Utilization of primary care services in Carbon County : a consumers perspective
by Scott Richard Oldfield

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Nursing
Montana State University

Abstract:
Rural America is faced with a shortage of primary care services. One way in which this problem can be addressed is by utilizing the resources that are within rural communities to their full potential. Local primary care providers (PCPs) must recognize the perceived and actual health care need of residents within their community in order to maximize the available resources. Satisfaction with access to primary care provides a way in which utilization can be measured. Previous studies have found a positive correlation between satisfaction with access and utilization of services.

Carbon County is a frontier county located in south central Montana and has been identified as a health professional shortage area (HPSA) by the state and federal governments. It was unclear at the onset of this study whether the residents of Carbon County were optimizing the primary care services that exist within the county. The purpose of this study was three-fold: (1) determine whether residents of Carbon County are seeking primary care services in their community or seeking services elsewhere; (2) determine the level of satisfaction with access to primary care in Carbon County amongst the residents of Carbon County; (3) and determine whether there is a relationship between satisfaction with access and utilization of primary cate services in Carbon County.

A descriptive correlational design was used for this study. A systematic sampling of 73 residents of Carbon County participated in the study. The data was collected by telephone survey and was analyzed utilizing frequency, descriptive, and bivariate analysis. The results indicated that over three fourths of the participants utilized the primary care services in Carbon County. The participants also appeared to be satisfied with the access to primary care services in Carbon County. There was no significant relationship identified between satisfaction with access and utilization of primary care in Carbon County.

Future research is needed in order to validate this study's findings. The more information that is available relating to factors influencing the utilization of rural primary care services, the better prepared local PCPs will be able to allocate and maximize the available primary care resources in their communities.

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A CONSUMER'S PERSPECTIVE

by

Scott Richard Oldfield

A thesis submitted in partial fulfillment
of the requirements for the degree

of

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This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English, usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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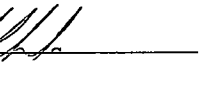
Signature 

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ABSTRACT

Rural America is faced with a shortage of primary care services. One way in which this problem can be addressed is by utilizing the resources that are within rural communities to their full potential. Local primary care providers (PCPs) must recognize the perceived and actual health care need of residents within their community in order to maximize the available resources. Satisfaction with access to primary care provides a way in which utilization can be measured. Previous studies have found a positive correlation between satisfaction with access and utilization of services.

Carbon County is a frontier county located in south central Montana and has been identified as a health professional shortage area (HPSA) by the state and federal governments. It was unclear at the onset of this study whether the residents of Carbon County were optimizing the primary care services that exist within the county. The purpose of this study was three-fold: (1) determine whether residents of Carbon County are seeking primary care services in their community or seeking services elsewhere; (2) determine the level of satisfaction with access to primary care in Carbon County amongst the residents of Carbon County; (3) and determine whether there is a relationship between satisfaction with access and utilization of primary care services in Carbon County.

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CHAPTER 1

INTRODUCTION

In the early to mid 1900's the exodus of America's population from rural settings to urban communities created an erosion of rural primary care services. The decrease in the population of rural regions in the United States has made it difficult for primary care providers (PCPs) to maintain viable practices in rural communities. The problem of maintaining accessible health care services in rural America is not only due to the lack of rural PCPs. Other contributing factors include geographic barriers, lack of public and personal transportations, and a higher rate of poverty in rural than urban populations (Davis, McAdams, & Tilden, 1994).

The health care plight of rural residents is impacted by this disproportionate allocation of resources: physical facilities, medical equipment, and health care professionals. Larger communities possess the majority of the resources, leaving small rural communities in need of primary health care services. The mal-distribution of health care resources leads many residents of rural communities to travel great distances for their health care needs. Even if rural communities possess primary care services, they often lack specialty services. Residents of these communities must decide whether they will utilize the local services knowing they will have to go elsewhere for specialty care, such as obstetrics and orthopedics (Borders, Rohrer, Hilsenrath, & Ward, 2000).

To ensure that health care needs of rural residents are being met, the limited primary care services that are available within rural communities must be accessed and

utilized to their fullest potential. In order for efficient utilization of primary health care services, rural PCPs must understand the actual and perceived needs and desires of community members. This understanding can be accomplished by assessing community members' satisfaction with access to the local primary care services. Without a quantifiable method of determining community satisfaction, the PCP is unable to determine whether primary care services placed into the community are being utilized to their full potential. If satisfaction with access to primary care is high within a community, it is likely that the available resources are being used (Thomas & Penchansky, 1984). If community members are not satisfied with local primary care services, health care will not be sought or will be sought elsewhere. By exploring patient satisfaction with access and trends in health care utilization, local health care organizations and professionals will be better prepared to meet the needs of their communities.

Statement of Problem

Carbon County is a frontier community located in south central Montana. Carbon County has been identified as having limited primary care services to meet the health care demands of the entire county. It is important that existing health care services are efficiently utilized. It is unclear at this time if the residents of Carbon County are fully utilizing the health care service available to them within their community.

Statement of Purpose

The purpose of this study is to identify patient utilization and satisfaction of primary health care services within Carbon County. The questions that will be answered include:

1. Are the residents of Carbon County using primary care resources within the county or seeking their care in surrounding communities?
2. What is the level of satisfaction with access to primary care services in Carbon County amongst the residents of Carbon County?
3. Is there is a relationship between patient satisfaction with access to primary care services and utilization of these services in Carbon County?

Background

Montana is considered a category I frontier state (Zelarney & Ciarlo, 1999). To attain category I frontier status, over 15% of the state's population must live in frontier counties with a population density of seven or less people per square mile (Zelarney & Ciarlo, 1999). According to 2000 Census estimates, of the 56 counties in Montana, 47 are considered frontier counties with over 35% of the state's population living within these counties (US Census Bureau, 2000). One such county is Carbon County, occupying an area of 2,048 square miles with a population density of 4.7 people per square mile.

There are 9,552 residents living in Carbon County. Ninety-seven percent of Carbon County residents describe themselves as white, making Carbon County a racially

homogeneous community (US Census Bureau, 2000). Carbon County is an agricultural community with 23.1% of the population involved in agriculture, forestry, or fishery industries, a significantly higher proportion compared to the 2.7% of the nation's overall population involved in these industries (US Census Bureau, 1990).

Carbon County is demographically and sociodemographically similar to many rural communities; a higher proportion of the population is elderly, live in poverty, and are disabled relative to national averages. An estimated 16.8% of the population in Carbon County was 65-years-old or older as compared to 12.4% of the nation's population (U. S Census Bureau, 2000). The poverty rate in Carbon County was 26.3% in 1990 while the national average was 21.4%. In 1990 the U.S. Census Bureau identified 16.6% of Carbon County residents between the ages of 16 and 64 as having mobility, self-care, and/or a work disability, compared to a national average of 14.1% disability for citizens between the ages of 21 to 64 (U. S. Census Bureau, 1990).

Like many frontier counties, Carbon County has limited resources to meet the health care needs of its residents. Both the United States National Public Health Service and the state of Montana have identified portions of Carbon County as Health Professional Shortage Areas (HPSAs) (Montana Department of Public Health and Human Services (MTDPHHS), 2000). A region can be designated as a HPSA based on PCP to population ratio, presence of an underserved population group, or the insufficient capacity of a local health care facility to meet the health care needs of the community (Leitner, Gast, Sarvela, Ring, & Newell, 1996).

Despite the presence of three primary care clinics and a small community hospital in the county, Eastern Carbon County, Fromberg, Bridger, and Joliet are all considered Primary Care Health Professional Shortage Areas (HPSA) (MTDPHHS, 2000). Carbon County presently has six PCPs, including five Physicians and one Family Nurse Practitioner (FNP), to meet the primary care needs of the community. There are two clinics in the county seat of Red Lodge and one clinic in Bridger, which is approximately 22 miles northeast of Red Lodge. Red Lodge is also the site of a 22-bed community hospital and two nursing homes. For those who choose to primary care outside of Carbon County, there are a total of five communities within a one-hour drive that have primary care resources including Billings, Laurel, and Columbus in Montana, and Cody and Powell in Wyoming.

Conceptual Framework

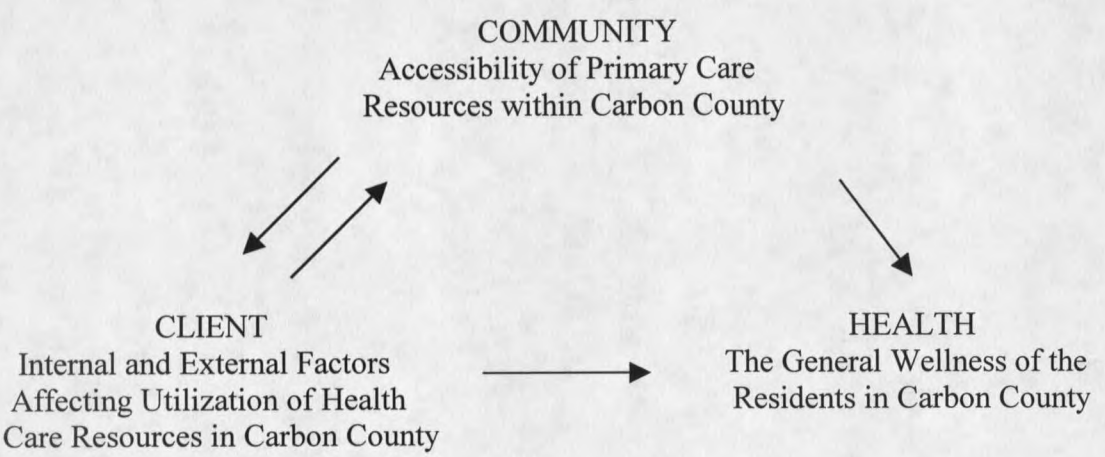
This study examines individuals' perceptions of the community's primary care needs and resources under the framework of Betty Neuman's Systems Model and the Community Capacity Model (see Figure 1). Neuman's Systems Model places community, client and health into a framework that is both interdependent and continually changing. The Community Capacity Model helps to better explain the process by which a community is able to meet the needs of its members.

According to Neuman (1995), optimal wellness is achieved when the needs of the individual, family, group, or community are being met. This wholistic approach to health, developed by Neuman, addresses the community's physiological, psychological,

sociocultural, developmental, and spiritual needs. The environment is a basic phenomenon of the Neuman Systems Model, and the relationship between the community and the environment is reciprocal with continual interaction between the two (Freese et al., 1998).

The use of the Community Capacity Model helps to refine this study's focus by recognizing the community as the primary component for health care change. Community capacity is the community's potential for addressing presenting health issues (Goodman et al., 1998). To help further clarify community capacity Goodman et al. (1998) identify dimensions and subdimensions of community capacity, including resources and skills. The community is able to demonstrate capacity by its ability to access and use resources prudently. If resources are lacking within the community, it is the goal of that community to move towards the acquisition of the needed resources by drawing from already existing resources, thus demonstrating a high degree of skill.

Figure 1. The Community Capacity Model for Carbon County



Definitions

Three key components of both Neuman's Systems Model and the Community Capacity Model are community, client, and health. For the purpose of this study, it is important that these components are clearly defined. Providing a clear understanding of each component will allow for a better understanding of the value and practical use of the study's findings.

Community

Community is often defined as location but can also take on a more active form. Community can also be defined as a group of people with common views and goals working within a given social system to meet its needs (Higgs & Gustafson, 1985). In another definition taken from a public health prospective, community is viewed as a natural gathering of people with similar needs who have sufficient resources to deal with life's demands to remain in a state of wellness (Turnock, 2001). The definition of community in this study draws from these community capacity influenced definitions. For the purpose of this study, community refers to all residents of Carbon County working together to achieve health through the coordination of individual and group resources.

Client

Neuman (1995) describes the client as a system that can be defined as a person, family, group, community, or issue. The client system is comprised of the physiological, psychological, sociocultural, developmental, and spiritual dimensions of the client. The

client is influenced by environmental factors, both internal and external, influencing the various system parts. For the purpose of this study, the client is defined as individuals residing in Carbon County having the opportunity to utilize the health care resources available within the county.

Health

Wellness is obtained when the various parts of the system are working in harmony, while illness exists when there is disharmony among the parts of the system. Health is achieved when all the needs of the system are met. This concept of health is dynamic in nature and constantly changing (Freese et. al., 1998). For the purpose of this study, health is the ability of Carbon County residents to optimally utilize existing primary health care services to maintain wellness at the individual and community levels.

Prestudy Assumptions

Prior to conducting this study, three assumptions were made, which include:

1. The primary care services within Carbon County are not being utilized to their full potential.
2. There is a relationship between satisfaction with access and utilization of primary care services.
3. The utilization of available primary care services is a measure of the potential primary care needs within the community.

CHAPTER 2

LITERATURE REVIEW

Access to rural health care has been measured various ways. One way is by taking a look at self-reported barriers to care. Other researchers have used distance measures to determine access to health care. By far the most common means of measuring access is focusing on the use of available health care services (Stearns, Slifkin, & Edin, 2000). Focusing on utilization is often used when comparing rural health care consumers with their urban counterparts. Ultimately, the goal of all the research has been aimed at assessing whether the health care needs of rural residents are being met.

Community

Although a community is comprised of individuals with varied interests and concerns, the residents of the community have enough similar needs that they unite for the general benefit of all. By pulling together individual resources and talents, residents of a community are able to acquire needs that could not be obtained at the individual, family, or group level. Primary care is one such need that is sought by residents of rural communities.

Primary Care

Primary care can come in many forms. Although there is no consensus as to the definition of primary care, all primary care systems should: (1) be accessible, (2) possess

a proper mix of health care professionals, (3) have a community and provider-supported health care delivery system, (4) have links to tertiary care resources, (5) foster a relationship with a professional education system that prepares and supplies health care professionals, (6) link to a network of health care delivery services within the community such as local schools (Davis et al., 1994). These constants of primary care systems allow for the health care needs of a community to be met. The lack of, or even absence of, rural health care resources requires that a primary care system be in place that will assist and direct community members to obtain needed care.

Access to Primary Care

Access is one concept often included in discussions of health care utilization. Unfortunately, the definition of access is not always clear. Some authors have literally defined access as the use of a health care system, while others have broadened the meaning of to include factors that influence the use of a health care system. These factors may be attributed to either the resources or to the individuals seeking the health care (Penchansky & Thomas, 1981). Penchansky and Thomas (1981) define access as "the degree of 'fit' between the clients and the system." This definition of access looks at five dimensions: (1) availability, (2) accessibility, (3) accommodation, (4) affordability, and (5) acceptability.

Availability is a measure of the need versus the availability of health care resources in the community. Accessibility refers to issues of transportation and distance to the health care locations. Accommodation relates to how the health care resources are organized, i.e. clinic hours. Affordability not only deals with direct cost and insurance

issues but also how the community values the care received. Finally, acceptability addresses the perceptions and attitudes the community has towards the health care facility and health care providers, and vice versa (Penchansky & Thomas, 1981).

The relationship between satisfaction with health care access and utilization of health care resources in any given community is theoretically positive. As access to primary care improves, the utilization will also improve. Thomas and Penchansky (1984) studied the relationship between satisfaction with access and utilization of services. A positive relationship between satisfaction with access and utilization was not found when the data from the entire sample population was examined. When the same data was reexamined, separating the participants of the study into demographically homogeneous segments, there was a significant positive relationship with every access dimension except accessibility (Thomas & Penchansky, 1984). Some attribute the inability to identify a relationship between satisfaction with access and utilization in large communities to the multiple extraneous variables such as health care need, race, education, and family size (Roghmann, Hengst, & Zatowny, 1979). In small predominately homogenous communities the extraneous variables may not have such a significant impact on confirming a significant relationship between satisfaction with access and utilization of health care.

Client

There are several unique demographic and sociodemographic challenges to recognize when addressing access to primary care within rural communities. Rural

residents tend to be older, poorer, more disabled, and perceive themselves to be less healthy than urban residents (Geyman and Hart, 1994; Rowland and Lyons, 1989). It would seem logical, then, that the need for primary care services within rural communities is great. Yet the lack of PCPs and large costs associated with primary care prevent residents of rural communities from getting the care they need (Earle-Richardson & Earle-Richardson, 1998).

Elderly

Consistent with the total population of the United States, rural dwellers are living longer. Along with advancing age comes an increased likelihood that primary care services will be accessed for the management of chronic illnesses. Unfortunately, the elderly are often faced with their own unique barriers in seeking health care in a rural area. Rural elderly often have decreased access to transportation which becomes a factor when considering the travel distance to primary care services (Nemet & Bailey, 2000). A study of the relationship between the rate of utilization of health care and distance from health care services among elderly residents in rural Vermont indicated that participants who had to travel greater than ten miles went to their PCP less frequently than those who traveled less than 10 miles (Nemet & Bailey, 2000).

Disabled

It is estimated that over 10% of the world's population possess some type of disability (Frye, 1993). The Americans with Disabilities Act (ADA) defines disability as "a physical or mental impairment that substantially limits one or more major life

activities of an individual, and record of such an impairment, or being regarded as having such an impairment" (One Hundred First Congress of the United States of America, 1990). Individuals with disabilities often require primary care services in order to access specialty care and community resources that are absent in most rural communities (Lishner, Richardson, Levine, & Patrick, 1996).

There are three basic subgroups of disabled persons including the elderly, laborers, and children. Within the rural communities the disabled population primarily consists of elderly with chronic illnesses. Another subgroup of rural disabled is working-age individuals that experience occupational injuries. Donham and Thu (1993) estimate that agricultural workers have a death and injury rate five times that of other occupations. It has also been determined that there is a higher proportion of disabilities among rural children than their urban counterparts (Levey, Curry, and Levey, 1988).

Poor

According to the National Center for Health Statistics, rural residents tend to be poorer and more likely to be uninsured or underinsured than their urban counterparts (McManus & Newacheck, 1989). The lack of payment assistance has the potential to influence access to primary care resources. Individuals with no private insurance, only Medicare or Medicaid coverage, are twice as likely to travel outside the immediate area for health care than individuals with private health insurance (Borders et al., 2000). This data suggests that rural residents without private insurance have a more difficult time accessing local rural primary care.

In 1965 Congress established Medicare, which has provided a means for needy members of communities to access primary care (Stearns et al., 2000). When comparing self-reported access to care, satisfaction with care received, and use of services between rural and urban recipients of Medicare, there was no significant difference in the three measures between rural and urban Medicare beneficiaries (Stearns et al., 2000). These results either indicate that rural Medicare recipients are finding adequate primary care services in their communities or traveling to larger communities for their health care.

Health

Neuman's concept of health does not take into consideration how community systems interpret the various degrees of wellness, which would influence when needed changes are initiated to correct disharmony. The influence that environmental factors, including where someone lives, have on the way in which health is viewed is significant. The perception of health held by individuals can directly influence when and how they choose to access primary care services (Long, 1993).

For many rural residents, health is directly related to their ability to perform daily tasks (Long & Weinert, 1989). A rural resident may be experiencing symptoms of an illness. However, if he is able to work, he will not seek health care. By not actively accessing primary care services when experiencing symptoms of illnesses, not limiting functionality, rural residents may be overlooking a treatable illness that might lead to future disability.

Summary

The rural population is faced with unique barriers to accessing health care. The elderly, disabled, and poor rural residents face additional barriers including the need for specialized care that, in many cases, can only be accessed in regional urban centers.

The review of literature has shown that the measurement of access to rural primary care can be accomplished through determining the utilization of primary care services. Once access has been measured and identified as less than optimal to meet the health care needs of a rural community, the pursuit of additional health care resources by the rural community can be initiated.

The review of literature has also identified the lack of literature regarding rural primary care utilization and access. The reason for the absence of material is not clear. One speculation for the void focuses on the national health care system that is driven by capitalism. The nature of capitalism places great importance on the viability of a health care practice. If the need in rural communities for primary care services does not present a potential profit for health care agencies, little time and resources will be spent studying and understanding the plight of rural health care.

CHAPTER 3

METHODOLOGY

Study Design

This study employed a descriptive correlational design. A telephone survey was used to measure participants' utilization and need of local primary care, demographic and sociodemographic information, and satisfaction with access to primary care services. The four questions relating to utilization and need of primary care included the number of times that primary care was accessed in the last six months, where the health care was sought, how long the participant has known his or her PCP, and whether a chronic illnesses exists requiring frequent visits to their PCP (Appendix A). Demographic and sociodemographic questions related to age, race, gender, education, duration of residency in Carbon County, and whether the participant lives in or out of town were also asked (Appendix B). The satisfaction of access survey consisted of fourteen questions based on the five dimensions of access including availability, accessibility, accommodation, affordability and acceptability (Appendix C).

Population and Sample

The target population for this study consisted of Carbon County residents 18 years and older. Of the 9,552 residents of Carbon County, approximately 76% (n= 7,260) of the Carbon County population fall into this category (US Census Bureau, 2000). There were two criterion for exclusion to this study. Children under 18-years-old, unable to

legally provide verbal consent, did not participate in the survey. Individuals over the age of 18 unable to provide verbal consent or respond appropriately to the survey questions were also excluded from the study. The method of selection was systematic sampling, using an ordered list of the target population and selecting every third individual. The sampling frame for this study consisted of the various phonebook listings for the towns throughout Carbon County including Belfry, Bridger, Fromberg, Joliet, and Red Lodge. Every third name from these phonebook listings was contacted via telephone randomly starting with the letter of the alphabet drawn from a hat and proceeded alphabetically. Data was collected until one percent of the target population, or 73 participants, had been surveyed. Due to the nature of telephone surveying, the setting for this study was natural with no controls in place. Selection bias might have been present since persons with unlisted telephone numbers and those that did not have telephone service were not included in the sample.

Procedures

After the Human Subjects Review Committee approval was obtained, potential participants were contacted by telephone. The subjects were provided with the identification of the caller and reason for the call. The participants were then asked to verbally agree to complete a telephone survey lasting five to ten minutes. The participants were instructed that their responses would be recorded by hand and that the call was not being audio recorded. Once the survey was completed the subject was provided with the researcher's home phone number and the committee chair's office

phone number and encouraged to call with any questions or concerns related to the study. The data was collected over a four-month period during various times of the day and the week.

The consent process involved the participant's verbal consent once the researcher had thoroughly explained the purpose of the study and the fact that there was no identifiable risks or benefits to participating in the study, and ensured the participant's confidentiality (Appendix D). To ensure confidentiality of the participants and the data provided, numbers were substituted for names. Once the subject had consented to participate he or she was given a number identifier corresponding with the number of participants recorded to that point. Only the researcher and committee members had access to the surveys. The surveys are stored in a locked file cabinet located in the researcher's home and will be destroyed in five years from the completion of the study. The risk of infringing on the rights of the subjects participating in the study was minimized by the absence of deception and coercion within the study's design. Once the data was collected it was entered into SPSS 10.0 software program for analysis. All surveys and floppy disks containing research records are kept secure in the researchers' home along with the surveys.

Instrumentation

The access to care survey used in this study was originally developed in 1974. The purpose of the survey was to identify satisfaction with existing health care resources influencing the choice of health care plans by spouses of General Motors Corporation

employees in Rochester, New York (Penchansky & Thomas, 1981). Based on the concept that access must be evaluated not just by the presence of health care services but by determining the use of them, Thomas and Penchansky (1981) used the data obtained from the survey in the development of their framework for evaluating health care access.

The original survey consisted of sixteen questions related to the five dimensions of access. Four questions related to availability and accommodation, three questions related to affordability and acceptability, and two questions related to accessibility. For the purpose of this study, assessing satisfaction with primary care, the availability question addressing emergency care was not used. The satisfaction with the other patients seen at the clinic was also excluded, leaving a total of fourteen questions. Each question utilized a five-point Likert scale that included the following response selections: very satisfied, satisfied, neutral, dissatisfied, and very dissatisfied.

The tool has reliability and validity. Discriminant validity was determined utilizing a factor analysis on the original sixteen questions. It was established that the participating subjects perceived the dimensions independently and the specific satisfaction questions related to the appropriate corresponding dimension of access. Construct validity was determined by performing five least squares to relate the independent demographic variables to each of the five access dimensions. The range was between zero and one for each of the independent variables. With only 4 of the 306 independent variable pairs correlating above 0.3, primarily weak linear relationships were identified. An example would be an R=2.92 indicating that travel time greatly decreased satisfaction with accessibility (Thomas & Penchansky, 1981).

Anderko, Robertson, & Uscian (1998) used Thomas and Penchansky's framework for evaluating health care access, including the utilization of the survey to measure a rural nursing center's effectiveness in improving access to health care in a tri-county area of rural Illinois. The fact that the satisfaction with the access dimensions positively correlated with utilization provides support for the reliability of the survey.

Statistical Analysis

The four utilization and need questions were analyzed by assessing frequency and mean. Frequency and mean analysis was also the manner in which the six demographic and sociodemographic questions were analyzed. In order to assess whether Carbon County residents were seeking their primary care in Carbon County or elsewhere, where the participants were seeking primary care services was analyzed using frequency analysis.

Five multiple variables, corresponding with the five dimensions of access, were formed using the fourteen access to care questions. Satisfaction with access to Carbon County primary care services by the participants in the study was determined by analyzing the multiple variables using frequency and mean analysis.

Pearson's correlation was used to analyze the potential relationship between utilization and satisfaction with access of primary care in Carbon County. The constant variable in each of the analyses was the number of primary care visits to the PCP within the last six months. The additional variables were the multiple variables that were formed using the access to care questions representing the five dimensions of access.

CHAPTER 4

FINDINGS

Introduction

This quantitative study explored utilization and satisfaction with access of primary health care services in Carbon County. Participants were contacted via telephone over a four-month period. The participants completed a survey that included questions related to utilization and need of primary care, demographic and sociodemographic information, and access to care questions. The data collected was analyzed utilizing frequency, descriptive, and correlation analysis.

It is unclear if the residents of Carbon County are fully utilizing the primary care service available to them within their community. This chapter provides a full description of the sample population demographics, sociodemographics, and utilization and needs of primary care services. It also provides a summary of the findings relating to use of Carbon County primary care services, satisfaction with access to primary care in Carbon County, and the presence or lack thereof a relationship between utilization and satisfaction with access.

Sample

A total of 73 residents of Carbon County participated in this study. There were 361 residents contacted in order to acquire the sample. The participants either lived

within one of the county's towns ranging in population from 43 to 2,218 or in the surrounding rural areas.

Demographic and Sociodemographic Measures

Of the 73 participants, 49.3% (n=36) were male and 50.7% (n=37) were female. Participants 54 years and older comprised 46.6% (n=34) of the sample population, and subjects between the ages of 35 to 54 made up 39.7% (n=29). All the participants in this study described themselves as Caucasian. When participants were asked whether they considered their place of residence to be in town or in a rural setting, 56.2% (n=41) stated that they lived in town and 43.8% (n=32) said out of town. The participants of this study were highly educated with 49.3% (n=36) of the participants attaining a college degree or higher. The majority of the participants in this study have lived in Carbon County for over twenty years. Of the 73 participants, 52.1 % (n=38) have lived over twenty years in Carbon County and 9.5% (n=7) for 16 to 20 years.

Utilization and Need of Primary Care Measures

The data indicated that 82.2% (n=60) of the participants have known their PCP for longer than one year as opposed to 17.8% (n=13) of the participants having less than one year of experience with their PCP. When the participants were asked whether they had any chronic conditions that would require regular visits to their PCP, 71.2% (n=52) of them denied having any such conditions. The remaining 28.8% (n=21) of the participants identified conditions requiring regular visits, such as diabetes, hypertension, and hypothyroidism (see Table 1).

Table 1. Demographic, Sociodemographic, and Utilization and Need Measures

	N	Percent
Gender		
male	36	49.3
female	37	50.7
Age		
18-34	10	13.7
35-54	29	39.7
>54	34	46.6
Race		
Caucasian	73	100.0
Native American	0	0.0
African American	0	0.0
Asian	0	0.0
Other	0	0.0
Location of Residency		
Town	41	56.2
Rural	32	43.8
Education		
< High School	5	6.8
High School/GED	21	28.8
Associates Degree /Some College	10	13.7
College Degree	26	35.6
Advanced Degree	10	13.7
Total	72	98.6
Missing Data	1	1.4
Duration of Residency		
0-5 years	10	13.7
6-10 years	12	16.4
11-15 years	6	8.2
16-20 years	7	9.6
>20 years	38	52.1
Knowing PCP		
<1 year	13	17.8
>1 year	60	82.2
Chronic Illness		
No	52	71.2
Yes	21	28.8