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Availability and Perceived Adequacy of Health Services in Utah

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AVAILABILITY AND PERCEIVED ADEQUACY OF HEALTH SERVICES IN UTAH

by

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Cheryl L. Thayer

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ABSTRACT

Availability and Perceived Adequacy

of Health Services in Utah

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It is the general consensus that continuous and comprehensive health care of good quality should be available to all, under conditions that are convenient, comfortable, and not detrimental to the dignity or self-respect of the individual.

This study concerns the adequacy of health services as perceived by persons living in rural, urban, and urbanizing-rural areas of Utah. It is also a study (1) to determine the degree to which various demographics found to be related to differential medical needs in metropolitan areas is related to perception of health services, and (2) to assess the congruence between empirical and perceived availability of health services among persons of varying age, sex, education, and other conditions generally related to the use of health services.

The findings on perceived availability tend to more closely reflect the actual availability of health services than demographic background differences between urban and rural areas. The urbanizing-rural areas, however, do not reflect the actual availability of health services, as much as they do the improvement in availability of health services. Within both rural and urban areas and to a lesser degree within urbanizing-rural areas, health service delivery as perceived by different categories of the population appears to be quite equitable.

(87 pages)

CHAPTER I

INTRODUCTION

Preview

To date there have been many advances in medical sciences and technology. Despite the generally high competence of the medical profession and the devoted work of many health service personnel, there remains a gap between the ideal and actual state of health service delivery.

General concensus about the ideal presents the idea that continuous and comprehensive health care of good quality should be available to all, rich or poor, under conditions that are convenient, comfortable, and not detrimental to the dignity or self-respect of the individual. The reality, on the other hand, is somewhat different. For example, there are complaints about fragmentation of service, inconvenient or undesirable access, uncertainty or absence of availability, high costs which effect the type or availability of complete care, and the existence of two systems of health care, for the poor and non-poor.

Historically, the problem of health care has been seen as a shortage of goods and services. So, the remedy

was to supply more trained personnel, facilities, and knowledge. Consequently, more public funds were used to build hospitals and other facilities, and for scholarships and paramedical personnel. Federal funds have been used in support of an impressive volume of research.

The more noticeable institutional lack now causing concern is the inadequacy of what is termed health services. In their absence, hospitals have been overcrowded with patients who could have utilized outpatient services.

Secondly, the rapid advance of medical research has compounded the problems. The expansion of medical knowledge has outmoded the general practitioners, forcing them to specialize in order to keep abreast with the new knowledge.

One possible answer to the deficiencies in the delivery services is to increase the number of personnel, facilities, and medical knowledge. However, even if we were to succeed in increasing the supply and improving the distribution of appropriate types of personnel, increasing the number of hospitals, and improving the support of research, the objectives of a good delivery system may not be attained. There could still be fragmentation, lack of continuity, inconvenient or unpleasant access to services, and some people might not get needed care.

Statement of the Problem

The present study concerns the adequacy of health services as perceived by persons living in rural, urban, and urbanizing-rural areas of Utah. Part of the problem deals with the congruence or incongruence between what various categories of people feel they have compared with the empirical distribution of physicians in the different regions of the state. The present study is also an attempt to determine if the factors associated with health needs and patterns of use are also related to the perception of the population toward the adequacy of health services. For the purposes of this study, health services deal with both the empirical availability as indicated by physician distribution data and availability as perceived by the individual.

Scope of the Problem

One aspect of health services under study is the perception of the individual toward the availability of these services. Since the perception of the individual is subjective, it may not directly reflect the empirical situation. It may be of any magnitude the individual experiences it to be, and thus may vary significantly from the empirical situation. Perceived magnitude or intensity depends in part on the subject's past experiences with the subject matter. It also depends on his needs relative to the phenomena in question. As a result, many individuals acquire

a scale or frame of reference reflecting their needs and past experiences from which judgments are made. Regardless of the empirical availability of health services, it is the perception of the individual that determines the adequacy or inadequacy of its delivery, and largely determines the potential for action in response to a particular problem.

Analysis

During the past few years, the Division of Health Services in Utah has been collecting statistical information from doctors, nurses, and hospitals regarding the services that are offered to the public. Since the survey data used in the present study was collected at the end of 1973, statistics from the State of Utah Division of Health Services for 1973 have been used. These statistics will provide part of the empirical data for this study. The survey data were obtained from a statewide study conducted by Utah State University. In this study, 1643 people throughout the various counties in Utah were interviewed by trained staff members. Included within these interviews were questions concerning health services delivery. Since this particular study was not designed to fully measure the health services in the community, the data measures the individual's perception of the adequacy of health services available in the area.

In this study, the analysis of the Utah State University data, combined with the statistics provided by

the Division of Health Services, have been used to provide a base for calculating the needs for future care and estimate the likelihood of response to programs that may be implemented in Utah.

In summmary, this present study was undertaken for the following reasons: (1) to determine the degree to which various demographics found to be related to differential medical needs in metropolitan areas is related to perception of health services; and (2) to assess the congruence between empirical and perceived availability of health services among persons of varying age, sex, education, and other conditions generally related to the use of health services.

Chapter II

THEORY

Theoretical Foundations of Perception

Introduction

Traditionally perception has been concerned with the problem of correspondence between the nature of the physical world and the character of perceptual experience. The basic task of perceptual studies is to define the properties of experience or response on the one hand, and the properties of stimulation on the other, and to specify the correspondence between these two.

Perception is generally defined in terms of experiences that are a direct result of sensory stimulation. However, much experience related to perception is remote from sensory stimulation. For example, a man appearing on television may be liked or disliked as guesses are made as to his intentions.

Social perception

Social perception, according to Secord and Backman (1964), has basic processes affecting perceptual response. They are identified as:

(1) Perception is selective. In responding to stimuli,

(sensory: sight, sound, taste, etc.), the perceiver responds to only a small portion of the sensory information provided by the environment.

(2) The frequency of previous experiences with particular stimulus patterns and responses affects perception. Later perceptions are also affected by these previous experiences.

(3) Experiences with stimuli and responses that have been positively or negatively reinforced are related to later perceptions.

(4) Need factors, such as hunger, fatigue, anxiety, etc. affect perception.

Adaption-level theory

Adaption-level theory is based on the premise that an individual's attitudes, values and ways of structuring experiences, all represent modes of adaption to environmental and organismic forces.

Stimuli impinge upon organisms who have already adapted to what has taken place before. Furthermore, stimuli do not act singly even if they are in a sense different modalities. Even the simplest sensory experiences contain focal, contextual and organic stimuli components. The pooled effect of these three classes of stimuli determines the adaption level underlying all forms of behavior.

Pooling may range from complete fusion of components, with the loss of their individual identities to interaction

involving the facilitative or inhibitive effects of one stimulus on another, with the preservation of the components.

For example, an individual may not like the doctor in the area due to an unfortunate situation. This has produced a negative response to physicians. Therefore, a visit to the hospital produces much the same effect as the situation with the doctor.

Adaption-level theory involves several basic manifestations of adaptive mechanisms. A quantitative scale is employed when an object is being judged. This order is achieved by establishing subjectively some neutral, indifferent region (adaption level) in the array of experiences. This is considered to be a "frame of reference" for the judgments made. This "frame of reference" is obtained by a process called pooling in which an average is arrived at from the magnitude of the experiences in the dimension concerned.

Experiences are received from three sources: the focal (present) stimulus, the background or contextual stimuli and residual effects (organic) from earlier experiences. The three sources are pooled and weighted to determine the adaption level. Thus, a perception of health services would be determined by the present situation affecting the individual's health, the background experiences gathered when trying to obtain health services, and any occurrences that might have negatively or posi-

tively influence further contact with any medical care. All these experiences are pooled and weighted, and yield a perception of the health services available. The point at which an individual does not view health services as either below average or above average is the adaption level.

Theoretical Implications

The theory surrounding perception, specifically adaption-level theory, was presented and now will be elaborated upon in view of the nature of this study.

Frequency, nearness, and spacing may operate as strongly in perception as in the learning process. Hastings et al. (1944) reported that the closeness of a traumatic event to the individual was a large factor in determining anxiety. It was pointed out that, if a flier was hit by a bullet, he would be more deeply affected than if he saw the man next to him hit. This would be worse than having someone hit in another part of the plane, or someone in the squadron and so forth, until it would mean little to him to hear of someone being hit in a B-17 over Munda. Fliers differed in the amount of stress leading to anxiety symptoms. Crews joining the Eighth Air Force immediately found that chances of survival were slim. Some asked for transferral, some did not break until the fifth mission, and some broke between the twelfth and sixteenth

missions. Here, frequency of exposure to stress seems to be the decisive factor in the breaking points of individuals.

This study points out the importance of stress, proximity, and frequency in breaking points of individuals. Generalizing to this study, if certain situations have evolved where the use of health services have been needed, and little or none were available for members in a family, this may then influence the perception of the individuals and may motivate them to secure a more convenient place to live.

In another instance, the effect of pooling in relation to background and residual factors has been noted. Nash (1950) studied the effects of previous stimuli upon judgments of preceding stimuli. It was found that weights between 100 to 300 grams, when judged initially, had 173 grams as the medium, but when judged after having sets of 400 to 600 grams followed by 350 to 500 grams, and then from 100 to 300 grams, the stimulus judged medium was 223 grams. Approximately 50 additional grams, with corresponding changes in the perception of the 100 to 300 series, manifested itself in a higher adaption level because of the residual effects of the heavier preceding sets.

This finding may be significant for studying the perception of health services. For example, it has been

shown that there is a movement of the population to suburbs and more rural areas. Urban areas usually have sufficient medical care. The populations having moved may find that the availability of health care is minimal in comparison. Rural populations, on the other hand, have generally had fewer health services available. Said populations have perceived the relative unavailability of health services by traveling to another area or by not obtaining medical assistance. The urbanizing-rural populations (as in the case of the rural and urban populations) had at one time adapted to the health services provided by the area. Now with the increase in these services one might expect them to be more than satisfied.

Another factor supporting the idea that people perceive differently is the value that is placed upon a particular object, - in this case medical care. Utahns, in general, have always placed a high value on medical care. Pioneering work in this area was done by J. S. Brunner and C. C. Goodman (1947). In an experiment, where 10-year-old children were to adjust a disc of light so that it appeared to be equal to the size of a variety of coins and cardboard discs, it was found that they tended to overestimate both the sizes of the coin and of the cardboard discs, but the error was greater with the coins than with the discs. In addition, the poorer children consistently made large errors of overestimation in the case of the

coins. Lambert, Solomin and Watson (1949) also confirmed the idea that things people desire or value tend to look larger than similar objects less valued or desired. Their experiment also used children. The children would turn a crank several times which yielded a white chip. The white chip was put into a slot and the children received a piece of candy. One group of children performed this once a day for 10 days, and another group of children performed this five times a day for 10 days. It was found that, using the estimation device of Brunner and Goodman, the apparent size of the poker chip increased significantly after 10 days of conditioning to both groups of children. This was in marked contrast to a control group who, for the same 10-day period, received candy directly after turning the crank without the mediation of a poker chip. For them, there was no increase in the apparent size of the chip.

Among many factors influencing persons to utilize health services, need-orientation is imperative. From the use of such services, pooled experiences give rise to perception. These pooled perceptions may result in a favorable or unfavorable attitude toward an object.

An increase in need or motive, up to a point, has considerable adaptive significance; for the stronger the need or motive of a person to perceive certain goal objects, the more sensitive the individual becomes to slight

cues pertaining to such objects. It is also possible that when need or motive surpasses a certain strength, perceptual distortion occurs, and the individual "sees" objects that are not really there. One pioneer experiment conducted by Levine, Chein and Murphy (1942) showed the effects of bodily needs upon perception. Subjects who were deprived of food for different lengths of time were shown a variety of ambiguous drawings of objects, including some picturing of food. The pictures were viewed through a ground glass screen. The subjects were then asked to think of a word which could be associated with each drawing. It was expected that the arousal of hunger would increase response salience for food objects. Up to a point, the longer a subject had been deprived of food, the more often a food word was mentioned in connection with a drawing.

Summary

There is a voluminous amount of research done in the area of perception. The factors described in adaption-level theory have been researched. Thus, perceptions and judgments are resultant from individual experiences providing a "frame of reference" by a process called pooling.

CHAPTER III

RESEARCH LITERATURE

Dependent Variables

Background

There have been several attempts to determine the correlates of health needs as well as the specific factors associated with the utilization of health services. The economic approach maintains that the major determinant of the use made of medical services can be found in the financial costs of medical care. This relationship is thought to hold despite a greater need for health care among lower income groups. The socio-demographic approach maintains that the utilization behavior is directly related to health needs and awareness of illness associated with age, sex, education, religion, ethnicity, and socio-economic status. The geographical proximity of services is seen as the major determinant of utilization behavior for the geographical approach. Lewin (1935), Secord and Backman (1961), and Rosenstock (1960) find that motivation, perception, and learning, (not necessarily independent), influence the social-psychological approach. The social-

cultural approach studies the norms, beliefs, values, definition of situations, and life-styles of those sub-groups of society thought to be characterized by social pathology. Finally, the organizational or "delivery system" approach indicates that organizational phenomena may be highly related to utilization behavior.

It is one objective of this study to determine if the demographics found to be associated with varying needs for and differential use of medical services in metropolitan areas are related to how Utahns perceive health services. Therefore, certain demographic characteristics will be studied to provide a base point from which to proceed.

Sex

Studies have shown that women, due to child bearing, have special medical needs, and therefore have a greater need for medical services than men. However, it has been suggested that women with four or more children "underutilize pre-natal, child-welfare and post-natal facilities because, having a large family, they simply have too many other committments at home" (McKinlay, 1972).

In one particular study, white women were more likely to use private physicians than men. However, the study did not have a non-white sample to determine if this is also the case for non-white women (Berkanovic, 1973).

Age

Age is another demographic factor which seems to affect the usage of health services. The age group with the highest medical care needs is the proportion of the population over the age of 65. This group usually has a higher than average physician visitation rate (Reskin et al., 1974).

Secondly, women between the ages of 15-44, ages of fecundity, tend to need more medical services than women of other ages (Reskin et. al., 1974).

Thirdly, children under five also more frequently visit physicians for acute illnesses (Anderson, 1972).

Ethnicity

Certain ethnic backgrounds tend to manifest illnesses differently. For example, Zola (1966) has found that the Irish population complained most about eye, ear, nose, and throat problems compared to an Italian population. Furthermore, it was noted that the Irish patients did not indicate pain as part of their symptoms, in contrast to the Italians. This may affect their need for certain health services.

Income

Currently, there are many health insurance plans available to low-income recipients so that the high cost of medical care may be defrayed. However, there is some

evidence available that the method of payment may influence utilization behavior and the quality of care received.

Per capita income is highly related to the health status of the population. The National Center for Health Statistics has adequately documented the relationship among economic characteristics, health status, and health service utilization. One such survey in 1972 disclosed that 29 percent of the population with family incomes below $2,000.00 suffer from chronic conditions that limit their usual activities as compared with 7.5 percent of the families with incomes above $7,000.00. The lower-income group, on the average, experienced more than twice the number of days restricted activity per year as the latter group, has four and one-half times as many heart conditions, and six times as many mental and psychiatric disorders (Anderson, 1972).

Anderson's (1972) study also pointed out that persons from low-income families underutilize health services. About 73 percent of the families with incomes of $10,000.00 or more had visited a physician within the past year; only 64 percent of the families below the poverty line ($3,000.00 a year) had done so.

Another study conducted by Anderson and Anderson (1973) pointed out that not just physician visitation is affected by income. Their research indicated that "income is an important predictor of the utilization of short-term

general hospitals."

Education

Education, too, is related to health, both directly and indirectly. Samora and others (1962) found socio-economic status and education to be related to knowledge concerning etiology, symptomology, diagnosis, and prognosis of ten common diseases. Suchman (1965) found demographic factors to be related to knowledge about disease, as well as several other dimensions of the individual's medical orientation and need, all of which were related to the individual's choice among alternative health care services.

Symptom sensitivity has also been shown to have social and cultural correlates. Hetherington and Hopkins (1969) found middle-aged persons, females, and those in the highest educational and occupational categories, to be highly sensitive to symptoms.

The indirect effects related to health are a result of the link between education and income. These effects are related to the "prevalence of chronic diseases, levels of disability, and health service utilization patterns" (Anderson, 1972).

Rosenthal (1964) tried to predict admission rates and average length of stay in a hospital. This study indicated a positive association between hospital admission rates and length of stay. Rosenthal interprets his findings as indicative of "increased awareness among the

more highly educated members of the population of the value and importance of seeking prompt medical treatment."

Urban-rural

Urbanization is a significant factor related to the level of health in a population. In urban areas, a wide variety of health services are available to the population. Therefore, many hospitals, adequate personnel, and out-patient services may be found. In contrast, health service delivery in rural areas is usually quite limited. Thus, certain facilities, such as hospitals and out-patient services are needed in rural areas. For example, the fact that there are alternative sources of health services available to urban populations needing medical care, the length of stay in a hospital is less than those from rural areas (Rosenthal, 1964). Hospitalization rates between urban and rural areas also show interesting differences. The lowest hospitalization rate occurs among persons residing in urban areas. Rosenthal (1964) found that the effect of this variable appears to be on the length of stay rather than the hospital admission rates. The lower length of stay in urban areas presents the fact that persons needing medical care in these areas have a diversity of health services available to them in addition to hospitalization.

Summary

A review of the literature illustrates the demograph-

ic factors associated with health needs and the utilization of medical services. However, it may be shown that not all of the studies agree completely on the factors most important in medical care usage. Since none of the studies dealt with the individual's perception of health service adequacy, the degree to which individual perceptions reflect personal or social versus empirical conditions remains to be determined.

Hypotheses

The hypotheses for this study were developed in part from the factors found to be associated with health care needs corresponding with the socio-demographic approach in the utilization of health services. Since the majority of research done on health services has been conducted in metropolitan areas, one objective of this study is to determine if these factors also influence how individuals perceive health services. Additional variables of family size, the head of the family's occupation and if employed, home ownership, property ownership, length of residence, and political and religious affiliations will be considered in order to identify what other groups of people might feel that their health services are inadequate.

Hypothesis one. Rural people are more likely to per-

ceive a problem in health services than urban people.

Rural areas generally have fewer health services than urban areas. This may be due to the fewer number of people residing in rural areas. Doctors are also discouraged from practicing in rural areas by the lack of certain medical facilities. Consequently, rural inhabitants are more likely to have to drive additional distances to obtain medical care.

Hypothesis two. The perception of women is more likely to reflect the actual availability of health services than men.

Women of urban areas are less likely to perceive a problem in health services than women in rural areas.

Women, because of their sex, are more likely to need medical services. Studies have shown that women have special medical needs (McKinlay, 1972; Marden, 1960), especially women in their child-bearing years.

Hypothesis three. People with lower incomes are more likely to perceive a problem in medical services than those with higher incomes.

Lower-income urban populations are less likely to perceive a problem in health services than low-income rural populations.

Low-income people may perceive an unavailability in health services as they may not be able to afford adequate

health care (Anderson, 1972; Anderson and Anderson, 1973). The higher-income recipient may be more likely to be able to afford proper health care.

Hypothesis four. Non-northern European peoples are more likely to view an inadequacy in health services than northern European peoples.

Rural non-northern European persons are more likely to perceive a problem in health services than urban non-northern persons.

For the purposes of this study, the population was divided into ethnic groups of northern, which included English, Danish, French, German and so forth, and other (all other groups). The non-white and southern European ethnic groups are more likely to perceive a problem in health services. This group, in many cases, may also be poor and the socio-economic status is the measure rather than ethnicity as an independent factor.

Hypothesis five. The perceptions of lesser-educated persons are more likely to reflect the actual availability of health services than those with more education.

Lesser-educated rural people are more likely to perceive a problem in health services than lesser-educated urban people.

Samora and others (1962), Suchman (1965), and Hetherington (1969) found education to be related to the knowledge of symptoms, causing illness. Thus, those

with higher educations would probably recognize symptoms of illness and seek prompt medical care. Those with lesser education may not recognize symptoms of illness and require more direct, adequate medical service.

Hypothesis six. People in the age groups 15-44, and 60 and over, are more likely to reflect the actual availability of health services than those in the 45-59 age group.

Rural people in the age groups of 15-44, and 60 and over, are more likely to perceive a problem in health services than urban populations in the same age categories.

Finally, people in the 15-44-year-age group, and those 60 and over, have special health service needs. The younger age group contains women who are bearing children or must take children to a physician. In addition, the age goup of 60 and over has a higher need for medical care. This has been shown through the high physician visitation rate (Reskin et al., 1974).

CHAPTER IV

METHODOLOGY

Source of data

The present study derived the data from two sources. The physician distribution data was obtained from the Division of Health Services of the State of Utah. These data were collected in 1973 and was obtained by a questionnaire mailed to 1536 doctors in Utah. The rate of return for the physician questionnaire was 85.5 percent.

The data measuring perception was obtained from a Land-Use Planning Survey conducted by the Department of Sociology of Utah State University. The questionnaire was structured and included questions pertaining to health services. The testing instrument was pre-tested and revised prior to being administered by trained interviewers in an attempt to obtain comparable responses.

Sample

The Land-Use Planning Survey interviewed 1643 inhabitants of Utah. A representative sample was selected from each of the State's eight planning districts. The questionnaire was administered to persons 18 years old and over (Bylund and Geertsen, 1974).

The data supplied by the Division of Health Services was also categorized by planning districts. For a complete review of the physician questionnaire, see the Appendix.

Unit of analysis

The units of analysis for this study are rural, urban, and urbanizing-rural. The criteria used in establishing these categories is the location of the larger cities in the State of Utah and the total population for that county. The larger urban areas are Salt Lake City (District VI), Provo (District V), and Ogden (District VII). These three counties also have the largest county populations. The urbanizing-rural area, District VIII, has a total county population less than that of the urban areas, but at least twice that of the rural areas. Logan is the growing urban area in northern Utah. These counties were then grouped from the multi-county planning districts. The designated districts consist of the following counties:

District I - Beaver, Garfield, Iron, Kane, and Washington;

District II - Carbon, Emery, Grand, and San Juan;

District III - Juab, Millard, Piute, Sanpete, Sevier, and Wayne;

District IV - Daggett, Duchesne, and Uintah;

District V - Summit, Utah, and Wasatch;

District VI - Salt Lake and Tooele;

District VII - Davis, Morgan, and Weber;

District VIII - Box Elder, Cache, and Rich.

Districts I, II, III, and IV comprise the rural areas, V, VI, and VII comprise the urban sector, and VIII comprises the urbanizing-rural area.

Operational measures

Perception:

Perception was measured by the answers provided to certain questions in the Land-Use Planning Survey. The first question consisted of the following:

> There are situations in America today that some people think are a problem while others do not think so. For the following, please indicate how much of a problem you think each is at the present time for the State of Utah. . . then your immediate area:
>
> Health Services:
> State of Utah
> 1. _____Serious Problem
> 2. _____Some Problem
> 3. _____No Problem
> 4. _____Don't Know
>
> This immediate area
> 1. _____Serious Problem
> 2. _____Some Problem
> 3. _____No Problem
> 4. _____Don't Know

This question viewed the health situation as it existed at that time. The answers were categorized as follows: Those viewing a problem is composed of serious and some problem; those not perceiving a problem is made up of no problem;

and the don't knows were recorded and eliminated from the statistical calculations. For the completion of the entire questions used, see the Appendix.

The demographic information was also obtained from the survey questionnaire (See also Appendix). The demographic characteristics were categorized, for example, into married and other; 1-2, 3-4, 5+ in a family; businessman, white collar, blue collar occupations; full-time, part-time employment; and home ownership, or non-home ownership. The categories were again divided, allowing for analysis into those who perceive a problem in health services and those who perceive no problem.

Analysis

The study of the data proceeded as follows: The planning districts were divided into rural, urban, and urbanizing-rural. A ratio was determined using the number of primary physicians (consisting of those doctors in family practice, general practice, gynecology, internal medicine, obstetrics and gynecology, and pediatrics) to the population. The physician/population ratio was utilized because it was more easily evaluated and held reasonably constant for a period of time. Districts I, II, III, and IV comprise the rural areas and contain an overall physician/population ratio of 1:2564. The urban areas consist of Districts V, VI, and VII with an average physician/

population ratio of 1:1789. This ratio in the urbanizing-rural area, District VIII, is 1:2122. Next, the population in each district was then divided into one of two groups. Those who perceived some serious problem in health services were in one group, and those who found no problem were in another group. Finally, the perceptions of the respondents in each group were paired with certain demographic variables obtained from the questionnaire and were contrasted according to rural, urbanizing-rural and urban categories. The statistical measures of chi square (X^2) and standard error (Z score) were used to test the hypotheses of this study. To supplement these statistics, theta (θ) and gamma (G) were used and adjusted for degrees of freedom to indicate the relative strengths of association.

CHAPTER V

FINDINGS

The demographic findings in conjunction with perceived problems in health service delivery is the topic under discussion in this chapter. The variables found to be associated with health care needs are age, sex, income, ethnicity, education and distance from medical facilities (urban versus rural). For the purposes of this study, additional demographic characteristics were distinguished in order to determine if the perception of health service delivery was altered. These factors are: family size, length of residence, home ownership, property ownership, the head of the family's occupation and if employed, and religious and political affiliation.

It should be noted that the total number in each table does not necessarily attain 1643 respondents. This is due in part to the elimination of the responses of "don't know" and no response.

Perceived problem in health service delivery

An overall view of the State of Utah shown in Table 1 points out the percentage of the people within a planning district viewing a problem in health services and the

Table 1. Availability of physician services ranked by percentages

Counties by Planning Districts	% Viewing a Problem in Health Services	Ratio of MD/POP	M.D*	POP.
District IV Daggett, Duchesne, Uintah.	71.33 (107)	1:4129	5	20,649
District II Carbon, Emery, Grand, San Juan.	60.98 (96)	1:3090	12	37,078
District I Beaver, Garfield, Iron, Kane, Washington.	58.60 (92)	1:1854	19	35,224
District III Juab, Millard, Piute, Sanpete, Sevier, Wayne.	51.01 (76)	1:2521	14	35,228
District VI Salt Lake, Tooele.	46.74 (165)	1:1477	325	480,152
District V Summit, Utah, Wasatch.	42.65 (90)	1:2769	54	149,518
District VII Davis, Morgan, Weber.	42.54 (77)	1:2270	101	229,289
District VIII Box Elder, Cache, Rich.	31.91 (90)	1:2122	34	72,135
TOTAL	48.26 (1643)	1:1878	564	1059,273

*Primary physicians, including family practice, general practice, gynecology, internal medicine, obstetrics and gynecology, and pediatrics.
Source: Utah Division of Health: 1973 Data.

empirical availability shown in the physician/population ratio. District IV has the lowest number of doctors per capita of 1 doctor to 4129 people and the highest percentage (71.33) perceiving a problem in health services. Districts II, I, and III have ratios of 1:3090, 1:1854, and 1:2521 respectively, with 51, 58, and 60 percent viewing a problem in health services. The urban population has approximately the same percent (42.65 and 42.54 percent) viewing a problem in health services. However, the physician/population ratios are 1:2769 for District V, 1:2270 for District VII, and 1:1477 for District VI. District VIII has a medium physician/population ratio (1:2122), but has the lowest percentage perceiving a problem in health service delivery.

Physician availability, one aspect of health service delivery, is presented with the descending percentage of people viewing a problem in health services. Furthermore, Table 2 has divided the various counties into categories of rural, urbanizing-rural and urban. In rural areas, 60 percent of the people perceive a problem in health services; whereas, 44 percent of the urban people and 31 percent of the urbanizing-rural people view a problem in health services.

Since one purpose of this study is to compare the perceptions of the rural areas with those of the urban areas, the hypothesis that rural people are more likely to perceive a problem in health services than urban people

Table 2. Percent viewing a problem in health services in the State of Utah

% Viewing a Problem in Health Services	Rural		Urb-Rural		Urban	
	%	N	%	N	%	N
Yes	60.2	(371)	31.8	(090)	44.6	(332)
No	39.8	(244)	68.2	(193)	55.4	(413)
Total	100	(615)	100	(283)	100	(745)

$X^2 = 70.63$ with 2 d.f. $p < .05$
$\theta = .18$

is supported at the .05 level of significance with a weak measure of association (θ = .18).

To verify the results of Table 2, a question concerning the willingness to contribute tax money to improve health services (among others) was surveyed. The results are found in Table 3. In rural areas of those viewing a problem in health services, 51 percent would contribute some tax money, as opposed to 30 percent of those viewing no problem in health services. This is significant at the .05 level with a very weak theta of .08.

Of those viewing a problem in health services in urban areas, 49 percent would contribute some tax money, compared with 29 percent of those viewing no problem. This is significant at the .05 level with a weak measure of association (θ = .16). In urbanizing-rural areas, 40 percent viewing a problem in health services would contribute some tax money whereas 26 percent of those perceiving no problem would do likewise. This is also significant at the .05 level with a weak theta of .16. The overall view of the state shows that, of those viewing a problem in health services, 48 percent would contribute some tax money whereas 29 percent of their counterparts would contribute some tax money. This is significant at the .05 level with a weak measure of association (θ = .12).

Table 3 indicates that those people perceiving a problem in health service delivery would be more

Table 3. Percent viewing a problem in health service by willingness to contribute tax money

Willingness to Contribute Tax Money	% Viewing a Problem in Health Service		% Viewing No Problem in Health Service	
	%	N	%	N
Rural				
Would Contribute Tax Money	51.1	(190)	30.0	(067)
Might Contribute Tax Money	28.8	(107)	46.6	(104)
Would Not Contribute Tax Money	20.2	(075)	23.3	(052)
Total	100	(372)	100	(223)
	θ=.08		(1 Don't Know)	
	X^2=7.01 with 2 d.f. p<.05 level			
Urbanizing-Rural				
Would Contribute Tax Money	40.4	(036)	25.9	(050)
Might Contribute Tax Money	43.8	(039)	22.1	(062)
Would Not Contribute Tax Money	15.7	(014)	42.0	(081)
Total	100	(089)	100	(193)
	θ=.16		(1 Don't Know)	
	X^2=10.0 with 2 d.f. p<.05 level			

Table 3. continued.

Willingness to Contribute Tax Money	% Viewing a Problem in Health Service		% Viewing No Problem in Health Service	
	%	N	%	N
Urban				
Would Contribute Tax Money	48.9	(162)	29.4	(121)
Might Contribute Tax Money	43.8	(111)	38.3	(158)
Would Not Contribute Tax Money	17.5	(058)	32.3	(133)
Total	100	(331)	100	(412)
	θ=.16		(1 Don't Know)	
	X^2=33.63 with 2 d.f. $p<.05$ level			
State				
Would Contribute Tax Money	47.7	(368)	28.7	(238)
Might Contribute Tax Money	33.3	(257)	39.1	(324)
Would Not Contribute Tax Money	19.0	(147)	32.1	(266)
Total	100	(772)	100	(828)
	θ=.12		(3 Don't Know)	
	X^2=43.22 with 2 d.f. $p<.05$ level			

likely to contribute additional tax money. This is particularly so (however, not significantly) for rural areas in which over 50 percent of the people perceiving a problem in health services would contribute tax money.

Sex

It has been previously researched that females are more likely to utilize health services than males. With respect to this variable, Table 4 shows that in rural areas 57 and 62 percent of the males and females respectively perceive a problem in health service delivery. In urban areas, 43 percent of the males and 45 percent of the females perceive a problem, and only 34 percent of the males and 36 percent of the females in urbanizing-rural areas perceive a problem in medical care. An overview of the entire state shows that 47 percent of the males and 49 percent of the females actually perceive a problem. In all cases, the measure of association is almost nonexistent and there is no significance at the .05 level.

The hypothesis that females are more likely than men to perceive an inadequacy in health service delivery is not supported. Also the hypothesis that rural women would be more likely to perceive an inadequacy than urban women in health service delivery is not supported to a significant level ($p=.05$).

Table 4. Percent viewing a problem in health services by sex

	% Viewing a Problem in Health Service	Male %	Male N	Female %	Female N
Rural					
	Yes	57.0	(154)	62.9	(217)
	No	43.0	(116)	37.1	(128)
	Total	100	(270)	100	(345)
		X^2=2.17 with 1 d.f. p=N.S. θ=.06			
Urbanizing-Rural					
	Yes	34.4	(042)	36.4	(048)
	No	65.6	(080)	63.6	(112)
	Total	100	(122)	100	(160)
		X^2=.62 with 1 d.f. p=N.S. θ=.04			
Urban					
	Yes	43.9	(136)	45.1	(196)
	No	56.1	(174)	54.9	(239)
	Total	100	(310)	100	(435)
		X^2=.10 with 1 d.f. p=N.S. θ=.01			
State					
	Yes	47.3	(332)	49.0	(461)
	No	52.7	(370)	51.0	(479)
	Total	100	(702)	100	(940)
		X^2=.49 with 1 d.f. p=N.S. θ=.02			

Income

Previous research has shown that income is related to health. Many low-income families have not visited a physician within a year's time. It is expected that the low-income person will be more likely to perceive a problem in health services.

Table 5 generally shows that of Utahns receiving less than $8,000.00, 49 percent view a problem in health services. Of those receiving an income between $8,000.00 and $11,999.00, 50 percent perceive a problem, and of those having an income greater than $12,000.00, 45 percent perceive a problem. This is not statistically significant at the .05 level and the measure of association is extremely weak (G=.04). Rural, urban, and urbanizing-rural areas reflect the overall view of the State. In rural areas, 56 percent of those receiving an income less than $8,000.00, 66 percent receiving an income between $8,000.00 and $11,999.00, and 61 percent of those having an income of at least $12,000.00 perceive a problem in health services. The measure of association is extremely weak (G=.09) and not statistically significant at the .05 level. In urban areas, 48 percent receiving less than $8,000.00 of income, 44 percent receiving between $8,000.00 and $11,999.00, and 40 percent receiving more than $12,000.00 perceive a problem in health services. There is a low gamma of .11 and it is

Table 5. Percent viewing a problem in health services by income

% Viewing a Problem in Health Services		Less Than $8,000		$8,000-$11,999		$12,000+	
		%	N	%	N	%	N
Rural							
	Yes	56.5	(152)	66.3	(108)	61.2	(098)
	No	43.5	(117)	33.7	(055)	38.8	(062)
	Total	100	(269)	100	(163)	100	(160)
		G=.09 p=N.S.		(10 Don't Know)			
Urbanizing-Rural							
	Yes	32.7	(035)	30.4	(021)	34.0	(032)
	No	67.3	(072)	69.6	(048)	66.0	(062)
	Total	100	(107)	100	(069)	100	(094)
		G=.02 p=N.S.		(11 Don't Know)			
Urban							
	Yes	48.7	(131)	44.8	(082)	40.8	(106)
	No	51.3	(138)	55.2	(101)	59.2	(154)
	Total	100	(269)	100	(183)	100	(260)
		G=.11 p=N.S.		(20 Don't Know)			
State							
	Yes	49.3	(318)	50.8	(211)	45.9	(236)
	No	50.7	(645)	49.2	(204)	54.1	(278)
	Total	100	(645)	100	(415)	100	(514)
		G=.04 p=N.S.					

not significant at the .05 level. In urbanizing-rural areas, 32 percent receiving less than an $8,000.00 income, 30 percent receiving between $8,000.00 and $11,999.00, and 34 percent receiving more than $12,000.00 perceive a problem in health services. This is not significant at the .05 level and there is an extremely low measure of association (G=.02).

The hypothesis that lower-income people would be more likely to view a problem in health services is not supported. The further hypothesis that the low-income rural population would be more likely to perceive a problem in health service delivery than low-income urban people is not supported at a statistically significant level.

Age

It has been hypothesized that the age groups of 15-44 and 60 plus would be more likely to reflect the actual adequacy of health services. In addition, it was further hypothesized that rural populations in these same age categories would be more likely to perceive a health service problem than the urban population. Table 6 indicates that 66 percent in the 15-29 age group, 64 percent in the 30-44 age group, 59 percent in the 45-59 age group, and 56 percent in the 60 plus age group in rural areas perceive a problem in health services. The measure of assoc-

Table 6. Percent viewing a problem in health services by age

		15-29	30-44	45-59	60+
Rural					
	Yes	65.6 (80)	63.7 (102)	59.1 (97)	55.7 (88)
	No	34.4 (42)	36.3 (58)	40.9 (67)	44.3 (70)
	Total %	100	100	100	100
	Total N	(122)	(160)	(164)	(158)
		G=.12 p=N.S.		(8 Don't Know)	
Urbanizing-Rural					
	Yes	51.9 (28)	29.5 (23)	26.3 (20)	26.0 (19)
	No	48.1 (26)	70.5 (55)	73.7 (56)	74.0 (54)
	Total %	100	100	100	100
	Total N	(54)	(78)	(76)	(73)
		G=.09 p=N.S.		(2 Don't Know)	
Urban					
	Yes	51.9 (107)	47.9 (91)	40.0 (73)	40.6 (65)
	No	48.1 (99)	52.1 (99)	60.0 (105)	59.4 (95)
	Total %	100	100	100	100
	Total N	(206)	(190)	(178)	(160)
		G=.14 p=N.S.		(7 Don't Know)	
State					
	Yes	56.3 (215)	50.5 (216)	45.5 (190)	44.0 (172)
	No	43.7 (167)	49.5 (212)	54.5 (228)	56.0 (219)
	Total %	100	100	100	100
	Total N	(382)	(428)	(418)	(391)
		G=.14 p .05			

iation is (G=.12) and is not significant at the .05 level. Similarly, the urbanizing-rural age categories show that 52 percent in the 15-29 age group, 30 percent in the 30-44 age group, 26 percent in the 45-59 age group, and 26 percent in the 60 or more age group perceive a problem in health services. This is not significant at the .05 level and with an extremely low measure of association (G=.09). However, in the urban areas, 52 percent of the group aged 15-29, 48 percent of the group aged 30-44, 40 percent of the group aged 45-59 and 41 percent of the group aged 60 and over view a problem in health services. This is not significant at the .05 level and there is a low measure of association (G=.14). An overall view of Utah shows that 56 percent in the 15-29 age group, 51 percent in the 30-44 age group, 46 percent in the 45-59 age group and 44 percent of the 60 and over age group view a problem in health services. This is not statistically significant at the .05 level and there is a low measure of association (G=.14).

The basic hypothesis that people in the age groups 15-44 and 60 and over are more likely to reflect the actual availability of health services than those in the 45-59 age group is marginally supported. The additional hypothesis that rural people in these respective categories are more likely to perceive the unavailability of health services than

urban people is not supported to a statistically significant level (p=.05).

Ethnicity

Table 7 shows that in rural areas, 60 percent of the northern heritage (English, Scandinavian, German, etc.) and 61 percent of non-northern heritage perceive an inadequacy in health services. Urban areas show that 45 percent of the northern and 45 percent of the non-northern view a problem in health services. In both cases, there is an extremely low theta and the relationship is not statistically significant at the .05 level. The urbanizing-rural areas show that 33 percent of the northern and 29 percent of the non-northern perceive a problem. However, there is a weak theta (.13) and it is statistically significant at the .05 level. The state generally reflects the previous discussion. In the northern group 48 percent perceived a problem compared with 49 percent of the non-northern group. It is not significant (.05 level) and there is a very weak theta (.01).

The hypothesis that non-northern people are more likely to perceive a problem in health service delivery is not supported. In addition, the proposition that non-northern rural people are more likely than non-northern urban people to perceive a problem in health services is not supported to a statistically significant level (p=.05).

Table 7. Percent viewing a problem in health services by ethnicity

	% Viewing a Problem in Health Services	Northern %	Northern N	Other %	Other N
Rural					
	Yes	59.9	(224)	61.1	(146)
	No	40.1	(150)	38.9	(093)
	Total	100	(374)	100	(239)
		X^2=.09 with 1 d.f. p=N.S. θ=.01			
Urbanizing-Rural					
	Yes	32.8	(065)	29.4	(015)
	No	67.2	(133)	70.6	(060)
	Total	100	(198)	100	(075)
		X^2=4.32 with 1 d.f. p<.05 θ=.13			
Urban					
	Yes	44.5	(207)	44.6	(125)
	No	55.5	(258)	55.4	(155)
	Total	100	(465)	100	(280)
		X^2=.00 with 1 d.f. p=N.S. θ=.00			
State					
	Yes	47.8	(496)	49.0	(296)
	No	52.2	(541)	51.0	(308)
	Total	100	(1037)	100	(604)
		X^2=.21 with 1 d.f. p=N.S. θ=.01			

Education

Previous research has shown that education is related to the knowledge of symptoms and, therefore, affect the need for medical facilities. An overall view of the state in Table 3 indicates that those with less than a high-school education, 50 percent perceive a problem. Similarly, 47 percent of those with a high-school edu- and 49 percent of those with more than a high-school education perceive a problem. This relationship is not significant ($p=.05$) and there is an extremely weak measure of association ($\theta=.02$). The rural, urbanizing-rural, and urban areas reflect this trend. In rural areas, 64 percent of those with less than a high-school education, 60 percent of those with at least a high-school degree, and 59 percent of those with more than a high-school education view a problem in health services. The relationship is not significant ($p=.05$) and there is an extremely weak association ($\theta=.03$). In urban areas, 47 percent having less than a high-school education, 44 percent with at least a high-school education, and 41 percent with more than a high-school education view a problem in health services. The relationship is not significant at the .05 level and there is an extremely weak association ($\theta=.04$). Similarly, in urbanizing-rural areas, 36 percent with less than a high-school education, 23 percent with a high-school diploma, and 37 percent with more than a high-school educa-

Table 8. Percent viewing a problem in health services by education

% Viewing a Problem in Health Services	Less Than High School		High School Graduate		More Than High School	
	%	N	%	N	%	N
Rural						
Yes	64.0	(131)	59.6	(135)	58.7	(098)
No	37.0	(077)	40.4	(090)	41.3	(069)
Total	100	(208)	100	(225)	100	(167)
	X^2=.78 with 2 d.f. p=N.S.					
	θ=.03				(7 Don't Know)	
Urbanizing-Rural						
Yes	35.9	(051)	23.4	(022)	37.0	(017)
No	64.1	(091)	76.6	(072)	63.0	(029)
Total	100	(142)	100	(094)	100	(046)
	X^2=4.72 with 2 d.f. p=N.S.					
	θ=.10				(1 Don't Know)	
Urban						
Yes	47.0	(164)	43.8	(114)	41.1	(051)
No	53.0	(185)	56.2	(149)	58.9	(073)
Total	100	(349)	100	(263)	100	(124)
	X^2=1.58 with 2 d.f. p=N.S.					
	θ=.04					
State						
Yes	49.5	(346)	46.7	(273)	49.3	(166)
No	50.5	(353)	53.3	(311)	50.7	(171)
Total	100	(699)	100	(584)	100	(337)
	X^2=1.07 with 2 d.f. p=N.S.					
	θ=.02					

tion perceive a problem in health services. The relationship does not attain the .05 level of significance and a weak theta of .10.

The hypothesis that the perception of the lesser-educated people will more likely reflect the actual availability of health services than those with more education is not supported. The second hypothesis that the lesser-educated rural people would more likely perceive an unavailability of health services than the lesser-educated urban people is not supported to a statistically significant level (p=.05).

Summary

It has been shown through the chi square (X^2) and standard error (Z score) analysis that the demographic factors that affect the differential use of medical services in metropolitan areas do not necessarily affect the perception of Utahns. Furthermore, the empirical availability of health services and the perceived availability of health services, under varying conditions of age, sex, education, ethnicity, and income do not generally vary, except for the relationship between the urbanizing-rural population and ethnicity. However, it has been shown that rural areas perceive, to a larger extent, an unavailability of health services.

Additional variables

Additional demographic variables were also examined to assess the possible relationship of perception to health delivery problems.

Marital status

The overall results for the state (Table 9) provide an overview for the areas under observation. About 49 percent of the married population and 48 percent of the non-married population perceive a problem. The theta (.01) is very weak and is not statistically significant at the .05 level.

People who are not married generally show very little difference from those who are married in their perception of health services as a problem. In rural areas, 62 percent of the married, 53 percent of the non-married; in urban areas, 43 percent of the married and 51 percent of the non-married; and in urbanizing-rural areas, 33 percent of the married and 26 percent of the non-married view a problem in health services. The measure of association is almost non-existent in all cases and there is no significance at the .05 level.

This table indicates that marital status does not significantly affect perception. In addition, rural married people do not perceive (to a significant level) more of a problem in health service than do urban married people.

Family size

The statewide percentages shown in Table 10 indicate

Table 9. Percent viewing a problem in health services by marital status

	% Viewing a Problem in Health Services	Married %	Married N	Other %	Other N
Rural					
	Yes	61.7	(321)	53.3	(049)
	No	38.3	(199)	47.3	(043)
	Total	100	(520)	100	(092)
		X^2=2.35 with 1 d.f. p=N.S. θ=.08 (2 Don't Know)			
Urbanizing-Rural					
	Yes	33.1	(078)	26.1	(012)
	No	66.9	(158)	73.9	(034)
	Total	100	(236)	100	(046)
		X^2=.86 with 1 d.f. p=N.S. θ=.07 (1 Don't Know)			
Urban					
	Yes	43.0	(260)	50.7	(071)
	No	57.0	(344)	49.3	(069)
	Total	100	(604)	100	(140)
		$X^2$2.71 with 1 d.f. p=N.S. θ=.08			
State					
	Yes	48.5	(659)	47.5	(132)
	No	51.5	(701)	52.5	(146)
	Total	100	(1360)	100	(278)
		X^2=.09 with 1 d.f. p=N.S. θ=.01			

Table 10. Percent viewing a problem in health services by family size

% Viewing a Problem in Health Services		1 - 2		3 - 4		5+	
		%	N	%	N	%	N
Rural							
	Yes	54.3	(158)	63.3	(107)	66.2	(092)
	No	45.7	(133)	36.7	(062)	33.8	(062)
	Total	100	(291)	100	(169)	100	(154)
		G=.10 p=N.S.					
Urbanizing-Rural							
	Yes	11.8	(014)	31.8	(027)	34.6	(027)
	No	88.2	(105)	67.2	(058)	65.4	(051)
	Total	100	(119)	100	(085)	100	(078)
		G=.43 p<.05					
Urban							
	Yes	42.9	(135)	48.3	(125)	40.7	(068)
	No	57.1	(180)	51.7	(134)	59.3	(099)
	Total	100	(315)	100	(259)	100	(167)
		G=.00 p=N.S.					
State							
	Yes	42.3	(307)	50.5	(259)	46.9	(187)
	No	57.7	(418)	49.5	(254)	53.1	(212)
	Total	100	(725)	100	(513)	100	(399)
		G=.08 p=N.S.					

that 42 percent of the families having 1 or 2 people, 51 percent of the families with 3 to 4 people, and 47 percent of the families having 5 or more people perceive a problem in health service delivery. There is an extremely low measure of association (G=.08) without significance at the .05 level. The rural area has 54 percent of the 1-2 person family, 63 percent of the 3-4 person family and 66 percent of the 5-person or more family perceiving a problem in health services. This is not statistically significant (p=.05 level) with a low association (G=.10). Similarly, in urban areas 43 percent of the 1-2 person family, 48 percent of the 3-4 person family, and 41 percent of the 5-person or more family perceive an inadequacy of health services. There is no statistical significance and there is an extremely low association (G=.00).

In contrast, the urbanizing-rural areas has 12 percent of the 1-2 person family and 35 percent of the 5-or more person family perceiving a problem in health services. This is statistically significant at the .05 level with a moderate association (G=.43).

In general, it would appear that family size is not related to the perception of health service delivery.

Head's occupation

Table 11 divides occupations into business, white-collar workers and blue-collar workers. The state provides an overview with 44 percent of the businessmen, 48 percent

Table 11. Percent viewing a problem in health services by head's occupation

% Viewing a Problem in Health Services		Bus.		White Collar		Blue Collar	
		%	N	%	N	%	N
Rural							
	Yes	48.0	(048)	63.2	(129)	63.7	(193)
	No	52.0	(052)	36.8	(075)	36.3	(110)
	Total	100	(100)	100	(204)	100	(303)
		X^2=8.45 with 2 d.f. p<.05					
		θ=.07			(7 Don't Know)		
Urbanizing-Rural							
	Yes	32.3	(021)	26.5	(027)	28.7	(029)
	No	67.7	(044)	73.5	(075)	71.3	(072)
	Total	100	(065)	100	(102)	100	(101)
		X^2=.66 with 2 d.f. p=N.S.					
		θ=.04			(4 Don't Know)		
Urban							
	Yes	47.3	(071)	44.1	(112)	43.0	(129)
	No	52.7	(079)	55.9	(142)	57.0	(171)
	Total	100	(150)	100	(254)	100	(300)
		X^2=.77 with 2 d.f. p=N.S.					
		θ=.03			(20 Don't Know)		
State							
	Yes	44.4	(140)	47.9	(268)	49.9	(351)
	No	55.6	(175)	52.1	(292)	50.1	(353)
	Total	100	(315)	100	(560)	100	(704)
		X^2=2.57 with 2 d.f. p=N.S.					
		θ=.03					

of the white-collar workers, and 50 percent of the blue-collar workers perceiving a problem in health services. However, it is not significant at the .05 level with an extrememly low theta (.03).

Similar characteristics of the state may be seen in the urban and urbanizing-rural areas. In urban areas, 47 percent of the businessmen, 44 percent of the white-collar workers, and 43 percent of the blue-collar workers view a problem in health services delivery. The theta (θ) is .03 and the relationship is not statistically significant ($p=.05$). Approximately 32 percent of the business men, 27 percent of the white-collar workers, and 29 percent of the blue-collar workers in urbanizing-rural areas view a problem in health services. This is not statistically significant at the .05 level and there is an extremely low theta of .04. In contrast, the rural area has 48 percent of the business men, 63 percent of the white collar workers and 64 percent of the blue-collar workers viewing a problem in health services. This relationship is statistically significant at the .05 level, but with a theta of .07.

Head's employment

Table 12 separates employment time into full-time and non-full-time categories. The state percentages show that 50 percent of the full-time employed and 46 percent of the less than full-time employed perceive a problem in health services. The theta (.04) is extremely weak and

the test of significance did not attain the .05 level. In rural areas, 61 percent of the full-time employed, 57 percent of the non-full-time employed perceive a problem in health services whereas in the urbanizing-rural area, 31 percent of the full-time employed and 33 percent of the non-full-time employed and in the urban areas, 45 percent of the full-time employed and 43 percent of the non-full-time employed perceive a problem in health services. None of these are significant at the .05 level and the association is extremely low (θ=.07 in the rural areas, θ=.01 in the urbanizing-rural areas, and θ=.02 in the urban areas).

Home ownership

An overall view of the state (Table 13) shows that 48 percent of those who own homes and 50 percent of those who do not own their own homes perceive a problem in health delivery. The relationship between perception and home ownership is not significant at the .05 level and has an extremely low measure of association (θ=.03). In rural areas, 61 percent of the home owners and 56 percent of the non-home owners viewed a problem in health services. The relationship is not statistically significant (p=.05) and there is a very weak theta (θ=.05). Similarly, in urban areas, 43 percent of the home owners and 49 percent of the non-home owners viewed a problem in health services. The relationship is not significant and the theta is .05.

Table 12. Percent viewing a problem in health services by head's employment

	% Viewing a Problem in Health Services	Full-Time %	Full-Time N	Other %	Other N
Rural					
	Yes	60.9	(281)	57.0	(098)
	No	39.1	(160)	43.0	(074)
	Total	100	(441)	100	(172)
		X^2=2.38 with 1 d.f. p=N.S. θ=.07		(2 Don't Know)	
Urbanizing-Rural					
	Yes	31.2	(060)	32.6	(029)
	No	68.8	(132)	67.4	(060)
	Total	100	(192)	100	(089)
		X^2=.05 with 1 d.f. p=N.S. θ=.01		(1 Don't Know)	
Urban					
	Yes	44.9	(237)	43.0	(092)
	No	55.1	(291)	57.0	(122)
	Total	100	(528)	100	(214)
		X^2=.22 with 1 d.f. p=N.S. θ=.02		(1 Don't Know)	
State					
	Yes	49.8	(578)	46.1	(219)
	No	50.2	(583)	53.9	(256)
	Total	100	(1161)	100	(475)
		X^2=1.83 with 1 d.f. p=N.S. θ=.04			

Table 13. Percent viewing a problem in health services by home ownership

	% Viewing a Problem in Health Services	Owns Home %	Owns Home N	Does Not Own Home %	Does Not Own Home N
Rural					
	Yes	61.2	(314)	55.7	(057)
	No	38.8	(199)	44.1	(045)
	Total	100	(513)	100	(102)
		X^2=1.01 with 1 d.f. p=N.S. θ=.05			
	Yes	29.0	(069)	46.7	(021)
	No	71.0	(169)	53.3	(024)
	Total	100	(238)	100	(045)
		X^2=5.45 with 1 d.f. p .05 θ=.18			
Urban					
	Yes	43.4	(242)	48.6	(090)
	No	56.6	(316)	51.9	(097)
	Total	100	(558)	100	(187)
		X^2=1.28 with 1 d.f. p=N.S. θ=.05			
State					
	Yes	47.7	(625)	50.3	(168)
	No	52.3	(684)	49.7	(166)
	Total	100	(1309)	100	(334)
		X^2=.69 with 1 d.f. p=N.S. θ=.03			

However, in urbanizing-rural areas, only 29 percent of the home owners and 47 percent of the non-home owners viewed a problem in obtaining health services. Although the measure of association (θ=.18) is weak, the relationship is significant at the .05 level.

Property ownership

Table 14 indicates that property ownership does not affect perception of health services. In rural areas, 55 percent owning no property, 61 percent owning a home, and 61 percent owning property in addition to their home viewed a problem in health services. The relationship is not significant at the .05 level and the theta (θ) is .02. In the urbanizing-rural area, 46 percent owning no property, 33 percent owning a home, and 26 percent owning property in addition to their home perceive a problem in health service delivery. This is not statistically significant (p=.05) and there is a low association (θ=.10). Similarly, in urban areas, 49 percent owning no property, 48 percent owning a home and 58 percent owning property in addition to a home perceive an unavailability in health services. The theta (θ) is .07 and the relationship is not statistically significant. The overall trend for Utah is that 50 percent owning no property, 50 percent of those owning a home and 53 percent owning property in addition to a home perceive a problem in health service

Table 14. Percent viewing a problem in health services by property ownership

% Viewing a Problem in Health Services		None		Home		Other	
		%	N	%	N	%	N
Rural							
	Yes	55.0	(044)	61.0	(158)	60.9	(167)
	No	45.0	(036)	39.0	(101)	39.1	(107)
	Total	100	(080)	100	(259)	100	(274)
		X^2=1.03 with 2 d.f. p=N.S. θ=.02					
Urbanizing-Rural							
	Yes	45.5	(015)	33.3	(045)	26.3	(030)
	No	54.5	(018)	66.7	(090)	73.7	(084)
	Total	100	(033)	100	(135)	100	(114)
		X^2=4.55 with 2 d.f. p=N.S. θ=.10 (1 Don't Know)					
Urban							
	Yes	48.5	(080)	47.6	(170)	57.7	(128)
	No	51.5	(085)	52.4	(187)	42.3	(094)
	Total	100	(165)	100	(357)	100	(222)
		X^2=5.98 with 2 d.f. p=N.S. θ=.07					
State							
	Yes	50.0	(139)	49.7	(373)	53.3	(325)
	No	50.0	(139)	50.3	(378)	46.7	(285)
	Total	100	(278)	100	(751)	100	(610)
		X^2=1.91 with 2 d.f. p=N.S. θ=.03					

delivery. This relationship is not statistically significant with an extremely weak theta (θ) of .03.

Length of residence

An overview of the state (Table 15) shows that 43 percent living in an area 1 year or less, 56 percent living in an area between 1 and 10 years, and 47 percent living in an area 11 or more years perceive a problem in health services. A weak gamma of .14 was obtained even though the test of significance achieved the .05 level. The urbanizing-rural and urban areas appear to follow this trend. In the urbanizing-rural area, approximately 22 percent of the people living in an area 1 year or less, 45 percent in an area 1 to 10 years, and 27 percent living in an area in excess of 11 years perceive a problem. There is a moderately strong gamma (.31) at the .05 level of significance. Similarly, 39 percent of the urban population living less than 1 year in an area, 55 percent remaining 1 to 10 years, and 43 percent living 11 or more years in an area perceive a problem in health service delivery. Although the measure of association is weak (G=.16), it does reach the .05 level of significance. In the rural areas, on the other hand, 56 percent living less than 1 year, 65 percent living 1 to 10 years in an area, and 70 percent remaining 11 or more years view a problem in health services. There is a very low association (G=.04) and significance does not attain the .05 level.

Table 15. Percent viewing a problem in health services by length of residence

% Viewing a Problem in Health Services		Less Than 1 Yr. %	N	1-10 Yrs. %	N	11 + Yrs. %	N
Rural							
	Yes	55.6	(015)	65.2	(103)	69.7	(253)
	No	44.4	(012)	36.8	(060)	30.3	(171)
	Total	100	(027)	100	(163)	100	(424)
		G=.04 p=N.S.			(1 Don't Know)		
Urbanizing-Rural							
	Yes	22.2	(002)	44.8	(039)	26.5	(049)
	No	77.8	(007)	55.2	(048)	73.5	(136)
	Total	100	(009)	100	(087)	100	(185)
		G=.31 p .05					
Urban							
	Yes	39.1	(018)	55.4	(153)	43.0	(181)
	No	60.9	(028)	44.6	(123)	57.0	(240)
	Total	100	(046)	100	(276)	100	(421)
		G=.16 p .05					
State							
	Yes	42.7	(035)	56.1	(295)	46.9	(483)
	No	57.3	(047)	43.9	(231)	53.1	(543)
	Total	100	(082)	100	(526)	100	(1030)
		G=.14 p .05					

It may be generalized that in urban and urbanizing-rural areas the length of residence is related to perception.

Religious affiliation

Table 16 compares the perception of the Mormons (Church of Jesus Christ of the Latter Day Saints; LDS) to those of other faiths. In rural areas, 62 percent of the LDS and 54 percent of those of other faiths view a problem in health services. This relationship is not statistically significant at the .05 level and theta (θ) is .08. The urbanizing-rural area shows that 31 percent of the LDS and 39 percent of those of other faiths also view a problem in health services. There is no statistical significance and theta (θ) is .09. In urban areas, 45 percent of the LDS and 44 percent of the non-LDS perceive an unavailability of health services. Theta is almost nonexistent (θ=.00) and there is no statistical significance.

The overview of the state shows that 48 percent of the LDS and 47 percent of the non-LDS perceive a problem. There is no association (θ=.01).

Political affiliation

Table 17 indicates that in rural areas perception may be somewhat related to political affiliation. Approximately 52 percent of the Republicans, 62 percent of the Democrats, and 64 percent who are of neither party perceive a problem in health services. However, there is a very low

Table 16. Percent viewing a problem in health services by religion

	% Viewing a Problem in Health Services	LDS %	LDS N	Other %	Other N
Rural					
	Yes	62.1	(298)	54.1	(072)
	No	37.9	(182)	46.2	(061)
	Total	100	(480)	100	(133)
		X^2=2.75 with 1 d.f. p=N.S. θ=.08 (1 Don't Know)			
Urbanizing-Rural					
	Yes	30.5	(076)	39.4	(013)
	No	69.5	(173)	60.6	(020)
	Total	100	(249)	100	(033)
		X^2=1.06 with 1 d.f. p=N.S. θ=.09			
Urban					
	Yes	44.5	(254)	44.4	(076)
	No	55.5	(317)	55.9	(095)
	Total	100	(571)	100	(171)
		X^2=.00 with 1 d.f. p=N.S. θ=.00			
State					
	Yes	48.3	(628)	47.8	(166)
	No	51.7	(672)	52.2	(117)
	Total	100	(1300)	100	(283)
		X^2=0.05 with 1 d.f. p=N.S. θ=.01			

Table 17. Percent viewing a problem in health services by political affiliation

% Viewing a Problem in Health Services	Rep. %	Rep. N	Dem. %	Dem. N	Other %	Other N
Rural						
Yes	52.0	(093)	62.1	(110)	64.4	(163)
No	48.0	(086)	37.9	(067)	35.6	(090)
Total	100	(179)	100	(177)	100	(253)
	X^2=7.24 with 2 d.f. p.<05 θ=.08 (2 Don't Know)					
Urbanizing-Rural						
Yes	32.0	(033)	25.5	(014)	33.9	(041)
No	68.0	(070)	74.5	(041)	66.1	(080)
Total	100	(103)	100	(055)	100	(121)
	X^2=1.26 with 2 d.f. p=N.S. θ=.05 (2 Don't Know)					
Urban						
Yes	40.6	(082)	48.5	(114)	43.6	(132)
No	59.4	(120)	51.5	(121)	56.4	(171)
Total	100	(202)	100	(235)	100	(303)
	X^2=2.88 with 2 d.f. p=N.S. θ=.05					
State						
Yes	43.0	(208)	51.0	(238)	49.6	(336)
No	57.0	(276)	49.0	(229)	50.4	(341)
Total	100	(484)	100	(467)	100	(677)
	X^2=7.26 with 2 d.f. p<.05 θ=.05					

association (θ=.08) even though it reaches the .05 significance level.

The urbanizing-rural and urban areas have 32 and 41 percent Republican, 26 and 49 percent Democrats, and 34 and 44 percent of neither party respectively viewing a problem in health services. There is an extremely low association and the relationship is not significant.

The overall view of the state shows that 43 percent of the Republicans, 51 percent of the Democrats, and 50 percent belonging to neither party perceive a problem. There is an extremely low association (θ=.05) even though statistical significance does reach the .05 level.

Summary

As previously reported, those variables expected to differentiate among those who might perceive a problem in health service delivery in urban areas did not necessarily do so. Also, the additional demographic variables did not necessarily determine other factors which might be related to perceiving an inadequacy in health services.

CHAPTER VI

SUMMARY, DISCUSSION, AND IMPLICATIONS

Summary of Study

The present study was undertaken to assess the relationship between the empirical availability of health services and perceived availability of health services under varying conditions, and also to determine if the demographic variables found to be related to differential use of medical services in metropolitan areas are also related to the perception of Utahns. The main purpose of this study was to see if sex, education, income and ethnicity are in fact related to perception as found in previous research. The hypotheses were subsequently derived from these works. It was also undertaken to add further information to that already compiled in the form of additional demographic variables which might possibly affect the perception of Utahns regarding the adequacy of health services.

Data showing the empirical availability of selected health services were obtained from the Utah Division of Health. The data used to measure perception were obtained through structured questionnaires administered to a selected sample from the eight (8) Utah multi-county

planning districts. The information was gathered from 1643 respondents. To the previously mentioned variables under study, religious and political affiliation, family size, length of residence, marital status, head of the family's employment and occupation, and property ownership variables were added. All of the variables were viewed by dividing the areas by physician/population ratio into rural, urbanizing-rural, and urban areas.

The Findings

The overall view of the people of Utah was obtained by using the total number of people in each area, (rural, urbanizing-rural, and urban), and comparing the percentages from each group.

One hypothesis required that the perception of health services be compared between rural areas and urban areas. The results were significant. Rural people do, in fact, perceive a greater unavailability of health services. There are several possible explanations. First, there are limited health facilities, such as physicians, hospitals and out-patient services. Secondly, in order to obtain health services, many Utahns must travel a long distance to obtain adequate health care. Finally, it is generally accepted that the incomes of many rural families are quite low. Therefore, the inability to pay for medical care may require that medical consultations be kept at a minimum. Rural

inhabitants in fact are perceiving the relative inaccessability of health services. It should be noted that, when comparing rural and urban areas under varying demographic conditions, the direction of the relationship in most cases shows that a greater percentage of the rural populations do perceive more of an unavailability of health services than do urban people.

The urbanizing-rural area deserves special attention. By definition, urbanizing-rural areas are developing and expanding rapidly. This rapid expansion may be caused by the migration of people and industry from urban areas to the "country", thereby increasing the population of many small communities and subsequently demanding an increase in many services.

One measure of the adequacy of social services is health service delivery. As previously stated, rural areas have a scarcity of health services. It would, therefore, be expected that in an urbanizing-rural area there would be an influx of physicians and increase in the number of health facilities able to satisfy the needs of this growing population. Perception of health service delivery may be influenced as the medical needs of the community are satisfied.

The next step examined each variable known to be related to the usage of health services: age, sex, ethnicity, income, education, and marital status with perception.

It was hypothesized that women would be more likely to

perceive a problem in health service delivery than men. Women, over a period of time, are more likely to visit a physician because they are women. The results indicate that women do not perceive an unavailability of health services more frequently than men. One possible reason may be that both men and women have been made more aware of the need for proper and adequate health care. For example, there are enormous advertising campaigns pointing out the health hazards of smoking and pollution of all kinds. The government has several agencies which publish reports of their tests and the possible health effects of many products being sold to consumers. These agencies, however, reflect the general attitude toward a better level of health for the individual.

It should be noted in this finding, however, that although female perception of the unavailability of health services is not significantly different from that of men, a larger percentage of females did perceive an unavailability. In addition, a higher percentage of females residing in rural areas perceived an unavailability in health service delivery than did urban women.

Age was also expected to be related to the perception of health needs. Older (65+) people generally need more health care, as do the very young. Age, however, was not found to be significantly related to the perception of health services. The young people (15-29) were more likely to perceive an unavailability in health services rather than the

older (65+) people. This may be because the young people today have been raised to believe that it is the "right" of every individual to obtain adequate health care. In other words, it is the "right of health" and the availability of services to exercise this "right" that influences the perception of this group toward health service delivery. Older people, on the other hand, have lived during periods of time when there was a shortage of doctors and facilities and the "home remedy" was the only medicine. In recent years, with more services available and the ability to purchase (through medicare) adequate care, their needs have been satisfied and thus influence their perception of the availability of health service delivery.

Ethnicity has often presented a problem for obtaining proper health care. The northern-European background is generally a characteristic of Utahns. However, there are some southern Europeans (Italian, Spanish, Greek, etc.), Indians, Mexicans and Blacks living in Utah.

In the rural area, non-northern Europeans in rural areas perceive no greater unavailability of health services than northern Europeans. This goes against the idea that non-northern Europeans are more likely to view an inadequacy in health services. This is also the case for non-northern Europeans residing in an urbanizing-rural area who generally perceive health services much the same way as other persons in the area.

Education and income generally are related. The people with the higher education will generally have the higher incomes. However, neither of these variables appear to be related to the perception of health services. It would appear that money cannot pay for health services which are not available. It also indicates that perhaps the population may be learning about symptoms of various diseases through the media and therefore, education may not necessarily have the effect it once had.

Next, the additional variables of religious and political affiliation, family size, length of residence, marital status, head of the family's employment and occupation, and property ownership were examined in relation to perception.

Generally, the findings indicate little or no difference in the percentage of married and non-married people viewing a problem in health service delivery.

Likewise, religious and political affiliations do not appear to be related to the perception of health service delivery. However, in both cases the view of the State shows a significant relationship. This may occur because the combining of the total number of cases in each of the categories allows for the statistical test to reach a significant level.

Employment and property ownership also do not appear to affect the perception of health service delivery. It should be noticed that property owners generally perceive a greater unavailability of health services, except in

urbanizing-rural areas in which non-property owners perceive a greater unavailability of services. This situation in urbanizing-rural areas might be expected as those who do not own property probably are recently from urban areas and are noticing a decrease in the number of facilities able to provide adequate health care.

Family size is not significantly related, except in urbanizing-rural areas, to the perception of health services. Generally, the smaller the family the less likely an unavailability of health services is perceived. One possible reason for this is that a smaller family is more likely to be able to afford the cost of medical care. The larger the family, on the other hand, the more likely that adequate medical care cannot be afforded, or certain medical needs, such as pediatricians, may not be available. However, larger families in urban areas have many health agencies available to help them and government aid to provide financial assistance for adequate health care.

Home ownership in urbanizing-rural areas is significantly related to the perception of health service delivery. For example, many of the homes and much of the property is owned by people who have probably lived in that area for many years, and many new residents live in apartments or rented houses. As previously stated, urbanizing-rural areas are experiencing an increase in population and services. Therefore, those who have resided in that area longer are experiencing a rapid increase in the

availability of certain services, including health services, compared to what they used to have and this undoubtedly affects their perception.

In rural areas, perception of health services appears to be related to the head's occupation. The businessmen in rural areas may work in or frequently commute to urban areas. The availability of health services and the ability to pay for medical services allows the businessman to obtain adequate care and, thereby, not perceive an unavailability of health services.

Finally, the most important variable that generally appears to be related to the perception of health services is the length of residence. The urbanizing-rural and urban areas show that the greatest percentage perceiving a problem in health services are those who remain one to ten years in the same community.

Those who have resided in a community one year or less may not be fully aware of the health services that are or are not offered. A greater percentage of those residing in a community one to ten years perceived a problem in health services. This is not unlikely as many of these people are raising families and have become acquainted with health services available to them. Those living in communities longer than eleven years have "adapted" to the services available and may not perceive a problem to the same extent. By the use of the word "adapted", it is meant that people have learned

to accept and utilize those facilities which are available. It may also be the case that certain medical needs existing previously have either diminished or disappeared. For example, a pediatrician is not needed if there are no young children.

Implications

The findings of this study do not directly support the majority of the research compiled in the area of health service delivery. That, however, does not mean that they should be disregarded. Nonetheless, it should be noted that these previous studies were conducted among metropolitan residents and not the varied populations of Utah. In this regard, perhaps this study may shed some light on the viewpoint of the rural population.

From the additional variables studies, it is illustrated that no particular pockets of the Utah population perceive an inadequacy more than the others. It would appear that health service delivery is reasonably equitable among Utahns. However, the hypothesis that rural areas would perceive more of a problem than urban areas in health service delivery is marginally supported, with the highest level of service satisfaction being found in urbanizing-rural as opposed to urban areas.

Limitations of the Study and Suggestions for Future Research

This study does have some important limitations that should be taken into account. First, the measure of need are poor and indirect. There are no specific standards designed to provide a criteria from which one could determine how many or what kind of facilities are needed in an area to provide adequate health care.

Secondly, because of the background of the Utahns, it might be highly unlikely to generalize to populations outside of Utah. However, it is probable that many assumptions gained from outside research are also inapplicable.

Finally, since the questionnaire was directed toward Land-Use Planning, it may have biased this study.

It is strongly recommended that further research be conducted. A direct study to measure the perception of health service delivery should be undertaken. Additional information should be obtained to determine which factors may be related to the usage of health facilities.

It is important that all people have the right to acquire adequate medical services upon demand. Therefore, it seems appropriate to consider more substantial material before making considerations for future growth.

Conclusion

The findings seem to reflect the actual availability of health services. That is, that rural populations perceive more of a problem in health service delivery than does the urban population. The urbanizing-rural areas, however, do not necessarily reflect the actual availability of health services, but rather an improvement in availability of health services.

In comparing the perceptions of various categories of the Utah population, it would appear, with the exception of urbanizing-rural areas, that Utah health service delivery is reasonably equitable.

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APPENDIX

PHYSICIAN QUESTIONNAIRE

Name_____
first middle last

Home Address_____
no. & st. city state zip

Profession_____Sex___M___FM

Year of Birth_____Utah License Number_____

Are you practicing your profession?___Y___N. If YES, are you practicing fulltime?___Y___N. If your answer is NO, is this because:

____1. Retired
____2. Personal preference
____3. Unable to find employment in your profession
____4. Other_____

In what community(s) do you practice? (Name them and estimate the hours per week in each.)

City or Town	Hours/week
_____	_____
_____	_____
_____	_____

Do you provide direct patient care?___Y___N. If YES, how many hours per week?_____.
Could you see more patients?___Y___N.

Would you like to reduce your patient load?___Y___N.

From what counties do most of your patients come?

_____

Enter the code(s) for your primary and secondary (if any) type of employment.

Primary_____ Secondary_____
Code number Code number

Alternatives:
Codes
1. Self-employed or solo practice.
2. Private practice with others.
3. Hospital employed.
4. Employed by an institution, such as the armed forces, a school, a university health service, industry, etc. (not teaching).
5. Employed by another professional.
6. Teaching.
7. Nursing home.
8. Public health.
9. Other (Please specify)_____

FOR OTHERS

In which state and year did you complete your professional training?
State_____ Year_____

FOR PHYSICIANS AND DENTISTS

In what state and year did you receive your M.S., D.O., or D.D.S. degree?
State_____ Year_____

In what state and year did you complete your residency program?
State_____ Year_____

What is your primary medical or dental specialty, if any?

_____

Are you board certified in this specialty?___Y___N.

Is your practice restricted to this specialty?___Y___N.

In what other specialty(s) are you board certified?

_____

_____

LAND-USE PLANNING SURVEY QUESTIONS

There are situations in America today that some people think are a problem while others do not think so. For the following, please indicate how much of a problem you think each is at the present time for the State of Utah . . then your immediate area.

		Serious Problem	Some Problem	No Problem	DK
20.	Air Pollution				
	State of Utah	___1.	___2.	___3.	___4.
	This immediate area	___1.	___2.	___3.	___4.
21.	Water Pollution				
	State of Utah	___1.	___2.	___3.	___4.
	This immediate area	___1.	___2.	___3.	___4.
22.	Coal Burning Electrical Power				
	State of Utah	___1.	___2.	___3.	___4.
	This immediate area	___1.	___2.	___3.	___4.
23.	Location of Electrical Power Lines				
	State of Utah	___1.	___2.	___3.	___4.
	This immediate area	___1.	___2.	___3.	___4.
24.	Health Services				
	State of Utah	___1.	___2.	___3.	___4.
	This immediate area	___1.	___2.	___3.	___4.
25.	Loss of Prime Agricultural Land to Subdivision				
	State of Utah	___1.	___2.	___3.	___4.
	This immediate area	___1.	___2.	___3.	___4.
26.	Unsightly Business or Industry Along the Highway				
	State of Utah	___1.	___2.	___3.	___4.
	This immediate area	___1.	___2.	___3.	___4.

Continued on next page.

	Serious Problem	Some Problem	No Problem	DK
27. Too many Recreation Homes				
Mountain Lands				
State of Utah	___1.	___2.	___3.	___4.
This immediate area	___1.	___2.	___3.	___4.
28. Too Many People				
State of Utah	___1.	___2.	___3.	___4.
This immediate area	___1.	___2.	___3.	___4.

. . . .

DEMOGRAPHIC QUESTIONS

5. Do you own or rent this house?
   1 = owns 2 = yes

7a. What kind of work does the head (chief wage earner) do?

Title of Position _____ Type of Work _____

Kind of Business or Co. _____

10. Who else lives in this household? Please begin with the spouse of the Head, if applicable, and then move from oldest to youngest members.

12. FOR EACH PERSON AGED 16 AND OVER RECORD THE FOLLOWING INFORMATION:

a. Is ... a student? 1) Yes 2) No
b. Is ... 1) Married 2) Single (never mar.)
   3) Wid. 4) Sep. 5) Div.
c. What is the highest grade of school or highest degree completed by . . .?
d. Is ... 1) Employed full-time
   2) Employed part-time
   3) Keeping house
   4) Retired
   5) On a lay-off
   6) Looking for work
   7) Disabled
   8) Doing something else

62. Race of Respondent

___1. Negro or Black
___2. Chicano or Mex. American
___3. American Indian
___4. Oriental
___5. Caucasian "What is your national origin or descent?"

___Canadian	___German	___Jewish
___Dutch	___Greek	___Polish
___English,Scot Welsh	___Irish	___Scandinavian
___French	___Italian	___Other _____

63. What is your religious preference?

___1. L.D.S.	___3. Protestant (specify)_____
___2. Catholic	___4. Other (specify)_____
	___5. None

64. Politically, do you consider youself to be:

___1. Republican
___2. Democrat
___3. Other (specify)____
___4. No party affiliation

66. Which, if any, of the following types of real estate do you own?

___ a home
___ business or rental property
___ a recreation or summer home
___lot or lots for future building (under 10 acres)
___other land (under 50 acres)
___other land (over 50 acres)

67. Which of the following numbers comes closest to your usual family income?

___1. under $4,000
___2. $4,000 - 7,999
___3. $8,000 - 11,999
___$12,000 - 15,999
___$16,000 - 19,999
___over $20,000

VITA

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Master of Science

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