DEFINING POSSIBILITIES FOR FEEDING THE ELDERLY IN TWO SCHOOL LUNCH PROGRAMS OF OKLAHOMA

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CHAPTER I

INTRODUCTION

In communities today one significant minority member is easily overlooked, underestimated, or ignored. This individual is not very vocal. He ordinarily pays his bills, lives within his means, obeys the laws and is seldom found in courts. He calls little attention to his needs until be becomes ill enough to be hospitalized. He is the elderly American (1).

Statistics reveal that one in ten Americans or twenty million men and women are now elderly - over 65 years of age. Eight million of these elderly live in poverty. Seven out of ten live in families. About five million live alone or with non-relatives. One in twenty is institutionalized (2,3).

In the past eight years public officials and professionals have demonstrated their concern for the health of this elderly population by the Medicare program and the Older American Act of 1965. Implications of these programs have led to long-range goals of providing nutritional services to the elderly (4).

The national government's interest in nutrition for the elderly was shown by implementing a Task Force on Problems of the Aging in October, 1969; by calling the White House Conference on Food, Nutrition, and Health in December, 1969; and by summoning a representative group to the White House Conference on Aging in December, 1971.

The Task Force on Problems of the Aging reported one specific recommendation on nutrition programs for the elderly as follows:

> We recommend that the President direct the Administration on Aging and the Department of Agriculture to develop a program of technical assistance, and when necessary, financial assistance, to local groups so that such groups can provide daily meals to ambulatory older persons in group settings and to shutins at home (5).

As a result of this recommendation the Administration on Aging has actively stimulated community efforts in providing nutrition services for the noninstitutionalized elderly by making grants for experimental projects. These projects are aimed at providing low-cost meals in social settings, nutrition education and increased consumer knowledge in buying foods (6).

Results of these projects are only beginning to be reported. But with the present information from the projects it can be said that group meals in community settings are an effective vehicle in dealing with nutrition problems of some noninstitutionalized older Americans (7,8).

When the projects were evaluated, the number one deficiency cited was that they do not reach enough people in small towns, rural communities and isolated rural situations. Another frequent complaint about projects was that many of the hungry elderly in communities with nutrition projects are not being reached (9).

Dr. Jean Mayer (10) testifying at a hearing before a senate committee on Nutrition and Human Needs, which was examining plans for implementing a new hot meal program, said:

> Experience has shown, particularly in the states of New England, that a great many elderly people have quietly starved because they didn't want to go to the welfare office for anything.

The hot meal program plans to provide most meals in central

locations such as churches, schools and community centers so that the elderly will get not only nutritionally balanced meals but the added benefit of eating in a social setting with others. It is also anticipated that meals would be delivered to the home-bound (11). Nutrition programs such as this can save the nation many dollars by preventing what Dr. Mayers calls "premature institutionalization (10)."

As early as 1968, Brookline, Massachusetts Schools undertook a pilot project for feeding the elderly in the school lunch facilities. This pilot project led to expansion of the program by the state legislature to all Massachusetts communities that desired to feed the elderly in school lunch (6).

In 1969, the American School Food Service Association published the works of a committee "A Blueprint for School Nutrition Programs for the 80's." One emphasis of the committee's report was the importance of the food service in expanding the use of schools to serve the entire community (12).

School lunch programs are uniquely qualified to feed the elderly nutritious meals. In general, the nutrition content of the Type A Lunch served to children is adequate for the older group (13).

The idea of feeding the elderly in school lunch facilities has spread to such areas as Santa Fe, New Mexico; Santa Cruz, California; Great Falls, Montana; Eau Claire, Wisconsin; and Avon, Connecticut (14). There is little evidence that these programs were really planned. A comment that has been made about the Massachusetts project is that "most feeding sites weren't located close to the elderly people who were supposed to use them (15)."

In spite of the difficulties of some programs, it is theorized that

school lunch facilities can feed the elderly a nutritious meal. Therefore, this thesis will be directed toward defining the possibilities for feeding the elderly in two school lunch programs of Oklahoma. It is proposed to do this by surveying a selected area of the elderly population of Shawnee, Oklahoma and the elderly population of Morrison, Oklahoma.

Insight will be gained into the conditions associated with eating a meal at a school lunch site or having a meal prepared by the school lunch delivered to the elderly at home. Possible solutions to the problems of transportation, finance and physical limitations of the elderly will be explored.

DEFINITIONS OF TERMS AS USED IN THIS THESIS

1. Elderly: Over 65 years of age.
2. Poverty: Lack of money or material possessions.
3. Institutionalized: Residing permanently in a hospital, extended care facility or nursing home.
4. Noninstitutionalized: Residing in a home situation.
5. Nutrition: The science of food, the nutrients and other substances therein, their action, interaction, and balance in relation to health and disease and the processes by which the organism ingests, digests, absorbs, transports, utilizes, and excretes food substances. In addition nutrition must be concerned with certain social, economic, cultural, and psychological implications of food and eating (16).
6. Senior citizen: Over 65 years of age.
7. Nutritionally balanced meal: Implies ideal proportions of all protein, fat, carbohydrates, vitamins and minerals (17).
8. Type A School Lunch: A lunch designed to meet one-third or more of the daily dietary allowances recommended by the National Research Council for a 9 to 12 year old child (13).

CHAPTER II

REVIEW OF LITERATURE

Aging is the product of a favorable environment. It is only in technologically advanced countries, such as the United States, that there is a large aging population. Expansion of medical knowledge and improvements in socioeconomic conditions have contributed to increasing the average age at death (18).

In 1900, in the United States, age at death was approximately forty-seven years. This had increased by 1967 to almost 67.8 years for males and about 75.1 years for females. Most of the increment resulted from a marked reduction in infant and early mortality. The average years of life remaining after age sixty-five have increased only 1.8 years for men and 4.3 years for women since 1900 (19). These changes in mortality rate have resulted in a marked increase in the number of persons over age sixty-five. This data has brought attention to the importance of research related to problems of aging (20).

Generally, aging is seen in one of two ways: as an orderly and regular process of change or as an irregular but continuous process. The second view is held by most current writers. Tibbitts and Sheldon (21) have explained the irregular but constant process of aging in this way:

> The aging process involves numerous interrelated elements, biological, psychological, and sociological in nature. Aging per se is so complicated with disease processes on the one hand

> and with restrictions of culturally assigned roles on the other that it is difficult as yet to describe or measure it with any degree of confidence.

Although there are many unanswered questions about aging and its mechanisms, much has been learned in the past twenty-five years. For example, the probability of death increases logarithmically with advancing age, and aging is a general biologic phenomenon. Further, this is a general finding which applies to animals ranging from mice, rats and dogs, as well as men (20).

Before attempting to review clinical experiences with elderly persons it should be stated that the profile of older persons can almost never be pin-pointed to any single condition or circumstance. A multiplicity of physical diseases usually coexists with psychiatric, sociologic and economic factors when a true picture of the aged person's nutrition status is considered (22).

Ideal conditions for studying aging would appear to be to observe action of people as they move through the life cycle. This has been done in the United States to a limited degree. It is costly and continuity of the research effort and personnel has been difficult to maintain (23).

The National Institute of Child Health and Human Development (NICHHD) currently has a "life cycle" study in progress. For this research Shock (20) reports that a group of seven hundred men age twenty to ninety-six years has volunteered to spend two-and-a-half days in the laboratories of the NICHHD every eighteen months. All of the volunteers are leading normal productive lives in the community and are committed to repeat their visits for the remainder of their lives. During their visits they are subjected to a wide range of physiological, biochemical,

clinical and psychiological tests.

These tests show a gradual decrease in many psychological functions such as cardiac output, renal blood flow and lung function with advancing age. There has also been an observed reduction in the ability of the individual to adjust to physiologic stresses. The reserve capacities of many organ systems are reduced. Part of these observed reductions, according to Shock, arise from the loss of functioning cells in organs and tissues.

Although total life-span in a species is genetically determined, environmental factors such as nutrition, can influence genetic expression. Attempts in the NICHHD study to show that nutritional requirements differ for elderly people from those of younger adults have not been successful. The NICHHD study evidence indicates that older people do not suffer from impaired absorption of items from the diet nor do they show age differences in requirements for specific nutrients such as protein and calcium.

Shock (20) has recognized that a primary problem of aging is a gradual loss of cells which may stem from environmental conditions, such as inadequacies in cellular nutrition. Thus, the field of nutrition as related to the elderly remains an area that must be explored in greater detail.

Overnutrition appears to be a problem when the total population in the United States is observed. It is generally recognized that undernutrition in the elderly does occur and should not be overlooked as one of the social conditions existing in this country today. According to Howell and Loeb (22), old persons outnumber the young and middle-aged among those admitted to hospitals with "inanition" (wasting of body) or

"cachexia" (emaciation and debility). Furthermore, undernutrition was found to be more common than overnutrition in a study by Skillman (24) of 7,848 persons over 61 years of age.

Chinn's research (25) of 500 successive hospital admissions indicated that 7 percent of the aged persons had significant nutritional problems. The average age on admission was 77 years. Inanition was observed to have resulted because of a variety of physical, psychiatric, and sociological reasons. Deficient food intakes in these patients revealed features that Chinn believed to be common to the general aged population. For example, three patients had structural diseases of the esophagus or stomach which resulted in avoidance of adequate food intake. Another patient had cervical arthritic changes of sufficient severity to interfere with swallowing food; and another, who had chronic pulmonary disease, believed that the eating of food brought on coughing, and therefore ate little food. All these patients had intentionally limited their food intake.

Eight patients presented definite psychotic problems that resulted in limiting food intakes. Several of these had developed paranoid ideas concerning the ingestion of food. In others there were problems related to eating such as fear of unsuitable food, or indigestion or of the results of improper chewing. Depression, disinterest in eating because of loneliness, lack of productive enterprise and fear of a useless future were important factors in others.

Sociologic problems in Chinn's research were extremely common, either alone or in combination with psychiatric ones. Some patients lived alone and were either unable or unwilling to prepare their food. Others had family conflicts which combined with the psychiatric factors

were thought to be responsible for the elderly patient's refusal to eat properly at home.

Hospitalization with attention to diet resulted in improvement in the emaciated conditions observed according to Chinn (25) in about one-third of those aged patients admitted. Paralleling the nutritional improvement was an improvement in attitudes and physical tolerance, resulting in greater self-sufficiency. About a third showed little weight gain or improvement in morale, and the other one-third did not gain or continued to lose weight despite vigorous measures.

Among the 500 hospital admissions, Chinn stated there were 20 elderly people who suffered from overnutrition. All these patients had been obese for many years and were admitted to the hospital because of a cerebral vascular accident, a recently fractured bone, progressive arthritis of the knees, hips, ankles, or back, or progressive disabilities from multiple sclerosis or Parkinsonism. An attempt was made to reduce the weight of these patients as well as to retrain the affected body muscle. The patients with an overweight problem had longer hospital stays and less benefit could be observed than with the emaciated patients.

There was no case of malnutrition in these admissions reported by Chinn that could be traced to poverty. The persons observed in this study were from an affluent environment. It should be pointed out from this study that older persons of less affluence could develop the conditions observed from lack of money to buy the food needed for an adequate diet.

From Chinn's (25) research it was concluded that management of both undernutrition and overnutrition is more difficult with the aged than

with younger subjects, because of the complex physical, psychiatric and sociologic associations. In order to avoid the serious effects brought on by either condition, a constant effort should be made to obtain a suitable dietary intake.

There is little argument that the basis of good health is optimum nutrition and the cause of ill health is not always malnutrition from bad dietary practices. The panacea for the aged is not necessarily the discovery of the ideal diet for this group of the population, but it could do a great deal towards the support of good health (26).

Dr. Pearl Swanson (27) spoke of the role of nutrition in the aging process at a conference on aging and the aged. She said:

> The food we eat must provide the building-stuffs from which muscles, organs, bones, teeth, blood, and all body fluids are made. It also must provide the nutrients for the maintenance of the body process in living organs. These processes demand nutrients for the fabrication of enzymes and hormones, and nutrients for the regulation and control of body functions.

Studies which have provided useful information about the kind and amounts of food consumed by the elderly population have not been numerous. The ones that have been done make it possible to evaluate more accurately the nutritional needs of all older people. Procedures most frequently used to study elderly populations' eating habits include: weighed food intakes, daily recording of food consumed over several periods of time, personal interview and the 24-hour recall (28,29,30).

An example of how poor nutrition can occur even with adequate nutrients being consumed was cited in an Iowa study (31). One elderly subject who was participating in a metabolic study became depressed, nervous, cross and irritable. Prior to this time she had been in nitrogen balance. But with the change in disposition she entered a period of severe loss of body nitrogen. With solution of emotional

problems, the subject regained equanimity and immediately began restoring the body protein which she had lost.

Nationwide studies of food consumed by population groups have been conducted by the U.S. Department of Agriculture since 1936. A survey was made in 1965 of a representative sample of 14,500 men, women and children in city and rural areas. Part of the study was a 24-hour recall of all food consumed, with nutrient content calculated and compared with the Recommended Dietary Allowances (RDA) of the National Research Council for 1968 (32). The average nutrient value of the food per person per day at all income levels was adequate for men aged 55 to 64 years. But with increasing age, the diets were low in calcium, and men over 75 years had diets low in vitamin A, thiamin, riboflavin, and ascorbic acid as well as calcium. In the group of 65 to 74 year olds, women's diets were below the RDA in calcium, thiamin, riboflavin and those over 75 years old were also low in iron and vitamin A. With decreasing income the nutrient intakes were lower, particularly for vitamin A and C for both men and women over 65 years of age (33).

In 1948 a population group in San Mateo County, California, was studied periodically for their nutritional status, dietary habits, morbidity experienced and mortality. The original group consisted of 577 individuals over 50 years of age. They have been studied on three occasions covering a fourteen year span. In the last study which was conducted in 1962, 88 percent of the original group was located. Of those located, 273 answered a questionnaire and recorded a 24-hour food intake. The food intakes were evaluated using two-thirds of the RDA as an acceptable level of food intake. Individuals showed no consistent trends in food intakes when all studies were compared. One-fourth of

all diets were below two-thirds of the recommended level for calcium and niacin in all years. Two other nutrients, vitamin A and ascorbic acid, were low in one-fourth of the diets in at least one of the study periods for men and women (34,35,36).

A localized study by LeBovit (37) of the elderly was conducted in Rochester, New York, in 1965. A selected group of beneficiaries of Old-Age, Survivors, and Disability Insurance was surveyed using the recall method. Some facts about the 283 households studies were: the participants were 65 years old or older, living alone or with one other person over 55 years of age; they were all on relatively low incomes; few had gone to college; and three-fourths had only an elementary school education.

LeBovit (37) considered the allowances (RDA) as liberal and therefore that diets reported in this research which met two-thirds of the RDA were presumed to be adequate. Seventy-two percent of the households had diets that met this level for all nutrients, but only 68 percent met the calcium requirement at two-thirds of the RDA level and 71 percent met the vitamin C requirement. Diets low in one nutrient were usually low in several others. The factors most closely related to poor diets were low expenditures for food, lack of appetite and age (38).

In 1962 a highly selected group of well-to-do Boston elderly (two-thirds over 70 years of age) were interviewed by Davidson (39) and seven day records of foods consumed were kept. As a result, Davidson noted that diets varied greatly from day to day for protein, vitamin and mineral intakes with some intakes quite low for thiamin, iron and calcium.

Schaefer (40) reported to the U.S. Senate Select Committee on Human

Needs on the National Nutrition Survey for elderly conducted in Louisiana and Texas. The reported data was obtained from a 24-hour-recall of food eaten by lower income people over 60 years of age. In Texas about one-third of the elderly received less than 70 percent of the RDA for protein, thiamin, iron, vitamin A, calcium and vitamin C. In Louisiana almost half of the elderly group consumed less than 70 percent of the RDA of protein, iron, thiamin and vitamin C.

Most of the dietary studies that have been cited have used urban populations to secure information about nutrition practices of the elderly. However, Guthrie, Black, and Madden (41) used a predominantly rural area in Pennsylvania to compare dietaries from 70 households. Group I included 35 households below poverty level who qualified for food assistance. Group II was from the same area and had similar ethnic backgrounds, but incomes were just large enough to prevent qualification for food assistance. Results of the 24-hour dietary recall record showed that the elderly with the higher incomes had diets significantly more adequate in iron, protein and riboflavin than the lower income Group I. Both elderly groups had diets less adequate than low income families of all ages. This research suggests that age and income adversely affect dietary adequacy and that the elderly poor are more vulnerable nutritionally than either the elderly or the poor of all ages.

Studies, that have been cited in this review of literature, have contributed to the present knowledge about the diets consumed by the elderly population. They indicate that with increasing age there is a decrease in food consumption and deficiency of dietary minerals and vitamins. Some of this research was concerned with the use of vitamin and mineral supplements by the elderly. In the 1965 U.S. Department of

Agriculture nationwide study, it was found that supplements were used by adults, mostly those over 75 years of age (42). Among the participants in the 1965 Rochester, New York research, over one-third reported using vitamin preparations; half of those taking vitamins had already met the RDA with meals of the day. Of the ones whose diets did not meet the RDA and who were taking supplements, only one-fourth were using preparations that covered all of the dietary shortages. Half of these subjects were using preparations that contained some but not all of the nutrients that were lacking in the diets while the remaining one-fourth were taking the wrong supplement (37). In the NICHHD study reported earlier, the majority of the men met the RDA by diet alone, but over half used some vitamin and mineral supplements in addition (20).

Steinkamp (36) found in the 1965 San Mateo study that 35 percent of the men and women took vitamin and mineral supplements. These were usually people who had met their dietary requirements by diet alone.

Swanson (43) suggested in her chapter in the Yearbook of Agriculture 1959 that too many people buy vitamin preparations they do not need. They might fare better to obtain necessary vitamins from an intelligently selected diet.

Nutrients and nutrition have been the focus of the literature reviewed, but it should be remembered that food is the means through which people receive nutrients. Food is what people eat. The kind of food eaten is intimately associated with home and family background and everything that has happened to the elderly throughout the preceding years (44).

Food habits originate in early childhood and are dependent on which foods are served in the home. Ethnic, religious and cultural factors

are influences in forming food habits. These habits may be modified by education and widening experiences of adult life. Research indicates that the elderly tend to return to habits formed in childhood (45).

Food costs money and must compete for a part of the family dollar with other essentials of living. Inflation and rising costs of living have left those on fixed incomes in the position of being unable to purchase adequate diets (46,47).

It has been shown that income alone will not provide for dietary adequacy. The 1965 National Household Food Consumption Survey of the U.S. Department of Agriculture found that at successively higher incomes a greater percentage of households had diets meeting the RDA. However, over one-third of the households with incomes over $10,000 had diets which were below the allowances for one or more nutrients (33).

Housing is closely associated with access to and availability of food for the elderly. The elderly couple, the widowed or single individual may continue to live in the old family home or similar housing that is unsuited due to lack of mobility or physical handicaps frequently observed in the elderly. The elderly may live in a walk-up apartment or room, making it difficult or impossible to carry groceries upstairs. Housing may be distant from grocery stores or restaurants and may also be lacking in adequate kitchen facilities in which to store and prepare food (46, 47).

Lack of transportation may keep the elderly from shopping at shopping centers where they could take advantage of lower food prices. They may have to buy from neighborhood stores which may charge more for their products. Therefore their small incomes may not be stretched to full advantage because of lack of transportation (47).

Some elderly require special diets as a result of declining health. They may not understand the importance of such a diet or how to prepare it or be unable to afford special medication or foods (48). Anderson (49) reports some elderly have not been able to eat the foods that supply the needed nutrients because of poor dental care.

For the elderly, the lack of information regarding community resources, programs and counseling that may be available is another problem in attaining adequate nutrition and maintaining a residence in the community. There is mounting evidence that many elderly persons are residing in nursing homes and other institutions because the essential services to keep them in their homes and communities are lacking or poorly publicized. In Massachusetts, the Department of Public Health found that only 37 percent of the 100,000 patients in licensed nursing homes required full-time skilled nursing care. Fourteen percent of these needed no institutional care, another 26 percent required minimal "supervised living" and 23 percent needed only limited nursing care (50).

Tobin (51) states that too much emphasis is given to institutional care for the elderly. Concerned family members insist that the aged relinquish their independent community living when problems associated with aging arise. The aging person's real desire is often to maintain independent living in the community. In many cases this could only be possible when supportive services are available that really strengthen the elderly person's ability to remain at home.

One supportive nutrition service that has been available on a limited scale in the United States since 1954 is "Meals on Wheels". The name applies to a program which delivers nutritious meals to the

aged, convalescent and handicapped who are unable to prepare adequate meals for themselves. Factors which are considered when selecting participants in the "Meals on Wheels" food service include age, economic need and disability. The service may be temporary or permanent (52,53).

The system of "Meals on Wheels" may have been adopted in a community and be known as "home delivered meals," "mobile meals" or "portable meals." The name may change but the service rendered to the elderly has expanded in the nineteen years, since the original program was introduced to the elderly in Philadelphia. Such programs are usually sponsored by public or private organizations and groups in a community with much of the work being done by volunteers (54).

In some cities the program is hospital-based with special diets being available to the patrons. Those receiving the meals may pay a minimum charge or those unable to pay may have the meal funded by some community group. One real problem that has been observed is that the home delivered meal may only intensify the loneliness in the life of the home-bound elderly. Efforts are being directed to developing out-reach areas to involve the home-bound elderly in social experiences (55).

Twenty-four demonstration projects (56) were funded under the Older American Act of 1965. These projects were aimed at developing techniques to meet the nutritional as well as emotional and social needs of the elderly population. Review of three of the projects will be included. In Seattle, older lone men and women living in downtown hotels were served hot noon meals with accompanying social programs by a downtown church. This project made a special effort to involve the men in the area who were generally reluctant to participate. Another project in rural Kentucky brought elderly poor in isolated areas together to

upgrade their meals and relieve loneliness. These elderly were provided transportation to the meal as well as consumer information and education. In Los Angeles, a hot meal was served after school hours in the school cafeteria by the school lunch room workers. These senior citizens were helped with consumer education by teachers in the Adult Education Division of the school (56).

Feeding the elderly is more than a demonstration in the public schools of Brookline, Massachusetts. Since a 1968 pilot project, the state legislature expanded the program to include any Massachusetts public school which desires to serve the elderly. An explanation of the services offered in the Brookline school should confirm the success of this program. About 25 elderly receive a noon meal in the school cafeteria after the students have been fed. This extra serving time has added three to three and one-half hours of work time to the food service staff of the school. The elderly receive the same meal that the student receives with one exception: three ounces of protein food is provided rather than the two ounces that is required for the Type A School Lunch meal served the students. The cost of the meal to the elderly is 50¢. Actual cost of food served has been about 72¢, with the difference in cost being met by state and federal funds.

When the program was begun there were many misgivings about fussy eating habits of the elderly. In Brookline, this has not been a problem. In fact the elderly have accepted the food served enthusiastically and have been eager for nutrition information according to Marion Cronin (14), the food service director in the Brookline Schools.

Services that have developed in the atmosphere of a meal with the Brookline School Lunch include the presence of a Brookline

Multiservice Senior Center representative at each meal. This person talks with participants and spots unmet needs of the aged, whether medical, social or psychiatric. There also has been increasing concern in the group of aged participants for others in the program (14).

CHAPTER III

PROCEDURE

Information in regard to possible interest in a feeding program for the elderly in Shawnee, Oklahoma, was received from the Oklahoma Department of Institution, Social and Rehabilitation Services' Nutritionist in Oklahoma City. Three Oklahoma State University graduate students majoring in Food, Nutrition and Institution Administration made an appointment with the nutritionist to secure details. Possibilities for a graduate research project were discussed.

The Oklahoma Social and Rehabilitation Services was interested in having more information from Shawnee and encouraged the students to contact the Director of School Lunch in the Shawnee Public School System. It also was suggested that a survey in Morrison, Oklahoma, might be undertaken.

As a result of this visit, the District School Lunch Director for the Morrison area was contacted and a visit with the Morrison School Superintendent was arranged. The superintendent expressed a desire to have a survey to indicate possible interest in a noon meal for the elderly prepared in the school lunch.

The Director of Shawnee School Lunch was very interested in a similar survey and arrangements were made to visit the proposed survey area. Observations in the area revealed older people on porches and few children and toys outside the houses of the area. The school that

potentially could serve the noon meal to the elderly was centrally located and within reasonable walking distance for many residents. It was concluded that this area had an elderly population that could be surveyed.

These contacts and correspondence with other concerned persons (Appendix A) resulted in being able to define some possibilities for feeding the elderly in school lunch programs. A questionnaire was formulated by reviewing other questionnaire techniques that had been effective (22,58,59) and adapting them to the needs of this research. Three areas of concern covered in the questionnaire were:

I. Food consumed by the chosen elderly population in the previous 24 hours.

II. Conditions in the chosen elderly population relating to eating a school lunch or having it delivered to the homes.

III. Adminstrative procedures for making the meal available that could be identified at this time.

It was decided that the questionnaire should consist of numbered questions with corresponding numbered multiple choice answers. Observable information including sex, ethnic background, body build, physical and mental conditions was noted by the interviewers. A code number was assigned each interviewees' questionnaire. This plan was used to facilitate compilation of the information for later data processing.

Approval for securing survey information to be used in this thesis was received from the Superintendent of Schools, the School Lunch Director and the Chamber of Commerce of Shawnee, Oklahoma, and the Superintendent of Schools of Morrison, Oklahoma.

A statistican was consulted for advice in drawing the necessary sample from each town. It was decided to contact 100 people over 65

years of age or all houses in the survey area in Shawnee and Morrison. The condition that was met first in each town would halt the survey. Systematic sampling was employed by contacting every house on alternate streets.

The questionnaire was pre-tested by nine elderly members of the Community Center, Glencoe, Oklahoma. On the basis of their responses to the questions, adjustments were made in the survey questionnaire. The Glencoe questionnaire with an explanation of revisions is included in Appendix B. The revised questionnaire used for this thesis is in Appendix C.

Each towns' selected survey area had similar characteristics. Namely, the schools that potentially could be used to serve the elderly a noon meal were at a central position in the survey area. Each school had a street running North and South from the school building. These North and South streets were used in each survey as a beginning point.

The Shawnee survey was conducted in an area which had experienced a decrease in public school enrollment. Census data (60) did not indicate a decrease in population. Therefore, the assumption was made that an elderly population resided in the area to be surveyed.

The Shawnee area was trapezoidal-shaped and was bounded on the South side by the North Canadian River, on the North by the Oklahoma City, Ada and Atoka Railroad Line, on the East by the Atchison, Topeka and Santa Fe Railroad Line and on the West by U.S. Highway 177. A map shows the survey area (Appendix D).

In Morrison, the area was rectangular in shape and bounded on the South by U.S. Highway 64, on the North by the Morrison School and on the East and West by farm land. Since Morrison had a total population of

around 250 people, an attempt was made to survey the entire elderly population.

Within the bounds of the survey, all houses on alternate streets were contacted in the North-South direction. Then houses on alternate East-West streets were contacted, until all houses or 100 people over 65 years of age had been contacted in Shawnee and Morrison.

On alternating days the three graduate students formed a team of two interviewers to conduct interviews. One interviewer questioned the elderly person while the other one wrote the information on the questionnaire form. A resident at each house contacted was asked if any person 65 years of age or over resided there; if the answer was "yes" the interviewers routine explanations to the person included:

1. We are graduate students in Home Economics from Oklahoma State University.
2. We want to talk with you a few minutes about the food you eat.

If there was no resident 65 years of age or over, then the interviewers moved to another house. This procedure was followed until the sample data had been secured. Six workdays were required to complete the Shawnee interviews, while one day was required to secure the Morrison information.

The survey information was analyzed by using the "One-Way Frequency Count (Single-Digit)" computer program from the Oklahoma State University computer library. The output consisted of a frequency count table and corresponding percentage table for each set of data. Specific information secured through the computer program included: how all respondents answered each question; how all respondents answered each question by sex, age, interest in a meal at school, interest in a home-delivered meal, source of income, education level and health status.

CHAPTER IV

RESULTS

The purpose of this thesis research was to define the possibilities for feeding the elderly in school lunch programs in Shawnee and Morrison, Oklahoma. The District Director of School Lunch for Morrison and the Director of School Lunch in Shawnee were contacted. Arrangements were made to conduct surveys using the questionnaire (Appendix C) developed by the graduate students. Results reported here relate to determining the interest of the elderly in lunch at school. In order to feed elderly people in school lunch a profile of the people who would potentially participate in a noon meal has been drawn from the questionnaire information. Such vital information as age, sex, health status, food source, transportation, income source, education and interest in a lunch at school were compiled.

In Shawnee the survey was halted when the 100th person had answered the questionnaire. In Morrison an effort was made to contact all 35 elderly reported in the census data (60). The resulting sample consisted of 13 persons over 65 years of age.

Profile of the Elderly Surveyed

Response of Elderly to Interviewers

Reception of the interviewers by the elderly population in the towns surveyed was excellent. Those who did decline to answer the questionnaire had understandable reasons for not answering, i.e., We are just going to the grocery store. My wife is taking a nap. Those who did choose to answer the questionnaire gave careful thought before answering and were concerned when they did not have knowledge of information requested. An example of lack of knowledge is evident by the few positive responses to the question "Approximately how much of your income do you spend on food? 1. Weekly____2.Monthly____." So few of the inverviewed elderly had answers to this, that the information was not tabulated. They were able to answer all other questions.

The elderly respondents were interested in the interviewers as well as the interview. They asked many questions of the interviewers. Questions most frequently asked were:

1. Are you from the Welfare?
   Our Answer: No. We are students.

2. Do you know anything about getting "food stamps?"
   Our Answer: No.

3. What are you going to do with the information?
   Our Answer: We are each going to write a paper. The information will be given to the Director of School Lunch.

Age and Sex

Age span for all people in Shawnee and Morrison who answered the questionnaire was 65 through 96 years of age. A graph (Figure 1) shows age span and sex of all respondents.

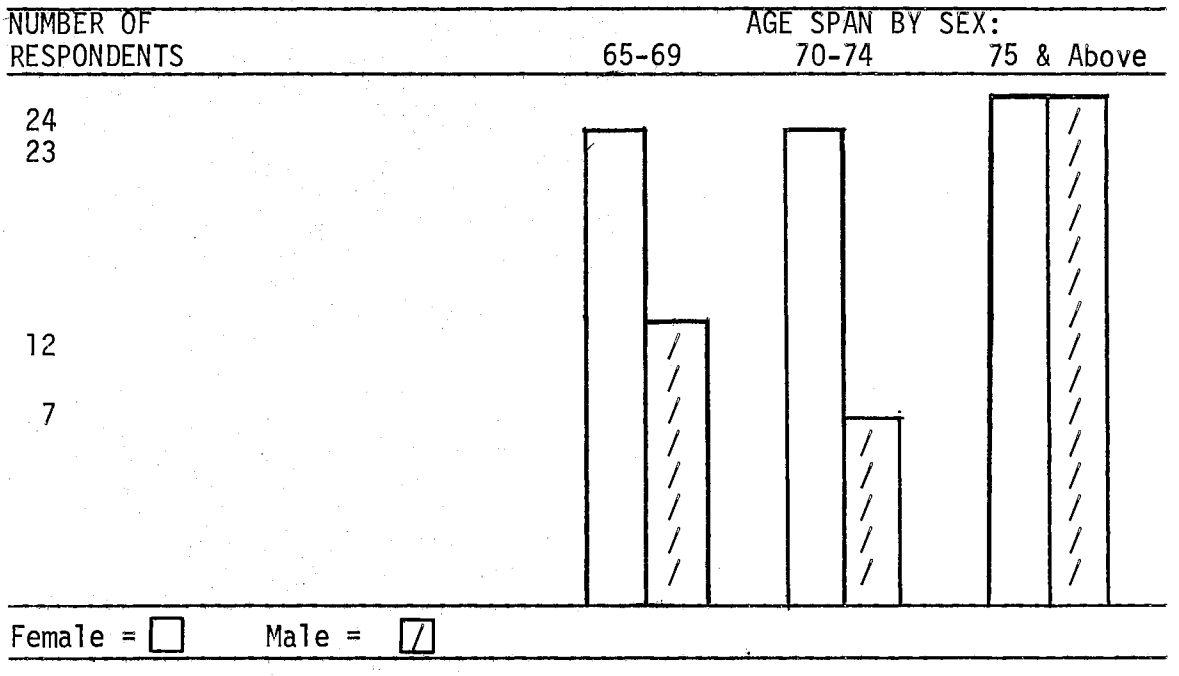

Figure 1. Age Span & Sex of all Respondents

Total respondents in Shawnee and Morrison by sex included 43 males and 70 females. The numbers of male and female respondents were equal in the 75 and above age group. It appears in this research that longevity improves if males live past 74. For this population group, 1970 census data indicates 2 males to every 3 females (60).

Marital Status

Marital status was not emphasized in this research, but 61 persons of the 113 interviewed were married and living with their spouses. The remainder were either single, widowed or separated.

Education Level

Twenty-six of the total samples had less than a fourth grade education and 67 had fourth through eighth grade educations. Of the remainder only two had attended college. After relating their respective educational experiences, the respondents made such comments as "we moved frequently", "the work had to be done" or "education was not as easy to get as it is now."

Years of Residence

Eighty-six members of the surveyed populations could be classed as long-time residents of the two towns. Question five (Appendix C, Part III) listed 15 or more years as maximum residence time. Many of the respondents laughed at this and suggested that 30 to 40 years might be included in future questionnaires.

Health of Respondents

Physical and mental status of the individual being interviewed involved a value judgement by the interviewers, as to whether the person could function in a group activity such as lunch at school. It was observed that seven people interviewed in Shawnee and three in Morrison could not walk or were blind. These conditions could make receiving a

tray of food at school lunch difficult for them and for those serving the meal. The mental state of two interviewees in Shawnee and one in Morrison was such that their presence at a meal could be disturbing to others, but a home delivered meal would be a possibility.

Several questions (Appendix C, Part I, Q. 9-18) were used to enable the respondents to give a clear picture of their health status. These questions included such general information as "Would you say your appetite is: 1. Poor, 2. Fair, 3. Good, 4. Too Good." and the more probing question "When was the last time you saw your doctor?"

Seventy percent of those questioned felt that their appetites were "good" or "too good." By contrast 51 percent said that they had trouble after eating some foods. The predominant problem in eating food was related to digestive difficulties. It had been anticipated that dental-related conditions would account for many eating problems. Only nine percent recognized poor dentition as a cause of trouble in eating some foods.

Answers to the question (Appendix C, Part I, Q. 12) relating to seeing a doctor revealed a wide contrast in the surveyed population. Thirty-three percent had not contacted a doctor in over a year, while 38 percent had seen their doctor in the last month. It would be a mistake to state that the surveyed population of either town was healthy or unhealthy. The most reasonable observation would be that those elderly persons who saw their doctors in the last month were taking proven, effective measures to improve or control their health.

Diets prescribed by the doctors were followed by 23 of the elderly respondents. The diets were prescribed to restrict the sodium, calories and/or fat content of food consumed.

Prescribed medications were taken by 67 persons. The medications reported do not reflect the number of elderly who were taking more than one prescription. A comment that was made was "I spend more for medicine than for food." The implication was that they were taking more than one prescribed medicine. Vitamin and mineral supplements were consumed by 52 respondents. The supplements were chiefly non-prescription types.

Rigg, in her unpublished Master's thesis, reports that on the average these 52 respondents did not receive an adequate diet from food consumed as based on the RDA. A check of the label of a frequently mentioned non-prescription supplement revealed that many respondents still did not receive adequate nutrition after taking the supplement.

Food

How the elderly respondent obtained groceries was of importance to this research. Forty-nine persons of the 113 depended on relatives, friends or neighbors for transportation to the grocery store. In addition to this, nine said they took a taxi and thirteen walked to stores to secure the food they ate. Transportation to the grocery store would appear to be a problem for the elderly of the surveyed populations.

Availability of food other than that obtained from grocery stores also was a point of interest. Fifty-three persons indicated that they either grew a garden or had friends and relatives who shared home-grown foods with them. Only 18 of those interviewed reported that they presently were using commodities. There were many comments in the interview that were not part of the recorded data. These included relating

difficulties in getting to the commodity distribution point, as well as digestive problems that the elderly respondent associated with the foods included as commodities. There was also interest in the possibility for securing "food stamps" in the near future.

Income Source

The question (Appendix C, Part III, Q. 1) concerning income source revealed that thirty-five respondents said their entire source of income was Social Security. Eleven gave retirement income such as railroad pensions as their only source of income; twelve lived entirely on Welfare; two indicated a private source of income. Eight lived on a combination of Welfare and Social Security, while fourteen lived on a combination of retirement and Social Security. Nine indicated a private source of income plus Social Security, and included people with part-time jobs. Fifteen peoples' responses could not be classified by the terms of the questionnaire. These included persons employed in their own business or working full-time, as well as retired and unemployed people who chose not to indicate a source of income.

Interest in Eating Meals Prepared by School Lunch

Eating at School Lunch

A basic question to be answered by the questionnaire was "If a meal is available at the school cafeteria, how often would you be interested in eating here?" This question received the responses shown in Figure 2. Some respondents were interested in such a meal even though only 14 percent had even heard of adults their age eating a meal at school lunch.

CHOICES	SHAWNEE Number	SHAWNEE Percent	MORRISON Number	MORRISON Percent
5 days per week	2	2%	0	0%
3 days per week	6	6%	1	7.69%
Less than 3 days	16	16%	5	38.46%
Not at all	76	76%	7	53.85%
TOTAL	100	100%	13	100%

Figure 2. Interest in a Meal at School Lunch in Shawnee and Morrison

How did the two people in Shawnee who wanted to eat a School Lunch five days per week answer the questionnaire? They were females, with no obvious physical or mental problems, 70 and 71 years old respectively, and had lived in Shawnee over 15 years. Both said they would walk to the meal and both wanted to pay for it. One would find it convenient to pay daily and the other monthly. No one in Morrison was interested in a School Lunch five days per week.

What are the significant characteristics of the 16 people in Shawnee who wanted to eat at school fewer than three days per week and how did they answer the questions? This group was composed of nine females and seven males with no observable physical or mental problems. Fifteen of them had lived in Shawnee over 15 years. Eight of this group would walk to the school, three would drive, one would take a taxi and four would ride with friends. Daily payment for meals would be convenient for nine, weekly payment for three and monthly payment for four.

Sources of income in this group revealed that 11 were living entirely on Social Security, Social Security and Welfare, or Social Security and retirement. Four sources of income could not be classified by terms used in the questionnaire.

In the Morrison survey three females and two males of the 13 interviewed were interested in a meal at school fewer than three days per week. Three of these persons had lived in Morrison over 15 years and two had lived there less than five years. They would all walk to the school for the meal and pay for it at that time. All their sources of income were related to Social Security.

Possible Future Meals

Twenty-one interviewees in Shawnee who were not interested in a school lunch at the present time indicated that such a meal could be useful at some later date. They were not interested now because 13 of them preferred to cook their meals and seven did not have transportation available.

In Morrison, on the other hand, five respondents were not interested in eating at school at this time because all preferred to cook for themselves.

A Home Delivered Meal Prepared by School Lunch

In Shawnee, 20 of the 100 respondents had heard of hot noon meals being delivered to people confined to their homes. When told of this particular type of service, 65 respondents felt a delivered meal would help them. This group included 18 persons who had some difficulty, such as inability to walk the distance to the school, or whose mental state

could create problems for a group.

Five respondents, of the 13 in Morrison, were not interested in a meal at school now but felt that a home delivered meal might be useful to them at a later time. This included three individuals whose physical conditions were such that they could not participate in a meal at school.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Possibilities do exist for feeding the elderly in school lunch programs in Shawnee and Morrison, Oklahoma. While eating a meal at school lunch daily was not appealing to the majority of the respondents in either town, a majority did feel that a meal at school lunch could be useful to them at a later date. It is recommended that a pilot school lunch program for the elderly be begun in each town. This is recommended in order to have such a meal available for all who are interested later.

It is recommended that the 24 persons in Shawnee and the six persons in Morrison who were interested in a meal at school lunch now be contacted to participate in a pilot study in each town. It is recommended that procedures be developed for encouraging participation of other elderly members of the communities in a meal at school lunch.

Incomes of the surveyed populations are low and from a fixed source. Therefore, it is recommended that charges for meals be kept at a minimum. Payment for the meal on a daily, weekly or monthly basis is recommended in accord with responses of elderly individuals to the questionnaire (Appendix C, Part II, Q. 5). The method of payment should be evaluated by school lunch officials as well as the elderly participants in each pilot study to develop a workable procedure for payment for meals when the pilot study is expanded.

It is concluded that transportation to the meal could be a problem for many of the elderly surveyed. It is recommended that another inquiry be directed to each pilot program participant to determine his exact means of transportation to the meal. Problems in transportation that are recognized should be shared with other participants in the pilot study in the hope that they can offer solutions. If solutions are not found within the elderly population, it is recommended that other persons in each community be involved in solving the problem of transportation to the school lunch.

Varied responses to health status questions and lack of information about diseases, like tuberculosis, in the surveyed populations are adequate reasons to recommend a physical examination for pilot participants in the school lunch program. The examining physician should be informed of the meal types available at school lunch and of the fact that school lunch is not prepared to feed persons special diets. It is further recommended that the examining physician be asked to indicate whether a meal at school lunch would benefit this individual.

It is concluded from observation that many respondents lived with spouse, relatives or friends under the age of 65. Therefore, it is recommended that the pilot study make a meal available to any person residing with anyone 65 years old or older.

Education level of the surveyed groups averaged below eighth grade. Therefore, it is recommended that any nutrition education effort directed toward the participants in school lunch be at the fourth through eighth grade level.

Development of a "home delivered meal" program might be recommended after a meal at school lunch has been accepted by the elderly and the

school lunch personnel of the communities.

It is concluded that the questionnaire used for this thesis research gave valuable information about the elderly. Nevertheless there are adjustments that this researcher would recommend to future studies of elderly populations. These are included in Appendix C.

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APPENDIX A

LETTERS

STATE OF NEW MEXICO
DEPARTMENT OF EDUCATION — EDUCATION BUILDING
SANTA FE - 87501

July 6, 1972

LEONARD J. DE LAYO
SUPERINTENDENT OF PUBLIC INSTRUCTION

Mrs. Peggy R. Ford, R.D.
Oklahoma State University
Department of Food, Nutrition and
Institution Administration
Stillwater, Oklahoma 74074

Dear Mrs. Ford:

In case you haven't come across it, the School Foodservice Journal, Vol. XXVI, No. 8, Sept. 1971, carried an article, Feeding the Elderly: the Baby of School Lunch which described programs in New Mexico, Wisconsin, Montana and Connecticut.

A number of research projects regarding elderly food programs have been carried on throughout the country. For information about these, write to:

1. Dr. Marvin Paves, Head of Title IV Demonstration Programs, R & S Social Rehabilitation Services, Department of Health, Education and Welfare, Washington, D. C.

   This was the granting agency; they probably can supply you with research methods, data and results.

2. EMKI Research Institute, 9015 Fulbright Avenue, Chatsworth, California.

   Dr. Urmer of this organization conducted research under grants from the above agency in communities throughout the country to determine how elderly food programs should be carried out.

No such research was carried out in Santa Fe before the program began its operations. The Senior Citizens under the auspices of OEO got together with the school district; the need was there and action was taken.

Hope this information will be of assistance in your proposed research projects. Here in New Mexico we already are tooling up to begin more such programs under P.L. 92-258.

Sincerely yours,
Mary E. Jewell
(Mrs.) Mary E. Jewell, R.D.
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July 6, 1972

Mrs. Peggy R. Ford, R.D.
Oklahoma State University
Department of Food, Nutrition
and Institution Administration
Stillwater, Oklahoma 74074

Dear Mrs. Ford:

I am sending you a copy of a talk which I have given which explains the feeding of the elderly in our Brookline schools. I hope that this will be of some value to you.

If you have any further questions, I will be glad to answer them for you.

Sincerely,

Marion L. Cronan

Marion L. Cronan
Director of Homemaking
and School Food Services

MH.

MLC/mh
Enclosure

APPENDIX B

GLENCOE QUESTIONNAIRE AND

EXPLANATION OF ADJUSTMENTS IN GLENCOE QUESTIONNAIRE

CODE_____

QUESTIONNAIRE___PART I

NAME:_____CITY:_____PHONE:_____

ADDRESS:_____F:_____M:_____

___1. Do you eat most of your meals:
1. alone
2. with spouse
3. with friends
4. with relatives

___2. What foods do you usually eat between 5 a.m. and 10 a.m.?

NO.	FOODS	SERVINGS
___	Fruit juices (_____)	1 2 3 4
___	Fruit (_____)	1 2 3 4
___	Cooked vegetables (_____)	1 2 3 4
___	Raw veg.-salads (_____)	1 2 3 4
___	Potatoes (_____)	1 2 3 4
___	Meat (_____)	1 2 3 4
___	Poultry (_____)	1 2 3 4
___	Fish-shellfish (_____)	1 2 3 4
___	Eggs (_____)	1 2 3 4
___	Dry beans or peas (_____)	1 2 3 4
___	Peanut butter or nuts (_____)	1 2 3 4
___	Milk (_____)	1 2 3 4
___	Cream (_____)	1 2 3 4
___	Cheese (_____)	1 2 3 4
___	Ice Cream (_____)	1 2 3 4
___	Milk Desserts (_____)	1 2 3 4
___	Bread (_____)	1 2 3 4
___	Pastas (_____)	1 2 3 4
___	Cereal (_____)	1 2 3 4
___	Pies (_____)	1 2 3 4
___	Cakes (_____)	1 2 3 4
___	Cookies (_____)	1 2 3 4
___	Crackers (_____)	1 2 3 4
___	Rolls (_____)	1 2 3 4
___	Butter or margarine (_____)	1 2 3 4
___	Cooking fats or oils (_____)	1 2 3 4
___	Salad dressings (_____)	1 2 3 4
___	Jam, jellies, candy (_____)	1 2 3 4
___	Syrup, honey, molasses, sugar (_____)	1 2 3 4
___	Beverages (_____)	1 2 3 4
___	Flavored gelatin (_____)	1 2 3 4
___	Soup (_____)	1 2 3 4

CODE_____

____. What foods do you usually eat between _____ and _____.

NO.	FOODS	SERVINGS
___	Fruit juices (_____)	1 2 3 4
___	Fruit (_____)	1 2 3 4
___	Cooked vegetables (_____)	1 2 3 4
___	Raw veg.-salads (_____)	1 2 3 4
___	Potatoes (_____)	1 2 3 4
___	Meat (_____)	1 2 3 4
___	Poultry (_____)	1 2 3 4
___	Fish-shellfish (_____)	1 2 3 4
___	Eggs (_____)	1 2 3 4
___	Dry beans or peas (_____)	1 2 3 4
___	Peanut butter or nuts (_____)	1 2 3 4
___	Milk (_____)	1 2 3 4
___	Cream (_____)	1 2 3 4
___	Cheese (_____)	1 2 3 4
___	Ice Cream (_____)	1 2 3 4
___	Milk deserts (_____)	1 2 3 4
___	Bread (_____)	1 2 3 4
___	Pastas(_____)	1 2 3 4
___	Cereals (_____)	1 2 3 4
___	Pies (_____)	1 2 3 4
___	Cakes (_____)	1 2 3 4
___	Cookies (_____)	1 2 3 4
___	Crackers (_____)	1 2 3 4
___	Rolls (_____)	1 2 3 4
___	Butter or margarine (_____)	1 2 3 4
___	Cooking fats or oils (_____)	1 2 3 4
___	Salad dressing (_____)	1 2 3 4
___	Jams, jellies, candy (_____)	1 2 3 4
___	Sirup, honey, molasses, sugar (_____)	1 2 3 4
___	Beverages (_____)	1 2 3 4
___	Flavored gelatin (_____)	1 2 3 4
___	Soup (_____)	1 2 3 4
___	Bacon (_____)	1 2 3 4
___	Nothing eaten (_____)	1 2 3 4

CODE_____

____5. Would you say that the preceeding comments about food represents your usual eating pattern?
1. Yes
2. No

____6. Do your food habits change on the weekends:
1. Yes
2. No

____7. If your answer to number 6 is yes, then in what ways do your eating patterns change?

____8. Would you say your appetite is:
1. Poor
2. Fair
3. Good
4. Too good

____9. Do you have trouble eating any foods? Eg. - corn on the cob
1. Yes
2. No

____10. If your answer to number 9 is yes, then what is it that causes the eating problem?
1. Dentures
2. Poor digestion
3. No teeth
4. _____

____11. When was the last time you saw a doctor?
1. Last week
2. Last month
3. Six months ago
4. One year ago
5. Over one year ago

____12. Are you now on a special diet prescribed by a doctor?
1. Yes
2. No

____13. What type of diet are you on?_____

____14. Are you taking any medication?
1. Yes
2. No

____15. What type of medication are you taking? _____

____16. Are you taking vitamin or mineral supplements?
1. Yes
2. No

CODE_____

____17. What kind of supplements are you taking?_____

____18. Is it easy for you to get to the grocery store?
1. Yes
2. No

____19. How do you get to the grocery store?
1. Walk
2. Drive
3. Take a taxi
4. Call for delivery
5. Go with relatives
6. Go with friends and neighbors

____20. Do you have a source of food other than the grocery store?
1. Garden
2. Friends
3. Family
4. _____

____21. How often do you exercise?
1. Daily
2. Every other day
3. Weekly
4. _____

____22. What are your present activities?
1. Housework
2. Gardening
3. Walking
4. Babysit
5. Hobbies _____
6. _____

QUESTIONNAIRE____PART II

____1. Do you know anyone who has eaten at school lunch?
1. Yes
2. No

____2. What is your impression of school lunch?
1. It is convenient
2. It is expensive
3. The food is appealing
4. No opinion
5. _____

____3. Have you heard of school lunch programs that serve meals to adults at a special time each day?
1. Yes
2. No

CODE_____

____4. A program such as this could be offered at no charge or at a minimal charge. Which would you prefer?
1. No charge
2. Minimal charge

____5. If there was a minimal charge, when would it be most convenient for you to pay the charge?
1. Daily
2. Weekly
3. Monthly

____6. If available, how often would you be interested in eating a noon meal at a school cafeteria?
1. Five days a week
2. Three days a week
3. Less than three days a week
4. Not at all

____7. Would it be easy for you to reach _____school which is _____blocks away?
1. Yes
2. No

____8. How would you get to a noon meal at the school lunch?
1. Walk
2. Drive
3. Take a taxi
4. Ride with a friend

____9. Would a meal at the school lunch be useful to you at a later date?
1. Yes
2. No

____10. Have you heard of a hot noon meal being delivered to people confined to their homes?
1. Yes
2. No

____11. Do you think that such a delivered meal would help you?
1. Yes
2. No

QUESTIONNAIRE____PART III

____1. Please tell us generally your total yearly income.
1. Below $2000
2. $2-3000
3. $3-5000
4. Over $5000
5. No response

CODE_____

____2. What is your main source of income?
1. Social security
2. Retirement
3. Welfare
4. _____

____3. Approximately how much of your income do you spend on food weekly? _____

____4. What year were you born? _____

____5. Where were you born?
1. Oklahoma
2. _____

____6. How long have you lived in this town? _____

____7. Are you now:
1. Married
2. Single
3. Widowed
4. Divorced
5. Separated

____8. Which most nearly described the number of school years you completed?
1. Less than 4th grade
2. Fourth-eighth
3. Nineth-twelfth
4. High school graduate
5. Attended college
6. College graduate

____9. Is there any way you can be reached by phone?
1. Yes How? _____
2. No

____10. Note racial ethnic group.
1. Mexican American
2. Black American
3. American Indian
4. Oriental
5. _____

____11. Note interviewee's physical condition.
1. Excellent
2. Good
3. Fair
4. Poor
5. Disabled
6. _____

CODE_____

____12. Note interviewee's mental condition
1. Excellent
2. Good
3. Fair
4. Poor
5. Totally dis-oriented

____13. Do you have neighbors about your age?
1. Yes
2. No

____14. Would you mind if we came again and visited with you?
1. Yes
2. No

EXPLANATION OF ADJUSTMENTS IN GLENCOE QUESTIONNAIRE

The preceding questionnaire was administered at the Community Center in Glencoe, Oklahoma to nine members by two of the interviewers. The following adjustments were made in the questionnaire to make it more usable when administered in Shawnee and Morrison, Oklahoma.

PART I

Question 10. Because teeth in poor repair were observed among the elderly interviewed, the statement "Teeth in poor repair" was added as a possible answer.

Question 20. As a result of the Glencoe Responses, it was evident that "Commodities" were a significant source of food stuff and the term was added.

PART II

Question 3. The word "adult" was changed to "people your age" because "adult" to the elderly meant teachers and parents of children in school.

Added Question. "If not at all interested, why?" became Question 7 in the revised questionnaire, because knowledge of why the elderly were not interested in a meal at school lunch would not be obtained.

PART III

Question 1. This question was eliminated because dollar value of yearly income apparently was not significant.

Question 2. This question was expanded to include the more varied sources and combinations of income that were reported in Glencoe and became Question 1.

Question 3. It was observed that the added category of "monthly" was needed.

Question 6. To evaluate answers to this question when using the computer, it was decided to divide the answers into spans of years.

Question 10, 11, 12. The form of these questions was changed because in Glencoe, some respondents were reading the questions as the interviewers checked them. Therefore, it was considered better to code judgements of this nature. Coding was accomplished by using the top right corner of the front page of the questionnaire in the following manner:

C____was used to number the interviewee.

P____represented interviewee's physical condition with numbers being assigned: 1. Good, 2. Fair, 3. Poor, 4. Disabled.

M____represented the interviewee's mental state with numbers being assigned: 1. Good, 2. Fair, 3. Poor, 4. Totally disoriented.

E____represented ethnic background with the following numbers being assigned: 1. White, 2. Indian, 3. Black, 4. Other.

Added Coded Information

B____was used to denote "build" of persons being interviewed, with the following numbers assigned: 1. Slight,

2. Medium, 3. Stocky, 4. Obese.

Question 13. This question became Question 9 in the revised questionnaire and "over 65" was used as a guide to age of neighbors. This was clarified because "about your age" did not reflect the total population sought in this study when talking to an 80 year old person.

APPENDIX C

MORRISON, SHAWNEE QUESTIONNAIRE

RECOMMENDED ADJUSTMENTS IN MORRISON, SHAWNEE QUESTIONNAIRE

C___P__M__E__B__

QUESTIONNAIRE___PART I

NAME:_____CITY:_____PHONE:_____

ADDRESS:_____F:___M:___

___1. Do you eat most of your meals:

1. Alone
2. With spouse
3. With friends
4. With relatives

___2. What foods do you usually eat between 5 a.m. and 10 a.m.?

NO.	FOODS	SERVINGS
___	Fruit juices (_____)	1 2 3 4
___	Fruit (_____)	1 2 3 4
___	Cooked vegetables (_____)	1 2 3 4
___	Raw Veg.-salads (_____)	1 2 3 4
___	Potatoes (_____)	1 2 3 4
___	Meat (_____)	1 2 3 4
___	Poultry (_____)	1 2 3 4
___	Fish - shellfish (_____)	1 2 3 4
___	Eggs (_____)	1 2 3 4
___	Dry Beans or peas (_____)	1 2 3 4
___	Milk (_____)	1 2 3 4
___	Cream (_____)	1 2 3 4
___	Cheese (_____)	1 2 3 4
___	Ice Cream (_____)	1 2 3 4
___	Milk Desserts (_____)	1 2 3 4
___	Bread (_____)	1 2 3 4
___	Pastas (_____)	1 2 3 4
___	Cereal (_____)	1 2 3 4
___	Pies (_____)	1 2 3 4
___	Cakes (_____)	1 2 3 4
___	Cookies (_____)	1 2 3 4
___	Crackers (_____)	1 2 3 4
___	Rolls (_____)	1 2 3 4
___	Butter or margarine (_____)	1 2 3 4
___	Cooking fats or oils (_____)	1 2 3 4
___	Salad Dressing (_____)	1 2 3 4
___	Jam, jellies, candy (_____)	1 2 3 4
___	Syrup, honey, molasses, sugar (_____)	1 2 3 4
___	Beverages (_____)	1 2 3 4
___	Flavored gelatin (_____)	1 2 3 4
___	Soup (_____)	1 2 3 4
___	Bacon (_____)	1 2 3 4
___	Nothing Eaten	

CODE_____

____. What foods do you usually eat between _____ and _____.

NO.	FOODS	SERVINGS
___	Fruit juices (_____)	1 2 3 4
___	Fruit (_____)	1 2 3 4
___	Cooked vegetables (_____)	1 2 3 4
___	Raw veg.-salads (_____)	1 2 3 4
___	Potatoes (_____)	1 2 3 4
	Meat (_____)	1 2 3 4
___	Poultry (_____)	1 2 3 4
___	Fish-shellfish (_____)	1 2 3 4
___	Eggs (_____)	1 2 3 4
___	Dry beans or peas (_____)	1 2 3 4
___	Peanut butter or nuts (_____)	1 2 3 4
___	Milk (_____)	1 2 3 4
___	Cream (_____)	1 2 3 4
___	Cheese (_____)	1 2 3 4
___	Ice Cream (_____)	1 2 3 4
___	Milk deserts (_____)	1 2 3 4
___	Bread (_____)	1 2 3 4
___	Pastas (_____)	1 2 3 4
___	Cereals (_____)	1 2 3 4
___	Pies (_____)	1 2 3 4
___	Cakes (_____)	1 2 3 4
___	Cookies (_____)	1 2 3 4
___	Crackers (_____)	1 2 3 4
___	Rolls (_____)	1 2 3 4
___	Butter or margarine (_____)	1 2 3 4
___	Cooking fats or oils (_____)	1 2 3 4
___	Salad dressing (_____)	1 2 3 4
___	Jams, jellies, candy (_____)	1 2 3 4
___	Sirup, honey, molasses, sugar (_____)	1 2 3 4
___	Beverages (_____)	1 2 3 4
___	Flavored gelatin (_____)	1 2 3 4
___	Soup (_____)	1 2 3 4
___	Bacon (_____)	1 2 3 4
___	Nothing eaten	

CODE _____

____. What foods do you usually eat between _____ and _____.

NO.	FOODS	SERVINGS
___	Fruit juices (_____)	1 2 3 4
___	Fruit (_____)	1 2 3 4
___	Cooked vegetables (_____)	1 2 3 4
___	Raw veg.-salads (_____)	1 2 3 4
___	Potatoes (_____)	1 2 3 4
___	Meat (_____)	1 2 3 4
___	Poultry (_____)	1 2 3 4
___	Fish-shellfish (_____)	1 2 3 4
___	Eggs (_____)	1 2 3 4
___	Dry beans or peas (_____)	1 2 3 4
___	Peanut butter or nuts (_____)	1 2 3 4
___	Milk (_____)	1 2 3 4
___	Cream (_____)	1 2 3 4
___	Cheese (_____)	1 2 3 4
___	Ice Cream (_____)	1 2 3 4
___	Milk desserts (_____)	1 2 3 4
___	Bread (_____)	1 2 3 4
___	Pastas (_____)	1 2 3 4
___	Cereals (_____)	1 2 3 4
___	Pies (_____)	1 2 3 4
___	Cakes (_____)	1 2 3 4
___	Cookies (_____)	1 2 3 4
___	Crackers (_____)	1 2 3 4
___	Rolls (_____)	1 2 3 4
___	Butter or margarine (_____)	1 2 3 4
___	Cooking fats or oils (_____)	1 2 3 4
___	Salad dressings (_____)	1 2 3 4
___	Jams, jellies, candy (_____)	1 2 3 4
___	Sirup, honey, molasses, sugar (_____)	1 2 3 4
___	Beverages (_____)	1 2 3 4
___	Flavored gelatin (_____)	1 2 3 4
___	Soup (_____)	1 2 3 4
___	Bacon (_____)	1 2 3 4
___	Nothing eaten	

CODE_____

____. What foods do you usually eat between _____ and _____.

NO.	FOODS	SERVINGS
___	Fruit juices (_____)	1 2 3 4
___	Fruit (_____)	1 2 3 4
___	Cooked vegetables (_____)	1 2 3 4
___	Raw veg.-salads (_____)	1 2 3 4
___	Potatoes (_____)	1 2 3 4
___	Meat (_____)	1 2 3 4
___	Poultry (_____)	1 2 3 4
___	Fish-shellfish (_____)	1 2 3 4
___	Eggs (_____)	1 2 3 4
___	Dry beans or peas (_____)	1 2 3 4
___	Peanut butter or nuts (_____)	1 2 3 4
___	Milk (_____)	1 2 3 4
___	Cream (_____)	1 2 3 4
___	Cheese (_____)	1 2 3 4
___	Ice Cream (_____)	1 2 3 4
___	Milk desserts (_____)	1 2 3 4
___	Bread (_____)	1 2 3 4
___	Pastas (_____)	1 2 3 4
___	Cereals (_____)	1 2 3 4
___	Pies (_____)	1 2 3 4
___	Cakes (_____)	1 2 3 4
___	Cookies (_____)	1 2 3 4
___	Crackers (_____)	1 2 3 4
___	Rolls (_____)	1 2 3 4
___	Butter or margarine (_____)	1 2 3 4
___	Cooking fats or oils (_____)	1 2 3 4
___	Salad dressings (_____)	1 2 3 4
___	Jams, jellies, candy (_____)	1 2 3 4
___	Sirup, honey, molasses, sugar (_____)	1 2 3 4
___	Beverages (_____)	1 2 3 4
___	Flavored gelatin (_____)	1 2 3 4
___	Soup (_____)	1 2 3 4
___	Bacon (_____)	1 2 3 4
___	Nothing eaten	

CODE_____

____6. Would you say that the preceeding comments about food represents your usual eating pattern?
1. Yes
2. No

____7. Do your food habits change on the weekends?
1. Yes
2. No

____8. If your answer to number 7 is yes, then in what ways do your eating patterns change? _____
_____.

____9. Would you say your appetite is:
1. Poor
2. Fair
3. Good
4. Too good

____10. Do you have trouble eating any foods? Eg. - corn on the cob
1. Yes
2. No

____11. If your answer to number 10 is yes, then what is it that causes the eating problem?
1. Dentures
2. Poor digestion
3. No teeth
4. Teeth in poor repair
5. _____.

____12. When was the last time you saw a doctor?
1. Last week
2. Last month
3. Six months ago
4. One year ago
5. Over one year ago

____13. Are you now on a special diet prescribed by a doctor?
1. Yes
2. No

____14. What type diet are you on?_____

____15. Are you taking medication now?
1. Yes
2. No

____16. What type medication are you taking?_____

CODE_____

____17. Are you taking vitamin or mineral supplements?
1. Yes
2. No

____18. What kind of supplements are you taking?_____

____19. Is it easy for you to get to the grocery store?
1. Yes
2. No

____20. How do you get to the grocery store?
1. Walk
2. Drive
3. Take a taxi
4. Call for delivery
5. Go with relatives
6. Go with friend or neighbor

____21. Do you have a source of food other than the grocery store?
1. Garden
2. Friends
3. Family
4. Commodities
5. _____

____22. How often do you exercise?
1. Daily
2. Every other day
3. Weekly
4. _____

____23. What are your present activities?
1. Housework
2. Gardening
3. Walking
4. Babysit
5. Hobbies
6. _____

QUESTIONNAIRE ____PART II

____1. Do you know anyone who has eaten at school lunch?
1. Yes
2. No

____2. What is your impression of school lunch?
1. It is convenient
2. It is expensive
3. The food is appealing
4. No opinion
5. _____

____3. Have you heard of school lunch programs that served meals to people your age at a special time each day?
1. Yes
2. No

____4. A program such as this could be offered at no charge or at a minimal charge. Which would you prefer?
1. No charge
2. Minimal charge

CODE_____

____5. If there was a minimal charge, when would it be most convenient for you to pay the charge?
1. Daily
2. Weekly
3. Monthly

____6. If available, how often would you be interested in eating a noon meal at a school cafeteria?
1. Five days a week
2. Three days a week
3. Less than three days a week
4. Not at all

____7. If not at all interested, why?
1. Prefer to cook
2. On a special diet
3. No transportation
4. Too expensive
5. _____

____8. Would it be easy for you to reach _____school which is _____ blocks away?
1. Yes
2. No

____9. How would you get to a noon meal at the school lunch?
1. Walk
2. Drive
3. Take a taxi
4. Ride with a friend

____10. Would a meal at the school lunch be useful to you at a later date?
1. Yes
2. No

____11. Have you heard of a hot noon meal being delivered to people confined to their homes?
1. Yes
2. No

____12. Do you think that such a delivered meal would help you?
1. Yes
2. No

QUESTIONNAIRE___PART III

____1. What is your source of income?
1. Social security
2. Retirement
3. Welfare
4. Private source of income
5. Social Security & welfare
6. Retirement & social security
7. Private source of income & social security
8. _____

CODE_____

____2. Approximately how much of your income do you spend on food?
1. Monthly _____
2. Weekly _____

____3. What year were you born? _____

____4. Where were you born?
1. Oklahoma
2. _____

____5. How long have you lived in this town?
1. Less than 5 years
2. 5-10 years
3. 10-15 years
4. Over 15 years

____6. Are you now:
1. Married
2. Single
3. Widowed
4. Divorced
5. Separated

____7. Which most nearly describes the number of school years you completed?
1. Less than 4th grade
2. Fourth - eighth
3. Ninth - twelfth
4. High school graduate
5. Attended college
6. College graduate

____8. Is there any way you can be reached by phone?
1. Yes How?_____
2. No

____9. Do you have neighbors over 65?
1. Yes
2. No

____10. Would you mind if we came again and visited with you?
1. Yes
2. No

RECOMMENDED ADJUSTMENTS IN MORRISON-SHAWNEE QUESTIONNAIRE

Experience using the preceeding questionnaire resulted in the following recommendations for changes:

PART I.

Question 12. This question could record more information if a check of kind of doctor seen is included, i.e., Medical, dental, eye, other. This could give a better indication of total physical state of the individual.

Question 15. The word "medication" is broadly interpreted by the public to include patent medicine. Maybe "prescribed medication" would be a better term. How many of the prescribed medicines are being taken also could be useful information.

Question 23. An added category of "no activity" might provide revealing data.

PART II.

Question 2. The people questioned were skeptical of the motive behind this question, therefore, many chose to have "No Opinion". If this question is retained, special efforts should be made to put the respondents at ease, so that they really give their impression of school lunch.

Question 4. Add "No Opinion" to the possible answers and add space for comments.

Question 6. The sequence of questions seems "off" at this point. Question 6 might fit better after Question 3.

Question 12. This question would be more useful tabulated for:

Now___Yes___No___, Later___ Yes___No___.

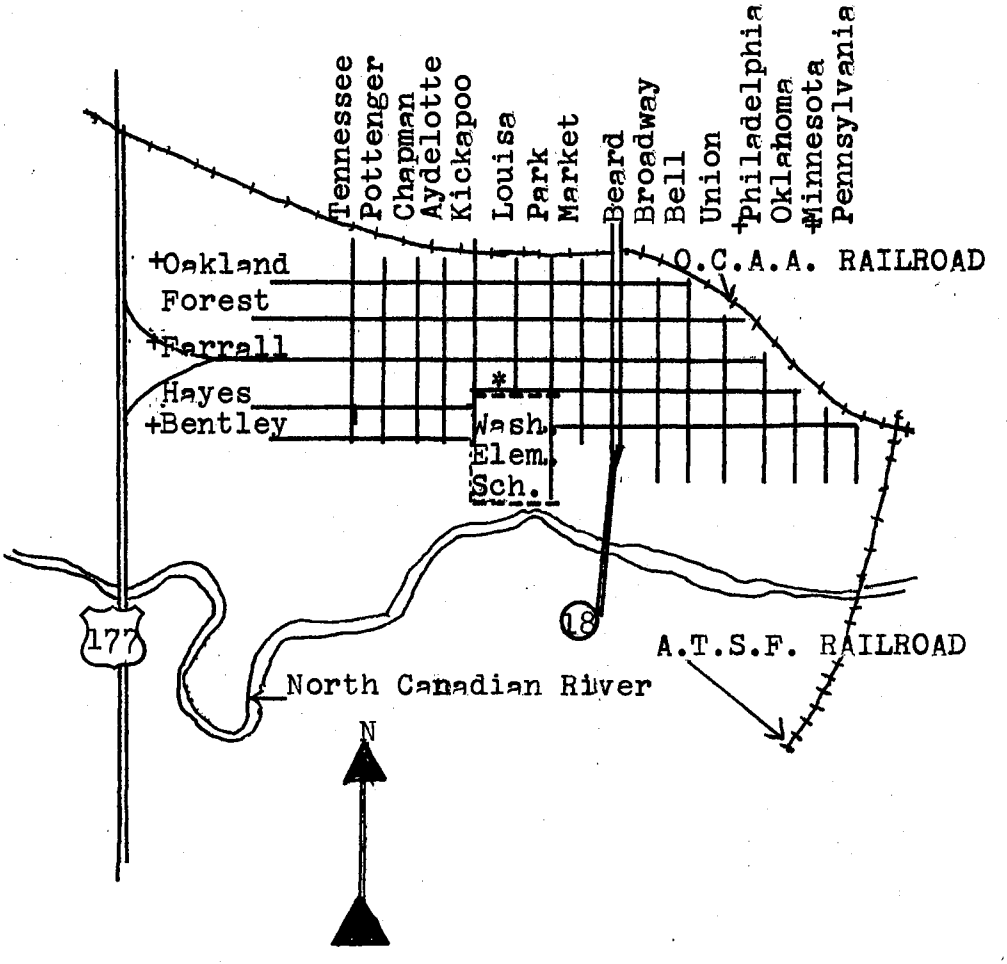
PART III.

Question 5. Spans of years were not descriptive enough of the population surveyed. Additional spans could be considered, such as 15-24, 25-34, 35 and longer.

APPENDIX D

MAP OF SHAWNEE SURVEY AREA

SHAWNEE SURVEY AREA



* = Beginning point of survey

\+ = Streets not surveyed

VITA

Peggy Rison Ford

Candidate for the Degree of

Master of Science

Thesis: DEFINING POSSIBILITIES FOR FEEDING THE ELDERLY IN TWO SCHOOL LUNCH PROGRAMS OF OKLAHOMA

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Personal Data: Born in Jonesville, Louisiana, August 12, 1936, the daughter of Pierce J. and Alda R. Rison. Married Miller C. Ford, Jr. February 4, 1961.

Education: Graduated from Block High School, Jonesville, Louisiana, May, 1954; received Bachelor of Science degree in Home Economics from Louisiana Tech University, Ruston, Louisiana, June, 1957; completed Dietetic Internship, Barnes Hospital, St. Louis, Missouri, August, 1958; completed requirements for a Master of Science degree with a major in Food, Nutrition and Institution Administration from Oklahoma State University, May, 1973.

Professional Experience: Assistant Administrative Dietitian, Barnes Hospital, St. Louis, Missouri, September, 1958 to January, 1961; Assistant to the Chief of Dietetic Services, Veterans Administration Hospital, Fayetteville, Arkansas, February, 1961 to February, 1962; Teaching Assistant in Department of Home Economics, University of Arkansas, Fayetteville, Arkansas, January, 1963 to May, 1971; Consulting Dietitian for up to eight hospitals and nursing homes in Northwest Arkansas, October, 1965 to December, 1971; Graduate Assistant in Food, Nutrition and Institution Administration, Oklahoma State University, September, 1971 to present.

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