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PATTERNS OF HEALTH CARE UTILIZATION, LEVELS OF
HEALTH KNOWLEDGE AND HEALTH ATTITUDES IN A
RURAL OKLAHOMA COMMUNITY

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PATTERNS OF HEALTH CARE UTILIZATION, LEVELS OF
HEALTH KNOWLEDGE AND HEALTH ATTITUDES IN A
RURAL OKLAHOMA COMMUNITY

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CHAPTER I

INTRODUCTION

Health problems arising from the unequal distribution of health care services have won the increasing attention of the nation over the past twenty to thirty years (1). The condition whereby health services are not adapted to current social conditions is referred to as "cultural lag." While the lag in health services has affected America as a whole, it has been most extreme in the rural sections of our country. Today it is clear that the benefits of modern health care are much more available in cities than they are in rural areas. There have been many opinions voiced as to the cause of this disparity. A few of the key factors are: (a) medical facilities have followed the population shift from rural to urban areas; (b) wealth has tended to concentrate in the urban areas, and many rural areas are characterized by poverty and subsistence living. Therefore, the physician believed that he was able to make a better income in urban than in rural practice and as a result, even in prosperous rural areas, there has been great difficulty in recruiting and retaining physicians. The Committee on Rural Medical

Service (2) found that inadequate income and economic factors were not a principal cause of the shortage of medical personnel in rural areas; (c) medical care has become more complex and expensive. Hospitals, technical equipment, and specialized paramedical personnel are considered more and more essential to adequate care. These are resources that could be supported only in urban centers; (d) the cost of medical education has increased so that increasingly only youths from well-to-do city families could enter medical school. With this kind of social background it is not likely that young physicians would settle in a rural community.

Differences have also been noted in the health status of the residents of urban and rural areas. During World War II, it appeared that draft rejection rates for physical and mental defects were higher among rural youth (2). Infant and maternal mortality rates and deaths from most of the preventable diseases are higher in rural areas than in large cities. Although not conclusive, data also suggest that the frequency and duration of illness is higher for rural populations. While both urban and rural health have improved over the past fifty years, the rate of improvement of rural health has been appreciably slower (2).

Discrepancies also exist between urban and rural regions with respect to health services, especially in: (a) health personnel, (b) health facilities, (c) adequate financial support of services, and (d) quality of services.

Since the beginning of modern medicine, rural areas have experienced difficulty attracting and keeping qualified medical

manpower (3). Despite the greater ease of transportation and communication there is a large disparity between physician-population ratios in urban and rural areas. In 1960, for example, there was an average of 158.4 non-federal practicing physicians per 100,000 population in large metropolitan counties compared to an average of 47.4 practicing physicians per 100,000 population in isolated rural areas (4). Similarly, the rural areas are supplied with proportionately smaller numbers of dentists, nurses, technicians, and every other class of health personnel, except possibly chiropractors (5).

Public health departments in rural areas are usually poorly financed and badly understaffed. In many rural areas health departments are non existent. Laboratories and pharmacies are proportionately fewer in rural sections.

Rural areas are also served by fewer general and special hospital beds. Rural hospitals have been built over the years primarily through local community efforts. The lower income of rural sections has meant less funds and fewer hospital beds proportionate to population than in cities. The rural deficiencies have been greatest in general hospitals under the control of non-profit and governmental agencies. Programs of medical care for the needy are more meagerly supported in rural counties than in larger cities. Community Chest and other charitable sources of funds for medical care to the medically indigent tend to be meager in rural areas. Hospital outpatient departments and wards for inpatients which give free or low cost care to low income persons in the big cities are usually unavailable in most rural districts.

For many years it has been recognized that the handicaps of

rural medical resources in personnel and facilities have yielded an inferior quality of service for rural people (5). Many rural physicians do not have the benefits of professional stimulation of colleagues and post-graduate medical education. Periodic re-examination of physicians for new licensure has been suggested as a device to encourage rural and urban doctors to keep abreast of new developments. Group practice has been suggested as another means of intellectual professional stimulation. However, group practice is localized in urban areas where specialists are concentrated.

It is obvious that there is no single solution to the health care problems of rural areas. It is increasingly apparent that approaches to relieving these problems must be ecological in nature and adaptable to the changing physical and social environment in which men live.

Literature Review

No clear-cut line separates rural health problems from urban health problems or rural medical care from urban medical care. As health and medical care become more and more centralized in the urban areas, how does this affect the health care available to the people in a small rural community? What are their health care utilization patterns? What is their level of health knowledge? What are their attitudes toward illness and health care professionals? What social and cultural factors influence the patterns of health care utilization, health knowledge and attitudes among rural residents?

A review of the literature pertinent to these questions points to a need for viewing health as a process. We are entering a period in

which medicine and the social sciences need to work together in an increasing degree. Contemporary disease patterns require a drastic change in society's methods of providing health care for the public. The intricate balance of biological, physical, social and psychological factors in the individual's total environment needs to be taken into account simultaneously when considering the definitions of health and illness. Man, his health and his environment comprise a complex system made up of several interdependent sub-systems, i.e., biological, physical, social and psychological (6). Factors in the physical environment act directly or indirectly on the health of man, often restricting his social development. While the biological environment includes all living agents which affect man's health, the dominant feature of this environment is the system of food chains which includes all plants and animals along with man. The particular part of the environmental complex which arises from association of man with his fellow man is recognized as the social component. Dobzhansky (7) accords the social component a primary role among influences affecting health. Of particular importance are the interrelationships between the social environment and health problems. Poverty, poor housing, air pollution, alcoholism, mental disorders, chronic diseases, crime and delinquency and venereal disease are not separate problems, and their interdependent effects need special attention. At this time there is still some resistance among both laymen and health professionals to considering the total environment in the etiology of disease. Ironically, social and cultural factors themselves are largely responsible for this resistance. The value system of a society helps to shape the public

attitudes, beliefs and behavior in regard to health and illness, and health institutions reflect society's definition of what constitutes an acceptable and appropriate organization of health activity. However, we are now witnessing changes in the attitudes and beliefs of the people toward health, and health institutions have been slow to adapt to changing societal needs.

In an analysis of the concept of the evolution of health care, Anderson and Rosen (8) delineate six patterns of disease over the past 1,000 years: (a) leprosy and plague; (b) louse-borne disease and syphilis; (c) gastrointestinal diseases; (d) tuberculosis and the communicable diseases of childhood; (e) cardiovascular, renal diseases, malignant neoplasms, and accidents; and (f) psychosomatic diseases. Social and cultural factors have become increasingly important in the patterns of disease as they have changed throughout human history. Dubos (9) has suggested a broad view of health and disease in which disease is considered an expression of man's difficulty in adapting to his environment. Diseases today are chiefly man-made, resulting from the things man does to himself and what he does to his environment. Paralleling these changing patterns of disease, Gregg (10) divides the history of health into three major eras: (a) the era of authority--from antiquity to the beginning of medical science; (b) the era of research, experimentation and treatment of specific disease; and (c) the era of ecology--the current era in which the whole patient and the community, rather than the disease itself, become the focus of medical attention.

As the acute communicable diseases have been brought under control, there has been a corresponding increase in the importance of

the chronic degenerative diseases. Social factors are especially important in the etiology, treatment and prevention of these latter diseases (11). Specific infectious agents are being replaced by social and psychological processes as "causes" of disease while changes in one's way of life have become a crucial factor in the treatment of chronic diseases. In addition, the "stress" of modern living and the weakening of institutions and sources of social support have increased the importance of mental illness as a health problem. The rising incidence of alcoholism and drug use are also symptoms of this trend. In recent years interest has grown in the study of the behavioral aspects of health problems. All of the environmental factors (social, biological, physical) must be viewed with an open-system model of multiple causality. According to this model, social factors are analyzed as only one part of a complex causal mechanism in which no single factor is a sufficient explanation of the occurrence of disease. The acceptance of an open-system, multi-causal model of traditional medical and health research is of basic importance to ecologic research (12). Today social causal factors are qualified as being predisposing, contributing, or precipitating, and the disease process is viewed as involving a multi-causal network. Even within this network the reaction of any factor may also be dependent upon other factors being present. It should not be forgotten that social causal factors are usually found in conjunction with biological and physical variables. Most current theories concerning the process through which social factors become related to disease hypothesize that social factors affect the disease state only indirectly either through stress situations that produce emotional reactions

accompanied by physiological change, or through changes in the individual himself that make him more susceptible to the disease (13). Although environmental factors can have direct pathological effects, the more common situation is that disease and incapacity arise from the response of the body or mind to the detrimental forces (9). In other words, disease is usually a reaction to, rather than a direct effect of, the adverse stimulus.

Gregg (10) has said that disease represents a maladjustment of the human organism to his environment. When this maladjustment is due to social factors in the environment, as it is for many of the chronic and mental disorders, then how man lives becomes as important as where he lives in determining his state of health. The importance of these socio-environmental conditions for man's health can be seen in the higher rates of disease, higher infant mortality, and lower life expectancy found in the slums of urban areas (14). Faris and Dunham (15), in one of the earliest ecological studies of mental illness, stated that high rates of first hospital admissions for a number of psychoses were found in areas characterized by low socioeconomic status and high residential mobility. Hollingshead and Redlich (16) found that one's social class was intimately related to the type of mental illness he experienced and the type of treatment he received. Other studies have investigated the relationship of social factors to heart disease, cancer, and arthritis (17).

Traditionally, health studies have been concerned with differences in disease rates according to sex, age, and race. More recently health surveys have begun to collect data on such additional factors as

social class, education, occupation, marital status, religion, family composition, and organization membership. One of the factors receiving the greatest attention, and which has proven essential in understanding health as a social process, is socioeconomic status. As one of the major indicators of where and how people live, socioeconomic status could be expected to influence the entire disease process from exposure to pathogenic agents to resistance to them. Equally important is the effect of socioeconomic status on the individual's definition of what constitutes illness, his health care utilization patterns, his level of health knowledge, and the medical treatment he receives (18, 19, 20).

Koos (21) found that lower socioeconomic groups were less likely to perceive symptoms such as loss of appetite, loss of weight, persistent backache and continued cough as needing medical attention. He also reported that the higher the social class, the higher the percentage of the families having a family physician. Individuals in the lower socioeconomic classes were also more likely to use non-medical personnel such as chiropractors for health problems. The use of dentists was substantially more common among the upper socioeconomic classes than among the lower classes.

There are a wide range of variables related to use of medical care. Anderson (22) has stated that the use of health services is basically a function of age and sex. Available age and sex rates indicate that utilization is lower for males than females and increases with age. Regarding the use of physicians it has been reported that the usage pattern is U-shaped with the greatest usage in age groups under five and over 65. Ross (23) postulated a relationship between visits

to a physician, family income and education. Families with low income and educational levels paid fewer visits to physicians for preventive medical services such as prenatal and postnatal care, physical exams and immunizations than did those with higher incomes and educational levels.

Gregg (24) observed that persons from lower socioeconomic classes make less use of medical and dental facilities than do persons from the upper social classes.

Mechanic (25) stated that use of medical facilities and services depends basically upon two factors: (a) the availability of care, then, if it is available, and (b) the willingness to use the service. The willingness to use services is influenced not only by economic factors, but also by health attitudes and behavior, health knowledge, attitudes toward illness and health agencies, ability to recognize symptoms and social and cultural definitions of health. All of these factors are tied to the individual's life style or socioeconomic class. Mechanic noted that most data on utilization showed a direct relation between socioeconomic status and usage.

In other studies affecting the decision to seek medical care, Cobb (26) disclosed that education, fear, social class, and life style were the major forces contributing to patient delay in treatment for cancer. The more highly educated and the upper social classes were less likely to delay seeking health care. A national study on health beliefs (40) found that low social classes were less accurate in their perceived seriousness of symptoms and their susceptibility to disease than were higher social classes.

Friedson (27) and Davis (28) related the importance of the patient-physician relationship in an individual's decision to seek and continue health care. Low socioeconomic groups had more difficulty establishing a comfortable relationship with the physician and were more suspicious of medical care than were the upper social classes.

Suchman (29), in a study relating social structure to medical orientation, stated that lower social classes were more parochial and less scientifically oriented toward health and medical care and were less likely to use medical services. He also found less knowledge about disease, higher skepticism toward medical care, and greater dependency in illness among lower socioeconomic groups and minority groups.

In a study of public knowledge about health and illness, education was found to be the prime factor related to knowledge; women generally had more health knowledge than men; and knowledge and age were inversely related (30).

Samora, Saunders, and Larsen (31) in a carefully controlled experiment on knowledge of medical terms among hospital out-patients reported that education and age were the most important variables in being well informed on medical terms. Education was directly related to knowledge while age was inversely related.

Graham (19) stated most studies show the greatest amount of illness in the lower socioeconomic class; however, this group is hospitalized least and consults physicians less. He found only small differences between the social classes in a study conducted in Butler County, Pennsylvania.

Apple (18) found that laymen defined illness as some ailment

of recent onset that interfered with their usual activities. Lower social classes were less likely to define chronic ailments as illness and more likely to delay seeking help for these conditions. Mechanic (32) outlined several variables that affect help-seeking in illness; among these were: (a) information the individual had about illness, (b) availability of treatment resources, and (c) the social characteristics of the individual.

Koos' findings (21) led to the formulation of the present study. He conducted an extensive health survey in a community in the Northeastern United States of approximately 6,000 - 8,000 population. The study was designed to determine what the people in the community thought and did about health and illness. He interviewed about 500 households to determine illness experience; use of physicians, hospitals, dentists and medical personnel; attitudes about health care; and ability to recognize symptoms as needing medical attention. Significant differences were found between the social classes with respect to these areas.

The primary purpose of the present study was twofold: (a) to replicate portions of Koos' study in a small rural Oklahoma community which is relatively isolated from medical care services; and (b) assess the impact and projected utilization of a recently established health center in the community. It was felt that these data might be valuable in planning community health centers in other rural areas.

Background of Present Study

Reflecting a vital interest in the rural health care problem the University of Oklahoma Medical Center initiated "Project Responsibility." The philosophy underlying this project was presented before the

19th National Conference on Rural Health sponsored by the American Medical Association's Council on Rural Health at Colorado Springs, Colorado, March 18, 1966 (33). In summary the philosophy was that:

Available medical and health services are as essential to living in the semi-isolated rural areas as they are in the large urban areas. Although families in rural communities want, need and expect to have health services available within a reasonable measure of time and distance, it was found that there were many communities and even large areas of Oklahoma where there were no medical doctors. All evidence indicated the same to be true for many other, if not most states. Why? The answer is complex, but some reasons are obvious.

Twenty years ago almost every family had access to a family doctor who was revered as an individual. Then came astonishing medical scientific advances, specialization, industrialization, a shift of the young from rural to urban living, more and larger hospital and medical centers, better roads and transportation, the population explosion and many other factors. A survey of selected counties in New York, reported by the Committee on Rural Medical Service, showed that the major causes of physician dissatisfaction with rural practice included such problems as long, unrelieved working hours, inadequate time to study or to attend meetings, lack of hospital appointments, and the lack of education stimuli generally found around hospitals, medical centers and clinics. It seemed apparent that income and economic factors had little to do with physicians' dissatisfaction with rural practice (33).

In 1964, Dr. James L. Dennis, Dean of the University of Oklahoma Medical School, after making an overview of medical services in Oklahoma, issued a statement of the mission and medical-social responsibilities of the Medical Center. Dr. Dennis presented "Project Responsibility" which was set out as a four phase program as a means of meeting these responsibilities (33). Phase one would inventory health personnel in the State and identify areas of shortage. Phase two would project current and anticipated health needs of the State. Phase three would re-evaluate the Medical School curriculum and training program based on

the existing health needs. Phase four would provide a pilot program to supply medical services to a rural area based on the modern concept of family medicine. The purpose was to study and gain facts on how to efficiently provide high quality health care in a rural setting, to attract and keep family physicians in rural areas, and to develop a University approved program in family medical care. The Wakita Community Health Center evolved from phase four of the program. This health facility called for a forty-seven bed nursing home and extended care facility, a seven bed hospital for acute but non-surgical illness, an emergency room, an obstetrical delivery room, laboratory and x-ray facilities, office and out-patient clinic facilities for three physicians, and a pharmacy all under one roof. Surgical patients and serious cases would be transported to the nearest approved completely equipped and staffed hospital. The physicians would have teaching appointments at the Medical Center and would return regularly for teaching and learning experiences. The three physicians were to be an internist, a pediatrician, and a well-trained general practitioner whose combined talents would provide comprehensive family medical care. The project was endorsed by the Oklahoma Chapter of the American Academy of General Practice and the Oklahoma State Medical Association.

On May 20, 1965, Dr. Thomas C. Points was named coordinator of the project. Within two and one half months, twenty-three communities had expressed interest in the project. Some of the communities were eliminated because they presently had a physician. Other communities were eliminated for various reasons until there were only three communities still being considered. The Medical Center was eager that the project be placed in a progressive community that would fully support

the center; however, they did not want the project to turn into a bidding contest to see who could raise the most money. All communities had assured the Medical Center that they could adequately finance construction. Dr. Points visited all the communities under consideration and was impressed with Wakita's civic pride and excellent record of community achievement. Wakita was finally selected as the site for the center.

The story of Wakita's campaign to be named the site of the Community Health Center and their fund raising campaign is remarkable. It is an excellent example of community commitment, civic pride, and hard work. Wakita had been without a physician since 1964. Prior to that time they had had a medical doctor for at least twenty years. There are conflicting reports why the last medical doctor left Wakita; however, there may be a connection between the seemingly conflicting reasons. Poor health was the reason given by the physician for leaving Wakita; the University of Oklahoma Medical Center in its report on the Wakita project said the physician left because of overwork and lack of relief by another physician. Of course, both of these reasons may be involved in his decision to leave. In any case the community felt a real need for a physician in the community and set out to recruit one. They were planning to build office and clinic space for a physician when they heard of the University of Oklahoma Medical Center's plans for "Project Responsibility." Wakita mounted an active campaign for the center, headed by Mr. John D. Williams and Mr. Speed Elliott. Under the leadership of these two men, brochures on Wakita and "Project Responsibility" were prepared and the idea of the center was sold to the

community. These two men also presented Wakita's plan to the Medical Center. Wakita Industries was formed to help finance the health center and to attract new industry to the area. Wakita Industries sold shares of stock in the corporation and raised approximately \$200,000 toward the cost of the center. Practically every person in the community and the surrounding area bought into the project. Most of them did not expect any return on their investment and viewed it as their responsibility to their community. Revenue bonds for the remaining \$400,000 were sold to the local bank and to banks in Enid and Oklahoma City. The whole effort was a community project and reflected the people's interest and dedication to solving their health care problem.

The ground breaking was set for September 16, 1967. Although not fully completed the dedication was held in September, 1968, and after many disheartening experiences and financial setbacks, the Center was completed in December, 1968. A full-time administrator, Mr. Jim Feist, was hired in August, 1968.

At the time information was collected for this study, the Center was not operating at its full potential; this was due primarily to the short time the Center had been open and the fact that no full-time, permanently located physician had been recruited for the Center. The physician at the Center, on a temporary basis, was very well accepted by the people in the community and was beginning to feel the pressure of no relief. When the Center obtains at least two full-time physicians, it can begin to function according to its initial plan.

Objectives and Contribution of the Present Study

As previously mentioned it is well known that medical and

health care is becoming more and more centralized in urban areas. Consequently, most studies on health utilization, health knowledge and health attitudes have been carried out in urban or suburban areas.

The primary objective of this study was to delineate the health care utilization patterns, levels of health knowledge, and attitudes toward health, illness and health professionals in a rural setting. Results of this study will be compared with the findings of Koos' (21) study in Regionville to identify any significant differences or similarities in the usage patterns in two different geographical areas. Health information data will be compared with the results of a study by Samora, Saunders, and Larson in a hospital setting (31). In the author's review of the literature no study was found that simultaneously examined health care utilization, health knowledge, and health attitudes and their interrelationships.

A secondary objective of this study was to gather baseline data on the health status of the community. Prior to this work no information was available on the health status of Wakita concerning health care utilization, health knowledge and attitudes, immunization, chronic diseases, health insurance, and health care costs. Due to the unique nature of the Wakita Health Center and the intention of the University of Oklahoma Medical Center to utilize it as a research setting, this study will provide baseline data for subsequent studies which could assess the impact and use of the center over time.

The Community

Wakita is a community of 452 people located in northwest Grant County, Oklahoma, about 130 miles northwest of Oklahoma City and about

16 miles from Medford on State Highway 11A, in the center of a prosperous wheat growing, oil and gas producing region (34).

Grant County, organized in 1907 when Oklahoma was admitted to statehood, was named for President Ulysses S. Grant and covers approximately 999 square miles (35). Grant County is located in the extreme north central portion of Oklahoma bordering Kansas. The population of the county reached its peak of 18,760 in 1910, but since that time the population has continually declined (36) and according to the 1960 U.S. Census numbered 8,140. While the county is actively engaged in attracting new industry and expansion of existing facilities, there has been no single employer hiring over 100 persons or requiring those of special skills to move into the area. With the present human and natural resources such as water, natural gas, oil, recreational facilities and lakes, highway transportation, and an available labor supply, Grant County has excellent potential to move forward. The per capita income in 1967 for Grant County was \$4,604 which was second highest of the 77 counties in Oklahoma (37). The average annual rainfall is 28.27 inches with May, June, and July being the months with the highest average rainfall. The average growing season is 194 days. The mean monthly temperatures range from a high of 83.2°F in July to a low of 36.0°F in January (35).

Wakita is governed by an elected, three-member board of trustees. The board elects a chairman from its membership who acts as mayor.

In 1966 assessed value of property in Wakita was \$414,429 and the municipal indebtedness was \$213,500 (36).

In the area of transportation, Wakita is served by the Santa Fe Railroad and a freight lines trucking company. However, there is no

railroad passenger service or any other public passenger transportation available to Wakita.

Fire protection is provided by a 12-man volunteer fire department. A night watchman provides the police protection. The town owns and operates a natural gas distribution system consisting of six and one-half miles of lines serving the immediate area. Water is obtained from two wells six miles southwest of town and a storage reservoir with a capacity of 260,000 gallons is located one and one-half miles southwest of town. Elevated storage of 50,000 gallons is provided in town. The water supply appears to be adequate for the next twenty years. The sewage collection system consists of a system containing 10-inch, 8-inch, and 6-inch lines. A lift station pumps the sewage to the treatment plant northwest of town. Treatment of sewage is by bar screen, Imhoff tank, trickling filter, settling tank, sludge digester, and sludge drying beds.

For the five years prior to the establishment of the Community Health Center there was no medical doctor in Wakita or in Grant County; however there were two osteopaths, one chiropractor, and three dentists within the county (35). Other than the seven beds available for non-surgical cases in the Health Center, there are no hospitals in the county. Persons from Wakita must travel to Enid, 45 miles; Blackwell, 40 miles; Cherokee, 32 miles; Caldwell, Kansas, 31 miles; or Anthony, Kansas, 26 miles for hospitalization. At the present time there is no organized county health department in Grant County.

Table 1 shows the age and sex distribution of the total population of Wakita. Females outnumber males by about 10 percent. The overall median age of the population is 37.3, 34.7 for males and 40.0

for females. The 24 and under and 65 and over age groups make up the two largest age groups in the community.

TABLE 1
AGE AND SEX DISTRIBUTION OF TOTAL POPULATION
OF WAKITA, OKLAHOMA

Age Group	Total No. (%)	Male No. (%)	Female No. (%)
24 and under	175 (38.7)	79 (38.3)	96 (39.0)
25 - 34	41 (9.1)	25 (12.1)	16 (6.5)
35 - 44	43 (9.5)	21 (10.2)	22 (8.9)
45 - 54	59 (13.1)	30 (14.5)	29 (11.8)
55 - 64	46 (10.2)	18 (8.7)	28 (11.4)
65 and over	88 (19.5)	33 (16.0)	55 (22.4)
Total	452	206 (45.6)	246 (54.4)
Median Age	37.3	34.7	40.0

Source: 1960 U.S. Census

Wakita's school system has twenty fully qualified teachers, eight of whom hold master's degrees. The enrollment for grades one to twelve is 253 students. The high school is accredited for forty-two units of study by the State Department of Education. The school is located on a 26-acre site purchased in 1949.

The community has four churches representing four different denominations: Methodist, Catholic, Christian, and Baptist. The key civic organization is the Lions Club which also acts as the Chamber of Commerce. The Lions Club, organized in 1929, has a very successful record in directing many community activities pointed toward civic improvement.

CHAPTER II

RESEARCH METHODS

Sample

The number of households in Wakita was determined by driving through the town and taking an actual count. From the total number of 250 households it was decided, due to time and expense factors, to interview 125 or 50 percent of the households in Wakita. Every household in town was numbered from 1 to 250 and the 125 households were chosen by using a table of random numbers. After the first 125 households were selected, an additional pool of 25 random selections was made to serve as substitutes in the event a household originally selected was vacant or no one responded. If a house was vacant then that house was replaced by one in the substitute pool. If there was no response, at least five additional calls were made before a substitution was made.

There were no refusals among the 125 households contacted. This is somewhat unusual since most surveys of this type can anticipate a minimum of 5 percent refusals. The author made two visits to the community before beginning the study. During this time the author met with community leaders and was assured of the community's cooperation. Stories were carried in the local newspaper of the intention to conduct the study. The people in Wakita were generally informed about the study;

specific information about the nature of the study was not conveyed. There was much interest in participating in the study since many people thought it might be beneficial to the Community Health Center. The community was small enough that the "word" about the survey quickly spread. The interviewer wore a name tag and carried a letter identifying him as a graduate student at the University of Oklahoma School of Health.

Four substitutions were made because of no response and five substitutions were made due to vacancy. One interview was discontinued by the interviewer when it became apparent that the respondent was not cooperative and the validity of some answers was questionable. The respondent, an elderly man, was confused and suspicious about the interview.

The average time for completion of the questionnaire was approximately 45 minutes with a minimum of 35 minutes and a maximum of one hour and 20 minutes.

The interviews were conducted by the author with the head of the household or spouse during July, 1969. The 125 respondents were comprised of 98 females and 27 males. This sex distribution was not unexpected since most of the interviews were conducted during the day when the husbands were not at home. Since this study was primarily concerned with health information of the household and the wife is considered a reliable source of health information in most households, the sex distribution was compatible with the design of the study.

About 40 percent or 48 of the households selected for interview contained children between the ages of one month and 21 years.

These households had a total of 126 children which represented an average of 2.6 children per household. About 29 percent of these 48 households had only one child living at home; 29 percent had two children; 17 percent had three children and 17 percent had four. Only 8 percent of the households with children had more than five children at home. No one reported having more than six children living at home.

The information received was recorded on an interview schedule. The data were subsequently coded, tabulated, key punched, and analyzed by the computer facility of the University of Oklahoma Medical Center.

Interview Schedule

A questionnaire was developed to collect the desired information on the health status of the community. The major areas of interest were health care utilization patterns, factors considered in the selection of a physician, chronic disease experience, health insurance coverage and health care costs, health knowledge and information, immunization levels, recognition of health needs in the community, information on the Community Health Center, attitudes regarding health care, sick role dependency and skepticism of medical care, as well as data on social class, income, age, sex, marital status, and residential mobility. The questionnaire is shown in Appendix A.

Pre-test

The questionnaire was pre-tested twice in two different settings. It was tested initially in a county health department on individuals coming to the health department for immunization clinic. Ten people (eight females and two males) were interviewed. Questions which

were unclear were modified. After these revisions the questionnaire was pre-tested in April, 1969, in Washington, Oklahoma, a small rural community in McClain County about fifteen miles from Norman. Washington had a population of about 300 with an age and sex distribution similar to Wakita. Like Wakita there is no physician in Washington. Twenty-five households were randomly selected to be interviewed--21 of the interviewees were females and 4 were males. The interviews were conducted to determine the time required to administer the questionnaire, the clarity of questions, and the attitude of the person interviewed toward the specific questions. The interviews were well received, and after minor revisions the final questionnaire was completed.

Health Utilization

Information regarding health utilization was elicited in several ways during the interview. The respondent was initially queried about how he viewed his present health status and whether or not he had a family doctor. Questions were then asked concerning the use of medical doctors, osteopaths, chiropractors, dentists, religious healers, Christian Science practitioners, the time since the last visit, reason for the visit, place of the visit, and the number of visits in the past year. If the respondent had never visited a particular type of healer, he was asked if he would object to doing so. Previous hospitalization experience was recorded as well as the extent of health insurance coverage and health care costs. Questions on chronic disease experience, smoking habits, preventive health care, and family immunization histories comprised the remainder of the utilization section.

Health Knowledge

Health knowledge was measured by the number of correct answers to a series of questions regarding specific diseases and a list of medical terms. Questions were asked about the etiology and symptomatology of tuberculosis, cancer, stroke, stomach ulcers, heart disease, asthma, leukemia, diabetes, and arthritis. In addition, general information was elicited with respect to fluoridation, rubella, obesity, air pollution, auto accidents, pasteurization of milk, and cigarette smoking. These areas of inquiry were selected because they constitute some of the major health problems confronting the United States and the solutions to many of these health problems are dependent upon a well-informed public. A panel of three physicians reviewed the questions prior to the survey to ascertain if this was the type of information they expected a layman to know and if the questions could be considered a reasonable test of the health knowledge of a lay person. Another key factor in assessing health knowledge is the perception of health problems or health needs by the residents of the community. Each respondent was asked to identify what he felt were the health needs and problems existing in Wakita. Finally, each respondent was asked to define a list of twenty medical terms. These terms were selected from a published study (31) which assessed patient's definitions of fifty medical terms selected by a large panel of physicians and were words that physicians used when talking with patients.

Attitude Scales

The section on health attitudes contained data on degree of satisfaction with physician, factors considered important in the

selection of a physician, opinions about medicare and extension of medicare to age groups under 65, and attitudes toward the Community Health Center. Three attitude scales were administered: (a) skepticism of medical care, (b) sick role dependency, and (c) denial of sick role. For each of the scales respondents were presented with statements having stipulated response alternatives ranging from strongly agree to strongly disagree on a six-point, Likert-type scale. The responses were scored ranging from one to six for each statement; all statement scores were added to obtain the total attitude score for each of the three scales and on the basis of the distribution of the scores were grouped for statistical analysis into one of four categories: (a) high, (b) medium high, (c) medium low, and (d) low.

The skepticism scale, developed by Suchman (29), contains three statements which deal with the doubts the individual has about the claims of professional medicine and his desire to check on who the physician is and what he is doing. The three statements are items a, b, and c in question 61 of the interview schedule shown in Appendix A. The higher the score the higher the degree of skepticism toward medical care.

The dependency in illness scale, also developed by Suchman (29), measures the need of the sick individual to rely upon other lay individuals for help and support during illness. These items are shown in question 61, items d through i, in the interview schedule. A high score indicates that the respondent is very dependent in the sick role and is likely to enter the sick role more easily and maintain the sick role longer than a person with a low score.

The denial of sick role scale, developed by Kassebaum (39), denotes a restraint on the part of the individual in accepting the sick role possibly as a defense mechanism when it may be threatening to the individual. These items are shown in items j through m in question 61 of the interview schedule. A high score indicates denial of the sick role, that is, a reluctance to enter the sick role and a likelihood to delay seeking medical care when needed.

Data were analyzed utilizing an analysis of variance (41). The level of significance was set at the 0.05 confidence level for all analyses.

Social class was computed using Hollingshead's (38) "Two Factor Index of Social Position" based on the occupation and education of the household head. Social Class I represents the highest social position in the social structure and Social Class V, the lowest. Since only four respondents fell into Social Class I and ten in Social Class II, these were combined to form a single group for the purposes of analysis. In general, Social Classes I, II, and III can be regarded as "white collar" and Social Classes IV and V as "blue collar."

Characteristics of Sample

Since the purpose was to obtain a random sample of households and the majority of respondents at home during the day were women, females are overrepresented in the sample. As can be seen in Table 2, females make up 78.4 percent and males 21.6 percent of the sample. Over two thirds of the sample are 45 years of age and older and one third are over age 65 among both sexes.

TABLE 2

AGE AND SEX DISTRIBUTION OF THE WAKITA SAMPLE

Age	Total (N=125) No. (%)	Male (N=27) No. (%)	Female (N=98) No. (%)
24 and under	8 (6.4)	2 (7.4)	6 (6.1)
25 - 34	17 (13.6)	2 (7.4)	15 (15.3)
35 - 44	13 (10.4)	3 (11.2)	10 (10.2)
45 - 54	26 (20.8)	7 (25.9)	19 (19.4)
55 - 64	18 (14.4)	4 (14.8)	14 (14.3)
65 and over	43 (34.4)	9 (33.3)	34 (34.7)
Total	100.0	21.6	78.4
Median Age	53.6	50.5	54.1

It should be noted that there is a considerable difference between the median age of the population of Wakita previously shown in Table 1 and the sample. This difference may be accounted for in the sampling technique. The respondents in the study were limited to the head of the household or the spouse. This automatically eliminated most of those persons under 24 years of age from selection in the sample. Therefore, when the median age is calculated, the total population of Wakita includes all individuals regardless of age while the sample includes only the heads of households or spouses, the large majority of whom are over 24 years of age. This accounts for the difference in median ages between the sample and the population. When the figures are adjusted for this difference the percentages in each age category are almost identical in the population and the sample.

Social Class

Social Class by age is shown in Table 3. In general the

community could be characterized as a "blue-collar" community with 64 percent of the inhabitants being in Social Classes IV and V. Social Class I-II consists of slightly over 10 percent of the sample, classes III and V comprise about 25 percent and 20 percent respectively of the sample, and Social Class IV about 43 percent of the sample. Social Class IV has the greatest number of persons under age 34 and class V has the greatest proportion of persons over age 55.

TABLE 3
DISTRIBUTION OF AGE BY SOCIAL CLASS

Age	Total (N=125) No. (%)	Social Class			
		I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)
24 and under	8 (6.4)	-	2 (6.5)	5 (9.3)	1 (3.8)
25 - 34	17 (13.6)	3 (21.4)	2 (6.5)	12 (22.2)	-
35 - 44	13 (10.4)	1 (7.1)	8 (25.8)	3 (5.5)	1 (3.8)
45 - 54	26 (20.8)	2 (14.3)	7 (22.6)	15 (27.8)	2 (7.8)
55 - 64	18 (14.4)	2 (14.3)	4 (12.9)	5 (9.3)	7 (26.9)
65 and over	43 (34.4)	6 (42.9)	8 (25.8)	14 (25.9)	15 (57.7)
Total	100.0	11.2	24.8	43.2	20.8

Education

The respondents were asked to give the highest grade they had completed in school. Sixty-seven percent of the sample had attained at least a highschool education. Almost 17 percent had attended from one to three years of college; 5.6 percent were college graduates; and 3.2 percent had post graduate training. Only three percent had less than six years of schooling. The percentages of men and women who had at

least a highschool education were almost equal. Table 4 shows these results. A higher proportion of men than women had college degrees. Slightly over 7 percent of the men and 2 percent of the women did graduate work. A higher percentage of women than men had from one to three years of college. Ninety-two percent of the people who had less than a highschool education fell into the three upper age categories, 45 to 65 and over. On the other hand, 33 percent of those who had some college education were in the over 65 group and of those with graduate work one fourth were in the over 65 category. The middle three age categories,

TABLE 4
DISTRIBUTION OF EDUCATIONAL LEVEL BY SEX

Educational Level	Total (N=125) No. (%)	Male (N=27) No. (%)	Female (N=98) No. (%)
0 - 6 years	4 (3.2)	1 (3.7)	3 (3.1)
7 - 9 years	25 (20.0)	6 (22.2)	19 (19.4)
10 - 11 years	12 (9.6)	2 (7.4)	10 (10.2)
Highschool graduate	52 (41.6)	11 (40.8)	41 (41.8)
College 1-3 years	21 (16.8)	3 (11.1)	18 (18.4)
College graduate	7 (5.6)	2 (7.4)	5 (5.1)
Post graduate work	4 (3.2)	2 (7.4)	2 (2.0)

25 to 45, made up the majority of those who had highschool and college degrees. As would be expected over three fourths of Social Class I-II had college degrees and twenty percent had undertaken graduate work. No one in class V had more than a highschool education, although 25 percent had graduated from highschool.

Income

Income was obtained by giving the respondent a card containing the income categories shown in Table 5. The respondent was asked to give the letter next to the category which best described his or her total family income for the past year. None of the respondents refused to give this information.

The median income for the sample was \$5,000 - \$6,999. No respondent reported an income of less than \$1,000. Almost one fourth of the respondents indicated incomes of \$10,000 or more. Nearly one half of the respondents who make less than \$3,000 a year are 65 or older, while two thirds of those with incomes in excess of \$15,000 were between 35 and 64.

Marital Status

Married respondents comprised 68.8 percent of the sample, 24.0 percent were widowed; 4.0 percent divorced; and 3.2 percent had never married. The single and the divorced respondents all fell into Social Classes IV and V and all of the divorced were men. In classes I-II and V there were more widows and widowers than married respondents. This is probably due to a larger number of older persons in Social Classes I-II and V. In classes III and IV, 87 percent and 77 percent of the respondents were married. Only one percent of the women were single as compared with 11 percent of the men. Twenty-six percent of the women were widows, and 14 percent of the men were widowers.

Geographic Mobility

Wakita exhibits the characteristics of a stable population.

TABLE 5
DISTRIBUTION OF ANNUAL FAMILY INCOME BY AGE

Age	\$1000- 2999 No. (%)	\$3000- 4999 No. (%)	\$5000- 6999 No. (%)	\$7000- 8999 No. (%)	\$9000- 9999 No. (%)	\$10,000- 14,999 No. (%)	\$15,000 and over No. (%)
24 and under	2 (25.0)	3 (37.5)	1 (12.5)	1 (12.5)	-	1 (12.5)	-
25 - 34	-	2 (11.8)	7 (41.2)	4 (23.5)	2 (11.8)	2 (11.8)	-
35 - 44	1 (7.7)	-	1 (7.7)	2 (15.4)	1 (7.7)	5 (38.5)	3 (23.0)
45 - 54	1 (3.8)	4 (15.4)	4 (15.4)	5 (19.2)	1 (3.8)	5 (19.2)	6 (23.2)
55 - 64	1 (5.6)	4 (22.2)	4 (22.2)	4 (22.2)	-	1 (5.6)	4 (22.2)
65 and over	20 (46.5)	6 (13.9)	8 (18.6)	3 (7.0)	3 (7.0)	3 (7.0)	-
Total	25 (20.0)	19 (15.2)	25 (20.0)	19 (15.2)	7 (5.6)	17 (13.6)	13 (10.4)

*No incomes of less than \$1,000 were reported.

Two thirds of the sample had resided in Wakita for twenty or more years. About five percent of the sample had lived in Wakita for less than one year. Some interesting social class differences appear in length of residence; 50 percent of Social Class I-II had lived in Wakita twenty years or more while 80 percent of class V had resided in Wakita for twenty or more years. Also 21.4 percent of Social Class I-II had been in Wakita for one year or less with only 3.8 percent of class V having resided in Wakita for less than one year. The middle classes, III and IV, generally fall between the two extremes of classes I-II and V with respect to length of residence. Slightly more males than females had lived in Wakita for more than twenty years. Only four percent of the total sample, or five persons, had made five or more changes of residence in the last twenty years.

Due to the high percentage of persons who had lived in Wakita for many years, one might expect a large percentage of residents to have been born in the Wakita area. However, only one fourth of the sample listed Wakita or the Wakita area (10 mile radius) as their birthplace. (Even though there were no hospitals in the Wakita area, the Oklahoma State Department of Health registers birthplace as the place of residence of the parents of the newborn.) Those born in Oklahoma, but outside the Wakita area, comprised 36.8 percent of the sample, and 39.2 percent of the respondents were born out-of-state. Most of these individuals had migrated from the surrounding states of Kansas, Missouri, and Arkansas. There were no significant differences between the birthplaces of males and females; however there were some distinct social class and age differences. About two thirds of the individuals

in class V were born out-of-state and had migrated into Oklahoma; approximately one third of individuals in the other four social classes were born out-of-state. The smallest percentage of respondents who were born in Wakita are in Social Classes I-II and V (14.3 percent and 11.5 percent, respectively). The majority of individuals born in Wakita are found in class III.

CHAPTER III

RESULTS

Health Care Utilization

The first objective of this study was to determine the health care utilization patterns of the people in Wakita. The primary areas involved were the types of health care received, the frequency of visits to health and medical personnel, where the care was sought, and the kinds of health problems which prompted the seeking of health care.

Self-Rating of Health Status

Each respondent was asked to estimate his health status at the time of the interview. He was asked to respond utilizing one of the four categories: (a) excellent, (b) good, (c) fair, or (d) poor. The results are shown in Table 6. Three fourths of the sample felt that they were in either excellent or good health. Only 11.5 percent of class V and 14.3 percent of class I-II felt that their health status was excellent. While fewer respondents in Social Classes I-II and V rated their health as excellent compared to Social Classes III and IV, there may be different reasons for the similarity in rating. There may actually be fewer individuals in Social Class V in excellent health, while the low percentage (14.3 percent) seen in the excellent category of Social Class I-II may reflect a more accurate perception of what

constitutes excellent health as compared to classes III and IV. The 25-34 age category appears to have the highest rating with 100 percent of the responses being either excellent or good. As might be expected, as age increases the self-rating of excellent health decreases, with 37 percent of those age 65 and over rating their health as fair or poor.

TABLE 6
SELF-RATING OF HEALTH BY SOCIAL CLASS

Health Status	Total (N=125) No. (%)	Social Class			
		I-II	III	IV	V
		(N=14) No. (%)	(N=31) No. (%)	(N=54) No. (%)	(N=26) No. (%)
Excellent	40 (32.0)	2 (14.3)	15 (48.4)	20 (37.0)	3 (11.5)
Good	56 (44.8)	10 (71.5)	10 (32.3)	24 (44.4)	12 (46.2)
Fair	23 (18.4)	1 (7.1)	5 (16.1)	8 (14.8)	9 (34.6)
Poor	6 (4.8)	1 (7.1)	1 (3.2)	2 (3.8)	2 (7.7)

Family Doctor

The fact that a family has a family doctor suggests that they receive some kind of regular care. This idea is supported in that 88 percent of the families of respondents who said they had a family doctor had seen him in the past year. In only one case had it been longer than three years since someone in the respondent's family had visited their family physician. Almost one third of the respondents reported they had no family physician. It can be seen in Table 7 that the highest percentages of persons who do not have a family physician are in classes I-II and V. It is somewhat surprising that only 57.1 percent of Social Class I-II reported that they have a family doctor. In Koos' study over 80 percent of Social Class I reported they had a family physician; this

was by far the largest percentage reported for any social class. A possible explanation for this is that many individuals in Social Class I-II had not established a relationship with the physician in Wakita since they knew he was not going to be there permanently. However, they might have been reluctant to say they had a family physician elsewhere since this would tend to indicate a lack of support for the Community Health Center. No person in class I-II named an osteopath or chiropractor as their family doctor. Those persons with osteopaths and chiropractors as family doctors were primarily in classes IV and V.

TABLE 7
RESPONDENTS REPORTING HAVING A FAMILY DOCTOR BY SOCIAL CLASS

Family Doctor	Social Class				
	Total	I-II	III	IV	V
	(N=125) No. (%)	(N=14) No. (%)	(N=31) No. (%)	(N=54) No. (%)	(N=26) No. (%)
Yes-Medical Doctor	74 (59.2)	8 (57.1)	19 (61.3)	34 (63.0)	13 (50.0)
Yes-Osteopath	10 (8.0)	-	1 (3.2)	7 (12.9)	2 (7.7)
Yes-Chiropractor	1 (.8)	-	-	1 (1.9)	-
No	40 (32.0)	6 (42.9)	11 (35.5)	12 (22.2)	11 (42.3)

It was also of interest to determine where the family physicians were located and how far the respondent's family had to travel to see them. Wakita was given as the location of their family doctor by 45 percent of the persons who said they had a family physician. Only 3.5 percent traveled 25 miles or less to see their family doctor; 45.9 percent traveled 25-49 miles, the great majority of whom went to Enid; 7.1 percent gave the location of their family doctor as being 50 or

more miles away. The younger age groups generally traveled a shorter distance to reach their family doctor utilizing doctors in the Wakita area. Social class differences were small; however, Social Classes IV and V go outside of Wakita to see their family doctor more often than classes I-II and III. The only exception is among individuals who travel 50 or more miles, where a slightly higher percentage of Social Class I-II went this distance to see their physicians. No one in Social Class V went this far to see their physician.

In order to obtain additional information on the distance individuals in Wakita might go to seek medical care, all respondents were asked a series of questions regarding where they would go for medical care according to the severity of a health problem, that is, (a) minor health problems such as bad cold, flu, or sore throat, (b) more serious ailments such as high blood pressure or diabetes, or (c) very serious problems such as open heart or brain surgery. The results are shown in Table 8. The great majority of individuals would use the facilities in

TABLE 8
TYPE OF HEALTH PROBLEMS BY DISTANCE RESPONDENT
WOULD TRAVEL TO SEEK CARE

Type of Health Problem	Wakita No. (%)	Miles Would Travel			Don't Know No. (%)
		Less than 25 No. (%)	25 - 49 No. (%)	50 or more No. (%)	
Minor	105 (84.0)	1 (.8)	16 (12.8)	1 (.8)	2 (1.6)
Serious	76 (60.8)	1 (.8)	41 (32.8)	6 (4.8)	1 (.8)
Very Serious	6 (4.8)	-	93 (74.4)	21 (16.8)	5 (4.0)

Wakita for minor care. In the case of a more serious ailment about 60 percent would seek care in Wakita. Those seeking care outside of

Wakita primarily designated Enid as the site for medical care. In the very serious ailments only 4.8 percent would initially seek care in Wakita. Those places named as sites for medical care in excess of 50 miles were primarily Wichita, Kansas and Oklahoma City.

Use of Medical Doctor

More than 94 percent of the respondents had visited a medical doctor for medical care in the past five years. Only two people in the sample had never seen a medical doctor; one of those individuals was an elderly man who reported seeing an osteopath twenty-five or thirty years ago and only utilized osteopaths and chiropractors for health care. The other person was the daughter of an osteopath. Out of the 123 persons reported having visited medical doctors, 78 percent had made a visit in the past year. Only 4 percent of the sample had not seen a medical doctor in the past five years; all of these individuals were in either class IV or V (See Table 9).

TABLE 9

TIME SINCE LAST VISIT TO MEDICAL DOCTOR BY SOCIAL CLASS

Time Since Last Visit to M.D.	Total (N=125) No. (%)	Social Class			
		I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)
Less than 1 year	98 (78.4)	12 (85.6)	28 (90.3)	40 (74.1)	18 (69.3)
1 - 2 years	10 (8.0)	1 (7.2)	-	6 (11.1)	3 (11.5)
3 - 5 years	10 (8.0)	1 (7.2)	3 (9.7)	4 (7.4)	2 (7.7)
Over 5 years	5 (4.0)	-	-	2 (3.7)	3 (11.5)
Don't know	2 (1.6)	-	-	2 (3.7)	-

The location of the most recent visit to a medical doctor was also determined: 46 percent saw a physician in Wakita; 45 percent travelled from 25-49 miles; and 6.4 percent travelled in excess of 50 miles from Wakita.

Table 10 shows the number of visits made to a medical doctor during the past year by social class. About 18 percent of those interviewed had no visits to a physician in the last year while approximately 14 percent had seen a physician ten or more times in the past year.

TABLE 10

NUMBER OF VISITS TO MEDICAL DOCTOR IN PAST YEAR BY SOCIAL CLASS

Number of Visits	Total (N=125) No. (%)	Social Class			
		I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)
None	23 (18.4)	2 (14.3)	3 (9.7)	10 (18.5)	8 (30.8)
1	24 (19.2)	2 (14.3)	5 (16.1)	16 (29.6)	1 (3.8)
2 - 5	41 (32.8)	6 (42.8)	12 (38.7)	17 (31.5)	6 (23.1)
6 - 10	17 (13.6)	-	6 (19.4)	4 (7.4)	7 (26.9)
11 - 19	12 (9.6)	2 (14.3)	2 (6.4)	5 (9.3)	3 (11.5)
Over 20	6 (4.8)	2 (14.3)	3 (9.7)	-	1 (3.8)
Don't know	2 (1.6)	-	-	2 (3.7)	-

Social Class V leads among those with no visits to a physician in the past year with 30 percent. Social Class I-II saw physicians a greater number of times than any other social class.

Information concerning the reason for the most recent visit to a medical doctor is shown in Table 11. This table shows that the most frequently named reason for seeking medical attention was for preventive care. This category may be slightly inflated due to several responses

such as "I went in for a general checkup," when in fact the individual may have gone in for a specific reason which could have been included in some other category. When this response was given, the respondent was asked to be specific; however, several could not specify beyond a "general checkup." Sixty-four percent of the most recent visits in Social Class I-II were for preventive care while only 19 percent of the visits were for preventive care in Social Class V. Of particular interest is the fact that more individuals from class IV than class III made a recent visit to a physician for preventive care. The most frequently

TABLE 11

REASON FOR MOST RECENT VISIT TO MEDICAL DOCTOR BY SOCIAL CLASS

Reason for Visit	Social Class				
	Total	I-II	III	IV	V
	(N=125) No. (%)	(N=14) No. (%)	(N=31) No. (%)	(N=54) No. (%)	(N=26) No. (%)
Respiratory	12 (9.6)	-	3 (9.7)	5 (9.3)	4 (15.4)
Gastro Intestinal	5 (4.0)	1 (7.1)	1 (3.2)	3 (5.6)	-
Cardiovascular	11 (8.8)	1 (7.1)	3 (9.7)	3 (5.6)	4 (15.4)
Genitourinary	7 (5.6)	1 (7.1)	3 (9.7)	-	3 (11.5)
Muscular-Skeletal	17 (13.6)	-	4 (12.9)	6 (11.1)	7 (26.9)
Cancer (All kinds)	4 (3.2)	2 (14.3)	-	2 (3.7)	-
Preventive Care or Examination	47 (37.6)	9 (64.4)	8 (25.8)	25 (46.2)	5 (19.2)
Skin or Cellular Tissue	7 (5.6)	-	3 (9.7)	4 (7.4)	-
Central Nervous System	2 (1.6)	-	1 (3.2)	1 (1.8)	-
Mental or Emotional	4 (3.2)	-	1 (3.2)	2 (3.7)	1 (3.8)
Other	9 (7.2)	-	4 (12.9)	3 (5.6)	2 (7.7)

named reason in Social Class V was muscular-skeletal. Most of the ailments reported in this category were back problems; other conditions

reported were fractures of the arms and legs which occurred most often during work. Women reported a higher percentage of visits for preventive care as the reason for the latest visit to a medical doctor than men.

Use of Osteopaths

The use of osteopaths by individuals in Wakita does not reflect the social class differences that were expected. However, this may be a function of the relative unavailability of medical doctors within a reasonable distance rather than the lack of any social class difference. Table 12 shows the utilization pattern of osteopaths by social class. Slightly more than one third of the sample reported visiting an osteopath for medical care at some time. Social Class I-II shows almost twice the percentage of those affirming the use of osteopaths as compared to Social Class V. Looking at the time period since the last visit to an osteopath, there are some marked differences when compared to the same data concerning medical doctors. Less than 20 percent of those people who reported ever visiting an osteopath have done so in the past year. In slightly over 50 percent of the cases it has been from one to five years since the last visit and in 25 percent the time is more than five years. Similarly, only ten percent of the users of osteopaths have consulted an osteopath more than twice in the past year. The distance traveled to make the last visit showed that 45 percent traveled less than 25 miles, primarily to Medford; 30 percent traveled 25-49 miles, most of them either to Enid or Anthony, Kansas; and 22 percent traveled more than 50 miles. Respiratory problems were the most common reason given for the most recent visit to an osteopath. Preventive care is

the next largest category although it is ten percentage points less than the same category for medical doctors. Cardiovascular, cancer, central nervous system, and mental or emotional problems were not named as reasons for seeing an osteopath.

TABLE 12
RESPONDENTS WHO HAD SEEN AN OSTEOPATH OR CHIROPRACTOR
FOR HEALTH CARE BY SOCIAL CLASS*

	Total (N=125) No. (%)	Social Class			
		I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)
Osteopath	48 (38.4)	7 (50.0)	12 (38.7)	22 (40.7)	7 (26.9)
Chiropractor	42 (33.6)	4 (28.6)	10 (32.3)	19 (35.2)	9 (34.6)
Both	17 (13.6)	3 (21.4)	5 (16.1)	6 (11.1)	3 (11.5)
Neither	53 (42.4)	7 (50.0)	14 (45.2)	19 (35.2)	13 (50.0)

*Percentages equal more than 100 percent.

The respondents who had never visited an osteopath were asked if they would object to seeing one for health reasons; only a little over one third said they would object. In Social Class I-II, 62 percent of the respondents objected to going to an osteopath for care; in Social Class III, 47 percent had objections; class IV, 25 percent; and class V, 37 percent. These figures show that objections to consulting osteopaths for medical care are class related.

Use of Chiropractors

The proportion of persons who have utilized chiropractors (33%) is only 5 percent less than for the utilization of osteopaths (38%). All social classes show less utilization of chiropractors compared to

osteopaths with the exception of class V where there is an 8 percent increase in utilization. Table 12 shows these results. Social Class I-II reveals that more than one fourth of this group has utilized a chiropractor for care. A key factor is the time since the last visit to a chiropractor. Slightly more than 20 percent who reported ever visiting a chiropractor had seen one in the last year while for 40 percent of the sample, it had been more than five years since their last visit. Among the group who had seen a chiropractor in the past year about 30 percent had made more than five visits. Half of those persons traveled from 25 - 49 miles, a little less than 30 percent went less than 25 miles, and about 20 percent went 50 miles or more. The primary reason for visiting a chiropractor was for muscular-skeletal problems, primarily back problems. All other reasons show very small percentages. Table 13 compares the reasons for visits to medical doctors, osteopaths, and chiropractors.

Individuals who had never used chiropractors for health problems were asked if they would object to seeing one for health care; the responses were about equally distributed, about half objected and the other half did not object. However, in Social Class I-II, 90 percent of the respondents said they would object going to a chiropractor.

Use of Dentists

Only one individual in the sample had never visited a dentist. Of the 124 individuals who had seen a dentist more than one half had done so in the past year. Almost twice as large a percentage of Social Class I-II (79%) had seen a dentist in the past year as compared to class V (42.3%). In general, the lower the social class the longer it

TABLE 13

REASON FOR MOST RECENT VISIT TO MEDICAL DOCTOR,
OSTEOPATH, OR CHIROPRACTOR

Reason for Visit	Medical Doctor No. (%)	Osteopath No. (%)	Chiropractor No. (%)
Respiratory	12 (9.6)	14 (29.8)	1 (2.4)
Gastro Intestinal	5 (4.0)	5 (10.6)	1 (2.4)
Cardiovascular	11 (8.8)	-	-
Genitourinary	7 (5.6)	2 (4.2)	-
Muscular-Skeletal	17 (13.6)	8 (17.0)	36 (85.6)
Cancer (All kinds)	4 (3.2)	-	-
Preventive Care or Examination	47 (37.6)	13 (27.8)	2 (4.8)
Skin or Cellular Tissue	7 (5.6)	4 (8.5)	-
Central Nervous System	2 (1.6)	-	-
Mental or Emotional	4 (3.2)	-	1 (2.4)
Other	9 (7.2)	1 (2.1)	1 (2.4)

had been since a person had seen a dentist. Medford was the site of the most recent dental visits for 26 percent of the sample; towns from 25-49 miles from Wakita such as Pond Creek, Enid, and Anthony, Kansas were the places for dental care in about 60 percent of the cases; 14 percent traveled more than 50 miles for their most recent dental care. The reasons for the last visit to a dentist may be seen in Table 14. The most striking fact is that almost all of the individuals consulting dentists for orthodontic or restorative work were from class I-II.

Use of Christian Science Practitioners
and Religious Healers

With the exception of one individual who had called on a Christian Science practitioner about ten years previously, no one

TABLE 14

REASON FOR LAST VISIT TO DENTIST BY SOCIAL CLASS

Reason for Visit	Social Class				
	Total	I-II	III	IV	V
	(N=125) No. (%)	(N=14) No. (%)	(N=31) No. (%)	(N=54) No. (%)	(N=26) No. (%)
Filling	23 (18.4)	1 (7.1)	5 (16.1)	13 (24.1)	4 (15.4)
Extraction	13 (10.4)	2 (14.3)	1 (3.2)	8 (14.8)	2 (7.7)
Examination or Checkup	37 (29.6)	4 (28.6)	13 (41.9)	14 (25.9)	6 (23.1)
Dentures	42 (33.6)	3 (21.4)	10 (32.3)	16 (29.6)	13 (50.0)
Orthodontic or Restorative Work	6 (4.8)	4 (28.6)	-	2 (3.7)	-
Other	4 (3.2)	-	2 (6.5)	1 (1.9)	1 (3.8)

reported visiting a religious healer or Christian Science practitioner for health care. All respondents were asked if they would object to doing so; 87 percent said they would object to seeing a Christian Science practitioner and 94 percent related they would object to seeing a religious or faith healer. The remainder stated they were either uncertain, or might visit a healer or practitioner under some circumstances, such as a very serious ailment that had not responded to conventional medical treatment. The great majority of individuals who did not object to the use of Christian Science practitioners and faith healers were in Social Classes IV and V, and in general had fewer years of education than those objecting to calling on healers or practitioners.

Hospitalization Experience

Hospitalization experience was determined by asking the respondent if he had been formally admitted to a hospital for at least

an overnight stay; 93.6 percent of those interviewed had been hospitalized at some time during their life. Of the remaining eight persons who had never been hospitalized, four were from Social Class IV; four from Social Class V; three were males; five were females; and half of them were age 65 or over. Only 13.7 percent of those who had hospitalization experience had been hospitalized in the past year (See Table 15). It had been more than five years since 38.4 percent of those having hospital experience had been hospitalized. The highest proportion of those who had been in the hospital in the past year and those that had not been in the hospital in the past five years are found in Social Classes I-II and V.

TABLE 15
TIME SINCE LAST HOSPITALIZATION BY SOCIAL CLASS

Time Since Last Hospitalization	Total (N=117) No. (%)	Social Class			
		I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=50) No. (%)	V (N=22) No. (%)
Under 1 year	16 (13.7)	3 (21.4)	2 (6.5)	7 (14.0)	4 (18.2)
1 - 2 years	29 (24.8)	4 (28.6)	9 (29.0)	11 (22.0)	5 (22.7)
3 - 5 years	27 (23.1)	-	12 (38.7)	12 (24.0)	3 (13.6)
Over 5 years	45 (38.4)	7 (50.0)	8 (25.8)	20 (40.0)	10 (45.5)

The reasons for the most recent hospitalization are shown in Table 16. Genitourinary problems are the most prevalent reasons for hospitalization. However, childbirth is included in this category and accounted for the higher proportion of female admissions in this category. There were no significant social class differences in reasons for hospitalization. Men lead women in muscular-skeletal, respiratory,

TABLE 16

REASON FOR LAST HOSPITALIZATION BY SEX

Reason for Admission	Total (N=117) No. (%)	Male (N=26) No. (%)	Female (N=91) No. (%)
Examination or Checkup	3 (2.6)	-	3 (3.3)
Cardiovascular	9 (7.7)	2 (7.7)	7 (7.7)
Muscular-Skeletal	14 (11.9)	7 (26.9)	7 (7.7)
Respiratory	11 (9.3)	4 (15.4)	7 (7.7)
Gastrointestinal	13 (11.1)	4 (15.4)	9 (9.9)
Genitourinary, including Delivery	32 (27.3)	1 (3.8)	31 (34.1)
Central Nervous System	2 (1.7)	1 (3.8)	1 (1.1)
Mental illness	3 (2.6)	1 (3.8)	2 (2.1)
Cancer	2 (1.7)	2 (7.7)	-
Unspecified Surgery	16 (13.7)	2 (7.7)	14 (15.4)
Other	12 (10.4)	2 (7.7)	10 (11.0)

gastrointestinal, mental disorders, and cancer as reasons for hospitalization. More than 25 percent of those hospitalized were admitted in hospitals located more than fifty miles from Wakita; 72 percent were taken to hospitals 25-49 miles from Wakita; and 2 percent were hospitalized in Wakita.

Health Insurance and Health Care Costs

With increasing costs of medical care the importance of having health insurance becomes more and more important especially to low income groups. In this study health insurance refers to family coverage which provides both hospital and physicians' services. The quality or extent of coverage was not determined. Table 17 shows that more than 88 percent of those interviewed had health insurance. This is a fairly high rate for health insurance coverage and is reflected in all the

TABLE 17

FAMILIES REPORTING HEALTH INSURANCE BY SOCIAL CLASS*

Health Insurance	Total (N=125) No. (%)	Social Class			
		I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)
Yes	111 (88.8)	13 (92.9)	27 (87.1)	49 (90.7)	22 (84.6)
No	14 (11.2)	1 (7.1)	4 (12.9)	5 (9.3)	4 (15.4)

*For this question each of the 125 respondents gave information for the entire household.

social classes. Age is not a significant factor here although three of the respondents who were eligible for Medicare had not signed up for it, and they had no other type of health insurance. Respondents who were satisfied with their health insurance coverage comprised 66.7 percent; 16.2 percent were not satisfied; 17.1 were uncertain.

Health care costs for the purpose of this study were defined as all medical or dental expenses, drugs, eye glasses, and health insurance premiums. Each respondent was asked to estimate the amount his family had spent for health care in the past twelve months. Table 18 shows these results. It should be noted that Social Class I-II actually had a lower proportion of those spending more than \$1,000 for health care than any other social class. There were only minor differences related to age except that in age group 45-54, more than 30 percent spent \$1,000 or more during the past year for health care.

Preventive Health Care

Annual dental and physical exams. Table 19 indicates the

TABLE 18

FAMILY HEALTH CARE COSTS FOR THE PAST YEAR BY SOCIAL CLASS*

Cost of Health Care	Total (N=125) No. (%)	Social Class			
		I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)
Under \$100	2 (1.6)	-	1 (3.3)	-	1 (3.9)
\$100 - \$499	60 (48.0)	7 (50.0)	13 (41.9)	26 (48.1)	14 (53.8)
\$500 - \$999	43 (34.4)	6 (42.6)	9 (29.0)	21 (38.9)	7 (26.9)
\$1,000 and over	20 (16.0)	1 (7.4)	8 (25.8)	7 (13.0)	4 (15.4)

*For this question each of the 125 respondents gave information for the entire household.

TABLE 19

RESPONDENTS REPORTING ANNUAL
DENTAL AND PHYSICAL EXAMINATIONS BY SOCIAL CLASS

Annual Examination		Total (N=125) No. (%)	Social Class			
			I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)
Dental	Yes	57 (45.6)	5 (64.3)	17 (54.8)	22 (40.7)	9 (34.6)
	No	68 (54.4)	9 (35.7)	14 (45.2)	32 (59.3)	17 (65.4)
Physical	Yes	40 (32.0)	7 (50.0)	15 (48.4)	12 (22.2)	6 (23.1)
	No	85 (68.0)	7 (50.0)	16 (51.6)	42 (77.8)	20 (76.9)

proportion of respondents who visit dentists and physicians annually. This is an important aspect of maintaining good health especially in the chronic illnesses where early detection and treatment are vital. It should be noted that there was a steady decline in the percentage of those who had annual physical or dental examinations from Social Class

I-II to class V.

Family immunizations. A principal factor in the control of communicable disease is adequate community protection through immunizations. Adequate protection was defined as: (a) polio--three or more immunizations of the oral type; (b) smallpox--a vaccination in the past four years; (c) DPT--completion of all three injections plus a booster if over age six; (d) tetanus--must have been immunized in the past four years; (e) measles--no time period specified. Table 20 shows the immunization levels for polio, smallpox, diphtheria, pertussis, tetanus, and measles. The overall protection of the community is low; protection in the lower age groups where communicable disease is most likely to occur is much higher. The protection levels tend to diminish as age increases.

Cigarette smoking. The fact that cigarette smoking is an important agent in the etiology of lung cancer, heart disease, and several other chronic conditions has been well documented. In Wakita less than one fourth of those interviewed admitted smoking cigarettes. If this figure is adjusted for sex differences, over half of the males and 16 percent of the females smoke cigarettes. Smoking was generally lowest in the older age groups. There were no sharp social class differences, but smoking was the lowest in Social Class I-II followed by classes V, IV, and III. It was also of interest to determine how long the individual had smoked, how much he smoked, and if he did not smoke now had he ever smoked. More than 60 percent of the smokers had smoked for more than twenty years; only 6 percent had smoked for less than five years. About one fourth of the smokers said they smoked less than

TABLE 20
FAMILY IMMUNIZATIONS BY AGE*

Completed Immunizations	Total No. (%)	Age				
		Under 15 No. (%)	15 - 19 No. (%)	20 - 39 No. (%)	40 - 64 No. (%)	65 and over No. (%)
Polio	143 (42.7)	67 (75.2)	18 (72.0)	30 (47.5)	28 (32.1)	-
Smallpox	102 (30.5)	61 (68.4)	10 (41.7)	14 (22.2)	14 (14.7)	3 (4.8)
Tetanus (15 and over age groups only)	78 (32.2)	-	16 (66.7)	21 (35.1)	33 (37.5)	8 (12.7)
DPT (Under 15 age groups only)	77 (88.5)	77 (88.5)	-	-	-	-
Measles (Under 15 age groups only)	27 (30.3)	27 (30.3)	-	-	-	-

*Each respondent gave immunization information for all members of the household therefore totals equal more than 100 percent.

two packs a day; and 15 percent smoked two or more packs daily. Ninety percent of the non-smokers, at the time of the interview, had never smoked so that only eight persons out of 125 had stopped smoking in the last five years.

Chronic Disease Experience

Table 21 shows the distribution of diagnosed chronic illnesses reported by the respondents according to social class. Chronic illnesses were found to be a considerable problem in Wakita among Social Class V. This may be due to the larger percentage of persons over age 65 in this social class. Although chronic illnesses are not limited to the elderly, incidence rates for most of the chronic illnesses are greater among the elderly. The respondents were asked if they had been told by a physician that they were affected with one of the listed conditions and if they had experienced symptoms of the condition in the past two years. Therefore, the criteria for inclusion as a chronic condition were symptoms occurring in the past two years that had been diagnosed as a chronic condition by a physician. The most frequently mentioned ailment was arthritis followed by hypertension, gall bladder problems, kidney ailments, heart disease, and hay fever. Women reported heart disease, hypertension, gall bladder trouble, kidney trouble, asthma, and hay fever more often than men. Women also reported a slightly higher prevalence of cancer than men. Most of the cancer among men was skin cancer. This might be related to the fact that most of the men in Wakita are farmers and have a high exposure to the sun. Gall bladder problems were about seven times more common in women than men. Conversely, men revealed a rate of emphysema seven times higher than women.

TABLE 21

DIAGNOSED CHRONIC DISEASE BY SOCIAL CLASS*

Diagnosed Conditions	Total (N=125) No. (%)	Social Class			
		I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)
Heart disease	18 (14.4)	3 (21.4)	3 (9.7)	5 (9.3)	7 (26.9)
High blood pressure	26 (20.8)	2 (14.3)	4 (12.9)	7 (13.0)	13 (50.0)
Stroke	4 (3.2)	-	1 (3.2)	1 (1.9)	2 (7.7)
Arthritis	44 (34.4)	5 (35.7)	13 (38.7)	13 (24.1)	13 (50.0)
Stomach ulcer	7 (5.6)	-	2 (6.5)	4 (7.4)	1 (3.8)
Gall bladder trouble	23 (18.4)	2 (14.3)	1 (3.2)	12 (22.2)	8 (30.8)
Diabetes	5 (4.0)	-	1 (3.2)	1 (1.9)	3 (11.5)
Cancer	10 (8.0)	4 (28.6)	1 (3.2)	3 (5.6)	1 (3.8)
Deafness	1 (.8)	-	-	1 (1.9)	-
Blindness	2 (1.6)	-	-	1 (1.9)	1 (3.8)
Rheumatic fever	1 (.8)	1 (7.1)	-	-	-
Glaucoma	-	-	-	-	-
Kidney	23 (18.9)	3 (21.4)	9 (29.0)	7 (13.0)	4 (15.4)
Asthma	6 (4.8)	-	2 (6.5)	3 (5.6)	1 (3.8)
Bronchitis	12 (9.6)	3 (21.4)	2 (6.5)	6 (11.1)	1 (3.8)
Tuberculosis	1 (.8)	-	1 (3.2)	-	-
Parkinson's disease	-	-	-	-	-
Multiple sclerosis	-	-	-	-	-
Emphysema	3 (2.4)	-	1 (3.2)	2 (3.7)	-
Hay fever	18 (14.4)	1 (7.1)	5 (16.1)	8 (14.8)	4 (15.4)
Mental illness	5 (4.0)	-	-	3 (5.6)	2 (7.7)
Prostate problem	3 (2.4)	-	2 (6.5)	1 (1.9)	-
Accident	14 (11.2)	3 (21.4)	4 (12.9)	3 (5.6)	4 (15.4)

*Totals equal more than 100 percent since some respondents reported more than one chronic condition.

Men also reported slightly more accidents than women.

The highest rates for most of the chronic diseases were reported in Social Class V which, as shown previously, consulted physicians less on a regular basis for preventive care.

Health Knowledge

The level of knowledge about health and illness is closely

related to an individual's health care utilization patterns; it will influence his decision to seek or reject medical care, the kind of care he seeks, and when and under what conditions he may seek care. The health knowledge an individual possesses also affects the patient-physician relationship and how well the patient understands the instructions the physician gives him and how successfully the patient follows the physician's plan of treatment. Health knowledge is also related to an individual's perception of possible hazards to his health that exist in his environment and what action he takes to eliminate or minimize the effect of possible health hazards to his family and community.

Health knowledge in the present study was assessed in two ways: (a) a health and illness inventory consisting of twenty multiple-choice type questions and (b) a list of twenty medical terms that a physician would be likely to use when talking to his patient. The multiple-choice questions included the etiology and symptomatology of chronic conditions such as tuberculosis, cancer, stroke, heart disease, asthma, arthritis, and diabetes. Questions were also included on general health information such as fluoridation of water, the relationship between rubella and birth defects, the problems associated with being overweight, air pollution, automobile accidents, pasteurization of milk, and cigarette smoking.

A complete list of the questions may be seen in Appendix A.

The medical vocabulary was comprised of twenty selected words commonly used by physicians. Although the author recognizes some of the limitations in attempting to assess the health knowledge of individuals, it is felt that these questions are a reasonable test of an individual's

level of health knowledge. The answers to individual questions are not deemed as important as the total number of questions answered correctly.

The results of the twenty multiple-choice health and illness inventory and the twenty medical terms were analyzed utilizing analysis of variance and Duncan's New Multiple Range Test (42). In the analysis of variances presented the sample was analyzed by sex, age, social class, and educational level. The variables used are not independent among themselves. Hence, the probability level utilized for each analysis of variance is appropriate for a consideration of that variable but is not appropriate for joint consideration of two variables, i.e., the probability of a type I error within a given variable is 0.05, but the probability of a type I error in two variables is not the product $0.05 \times 0.05 = 0.0025$ as would be true if these were independent tests.

Health and Illness Inventory

In the responses to the twenty multiple-choice questions of the health and illness inventory, 37 percent of the sample answered sixteen or more questions correctly; 46 percent answered from ten to fifteen questions correctly; and almost 17 percent answered less than ten questions correctly. The mean score of correct responses was 13.3. Two individuals answered all twenty questions correctly, and none of the respondents answered all twenty questions incorrectly although three persons answered only two questions correctly.

Education, as expected, was significantly related to the number of questions answered correctly. For example, only half of those respondents with six years or less of education answered more than three questions correctly and none of the respondents in this education group

answered more than fourteen questions correctly. Among those individuals with post graduate education 75 percent answered sixteen or more questions correctly and none of the respondents in this group answered less than thirteen questions correctly. Table 22 shows the analysis of variance of correct responses in the health and illness inventory by sex, age, education, and social class. This table shows the F value for education is significant at the 0.05 level of confidence. The mean scores of correct responses by sex, age, education, and social class are shown in Table 1 of Appendix B. The mean score of correct responses for those individuals with six years or less of education was 7.7; highschool graduates, 13.6; college graduates, 15.1; and those with post graduate education, 16.5.

TABLE 22
ANALYSIS OF VARIANCE: CORRECT RESPONSES ON
HEALTH AND ILLNESS INVENTORY

Variance Source	df	ss	ms	F	P
Sex	1	53.24	53.24	3.59	ns*
Error	123	1819.59	14.79		
Age	5	229.09	45.82	3.32	0.05
Error	119	1643.74	13.81		
Education	6	518.51	86.41	7.52	0.05
Error	118	1354.31	11.47		
Social Class	3	247.08	82.36	6.12	0.05
Error	121	1625.74	13.43		

*Not significant

The F value for sex was not significant at the 0.05 level of confidence (Table 22). Females performed slightly better on the health

and illness inventory than men. Females had a mean score of 13.6 and males 12.0; however these differences were not significant. The proportion of men and women who answered less than ten and more than sixteen questions correctly were almost identical.

There was a significant relationship between age and the level of health information. As age increased the number of correct responses decreased, with the exception of individuals under 25 years of age, who showed a comparable correct response score to the age 65 and over group. The younger the respondent the more likely he was to score high on the health and illness inventory. Table 22 shows that the F value for age is significant at the 0.05 level of confidence. Among persons under 25, only 14.3 percent answered sixteen or more questions correctly. The respondents 65 years and over had 18.6 percent with sixteen or more correct answers. In the age groups between these two extremes (25-64), the percentages of sixteen or more correct answers ranged from 61 percent to 55 percent. The mean score for the age 65 and over group was 11.6, the under 25 group 12.5, and the 35-44 group 15.2.

Social class was also significantly related to the level of health knowledge as measured by the number of correct responses on the health and illness inventory. None of the respondents in Social Class I-II answered less than ten questions correctly; half of this social class gave the correct responses for sixteen or more questions. Forty-two percent of Social Class III answered sixteen or more questions correctly and 20 percent answered less than ten questions correctly. Social Class IV reported 35 percent with sixteen or more correct answers; Social Class V had only 23 percent who answered sixteen or more questions

correctly. In examining the mean scores of the social classes the scores follow very distinct social class patterns. The mean score of correct responses by social class ranged from 15.3 in Social Class I-II to 10.7 for Social Class V. Social Class III reported 13.9 and class IV 13.6. These differences reveal an F value in Table 22 that is significant at the 0.05 confidence level. The mean scores of correct responses by sex, age, education, and social class are shown in Table 1 of Appendix B.

The percentage of respondents who successfully answered the individual questions related to health knowledge ranged from a high of 95 percent correct answers on a question that linked cigarette smoking to high rates of lung cancer, emphysema, and several other illnesses, to a low of 34.4 percent of the respondents who could correctly estimate the number of people killed in automobile accidents in 1968. The questions the respondents generally did poorest on were: Only 54 percent could identify lung cancer as being the most common type of cancer in men. Less than half (49 percent) chose some form of paralysis as the most common symptom of a stroke; 62 percent did not know that the abdomen pain associated with ulcers is often relieved by eating. Only 58 percent of the respondents knew that people who had consanguine relatives with diabetes were most likely to develop diabetes. A great number of respondents answered that people who eat too much sugar were most likely to develop diabetes. Slightly more than half (53 percent) were aware that the likelihood of birth defects being present in a baby was great if the mother had had rubella during the first trimester of her pregnancy. This information was collected before the statewide

rubella education-immunization program. About half (50.4 percent) cited automobiles as the chief contributor to the air pollution problem in the United States. Slightly more than one third knew 55,000 people were killed in automobile accidents in 1968.

Respondents were somewhat better informed on these questions: Almost 69 percent correctly answered that tuberculosis is due to infection with a germ. Others thought it was due to prolonged exposure to the cold, anemia and vitamin deficiency, or had no idea what the cause might be. Sixty-four percent knew that a stroke was a hemorrhage or blood clot in the brain. About three fourths of the respondents stated a coronary thrombosis was a blood clot in a heart artery; those who incorrectly answered thought it was the same as a stroke or a kind of cancer. However, only 61 percent identified the most common symptom of a coronary thrombosis as a steady pressing pain in the chest. Seventy-one percent knew that diabetes is more common in persons who are overweight. The percentage fell to 61 percent among those who were aware that cervical cancer can be detected by a quick and reliable test in the doctor's office. Only 5 percent more of the women knew this information compared to the men. Seventy-one percent identified over-eating as being the most common cause for being overweight as opposed to genetic factors and glandular problems.

The respondents were best informed on these questions: Eighty-eight percent of the respondents correctly answered that arthritis is a condition in which the joints are painful, swollen or misshapen. Ninety-one percent knew that asthma is a condition in which there is wheezing and difficulty in breathing as opposed to a severe chest cold.

or a form of pneumonia. Leukemia was correctly identified as a cancer-like condition by 80 percent of the respondents. The two questions with the highest percentage of correct answers were the questions on why milk is pasteurized and the effects of cigarette smoking with 93 percent and 95 percent, respectively, correctly answered.

In 1968, the three leading causes of death in the United States were (a) heart disease, (b) cancer, and (c) stroke. Only one person out of 125 correctly identified all three causes; 37 percent identified two of the causes; 83 percent named one correctly. Many people named the war in Vietnam, riots, murder, suicide, drownings, and deaths in fires as one of the three leading causes of death. People were also very much aware of automobile accidents as a cause of death in the United States.

The level of health knowledge in Wakita shows a need for more health information in the community on many health problems. Individuals answering sixteen or more questions correctly were judged to be reasonably well informed on health matters. Those persons with ten to fifteen correct responses were considered not so well informed, and respondents with less than ten correct answers were judged to be relatively uninformed on health and illness. Only slightly more than one third can be considered to be reasonably well informed on health and illness. Even among those persons with a highschool education or better, no more than one third are well informed in health matters.

Medical Vocabulary

The other measure of health knowledge utilized in this study was a list of twenty medical terms. These words are twenty of the terms used in a study done by Samora, Saunders and Larson (31) to test the

knowledge of hospital out-patients on medical terminology. Each respondent was asked to define or give what each of the words meant to him. The individual words are not the important aspect of this test. They are representative of a larger number of terms a physician would be likely to use in talking to his patient. Proper understanding of these terms would have a direct influence on the patient's understanding of what the physician may have told him and the probability of the patient following the physician's instructions. The respondents had an opportunity to hear the word pronounced and to see the word before they were asked to give the meaning of the term.

Only one respondent gave an adequate definition to all twenty terms, and no single term was adequately defined by all respondents. Slightly more than 25 percent of the respondents correctly defined sixteen or more of the terms; slightly less than 25 percent correctly defined less than ten terms; and about half of the respondents adequately defined between ten and fifteen terms. The mean score of adequately defined terms was 12.4. The range of individual responses in the adequately defined category was from two to twenty. Each of the 125 individuals interviewed responded to all twenty terms; about 62 percent of their responses were scored in the adequately defined category. Twenty-eight percent of the responses were scored in the incorrect or vague category. To about one tenth (9.8 percent) of the terms the respondent could not or would not attempt any statement of meaning.

Four of the variables thought to have some association with variation in performance on the vocabulary schedule were sex, age, education, and social class. An analysis of variance and Duncan's New

Multiple Range Test (42) were utilized to test for significant differences with respect to these variables. An analysis of variance in the distribution of adequately defined terms by sex resulted in an F value which is not significant at the 0.05 level of confidence. The mean score for women was 12.6 and the mean score for men was 11.4. Females also performed slightly better in the category of sixteen or more correct responses than men.

Variations by age in the number of terms adequately defined followed a very similar pattern to that described by the health and illness inventory. Those in the youngest and the oldest age groups had the fewest number of correct answers. Those 65 and over comprised only 18 percent of the group defining sixteen or more terms correctly while the age groups from 25 to 54 scored 30 to 38 percent in the sixteen and over correctly defined terms category. Forty-four percent of those 65 and over answered less than ten terms adequately. The age category with the highest mean score was the 25 to 34 category with a score of 14.8. The lowest mean score was 10.5 in the 65 and over category. The mean scores of the number of adequately defined terms are shown in Table 2, Appendix B. Table 23 shows an F value for age that is significant at the 0.05 level of confidence.

The number of years of education was the principal factor involved in number of medical terms adequately defined. Table 23 shows an F value for education which is significant at the 0.05 level of confidence. A comparison of the two extreme categories of education achievement illustrates the differences in the number of terms adequately defined. Among individuals with post graduate education, 100 percent

TABLE 23

ANALYSIS OF VARIANCE: CORRECT RESPONSES
TO TWENTY MEDICAL TERMS

Variance Source	df	ss	ms	F	P
Sex	1	30.40	30.40	2.03	ns*
Error	123	1836.11	14.92		
Age	5	297.60	59.52	4.51	0.05
Error	119	1568.92	13.18		
Education	6	714.95	119.15	12.2	0.05
Error	118	1151.57	9.75		
Social Class	3	305.05	101.68	7.87	0.05
Error	121	1561.46	12.90		

*Not significant

adequately defined sixteen or more terms. No respondent having less than seven years of education gave an adequate answer to more than nine terms. There was a direct relationship between the number of terms adequately defined and the level of education. The mean score of correct responses for individuals with an elementary education (six years or less) was 5.5; for a highschool graduate the mean score was 13.2; college graduates had a score of 15.3 and those with post graduate training 17.0. The remainder of the mean scores may be seen in Table 2, Appendix B.

It was anticipated that education would be significantly related to the number of medical terms correctly defined; however, it was not expected that respondents with a fairly high level of education would perform at the low level they did. Even among highschool graduates a third of the responses could not be scored as indicating

adequate understanding of the terms tested. The performance on this test, even allowing for substantial error in scoring, was low enough to suggest that lack of knowledge of medical terms may serve as a barrier for adequate patient-physician communication.

When the number of adequate responses was analyzed by social class, the findings were similar to that of education. The higher the social class of the respondent the more likely he was to give an adequate response. Social Class I-II had a mean correct response score of 15.3; Social Class III, 13.0; Social Class IV, 12.5; and Social Class V, 9.8. These differences were significant at the 0.05 level (Table 23). Sixty-four percent of the respondents in Social Class I-II correctly defined sixteen or more terms and only 7 percent had less than ten adequate definitions. In contrast only 4 percent of Social Class V had sixteen or more correct responses and 42 percent had less than ten correct responses.

The individual terms had a correct response percentage which ranged from 96.8 percent for the term "vomit" to 7.2 percent for the word "tendon." There were five words which were answered correctly 80 percent or more of the time; seven words were answered correctly less than half of the time. Thirty-four percent of the sample had no knowledge of the meaning of the term "terminal." Among the incorrect responses given for the word terminal was "to do something regularly." Other incorrect responses included: "Injection" was defined as "to clean out something." "Tendon" was defined as "when some part of the body is tender." "Intern" was defined as "someone a woman goes to to have a baby," and also "something inside your body." A "nerve" was

"something kids get on after a hard day's work." "Orally" meant "to rub something on you," and "to take regularly." An "appendectomy" was incorrectly defined as "to take something for pain" and "to have your tonsils out."

In comparing the Wakita results to those of Samora and his colleagues (31), it is evident that the Wakita sample performed much better on the vocabulary test than did the hospital group, which was of comparable socio-economic status. The Wakita sample had a higher percentage of correct answers on fifteen of the twenty terms. In most cases the percentage was much greater for the Wakita sample. In the five terms that the hospital group had a higher percentage on, the greatest percentage difference was only 10 percent. The Wakita group also had much lower percentages in the "no knowledge category." The Wakita sample had a mean percentage of adequately defined terms of 62.2 and a mean percentage of no knowledge responses of only 9.8 percent. In Samora's study for the same twenty terms the adequate response rate was 46.7 and the no knowledge category comprised 27.1 of the responses. The results of the two studies are compared in Table 24.

Source of Health Information

Each respondent was asked to give his primary source of health information. Respondents listed physicians as their primary source of information on health over 70 percent of the time. The next most frequently cited sources were books (16%), television (4.8%), newspapers (2.4%), and relatives (2.4%); all other sources made up less than 5 percent. The Social Classes I-II and III relied much less heavily on physicians for their health information than Social Classes IV and V.

TABLE 24

COMPARISON OF THE RESPONSES TO TWENTY MEDICAL TERMS
IN WAKITA AND UNIVERSITY OF COLORADO HOSPITAL

Medical Term	Response - Wakita			Response - University of Colorado		
	Adequate No. (%)	Wrong or Vague No. (%)	No Knowledge No. (%)	Adequate No. (%)	Wrong or Vague No. (%)	No Knowledge No. (%)
Vomit	121 (96.8)	4 (3.2)	-	123 (98.4)	-	2 (1.6)
Injection	118 (94.4)	5 (4.0)	2 (1.6)	108 (86.4)	5 (4.0)	12 (9.6)
Amputate	118 (94.4)	1 (.8)	6 (4.8)	103 (82.4)	6 (4.8)	16 (12.8)
Pulse	102 (81.6)	21 (16.8)	2 (1.6)	86 (68.8)	37 (29.6)	2 (1.6)
Abdomen	101 (80.8)	20 (16.0)	4 (3.2)	100 (80.0)	9 (7.2)	16 (12.8)
Malignant	97 (77.6)	20 (16.0)	8 (6.4)	22 (17.6)	35 (28.0)	68 (54.4)
Respiratory	97 (77.6)	13 (10.4)	15 (12.0)	38 (30.4)	24 (19.2)	63 (50.4)
Autopsy	88 (70.4)	32 (25.6)	5 (4.0)	75 (60.0)	29 (23.2)	21 (16.8)
Sedative	87 (69.6)	32 (25.6)	6 (4.8)	68 (54.4)	22 (17.6)	35 (28.0)
Dilate	87 (69.6)	26 (20.8)	12 (9.6)	40 (32.0)	43 (34.4)	42 (33.6)
Orally	84 (67.2)	26 (20.8)	15 (12.0)	43 (34.4)	57 (45.6)	25 (20.0)
Cardiac	80 (64.0)	30 (24.0)	15 (12.0)	43 (34.4)	9 (7.2)	73 (58.4)
Cerebral	74 (59.2)	47 (37.6)	4 (3.2)	57 (45.6)	18 (14.4)	50 (40.0)
Appendectomy	61 (48.8)	53 (42.4)	11 (8.8)	35 (28.0)	28 (22.4)	62 (49.6)
Terminal	56 (44.8)	26 (20.8)	43 (34.4)	16 (12.8)	60 (48.0)	49 (39.2)
Therapy	54 (43.2)	57 (45.6)	14 (11.2)	32 (25.6)	37 (29.6)	56 (44.8)
Germs	50 (40.0)	56 (44.8)	19 (15.2)	63 (50.4)	55 (44.0)	7 (5.6)
Intern	47 (37.6)	71 (56.8)	7 (5.6)	63 (50.4)	44 (35.2)	18 (14.4)
Nerve	23 (18.4)	71 (56.8)	31 (24.8)	28 (22.4)	80 (64.0)	17 (13.6)
Tendon	9 (7.2)	90 (72.0)	26 (20.8)	16 (12.8)	58 (46.4)	51 (40.8)
Total	1,554 (62.2)	701 (28.0)	245 (9.8)	1,159 (46.7)	656 (26.2)	685 (27.1)

Social Class I-II gave books as their primary source of information 21.4 percent of the time while Social Class V, only 3.8 percent. It was found that the individuals who named books as their main source of information were significantly better informed and scored higher on both indexes of health knowledge than did those persons who relied on their physicians as their major source of health information.

Health Attitudes

The third objective of this study was to determine what the people of Wakita thought about health and illness. Data were collected on factors considered in the selection of a physician, satisfaction with physician, attitudes toward medicare, perception of health needs and problems in Wakita, and the three attitude scales concerning (a) skepticism of medical care, (b) sick role dependency, and (c) denial of the sick role.

Selection of a Physician

The respondents were presented with a set of statements that an individual might consider in the selection of a physician. Each individual was asked how important each of the statements would be to him in selecting a physician. As Table 25 reveals the most important items were the personal aspects of the patient-physician relationship, i.e., how the physician responded to the patient and how the physician treated the patient personally; the efficiency of the physician also rated as a very important item. Items that were considered of lesser importance were the medical school from which the physician graduated, sex and age of the physician, and whether or not he was in practice with other

TABLE 25

FACTORS CONSIDERED OF IMPORTANCE IN SELECTION OF A PHYSICIAN

Factors in Selection of a Physician	Importance of Information			
	Very Important No. (%)	Somewhat Important No. (%)	Not Very Important No. (%)	Unimportant No. (%)
The medical school graduated from	9 (7.2)	22 (17.6)	74 (59.2)	20 (16.0)
That he is a male doctor	24 (19.2)	31 (24.8)	52 (41.6)	18 (14.4)
How he acts or behaves	84 (67.2)	32 (25.6)	9 (7.2)	-
What he charges for his services	59 (47.2)	48 (38.4)	18 (14.4)	-
Appearance of his office	71 (56.8)	49 (39.2)	5 (4.0)	-
That he is an older doctor	4 (3.2)	40 (32.0)	66 (52.8)	15 (12.0)
His willingness to make house calls	51 (40.8)	46 (36.8)	25 (20.0)	3 (2.4)
Whether he practices with other doctors	3 (2.4)	25 (20.0)	85 (68.0)	12 (9.6)
The distance from his office to my home	48 (38.4)	40 (32.0)	32 (25.6)	5 (4.0)
How he treats me	109 (87.2)	15 (12.0)	1 (.8)	-
The length of time you must wait to see him	31 (24.8)	73 (58.4)	21 (16.8)	-
What hospital he practices in	31 (24.8)	49 (39.2)	45 (36.0)	-
How efficient he is, that is, doesn't waste any time	105 (84.0)	19 (15.2)	1 (.8)	-

physicians. The appearance of the physician's office, charges for services, willingness to make house calls, distance to physician's office, waiting time to see physician, and the hospital in which the physician admitted his patients were all relatively important in the selection of a physician.

Although only 7 percent of the total interviews showed the medical school from which the physician had graduated to be very important in the selection of a physician, over 28 percent of Social Class I-II thought it was very important. No one in Social Class V thought it was very important (only 3.8 percent thought it was somewhat important). Male physicians were much more preferred in Social Classes IV and V than in Social Classes I-II and III. The behavior of the physician and attention he gives to his patients were important in all social classes, although it appeared to be somewhat more important in Social Classes IV and V. The fee charged for services was cited as very important by 21 percent of those in Social Class I-II while 50 percent of Social Class V responded that it was very important. There was less than a 10 percent difference among the social classes in the importance of the appearance of the physician's office and the distance to the physician's office. Social Class V indicated that it was more important to them that the physician be middle aged or older than it was for Social Classes I-II and III. The willingness of the physician to make house calls was more important to Social Classes I-II and III than it was for classes IV and V. The hospital the physician used when admitting a patient was listed as an important consideration by half of Social Class I-II; slightly over 11 percent of Social Class V stated

it was very important. All other factors showed almost no social class differences.

Satisfaction with Physician

Slightly over half of the respondents said they had changed physicians in the past five years (Table 26). Change of physicians had occurred in 71 percent of those in Social Class I-II and in only 46 percent of those in Social Class V. However, among those who had changed physicians, dissatisfaction with the physician was expressed as a reason for the change only 8 percent of the time. The most frequently named reasons for the changes were that the individual had moved, or that the physician had moved, retired or died, or simply that it was more convenient to change because of the distance one had to travel to see their physician. One fifth of the respondents reported that they had had a "bad" experience with a physician which made them lose confidence in him (See Table 26). The percentage of persons who had had a "bad" experience with a physician was directly related to social class; 28 percent of Social Class I-II had had a bad experience which made them lose confidence in their physicians while only 11 percent of Social Class V related that type of experience. Some examples of "bad" experiences individuals related included unnecessary surgery, physician being under the influence of alcohol or drugs, physician refusing to see patient, patient's dissatisfaction with results of medical treatment by physician, wrong diagnosis, and the physician leaving town while the patient was ill. Nevertheless, almost 70 percent of the sample said they were very satisfied with the care received from physicians; 27 percent stated they were somewhat satisfied, and 3.2 percent felt the care received

was just satisfactory. Social Class V revealed a higher percentage (76.9 percent) of those who were very satisfied than any other social class but also reported the highest percentage (3.8 percent) of those who were least satisfied with the care received from physicians.

Two thirds of those interviewed felt it was very important that they see the same physician each time they needed one. It was more important to Social Classes III, IV, and V than it was for Social Class I-II. Twenty percent of Social Class I-II said it was not very important to see the same physician each time and only 3.8 percent of Social Class V felt this way.

TABLE 26

RESPONDENTS WHO HAD CHANGED PHYSICIANS OR HAD A "BAD"
EXPERIENCE WITH A PHYSICIAN IN PAST FIVE YEARS

Total (N=125) No. (%)	Social Class				
	I-II (N=14) No. (%)	III (N=31) No. (%)	IV (N=54) No. (%)	V (N=26) No. (%)	
Changed physician	63 (50.4)	10 (71.4)	16 (51.6)	25 (46.8)	12 (46.2)
"Bad" experience with physician	25 (20.0)	4 (28.6)	7 (22.6)	11 (20.4)	3 (11.4)

The great majority of all respondents indicated that they prefer to see a general practitioner rather than a specialist if they are in need of medical care. Less than 2 percent reported they prefer to see a specialist initially when they are ill.

Attitude on Medicare

Each respondent was asked to indicate his opinion about

medicare or government sponsored health insurance for persons sixty-five and over. Three fifths of the sample indicated a favorable reaction to the medicare program. Slightly over 20 percent stated they were not in favor of medicare; another 20 percent related that they were unsure of how they viewed medicare. Some distinct social class differences appeared in attitudes toward medicare. Approximately one third (35 percent) of Social Class I-II thought medicare was a good idea; 28 percent were opposed to it; and 35 percent were unsure of what their attitude was concerning medicare. Among Social Classes III and IV a larger proportion favored medicare (61.3 percent and 57.4 percent, respectively) than in Social Class I-II. Social Class V showed the most striking positive feelings about medicare with 73 percent favoring it and only 7.7 percent objecting to it. Table 27 shows these results.

Some even sharper differences existed when the responses were examined by age. As might be expected, as age increases so does support of the medicare program. Only 28.6 percent of those twenty to twenty-four years old thought medicare was a good idea while 81.4 percent of persons 65 and over favored medicare. There were only 7 percent of those 65 and over who were opposed to medicare. Overall, there were approximately the same number of people who opposed medicare as those who were uncertain of their opinion regarding medicare.

The respondents were also asked if they thought medicare should be available to everyone regardless of age. Only 5 percent thought medicare or a similar program should be available to everyone; two thirds of those interviewed did not feel medicare should be extended; slightly over 25 percent were non-committal. Surprisingly, Social Class I-II

TABLE 27

ATTITUDES TOWARD MEDICARE BY SOCIAL CLASS

	Total	Social Class			
	(N=125)	I-II	III	IV	V
	No. (%)	(N=14)	(N=31)	(N=54)	(N=26)
		No. (%)	No. (%)	No. (%)	No. (%)
Attitudes Toward Concept of Medicare					
Good Idea	74 (59.2)	5 (35.7)	19 (61.3)	31 (57.4)	19 (73.1)
Don't like it	26 (20.8)	4 (28.6)	7 (22.6)	13 (24.1)	2 (7.7)
Don't know	25 (20.0)	5 (35.7)	5 (16.1)	10 (18.5)	5 (19.2)
Attitudes Toward Greater Availability of Medicare					
Yes	7 (5.6)	2 (14.3)	1 (3.2)	2 (3.7)	2 (7.7)
No	83 (66.4)	8 (28.6)	18 (58.1)	41 (75.9)	16 (61.5)
Don't know	35 (28.0)	4 (57.1)	12 (38.7)	11 (20.4)	8 (30.8)

showed the lowest percentage of disagreement (28.6 percent) of any other social class. Over half of those in Social Class I-II were unsure of how they felt about this question. The highest degree of opposition to extension of medicare was found in Social Classes IV and V.

Age was not significantly related to attitudes toward the extension of medicare. The reasons stated most often in opposition to extension of medicare were the high cost of such a program and that people who could afford it should pay for their own medical care. Many individuals related a softening of opinion against medicare and the possible inclusion of groups outside the age 65 and over group. This statement was heard quite often: "A year or so ago I was very much against medicare; since then I have seen some good things done for old people through the program; maybe there are others who need this kind of a program. Maybe medicare is not so bad." This attitude is reflected

among the large number of responses in the don't know category.

Recognition of Health Problems and Needs in the Community

What are the major health problems and health needs that existed in Wakita at the time of the interviews as viewed by the residents of Wakita? The responses are shown in Table 28.

TABLE 28
HEALTH PROBLEMS AND HEALTH NEEDS IN WAKITA

Health Problems	Total (N=125) No. (%)	Social Class			
		I-II	III	IV	V
		(N=14) No. (%)	(N=31) No. (%)	(N=54) No. (%)	(N=26) No. (%)
Improvement of city dump	26 (20.8)	5 (35.9)	9 (29.0)	8 (14.8)	4 (15.4)
Permanent physician in health center	29 (23.2)	4 (28.6)	11 (35.5)	11 (20.4)	3 (11.5)
Regular pick-up on trash	4 (3.2)	2 (14.2)	-	2 (3.7)	-
Vacant lots and weeds	5 (4.0)	-	2 (6.5)	2 (3.7)	1 (3.8)
Delapidated old houses and buildings	6 (4.8)	-	-	4 (7.4)	2 (7.7)
Mosquitoes	10 (8.0)	-	-	8 (14.8)	2 (7.7)
Need for school health program	3 (2.4)	2 (14.2)	-	1 (1.9)	-
Standing water	2 (1.6)	-	1 (3.2)	-	1 (3.8)
Stray animals	3 (2.4)	-	-	2 (3.7)	1 (3.8)
Other	9 (7.2)	-	3 (9.7)	4 (7.4)	2 (7.7)
Don't know	28 (22.4)	1 (7.1)	5 (16.1)	12 (22.2)	10 (38.6)

The two most commonly listed problems were the need for a permanent physician in the Community Health Center and the need for improvement in the city dump. The reason that the dump problem was mentioned often is that the survey happened to coincide with a community

effort on the part of the Lions Club to do something about improving the condition of the community dump. Pictures of the condition of the dump had been posted in the lobby of the bank, and it had become a topic of discussion in the community.

Having a full-time physician in the health center was given as the major health need in the community by 23 percent of the respondents. Mosquitoes and the need for a spraying program were mentioned by 8 percent of the people. A significant point is that 22.4 percent did not have an answer for this question. This percentage rose to 38.6 percent in Social Class V while only 7.1 percent of Social Class I-II had no opinion. This social class pattern persisted for most other health problems that are mentioned. Social Class V was either unwilling or unable to identify health problems as frequently as were the other social classes and in many cases named different problems as being significant to them. For instance, Social Class I-II listed a need for a permanent physician 28.6 percent of the time; Social Class III, 35.5 percent while Social Class V mentioned it only 11.5 percent of the time. The need for improvement in the dump was mentioned only half as often in Social Classes IV and V as it was in classes I-II and III. Vacant, delapidated houses and buildings, mosquitoes, and stray animals were problems that were mentioned exclusively by Social Classes IV and V. This is perhaps because these problems are found most often in the areas where these people live, and they are most affected by these problems.

The perception of health problems in the community parallels very closely the level of health knowledge. Social Classes I-II and III have a higher level of health knowledge than IV and V; therefore, they

are able to identify wider variety and different types of health problems. Social classes IV and V do not have the degree of knowledge needed to identify as many health problems as those persons in the higher social classes. Social Class V identified health problems that they have experienced and that affect them directly and not more sophisticated health problems that might be perceived with increased formal education.

Men had considerably fewer opinions on health problems and needs than did women. Improvement of the dump was the most commonly named problem among men (37.0 percent), and one third had no opinion on what the health needs of the community were. Women had a higher percentage of responses in all categories with the exception of improvement of the dump and the don't know categories.

Attitudes on Community Health Center

Most persons expressed a positive attitude toward the Community Health Center and a willingness to support the center. The concern expressed most often was that the University of Oklahoma Medical Center had not been able to recruit a full-time physician for the center.

The need for the center was strongly voiced when over 97 percent of the respondents stated they felt the center was needed in Wakita. Only two persons said they thought the center was not needed, and one person was uncertain of the need for the center.

When the respondents were questioned on utilization of the center, it was found that only 79 percent of the sample had used the center for health care. The center had been utilized most often by females, the younger age groups, and classes I-II, III, and IV. Over

80 percent of the women had used the center as compared to 74 percent of the men. All of the persons who had not utilized the center were 45 years of age or older. Only 62.8 percent of the 65 and over age group had utilized the center. This was by far the smallest percentage reported. With respect to social class differences 85 percent of Social Class I-II had gone to the center for health care; this dropped to 69 percent for Social Class V. The twenty-six persons who had not used the center were asked if they planned to use the center. Out of the twenty-six, thirteen said they planned to use the center but as yet had not done so; one person was unsure of his utilization plans; and twelve persons, or about 10 percent of the sample, said they did not plan to use the center. Eleven of these twelve persons were age 65 and over; the other person was in age group 55 to 64. Five of the twelve were from Social Class V, three persons from Social Class IV, three from Social Class III, and one from Social Class I-II. However, of the individuals who said they did not plan to use the center only one person objected to the health center itself. All other individuals reported they had a very satisfactory relationship with their present physician and did not intend to sever this relationship so they could use the center.

Skepticism of Medical Care

Skepticism of medical care denotes the doubts an individual has about the claims of professional medicine and shows a desire on the part of the individual to find out who the physician is and what he is doing to him. A high degree of skepticism may be a factor in an individual's decision to seek medical care and how often a physician is

consulted. Attitudes toward professional medical care were determined utilizing the technique described in Chapter II.

Suchman (29) reported that skepticism was generally higher in Social Class V than in classes I-II and III. A similar pattern was found in Wakita with skepticism highest in Social Classes IV and V. Slightly more than 20 percent of Social Class I-II and 25 percent of Social Class III were found in the high or medium high skepticism category while 46 percent of Social Class IV and 34 percent of Social Class V were found in the same category.

Thirty-six percent of those interviewed expressed high or medium high skepticism of medical care; however, only 4 percent of the total respondents scored in the high category. Slightly more than 82 percent scored in the medium high or medium low category or very near the mid-point of the attitude scale. Only 17.6 percent of the respondents' scores were found at the extremes of the scale.

An analysis of variance of the attitude scores was conducted to test for association in variation of scores by sex, age, education, and social class. Only social class revealed an F value that was significant at the 0.05 level. These data are shown in Table 29. The higher the social class the lower the degree of skepticism. The mean scores on the attitude scale are shown in Table 3, Appendix B.

Although not significant at the 0.05 level, skepticism of medical care was higher in the younger age groups (under 35) than it was for those groups 35 years and older. Sex and education were not significantly related to the level of skepticism toward medical care.

From the distribution of the scores on the attitude scale,

TABLE 29

ANALYSIS OF VARIANCE: SKEPTICISM OF MEDICAL CARE

Variance Source	df	ss	ms	F	P
Sex	1	17.85	17.85	2.51	ns*
Error	123	873.87	7.10		
Age	5	47.26	9.45	1.33	ns
Error	119	844.46	7.09		
Education	6	53.52	8.92	1.25	ns
Error	118	838.20	7.10		
Social Class	3	48.38	16.12	2.31	0.05
Error	121	843.33	6.96		

*Not significant

skepticism of medical care does not appear to be at a level that would inhibit the seeking of medical care with only 4 percent of the total sample scoring in the high skepticism category. However, skepticism may be a factor in delaying medical care in Social Classes IV and V.

Sick Role Dependency

Sick role dependency measures the need for a sick individual to rely upon other individuals for help and support during periods of illness and if he has a tendency to cling to the sick role for longer periods of time. Persons with high dependency might be expected to seek medical care more often than those who have a low dependency rating.

Only 5.6 percent of the respondents scored in the high dependency category; however 65 percent scored medium high on dependency. About 29 percent scored in the medium low category and there were no scores in the low dependency category. About 94 percent of the

respondents were clustered in the two categories adjacent to the mid-point on the scale and only slightly more than 5 percent at the high end of the scale.

The analysis of variance in Table 30 shows that the variation in scores by sex, age, education, and social class are not significant at the 0.05 level. Although these data were not statistically significant, some interesting trends are apparent. Males scored slightly higher in dependency than females. It was expected that dependency would be greatest in the older groups. This trend was found in the study; however dependency was also high in the younger age groups.

TABLE 30
ANALYSIS OF VARIANCE: SICK ROLE DEPENDENCY

Variance Source	df	ss	ms	F	P
Sex	1	2.55	2.55	0.15	ns*
Error	123	2202.85	17.90		
Age	5	23.12	4.62	0.25	ns
Error	119	2182.28	18.33		
Education	6	29.25	4.87	0.26	ns
Error	118	2176.15	18.44		
Social Class	3	30.15	10.05	0.55	ns
Error	121	2175.24	17.97		

*Not significant

Dependency was greatest in age groups 20 to 24, 25 to 34, and 65 and over, and lowest in the middle age groups, 35 to 64.

Sick role dependency did not appear to be related to social class. Although Social Class I-II reported the lowest percentage of the

scores in the high dependency category, the combined totals for high and medium high categories for all social classes were very similar. The mean scores by sex, age, education, and social class are shown in Table 4, Appendix B. In this community sick role dependency does not appear to significantly influence the decision to seek medical care.

Denial of Sick Role

Denial of the sick role denotes a restraint on the part of an individual to move into the sick role, many times as a defense against the loss of other roles an individual may possess. Denial may be a defense against a fear of loss of economic security that is many times precipitated by a serious illness, loss of social position that is extremely important to the individual such as holding a vital position in an organization, or it may be the fear of being unable to carry out the everyday functions that are sometimes lost when a person is incapacitated by a serious illness. Persons with a high denial of the sick role are very likely to postpone seeking medical care unless there are other factors which exert pressure on them to seek medical care when ill.

Over 38 percent of the respondents scored in the high denial category and over 90 percent were in the high and medium high combined categories. As expected, men exhibited higher denial scores than women.

Denial of sick role was also higher for the young (25 to 34) and the elderly (65 and over). The young may refuse to acknowledge the sick role because they are in the prime of life and they feel they are invulnerable to illness. High denial among the elderly may be a defense against the admission of deteriorating health or chronic disease and a

reluctance to find out their health status or that little can be done for their condition.

Denial of sick role is greatest in Social Classes I-II and V. Half of the respondents in Social Class I-II displayed a high denial, and 42 percent of Social Class V ranked in the high category. This might be explained in that Social Class I-II might postpone illness because of possible loss of status or money while Social Class V might feel the urgency to work for daily survival is of higher priority than becoming ill unless the illness is incapacitating. Social Class I-II also took positive measures to prevent illness in that they had the highest proportion of respondents who had annual physical examinations and saw physicians most often for preventive care.

Differences in attitudes scores by education do not seem to form any particular pattern, although the respondents with a higher level of education tended to score lower on the denial scale than did those with less education.

When the variables of sex, age, education, and social class are tested for statistical differences of attitude scores as shown in the analysis of variance in Table 31, only age has an F value that is significant at the 0.05 level. All other variations of attitude scores are not statistically significant.

Denial of the sick role may be a significant factor in the seeking of medical care in Wakita. Almost 40 percent of the respondents scored in the high denial category; slightly over 50 percent in the medium high denial category; about 9 percent in the medium low rating; and no one scored in the low denial category.

TABLE 31

ANALYSIS OF VARIANCE: DENIAL OF SICK ROLE

Variance Source	df	ss	ms	F	P
Sex	1	2.53	2.53	0.35	ns*
Error	123	884.79	7.19		
Age	5	80.05	16.01	2.36	0.05
Error	119	807.27	6.78		
Education	6	49.06	8.17	1.15	ns
Error	118	838.26	7.10		
Social Class	3	3.30	1.10	0.15	ns
Error	121	884.02	7.30		

*Not significant

Correlation of Attitude Scales

A Spearman Rank Correlation Test (42) was performed in order to study any possible association between the three attitude scales. This statistical test was performed to determine if the scales were interrelated or if they were independent of each other.

Skepticism--Dependency

The Spearman Rank Correlation yielded a coefficient that gave a significant positive correlation between skepticism and sick role dependency ($r_s = 0.22$, $P = < 0.05$ (two-tailed test)). This implies that when skepticism of professional medical care is high, dependency in the sick role is also likely to be high and when skepticism is low, dependency is also low. High sick role dependency may become a way of adapting to life situations. Such an individual may not be interested in a medical solution to his health problems, but rather social support

for his means of adaptation. Physicians may be consulted frequently for this reason. Indeed, the need for emotional support may override if not complicate existing physical problems. If the physician treats only the physical problems and emotional support is not forthcoming, the individual may become skeptical and dissatisfied with medical care and rely on lay persons, particularly friends and relatives, to provide the emotional support that is needed to cope with his imagined or real health problems. In some cases these individuals may seek non-medical health care since the non-medical practitioners often are more sympathetic to health problems that are not strictly of a physiological origin.

This phenomenon does not seem to be a major problem in Wakita since neither the skepticism scale nor the dependency scale show rates that are unusually high.

Skepticism--Denial

The Spearman Rank Correlation also shows a significant positive correlation between skepticism and sick role denial ($r_s = 0.20$, $P = < 0.05$ (two-tailed test)). One possible explanation of why these two scales are positively related may be that individuals having a high denial of the sick role show a reluctance to enter the sick role many times as a defense mechanism against facing their problems and loss of social roles that often accompany illness. In order to avoid facing the reality of illness when it strikes, the individual will often tend to minimize or reject the medical opinion of the physician. In some instances the individual may avoid seeing a physician with the rationalization that physicians cannot really do much to help people anyway.

As a result individuals with a high denial of illness often become skeptical of medical care but for different reasons than an individual with high dependency. This phenomenon could be more of a problem in Wakita than that associated with the high dependency scale since the respondents did display higher scores in the denial scale than they did in the dependency scale.

Dependency--Denial

The Spearman Rank Correlation did not show any significant correlation between dependency and sick role denial. One would not expect a direct correlation between these two scales since they represent the extreme ends of a continuum on the attitudes toward the sick role. An individual with a high dependency attitude would not be expected to also display a high denial attitude.

CHAPTER IV

SUMMARY AND CONCLUSIONS

The purpose of this study was to establish and examine the health care utilization patterns, health knowledge and attitudes in a rural community. Relevant data in these areas were compared with applicable data from Koos' work on Regionville (21) and Samora, Saunders and Larson's study of medical vocabulary in a hospital setting (31). Another purpose of this study was to gather baseline data on the health status of the community which would be of value to subsequent studies on rural health problems.

Koos found that social class and use of a family doctor were directly related. Individuals in Social Class I reported a much higher percentage of respondents having family doctors than either Social Classes II or III. Social Class I showed a percentage almost three times that of Social Class III in respondents having family doctors. However, in Wakita much different results were found in families reporting employment of a family physician. Social Class I-II had the greatest percentage of those not having family doctors. Social Class V reported a figure almost equal to that of Social Class I-II. The middle classes (III and IV) had the largest percentage of those persons having a family doctor. There may be two other factors at work in this situation

other than social class which might explain these differences. First is the difference in the accessibility of physicians in the two studies. Physicians were located much closer to the respondents in Regionville. As a consequence many people in Social Class I-II in the Wakita study reported they had used osteopaths and to a lesser degree chiropractors for health care because they were more geographically accessible. This would reduce the number of times a person might see a medical doctor since he would have to travel farther to see one. Persons in Social Class I-II would probably be reluctant to report their family doctor was an osteopath or chiropractor, and in fact no one in Social Class I-II reported this; all other classes did. Yet, because of the mixed use of health care providers by Social Class I-II, this may have hampered establishment of a family relationship with a medical doctor because of the less frequent visits and distance concerned. Another possible explanation was the situation concerning the physician at the health center during the time this study was conducted. The individuals in Social Class I-II were very eager to support the health center during the time this study was conducted, but they knew the physician at the health center was not going to be there permanently. It was felt that some respondents did not want to say they had a family doctor elsewhere since this might indicate future non-support of the Community Health Center. Also they had not as yet established a family relationship with the physician in Wakita because they knew he was leaving; therefore, some indicated they had no family doctor. It is very likely that if these factors were not involved, the social class differences found by Koos would have emerged in Wakita. The social class distribution in

Regionville and Wakita was similar with both communities being primarily "blue collar."

Koos found much more dissatisfaction with the medical care in Regionville than was reported in Wakita. The dissatisfaction was greatest in the lower social classes in Regionville; the same was true in Wakita although the social class differences were slight.

The Wakita study showed more widespread use of chiropractors by all social classes than did the Regionville study. In the Regionville study the utilization of chiropractors was primarily by the lower social classes; utilization was also greatest in the lower social classes (IV and V) in the Wakita study except the differences between social classes were much less. Again this difference is probably due to the long distance from sources of medical care in the Wakita study. While the utilization of chiropractors was greater in Wakita than Regionville, the variety of health problems given as the reason for the visit was much less in Wakita. The reason given most often for visits to a chiropractor in the Wakita study was almost exclusively muscular-skeletal problems. Reasons for medical visits in Koos' study included many respiratory problems, headaches, heart trouble, and digestive problems, although most of these reasons except respiratory troubles were reported in the lower social classes.

The percentage of respondents who had visited a dentist in the past year was higher in Wakita than it was in Regionville. However, Social Class I in Regionville reported slightly higher usage than the same group in Wakita. The lowest social classes in Wakita reported much more utilization of dentists in the past twelve months than the lowest

social classes in Regionville. Extractions were the principal reasons for visits to the dentist in the lowest social class of Koos' study while extractions accounted for only 8 percent of the reasons for seeing a dentist in the comparable class in Wakita. Repair or fitting of dentures was the most commonly reported reason for visits to a dentist among class V in Wakita. The Wakita study showed only very small social class differences in the reasons for visits to a dentist with the exception of dentures in Social Class V and orthodontic and restorative work in Social Class I-II. The Regionville study showed that prophylaxis and extractions as reasons for seeing a dentist were related to social class.

The number of persons who reported having physical examinations decreased as the position of social class lowered in both studies; however, the percentage of those having regular physical examinations was much higher in all social classes in the Wakita study. Koos' study also found that about half of the respondents in class II and III could not remember if they had had a physical examination or not. This high rate of non-committal was not found in Wakita.

Information on immunizations was not well reported in Koos' study and very few respondents could recall when or what immunizations their families had received. Immunization rates were reasonably high in Wakita particularly among the children, and in most families recall of dates and types of immunization was exceptionally good. This perhaps reflects a greater concern for preventive health measures in Wakita than was true for Regionville.

There were no significant social class differences in those

persons reporting possession of health insurance in the Wakita study. All social classes were uniformly high with only a difference of 8 percentage points from class I-II to class V. The Regionville study showed that possession of health insurance was significantly related to social class. However, the possession of health insurance today is much more widespread than it was when the Regionville study was conducted about fifteen years ago.

In comparing the results of the medical vocabulary test in the Wakita study to Samora's study of medical vocabulary, it was found that the respondents in the Wakita study were much better informed on the meaning of medical terminology than were the respondents in Samora's study. Respondents in the Wakita study scored a higher percentage of correct answers on fifteen of the twenty terms selected for the test. The percentage of respondents who had no knowledge of the meaning of some words was much higher in the Samora study than it was in the Wakita study. The adequate response rate in the Wakita study was 62.2 percent while the University of Colorado Hospital study was 46.7 percent. The mean number of correct responses in the Wakita study was 12.4; the mean in the hospital study was 9.3. This may indicate better patient-physician communication among the respondents in Wakita than those in the study done in a hospital setting, although both studies show the level of health knowledge to be below a satisfactory level.

This study was conducted in Wakita, a small prosperous farming community in northeast Oklahoma. Wakita is primarily a blue-collar community with about two thirds of the population being in Social Classes IV and V based on Hollingshead's Two Factor Index of Social Position (38).

The education level is fairly high with 67 percent having at least a highschool education. Wakita is a stable community with most of the population having resided there for twenty years or longer.

The patterns of health care utilization are complicated because of the relative isolation of Wakita and the lack of available medical personnel. It is a considerable distance to a physician's office and a hospital. Chiropractors and osteopaths are much more accessible than are medical doctors. Consequently, they are used more often than might be in the case in a more urbanized situation. Therefore, some of the expected social class differences in patterns of health care utilization did not appear. It was clear that the availability of medical personnel and the physician/patient ratio negated some of the social class differences in utilization of health care. For instance, the employment of a family physician was not found to be related to social class. Social Class I-II was expected to have the highest proportion of respondents who had a family physician but they were found to have a higher proportion of those who did not have one. However, Social Class I-II saw physicians more often and on a more regular basis than any other social class. Social Class I-II also saw physicians for preventive care more often than any other social class. Social Classes IV and V sought medical attention more often for more immediate and obvious health problems.

The utilization of osteopaths and chiropractors did not show any clear social class difference with small variations in utilization being reported by all social classes. However, among those persons who had not seen an osteopath or chiropractor significant differences did appear in those persons who objected to visiting an osteopath or

chiropractor for health care. There was a significant relationship between social class and those who objected to seeing osteopaths and chiropractors; the higher the social class the larger the proportion of respondents who objected to seeing a chiropractor or osteopath.

The use of dentists was directly related to social class. Social Class I-II made more regular and frequent visits to the dentist than did the other social classes, particularly Social Classes IV and V. Social Class I-II also reported orthodontic and restorative work as being the reason for seeing the dentist much more often than any other social class. In general the lower the social class the longer it had been since the respondent had seen a dentist and the more likely the reason was to be an emergency or immediate dental problem.

There was only one report of a respondent utilizing a Christian Science practitioner for health care and no reports of utilization of a religious or faith healer among the respondents.

Slightly less than 95 percent of the respondents had been hospitalized some time in their life and about 14 percent had been hospitalized in the past year. Social class did not appear to be an important factor in hospitalization experience.

Families having health insurance were uniformly high among all social classes. Health care costs showed half of the respondents spending less than \$500 a year for health care.

Respondents who had annual physical and dental examinations were found predominantly in Social Class I-II. There was a significant relationship between social class membership and the occurrence of annual physical and dental examinations.

Immunization levels were below 50 percent for all immunizations (polio, smallpox, tetanus and measles) except the DPT (diphtheria, pertussis and tetanus). The immunization levels for those under 15 years of age were much higher for polio and tetanus; however they were low for measles. (The Oklahoma State Department of Health considers immunization levels of 80 percent or above to be adequate protection for a community.)

A wide range of chronic diseases was reported particularly in Social Class V which contained many elderly persons. It is interesting to note that although Social Class V reported more chronic illnesses, they see physicians less often and have fewer physical examinations than any other social class.

Health knowledge was assessed in two ways: (a) a twenty question health and illness inventory and (b) a query of the definitions of twenty commonly used medical terms. About one third of the population of Wakita could be considered to be well informed on health matters as measured by the health and illness inventory. The level of health knowledge was found to be significantly related to educational achievement. There was an inverse relationship between the level of health knowledge and age. Social class differences were also significant but it was not as important a factor as education. There were no significant differences between the sexes in the level of health knowledge. Nearly one third of the sample was lacking in information about health and illness and answered less than 50 percent of the information correctly.

The results of the medical vocabulary test showed a pattern similar to that of the health and illness inventory. The sample seems

to be distributed into three groups: about one third are fairly well informed; one third, not well informed; and the other, grossly lacking in health information as measured by the performance on the medical vocabulary test. A noteworthy point is that the individuals who are well informed are also the same individuals who see their physician and dentist on a regular basis. They are primarily individuals from classes I-II and III who have a high level of education and are between the ages of 25 and 54. The performance on the medical vocabulary test was significantly related to age, education, and social class. Slightly more than 60 percent of the responses to the medical terms were scored as being adequately defined. The majority of the responses that were either wrong or vague came from those with less than a highschool education, Social Classes IV and V, and the older age groups. The level of health knowledge in Wakita is sufficiently low, particularly in the lower social classes, to be a barrier in effective physician-patient communication and the recognition of certain health problems, both personal and environmental, that require remedial action. This point is illustrated by the fact that individuals from Social Class V were either unable or unwilling to identify health problems existing in Wakita to the same extent as those individuals from other social classes.

The sources of health information were more diverse in Social Classes I-II and III than they were in classes IV and V. Individuals in Social Classes IV and V relied more heavily on physicians for most of their health information, while individuals in classes I-II and III used books and other methods more often. It was found that individuals who named books as their primary source of health information were better

informed than those who relied on their physicians as their major source of health information.

In selecting a physician, factors concerning the personality of the physician and the satisfaction with the personal behavior and attitude of the physician were much more important to most of the respondents than were his technical competence, the medical school he attended, or number of degrees he earned. While the personal characteristics of a physician were important to all social classes, they were even more important to the lower social classes. This creates a dilemma in establishing a good patient-physician relationship in the lower social classes. The social distance between the physician and the patient in the lower social classes is great, and this hampers the establishment of good rapport between the patient and physician. This may also explain the high degree of skepticism toward medical care found in the lower social classes. Respondents in classes IV and V also preferred male, middle-aged physicians. All social classes expressed a high degree of satisfaction with physicians and the treatment received from them. Most of the respondents also preferred to see the same physician each time. This was occasionally mentioned as being a problem in the Community Health Center when the physicians were supplied on a rotating basis from the University of Oklahoma Medical Center.

About 60 percent of the respondents indicated that they were in favor of the Medicare program. Only slightly more than one third of those in Social Class I-II indicated a favorable reaction to Medicare while three fourths of Social Class V favored it. As anticipated, as age increased so did support of the Medicare program. All social classes

were opposed to the extension of Medicare to cover groups other than those over 65.

The need for a permanent physician to staff the Community Health Center was named most frequently as the major health problem in Wakita. Slightly more than one fifth of the respondents were unable to identify any health problem in Wakita. Most of these individuals were from Social Classes IV and V. Most of the other health problems mentioned were concerned with improvement of the physical environment.

A favorable attitude was expressed toward the Community Health Center. A large majority of respondents felt the center was needed. However, the center was being utilized primarily by the upper social classes and those under 55 years of age. About 10 percent of the sample stated they did not plan to use the Community Health Center. All but one of these individuals were age 65 or older, and most of them were from Social Classes IV and V.

Skepticism of medical care was not high in Wakita. Only 4 percent scored in the high skepticism category and 32 percent in the medium high skepticism category. Over 80 percent of the respondents were clustered near the mid-point of the attitude scale. However, there were some significant social class differences with skepticism being highest in classes IV and V. Skepticism was greatest in those who utilized health and medical facilities the least and had the lowest level of health knowledge. Although not statistically significant, skepticism appeared to be higher among those under 35 years of age than for all other age groups.

Dependency in the sick role was found at higher levels than skepticism of medical care. But only 12 percent displayed a high

degree of dependency and 70 percent scored in the medium-high dependency category. Although there were no significant differences by age, sex, education, or social class, dependency appeared to be higher among those under 35 and over 65 years of age. Those individuals with a high dependency score did not make more visits to see a physician than those with lower dependency. However, they did reflect a high score in the skepticism scale.

Denial of the sick role contained higher scores than any of the three attitude scales utilized. Less than 10 percent scored in the medium low category and no one scored in the low category. All other scores were in either the medium high or high categories. The high scores on the denial scale could possibly be a factor in delay of medical care. Although not statistically significant denial of the sick role demonstrated a tendency to be slightly higher in Social Class V than all other social classes and also slightly higher in those individuals under 25 and over 65 years of age. All of these groups had less utilization of health care and lower levels of health knowledge than the remainder of the sample.

There was a positive correlation between the skepticism of medical care scale and the dependency in the sick role scale, also a positive correlation between the skepticism scale and the denial of sick role scale. There was no significant correlation between the dependency and the denial scales.

It is evident that the majority of the people in Wakita support and plan to utilize the Community Health Center. However, for adequate support the center must attract consumers within a fifty mile radius of

Wakita. In order to attract individuals from outside Wakita and those in Wakita who are not now utilizing the center, it must become firmly established and meet the needs of its consumers. Many respondents related they were waiting to see if a permanent physician was secured before they moved their medical records and used the center for the majority of their health care. Unless at least two full-time physicians are retained by the center, many of the benefits of the program will not be realized. The health center has an opportunity to make a tremendous impact on the health of the people of northwestern Oklahoma and to serve as an example for supplying health care to rural areas. This will not be fully realized unless preventive services and environmental control activities are included as a part of the total health program. Greater efforts must be made to reach the lower social class and the elderly since these are the groups who are utilizing the center least, but their health needs are probably the greatest of all.

The problems encountered by the center are complex and have developed over a long period of time; adequate solutions to these problems require time and an ecological approach. Within five years this study should be utilized as a baseline and additional research should be conducted to assess the impact of the health center on the health care utilization patterns, health knowledge and attitudes, and the health status of the community.

REFERENCES CITED

1. McNerney, W. J., et al. Regionalization and Rural Health Care, Ann Arbor: Univ. of Michigan, 1962.
2. Roemer, M., "Rural Medicine in Crisis," Edited by Committee on Medical Care Teachings, Readings in Medical Care, Chapel Hill: Univ. of North Carolina Press, 1958.
3. Mott, F. P., and Roemer, M., Rural Health and Medical Care, New York: McGraw Hill, 1948.
4. Stewart, W. H., and Pennell, M. Y., "Physicians Ages, Type of Practice and Location," Section 10 of Health Manpower Source Book, Washington, D.C.: U.S. Department of Health, Education, and Welfare, PHS Pub. No. 263, 1960.
5. Roemer, M., "Rural Medical Care Programs," Edited by Committee on Medical Care Teachings, Readings in Medical Care, Chapel Hill: Univ. of North Carolina Press, 1958.
6. Gordon, J. E., "Ecologic Interplay of Man, Environment and Health," American Journal of Medical Sciences, pp. 341-356, 1966.
7. Dobzhansky, T., Mankind Evolving: The Evolution of the Human Species, New Haven: Yale Univ. Press, 1962.
8. Anderson, O. W., and Rosen, G., "An Examination of the Concept of Preventive Medicine," Health Information Foundation Research Series 12, New York, pp. 4-6, 1960.
9. Dubos, R., "Man Versus Environment," Industrial Medicine and Surgery, 30, pp. 369-373, 1961.
10. Gregg, A., "The Future Health Officer's Responsibility: Past, Present and Future," American Journal of Public Health, 46, pp. 1384-1389, 1956.
11. McCord, C., "Man and His Environment," Industrial Medicine and Surgery, 30, pp. 354-368, 1961.
12. Suchman, E. A., Sociology and the Field of Public Health, Russell Sage Foundation, New York, 1963.

13. King, S. H., "Social Psychological Factors in Illness," Freeman, H., Levine, S., Reeder, L., Editors, Handbook of Medical Sociology, Prentice Hall, pp. 91-121, 1963.
14. Anderson, O. W., "Infant Mortality and Social and Cultural Factors," E. Gartley Jaco, Editor, Patients, Physicians and Illness, Glencoe, Ill.: The Free Press, pp. 10-23, 1958.
15. Faris, R. E. L., and Dunhan, W. H., Mental Disorders in Urban Areas, Chicago: Univ. of Chicago Press, 1939.
16. Hollingshead, A. B., and Redlich, F. C., Social Class and Mental Illness, New York: John Wiley and Son, 1958.
17. Graham, S., "Social Factors in Relation to the Chronic Illnesses," Freeman, H., Levine, S., Reeder, L., Editors, Handbook of Medical Sociology, Englewood Cliffs, N.J.: Prentice Hall, pp. 65-95, 1963.
18. Apple, D., "How Laymen Define Illness," Journal of Health and Human Behavior, 1, pp. 219-225, 1960.
19. Graham, S., "Socioeconomic Status, Illness and the Use of Medical Services," Patients, Physicians and Illness, E. Gartley Jaco, Editor, Glencoe, Ill.: Free Press, pp. 129-134, 1955.
20. Suchman, E. A., "Social Factors in Medical Deprivation," American Journal of Public Health, 55, pp. 1725-1733, 1965.
21. Koos, E. L., The Health of Regionville, New York: Columbia Univ. Press, 1954.
22. Anderson, O. W., "Utilization of Health Services," Handbook of Medical Sociology, Freeman, H., Levine, S., Reeder, L., Editors, Englewood Cliff, N.J.: Prentice Hall, pp. 349-369, 1963.
23. Ross, J., "Social Class and Medical Care," Journal of Health and Human Behavior, 3, pp. 35-43, 1962.
24. Gray, R. M., et al. "The Effects of Social Class and Friends Expectations on Oral Polio Participation," American Journal of Public Health, 56, pp. 12-22, 1966.
25. Mechanic, D., Medical Sociology, New York: Free Press, 1968.
26. Cobb, B., et al. "Patient Responsible Delay of Treatment in Cancer," Cancer, 7, pp. 926-976, 1954.
27. Friedson, E., "The Organization of Medical Practice and Patient Behavior," American Journal of Public Health, 51, pp. 43-52, 1961.

28. Davis, M., "Variations in Patients Compliance with Doctors Advice: An Empirical Analysis of Patterns of Communication," American Journal of Public Health, 58, 1960.
29. Suchman, E. A., "Social Patterns of Illness and Medical Care," Journal of Health and Human Behavior, 6, pp. 2-16, 1965.
30. Schram, W., Knowledge and the Public Mind, Palo Alto, Calif: Stanford Univ. Press, 1969.
31. Samora, J., et al. "Medical Vocabulary Knowledge Among Hospital Patients," Journal of Health and Human Behavior, 2, pp. 83-92, 1961.
32. Mechanic, D., "Sociology of Medicine: Viewpoints and Perspectives," Journal of Health and Human Behavior, 7, pp. 237-248, 1966.
33. Dennis, J. L, and Points, T. C., The Wakita Story of the University of Oklahoma Medical Center, (mimeographed), 1969.
34. U.S. Bureau of the Census, United States Census of Oklahoma, 1960, General Population Characteristics.
35. An Overall Economic Development Program for Grant County, Prepared by the Grant County Program Planning and Resources Development Council, 1964.
36. Comprehensive Area-Wide Water and Sewer Plan, Grant County, Prepared by Extension Service, Oklahoma State University, 1968.
37. Oklahoma Data Book, Bureau of Business Research, University of Oklahoma, 1968.
38. Hollingshead, A. B., "Two Factor Index of Social Position," New Haven, (mimeographed), 1957.
39. Kassebaum, G., "Dimensions in the Sick Role in Chronic Illness," Journal of Health and Human Behavior, 6, 1965.
40. Kirscht, J. P., et al. "A National Study of Health Beliefs," Journal of Health and Human Behavior, 7, No. 4, pp. 248-254, 1966.
41. Siegel, Sidney, Non-Parametric Statistics for the Behavioral Sciences, New York: McGraw Hill, 1956.

APPENDIX A

WAKITA HEALTH STUDY

Wakita, Oklahoma

1969

Respondent _____ Age _____

Address _____ Telephone _____

Type of Dwelling:

- | | |
|---------------------------------|-----------------------|
| A. ___ Detached Single Dwelling | D. ___ Hotel or Motel |
| B. ___ Apartment House | E. ___ Trailer |
| C. ___ Boarding House | F. ___ Other |

Time Started _____

Time Completed _____

Total Time of Interview _____ Date Completed _____

Interviewer _____

1. How long have you lived here in Wakita or in Wakita area (10 mile radius) _____ Years
2. Where did you live before Wakita? How long?
Other Places of Residence: _____ Years
 - a. _____
 - b. _____
 - c. _____
 - d. _____
3. Where were you born? _____
4. What is your birthdate? _____
5. Are you now:
 - a. _____ Single
 - b. _____ Married
 1. How old is your husband/wife? _____ Years
 - c. _____ Widowed
 - d. _____ Divorced
 - e. _____ Separated

How many children do you have at home? _____
6. Do any other adults live with you? _____ If yes, how many? _____
7. Most of my questions are about health. First, we would like to know about your health and the health of your family. How would you rate your own health at this time? Is it excellent, good, fair, or poor?

1. _____ Excellent	3. _____ Fair
2. _____ Good	4. _____ Poor
8. Would you rate your husband/wife's health at this time as excellent, good, fair, or poor?

1. _____ Excellent	3. _____ Fair
2. _____ Good	4. _____ Poor
9. Do you have a family doctor? _____ Yes _____ No

Name _____

Town _____

Kind of Doctor _____

When was last visit _____
10. Where would you go to see the doctor if you thought you might have something like a bad cold, the flu or sore throat?

Location _____ Distance _____
11. Where would you go to see the doctor if you thought you might have a condition such as high blood pressure or diabetes?

Location _____ Distance _____

12. Where would you go to see a doctor for something such as open-heart or brain surgery?

Location _____ Distance _____

13. Have you or your husband/wife ever been to see:

Type of Doctor or Healer	Ever Visited	If Yes, Last Visit	Where	No. Visits Past Year	If No, Object Going To
a) M.D.					
Respondent					
Reason for Visit					
Spouse					
Reason for Visit					
b) Chiropractor					
Respondent					
Reason for Visit					
Spouse					
Reason for Visit					
c) Osteopath					
Respondent					
Reason for Visit					
Spouse					
Reason for Visit					
d) Dentist					
Respondent					
Reason for Visit					
Spouse					
Reason for Visit					
e) Religious Healer					
Respondent					
Reason for Visit					
Spouse					
Reason for Visit					
f) Christ. Sci. Read.					
Respondent					
Reason for Visit					
Spouse					
Reason for Visit					

14. Do you or any member of your family see a dentist at least once a year? R-Respondent S-Spouse C-Children
1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

15. We wonder if you or any member of your family have ever gone to a doctor or medical clinic for a "check-up" or examination even though you didn't think you had anything wrong with you or your family member?
1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

If yes, about how long ago? _____

16. Do you or any of your family members get a physical check-up every year on a regular routine basis?
R-Respondent S-Spouse C-Children
1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

17. Have you or anyone in your family ever been admitted to the hospital?

Respondent: 1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

When was the last time? _____

Where? _____

What Reason? _____

Times Past 3 Years? _____

Spouse: 1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

When was the last time? _____

Where? _____

What Reason? _____

Times Past 3 Years? _____

Children: 1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

When was the last time? _____

Where? _____

What Reason? _____

Times Past 3 Years? _____

18. I would like to know how satisfied you have been with the treatment and the medical care received in the hospital?

(Card 1. ☐ Very satisfied 2. ☐ Somewhat satisfied 3. ☐ Just satisfied
#1) 4. ☐ Not satisfactory 5. ☐ Dissatisfied 6. ☐ Don't know

19. Some people go to the same doctor all their lives, but others, for different reasons, change their doctors and switch from one doctor to another from time to time. Have you stopped going to one doctor and started going to another in the last 5 years?

1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

How many times

Last time

Reason

20. Now, as you know, like anyone else, some doctors are better than other doctors. Have you ever had any "bad" experience with any medical doctor which made you lose confidence in him?

1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

If yes, please explain.

21. People have personal preferences in most things and differ in their satisfaction with things. How satisfied have you been with the treatment and medical care received from medical doctors (M.D.'s) up to now?

(Card #1) 1. ☐ Very satisfied 4. ☐ Not satisfied
2. ☐ Somewhat satisfied 5. ☐ Dissatisfied
3. ☐ Just satisfactory 6. ☐ Don't know

22. Some people think all medical doctors are pretty much the same. Others feel it is very important to see the same doctor all the time. How important is it to you to see the same doctor each time you need him.

(Card #2) 1. ☐ Very important 4. ☐ Unimportant
2. ☐ Somewhat important 5. ☐ Don't know
3. ☐ Not very important

23. When you get sick do you prefer to see a general practitioner or family doctor or a specialist in a particular area of medicine?

1. ☐ General practitioner 3. ☐ Doesn't matter
2. ☐ Specialist 4. ☐ Don't know

24. Please look at this card while I ask you some questions about doctors, and give me your answer from among those on the card after I ask each question. When considering going to a medical doctor for help, how important would you personally rate each of the following items?

(Card #2) a. The medical school graduated from:

1. ☐ Very important 3. ☐ Not very important
2. ☐ Somewhat important 4. ☐ Unimportant

b. That he is a male doctor:

1. ☐ Very important 3. ☐ Not very important
2. ☐ Somewhat important 4. ☐ Unimportant

c. How he acts or behaves:

1. ☐ Very important 3. ☐ Not very important
2. ☐ Somewhat important 4. ☐ Unimportant

d. What he charges for his services:

1. ☐ Very important 3. ☐ Not very important
2. ☐ Somewhat important 4. ☐ Unimportant

e. Appearance of his office:

1. ☐ Very important 3. ☐ Not very important
2. ☐ Somewhat important 4. ☐ Unimportant

- f. That he is an older doctor:
 1. ☐ Very important 3. ☐ Not very important
 2. ☐ Somewhat important 4. ☐ Unimportant
- g. His willingness to make house calls:
 1. ☐ Very important 3. ☐ Not very important
 2. ☐ Somewhat important 4. ☐ Unimportant
- h. Whether he practices alone or with other doctors:
 1. ☐ Very important 3. ☐ Not very important
 2. ☐ Somewhat important 4. ☐ Unimportant
- i. The distance from his office to my home:
 1. ☐ Very important 3. ☐ Not very important
 2. ☐ Somewhat important 4. ☐ Unimportant
- j. How he treats me:
 1. ☐ Very important 3. ☐ Not very important
 2. ☐ Somewhat important 4. ☐ Unimportant
- k. The length of time you must wait to see him:
 1. ☐ Very important 3. ☐ Not very important
 2. ☐ Somewhat important 4. ☐ Unimportant
- l. What hospital he practices in:
 1. ☐ Very important 3. ☐ Not very important
 2. ☐ Somewhat important 4. ☐ Unimportant
- m. How efficient he is, that is, doesn't waste any time:
 1. ☐ Very important 3. ☐ Not very important
 2. ☐ Somewhat important 4. ☐ Unimportant

25. Here is a list of health problems that people sometimes have. Have you been told by a doctor that you or a member of your family now have or have had any of the following conditions or problems during the past two years? I'll read each one to you and you stop me if one pertains to you.

R-Respondent

S-Spouse

C-Children

- | | |
|---|---|
| a. ☐ heart disease | m. ☐ kidney trouble |
| b. ☐ high blood pressure | n. ☐ asthma |
| c. ☐ stroke | o. ☐ bronchitis |
| d. ☐ arthritis or rheumatism | p. ☐ tuberculosis |
| e. ☐ stomach ulcer | q. ☐ Parkinson's disease |
| f. ☐ gall bladder trouble | r. ☐ multiple sclerosis |
| g. ☐ diabetes | s. ☐ emphysema |
| h. ☐ cancer (of any kind) | t. ☐ hay fever |
| i. ☐ deafness | u. ☐ mental illness |
| j. ☐ blindness | v. ☐ prostate problem |
| k. ☐ rheumatic fever | w. ☐ an accident |
| l. ☐ glaucoma | |

26. Do you or your husband/wife smoke cigarettes?

RespondentSpouse1. ☐ Yes 2. ☐ No1. ☐ Yes 2. ☐ No

How long have you smoked? _____

How long have you smoked? _____

Packs smoked per day _____

Packs smoked per day _____

*If no, have you ever smoked?

Respondent
1. ☐ Yes 2. ☐ No

Spouse
1. ☐ Yes 2. ☐ No

Why did you quit?

27. Now we would like to learn something about your health or hospitalization insurance. Are all members of your family covered by any kind of insurance to help cover sickness or hospitalization?

1. ☐ Yes 2. ☐ No 3. ☐ Don't know

What members _____

If yes, does it cover:

Any hospital costs: 1. ☐ Yes 2. ☐ No 3. ☐ Don't know

Any of the doctor's bill or his care: 1. ☐ Yes 2. ☐ No 3. ☐ Don't know

Any surgery costs: 1. ☐ Yes 2. ☐ No 3. ☐ Don't know

28. Are you satisfied with the coverage and benefits offered by your insurance?

1. ☐ Yes 2. ☐ No 3. ☐ Don't know

29. What are your opinions on Medicare?

1. ☐ Good idea 2. ☐ Don't like it 3. ☐ Don't know

Why?

30. Do you feel Medicare should be available to everyone regardless of age?

1. ☐ Yes 2. ☐ No 3. ☐ Don't know

If no, why?

31. Could you estimate as closely as you can how much money your family spent all last year for medical bills, including drugs and any premiums you paid for health insurance? (January - December)

Medical bills and drugs _____

Insurance premiums _____

I will now read you several questions about health and illness. Of the possible answers I will read, please tell me which one you feel is correct.

32. Tuberculosis of the lungs is due to:

1. ☐ Prolonged exposure to the cold 3. ☐ Anemia and vitamin deficiency
2. ☐ Infection with a germ 4. ☐ Don't know

33. The most common type of cancer in men is:

1. ☐ Lung cancer 3. ☐ Prostate cancer
2. ☐ Cancer of the liver 4. ☐ Don't know

34. A stroke is:
- | | |
|---|--|
| 1. ☐ A blood clot in the heart | 3. ☐ Hemorrhage or blood clot |
| 2. ☐ Blood clot in the arms and legs causing paralysis | 4. ☐ in the brain |
| | 4. ☐ Don't know |
35. The most common symptom of a stroke is:
- | | |
|--|---|
| 1. ☐ Severe chest pain spreading to the arm | 3. ☐ Rapid and irregular heartbeat |
| 2. ☐ Paralysis | 4. ☐ Don't know |
36. Persons with stomach ulcers often:
- | | |
|---|--|
| 1. ☐ Have severe cramps and diarrhea | 3. ☐ Have pain in the abdomen which is relieved by eating |
| 2. ☐ Have pain in the abdomen right after eating | 4. ☐ Don't know |
37. Coronary thrombosis is:
- | | |
|--|--|
| 1. ☐ A kind of cancer | 3. ☐ A blood clot in a heart artery |
| 2. ☐ The same as a stroke | 4. ☐ Don't know |
38. The most common symptom of coronary thrombosis is:
- | | |
|---|---|
| 1. ☐ Rapid irregular heartbeat | 3. ☐ Steady pressing pain in the chest |
| 2. ☐ Paralysis | 4. ☐ Don't know |
39. Arthritis is a condition in which:
- | | |
|---|---|
| 1. ☐ The joints are painful, swollen or misshapen | 3. ☐ There are imaginary joint pains caused by nervousness |
| 2. ☐ The joints always become completely stiff and useless | 4. ☐ Don't know |
40. Asthma is a condition in which there is:
- | | |
|--|---|
| 1. ☐ A severe chest cold | 3. ☐ A form of pneumonia |
| 2. ☐ Wheezing and difficulty in breathing | 4. ☐ Don't know |
41. Leukemia is:
- | | |
|---|--|
| 1. ☐ A cancer-like condition | 3. ☐ A condition resulting from iron deficiency |
| 2. ☐ A severe infection | 4. ☐ Don't know |
42. Which of the following kinds of people would be most likely to get diabetes:
- | | |
|---|---|
| 1. ☐ People who are underweight | 3. ☐ People who eat too much sugar |
| 2. ☐ People who have relatives with diabetes | 4. ☐ Don't know |
43. Diabetes is:
- | | |
|---|--|
| 1. ☐ Contagious or "catching" | 3. ☐ More common in people who are overweight |
| 2. ☐ Due to a poorly functioning liver | 4. ☐ Don't know |

44. Cancer of the cervix:
 1. _____ Can be detected by a quick and reliable test in the doctor's office
 2. _____ Is common in middle age men
 3. _____ Is almost always fatal
 4. _____ Don't know
45. Water containing small amounts of fluorides:
 1. _____ Is dangerous to health
 2. _____ Helps prevent tooth decay
 3. _____ Gives a bad taste to the water
 4. _____ Don't know
46. Some type of birth defect is likely to be present in the baby if during the first trimester of pregnancy the expectant mother contacts this disease:
 1. _____ Measles (Red)
 2. _____ Chicken Pox
 3. _____ Rubella (German Measles)
 4. _____ Don't know
47. The most common cause of being overweight is:
 1. _____ Something wrong with the glands of the body
 2. _____ Inherited from parents
 3. _____ Eating too much
 4. _____ Don't know
48. The largest contributor to the air pollution problem in the United States today is:
 1. _____ Industry
 2. _____ Automobiles
 3. _____ Burning trash
 4. _____ Don't know
49. How many people were killed in automobile accidents last year in the United States?
 1. _____ 55,000
 2. _____ 20,000
 3. _____ 105,000
 4. _____ Don't know
50. Why is it important to pasteurize milk:
 1. _____ So that the cream will not rise to the top
 2. _____ To improve the flavor of the milk and make it more digestible
 3. _____ To kill pathogenic bacteria that might be in the milk
 4. _____ Don't know
51. Excessive cigarette smoking:
 1. _____ May slow a child's growth
 2. _____ Has been linked to high rates of lung cancer, emphysema and several other diseases
 3. _____ Is no threat to a person's health
 4. _____ Don't know
52. Name the three leading causes of death in the United States in 1968.
 1. _____
 2. _____
 3. _____

53. I will now read you a list of words; please give me the definition of each word or what each of the words mean to you. Score: Adequate - Wrong or vague - No Knowledge

- a. Injection
- b. Dilate
- c. Amputate
- d. Therapy
- e. Abdomen
- f. Germs
- g. Autopsy
- h. Tendon
- i. Sedative
- j. Intern
- k. Cardiac
- l. Nerve
- m. Cerebral
- n. Orally
- o. Respiratory
- p. Appendectomy
- q. Malignant
- r. Vomit
- s. Terminal
- t. Pulse

54. Do you or anyone in your family have any books in your home which you use to look up information on an illness or medicine?

1. ☐ Yes 2. ☐ No 3. ☐ Don't know

If yes, name of book(s) _____

55. Occasionally, the radio and television have programs on health and medical matters. How interested would you say that you are in such radio and television health programs?

- (Card 1. ☐ Very interested 4. ☐ Not at all interested
 #3) 2. ☐ Somewhat interested 5. ☐ Don't know, can't recall
 3. ☐ Not much interested

56. Could you tell me where you got most of your own information about health and sickness?

- (Card 1. ☐ Doctor 6. ☐ Television
 #4) 2. ☐ Friend 7. ☐ Radio
 3. ☐ Relative 8. ☐ Clinic or hospital
 4. ☐ Druggist 9. ☐ Books
 5. ☐ Newspaper 10. ☐ Other _____

57. Have you or any members of your family been immunized or vaccinated against the following diseases in the last 4 years?

Family Member	Smallpox	Polio Oral	D.P.T. D.T.	Children Only		
				Disease		
				Measles	Mumps	Whooping Cough
1. Respondent						
2. Spouse						
3. Children						
4.						
5.						
6.						
7.						

58. If it were your responsibility to identify some things that could be done to make Wakita a healthier place in which to live, what are some of the things that you would include on your list? Are there any health problems or health needs in the community that you think need attention?

59. Do you think the Community Health Center is needed in Wakita:

1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

60. Have you used the Community Health Center?

1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

If no, do you plan to use the Community Health Center?

1. ☐ Yes 2. ☐ No 3. ☐ Don't Know

If no, why?

61. Now I would like to read you a series of statements which people have made about health and illness. From the list of choices that I will hand you, tell me how you feel about each statement.

(Card a. I believe in trying out different doctors to find which one #5) I think will give me the best care.

- | | |
|--|---|
| 1. ☐ Strongly agree | 4. ☐ Mildly disagree |
| 2. ☐ Agree | 5. ☐ Disagree |
| 3. ☐ Mildly agree | 6. ☐ Strongly disagree |
- b. When I am ill I demand to know all the details of what is being done to me.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- c. I have my doubts about some things doctors say they can do for you.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- d. When I think I am getting sick, I find it comforting to talk to someone about it.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- e. When a person starts getting well, it is hard to give up having people do things for him.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- f. Illness makes a person a burden on other people around him.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- g. The trouble with getting ill is that you have to depend on others around you.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- h. The most important thing for a sick person to understand is that he needs outside help because he cannot help himself.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- i. Sick people deserve more consideration than they usually get.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- j. Many people act sicker than they are just in order to get sympathy.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- k. Most sickness is due to carelessness and wrong living habits.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- l. How fast a sick person gets well is due more to his own efforts than to any particular medicine he is taking.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD
- m. A person's health is his own responsibility just like any other part of his life.
1. ☐ SA 2. ☐ A 3. ☐ MA 4. ☐ MD 5. ☐ D 6. ☐ SD

We are just about finished, now I would like to ask a few questions about you and your family.

62. What was the last (highest) grade you completed in school?

- a. Grade ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8
- b. High School ☐ 1 ☐ 2 ☐ 3 ☐ 4
- c. College ☐ 1 ☐ 2 ☐ 3 ☐ 4
- d. Graduate or Professional School ☐ 1 ☐ 2 ☐ 3 ☐ 4
- e. Business, trade or technical school 1. ☐ Yes 2. ☐ No

63. What was the last (highest) grade your husband/wife completed in school?
- a. Grade 1 2 3 4 5 6 7 8
- b. High School 1 2 3 4
- c. College 1 2 3 4
- d. Graduate or Professional School _____
- e. Business, trade or technical school 1. 1 Yes 2. 2 No
64. Do you have a job now? _____ If yes, what kind of work do you do?

65. What is your husband/wife's occupation? _____
66. Finally, I wonder if you would answer one more question? Since families with different incomes usually are able to meet their financial costs of illness differently, we would appreciate it if you would kindly tell us which of the categories on this card best describes your total family income for the past year? Just give me the letter on the card which best fits this amount.
- (Card
- #6) a. 1 Under \$1,000
- b. 2 \$1,000 - \$2,999
- c. 3 \$3,000 - \$4,999
- d. 4 \$5,000 - \$6,999
- e. 5 \$7,000 - \$8,999
- f. 6 \$9,000 - \$9,999
- g. 7 \$10,000 - \$14,999
- h. 8 \$15,000 and over

APPENDIX B

TABLE 1

CORRECT RESPONSES TO HEALTH AND ILLNESS INVENTORY: MEAN SCORES
BY SEX, AGE, EDUCATION AND SOCIAL CLASS*

	N	$\bar{X}$
<u>Sex</u>		
Male	27	12.0
Female	98	13.6
Total	125	13.3
<u>Age</u>		
Less than 25	8	12.5
25 - 34	17	14.3
35 - 44	13	15.2
45 - 54	26	14.5
55 - 64	18	13.7
65 and over	43	11.6
Total	125	13.3
<u>Education</u>		
0 - 6	4	7.7
7 - 9	25	11.0
10 - 11	12	11.5
Highschool Graduate	52	13.6
College, 1 - 3	21	16.0
College Graduate	7	15.1
Post Graduate	4	16.5
Total	125	13.3
<u>Social Class</u>		
I-II	14	15.3
III	31	13.9
IV	54	13.6
V	26	10.7
Total	125	13.3

*The possible range in the health and illness inventory is 0-20, the higher score or number of correct responses the better informed the respondent.

TABLE 2

CORRECT RESPONSES TO TWENTY MEDICAL TERMS: MEAN SCORES
BY SEX, AGE, EDUCATION AND SOCIAL CLASS*

	N	$\bar{X}$
<u>Sex</u>		
Male	27	11.4
Female	98	12.6
Total	125	12.4
<u>Age</u>		
Less than 25	8	12.7
25 - 34	17	14.8
35 - 44	13	13.9
45 - 54	26	13.3
55 - 64	18	12.2
65 and over	43	10.5
Total	125	12.4
<u>Education</u>		
0 - 6	4	5.5
7 - 9	25	9.2
10 - 11	12	11.4
Highschool Graduate	52	13.2
College, 1 - 3	21	14.3
College Graduate	7	15.3
Post Graduate	4	17.0
Total	125	12.4
<u>Social Class</u>		
I-II	14	15.3
III	31	13.0
IV	54	12.5
V	26	9.8
Total	125	12.4

*The possible range on the twenty medical terms is 0-20, the higher the score or number of correct responses the better informed the respondent.

TABLE 3

SKEPTICISM OF MEDICAL CARE: MEAN SCORES BY SEX,
AGE, EDUCATION AND SOCIAL CLASS*

	N	$\bar{X}$
<u>Sex</u>		
Male	27	11.9
Female	98	11.0
Total	125	11.2
<u>Age</u>		
Less than 25	8	9.6
25 - 34	17	10.3
35 - 44	13	11.4
45 - 54	26	11.3
55 - 64	18	11.0
65 and over	43	11.7
Total	125	11.2
<u>Education</u>		
0 - 6	4	13.5
7 - 9	25	10.7
10 - 11	12	11.2
Highschool Graduate	52	10.8
College, 1 - 3	21	11.8
College Graduate	7	11.3
Post Graduate	4	13.0
Total	125	11.2
<u>Social Class</u>		
I-II	14	12.5
III	31	11.3
IV	54	10.6
V	26	11.5
Total	125	11.2

*The possible range of the skepticism attitude is 3-18, the lower the score the higher the degree of skepticism.

TABLE 4

SICK ROLE DEPENDENCY: MEAN SCORES BY SEX,
AGE, EDUCATION AND SOCIAL CLASS*

	N	$\bar{X}$
<u>Sex</u>		
Male	27	19.5
Female	98	19.9
Total	125	19.8
<u>Age</u>		
Less than 25	8	19.1
25 - 34	17	19.1
35 - 44	13	20.2
45 - 54	26	19.6
55 - 64	18	19.9
65 and over	43	20.2
Total	125	19.8
<u>Education</u>		
0 - 6	4	18.7
7 - 9	25	19.9
10 - 11	12	20.7
Highschool Graduate	52	19.8
College, 1 - 3	21	19.2
College Graduate	7	20.5
Post Graduate	4	20.7
Total	125	19.8
<u>Social Class</u>		
I-II	14	21.1
III	31	19.9
IV	54	19.6
V	26	19.5
Total	125	19.8

*The possible range in the dependency attitude scale is 6-36, the lower the score the higher the degree of dependency.

TABLE 5

DENIAL OF SICK ROLE: MEAN SCORES BY SEX,
AGE, EDUCATION AND SOCIAL CLASS*

	N	$\bar{X}$
<u>Sex</u>		
Male	27	10.3
Female	98	10.7
Total	125	10.6
<u>Age</u>		
Less than 25	8	8.1
25 - 34	17	10.4
35 - 44	13	11.2
45 - 54	26	11.3
55 - 64	18	11.2
65 and over	43	10.2
Total	125	10.6
<u>Education</u>		
0 - 6	4	10.7
7 - 9	25	9.6
10 - 11	12	10.5
Highschool Graduate	52	10.7
College, 1 - 3	21	11.3
College Graduate	7	10.0
Post Graduate	4	12.2
Total	125	10.6
<u>Social Class</u>		
I-II	14	10.2
III	31	10.8
IV	54	10.5
V	26	10.6
Total	125	10.6

*The possible range in the denial attitude scale is 4-24, the lower the score the higher the denial.

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