About 37 percent are single female households.
3. Slightly more than 87 percent own their own home.
4. Ninety percent live in single family dwellings.
5. Over 56 percent do not own a car.

The impact of this summary is that, using averages, one could conclude that the elderly in the rural non-farm population centers we studied are reasonably well off. Data about other households in these same communities whose head is under 65 and have children present demonstrate the presence of relative differences however. The average income of 141 such households was over $8,500 in 1969, nearly $4,400 more than the average of the elderly. The point is, how well off one feels is likely related to how well off others are within one's perceptual awareness.

A far more important question however is the extent to which the averages may hide several individual hardships and tragedies. What proportion for example are experiencing the web of multiple causes and effects? The next section attempts to assess this by examining the relationships between income and several other variables. Before presenting this statistical analysis however, we would like to present descriptive sketches of several households. We have selected seven households characterized by being in the low end of distributions on variables such as income, physical health, contact/interaction, mental health and poor housing. The following profiles attempt to sketch the situation of each of these households based on the entire set of data available for each household.

Household A

This is a single female household. She is 74 years old, widowed for 10 years and has an eighth grade education. During 1970 she was in the hospital for one month and lived with her children for eight months. She has lived in this community and house for 10 years. Prior to 1959 she lived in a nearby community, on a farm, for 63 years. Her health is poor and she spent several weeks in the hospital during 1970. Her children and friends have taken her to get health services and groceries. She is not and never was employed for pay outside the home. Her 1970 income was $2,252. About half came from returns on assets and the remainder from retirement benefits. About $20.00 of food was given to her during the year. She is on a prescribed diet but it does not require the purchase of expensive special food items. Her house is 17 years old and valued at about $10,000. It is not perceived by her to have any hazards. Repairs were made during 1970. Friends and neighbors shovel the walks, change storm windows, mow the lawn, do special housecleaning and the like -- but this is all done for pay. She feels her house is better than her relatives and about the same as those around her. She does not drive but feels there is usually someone to take her wherever she wants to go. She belongs to one group but doesn't attend very often. She is quite active. During the week preceeding the interview she had had 60 contacts, nine of which were visits, the rest telephone calls.

Household B

This is a brother and sister household, 68 and 61 years of age respectively. Neither has ever been married. The woman has a 12th grade education, the brother a sixth grade education. They have lived in this community 47 years and in this house for six years. Prior to this they lived on a farm in this community for most of their lives. Health is not perceived to be a problem, though the brother is bothered by emphysema now and then. They did not purchase any medical or health services during 1970. The woman was employed parttime as a bookkeeper in 1970 and the man is employed once in awhile. He was a full time farmer prior to 1964. She was a R.N. -- she says -- for five years. The total money income for this household in 1970 was $1,514 of which $368 was earnings, $200 dividends and $946 Social Security. They buy groceries at a store five blocks from home and these are delivered. They raise an estimated $48.00 of food products. They feel they have adjusted their eating habits in that, "he quit drinking and smoking so much and I slowed up on the drinking and we are eating more now -- I still smoke -- roll my own now".

They own and live in a single family dwelling estimated to be over 100 years old and worth about $2,500 with the land. They have a septic tank sewage system and a "space heater". Six hazards -- piled newspapers, leaking faucets, clogged drains, electrical cords and multiple hookups to outlets and falling plaster -- were identified. Only one repair -- TV -- was done in 1970 though needed on the plumbing and electrical systems at a minimum. They perceive their house to be poorer than their relatives, neighbors and people in the general community. Only one item was rated

as good in evaluating the adequacy of the house. Seven were rated as very poor. They do not have a car and do not drive. They do not have anyone to take them anyplace and did not get anywhere in 1970. They do not belong to any groups, in part because they feel money is limited, the house isn't nice enough and do not have time.

The only activities participated in are (1) work in the house, (2) watch TV, (3) listen to the radio and (4) read a lot. They do not however read daily or weekly newspapers or news magazines. They indicated no outside contact during the week preceeding the interview. The woman's responses suggested considerable loneliness and low morale.

Household C

This household is a sister (widowed) and brother household, however the brother moved in about the middle of 1970. She is 82 and he is 67. He finished the third grade, she the eighth. She has lived in this community for 29 years and in this house for seven. She is looking for a better house. Prior to living in this community she lived on a farm for 66 years. Her health is poor -- heart condition -- and his is fair. She was in bed for six weeks during 1970. She uses a walker to get around the house. She is not and never was employed. He was last employed in 1962. The total income was $2,400 derived from OAA and Social Security. No food was grown and less than $10.00 was given to them. They have used meals-on-wheels and are presently using food stamps. The house is 60 years old and valued at $5,000. The respondent did not identify any hazards but did indicate the need for repairs to the house. They indicated problems in keeping it warm in the winter but also rated it about the same as their relatives and neighbors. They do have a car available.

Neither belong to any organizations, though she occasionally goes to the community center to visit her friends. This woman had one of the highest anomie scores (24 of 25) of all respondents. They had had only three contacts the previous week. She expressed a high degree of loneliness and a low morale. Their activities were generally quite passive -- watch TV, listen to radio - but they went to auctions once in a while and shopping about once a week. The inside of the house was kept up fairly well but the exterior was becoming quite deteriorated. The house had been remodeled some and the second story was closed off at that time.

Household D

This is a single male household. He has been widowed four years and is 76 years old. He completed the third grade. He has lived in the present community for 20 years and the present house for 13. Prior to 1950 he had lived in several communities, including Des Moines. Prior to 1945 he lived on a farm for 35 years. His health is poor and he is frequently bothered by high blood pressure and stiffness in his legs. He had several prescriptions filled and was at the university hospital on two occasions. He hasn't worked steady since he was 52 years old. His 1970 income was $1,000 derived primarily from retirement benefits. A homemaker cleans and cooks for him for $30.00 a month. This is paid from OAA and is not subtracted from the $1,000 income. He hires transportation for most trips, friends and neighbors provide other transportation. He received no gifts

of food products during 1970. He lives in an apartment, converted from a single family dwelling, which has a flush toilet but no bathtub or shower. He does not have a telephone. There is only one exit, stairs without handrails and several plugs in a single outlet. He feels several repairs -- cess pool cleaning, painting and TV -- are needed. He has to hire all the household chores done -- shoveling, mowing, cleaning, laundry and the like. He is living in the house without paying cash rent. Despite the conditions of the apartment he ranked the items on adequacy -- convenience, space, economy of utilities and so no -- as being good. He does not own a car. He does not belong to any groups due to health, lack of transportation and limited money. He had a maximum score on the anomie scale though he did not indicate a high degree of loneliness or low morale. His most frequent activities are watching TV, listening to radio, playing cards (with the homemaker!) and just sitting and thinking. He does not read daily or weekly newspapers. He had two contacts with friends and neighbors during the week previous to the interview.

Household E

This is a husband-wife household. He is 85, she is 82, both have an eighth grade education. They have lived in this community and house for 28 years. He was in drainage tiling and plumbing the last 24 years he worked. Both have poor health -- she has high blood pressure and he has emphysema. She was to the doctor 24 times in 1970 and in the hospital for three weeks. A widowed daughter, 49 years old, lived with them for several months in 1970. They paid $500 for medical services beyond the amount covered by insurance. Neither was employed in 1970, in fact neither has been since he retired in 1950. The house is owned by the daughter so they do not pay rent. Their income was $1,800 in 1970, all from OAA. They received no free food during 1970 but have used food stamps in the past. The wife is on a special diet which requires more expensive food purchases.

The only hazard identified was "the neighbor's dog". Several repairs were made on the house during 1970 and more are planned for 1971. The house is 100 years old. They do not like it much and complain because it is located where it is "flat and muddy".

The daughter furnishes most of the transportation and cares for the house. He doesn't get to go fishing because no one will take him -- an activity he misses. They belong to no organizations now. The respondent ranked high on the anomie scale and also indicated substantial loneliness. There had been 19 contacts, 16 were children and grandchildren, during the week prior to the interview.

Household F

This is a single female 88 years old with an eighth grade education. She has been divorced 58 years. She has one daughter living in a western state. She has been living in this community and house for 40 years. Her health is poor and she stays in bed all the time except "to fix some food".

The doctor comes to her house and the druggist delivers prescriptions. A lady comes to clean and carry fuel in. She is paid. The respondent was last employed in 1926. Her income was reported as $2,052 for 1970, all from OAA. Her groceries are delivered to her by the store. She is dissatisfied with her meal situation.

The house is 61 years old. She does not have hot water though she does have an indoor toilet. She heats the house with a wood stove and space heater. Some repairs were done in 1970 but none are planned for in 1971. She pays for all the household chores that need to be done. The house is hers, but because she is on OAA the state holds a lien on it. She sees her house as being worse than her neighbors. She does not go any place but when she has to (eye doctor), she hires someone to take her. She does not belong to any groups because of her health. Her activities' are limited to TV, radio, sitting, reading and writing letters. She does not, however, read newspapers. Her contacts were limited to two phone calls and two letters in the previous week. Her daughter never visits her. She is obviously lonely, tends toward anomie and her morale is low. The house is in quite bad shape.

Household G

This is a husband-wife household. She is 74 and he is 73. She completed the tenth grade, he the eighth. They have no children. They've lived in this community for 46 years, but in this house for only three years. Prior to 1960 they lived on a farm for 30 years. Her health is poor -- arthritis and overweight -- and his is fair though he has cancer on the face. He has been going to a nearby town for treatments every other day for several months. She needs to have her teeth pulled but does not have the money. The husband was last employed in 1965 as a plumber -- he was a farmer before that. The total income in 1970 was $2,040, all from OAA. They have a car and are able to get around by themselves. They would like to have more meat in their diet but cannot afford it. Their house is rented. It is 90 years old but in fair condition except for being unclean. They do not have a phone. He is able to do most of the household chores. They feel their housing situation is poorer than others. They do not belong to groups due to her physical limitations and limited money. Their activities are mostly passive. They do get both a daily and (local) weekly newspaper. During the previous week they had had only four contacts -- three of these were letters. She indicated considerable loneliness and low morale.

There appears to be a problem with alcohol. She is quite obese. All in all they are living in a dirty, disordered house because she cannot take care of it. There is no family to take care of them.

All of these households were selected because they were low on three or more variables. For example, all had less than the most harsh poverty line income for the household composition. Most had poor health. Several

had no car. Nearly all belonged to no organizations. Most activities were confined to watching TV or listening to radio. How many of the households in the total sample would present profiles similar to these? A more refined estimate will be available in subsequent data however the investigator would conservatively estimate 30 percent (approximately 65 households) of the households to be characterized by a combination of low income, fair to poor health, low contact/interaction, no transportation, little assistance (food or otherwise) from others and little organizational activity. All of these will not be low on all characteristics, but most will be on several. Conversely, the examination of some of those households with relatively high incomes (over $5,000 for a single person and over $9,000 for two persons) is revealing. Here we find health problems also persisting but we can observe a wider arena of interaction by use of their own car or by others, substantially greater organizational participation, often a color TV, more eating out, better housing and the like. Four sketches of households from the higher income group are presented below.

Household H

This is a widow, 80 years old. She has a 60 year old housekeeper who lives in five days a week. She has four daughters and one son, all within an hour's drive -- two in the same community. She has lived in this community for 77 years and this house for 20. She lived on a farm for 30 years prior to that. Her health is poor -- arthritis and a hypertensive heart condition. She was restricted to a hospital bed for two weeks. She uses a walker to get around the house. Her children take her to wherever she wants to go. Her 1970 income was $5,600. About three fourths of this was from a farm she owns the rest from interest and Social Security benefits. Her groceries are delivered by the store which is four blocks away. She is on a special diet but it does not require more expensive foods. Her house is 43 years old and valued at $15,000. She did have some plumbing repair but does not plan on any repairs for next year. Her children do some of the household chores and she pays them for some of it. She belongs to four groups and attends sometimes. She is limited by her health. She reads a good bit and has a color TV. During the

previous week she had had 50 contacts, 33 of which were from her children.

Household I

A widow, 75 years old. She has no children. She has lived in this house and community for 46 years. Her health is fair although she has some problems of the lower intestinal tract. She has her own car and gets around to the larger cities for medical and dental care. She was not employed. Her income was $6,200 in 1970, $1,200 from Social Security and the rest from returns on assets. She eats out at least once a week. She is on a diet because of health problems. Her house is 70 years old but was completely remodeled in 1959. Presently valued at $18,000. During 1970 she put in new kitchen cupboards and a new electric stove. She takes care of her house except for trash and garbage hauling. She belongs to three groups and attends most of the meetings. She is fairly active -- gets out of the house frequently. She reads a daily and weekly newspaper and has a color TV. During the previous week she had had 24 contacts through visits and phone calls. She does not profess to be lonely and she has high morale.

Household J

This is a husband-wife household. She is 72 and he is 73. Both have an eighth grade education. They have one daughter and one son, both within 30 miles. They have lived in this community for 43 years and the present house for 27. They have lived on a farm nearly all their lives. They are in fair health though she has diabetes and sciatic rheumatism and he had cancer surgery 10 years ago and still has some difficulty on occasion. They paid $1,608 for medical services not covered by insurance during 1970. He is still farming though he doesn't expect to in 1971. Their income in 1970 was about $9,400, 2/3 from farming and 1/3 from Social Security benefits. They raise their own meat and buy the rest of their groceries in a small nearby town from their son. They eat out at least once a month, more in the summer. Their food is somewhat more expensive due to her diabetes. Their house is 59 years old but estimated at $20,000. They have no perceived hazards. Repairs have been kept up apparently. They do their own household chores except for housecleaning which is hired. The only real complaint about the house is the size -- too big. They have a car and travel about 14,000 miles per year. She belongs to four groups and attends most of the meetings. The woman did not indicate any degree of anomie. They are fairly active -- obviously so since he farms. They have a color TV -- which was a present. During the week preceeding the interview they had had 18 contacts. She has high morale.

Household K

This is a husband-wife household. He is 82 and she is 69. It is her second marriage. They have two daughters, one in this community and one in a southeastern state. They have lived in this community 25 years and this house for 17. She has lived in 14 communities during her life -- Denver being the largest. They lived on a farm for over 25 years. Her

health is fair and his is good. They have their own car and drive wherever they want to go. He owns a farm and though renting the land he drives out and takes care of livestock he owns every day. Their income was $10,150 for 1970. About $7,000 from earnings, $450 from rent and $2,700 from Social Security. They raise their own meat and some fresh fruits. She is on a restricted diet and has to prepare meats for her husband and something else for herself. Their house is 17 years old and valued at $35,000. Normal maintenance was carried out in 1970. They hire some of the household chores -- shoveling, mowing -- done.

She belongs to three groups and goes most of the time. She is quite active and so is he with his farm activity. They have a color TV set and read both a daily and weekly newspapers. During the previous week they had had 15 contacts. The morale is high.

The following section presents a means of determining a measure of income adequacy which is then related to several variables selected for their interest and perceived linkage to income.

Money income

The overall distribution by total money income in 1970 was given in Table 5. Summarized, there were 68 households (32.5%) with less than $2,000 total money income, 71 (33.9%) with $2,000 - $3,999 and 64 (30.6%) with $4,000 and over.

Nearly one half of the respondents reported income from two sources and 77 (36.8%) reported income from three or more sources.

Another view of money income is the percentage of total income from earnings, i.e., wages, salaries and profits. Well over half, 64.6 percent, reported no income from earnings. Only 32 respondents, 15.3 percent, claimed 50 percent or more of their total income from earnings.

The other major sources of income are from retirement benefits (Social Security, Civil Service, OAA, Railroad Retirement, etc.). Only 18 respondents indicated no income from one or more of these sources. A total of 38 households, 18.2 percent, indicated that 90 percent or more of their total money income came from retirement benefits.

An additional summary of the money income pattern is provided when

viewing the household composition. Table 15 summarizes these data for the single female, single male and husband-wife households.

Table 15. Money income by household composition.

Household composition	Number	1970 Mean income	Below OAA[a] number	Below OAA[a] percent
Single female	78	$2,464	32	41.0
Single male	19	$2,571	6	31.6
Husband-wife	88	$4,768	10	11.4

[a]Present Iowa OAA guideline for a single person is $1,404/year and for a two person household it is $2,136.

Assuming the OAA guidelines as a reference point it is apparent that the single female (usually widowed) is much more likely to fall below this level than either of the other household types. As a sidelight, only 24 of the 209 households were of different composition -- the most common arrangement being that of son, sister or brother, or daughter living with the elderly female homemaker. Thus the adaptations to housing, income and/or health status by consolidating previously separate households of the elderly is far from a pattern among the elderly in these communities. As earlier pointed out however, our sample did not identify the household consolidations of the nuclear family with the mother (father) and/or mother (father)-in-law.

Relationships of money income status to selected variables

Much criticism has been leveled at the "under $3,000 income" is poor guideline. Actually this income standard was originally applied by the Council of Economic Advisers to a family of four as a crude estimator of poverty in the U.S. Several subsequent adjustments have been made -- for family composition; number, age, sex and place of residence -- farm and non-farm. Appendix C contains a technical note regarding the current

guidelines and the derivation of the guidelines. The procedure for determining the specific family composition budget is also described. The general computation of the index figure is as follows. The money income index is the household's total money income divided by the appropriate family specific composition budget guideline multiplied by 100.

$$\text{Money income index} = \frac{\text{Total family money income}}{\text{Family specific composition budget}} \times 100$$

An index of 100 or less means the actual income is less than the suggested budget guidelines. An index of 200 means that the available money income is twice the low income family specific budget guideline.

The family specific budgets were computed for each household in our sample on both an urban and rural base.

Table 16 shows the results of these computations.

Table 16. Money income index by urban and rural base.

Index level	Urban basis		Rural basis	
	Number	Percent	Number	Percent
Less than 100	81	38.8	65	31.1
100 - 199	86	41.1	89	42.6
200 and over	42	20.1	55	26.3
Total	209	100.0	209	100.0

The adjustment for the rural base, as expected, decreases the proportion of households falling below the index of 100 and increases those over 200. It was felt by the investigator that the urban based budget was more appropriate since the entire budget derives from an initial assumption about food costs and these people do live in town -- not on a farm. Even though housing is cheaper in the rural non-farm areas this is largely an

illusory difference. Most elderly own their homes, thus are not paying out money for housing at the differential levels of rents we found among communities of varying size. This source of non-money income of course has major implications for the practice of deriving budgets for elderly in the same basic manner as for middle age families with children who are either renting or paying on a mortgage. Only five of our households were still paying on a mortgage.

The following data reporting relationships to the family money income index are based on the urban figure. The test for significant results would not vary even if the rural base had been used since it obviously correlates very highly with the urban index.

The relationships between the money income index and all the different money resources were statistically significant. The data are summarized in Table 17. Those persons with only one source of income are disproportionately among those with a low income index. Twenty-six of the 31 households with only one source were among those with an index number of less than 100, i.e., their money income was less than the low income guidelines for the specific family composition. About 40 percent[1] of those with two sources also had an index less than 100. Further insight is gained by evaluating the relationship of the Social Security score to the money income index. The greater the proportion of total income accounted for by Social Security the more likely the family will have an index of less than 100. Thus 78.2 percent of those households obtaining over 70 percent of their total income from Social Security will fall below the index of 100.

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[1]The percentages discussed in the text will usually be a row related figure whereas the percentages in the tables are column related.

Table 17. Money income index with sources of income.

Money sources	Money income index						
	Less than 100		100 - 199		200 and over		
Total money income	N	%	N	%	N	%	
Under $2,000	53	65.4	13	15.1	2	4.8	68
2000 - 3999	26	32.1	47	54.7	5	11.9	78
$4,000 and over	2	2.5	26	30.2	35	83.3	63
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 107.90**[a]							
Variety of sources							
One source	26	32.1	3	3.5	2	4.8	31
Two sources	40	49.4	46	53.5	15	35.7	101
Three or more	15	18.5	37	43.0	25	59.5	77
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 41.46**							
Earnings score							
No earnings	65	80.3	52	60.4	18	42.8	135
1 - 49 percent	15	18.5	20	23.3	7	16.7	42
50 percent or more	1	1.2	14	16.3	17	40.5	32
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 35.05**							
Retirement score							
Less than 40%	12	14.8	27	31.4	30	71.4	69
40 - 69 percent	22	27.2	38	44.2	12	28.6	72
70% or more	47	58.0	21	24.4	0	0.0	68
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 62.59**							
Social security							
Less than 40%	14	17.3	31	36.5	33	78.6	78
40 - 69%	24	29.6	42	49.4	9	21.4	76
70% or more	43	53.1	12	14.1	0	0.0	55
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 73.99**							

[a] ** Significant at .01

Over half (51.1%) of the households dependent on Social Security for 40 percent or more of their total income fell below the index figure of 100. A review of the relationship of the money income index to proportion of total money derived from earnings suggests that those persons earning any of their money income are likely to have an index figure of over 100. In the sample, 78.4 percent with earnings had an index over 100, 32.4 percent were over 200. Of those earning 50 percent or more of their total income, 53.1 percent had an index of over 200, 96.9 percent were 100 or over. Conversely, almost half, 48.1 percent, of those with no earnings income were under 100.

The sum of these relationships strongly supports the generalization that those households with two or less sources, especially if the source is a form of retirement benefit rather than earnings, are likely to fall near or below the money income index of 100, i.e., where the actual income is equal or less than the minimum temporary guideline.

There were significant relationships between the money income index and value of monetary assets, dollar value of the house and property score. These data are summarized in Table 18. As can be seen, the relationships are in the expected direction in all cases.

The money income index was not significantly related to number of children or proximity of children. This suggests that the elderlys' present money status is not related to either factor and moreover, that children are not likely contributing cash income. A special count indicates only nine households received cash from their children during 1970. An additional indicator of economic assistance is the proportion of households receiving foodstuffs and/or transportation from their children.

Table 18. Money income index by monetary assets, value of house and property assets.

Assets	Money income index						
	Less than 100		100 - 199		200 and over		
Monetary assets[a]	N	%	N	%	N	%	
None	61	75.3	51	59.3	12	28.6	124
Less than $20,000	18	22.2	23	26.7	10	23.8	51
$20,000 or more	2	2.5	12	14.0	20	47.6	34
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 45.68**[b]							
Property value							
Less than $5,000	29	35.8	16	18.6	1	2.4	46
$5000 - 9,999	31	38.3	21	24.4	3	7.1	55
$10,000 - 19,999	15	18.5	23	26.7	8	19.0	46
$20,000 or more	6	7.4	26	30.3	30	71.5	62
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 6df = 64.91**							
Dollar value of house							
Less than $5,000	29	35.8	14	16.3	1	2.4	44
$5,000 - $10,000	42	51.9	54	62.8	19	45.2	115
Over $10,000	10	12.3	18	20.9	22	52.4	50
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 37.16**							

[a]All earnings from assets were capitalized at 5% to obtain the asset information.

[b]** Significant at .01.

[c]The property value is based on the estimated dwelling unit value, blue book price of owned vehicles, television sets and monetary assets.

A total of 17 households indicated that one of their children transported them to and from the grocery store. Fourteen households, only three of the same from the 17, indicated that their children, usually a daughter, assisted with household cleaning and the like due to physical limitations of the respondent. A measure of household production, which indicates

the extent to which families substitute their own labor for repairs and general maintenance, was not related to the income index. The trend of the data actually suggests that the higher the income the more likely the use of household production.

The money income index was significantly related to several housing variables: total assessed housing quality and each of the quality subscores; utility score, safety score, total number of rooms and right of occupancy. No significant relationships were observed with age of structure, rooms/person, repair score or bedroom adequacy. These data are summarized in Table 19.

Table 19. Money income index by housing characteristics.

Housing characteristics[a]	Money income index						
	Less than 100		100 - 199		200 and over		
Total assessed housing quality	N	%	N	%	N	%	
Lowest(less than 45)	34	42.0	17	19.8	4	9.5	55
Middle (45 - 59)	30	37.0	53	61.6	17	40.5	100
Highest (60 or more)	17	21.0	16	18.6	21	50.0	54
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 31.29**[b]							
Number of rooms							
Less than 4	14	17.3	5	5.8	1	2.4	20
4 - 5	38	46.9	39	45.3	18	42.9	95
6 or more	29	35.8	42	48.9	23	54.7	94
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df - 11.37*							
Utility score							
Less than 8	56	69.1	32	37.2	4	9.5	92
8 or more	25	30.9	54	62.8	38	90.5	117
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 2df = 42.64**							

Table 19. Money income index by housing characteristics. (continued)

Housing characteristics[a]	Money income index						
	Less than 100		100 - 199		200 and over		
Safety score	N	%	N	%	N	%	
Less than 1.2	30	37.0	21	24.4	5	11.9	56
1.1 - 1.2	20	24.7	32	37.2	12	28.6	64
Less than 1.1	31	38.3	33	38.4	25	59.5	89
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 12.58*							
Interior score							
Lowest(less than 15)	29	35.8	17	19.8	6	14.3	52
Middle (15 - 20)	36	44.4	51	59.3	17	40.5	104
Highest (21 or more)	16	19.8	18	20.9	19	45.2	53
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 17.66**							
Exterior score							
Lowest(less than 15)	30	37.0	15	17.4	4	9.5	49
Middle (15 - 20)	40	49.4	54	62.8	18	42.9	112
Highest(21 or more)	11	13.6	17	19.8	20	47.6	48
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 28.31**							
Right of occupancy							
No-rent	5	6.2	1	1.2	0	--	6
Rent	14	17.3	6	7.0	1	2.4	21
Own	62	76.5	79	91.8	41	97.6	182
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 14.44**							

[a]The manner of deriving each of the scores in this table is explained in the appendix.

[b]** Significant at .01.
* Significant at .05.

The households with the lowest assessed quality are disproportionately (61.8%) occupied by families with an income index of less than 100. As expected this is the pattern for each subscore: interior and exterior. An indication that money income does have an impact on housing may be seen in

the relationship of the income index to utilities. Those households with the lowest number and/or quality of utilities are among the households with an income index of less than 100 in 61 percent of the cases. Only 4.3 percent of those with low utility scores have an index of 200 or more. Those houses perceived by the respondent to have the greatest number of hazards are also somewhat more likely to be households with a low income index, though this association is not as pronounced. Those households living rent-free and those renting are more likely to have a low income index than those owning their own home. The relatively small number in the rent and rent-free categories caution against a strong generalization. The data are suggestive however. Those owning their homes without a mortgage payment are in effect receiving a non-money source of income -- housing. Part of this is offset by taxes paid and repair costs.

Of those housing variables not related to a money income index the repair score is the most interesting for its failure to be related. Thus the respondent's judgment of repairs needed in the near future does not relate to their money income status.

Age, education, marital status, and household composition.

All of these variables were significantly related to the family's money income index and are summarized in Table 20. The older the respondent the more likely she was to be in a low income situation. The less education the more likely to be among the low income families. The widowed person was more likely to be among the low income and finally, the one-person household was disproportionately among those households with an income index of less than 100. In short, there were no surprises in the relationships to these variables. The older person is less likely to be

Table 20. Money income index by age, education, marital status and household composition.

	Money income index						
	Less than 100		100 - 199		200 and over		
Age	N	%	N	%	N	%	
Less than 40 years	20	24.7	28	32.6	16	38.1	64
40 - 69	35	43.2	42	48.8	22	52.4	99
70 or more years	26	32.1	16	18.6	4	9.5	46
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 9.53*[a]							
Education							
Less than 9 grades	51	63.0	49	57.0	12	28.6	112
9 - 12	27	33.3	27	31.4	19	45.2	73
13 or more grades	3	3.7	10	11.6	11	26.2	24
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 20.24**							
Marital status							
Married	21	25.9	48	55.8	23	54.8	92
Widowed	51	63.0	29	33.7	16	38.1	96
Divorced/separated	2	2.5	3	3.5	0	--	5
Single(never married)	7	8.6	6	7.0	3	7.1	16
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 6df = 19.92**							
Household composition							
One person	52	64.2	27	31.4	18	42.9	97
Husband/wife	21	25.9	47	54.6	20	47.6	88
Other	8	9.9	12	14.0	4	9.5	24
Total	81	100.0	86	100.0	42	100.0	209
X^2 @ 4df = 19.15**							

[2] ** Significant at .01.
* Significant at .05.

able to work, more likely to have less education, more likely to be widowed and therefore receiving benefits (often low) and of course to be a one person household. Associated with this would be their greater frequency of medical problems and difficulties in obtaining other goods and services for themselves.

Total money income.

All of the above variables were also tested against the total money income of the households. The same results were found for all variables except the following. Total money income was significantly related to rooms per person, bedroom adequacy and household production whereas the money income index was not significantly related to these three variables. On the other hand, total money income was not significantly related to the interior evaluation score, yard and neighborhood evaluation score, safety score and morale score though all were significantly related to the money income index.

Pricing Survey

Introduction

The major objective of the pricing phase of the study was to compare prices in communities of varied sizes to determine the relationship of prices for goods and services in towns of less than 2500 (rural nonfarm) with those over 10,000 (urban). The rationale for the size categories being related to the manner in which prices are determined for the Consumer Price Index (CPI). The CPI is derived from pricing a specified set of items in communities over 10,000. Cedar Rapids is the only Iowa city included in the regular CPI studies.

Iowa is not a homogeneous state economically. In general incomes are higher in the northern part than the southern. The structure of agriculture is also somewhat different. The proportion of the population over 65 is also greater in the southern part of Iowa -- primarily due to heavier out migration of the younger people.

Resources available for this study were not sufficient to draw a random

sample of Iowa's 940 plus towns and cities for the pricing phase. We did not want to restrict the area to one part of the state, thus we decided to draw a sample of about 30 towns and cities from an area of Iowa along a diagonal line from the southwest to the northeast corners. All the counties in the multicounty extension areas of Council Bluffs, Creston, Des Moines, Waterloo and Dubuque were included. A list of all the towns and cities was made and then divided into six size categories. Five towns were randomly selected from each size category except the largest two. There were only three in the 10,001 - 25,000 group and five in the 25,001 and over. In this manner a sample of 28 communities was drawn. Usable data were secured from 27 communities. These data serve as the base for the following findings.

Food prices

A list of 60 food items was developed from the responses on food patterns in the household survey and an additional list of food staples which we assumed everybody would need. Items used in very small quantities and/or specialty items were not included, e.g., spices and kosher meats. The quantity of each item to be priced was specified: 32 ounce can of orange drink, 7 3/4 ounce canned salmon and the like. Quantity choices were made in view of the referent population -- the elderly -- rather than by the most economical quantity. Thus we attempted to price milk by the quart rather than by the half gallon and for low fat rather than whole. In some instances these decisions caused difficulty in the field because some stores did not stock the smaller quantity in items being priced. The items were pretested in area stores and adjustments were made in the final list, though all the difficulties, e.g., as the quantity of item, were not resolved.

The choice of stores to be included was not random. This is a limitation of the data. With the means available there did not seem to be a

better alternative than the one chosen. We decided to include two stores in each of the communities under 10,000, three in the 10,001 - 25,000 group and four in each community of the largest size category. A second decision was to include, wherever possible, independent and chain stores. In the communities under 10,000 a list of all known food stores was compiled from local newspapers and telephone books. The stores were divided into chain and independent and a random selection of two stores per community was made. In the larger communities a list of stores was also developed. In those cases however we tried to get the judgment of a local professional home economist as to the stores located relatively close to the concentrations of elderly and then select the independent and chain stores from this geographically restricted area. This procedure was not completely satisfactory. The suspected bias in these data is discussed later.

The sample of stores by community size and type is summarized in Table 21.

Table 21. Food stores sampled by community size and type of store.

Communities		Number of Food Stores		
Size	Number	Total	Independent	Chain
Less than 1,000[a]	5	7	7	0
1,000 - 2,500	5	10	7	3
2,501 - 5,000	5	10	6	4
5,001 - 10,000	4	8	3	5
10,001 - 25,000	3	8	4	4
25,001 and Over	5	17	7	10
Total	27	60	34	26

[a]The smallest community did not have a grocery store.

The sixty items were priced as follows. For each item three prices were obtained. One price was for the lowest cost brand available. The second price was for the highest cost brand available. The third price

Table 22. Food prices by community size and price range.

Community size	All items: High	All items: Low	High minus low	selected items[a]: High	selected items[a]: Low	High minus low	Brand name items[b]
Less than 1,000	28.35	26.39	1.96	21.70	20.40	1.30	10.91
1,000 - 2,500	28.65	25.57	3.08	21.64	19.47	2.17	10.46
2,501 - 5,000	29.02	25.22	3.80	22.06	19.05	3.01	10.37
5,001 - 10,000	29.26	24.66	4.60	22.10	18.66	3.44	9.78
10,001 - 25,000	28.85	24.21	4.64	21.82	18.22	3.60	10.12
25,001 and over	29.08	24.84	4.24	21.67	18.75	2.92	10.02
Range high to low	.91	2.18	2.68	.46	2.18	2.30	1.13

[a] Coffee, bologna, chopped ham and all fresh fruits and vegetables except oranges were excluded from the total set of items due to variation in the standard quantity and pricing practices for these items.

[b] Only 27 items are included in the brand name comparison.

was the price of the brand selected most often by our household survey sample. In some instances the "brand name" price was irrelevant, e.g., lettuce, fresh meats, chicken and so on. In those instances only the low and high prices were obtained. Cereals were priced by brand, type and package size. Where only one brand of a product was available, e.g., canned corn, this price was entered as both the lowest price available and the highest price available.

Table 22 summarizes much of the food pricing data. When interpretating these data it must be kept in mind that these totals are for the items in our price list. The list does not represent the items a household would purchase during any particular time period. Neither do the totals represent any expenditure guidelines, i.e., the foodstuffs in our list were not drawn from a cost or dietary guideline. The items are of the type purchased by the elderly rather frequently and when standardized for all stores sampled provide a means of comparing prices from one store to another and from one community to another.

The difference between the "market basket of foodstuffs" at the lowest price range was $2.18 with the highest total price in the smallest communities and the lowest total price in the 10,001 - 25,000 range. The largest price break was between the smallest and the next largest communities. Given the primary limitations of these data -- only one sampling of prices in each store and a relatively small number of stores -- it would appear that these lowest price foodstuffs would, <u>on the average</u>, cost about nine percent more in the smaller communities than in the larger communities. If no other factors were involved this would suggest an increase in the

food budget costs for a single person household on the order of $35.00 for a year. This figure is derived from adding nine percent to the calculated low cost food budget for a single person over 65. The amount would vary slightly by age and sex from this "rounded" figure.

When the average prices for the highest cost brands are compared the total cost for the items priced is somewhat higher in the larger communities than the smaller. When comparing prices on the selected items, where confidence in and completeness of the data are higher, there is very little difference from high to low ($0.46) and the correlation with community size is almost nil. These data reflect the following which was also supported by observation during the interviewing. The smaller communities generally have a more limited range of choices and often the high and low price is one and the same. When we tried to price specific brands they were more likely to be unavailable in the smaller communities. The figures showing the difference between the highest price total and the lowest price total by community size in Table 22 show nearly a perfect relationship between the size of the differences and the size of communities, for all items as well as the selected items. Not all the brand name products could be priced because of unavailability in many stores, especially the smaller communities. Moreover, some brand names are limited to certain regions. Comparing the data on those products for which the brand to be priced was available we found a difference in total cost of $1.13 from the most expensive -- which was in the smallest communities -- to the least expensive, found in the 10,000 - 25,000 size communities. This was on the basis of 27 brand name items for which comparable data were available

in all communities. Thus the brand names products we priced could be purchased for about 10.5 percent less in the larger centers (10,000 - 25,000) than the smallest (less than 1000).

Another view of food prices was to determine for the selected items the difference between the highest and the lowest price in each community for the lowest price items and to average these differences for each community size. The results indicated that in 96 percent of the cases (i.e., items) the greatest average price difference occurred in one of the two largest community sizes (i.e., over 10,000). Nearly 60 percent of the time the largest difference was in the over 25,000 group. This supports the view that the highest price for the low price products might be paid in the larger communities as well as the smaller. The choice of store becomes more critical to the total cost of the market basket in the larger communities than in the smaller communities. The generalization is straight forward. If you choose the "right" store in the larger community you can purchase the same products cheaper than in any store in a smaller community. If you choose the "wrong" store in the larger city you will pay as much or more than you would pay in the smaller town regardless of the store chosen.

The food pricing data were also examined to determine if any one store (of our sample) in each community consistently charged the highest prices. In general the data reflected the following. Among the smallest towns there seemed to be considerable variation. Thus given comparisons between two stores over (say) 40 items, one was likely to be highest 24 times and the other one highest the other 16 times. Total cost differences of the 40 items between stores would be quite small, perhaps 2 - 4 percent.

In the larger communities it was possible to identify a more consistent pattern in that certain stores were more likely to "always" charge the highest price. Out of 40 items the ratio might be 32 to 8. The comparisons within our largest communities are complicated by the greater number of stores but the trend is clear and supports the generalization about range of prices being greater and more related to stores in the larger communities.

As interesting as the differences are the question of practical significance must be faced.

First of all, a review comment about the quality of our data. We do not know the amount of measurement error. We found these difficulties in data collection:

1. We could not draw a large random sample of stores due to limited resources so we attempted to deliberately select chain (when available) and independent stores in each community, and further, to select stores (in the larger communities) somewhat close to the areas where elderly residents might shop.
2. Our items were selected on the basis of the kind purchased most frequently by respondents in our household survey, plus staples. Also the list is not nearly as complete as the food pricing done for the Consumer Price Index.
3. We collected our data once. It was collected over a two week period in May, 1971.
4. We priced smaller quantities of many products (e.g., quarts of milk, 7 3/4 oz salmon, 4 oz instant coffee) because of the referent population -- the elderly. This complicated our analysis

due to the frequent unavailability of some items in these quantities.

The procedures we used and the limitations described suggest the likelihood that we have biased the situation to reflect slightly smaller differences by community size than actually exist on the average.

This is because the large cities' data are an average of stores varying widely from one another in prices charged. The rural non-farm person going to a large city for groceries would most likely go to the lower priced stores. The differences between the small town and the larger city would then be larger than reflected in our data. Thus the data can be used to identify trends but we cannot develop an index to adjust the money costs of food from rural non-farm to urban. The data suggest that the differences which do exist would not be sufficient to justify a differential budget guideline for food unless we knew more about such factors as service, convenience and quality (i.e., nutrient value per dollar). If public assistance budgets specified amount of money for all categories: food, housing, medical care, transportation and clothing from rural to urban it would be more important to be able to index the differences at a refined level. However, OAA for example does not make specific allowances for transportation. Thus, whatever the total allowance to a person, he must at a minimum compute a food-transportation figure, not food alone in determining the most economical source of food purchasing. Given the differences in food costs we found, especially if they are reflecting as the highest cost a store 5 - 10 blocks away which delivers and as the lowest cost store one 25 miles away, the food-transportation cost is almost certainly going to be lower in the small

community. Thus for the policy maker there is little justification for developing a budget with a different food-transportation factor in rural versus urban areas. A given recipient however may find a way to stretch his budget -- whatever the level -- if circumstances permit shopping at the lower cost stores in urban areas, providing the trip is not made for that purpose alone.

Utility costs.

Utility costs were available in all communities included in the study. However no common base, i.e., minimum charge and quantity prevailed, especially for electricity, water and gas. Without knowledge about the actual use pattern of elderly and one and two person households it was decided to determine the minimum costs per month for each utility. In some cases it is likely the minimum rate is about the actual usage whereas in other instances the minimum quantity would be a substantial underestimate of the quantity used. Some of the smallest communities did not have natural gas or garbage collection. One did not have water and sewer. The total minimum utility cost, where all utilities were available ranged from a low of $8.20 per month in a community of the largest size to a high of $19.10 per month in a community of the smallest size. The average minimum utility cost figures for all communities by size category suggest a "break" between communities over 5,000 and those under 5,000. The average being $11.27 for the larger communities and $16.31 for the smaller. These data must be qualified because of the different quantities actually involved in the minimum charges.

An examination of specific utilities provides additional comparisons. The monthly base rate for telephones varied more between communities within

size categories than between the size categories. In short the lowest telephone base charge depends more on the specific community than the size of community. Charges for garbage disposal vary from $1.50 per month to $3.00 per month. Again the variation is greater within size categories than between. The basic water and sewer charges do seem to be highest in the towns of less than 5,000 and lowest in the larger communities.

The overall importance of utility costs to the elderly may be seen by estimating the precentage of their income which would be needed to purchase the minimum amounts of all utilities. A single person household could currently draw a maximum of $117.00 per month in OAA in Iowa. If this individual lived in the lowest utility cost community ($8.20/month) in our sample it would take 7.01 percent of his OAA grant to pay utilities. If he lived in the most expensive utility cost community ($19.10) it would take 16.33 percent of his monthly grant to pay utilities! At the average of the utility charges for communities under 5,000 ($16.31) it would take 13.94 percent of the maximum OAA grant and in the communities over 5,000 it would take 9.63 percent. Two facts should be recalled. First, 46.4 percent of our sample are single person households. Second, this percentage of income to utilities assumes (a) no other income, (b) a maximum OAA grant, and (c) the use of only the minimum anount of utilities.

The telephone makes up about 30 - 35 percent of the total minimum utility charge. Thirteen (6.2%) of our sample did not have telephones. Of those 13, twelve were single person households. Moreover, the average total money income for these 12 was $1406/year -- just $2.00 a year over the maximum OAA grant for a one person household. It seems quite clear

that the absence of this utility is directly related to availability of money. The social impact of this missing utility may be inferred from the earlier findings which demonstrated that the telephone was the most frequent instrument of contact with others by those elderly who have phones available.

Repair charges

The average hourly charge for various types of repair work by community size is reported in Table 23.

Table 23. Hourly repair charges by community size and type of repair.

	Hourly Charges			
Community size	Carpenter	Plumber	Electrician	TV Repairman
Less than 1000	$3.10	$4.50	$4.60	$6.60
1,001 - 2,500	4.37	4.80	4.40	6.00
2,501 - 5,000	4.19	5.30	5.10	6.00
5,001 - 10,000	4.56	8.12	5.22	6.40
10,001 - 25,000	5.17	10.00	8.00	9.00
25,001 - and over	5.80	12.20	9.14	9.30

The least reliable data concern hourly repair charges for TV. The rates vary from color to black and white, from portables to consoles and location of job relative to shop. In addition to the differences in hourly rates we found adjustments for the elderly poor to be a more prevalent practice in the smaller communities than the larger. Few standard discounts were given to the elderly but several business places informally took the circumstances of the household into account when making charges. Also we found a greater tendency for a retired person or a general handiman to be available for carpentry at a lower than prevailing hourly rate in the smaller communities. The rates for carpentry vary the least by size of community of all the repair charges. The hourly charges are also substantially less than for plumbing and electrical work. The reluctance

of the low income elderly to have substantial repairs made is understandable in the context of these hourly rates. For example, the low cost USDA food budget for March 1971 estimates a cost of $7.56 for food for a week for one person age 55 - 75. Thus it would take over a week's food cost to get one hour of plumbing, electrical or TV repair work done in communities over 10,000. It would take about four days worth of food to get one hour of the same repair done in the communities of less than 2,500. Put differently, hourly repair charges are about 40 percent less in the smallest communities but an hour of repair still is equivalent to about 60 percent of a week's low cost food budget. One means of overcoming the full burden of repair costs is to do it oneself thereby substituting labor for capital. The respondents in our household survey were asked how many of the 10 types of repairs which they had had in 1970 had been done by themselves.

A total of 550 repairs had been made for all 209 households during 1970. Of these 62 had been done by the respondents. Thus, about 11 percent of the repairs were done by the people, the remainder by persons outside the household. In some cases this would be by friends or neighbors or children and would not necessarily require cash outlays. However, the cost of repairs, however few, is a major item to persons with limited incomes. This may help explain why many did not "see" the need for repairs in 1971 even though the evaluation of the house might have indicated deteriorating conditions.

Health costs

A growing portion of the medical costs of the aged are now covered by Medicare and/or other health insurance plans. Furthermore, intensive

evaluations of health care are being conducted by many other sources. Thus we confined our examination of health costs to just two indicators -- office calls and daily hospital room rates for a semi-private room. The office calls ranged from a low of $4.00 to a high of $10.00. The most common rates were $5.00 and $6.00. The higher charge of $6.00 was most prevalent in communities over 5,000. The room rates varied from $25.00 per day to $45.00. The room rates cannot be directly related to our community size categories because only one of our 10 communities under 2,500 had a hospital. To the extent that Medicare pays the existing room rate at the specific hospital these variations in charges have less direct impact on the out of pocket costs to the elderly than the other goods and services. An attempt to ascertain out-of-pocket medical costs from our household survey was not satisfactory. Respondents were not consistently able to separate out the proportion of the total physician, drug and hospital charges which they paid from that which Medicare paid.

Housing costs

The findings in this section can be summarized quite briefly. We were unable to determine a meaningful index to compare housing costs of the elderly by community size. The procedure we tried and the difficulties encountered are discussed here as a prelude to suggesting the kind of research effort which may be needed to make progress in this important area.

The household survey had revealed the single family dwelling as the most common occupancy. The average age of the houses occupied was over 50 years. The average size was about 5.4 rooms. With these factors in mind we attempted to determine the rental cost of 2 - 3 bedroom homes of various ages. We also asked for rental rates on two bedroom apartments of various ages. Our sources of data were realtors and/or bankers.

First of all we found, with greater frequency than we expected, that rental housing of any type is either scarce or virtually non-existent in many communities -- small and large. Apartments are also quite scarce in the smaller communities. Thus for the most part we were asking about a hypothetical commodity -- rental housing.

Since the bulk of our sample of households own their homes without mortgages the real question is what proportion of their money must be allocated to housing and does this proportion vary with the size of the community. One source of information on the latter aspect might be obtained by examining the property tax rates for different municipalities. Equality of evaluation for similar quality structures would be a problem. At the time of this writing we have not been able to pursue the question of housing costs for the elderly sufficiently to draw useful conclusions.

Summary and Implications

Intermediate summaries and occasional implications have been stated throughout the findings. This section represents interpretations and inferences drawn by the investigator at this point in time. The implications are stated in the context of the agency for whom the research was done though their interpretation of the data presented may be different.

The preference of independent living in one's own home is strongly documented in this study. Even those persons with minimal amounts of money, poor housing, poor health and other difficulties indicated no desire to move from their present situation. Those few who did want to move wished to move to another <u>smaller</u> and <u>better</u> house -- not to a housing complex or group care facility for the elderly.

The substantial number of houses which showed the need for repair and maintenance combined with the high proportion of the eight communities'

population which is over 65 has several implications. First of all, these people are living up "depreciation" on their housing. This may be due to lack of money to do otherwise -- and it certainly is in many cases -- combined with a feeling that they are not going to "need it much longer". In either case it means that the elderly in such instances are subject to increased opportunities for accidents and diseases. Some investment in housing might decrease the incidence of health care problems and the associated costs. The lack of input in housing also means little if any adaptation which would increase the independence of those afflicted with disabilities caused by such diseases as arthritis and heart.

From the community standpoint, the continued deterioration of so many housing units in a small community contributes markedly to a decreasing housing stock, whether for resale or just general environment. Housing is not only a private concern but a public concern. The implication may be that small rural non-farm communities give increased attention to facilitating efforts to improving the individual housing of the elderly as well as the alternative of multiple dwelling housing for the elderly.

In the area of food the most common complaint of the elderly was the cost -- a complaint shared by most families. The study was not aimed at determining dietary sufficiency. A striking characteristic was the very low proportion of the 209 households which either raised any of their own food or received it as "gifts" from others. The major implication for persons determining grant levels is not to assume that the elderly in small towns are obtaining a significant amount of their food needs from other sources. They are buying the bulk of their food from stores. The higher prices paid for groceries in small towns needs to be balanced against the combined food-transportation cost involved in securing the

groceries from nearby larger cities. There is a strong likelihood that the profit margin for the small town store is less than for his counterpart in the city due to the dynamics of the wholesale and retail food markets. The strong relationships between money and such variables as housing quality, activities, social participation and the like opt for increasing the money income as a means of "solving" the problems of the elderly. This simple connection of cause and effect should be qualified by realizing that many of the households with incomes substantially above the OAA guidelines still had many problems in health, housing and transportation, albeit less frequently.

In reviewing the guidelines for grants to the elderly it seemed odd to discover that the less than 100% of need practice prevailed in the program for the elderly just as elsewhere in public assistance. Most elderly however are not "temporary" recipients. There certainly can be no support for the logic that minimum benefits to the elderly will "motivate" them to "get off welfare". With these two notions one wonders why assistance to the elderly is not always kept at least at the 100% of need level.

About seven percent of Iowa's elderly are receiving OAA, yet more than 20 percent of our sample are receiving less than the OAA maximum per year. This suggests that several elderly households are "making it" below the minimum level currently prescribed in Iowa. How much of this is due to pride, lack of knowledge about the program, causes of ineligibility and the like is not known.

Money is not the only criterion to measure poverty. One ought not be deluded into discounting the centrality of money however. An additional

direction of analysis will be to more completely identify households of the type presented in the case studies to ascertain the multiple relationships which may exist.

The pricing survey had several limitations which prevent generalizations. Several trends were noted and important areas for further study were identified. Specifically there is need to know more about housing in small communities and the costs which are associated with it. More specific conclusions on comparative utility costs can be drawn when use patterns for elderly households are determined.

A final reminder -- The inferences from the household survey should be limited to elderly households of the type we studied in towns and places of 1,000 - 2,500. Practical differences would not be likely in smaller towns or in cities up to 5,000. Beyond this community size, or in the rural farm area, inferences would be problematic. No inferences can be drawn for that portion of the elderly in institutional and/or group care facilities.

June 30, 1970

APPENDIX A

TO: EARL V. NELSON, EXEC. SEC.
IOWA COMMISSION ON THE AGING
GRIMES STATE OFFICE BLDG.
DES MOINES, IOWA. 50319.

FROM: DEPARTMENT OF FAMILY ENVIRONMENT
COLLEGE OF HOME ECONOMICS
IOWA STATE UNIVERSITY
AMES, IOWA. 50010.

SUBJECT: A PROPOSAL TO STUDY THE COST OF LIVING FOR THE ELDERLY IN IOWA'S NON-URBAN POPULATION CENTERS.

TITLE: An exploratory study of the costs of living for the elderly in Iowa's non-urban population centers.

PROPOSAL: This is a proposal to study the prices of a standardized market basket of goods and services for the elderly in 20-30 towns and places of less than 2500 population. This would include information on costs for specified items in the categories of: food, shelter, clothing, transportation, medical and other.

It is also proposed to obtain data from 100 households of elderly in four (4) Iowa communities which will indicate their patterns of consumption, including costs and place of purchase. It is also anticipated that data from the households would provide insight into the deviations in purchasing patterns of the elderly from the standardized market basket of goods and services as defined by the Bureau of Labor Statistics of the U.S. Dept of Labor.

The information on prices of goods and services by community along with the information from the households could be used in the development of guidelines for determining the level of grants to the elderly. Other data, not within the scope of this study would also be needed to derive the recommended levels of grants.

The resources being requested (and available) for this study will not allow an unqualified generalization from the proposed data to all towns and places throughout Iowa. It is anticipated that data from 20-30 communities of less than 2500 describing the prices of the set of goods and services can be obtained within the resources available. This is in addition to the 100 household interviews. The communities would be drawn from a sample of communities of less than 2500 located in three of the multi-county areas running across Iowa from northeast to southwest. It is believed that such a spread of communities would include much of the socioeconomic variations in Iowa which would be important to the central objectives of the study.

JUSTIFICATION: Minimum or average income needed by elderly persons will differ according to individual needs and the circumstances which influence what money will buy, that is the market environment in which the elderly live. Several factors could influence the amount of income that should be granted to elderly men and women. Among these factors are: sex, age number in the household, health status and place of residence (size of community). The difference in financial resources needed to maintain a decent standard of living may reflect varying prices for the goods and services that represent economies of community size, proximity of the household to the goods and services needed and available, or preferences developed due to physical, economic or social characteristics of the elderly.

Little is known about differences in the cost of the goods and services bought by older people in Iowa's small towns -- there are approximately 850 towns in Iowa with less than 2500 population.

Information obtained about the prices of goods and services could be used to establish an index of comparison to the cost of goods and services in the larger urban and metropolitan areas of Iowa and the U.S. This index could then be adjusted as the index that is regularly used for establishing budget guidelines in larger areas is updated.

In attempting to understand the total problem of the elderly it is also important to know the manner in which the elderly meet their needs for goods and services in the market environment in which they live. Comparisons of prices that show the differences between communities of different size would be more meaningful if we knew the relationship between the items priced and the goods and services used and/or available to the elderly in their own environment. This is the purpose of interviewing the elderly as proposed.

PROCEDURE: A market basket inventory of goods and services of the type needed by elderly persons has been developed by consumption experts. This inventory has been priced in several U.S. cities of 10,000 or more population, including Cedar Rapids, Iowa. The inventory and procedures of the Bureau of Labor Statistics will be used for this study insofaras possible. Specific adjustments in the items to be priced may be made based on the knowledge of goods and services available in small towns as well as for regional differences in foodstuffs and the like. Interviewers will be instructed as to the procedure for pricing a standardized set of items and sent to the communities selected for study. In general they will be instructed to obtain data from food stores, clothing stores and the like. Procedures will be developed for pricing housing and making estimates on transportation and medical care.

Four of the communities selected will be from among the eight included in a current study of family living patterns of the disadvantaged being conducted by the Department of Family Environment. In that study, as a part of determining eligibility of respondents, we have identified the location and number of households containing elderly. A sample of 25 of these households will be selected for each of the four communities. A questionnaire will be developed which would focus on the costs, procedures, places and problems that the elderly face in attempting to obtain the goods and services which they want. Also, they will be asked to indicate the costs and extent to which they obtain and use items being priced on the standardized set of goods and services.

The data obtained from households and communities will be analyzed using appropriate procedures, consultation and facilities of the Iowa State University Statistical Laboratory.

PROJECT SCHEDULE:

July 1, 1970 through November 15, 1970. Detailed formation of procedures to be used in collecting data.

November 15 through December 15. Collection of data from the field.

December 15 through March 31, 1971. Preliminary analysis of data, first priority on pricing data from all communities.

April 1 through June 30, 1971. Completed analysis of data and preliminary report to the Iowa Commission on Aging. Continued analysis of data and occasional consultation with the Commission beyond June 30, 1971 as arranged. Final report to be submitted to Iowa Commission on the Aging, September 1, 1971.

APPENDIX B

Procedure

Household Survey

As part of a regional research project in the Iowa Agriculture and Home Economics Experiment Station entitled Factors Affecting Patterns of Living in Disadvantaged Families, the Department of Family Environment drew a sample of residential segments from eight southwestern Iowa towns with populations within the range of 1,000 - 2,500. All households in the segments were contacted for personal interview. The criteria for including a household within the sample were:

1. head of household under 65
2. at least one child under 18 years of age in the home.

The number of segments drawn was expected to yield 200 eligible households. The rate of non-eligibles was actually so high that a second sample of segments was drawn. Within each segment the interviewers were to contact all households, screening out the ineligibles and obtaining completed interviews with all others. Procedures were established for handling refusals, not-at-homes and vacant homes. A record of the non eligibles was kept for each segment. Complete interviews were eventually obtained from 21.9 percent of the total contacts made. A substantial portion of the ineligible households included elderly persons.

This pool of ineligibles formed the base for the sample of elderly households in this study. All the households with a primary female homemaker -- or male if a single male household -- over 65 were included in the sample for this study. Some attrition in the potential sample had occurred during the 10 months between the first field work and the interviewing for this study due to death, residential mobility, disability

and temporary absence due to vacation trips during the winter months. Contacts were made with 263 households. Completed interviews were obtained from 209 households. Of the 54 incompleted, 19 had moved and 17 refused. The remaining 18 incompletes were due to several different causes -- death and physical or mental health conditions prohibiting completion of the questionnaire being the primary causes.

Interviewers were trained on February 12 and 13, 1971. The interviews were obtained during the period from February 15 to April 15, 1971. The calendar year 1970 was used as a reference for all questions requiring a time reference, such as income, sickness, employment, mobility and the like.

The 33 page questionnaire required about 1 - 1½ hours for administration. The instrument was pre-tested on elderly households in two communities in central Iowa and portions were revised as a result of this experience.

The main portions of the questionnaire may be briefly described as follows:

1. Demographic data -- age, education, family composition, marital status and geographic mobility.
2. Health data -- self health rating and health services used in 1970.
3. Employment data -- occupational history and employment status.
4. Food data -- kinds of food and sources of food.
5. Income data -- amount and sources.
6. Housing data -- living situation, housing evaluation, repairs made and needed and source of housing assistance.
7. Transportation data -- availability and use of transportation.
8. Attitudes and activities data -- social participation, community rating, activities, information sources and attitudes toward self, children and community.

Completed interviews were submitted to the study's field director, William Angell. The instruments were edited for completeness and accuracy. Interviewers were requested to complete any missing information and the instruments were coded. Portions of the data were immediately transferred to flow sheets for data processing. Other portions of the data were hand tabulated for inspection prior to a decision regarding data processing. Data processing was basically sequential, i.e., first steps were often used to determine distributions for alternative coding or for developing item sets for scalar scoring.

Pricing Survey

The pricing phase was second due to the need to utilize data from the household survey for identifying some of the food items to be included. It was assumed that elderly persons would purchase the staples such as sugar, flour, dairy products and the like. Thus these items were priced. As a guide to several other items however, the respondents in the household survey were asked whether they purchased selected items, the kind bought most often and the brand most often purchased. A tally of 40 percent of the household questionnaires revealed certain patterns which assisted in developing the list of items to be priced. It was decided that a specified item (e.g., 32oz can of orange juice) would be priced as follows: The lowest cost brand, the highest priced brand and the brand used most often by the households in our survey. For several products e.g. instant coffee, a smaller quantity (4 oz.), though not the smallest available, was priced in recognition that most elderly households are both small (1 or 2 persons) and likely to have a limited amount of money resources. This procedure led to some difficulty in some product areas because of the larger (4-6 person) family orientation in the packaging and/or stocking practices. For example,

many stores in the study did not stock milk in quart containers or salmon in 7 3/4 ounce cans.

In addition to food, an attempt was made to price utilities (gas, water, sewer, telephone, electricity and garbage collection), public transportation, plumbing, carpentry and electrical repairs, housing rental costs and medical care (office calls and daily semi-private room rates only).

The number of towns to be included was pragmatically determined by the estimated costs for obtaining the required information in each community. Thus it was decided to sample 30 communities. As a means of including the different economic situations across Iowa it seemed appropriate to sample from a strip across the state -- from southwest to northeast. All the counties included in the multicounty Iowa State University extension areas of Council Bluffs, Creston, Des Moines, Waterloo and Dubuque were included.

A list of all towns and places in those counties was made by the following size categories:

1. Less than 1000
2. 1,000 - 2,500
3. 2,501 - 5,000
4. 5,001 - 10,000
5. 10,001 - 25,000
6. Over 25,000

Five communities were randomly drawn for each of the categories except 5 and 6. There were only three in the 10,000 - 25,000 group and exactly five in the over 25,000 group.

A list of food stores, real estate firms and plumbing and electrical firms was developed for each community using phone books and newspapers where available.

For the first four size categories an effort was made to obtain food prices from two stores -- randomly selecting one independent and one chain store wherever possible. Three food stores were selected for the next size category (10,001 - 25,000) and four stores were selected in each of the largest communities.

The sampling procedure for food stores was not completely random. The objective was to compare prices by size of communities -- not by type of store ownership nor by location within the city. The rationale for more stores in the larger communities rests on the assumption that overall price variability is most likely to occur within larger communities. Moreover, there is more risk in getting an atypical pattern from a few stores in a larger community.

An attempt was also made to secure two estimates of housing rental costs in each community. The houses described were developed from the household survey data which indicated that the majority of houses occupied by the elderly was over 50 years of age and usually had 2 - 3 bedrooms. The difficulty in securing estimates was due primarily to the character of the housing market in each community. In several communities there are virtually no houses of this kind to rent.

For plumbing, carpentry and electrical repair charges a random firm was selected in each area in each community. If this contact did not yield ready information on hourly and/or flat rates a contact was made with an additional firm. Such rates are usually quite standard within a community, though not necessarily between communities.

The information on utilities was usually available from city hall, the phone company and/or utility companies. A procedural difficulty in comparing prices for utilities is the varying amounts of water, gas and

electricity which are specified as being the minimal level. Complete data were obtained from 27 communities.

Copies of the instruments used for the Household Survey and the Pricing Survey are available from the author as long as the supply lasts.

Data Analysis

With few exceptions, all questions in the household survey were of the "closed end" type, i.e., respondents were asked to select a predetermined category as being most representative of their situation and/or feeling. As an example, the respondents were asked to indicate an assessment of their current health by choosing one of the following responses: Excellent, Good, Fair or Poor. In the case of attitudes they were asked to respond to each statement by selecting from the following: Strongly Agree, Agree, Uncertain, Disagree and Strongly Disagree. In other areas such as age, income and years of residence they were asked to provide the actual number. All the responses on each questionnaire were translated into code numbers for data analysis. These numbers represented either discrete categories, as in the case of rent or own, or continuous categories, as in the case of the responses to attitude items.

The descriptive data represent frequency distributions on the respective variables, i.e., a single distribution by number and percentage of the total 209 households into such categories as Yes or No, Own or Rent, or Excellent, Good, Fair and Poor.

To determine the relationships between two variables, e.g., money income index and number of sources of income, a two-way contingency table is contructed which places each respondent in one of the cells. The Chi square statistic, a measure of independence was used to test the relationships

examined in this report. A significant chi square value may be interpreted as rejecting the hypothesis that the two variables are independent of each other. Alternatively, it suggests a relationship between the two variables. It does not imply cause and effect. The logic for suggesting that, in the example above, the money income index for a respondent is a function of the number of sources of income is outside the realm of the statistical test. The statistical test result simply provides us with some confidence that the two-way contingency table we have is unlikely to have occurred through chance alone and that the two variables are not independent of each other.

"Scores"

Several "scores", e.g., utility, safety, housing quality, health and the like, were used in the data analysis. What are these scores and how are they derived.

The housing quality score was derived from summing the evaluations made by the interviewers on 17 attributes of the house: six interior, five exterior and six yard and neighborhood. For each attribute, e.g., walls and ceilings, the interviewer checked a position on a continuum from Very Deteriorated to Very Sound. The number one (1) represented the deteriorated end and five (5) the sound end of the scale. The six interior items were summed to give an "interior score" for the house. The five exterior items and the six yard and neighborhood items were similarly summed to give an exterior and yard and neighborhood score. All items were summed to give a total assessed housing quality score.

This procedure is common to developing scores as indices which are a composite of responses to individual items. The legitimacy of such summing rests on certain assumptions which can and should be tested. The basic

thrust of such tests is to determine the way in which each item in a composite score is functioning. Statistically, we ask such questions as whether we have additivity, linearity and homogeneity of variance. The housing "scores" used in this analysis have been tested for such assumptions. The attitude scores on loneliness, morale and anomie have not. However, all of these items have been tested in previous research. This does not guarantee that they will meet the tests in this instance but it does increase the confidence over the alternative of summing untried items.

Specific scores

The safety score was derived as follows. For each item of 13 possibles which was identified as a hazard by the respondent a value of three (3) was assigned. For each item not identified as a hazard a value of one (1) was assigned. The safety score was then computed as a ratio with the hazards plus non-hazards over 13, the value of the "safest" house. Thus where one hazard was identified the score would be: $\frac{12 + 3}{13} = 1.15$. A house with two hazards would have had a score of: $\frac{11 + 6}{13} = 1.31$.

The utility score was derived as follows. A private indoor flush toilet (i.e., not shared with another household) was given a value of 2. The same was true of a private bathtub or shower. The heating system was weighted as follows: Electric or Radiant = 5

Forced air furnace = 4

Wall heater and pipeless furnace = 3

Space heater = 2

Wood stove = 1

Thus a house with flush toilet and bathtub or shower and radiant heat would have had a utility score of nine (9). A house with a "space" heater (oil) instead of electric or radiant would have had a score of six (6).

> $4.60 a week per person, an average of only 22 cents a meal per person in a 4-person family. For some family members, such as men and teen-age boys, the cost was higher; for others -- young children and women, for example -- it was less."

The USDA also studied household food consumption patterns and dietary adequacy[2]. This study reported an expenditure for food approximating one-third of money income after taxes. For two person non-farm families the expenditure for food was about 27 percent. A 1961 study by the Bureau of Labor Statistics found that for urban families nearly a fourth of the income went for food.

These studies have been the basis for the factor of three in determining the poverty line for families of three or more. That is, the food cost for the family, based on age and sex, is multiplied by three (3) for families of three or more. For two person families the factor of 3.7 has been used.

In the 1965 study, Orshansky reduced the total non-farm budget for farm families by 40 percent. Since then this deduction for farm families has been moved upward. The current farm family poverty line is about 85 percent of the non-farm budget for families of like size and composition[3].

In this study of the elderly in rural non-farm areas of southwestern Iowa we have used as a poverty threshold a guideline developed by Dr. Jean Pennock, Consumer and Food Economics Research Division, Agricultural Research Service, USDA. This guideline uses the same basic procedure as that of Orshansky in developing budgets for families of various age and

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[2]USDA, Food consumption and dietary levels of households in the United States (ARS626), August, 1957.

[3]Family Economics Review, September 1970. Consumer and Food Economics Research Division, Agricultural Research Service, USDA.

sex compositions. The budget is based on 1970 food prices. Pennock developed guidelines for urban and rural non-farm families. The rural non-farm family budget is about 88 percent of the urban budget.

In this study the urban budget was used because of its completeness for the age and sex compositions of our household sample. Representative annual budget levels for various age and sex composed households are as follows:

1. Single female, 55 - 75 years of age $1,865
2. Husband-wife, both 55 - 75 years of age $2,803
3. Husband, 75 years of age and over; wife 55 - 75 years of age $2,757
4. Single male, 55 - 75 years of age $2,358

In general the basic food cost is adjusted to indicate greater food use by males than females, by younger than older people and some economies in two person versus one person households in proportion of budget used in housing and the like.

For our money income index figure we calculated the threshold for each household in our sample and divided this figure by the actual 1970 money income of that household.

Index figures of 100 or less indicate a deficit of actual income against the "needed" income.