

ACCESS: EFFECTS OF A STATE FUNDED POLICY IN ONE COMMUNITY

by

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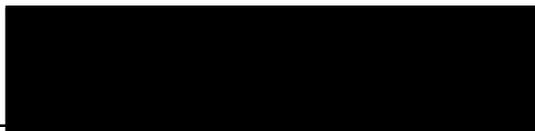
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America is in the midst of a health care crisis, and access to health care is a significant problem. As this crisis has escalated with little response from the federal government, state governments have begun to respond. For example, Kansas enacted a law in 1991 (HB 2019) to provide funding for primary care services for the medically indigent. Health Care Access (HCA), a community based volunteer clinic in Douglas County, KS, received this state funding and the services they provided increased dramatically. Little research has been done to assess the impact of organizations, such as HCA, on access to care. The purpose of this research study was to determine whether this state funding policy influenced access to health care for the medically indigent in Douglas County, KS.

This quantitative descriptive study was guided by the Aday, Anderson and Fleming (1980) Access Framework. A descriptive design was used to gather information on the characteristics of the health care system and the medically indigent in Douglas County, KS. To determine whether state funding for primary health care services for the medically indigent in Douglas County, KS decreased Emergency Department (ED) visits by the uninsured, a retrospective design was employed. Client satisfaction with care at HCA was examined using a cross sectional survey.

It was revealed in the findings that the uninsured visited the ED proportionately more frequently than the insured. The data showed that within three years after state funding of HCA was initiated, uninsured visits to the ED decreased by 63 percent, while insured visits continued to increase. The survey results revealed that HCA clients had a high level of satisfaction with the care they received at HCA.

In the era of accountability and downsizing of government services, state funded initiatives need to be evaluated to assess their effectiveness. This study will allow Kansas state legislators to

evaluate the influence of one state policy on access to health care. Most importantly, legislators and citizens need to be informed that their financial and volunteer support can influence the availability and utilization of services and the satisfaction of services of the medically indigent.

The form and content of this abstract are approved. I recommend its publication.

Signed:

A black rectangular box redacting the signature of the faculty member.

Faculty member in charge of thesis

This paper is dedicated to the person who has been at my side through-out the long process of obtaining my PhD. He has been there to encourage, support and provide his unconditional love. There are not enough words to express my appreciation and love; therefore as a small token of my appreciation I dedicate this paper to my husband, John Alan Campbell.

TABLE OF CONTENTS

CHAPTER

I. INTRODUCTION TO PROBLEM	1
A State and Local Policy Response to the Problem of Access.....	1
Purpose of the Study.....	2
Research Questions.....	3
II. ACCESS FRAMEWORK	5
Health Policy	5
Potential Access.....	7
Structural Indicators-The Health Care System	7
Process Indicators-Population at Risk	7
Realized Access	8
Objective Indicator-Utilization of Services	8
Subjective Indicator-Consumer Satisfaction	9
Summary -Interrelationship of Indicators.....	9
III. LITERATURE REVIEW.....	11
Influencing Policy - Data Indicators.....	11
Access Indicators - Potential and Realized.....	14
Potential Access - Structural Indicators.....	14
Characteristics of the Health Care System.....	14
Nursing Programs or Services to Increase Access to Health Care.....	15
Nursing Research on Access to Health Care.....	17
Potential Access-Process Indicators	19
Characteristics of the Population at Risk	19
Summary of Potential Access Indicators	20
Realized Access-Objective Indicators	21
Utilization of Services	21

Insurance, Regular Source of Care and ED Utilization	22
Public Policy and Programs: Influence on ED Utilization	26
Summary - Measurement of Utilization	30
Realized-Subjective Indicators	31
Consumer Satisfaction	31
Consumer/Patient Satisfaction Surveys	33
IV. METHODOLOGY	36
Research Design	36
Definitions of Terms	36
Population, Sample and Setting	37
Data Collection Procedures	38
Survey Instrument	41
Data Analysis	42
V. RESULTS	44
Health Policy	44
Characteristics of the Health Care System and HCA: Potential Access	44
Resource Availability and Distribution: Structural Indicators	45
Organization Entry and Structure: Structural Indicators	48
Description of the Population: Potential Access	49
Predisposing Component: Process Indicator	49
Enabling Component: Process Indicator	50
Need Component: Process Indicator	53
Summary	55
Utilization: Realized Access	56
Emergency Department Use at LMH: Objective Indicator	56
Summary	60
Demographic Data and ED Use	60

Summary	63
Consumer Satisfaction: Realized Access.....	63
Patient Satisfaction with Health Care Provider Scale - Subjective Indicator	63
Sample Characteristics.....	64
Satisfaction Scores.....	66
Summary	70
VI. SUMMARY AND DISCUSSION	71
Introduction	71
Research Question #1	72
Research Question #2.....	73
Research Question #3	74
Research Question #4	78
Research Question #5	79
Conclusion.....	82
Health Policy - Influence on Access.....	82
Recommendations.....	83
Recommendations for Research	84
Recommendations for Health Policy	84
Recommendations for Practice	85
Recommendations for Theory	85
Implications	86
REFERENCES.....	88
APPENDIX	
A. Framework to Study Access to Health Care in Douglas County, KS.....	96
B. Adapted Patient Satisfaction with Health Care Provider Scale.....	98
C. Consent Form, Review Board Approval and Agency Approval Letters.....	103

LIST OF TABLES

Table

1. HCA PROGRAM AND STATE FUNDING STATUS AND MEASUREMENT YEARS	39
2. ADAPTED PSQ QUESTIONS	42
3. EDUCATIONAL ATTAINMENT, PERSONS 25 YEARS AND OLDER	51
4. POPULATION BY AGE GROUP	51
5. INDIVIDUALS WITHOUT HEALTH INSURANCE FROM 1992 TO 1995: DOUGLAS COUNTY AND KANSAS.....	53
6. HCA SERVICE REPORT SUMMARY 1989 TO 1995	55
7. INSURANCE STATUS BY LMH ED VISITS FOR YEARS: 1988, 1990, 1993, & 1995	58
8. TOTAL PROMPTCARE TOTAL VISITS AND THE UNINSURED VISITS FOR 1995 AND 1996.....	59
9. ED VISITS BY INSURANCE STATUS AND GENDER, 1993 AND 1995.....	61
10. ED VISITS BY INSURANCE STATUS AND RACE, 1993 AND 1995	62
11. ED VISITS BY INSURANCE STATUS AND AGE, 1993 AND 1995.....	62
12. ED USE BY INSURANCE STATUS AND MARITAL STATUS, 1993 AND 1995.....	63
13. DEMOGRAPHIC CHARACTERISTICS: HCA SURVEY RESPONDENTS AND HCA CLIENTS, 1990 CENSUS	65
14. DESCRIPTIVE STATISTICS OF TOTAL AND SUBSCALES FOR HCA PSHCPS RESPONDENTS.....	67
15. DESCRIPTIVE STATISTICS OF PSHCPS ITEMS FOR HCA RESPONDENTS.....	68
16. ED VISITS PER 100 POPULATION IN DOUGLAS COUNTY, KS & UNITED STATES: 1988-1995.....	77

LIST OF FIGURES

Figure

1. FRAMEWORK TO STUDY ACCESS.....	6
2. TOTAL LMH ER VISITS AND HCA APPOINTMENTS, BY YEAR: BEFORE & AFTER HB 2019	75
3. PATIENT SATISFACTION COMPARISON OF ITEM MEANS: HCA AND US POPULATION SURVEY....	81

CHAPTER I

INTRODUCTION TO PROBLEM

In the day-to-day world people in communities go on living and dying, aware to a limited extent or totally unaware of far-removed systems that shape their options for health care services (Adapted from Milio, 1975, p. 128).

America is in the midst of a health care crisis (Aday, 1993; Lee & Estes, 1990; McKenzie, 1990; Starck, 1991), and access to health care is a significant problem. The number of individuals with no health insurance has increased from 31 million in 1987 to 40.6 million in 1995 (Bennefield, 1996; Shearer, 1996). It is estimated that one-third of adults (53 million people) are not covered by health insurance or governmental programs at some time during a two-year period. (Davis, Rowland, Altman, Collins, & Morris, 1995; United Way Strategic Institute, 1992). The uninsured are more than twice as likely than those insured to have no usual source of care (Cornelius, Beauregard, & Cohen, 1991). Nearly 50% of those who are uninsured are working, usually at minimum wage. Of the remaining uninsured, 33% are children and only 17% are unemployed (Health Insurance Association of America, 1989). The poor and uninsured are less likely to have a regular source of care and their health status and perceived health status is poorer than those with higher economic status (Hahn & Flood, 1995; Pappas, Queen, Hadden, & Fisher, 1993; Robert Wood Johnson Foundation, 1991).

A State and Local Policy Response to the Problem of Access

As the health care crisis has escalated with little response from the federal government, state governments have begun to work on their own health care plans (Government Accounting Office, 1992). In 1986, Kansas began a process to study the needs of the medically indigent and homeless (Commission on Access, 1989a). This report estimated that between 300,000 and 500,000 Kansans were uninsured and many more were underinsured. In subsequent studies of health care in Kansas, a complex system of problems was noted. The problems included a lack of adequate health care data, inadequate and unqualified providers, inadequate insurance, lack of access to primary health care and lack of cost controls (Governor's Commission on Health Care, 1990). To begin to meet this overwhelming need in Kansas, the legislature enacted a law to establish primary care services for the medically indigent (State

of Kansas, 1991). The Commission on Access to Services for the medically indigent and homeless made the original recommendation (HB 2019), calling for demonstration projects related to this law. The recommendation called for the establishment of three pilot programs through local health departments. The pilot programs would provide outpatient, non-emergency, primary care medical services to medically indigent persons and persons receiving medical assistance from the programs operated by the Kansas Department of Social and Rehabilitation Services (Commission on Access, 1989b). It was estimated that the total cost of these projects would be \$250,000.

During an appropriations hearing on the Kansas Department of Health and Environment's (KDHE) budget an additional amount of \$750,000 was added for a total of \$1,000,000 to fund primary health projects through KDHE. The only qualification was that local units had to match funding on a dollar-for-dollar basis. This could be done on a cash or in-kind basis (State of Kansas, 1991). The three pilot projects were tied to local health departments, and the additional funding could go to either local health departments or other voluntary, non-profit entities. It was expected that an additional six to eight projects could be funded with the additional \$750,000 (Joint Committee, 1991). The request for proposals went out from KDHE in June 1991 and the first projects were funded November 1991. In January 1992, Health Care Access, Inc. (HCA), a voluntary, non-profit organization established to meet the needs of the medically indigent in one Kansas county, received one of the grants from KDHE. Before the grant, HCA was staffed by a coordinator, a .25 FTE registered nurse and volunteer physicians and nurses. The grant enabled HCA to hire a nurse practitioner, increase their registered nurse FTE to .5, and financially support a full-time executive director (Smith-Campbell, 1992). The purpose of HCA was to provide primary health care services to the medically indigent in Douglas County, KS.

Purpose of the Study

Little research has been done to assess the impact of primary care clinics, such as HCA, on access to care for the medically indigent. The purpose of this research study was to determine whether a law to establish primary care services for the medically indigent (State of Kansas, 1991), hereafter

referred to as Kansas HB 2019, influenced access to health care for the medically indigent in Douglas County, KS.

Access to health care has usually been defined broadly and incorporates multiple dimensions. One of the first discussions on access in the nursing literature was in Milio's book The Care of Health in Communities: Access for Outcasts (1975). An entire chapter in this book addressed access to health services. The discussion topics included: geographic accessibility, financial availability and program access. Environment responses noted by Milio (1975) were program/procedural process barriers, different and complex eligibility requirements, regulations and programs that made access difficult. Interventions noted to resolve these procedural problems included changing the system itself and providing services, such as telephones and secretarial support, to decrease complexity. More recently, Stevens' (1993b) overview of the nursing literature and theoretical discussion on equitable access identified the primary aspects of access to health care as affordability, geographic accessibility, sufficient quality, appropriateness and sensitivity to clients. The key concepts of access to health care found in both the nursing and health care literature are geographic accessibility, availability, affordability, utilization of services, outcomes or quality of care, and personal issues such as: acceptability and environmental responses and situations (Aday & Andersen, 1975; Aday, Andersen & Fleming, 1980; Aday, Andersen, Loevy, & Kremer, 1985; Center for Health Economic Research, 1993; Milio, 1975; Millman, 1993; President's Commission, 1983a, 1983b, 1983c; Stevens, 1993b). Chopoorian's (1986) definition of environmental responses and situations include social, cultural, political and economic structures. The Aday et al. (1980) framework to study access incorporates many of the key dimensions of access and specifically looks at how policy influences access to health care. The purpose of this research study was to determine whether actions resulting from the passage of Kansas HB 2019 influenced access to health care for the medically indigent in Douglas County, KS. Using the Aday et al. (1980) framework the following research questions were explored.

Research Questions

1. What influence did the implementation of Kansas health policy HB 2019 have on the characteristics of the health care system in Douglas County, KS?

2. What are the characteristics of the medically indigent in Douglas County, KS?
3. After HCA received State funding for primary health care services for the medically indigent, did emergency room visits by the uninsured decrease in Douglas County, KS?
4. What relationship did age, gender, race, geographic location, diagnosis, and type of provider have on emergency room utilization for the medically indigent in Douglas County, KS?
5. What was the level of client satisfaction with HCA's services?

A quantitative descriptive design was used to provide an overall picture of the naturally occurring phenomena of Kansas HB 2019 passage on access to health care for the medically indigent in Douglas County, KS. The medically indigent were defined as individuals who were not covered by governmental insurance programs or private insurance for health care. This study used different methodological sub-components, and was guided by the Aday's et al. (1980) framework on access. The overall intent of the research study was to evaluate the relationship between the initiation of funding from HB 2019 and access to health care for the medically indigent in Douglas County, KS. A descriptive design was used to gather information on the characteristics of the health care system and the characteristics of the medically indigent. A retrospective design was used to assess Emergency Department (ED) utilization. Aggregate data were evaluated on all patients that visited Lawrence Memorial Hospital ED, the only hospital in Douglas County, KS. A descriptive, cross sectional survey design was used to explore client satisfaction with care at Health Care Access (HCA). HCA was the only organization in Douglas County, KS that received funding from HB 2019 and was the only organization whose purpose was to provide primary health care to the medically indigent. Data obtained were analyzed descriptively.

To assist in answering the above research questions a summary of Aday's et al.(1980) framework on access will be provided followed by a review of the literature.

CHAPTER II

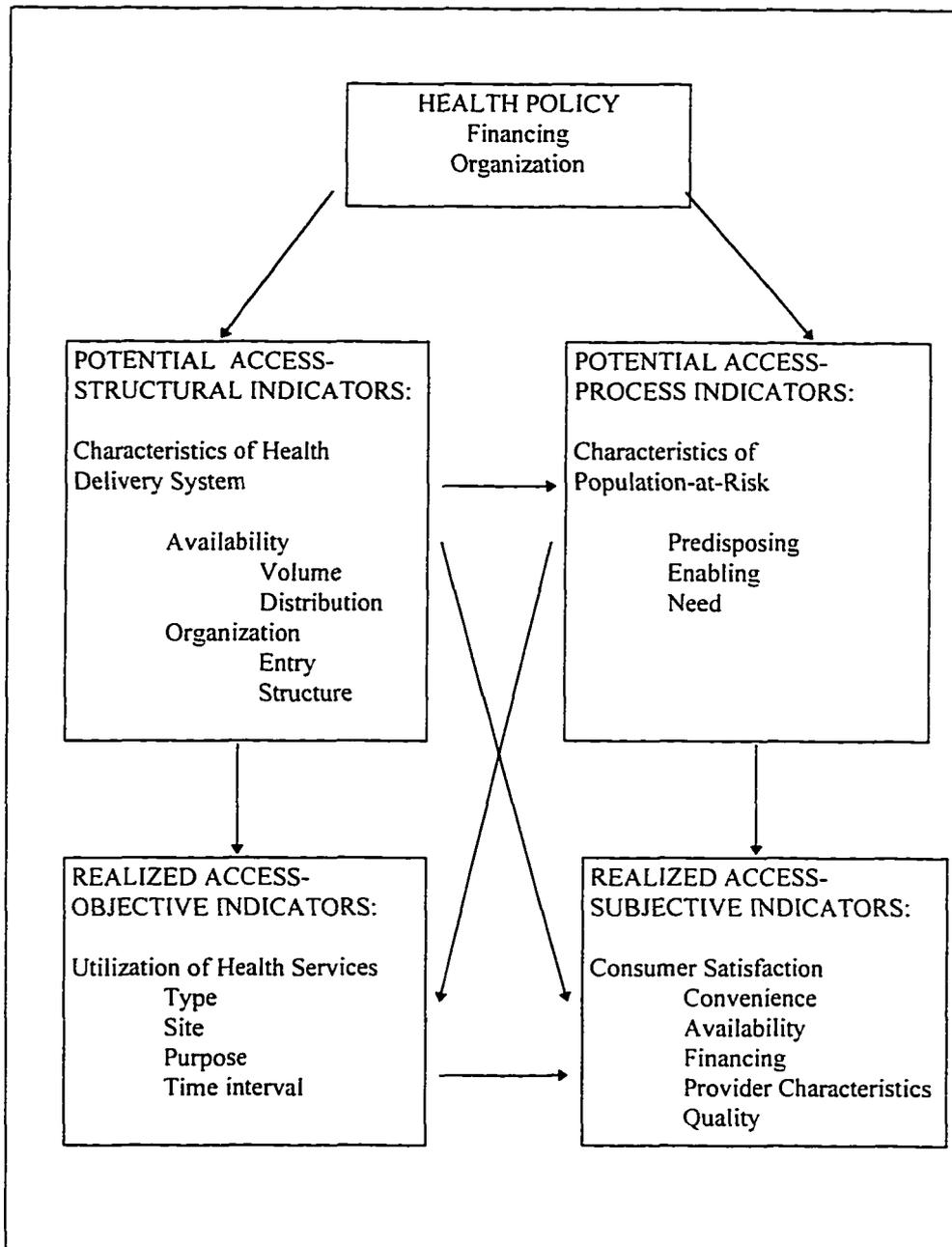
ACCESS FRAMEWORK

Access to medical care has been studied by Aday and Andersen (1975; 1981; Aday et al., 1980; Aday et al., 1985) over the last two decades. Aday et al. (1980) define access as “those dimensions which describe the potential and actual entry of a given population group to the health care delivery system” (p. 26). This definition was used as the research definition of access for this study. This framework for studying access uses health policy as a starting point (Figure 1). Within this framework, characteristics of the population and health care system may influence entry into the system; but, the proof of access is not just the availability of services and resources but whether they are actually utilized by the those who need them. The following is a discussion of the specifics of the framework.

Health Policy

Access to health care services is usually viewed within a political context and is often a goal of health policy. Health planners and policy makers are frequently interested in the effect health policy has in altering access to health services and care. Thus health policy is the starting point for consideration of the access concept in the Aday et al. (1980) access model. Health policy is not clearly defined in the access model but Aday et. al (1980) include examples of health policy such as federal [state] financing initiatives and funding to impact characteristics of the health care delivery system. from organizations like the Robert Wood Johnson Foundation. These examples would be included in Mason and Leavitt’s (1993) policy definition that follows: “policy encompasses the choices that a society, segment of society, or organization makes regarding its goals and priorities and how it will allocate its resources” (p. 5). Specifically, Mason and Leavitt view health policy as goals and directives related to health promotion. In this study a state funding policy, Kansas HB 2019, was reviewed to assess its impact on access to health care for the medically indigent in Douglas County, KS.

Figure 1
Framework to Study Access



From Aday, L. A. Andersen, R. & Fleming G. V. (1980). Health care in the U.S.: Equitable for whom? Beverly Hills: Sage.

Potential Access

Structural Indicators-The Health Care System

Gaining entry into the health care system for individuals is affected by the Structural Indicators or characteristics of the health system in the Aday et al. (1980) framework. The unit of analysis for the Structural Indicators is the health delivery organization or health care system. Characteristics of the health care system comprise the availability of resources and organization of the system. Availability of resources would include the volume and distribution of health personnel. This would incorporate the labor and capital devoted to health care. Specific operational indicators for volume could include the number of physicians, dentists, nurses or other health care providers in the health system or organization. Other indicators would be the number and type of health care facilities such as hospitals, home health agencies, or community health clinics. Distribution of resources is also included under availability. Examples of distribution would be the number of health providers or health care facilities per 1,000 population in a specific county.

The organization of the health care system describes what the system does with its resources. Entry and structure are two components of organization. The entry component refers to the process of getting into the system. Operational indicators for entry may include convenience of getting care--specifically the time services are available, transportation, waiting time and eligibility criteria. Other indicators of entry are reasons for choosing or changing one's regular source of care or not having a source of care. What happens to individuals after they enter the system is considered the structural component of organization. Operational structural indicators for organization include sources of health care--specifically, type of health provider, location of provider, and extent of insurance coverage.

Process Indicators-Population at Risk

Characteristics of the population at risk are what Aday et al. (1980) identify as Potential Access-Process Indicators. Individual determinants--not an organization or system--are the unit of analysis. These Process Indicators include predisposing, enabling and need components. Each of these components can have mutable or immutable properties. Mutable properties are alterable; immutable properties are not alterable. The predisposing component of the population-at-risk describes an

individual's inclination to use the services. These factors are attributes that exist before an individual needs services. Immutable-predisposing factors include age, gender, race and length of time in a community. Mutable-predisposing factors would include values related to health, education and occupation. Another Process Indicator is the enabling component "that describes the means individuals have available to them to use the services" (p. 31). Mutable-enabling indicators would include one's income and insurance status. Characteristics of the individual's community would be an immutable-enabling indicator. The final component to describe the population-at-risk is the need component. This refers to the cause or need for health services. The two indicators are perceived-need for services, such as perceived health status, symptoms, and illness, and evaluated-need such as health provider ratings. Generally, the authors state the best method for collecting data on the population-at-risk is by household survey. However, they state "when a community or a specific delivery organization is the object of concern, census figures, manpower data, or clinic records may be the best sources of information" (p. 31).

Realized Access

Objective Indicator-Utilization of Services

Utilization of health care services is the primary Objective Indicator of Realized Access in the Access Framework. Utilization of health services can include the type of service received and who provided it, the site or location of care, the purpose of care, and, finally, the time interval of care. Time interval can be expressed in terms of contact or whether a person uses the health care system within an appropriate time period. As the authors state, policy makers are concerned not only about those who enter the system but also "more especially those who do not" (p. 33).

Within the Framework on Access is the implied concept "that there should be some external validation of the effect of the characteristics of the population-at-risk and of the delivery system on people's entry (or non-entry) into the system" (Aday et al., 1980, p. 32). One method of external validation that has been used within this framework is an analysis of emergency room/department (ER/ED) utilization rates. Since the intent of HB 2019 was to increase access to primary health care or services provided by HCA, one might expect to see a decrease in ED utilization for non-emergent care.

Subjective Indicator-Consumer Satisfaction

The Realized Access-Subjective Indicator in the Framework on Access is that of consumer satisfaction. This indicator refers to the attitudes of the individual toward the health system utilized. Areas of information that can be collected include satisfaction related to convenience, availability, financing, characteristics of the provider, and quality of care. The Framework on Access hypothesizes that evaluations by the consumer are external validators of the actual process of obtaining care. Consumer satisfaction is also linked with specific encounters of care by providing subjective evaluations on the quality of the experience (Aday et al., 1980). While there has been some criticism of the use of satisfaction studies in relation to influencing policy, client satisfaction is increasingly recognized as an important outcome in health services research. Aday et al. (1980), Yankelovich (1991) and others believe it is important in the development of health policy to obtain input from the public.

Summary -Interrelationship of Indicators

The purpose of this research study was to determine whether actions resulting from the passage of Kansas HB 2019 influenced access to health care for the medically indigent in Douglas County, KS. Theorized relationships for the research study can be seen in the Aday et al. (1980) framework located in Appendix A. In operationalizing access for this study, the components are indicated by the arrows in the diagram. The effects of health policy established by HB 2019 are demonstrated in the relationships of the framework's indicators which include: a) Potential Access-Structural Indicators or characteristics of the health system and Health Care Access, Inc. (HCA) in Douglas County, KS; b) Potential Access-Process Indicators or characteristics of the medically indigent population; c) Realized Access-Objective Indicators or emergency room utilization of patients at the only hospital in Douglas County, KS; and d) Realized Access-Subjective Indicators or patient satisfaction of patients of Health Care Access, Inc. in Douglas County, KS. The access framework hypothesizes that health policy may affect directly the characteristics of the health care system and that some properties of the characteristics of the population at risk can also be altered by health policy. The delivery system, in turn, may affect utilization patterns and satisfaction of consumers in the health system. In this study the major emphasis will be on the Realized Access Indicators. Aday et al. (1980) pointed out that the Potential Access Indicators may

influence entry into the health care system “but the proof of access per se is not the availability of services and resources but whether they are actually utilized by the people who need them” (p. 36).

To assist in answering the research questions, a literature review is provided. Article summaries and analysis will be discussed in their relationship to the Aday et al. (1980) framework on access. The key indicators of Policy, Potential Access-Structural Indicators, Potential Access-Process Indicators, Realized Access-Objective Indicators and Realized Access-Subjective Indicators will form the organization of the discussion. Within each article, the influence of policy will be explicated when it is addressed or implied.

CHAPTER III

LITERATURE REVIEW

Influencing Policy - Data Indicators

In the last two decades health care researchers have attempted to define and measure access to health care (Aday & Andersen, 1975; Aday et al., 1980; Aday et al., 1985; Center for Health Economic Research, 1993; Millman, 1993; President's Commission, 1983a; 1983b; 1983c). One of the major reasons given for attempting to find indicators or measures to study access to health care was to influence public policy. As the president of the Robert Wood Johnson Foundation (RWJ) stated in the preface of their report Access to Health Care: Key Indicators for Policy, the publication of policy-relevant reports provides "simple yet critical indicators that quickly summarize the Nation's progress regarding specific health policy issues" (Center for Health Economic Research, 1993, p. 5). Data from such policy research can "provide policy-makers with pragmatic, action-oriented recommendations for alleviating" (Majchrzak, 1984, p. 12) such problems as inadequate access to health care. The following is a summary of four national reports that identify indicators of access to health care. In each report the authors state that the indicators developed and the data collected were done so as to influence policy makers, specifically at the national level.

In the early 1970s, the Robert Wood Johnson Foundation was established and Foundation officials decided to put their initial funding efforts into programs to increase access to ambulatory care (Aday et al., 1980). In the process of initiating programs, RWJ found a noticeable gap of information on access to health care. In an effort to correct this problem, funding was provided for a study to obtain data on access to health care in America. The findings from this study were published by Aday et al. (1980) in their book Health care in the U.S. equitable for whom? These researchers used a framework on access to medical care that implied "that characteristics of the delivery system and characteristics of the population-at-risk in an area reflect the probable or potential levels of access to medical care, whereas utilization and satisfaction measures may be considered indicators of actual or realized access to services" (p. 25). Information was provided in each area of the Access Framework, using data from a U.S. population household survey from the mid-1970s. The study found that more than 78% of the

population had a regular physician or regular source of care, although non-physician providers were not included in the study. Almost 12% of those in the survey stated they had neither a physician nor a regular source of care and 22 million Americans were found to lack insurance coverage. In this study related to utilization, more than 90% of the U.S. population was insured for hospital expenses. The findings documented inequities in obtaining services of physician providers related to convenience and financial barriers. The findings suggested that people in general were satisfied with the care they received with the exception of minority groups who appeared to be dissatisfied because of inconvenient services and difficulty in obtaining care. The researchers summarized by offering suggestions for programs that could be developed through policy decisions that would address identified access problems.

In the early 1980s, the President and Congressional policy makers impacted access to health care with the formation of the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research (President's Commission, 1983a; 1983b; 1983c). This commission was instructed to study the "ethical and legal implications of differences in the availability of health services as determined by the income or residence of the person receiving the service" (p. 6). In addition to the ethical discussion on access, the Commission outlined patterns of access to health care. The patterns of access used were levels of health, use of health services, availability of health care resources and paying for health care. In their report, the Commission (1983a) outlined the impact of governmental actions on access to health care and found that differences in the ability to pay for services and the distribution of health care services had been reduced over the previous 15 years. The Commission also found that quality of care, use of services, availability of providers and facilities and cost of care were inequitable based on income, place of residence, race and ethnicity.

In a more recent report by the Robert Wood Johnson Foundation (RWJ) (Center for Health Economic Research, 1993), key indicators of access to health care were identified. These indicators are: a) health need; b) utilization measures; c) outcome measures; and d) resource availability measures. Health needs included family planning, prenatal care, child health, adult health and dental health. For

each need area national utilization measures were identified, such as the percent of women using any contraceptive method and the percent of poor or near-poor children with a usual source of care.

Outcome measures were defined in each health need area. Examples of outcome measures included the number of low birth-weight babies per 1,000 live births and the percent of breast cancers diagnosed after metastasis. Resource availability measures incorporated data on the availability of providers or funding. Examples of resource availability measures are governmental family planning expenditures per woman of childbearing age and the number of dentists per 100,000 people. The RWJ report summarized data from each of the indicators. It was noted that economic barriers, supply and distribution barriers and socio-cultural barriers result in a lack of access which in turn affect people's health. The executive summary of the report stated that health status has improved, in part because of access, but "the access picture has worsened for many, particularly the poor" (p. 6). A similar finding was noted in a report from the Institute of Medicine (Millman, 1993).

A committee from the Institute of Medicine (IOM) concluded that indicators for access related to personal health services had made little progress over the last decade (Millman, 1993). The IOM report identified a growing disparity in indicators for access between the "haves and the have-nots in our society" (p. 3). As the IOM report pointed out, most definitions of access include a broad set of concerns about whether individuals could or could not obtain needed medical care services. In their attempt to develop a national model to monitor access, the IOM committee narrowed the definition of access to "the timely use of personal health services to achieve the best possible outcomes" (Millman, 1993, p. 33).

Many past definitions of access have incorporated a moral obligation for equitable and adequate access to health care for all citizens (Aday & Andersen, 1981; Daniels, 1985; President's Commission, 1983a;1983b;1983c; Puenties-Markides, 1992; Vladeck, 1981). According to the IOM report (Millman, 1993) equity and defining adequate care become difficult in a society with limited resources. In using a narrow definition of access, the IOM committee defined specific indicators for measurement. Measurable indicators included utilization of services and outcomes. The number of visits to health providers or agencies and procedures were included in the definition of utilization.

Outcomes were defined in terms of health status such as mortality, morbidity, well-being and functioning. Mediating factors such as quality of providers, appropriateness of care, efficacy of treatment and patient adherence also were used in the IOM model. The effect of barriers on the indicators of utilization and outcomes also were included in the model. Examples of barriers include: a) structural barriers such as availability and transportation; b) financial barriers such as insurance coverage and public support; and c) personal barriers such as acceptability, culture, language, education and income. Similar to the RWJ report, specific national indicators were identified, such as the percentage of women who had a mammogram in the past year or the percentage of preschool children who had been vaccinated.

Key indicators of access to health care that were identified in each of these reports included utilization of services, availability of services, and financial concerns or affordability. Other key indicators identified were patient health outcomes and patient satisfaction. Each of these reports were developed to influence public policy. Most of the access indicators identified can also be found in the Aday et al. (1980) Framework on Access. In keeping with the Access Framework, the following literature review is organized according to the key indicators within the Framework. Potential Access Indicators or the influence of changes in the health care system and the characteristics of the population on access will be discussed. This will be followed by a discussion of the Realized Access-Objective Indicator of ED utilization and patient satisfaction. Because the effects of health policy and ED utilization are of critical importance in this study, literature that specifically addresses policy and emergency room utilization will be summarized.

Access Indicators - Potential and Realized

Potential Access - Structural Indicators

Characteristics of the Health Care System

According to the Aday et al. (1980) framework, characteristics of the health care system influence access to health care. In this section, nursing articles that discuss geographic accessibility and availability of resources, such as initiation of programs or types of providers, will be discussed. Information will also be included on organizational components such as transportation, waiting time and

eligibility criteria. Other indicators of entry are reasons for choosing or changing one's regular source of care or not having a source of care. What happens to individuals after they enter the system is considered the structural component of the organization. Operational structural indicators for organizations include the source of health care, specifically the type of health provider; the location of the provider; and the extent of insurance coverage. Since access has several dimensions, the articles summarized may not fit into just one Indicator. When the article is presented, all dimensions related to access will be discussed.

Nursing Programs or Services to Increase Access to Health Care

Several articles in the nursing literature have discussed the implementation of programs or services to increase access to health care. Often these articles focused on how specific programs improved access, problems related to increasing access, and/or observed barriers to access. For example, availability of Early and Periodic Screening, Diagnosis and Treatment Program (EPSDT) services to children was increased by utilizing a nurse managed center (Barger, 1993). To increase geographic accessibility, this Nursing Center began to provide EPSDT services in an underserved area. The Center increased hours of service, provided transportation and took services to those in need with an equipped mobile van. In another example, the public health nurse of a rural, minority population initiated a program to recruit physicians to conduct EPSDT screenings (Selby-Harrington & Riportella-Muller, 1993). This program used the PRECEDE model that heightened awareness, educated physicians and asked them to participate in the program. Physician participation increased after the project was started. The authors surmised that poor reimbursement prevented other physicians from participating in the program. Nurse practitioners were not targeted for recruitment because a regulation in this particular state prohibited independent reimbursement to nurses for EPSDT. Both of these examples point out the influence of nursing on increasing access to EPSDT services in these communities.

Access became a problem for Denton County, Texas, residents when their public hospital closed (Capan, Beard, & Mashburn, 1993). The hospital was the main source of care for medically indigent, pregnant women. With the support and action from the community, a nurse-managed prenatal

clinic was opened and a nurse-managed pediatric clinic was started to provide primary care to children "who would otherwise have visits to an emergency room as their only means of access to health care" (p. 53). Outcome studies of this prenatal nursing clinic found reductions in pregnancy induced hypertension, in teen repeat pregnancy rates, and in unnecessary emergency room visits. Increased access provided by the nursing clinic improved health outcomes and decreased emergency room visits, supporting the clinic's cost-effectiveness.

Access to prenatal care can be affected not only by a hospital closing but also by a "patchwork of programs" with different eligibility criteria, processes and regulations that confuse low-income women. This situation was described in an article discussing the needs of pregnant women in rural Idaho (Machala & Miner, 1991). Access problems identified for these rural women were lack of transportation, a need for repeat visits to complete forms due to bureaucratic requirements, and a lack of providers. In an attempt to change the system and increase access, a Maternal and Infant Care Program (MIC) nursing coordinator was given the initiative to work with the community to pool resources and coordinate Federal programs. The MIC coordinator worked with public health nurses to provide Federal intake assessments and family planning education to high-risk women. The intake assessments freed physicians from paper work and ensured payment for their services. Eventually, all physicians offering obstetrical care in the district were participating in the program. The MIC coordinator assisted clients with transportation needs, and a secretary helped clients with paperwork. A telephone was made available for clients to make needed appointments. Initial indicators of the program showed a downward trend in low birth-weight infants.

In another program developed to expand services to children, 13 suburban health departments formed a consortium to develop the Partners in Caring Program (Weis & Sharpton, 1993). A pediatric nurse practitioner (PNP) was utilized to provide primary health care services to uninsured and under-insured children through age 18. Utilization of the PNP in this program helped improve availability of immunizations and health care to many children whose insurance was inadequate or for whom care was unattainable through the traditional medical system.

Rural communities often are affected by poor economic growth, limited resources and urban bias in resource allocation that is made by state and federal regulatory and legislative decisions (Dahl, Gustafson, & McCullagh, 1993). Public health nursing leaders in one rural Midwest community developed a nurse-based effort to organize the community to deliver services to the homeless. A clinic was started at one social service agency and a public health nurse provided outreach services to homeless shelters. Dahl, et al. (1993) articulated how nursing leaders can be key in initiating collaborative efforts to increase access to health care for the homeless.

Schroeder (1993) reported on a nurse-managed center that was developed to meet the access needs of another vulnerable population: persons living with Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS). More than 75% of services offered at this Center were non-medical treatments. Such non-medical services included support groups, individual and group counseling, Therapeutic Touch, Reiki, massage and art therapy. Using current cost of hospital care in Colorado and the United States, Schroeder estimated the cost effectiveness of the Center's services. It was reported that the Center decreased hospital admissions and re-admissions and prevented prolonged hospital lengths of stay.

Nursing Research on Access to Health Care

In their qualitative study, Magilvy, Congdon and Martinez (1994) found rural older adults were at risk because of limited access to appropriate, acceptable and available health care services. Using an ethnographic design, 250 individuals were interviewed in eight rural counties in Colorado. From the ethnographic analysis techniques two themes emerged from this study. One theme was labeled the circle of continuity of care and the other the circle of family and community support. Within the theme of continuity of care, gaps and discontinuities of care were noted. The authors found a number of potential home care patients who "fell through the cracks" (p. 27) because of a lack of referral or government regulations. Other gaps noted were a shortage of health care providers and a lack of knowledge of available services in the community. In a positive light, within the theme of the circle of family and community support, this study found a strength of rural health care based on informal and formal networks of care.

Gifford and Stone (1993) documented that nurse practitioners (NPs) who perform colposcopy increased utilization and provided high quality services to an underserved population of women at risk for cervical carcinoma. Quality assurance measures found the NP-colposcopist diagnostic accuracy level to be 87.7%, a level consistent with reported physician rates. This study also documented a 90-100% show rate for appointments since the services were taken to women in their own communities. These data were thought to be useful in identifying barriers that restrict NP practice so that policy changes could be implemented to support full utilization of nurses in the delivery of patient services.

Respondents from a survey of all graduates of a rural Eastern NP program reported that their presence increased the number of patients seen in clinics and thus they were able to care for those who were previously underserved (Lawler & Valand, 1988). Other factors ranked as important to the respondents were that primary care was now being offered in manpower shortage areas, that there was an increase in patient education and that there was increased attention to secondary health problems

Griffith and Robinson (1993) also realized that policy has an effect on health care access. Their exploratory study attempted to document the contribution of nurses to services and procedures for which physicians are being paid. A random sample of nurses from nine nursing specialty organizations was asked to identify the Current Procedural Terminology (CPT) coded procedures they performed and the frequency with which they did so. The number of services provided and identified in the CPT codes ranged from 58 to 233, with a mean range of 18 to 78. The authors stated, "A logical place for nurses to begin their dialogue with policy makers on the issue of including nursing services in the payment system would be to demonstrate that they are also providing some of the coded services" (p. 179).

To discover if greater use of nurse practitioners (NP) could safely increase access to care for persons with HIV/AIDS, an exploratory study was conducted by Aiken et al. (1993). Patients at a university outpatient clinic were evaluated on functional status, symptom occurrence, self management, health services use and self assessment of care. A comparison of the outcomes by patient provider, physician (MD) or nurse practitioner, was done. Although the NP patients reported significantly more unpleasant symptoms and were three times as likely to report their health as fair or poor, these patients functioned at comparable levels and used similar health care services as the MD patients. Using the

Medical Outcomes Study Short-form General Health Questionnaire. researchers found no significant differences between the MD or NP group with regard to patients' functional status measures. Hospital admissions, emergency room visits and use of mental health services were similar for patients in both groups. Results of this study using a convenience sample of 87 patients suggested that outcomes of care do not differ significantly by provider type. If these results are generalizable, increased utilization of NPs could safely increase access to care for HIV/AIDS patients. The authors of this study noted that third-party reimbursement policies impede full participation of NPs in care of HIV/AIDS patients.

Potential Access-Process Indicators

Characteristics of the Population at Risk

In the Aday et al. (1980) Access Framework, individual determinants are the unit of analysis in accessing characteristics of the population at risk. These indicators can include age, gender, race, length of time in a community and an individual's inclination to use the services provided. Other indicators may include one's cause or need for health services. Generally the method for collecting data on the population-at-risk is by household survey. The following two studies used a household survey and the Access Framework to study a population at-risk.

Urrutia-Rojas and Aday (1991) studied an Hispanic community in Texas specifically to document what public health services this community needed. Using a probability sample, they identified 365 Hispanic households; interviews were conducted with 242 households. Aday and Andersen's (1981) study of access was used as a framework to identify characteristics of the health delivery system and characteristics of the population. Of the Hispanics interviewed, more than 50% had no third-party insurance and 10% stated they could not afford a regular source of care. Results on the use of health services found only 58% of women without insurance sought prenatal care compared to 72% of those with insurance. Of the respondents 1 in 10, had been denied medical care. The main reason (65%) given for denial was not meeting eligibility requirements. The Aday and Andersen framework used in this study was developed from medical care services. This framework was not expanded to include non-traditional health care practices or availability of nurses. Nor were non-traditional health providers assessed. Use of conventional, structured interviews may not have allowed

participants to express what they thought their needs were. In spite of these methodological issues, this study is an important step in nursing researchers' directly assessing an at-risk population's stated need for services.

A descriptive study by Moore, Fenlon, and Hepworth (1996) found that the characteristics of a population, specifically ethnicity, can affect utilization of health care services. These researchers compared the utilization of pre- and post-natal visits and immunizations received for Mexican-American and non-Hispanic White mother-infant dyads. Both groups of dyads were randomly selected from members enrolled in Arizona's Medicaid health maintenance insurance program. The Aday et al. (1980) theoretical framework on access also was used in this study. The definition of visits included not only physician providers but also nurse midwife and nurse practitioner providers. Data were collected from birth certificates, medical office records and a household interview questionnaire. The questionnaire was adapted from other questionnaires with established validity and reliability. No information was provided on the reliability after the adaptation. Significant findings of this study were that Mexican-American dyads had fewer prenatal visits than non-Hispanic Whites; those who had health visits were more satisfied with their care than those who did not have health visits; and Mexican-American infants were less likely to have completed the recommended immunizations than non-Hispanic White infants. This study suggested that insurance coverage and having a regular source of care are not the only factors in health care services utilization but that ethnicity may also play a role.

Summary of Potential Access Indicators

Geographic accessibility as noted by Milio (1975) and Stevens (1993b) was identified in this nursing literature review to be a problem in both rural and urban areas. Lack of geographic accessibility, as a concept within access, means that services are not close to the consumer or the consumer has difficulty getting to the needed health care service. The concept of availability of services and providers was not noted by Steven but was prominent in the intervention articles reviewed. Increasing the use of nurse practitioners and nursing centers was mentioned as one strategy to increase availability of providers, particularly to vulnerable populations. A few nursing outcome studies reported in the literature documented the appropriateness and high quality care provided by nurses in expanded

roles. The issue of affordability had two underlying themes. They included a lack of, inadequate, or barriers to financial reimbursement, especially for nurses who wanted to provide health care. Another theme related to affordability was individual inability to access care because of finances, such as lack of insurance or limited finances. Vulnerable populations were consistently identified as having limited access to services due to a lack of affordable services.

Chopoorian's (1986) definition of nursing encompasses not only individual responses and situations but also environmental responses and situations. Environmental responses and situations include social, cultural, political and economic structures. The environmental effect of economic barriers to access was consistently seen in this literature review. Environment responses were what Milio (1975) called program/procedural process barriers, different and complex eligibility requirements, regulations and programs that made access difficult. Interventions resolving these procedural problems included changing the system itself and providing services such as telephones and secretarial support that decrease complexity. One area where nurses improved access to services was through organizing or collaborating with community members to change the health care system or to increase access to health care.

In summary, key health care access issues identified in the nursing literature were geographic accessibility, availability, affordability, and program and interactional barriers. This literature review also demonstrated access within an environmental context, particularly how policy and regulation influenced access.

Realized Access-Objective Indicators

Utilization of Services

Utilization of health care services is the primary Objective Indicator of Realized Access in the Access Framework. Utilization of health services can include the type of service received and who provided it, the site or location of care, the purpose of care, and the time interval of care. Time interval can be expressed in terms of contact or whether a person uses the health care system within an appropriate time period. As Aday and colleagues state, policy makers are concerned not only about those who enter the system but also "more especially those who do not" (1980, p. 33).

Within the Framework on Access is the implied concept “that there should be some external validation of the effect of the characteristics of the population-at-risk and of the delivery system on people’s entry (or non-entry) into the system” (Aday et al., 1980, p. 32). One method of external validation that has been used within this framework is an analysis of emergency room/department (ER/ED) utilization rates and the appropriate or inappropriate use of the ED for primary health care services. The following is a review of the literature related to emergency room utilization by the medically indigent or the uninsured.

Insurance, Regular Source of Care and ED Utilization

In 1992, a national probability survey (National Hospital Ambulatory Medical Care Survey) of emergency room use found that the majority (55.4%) of ED visits were not urgent (McCaig, 1994). Non-urgent visits were defined as visits not requiring immediate attention or not requiring attention within a few hours of contact. A sample of 474 non-Federal hospitals was selected for participation in this study. The response rate from these hospitals was 93%. Data were collected on ED patient record forms by each participating hospital during a randomly assigned four-week period. This national study found a rate of 35.7 ED visits per 100 persons in the United States and that persons 75 years of age and over had a higher ED visit rate (55.8 visits per 100 persons) than other age categories. Although the majority of ED visits (78.5 %) were made by Whites, Blacks had a significantly higher visit rate in several age categories. This national probability survey was repeated in 1994 (Stussman, 1996). Findings were similar in that there 36 ED visits per 100 persons, 52.8% of visits were classified as non-urgent, and Blacks had a higher ED visit rate than Whites.

Buesching et al. (1985) found inappropriate use of the ED to be much lower (10.8%) in their study of three hospitals serving one Midwest community. In this study the American College of Emergency Physicians guidelines, which considers patient decisions to use the ED and the availability of appropriate alternative sources of care, was used in addition to medical diagnosis to determine whether ED utilization was appropriate. Eleven categories were described where an ED visit would be considered appropriate, including fever in adults greater than 38.8° C and present less than 72 hours, sudden onset of acute condition after office hours or on the weekend, or acute exacerbation (less than 24

hours) of a chronic condition. Visits were inappropriate if the patient had symptoms for more than 72 hours and had made no attempt to contact a physician. The most pervasive influence on inappropriate ED visit rates was the inability to identify a personal physician ($p < .001$). Other influencing factors included Medicaid as the primary payment source, children aged five years or younger, and unemployment. These researchers stated that "single hospital studies of ED use, particularly if conducted in larger urban teaching hospitals, are likely to overestimate the extent of non-urgent use compared with the community as a whole" (p. 675). It was thought that previous studies that found higher ED utilization rates had relied on urgency ratings based on retrospective assessment based on specific medical diagnosis compared to this study which included additional factors beyond the presence of disease in the definition of appropriate ED use.

Haddy, Schmalzer, and Epting (1987) hypothesized that patients who had a regular physician were less likely to use emergency services for non-emergency reasons. In this 1983 retrospective study, randomized emergency room (ED) charts were selected for review. Data were collected on the type of patient diagnoses and classified as emergent or non-emergent. A visit was considered non-emergent if the diagnosis was a medical problem that could have been treated adequately and safely in an office setting. No data were given on the characteristics of the sample. The researchers stated "rigorous criteria were developed for this study which were modified from the literature" (p. 390). Seventy-two percent of patients without insurance reported having no personal physician while only 28% of those with insurance had no personal physician. Patients in this study were more likely to use the emergency room for non-emergent visits if they did not have a personal physician compared to those who did. The authors conclude it was not clear if the non-emergent emergency room use "exists because many patients elect not to have physicians or people elect not to have physicians because of the existence of emergency services" (p. 392). Limitations of this study were that data were collected in 1983 but not reported until 1987. In addition, limited information was given on personal characteristics and financial status of participants. Advanced Practice Nurses and Physician Assistants were not considered as primary care providers in this study. It was also difficult to assess the reliability of the criteria used to define emergent and non-emergent status because of limited information.

In their study to identify the reasons Americans lack a regular source of health care, Hayward, Bernard, Freeman, and Corey (1991) concluded that the lack of a regular source of ambulatory care, such as a physician, was not a reliable measure for access. They analyzed data from a 1986 national random telephone survey that evaluated access and use of ambulatory care. Data from the study found 16.4% of the population sample lacked a regular source of ambulatory care. Of those who lacked care, the majority (61%) reported they did not have a perceived need for care, eight percent identified financial barriers as the reason for the lack of care, and five percent identified local resource inaccessibility as a problem. The uninsured were more likely than the insured to lack a regular source of ambulatory care due to financial problems. A major limitation of this study, noted by the researchers, was that the telephone survey bypassed the five to ten percent of the population who did not have telephones. This would especially affect the results from the poor, elderly and uninsured. The researchers concluded they must evaluate reasons for lack of ambulatory care in order to assess risk for access.

Using the same national data source as above, Wood, Hayward, Corey, Freeman, and Shapiro (1990) found that 10% of children 17 years of age or younger had no regular source of care and were uninsured. Of the children who lacked a source of care, 17% reported financial problems as the cause. Being non-White and poor (less than 100% of federal poverty level) were significant indicators ($p < .01$) of lack of access for children who needed but were unable to obtain care. Near-poor children (more than 100% but less than 150% of the poverty level) were significantly ($p < .05$) more likely than poor or non-poor children to lack health insurance. It was thought that poor children were covered by governmental programs. The poor, uninsured, and non-White children were more likely to use the emergency room or other public providers for care. Emergency room use and public providers were not separated from each other in this study. Having health insurance improved access to medical care. However, "low-income and non-White children continued to have much less access compared with children from affluent families, regardless of insurance status " (p. 670).

To determine patients' health care access problems, Pane, Farner, and Salness (1991) studied walk-in patients' use of an emergency department. This cross-sectional survey included stable patients

in an urban California medical center's emergency department during a 48-day period. The sample was derived from a representative selection of service days between the hours of noon and midnight. The authors gave no rationale for the representation of service days versus taking a random sample of stable walk-in patients. Variables studied were: demographics, employment, income, insurance status, regular source of health care, delays in receiving health care and refusal of care by health-care providers. The majority of the sample were under the age of 29, Hispanic and had incomes of less than \$10,000. The questions and survey format were not subject to reliability testing but to a review of physicians, emergency room patients and translators. This group of experts may have helped with validity, but not reliability. Children, illiterate patients, and patients with poor mental status were included in the sample. Family members could assist in the completion of the survey. It might have helped to set up specific sampling criteria and exclude such patients or develop a mechanism to get the data in a less biased fashion. The researchers state that some questions were not answered by the respondents. This data void was not included in the data analysis to assess if it would affect the results. Another major concern was a response rate of 94%. From a research perspective this was an excellent response rate. However, one must question whether this vulnerable population of patients felt like they could refuse. If patients felt that they had to participate to receive care, this un-stated "coercion" may have affected the answers they gave in the questionnaire. The researchers found that income below \$10,000 was significantly ($p < .0002$) associated with routine use of the emergency department and delays in seeking health care. Participants with public aid/self-pay insurance status were significantly more likely to use the ED as their routine source of health care ($p < .003$) and more likely to delay in seeking needed health care than higher income and fully insured individuals. Although there are several limitations to this study, the study suggests that in this urban hospital, stable, walk-in patients were more likely to use the emergency department for routine care if they lacked insurance and had an annual income less than \$10,000.

In summary, researchers have found that uninsured, low-income, adults and children use the emergency room more frequently for routine care than those with insurance. Lacking a regular source of health care such as a physician should not be the only indicator for lack of access: financial barriers and

resource inaccessibility also should be evaluated. To continue this discussion, research will be reviewed on programs that affect access to health care for low-income individuals.

Public Policy and Programs: Influence on ED Utilization

The following research articles specifically address the influence of programs and State or City policy initiatives that attempted to decrease inappropriate ED use and/or increase primary health care services. In general, these initiatives were based on the previously discussed research that low-income, uninsured individuals use the ED more frequently for routine care than those with insurance.

The purpose of Grumbach, Keane, and Bindman's (1993) study was to assess if a policy of primary care referral would be clinically appropriate for and acceptable to patients waiting for care in one large urban hospital emergency room/department (ED). Specifically, the objectives were to determine which patients lacked alternative sources of care, did not require specialized emergency services, and were willing to use an alternative source of care if one were available. Information was collected using a cross-sectional survey design. Data were collected from all patients using the emergency room of San Francisco General Hospital during a one-week period in the summer of 1990. Survey information was taken during the emergency room visit and one to two weeks after the visit. Information was collected by a self-administered survey about the patients' demographics and socioeconomic status, insurance coverage, chronic and acute health status, regular source of care and other factors related to the use of the emergency department. Health status was measured by a standardized questionnaire. The reliability of this questionnaire was not discussed in the article but the references for its reliability and validity were given. The researchers strengthened their findings by including a follow-up contact by telephone, mail, or in person, although no response rate was given for this follow-up. Eligibility requirements included patients over 18 years of age who spoke English, Spanish, or Cantonese, were mentally coherent and were not designated by the triage nurse as acutely ill. Patients who were acutely ill accounted for 11% of ineligible participants. There was a response rate of 79% from eligible patients. No information was given on the characteristics of those not completing the survey. Unemployment ($p < .05$) and lack of insurance ($p < .001$) were significant factors for patients who did not have a regular source of care. The researchers found uninsured patients were significantly

($p < .001$) more likely to choose the emergency room for their regular source of care, versus patients with Medicare or other insurance. One-third (38%) of the respondents were willing to go to the offered primary care provider instead of using the emergency room if they could be seen in three days. This study confirms that at this one urban hospital, patients with non-emergency conditions were willing to see a primary care provider if one were available in a timely fashion.

To increase access to primary care, five city governments created, through public policy, a network of primary care clinics under the Municipal Health Services Program (MHSP) (Fleming & Andersen, 1986). Effects of the program on access to medical care of the populations served were studied. In each of five cities, 1,000 families, who lived in the communities that were served by the primary care clinics were surveyed in a baseline study from 1978 to 1980 and a follow-up study from 1981 to 1983. Families that used MHSP were compared to those that did not use MHSP. The results from this study are based on the follow-up survey except for some baseline data on the targeted service area. The average response rate for the telephone surveys, was 73% , with a range between 69% and 81%. The area surveyed comprised about 75% of the families served by the clinics. Data were collected on utilization of services over a one-year recall period. Community residents served by MHSP reported either no regular source of care at all or designated an emergency room or hospital outpatient department as their regular source of care compared to national census data ($p < .05$). Information was not given as to why they did not have a regular source of care. Compared to national data, MHSP service areas had a significantly higher number of low-income and Black/Hispanic individuals and individuals on public insurance. In the follow-up study after MHSP was initiated, there was a decrease in the use of the ED for MHSP users and a significant ($p < 0.05$) decrease in ED expenditures for those in MHSP compared to other users in the community.

Bonham and Barber (1987) evaluated the Citicare Program's objective to decrease emergency room/department (ED) visits for unnecessary care through improved access to primary and preventive care for Medicaid patients in one county in Kentucky. A health insurance organization was contracted to provide continuity of care and 24-hour care by participating primary care physicians. Two sets of data were collected through face-to-face interviews using a stratified random sample of households. The

three stratified groups included AFDC cases, unemployed fathers' cases and medically needy cases. No further description of the sample population was given. Data were collected prior to the initiation of the program and one year later during the implementation of the program. The Citicare program caused a significant shift ($p < .05$) in source of ambulatory care from doctors' offices to health centers or clinics. The authors reported that many private practice physicians chose not to participate in Citicare. The rate of hospitalization did not change during the program but emergency room use decreased significantly ($p < .05$). Visits declined "from 15 to 9 visits per 100 recipients" (p.114). This was a 40% reduction in visits. There was no increase in perceived problems in getting emergency care. The Citicare program in this study decreased emergency room visits. Due to political opposition, however, the program was discontinued.

To provide base-line data for Washington State's Basic Health Plan (BHP), Patrick et al. (1992) conducted a random telephone survey of families in nine counties on health status and use of health services. BHP was a five-year demonstration program that would provide subsidized basic health insurance coverage through managed care systems for purchase by low-income families in selected counties. Standardized questions were used in a structured interview that had been used in previous studies by the National Center for Health Statistics. Only families with incomes below 200% of the Federal Poverty level were included in the study. Demographics of the sample were similar to United States census data, but the uninsured in this study had fewer non-White respondents than in the population in general. Families without insurance included more males, more females without dependents, fewer two-adult families with dependents, and fewer families likely to have any member who graduated from high school. The uninsured reported more often that the emergency room was their usual source of care and a significant number ($p < .01$) stated their health care was limited due to costs. In this study more than 50% of the uninsured had incomes above 100% of the Federal poverty level. The researchers believed that governmental programs would have to expand beyond the 100% poverty level to reach these families. The authors also stated that families in this income range may not join governmental assistance programs because of the negative stigma or are ineligible because they have personal assets such as their own homes.

Hochheiser, Woodward, and Charney's (1971) study suggests that, for pediatric patients, access to a health center decreased the use of the emergency department for primary health care services. The researchers hypothesized that a neighborhood health center in Rochester, New York, known to be a well defined poverty area, would decrease child visits to all hospital emergency rooms. Using an experimental design, the researchers studied visits of the health center children to the emergency departments before and after the establishment of the health center and compared these changes with emergency department visits by other child populations outside the health centers catchment area. All but two hospitals in the catchment area were used in the study; the two excluded hospitals were not used because they had too few pediatric patients.

Samples were collected at three periods of time 15 months before the center was established, nine months after the center was in operation, and two years after the center opened. The samples were taken at the same time period of the year in approximately a 30 day period. One of the hospitals was surveyed in the winter versus the spring for others. This variation may have affected the results. The researchers attempt to assess for the extraneous variables of weather and epidemics. The sample design included visits by every third child, except at one hospital where every fifth child was included. No rationale was stated for this, except it could be implied from data in the article that this hospital had a greater number of emergency department visits and thus to keep within the same time frame of the other hospitals the spacing was spread out.

The dependent variable was the number of visits to the emergency room for each of the three years. Independent variables included: census tract, age, gender, race, time of day, day of week, payment status, registration status at the health center and patient's complaint. Each of these variables except patient complaint are objective and can be easily measured. Sound rationale was given for patient complaint to determine the patient's reason for seeking medical care versus using the physician's diagnosis. Inter-rater reliability was checked for 10% of the sample, and there was less than a one percent disagreement. They did not state how they handled the disagreements. When looking at the results, one might assume a one percent error rate for patients' complaints. There was not a clear statement on how the data were collected. When discussing study time periods, the authors stated they

changed one hospital's time assessment because appropriate records were not kept, thus implying that the information was collected from the records and not from patients directly. The authors clearly discussed the results of the study in relation to the stated hypothesis. Unfortunately they did not discuss all the variables studied such as age, sex, race, time of day, payment status and patient's complaint. For example, the center was in a geographically well defined poverty area, but no specific information was given. The hypothesis was supported in that there was a significant (38.3%) reduction in pediatric ED visits from the center area compared to the suburban children's ED visit which had an increase of 29% ($p < 0.01$). There was not a significant difference when compared to two other areas outside of the health center. Looking at the variables discussed, the study found the reduction in visits in the health center catchment area to be equally distributed among the eight census tracts of the health center with the exception of one tract, which had an 80% reduction and another which showed essentially no change. In the discussion, the authors stated the large reduction may relate more to lack of transportation to local hospitals than to use of the health center. Transportation also may have affected the little change in one census tract because public transportation was available to the local hospital but not the health center.

The above studies suggest that increased accessibility to health care either through expanded health insurance or subsidized health clinics decrease the use of emergency rooms for primary care. According to Patrick's et al. (1992), in order to reach the majority in need, access programs would be required to expand services above the 100% poverty level.

Summary - Measurement of Utilization

In summary, the studies discussed suggest that factors such as being low-income, being unemployed, being non-White and lacking insurance affect one's access to health care and that the ED is often used for these individuals as their regular source of care. This research also suggested that City or State policy that provided affordable health care through free or reduced fee clinics may effectively decrease the use of the ED. Lacking a regular source of ambulatory care is not a reliable measure for access since the majority of subjects studied stated they did not see a need for a regular source of care, thus as in the Framework on Access, the need for health services must be addressed. None of these

studies discussed the availability of Advanced Practice Nurses as primary care providers in private practice or community centers or their effect on potentially reducing ED visits for primary care.

Realized-Subjective Indicators

Consumer Satisfaction

The Realized Access-Subjective Indicator in the Aday et al. (1980) model is consumer satisfaction. This indicator refers to the attitudes of the individual client/patient toward the health system utilized. The Framework on Access hypothesizes that evaluations by the consumer are external validators of the actual process of obtaining care. Consumer satisfaction is also linked with specific encounters of care by providing subjective evaluations on the quality of the experience (Aday et al., 1980). The following is a summary of the literature related to consumer or patient satisfaction.

There is a growing trend to view patient satisfaction as a measure of health care and as an important outcome measure (Fitzpatrick, 1991; Lang & Marek, 1992; Murdaugh, 1992; Ware, 1995; Zastowny, Roghamann, & Cafferata, 1989). Roghamann, Hengst, and Zastowny (1979) found that patient satisfaction affects whether patients return for follow-up treatment. Other findings also supported a mutual dependency between utilization of services and patient satisfaction (Zastowny, Roghamann & Hengst, 1983). Disenrollment rates in managed care organizations have been affected by patient satisfaction (Ware, 1995; Weiss & Senf, 1990). In their discussion of measures of outcomes for primary health care, Wilkin, Hallam, and Doggett (1991) suggested that patient satisfaction should be viewed as an intermediate outcome. Patient satisfaction surveys can reflect patients' expectations, the acceptability of service and/or failure of the service to meet consumers' needs. Wilkin et al. (1991) also stated that "patients reported levels of satisfaction do reflect doctors' technical competence as judged by independent, professional assessors" (p. 231). Ware (1995) clearly articulated that researchers need to expand the current data base of outcomes from disease, death and dollars that relate to an absence of disease, to incorporate quality-of-life issues. These quality-of-life issues will depend a great deal on the public's definitions of quality. The Aday et al. (1980) access model provides a framework that considers patients' satisfaction with the health care services provided. The first article

summarized is a qualitative analysis of one group of women's experience related to access. This will be followed by a discussion of more quantitative patient satisfaction measurement surveys.

The study by Stevens' (1993a) attempts to move beyond traditional definitions of access and, instead, to let individuals describe their own experiences of access. Using a feminist narrative, 45 low-income lesbians of multi-ethnic backgrounds were asked to "describe their access to services in three models of care: the private fee-for-service sector, health maintenance organizations (HMO) and the public sector" (p. 41). Interviews and focus groups were used to collect data. There were 17 participants in the fee-for-service subsample, 12 participants in HMOs and 16 participants in the public sector. Within this sample, 64% had health coverage and 36% did not. None of the sample were covered by Medicaid or Medicare. The data analysis is rich in exemplars from the women's lived experiences. The main advantages to private sector insurance were consistency, convenience and choice. Constraints included economic prerequisites such as co-payments, bureaucratic complexities or loopholes and complex systems of premiums. Barriers also included blocked access due to exclusion based on pre-existing conditions, cancellation of policies, restricted eligibility and ceilings on coverage.

In the case of women with HMO coverage, few costs were incurred, the centralized organization spared the women complicated paperwork and care was provided in one place. In contrast, these women felt constrained by not having a choice of facilities or providers. They mentioned organizational incentives that prevented them from seeking care but that seemed to contain costs. Examples of such disincentives included "frustrating waits, lengthy periods between available appointments, unreturned phone calls and oversubscribed membership rolls" (p. 48).

The women who used the public sector for health care found constraints, but no advantages to the system. For those women without insurance, the public sector was their only option for care and they described it as a humiliating process. The environment was seen as oppressive and abusive. Participants stated they were refused care, talked down to, and "dealt with racial slurs" (p. 51). As one participant concluded, "If you are a paying patient there is a certain respect. When the state is paying you are subhuman, and the places you have to go to for services are just meat factories" (p. 52). Structural and interactional barriers are clearly articulated within this study and give nursing a broader

understanding of the phenomenon of access. Although this study is limited in its generalizability, it gives a depth of understanding of access from these women's lived experiences. To obtain this depth of understanding this type of research is limited to a small group of individuals and requires a lengthy data collection and analysis phase. A survey instrument can reach a larger sample in a more timely manner. Thus the literature was reviewed for an adequate survey to measure consumer/patient satisfaction. The following is the summary of that review.

Consumer/Patient Satisfaction Surveys

There are numerous patient care satisfaction surveys in the literature, all with varying degrees of reliability and validity (Davies, Ware, & Kosinski, 1995; Dimatteo & Hays, 1980; Hulka, Zyzanski, Cassell, & Thompson, 1970; Nguyen, Attkisson, & Stegner, 1983; Ware & Hays, 1988; Ware, Snyder, Wright, & Davies, 1983; Wolf, Putman, James, & Stiles, 1978). Not all of these patient satisfaction surveys include the categories of convenience, availability, financing, characteristics of the provider and quality of care, found in the access framework. In their research using the access framework, Aday, et al. used the Patient Satisfaction Questionnaire (PSQ) (1980). Since this instrument includes all of the categories in the framework under the Realized Access-Subjective Indicators, the PSQ and adaptations of the PSQ will be reviewed to assess their reliability and validity for measuring consumer satisfaction.

The PSQ was developed to provide a survey that was valid in evaluating health care services in general (Ware et al., 1983; Davies, Ware, Brook, Peterson, & Newhouse, 1986). In their discussion of the development of patient satisfaction surveys, Davies et al. (1995) stated that a national survey conducted in 1975 and 1976, using the Patient Satisfaction Questionnaire (PSQ), provided normed data for the PSQ instrument.

The advantages of the PSQ are that it can be self administered, has been used in national surveys and has been shown to be reliable and valid (Davies, et al, 1986). It is considered suitable for adult populations and has been used with chronically ill patients, disabled children, different ethnic groups and low-income populations (Wilkin et al., 1991). Some of the concerns with the instrument are that it contains 43 items which may affect the number of subjects completing the questionnaire and that the questions ask about satisfaction with physicians in general. This last point raises two issues. First, if

assessing a specific agency or physician, one would like responses about the specific providers within that agency. Snyder and Ware (1975) found no differences in reliability or validity if questions referred to a particular physician versus care from physicians in general. Thus it would be helpful to word the questions to obtain information on particular providers. The second issue is that of type of provider. In most patient satisfaction surveys, including the PSQ, the provider is always assumed to be a physician. In today's health care system the primary provider may be a physician or, increasingly, nurse practitioner, physician assistant or another provider. Two adaptations of the PSQ address these issues, and each will be summarized.

In a study examining the differences in patient satisfaction between family physicians and general internists, Cherkin, Hart, and Rosenblatt (1988) adapted the PSQ. They shortened the 43-item questionnaire to 18 items and included the original subscales Access to Care, Humaneness, Quality/Competence and General Satisfaction. The wording of the questions was changed to reflect the care of particular physicians versus physicians in general. Acceptable inter-item reliabilities using Cronbach's alpha, were found for the Humaneness scale (0.81), Quality (0.69) and General Satisfaction (0.84). The Access scale had a Cronbach's alpha of 0.47. The researchers reported there were only two items in the Access scale and stated that because alphas increase in size with increasing numbers of items they were not surprised by the lower alpha. This adaptation of the PSQ instrument addresses the concerns related to the small number of items and asking about physicians in general rather than a specific physician. It does not address the issue of stating the physician as the only provider and the lower than acceptable reliability on the Access subscale.

To overcome the issue of specifying only provider type, Marsh (1996) adapted Cherkin's et al. (1988) 18-item satisfaction questionnaire and developed the Patient Satisfaction with Health Care Provider Scale (PSHCPS) (Appendix B). Three items were added to the PSHCPS access subscale of the Cherkin instrument in an effort to increase the reliability of the access subscale. Items were also revised to eliminate discipline-specific language. For example, "This doctor always treats me with respect" was changed to read "My health provider always treats me with respect." The adapted PSHCPS questionnaire (Marsh, 1996) was administered to 167 adults (ages 17-65 years) in a managed

care facility after a visit with their primary care provider. Initial subscale coefficient alpha's were: Access 0.45; Humaneness, 0.85; Quality, 0.77; General Satisfaction 0.88, with a total scale alpha of 0.92. After conducting an item analysis, Marsh (1996) eliminated three weak items establishing an 18-item scale with an alpha of 0.93. Two of three the items eliminated had originally been added to the PSHCPS to strengthen the access subscale. Factor analysis of the 18 item scale revealed four factors but did not delineate the original four subscales identified. For example, three items in the Quality subscale and one item in the Humaneness subscale loaded on one factor.

The study by Marsh (1996) found the Patient Satisfaction with Health Care Provider Scale (PSHCPS) to be reliable but unidimensional. Based on its adaptation from the PSQ, it also would be considered valid. In general the PSHCPS meets the Access Framework Subjective Indicator of consumer/patient satisfaction. Although the most recent findings by Marsh (1996) suggest that the PSHCPS may be unidimensional, it still provides questions that ask about provider characteristics, quality and general satisfaction. Questions related to convenience and availability, which are thought to be related to Access, are also included in the survey instrument. The most recent findings suggest PSHCPS is a reliable survey instrument to assess the outcome measure of general patient satisfaction.

CHAPTER IV

METHODOLOGY

Chapter IV will describe the research design, definition of variables, population, sample, setting, survey instrument, data collection procedures and data analysis. Ethical considerations of the study also will be discussed.

Research Design

This quantitative descriptive study used different methodological sub-components, and was guided by the Aday's et al. (1980) framework on access in evaluating the influence of a State health policy (HB 2019) on access to care. The overall intent of the research study was to evaluate the relationship between the initiation of funding from HB 2019 and access to health care for the medically indigent in Douglas County, KS. A descriptive design was used to gather information on the characteristics of the health care system, the Potential Access-Structural Indicator, and the characteristics of the medically indigent, the Potential Access-Process Indicator, in Douglas County, KS.

A retrospective design was used to assess emergency department (ED) utilization, the Realized Access-Objective Indicator. Aggregate data were evaluated on all patients who visited the ED. The variables compared before and after the initiation of State funding were insurance status of those visiting the ED and the number of ED visits made annually, before and after the initiation of State funding. Age, gender, race, and marital status were examined to determine their effect on emergency room utilization by the insured and uninsured.

A descriptive cross sectional survey design was used to explore client satisfaction with care at Health Care Access (HCA), the Realized Access-Subjective Indicator. To assist in clarifying the variables to be studied the following definitions are provided.

Definitions of Terms

1. HCA: Health Care Access, Inc., is located in Douglas County, KS. Their mission is "to help facilitate access to needed health care services for ...county residents with limited financial means and whose needs are not covered by private or government insurance programs" (Annual report, 1994, p.n.).

2. HCA clients: Eligibility includes, resident of Douglas County, KS, adults whose income is at or below 150% of the federal poverty level, children 18 or below with a family income of 185% of the federal poverty level, and individuals not covered by government program or private insurance (HCA, 1991; J. Eyerly, personal communication, March 24, 1995). Individuals must not have access to other health care services (Annual Report, 1994).
3. LMH - Lawrence Memorial Hospital, the only hospital located in Douglas County, KS.
4. Uninsured: Individuals who are not covered by private or commercial health insurance and who do not have health coverage under a governmental program such as Medicaid or Medicare.
5. Medically indigent - Individuals who are not covered by governmental insurance programs or private insurance for health care.
6. State funding: Funding received from Kansas Department of Health and Environment under HB 2019 to provide primary health care services.
7. Primary care provider - physician, nurse practitioner or others with whom the client had an appointment at HCA.
8. Nurse Practitioner - A nurse licensed by the state of Kansas as an ARNP (Advanced Registered Nurse Practitioner) who can provide advanced nursing care and primary medical care under collaborating protocols with a physician.
9. Emergency room utilization - the annual aggregate number of visits at LMH Emergency Department.

Population, Sample and Setting

The target population for this investigation were all residents of Douglas County, KS. In 1990, Douglas County, KS had a population of 81,798 and included 27,000 university students (KDHE, 1994). The university is located in Lawrence, the largest city in Douglas County, KS, with a population of 65,657 in 1990. Two other cities located in the County were Baldwin, population 3,000, and Eudora, population

3.310 (U.S. Census, 1990). According to census data 12.3% of the county is rural and 89.1% of residents are White (KDHE, 1994).

To address the research questions, two subgroups of the population (Douglas County, KS) were sampled. The sample for Realized Access-Objective Indicator of utilization, was all those who visited the ED at Lawrence Memorial Hospital in 1988, 1990, 1993 and 1995. LMH is located in the largest city, Lawrence, within Douglas County, KS. It is classified as an urban hospital by Medicare, is a non-profit organization owned by the city and is licensed for 149 acute care beds (KHA, 1995). The sample for the Realized Access-Subjective Indicator of consumer satisfaction were HCA clients. The HCA clinic is located in the east section of the city of Lawrence which is located in the east part of Douglas County, KS. Residents in the east section of Lawrence (zip codes, 66044 and 66046) account for 55.8% of Douglas County, KS residents over 18 years of age who are at or below the Federal poverty level (U.S. Census, 1990).

Data Collection Procedures

To obtain data on the characteristics of the health care system, the Potential Access-Structural Indicator, and the medically indigent characteristics, the Potential Access-Process Indicator, information was collected from a number of secondary sources. Data were obtained and summarized from census reports, state and local Health Department reports, community and organizational reports, other published works and from key community leaders. When specific county information was not available, state or national information was used.

Computer data reports from the Emergency Department (ED) were reviewed to determine the Realized Access-Objective Indicator of utilization. Number of ED visits by the insured and uninsured was compared by looking at computer data reports from LMH. Comparisons were made of the number of ED visits at dates before, during and after the establishment of HCA and initiation of State funds (Table 1). The hospital provided summary data on ED use and insurance status for the years 1988, 1990, 1993 and 1995. Summarized data reports on demographic variables were available only for the years 1993 and 1995. An attempt was made to collect the diagnosis of patients using the emergency room. This information was not available in summarized data form and thus would have required a

review of every individual ED record between 1988 and 1995. For this reason patient diagnosis data were not collected.

Table 1
HCA Program and State Funding Status and Measurement Years

Program status	Date Measured
No State funding, No HCA	1988
No State funding, HCA clinic started summer 1989 * Part-time volunteers, physicians, nurse practitioners (NP), and other providers.	1990
State funding, HB 2091, started April 1992, majority of HCA's budget * Full-time NP hired plus volunteer health care providers	1993
State funding, HB 2019, provided over 60% of HCA's budget * Full-time NP and volunteer health care providers, status the same as 1993	1995

To evaluate the level of client satisfaction, HCA clients were surveyed using the adapted Patient Satisfaction with Health Care Provider Scale (PSHCPS) (Marsh, 1996). Eligibility criteria for participants were that they: a) be HCA clients; b) live in Douglas County, KS; c) be 18 years of age or older; and d) be able to read and write English. Participants could choose to withdraw from the study at any time by not completing the survey instrument. The purpose of the study and ethical concerns were described in the consent form (Appendix C). This form discussed confidentiality and that there were no known risks in participating in the study. Participants were assured there would be no change in health care received for those not participating in the study and anonymity was ensured for all who participated. The research project was conducted using standardized ethical procedures. Only the primary investigator or research team members had access to the data. No individual, only aggregate data, will be reported to HCA and presented to the public and the profession. Data were collected and analyzed only after the approval of the agencies involved and the Colorado Multiple Institutional Review Board (Appendix C), which sets standards in the areas of scientific merit, ethics and safety for human subjects.

Before data collection began, all HCA staff members involved with clients at HCA were informed of the research study and its purpose. All HCA staff were instructed on data collection

techniques, procedures and ethical considerations. The researcher met with or talked with the staff an average of once a week during data collection to discuss how the data collection process was proceeding and to clarify any questions the staff or HCA clients had.

The initial data collection procedure included the following process: a) a staff member greeted clients as they entered the HCA building; b) a staff member briefly explained the study to clients who met the eligibility requirements; c) the clients were asked to participate in the study by reading and signing the consent form; d) the staff member collected the consent form; e) after the client's visit with the health provider the client was asked by the staff member to complete the survey instrument; and f) completed instruments were placed by the participant or HCA staff member in a sealed box through a slit in the top. Using this procedure to complete the survey, the response rate was very low. Staff at HCA stated clients gave several reasons why they did not want to wait to complete the survey form after their visits. The reasons given included: their transportation or ride needed to leave right after the appointment; they had already waited some time to visit the health provider and they did not want to wait longer; and some clients did not feel well enough to complete the form. After consultation with the staff at HCA several strategies to increase participation were implemented. First, eligible clients were told they could fill out the consent form and survey form at the same time, before their visit with their health provider, unless it was their first visit to HCA. Those clients who were eligible to participate in the study but had not been to HCA before followed the original procedure and were asked to complete the survey after their visit with the health provider. All study participants who completed a survey form were given an immediate incentive, a small grab bag gift. Each participants name also was entered into a drawing for one of the following prizes: \$50.00 cash, \$20.00 cash, or one of three \$10.00 gift certificates to a local grocery store.

Data collection began on April 22, 1996, immediately after approval for the study had been granted by the HCA Board of Directors and the Colorado Multiple Institutional Review Board (CMIRB) (Appendix C). Each client who met the eligibility criteria was asked to participate in the study. An attempt was made to obtain a 10% sample of HCA clients, based on unduplicated visits. During the three years prior to the study the annual average number of clinic visits to HCA was just

under 4,000 (HCA, nd). Of these 4,000 average visits in 1994, 1,454 were unduplicated visits and in 1995 there were 1,421 unduplicated visits (J. Eyerly, personal communication, March 5, 1996). This meant that to obtain a 10% sample 145 participants were needed. Data collection continued until July 22, 1996, when the target of 10% of HCA unduplicated visits was met, with 159 surveys being returned.

Survey Instrument

The Patient Satisfaction with Health Care Provider Scale (PSHCPS) (Marsh, 1996) was used to evaluate consumer satisfaction, the Realized Access-Subjective Indicator. This instrument consists of 18 questions and has internal consistency as indicated by a Cronbach's alpha of 0.93. The instrument was found to be valid in previous studies. The PSHCPS was originally adapted from Cherkin's et al. (1988) Patient Satisfaction Questionnaire that contained four subscales: Humaneness, Quality, General Satisfaction and Access. Each of the subscales except Access had adequate reliability scores based on Cronbach's alpha: General Satisfaction, 0.84; Humaneness, 0.81; Quality, 0.69; and Access, 0.47 (Cherkin et al., 1988). Reliability findings were similar in Marsh's study with General Satisfaction at 0.88; Humaneness at 0.85, Quality at 0.77, and Access at 0.45. Further testing by Marsh (1996) suggested that the subscales do not factor out independently and the PSHCPS is a unidimensional scale indicating patient satisfaction with health care providers. For the purposes of this study the subscales will be reported knowing that the most recent evidence suggests that the subscales may not represent multiple dimensions but the unidimensional concept of patient satisfaction.

In both of the studies noted above, the Access subscale had a weak coefficient alpha of less than 0.50. In an attempt to strengthen this subscale and to obtain access information related to financing and convenience/availability, additional items were added to the Access subscale. First, the three access items that had been deleted from the original PSHCPS after item analysis were added to the instrument, as well as two new items. The new items were taken from the 1987 version of the Patient Satisfaction Questionnaire from which the PSHCPS was adapted (Wilkin et al., 1991). A slight adaptation (Table 2) was made in each of the two questions by changing the term "medical care" to "health care." This change is consistent with PSHCPS language that uses the broader term health care and health care provider rather than medical care and medical provider. The original and adapted items are:

Table 2
Adapted PSQ Questions

PSQ questions	Adaptation
1. The office where I get medical care should be open for more hours than it is...	1. The office where I get <i>health</i> care should be open for more hours than it is..
2. I have to pay for more of my medical care than I can afford....	2. I have to pay for more of my <i>health</i> care than I can afford....

Response categories on the resulting 23-item, adapted Patient Satisfaction with Health Care Provider Scale (PSHCPS) (Marsh, 1996) were consistent with the Likert scaling methodology with values ranging from five to one. Response options ranged from strongly agree (5), agree (4), not sure (3), disagree (2) and strongly disagree (1). Items were worded so that there was a balance of favorable and unfavorable questions with scoring reversed for negative questions. There were seven items in the Access subscale, six each in the Humaneness and Quality subscales and four in the General Satisfaction subscale. The adapted questionnaire can be found in Appendix B. A demographic data form with items related to age, gender, race, income and employment status was attached to the questionnaire.

Two open-ended questions were added to the survey instrument to provide additional information and to serve as a qualitative data check to the quantitative analysis. The following questions were asked: 1) If the clinic were to close, where would you go for health care? and 2) Do you have any additional comments about the services provided at the clinic?

Data Analysis

Descriptive data from existing sources were analyzed to delineate the Potential Access Structural Indicator-health care system characteristics and Potential Access Process Indicator-medically indigent characteristics. These descriptive data provide answers to the research questions: What was the effect of Kansas health policy HB 2019 on the characteristics of the health care system in Douglas County, KS? and What are the characteristics of the Medically Indigent in Douglas County, KS?

The Realized Access-Objective Indicator, utilization of health care services data from the retrospective records review was analyzed descriptively. Frequencies and percents are provided for each of the variables. The Chi square test of association was conducted to compare insurance status and emergency room utilization before and after the initiation of state funding for primary care services. Since ED data were collected from the population of ED visits to LMH, Chi square test of association was used to test the strength of the association, because with population data all associations are significant. Descriptive statistics are provided on the demographic data collected. This data analysis will provide information for the research questions: After HCA received State funding for primary health care services for the medically indigent, did emergency room visits by the uninsured decrease in Douglas County, KS? and What effect do age, gender, marital status and race have on emergency room utilization for the medically indigent in Douglas County, KS?

To answer the final research question, the PSHCPS was analyzed descriptively to ascertain the level of client satisfaction. The mean satisfaction score for each question, each of the subscales and the total PSHCPS is provided. When possible study results were compared to county, state or national data.

CHAPTER V

RESULTS

The purpose of this study was to determine whether a law, Kansas HB 2019, to establish primary care services for the medically indigent influenced access to health care for the medically indigent in Douglas County, KS. The findings from this study related to the purpose and research questions are described in the following five sections of Chapter V. In section one, an overview of the health policy is presented. The characteristics of the health care system are described in section two. In section three a descriptive profile of the sample or population is presented. Emergency Department (ED) utilization rates are depicted in section four and in section five, the findings related to consumer satisfaction are presented.

Health Policy

The Kansas state legislature enacted HB 2019 to provide outpatient, non-emergency primary care services to medically indigent persons within the state. Funding could be used by local health departments or other voluntary, nonprofit entities. In January 1992, Health Care Access (HCA), a voluntary, non-profit organization established to meet the needs of the medically indigent in Douglas County, KS, received funding allocated through HB 2019 from the Kansas Department of Health and Environment (KDHE). The state funding was maintained throughout the research study and in 1995 was 69% of the financial support for HCA (KAMU, 1996). The following paragraphs will describe the characteristics of the health care system in Douglas County, KS. Influence of funding from HB 2019 will be assessed by any changes on the health care system after funding was received in Douglas County, KS.

Characteristics of the Health Care System and HCA: Potential Access

Descriptive data from existing sources were used to delineate Douglas County, KS, health care system characteristics, the Potential Access-Structural Indicator, and medically indigent characteristics, the Potential Access-Process Indicator. These descriptive data provided information for the research questions: What influence did Kansas health policy, HB 2019, have on the characteristics of the health care system in Douglas County, KS? and What are the characteristics of the medically indigent in

Douglas County, KS? Responses to these questions will be discussed in the next two sections respectively.

Resource Availability and Distribution: Structural Indicators

On February 12, 1988 (Minutes) a group of community members held their "first organizational meeting to assess the need and/or support for a program for the medically indigent" in Douglas County, KS. This group of community members formed a task force that assessed the need for health care services to County residents with limited incomes. From this task force, Health Care Access, Inc., (HCA) was established on September 30, 1988 (Minutes). The mission of HCA was to facilitate access to needed health care services for individuals with limited financial means and whose needs were not covered by private or government insurance programs (Annual report, 1994). Medically indigent individuals were defined by HCA as individuals who were at or below 150% of the federal poverty level and who had needs not covered by third-party payers.

In May of 1989, the city Housing Authority had approved the use of clinic space at no cost for HCA in one of their senior citizens housing facilities. Several physicians and nurses volunteered to serve in the clinic and the hospital donated printed prescription pads, and simple lab and x-ray services. Three examination tables and other necessary clinic equipment and supplies had been donated by local health care providers. The United Way Agency donated \$4,000 for medication and clinic start up costs (Minutes, April 17, 1989; Minutes, May 5, 1989). The clinic began seeing clients June 19, 1989 (Minutes, June 2, 1989), and by July 7, 1989 (Minutes), the clinic had been "open for 5 dates with 28 appointments made, 25 appointments kept" (p 1). During this same time period, sixteen dentists had volunteered to see clients with acute dental pain, in their own office at no cost. One social service agency in Douglas County, KS began to coordinate the use of the volunteer pharmacies in town so that needed medication could be offered to clients at a reduced fee (Minutes, June 2, 1989; Minutes, July 7, 1989). One of the problems with using volunteer physicians was that if the physician were not available or could not make her/his scheduled time period, clinic appointments had to be canceled or rescheduled for a later time. At the time the KDHE grant was written, 43% of all Douglas County, KS's physicians

were volunteering their services at HCA (HCA, 1991). Occasionally clients were seen by a volunteer Nurse Practitioner or Physician Assistant.

Limited space at the clinic was noted to be a concern and access to the space was available only during the day. The Housing Authority did not allow access to the clinic in the evening or on the weekends. Health Care Access board members sought out other clinic sites and in June of 1991 received unanimous approval from the Lawrence City Commission to move into a city-owned building with rent at \$1.00 per year (Cornell, 1991). Services at the new building began March 1992 (Minutes, March 6, 1992). The new building was located in the eastern part of Lawrence, close to low to moderate level housing. In April of 1992, grant funding from KDHE, supported by HB 2019, enabled HCA to hire a full-time Nurse Practitioner (NP) (Minutes, April 3, 1992). Soon after HCA was able to increase their hours of service to five days a week, eight hours a day. The clinic was also staffed by a part-time registered nurse. The NP was considered the primary care provider for HCA's clients but clients were referred to volunteer physicians when medically necessary. The following paragraphs will provide data on other primary health care resources in Douglas County, KS.

The majority of primary health care providers in Douglas County, KS were physicians. A Kansas Department of Health and Environment report (1994) stated that there were 59 primary care physicians in the county, resulting in a population per primary care physician ratio (PPPR) of 1587:1. Before 1995, the county was not designated as a federal or state medically underserved area and its PPPR was lower than the State of Kansas (1,736:1) and the Northeast Region of the United States (1,629:1). In February 1995, Douglas County, KS became a designated a primary medical care health professional shortage area (HPSA) (J. Faubion, February 27, 1995, personal communication). This designation was based on a survey of local primary care physicians which found that out of 30.4 FTE physicians only 2.70 FTE physicians stated they would see new Medicaid patients. Taking the number of low-income persons from the county, times the number of physicians seeing low-income patients, the PPPR ratio was 9,999:1 meeting the criteria for HPSA status. In April 1994, the city of Lawrence was designated by the Department of Health and Human Services as a medically underserved populations (MUPs) (J. Faubion, personal communication, April 22, 1994). With this designation the city was

eligible to receive funding to develop community/migrant health centers, federally qualified health centers and rural health centers.

Lawrence Memorial Hospital, the only hospital in the county, and the city-county health department also provided limited primary health care services to the medically indigent. As with most small urban hospitals the only primary care services offered were through the hospital emergency room. By law, the hospital was the only agency in the community that could not turn patients needing treatment away because of lack of funding. Thus, if a person were to present to the hospital emergency room, the hospital by law would be obligated to provide services to the patient. No other health care provider in Douglas County, KS, i.e., physicians, nurse practitioners, other medical clinics or the health department, had this obligation. Thus, those with limited incomes might be more likely to use the local hospital ED as their primary care provider knowing that money would not be required before services were rendered. To support HCA the hospital had a written agreement with HCA to donate basic laboratory and x-ray services plus admit patients as needed (HCA, 1991).

To avoid duplication of services, the local health department and HCA also had a written agreement. Health Care Access would provide primary health care services but would refer clients to the health department for health promotion and disease prevention services provided by the health department (HCA, 1991). Specifically, the health department services were:

immunizations for all ages; family planning; sexually transmitted disease testing and treatment; AIDs testing and counseling; Well Child examinations (through age 5 and Medicaid-eligible clients up to age 21); Women, Infants and Children (WIC) Supplemental Food Program; Health Screening Clinics for people Over 60; Pregnancy and Parenting Services; public health nursing home visits for health education, counseling and support to high risk families; blood pressure screening; newborn screening; and community health education. (p. 17)

According to the HCA bylaws, the hospital and health department were represented on the Board of Directors of HCA.

Another aspect of the Douglas County, KS health care system was the Public Health Services clinic at Haskell University. Haskell Indian Nations University was located in Douglas County, KS. This intertribal university admitted approximately 800 students that represented federally recognized tribes from across the United States (Lawrence Convention and Visitors Bureau, 95-96). Students and other Native Americans in the community received services at this clinic.

Changes that occurred in the health care system since the funding of HCA were the establishment of two urgent care centers in the community. In August 1993, FirstMed a walk-in medical care and family practice center was opened (Bartels, July, 12, 1996, personal communication; Woodward Publications, 1996-97). The personnel manager, R. Bartels, stated that most of their clients had insurance. Lawrence PromptCare opened in July of 1994 in an established physicians office and began providing services in their new building in July 1995 (N. Heibert, July 12, 1996, personal communication). PromptCare was advertised as an urgent care center and was open seven days a week from 9:00 a.m. to 9:00 p.m. (Woodward Publications, 1996-97). The nurse manager at PromptCare stated that the cost per visit started at \$45.00 (D. Guinn, July 24, 1996, personal communication). The manager also stated that it was the policy of PromptCare not to turn patients away even if they lacked insurance. The estimated minimum cost for an emergency room visit at LMH was \$100.00. This amount included the physician's fee and minimum level ED room fee (P. Weaver, July 29, 1996, personal communication). No diagnostic or treatment charges were included in the minimum fee at LMH or PromptCare.

In Douglas County, KS, HCA was the only organization whose purpose was to provide primary health care to the medically indigent. Other structures, the local hospital, health department and physicians' offices, plus concerned citizens, social workers, pharmacists, nurses and others community members had input into HCA's purpose, mission and services. Funding from HB 2019 enabled HCA to move from providing fragmented, part-time volunteer primary care to an agency that offered consistent full time primary care services to the medically indigent.

Organization Entry and Structure: Structural Indicators

The organization of the health care system describes what the system does with its resources. Entry and structure are two components of organization. The entry component refers to the process of getting into the system. Operational indicators for entry may include convenience of getting care, specifically the times services are available, transportation, waiting time and eligibility criteria. Operational indicators for structure include sources of health care, specifically type of health provider, location of provider, and extent of insurance coverage. Data obtained included information on

eligibility requirements for HCA. For this study data were not collected directly from the medically indigent in Douglas County, KS but from secondary sources. Data were collected from a sample of HCA clients and will be described under the heading client satisfaction.

Eligibility requirements for HCA included: a) adults with incomes at or below 150% of the Federal poverty level; b) children 18 or below living in households with incomes at or below 185% of the Federal poverty level; and c) individuals not covered by a government program or private insurance (HCA, 1991; J. Eyerly, personal communication, March 24, 1995). In 1995, 150% of poverty for a family of one was \$11,610/yr. and for a family of four the annual income had to be at or below \$23,400 annually (J. Eyerly, personal communication, March 24, 1995). For children, a family of four had to have an annual income of \$28,860 or less. Individuals could not have access to other health care services for the care that was needed. In this community, enrolled university students were not eligible for services at HCA because they had access to health care through the university health care center (Annual Report, 1994).

As in most Midwestern communities, there was no public transportation in Douglas County, KS. Limited bus service was available to senior citizens and university students. Neither of these groups met the eligibility requirements of HCA because of access to services either through Medicare or the University system. A question concerning transportation was asked on the satisfaction instrument and the results will be reported later. Further data on poverty statistics, unemployment rates and the need for health care services by the medically indigent will be provided in the next section.

Description of the Population: Potential Access

Predisposing Component: Process Indicator

The predisposing component of the population-at-risk describes an individual's inclination to use the services. These factors are attributes that exist before an individual needs services. From the previous literature review, it was noted that the unemployed, those with less education, the poor and minority populations were more likely to be uninsured and lack access to a primary care provider. Individuals are also more likely not to have health insurance if they are a young adult (between 18 and 29 years of age) and work for a business with 25 or fewer workers (Posey, 1995). The demographic

predisposing factors of age, gender, race, educational level and employment status are described below. Poverty rates are given in the section labeled enabling component.

Douglas County, KS has been one of the fastest growing counties in the State of Kansas. In 1990 the total population was 81,798, a 20% increase from 1980 when the population was 67,640 (HCA, 1991; KDHE, 1994; KHA, 1995). The growth for the state of Kansas during this same time period was only 4.8%. In 1993 the county population was 86,067, and in 1995 it was 88,206, representing a 30% increase from 1980 (M. Galbraith, personal communication, September 3, 1996). Lawrence, the largest city in Douglas County, KS, and the home of the University of Kansas, had a population of 65,657 in 1990. Two other cities located in the County were Baldwin, population 3,000, and Eudora, population 3,310 (U.S. Census, 1990). Census (KDHE, 1994) data from 1990 revealed the county to be 12.3% rural and 89.1% White. Other racial groups included Black (4.1%), Native American (2.6%), Asian/Pacific Islander (3.2%) and other (1.0%). Less than three percent of the county were of Hispanic origin. Gender statistics show that 49.8% of the county population were male and 50.2% were female. Demographic data on education and age are noted in Table 3 and 4.

The Douglas County, KS community had a higher education level than the state of Kansas and more young adults between the ages of 15 and 24 years of age. Part of this can be explained by the University located in the county.

Enabling Component: Process Indicator

The enabling component describes the means individuals have to enable them to use the services that are available. Mutable-enabling indicators would include one's income and insurance status. Previous research suggests that individuals with lower incomes and lack of health insurance have more difficulty in obtaining health care services that are available.

The percent of the population in Douglas County, KS below 100% of the Federal poverty level was 20.6%, with 27.8% below 150% of poverty and 37.0% below 200% of the federal poverty level (KDHE, 1994). The state population below 100% of the Federal poverty level was 11.5% and 31.2% were below 200% of the poverty level. According to the 1990 census, per capita income in Douglas

Table 3
Educational Attainment, Persons 25 Years and Older

Educational Attainment	Douglas County, KS	Kansas
	Number (Percent)	Percent
Less than 9th Grade	1,627 (3.8%)	7.7
9th to 12th Grade, No Diploma	3,095 (7.3%)	11.0
High School Graduate (or GED)	10,669 (25.2%)	32.8
Some College, No Degree	8,958 (21.2%)	21.9
Associate Degree	1,695 (4.0%)	5.4
Bachelor's Degree	9,192 (21.7%)	14.1
Graduate or Professional Degree	7,072 (16.7%)	7.0
Total	42,307	

KDHE, 1994; 1990 U.S. Census

Table 4
Population by Age Group

Age in Years	Douglas County, KS	Kansas
	Number (percent)	Number (percent)
Under 1	901 (1.1%)	33,116 (1.3%)
1-5	5,255 (6.4%)	194,553 (7.9%)
6-14	8,221 (10.1%)	336,175 (13.6%)
15-24	25,261 (30.9%)	352,263 (14.2%)
25-44	25,063 (30.6%)	774,499 (31.3%)
45-64	10,470 (12.8%)	444,397 (17.9%)
65-74	3,630 (4.4%)	184,664 (7.5%)
75+	2,997 (3.7%)	157,907 (6.4%)
Total	81,797	2,477,573

KDHE, 1994; 1990 U.S. Census

County, KS was \$12,003 and per capita income for the state was \$13,300. Although the county had a low unemployment rate (3.2%), the majority of non-governmental businesses in the county employed less than 20 employees (1,885 out of 2,154) (Kansas State Library, 1996; KDHE, 1995). Previous research suggests that those who work for businesses with less than 25 employees are more likely to be uninsured (Posey, 1995). Just thirteen non-governmental businesses had over 250 employees and none had over 1000 employees. Only two governmental agencies employed over 1,000 individuals, the University of Kansas and the Lawrence public school system.

Many service agencies/organizations such as day care centers, nursing homes, and fast food restaurants, do not provide health insurance to their employees. Before HCA was established, a task force conducted a telephone survey of local nursing homes to see if their employees had insurance coverage. The task force reported that of five nursing homes in the county only one provided health insurance coverage for all of their employees. Among the other nursing homes it was reported that between 32% and 75% of the employees did not have health insurance (Minutes, May 6, 1988). Another indicator of the uninsured are those individuals who are eligible for Medicaid but are not Medicaid recipients. Based on information from Kansas Social and Rehabilitation Services from 1992, there were 6,005 (7.3%) individuals eligible for Medicaid and 5,233 (6.4%) Medicaid recipients (KDHE, 1995). According to 1990 census data there were 16,850 individuals within Douglas county at 100% of the Federal poverty level. If only 6,005 were Medicaid eligible, this would leave 10,845 individuals at the Federal poverty level that were not Medicaid eligible.

Estimates for the percent of uninsured within Kansas ranged from 10% to a high of 14% (Coddington, Bendrick, Moore & Fischer, 1992; HCA, 1991; KDHE, 1995). Beginning in 1992 and continuing through 1995, Douglas County, KS residents were asked in a statewide, yearly KDHE survey, if they had health insurance. The telephone survey was conducted using a simple random digit sampling technique. Only those over 18 years of age were included in this household survey. Results from Douglas County, KS are noted in Table 5.

Table 5
Individuals Without Health Insurance from 1992 to 1995: Douglas County and Kansas

Year	Douglas County	Kansas	United States
1992	19% (n=35)	10.2%	15.0%
1993	23% (n=45)	12.7%	15.3%
1994	3% (n=53)	12.9%	15.2%
1995	18% (n=71)	12.4%	15.4%
1992-1995	15%		

Note: Douglas County, KS data: M. Perry, personal communication, July 13, 1996
Kansas and U.S. data: Bennefield, 1996

The survey was conducted to provide a reliable sample from the state, not individual counties, thus the small sample size from Douglas County, KS. Information from KDHE staff suggested that data from 1994 were probably a “fluke” and “the most accurate number is the combined four year figure of 15% for Douglas county” (M. Perry, personal communication, July 13, 1996). Based on Census data from 1990, the estimated number of uninsured, at 15%, would be 12,270 in Douglas County, KS. The number of individuals without health insurance in Kansas has remained essentially unchanged between 1993 and 1995. The national percent of uninsured has also remained proportionally stable between 1993 and 1995 but the number of uninsured Americans continues to grow, from 31.0 million in 1987 to 40.6 million in 1995 (Shearer, 1996, Bennefield, 1996). National statistics reveal that 30.2% of poor (11.0 million) Americans had no health insurance of any kind in 1995 (Bennefield, 1996). A recent national study by the American Hospital Association (AHA) (Sheils & Alecxih, 1996) also reports a continued rise in the number of uninsured. The AHA study found that the share of workers and their dependents with health insurance through an employer fell from 77.7% in 1990 to 73.9% in 1995, with an expected decline to 70.4% by 2002. A similar drop was noted between 1988 and 1993, in the percentage of non-elderly with employer-based health coverage decreasing from 67.0% to 61.1% (Shearer, 1996).

Need Component: Process Indicator

The final component to describe the population-at-risk is the need component. This refers to the cause or need for health services. The two indicators are perceived-need for services--such as perceived health status, symptoms, and illness--and evaluated-need, such as health provider ratings. For

this study, perceived-need data were collected using information from HCA reports. Need was assumed if a member of the community made an appointment with HCA for services. Need was also assumed for patients using the emergency room at LMH. Before HCA was established, a Task Force looked at the need for health care services for the medically indigent in Douglas County, KS. The following is a summary of some of their findings as reported in their Minutes from May 1988. Citing Census and Social and Rehabilitation Services Department data, a committee of the Task Force estimated that in 1986, 10,590 individuals in Douglas County, KS were at the Federal poverty level but did not meet the eligibility requirements for Medicaid. To assess if there was a perceived need for health care services, a survey of 220 low-income individuals was conducted. These individuals were Commodity recipients. They were asked to check on a survey form the number of instances a specific health need had occurred in the past year. The following results were noted:

- 519 - Medication Prescription
- 205 - Vision Problems, Glasses
- 144 - Hospital Emergency Room
- 310 - Check ups, Doctor's Office Visit
- 233 - Illness/Injury -Doctor's Office Visit

In the first full year HCA was open (1990) the agency reported 862 appointments (Clinic and pharmacy service report, 1991). In 1990 the clinic was run by volunteers and was not open five days a week. In 1995 HCA reported 4,237 total visits (KAMU, 1996). When asked how many clients considered HCA their primary health care provider, the director of HCA stated just over 4,000 (J. Eyerly, personal communication, March 24, 1995). Perceived need for health care was assumed if a member of the community made an appointment with HCA. The increasing need for services was demonstrated in the increased number of appointments made at HCA, as noted in HCA's service reports (Table 6). Need was also demonstrated in increasing services by the hospital as noted in the estimated cost for the services in HCA service report. The need for medications was noted in the rising cost from local pharmacies to purchase medications for HCA clients.

Table 6
HCA Service Report Summary 1989 to 1995

Year	Appointments				Expenses	
	Total Clinic	Unduplicated	Referral ^a	Dental	Hospital ^b	Pharmacy
1995	4237	1421	303	184	\$107,750.50	\$33,546.96
1994	4225	1454	267	296	\$100,262.96	\$24,867.42
1993	3746	1363	249	303	\$102,912.98	\$20,172.62
1992	2252	886	153	260	\$66,571.91	\$22,987.28
1991	1075	428	92	272	\$40,487.52	\$12,715.25
1990	862	NA	NA	257	\$14,163.59	\$9,988.55
1989	324	NA	NA	150	\$3603.13	\$2,583.95

^a Appointments made to a pediatrician or specialist physician

^b Hospital services - no direct money but funding provided as in kind services

Summary

The data indicate that Kansas health policy, HB 2019, did have an influence on the characteristics of the health care system in Douglas County, KS. Funding from HB 2019 enabled HCA to move from providing intermittent primary care services to an agency that offered consistent, full-time primary care services. At the conclusion of this study, grant money from HB 2019 provided the majority of funding for services provided at HCA. It was noted that other governmental support such as the City Commission, Housing Authority, and Health Department also influenced the development and maintenance of HCA. Non-governmental agencies and individuals were noted to influence services to the medically indigent at HCA, particularly the local hospital and volunteer health providers.

In the description of the characteristics of the medically indigent in Douglas County, KS, it was noted that the county had a higher rate of poverty than that of the State. Residents of the county had a higher level of education than the rest of the State and a greater percentage of individuals between the ages of 15 and 24 years. These differences are likely related to the fact that the University of Kansas is located in Douglas County, KS. The county was largely Caucasian (89%). Even with a low unemployment rate the percentage of individuals in Douglas County, KS without health insurance was higher than for the State. Fifteen percent of Douglas County, KS residents were uninsured compared to 10% statewide. In assessing the need for health services, a survey of Commodity recipients noted a need for prescription services and medical office visits. The need for services was best demonstrated by

the increasing number of visits made to HCA. In 1989 the agency had a total of 324 clinic appointments which rose to 4,237 in 1995.

The data presented suggest that funding from HB 2019 did influence the health care system and services to the medically indigent in Douglas County, KS. Although data were not collected directly from the medically indigent, aggregate data suggest that Douglas County, KS had a high rate of poverty, a low minority population, and a high number of individuals without health insurance. Within the Access Framework, characteristics of the population and the characteristics of the health care system may influence access or the individuals' entry into the system, but the confirmation of access occurs when individuals actually use the system. The following section will report the results from the Realized Access-Objective Indicators: ED utilization by the medically indigent at LMH and client satisfaction from HCA survey respondents.

Utilization: Realized Access

Emergency Department Use at LMH: Objective Indicator

A retrospective design was used to answer the following research questions: After HCA received State funding for primary health care services for the medically indigent, did emergency room visits by the uninsured decrease in Douglas County, KS? and What relationship does age, gender, race, geographic location, diagnosis, and type of provider have on emergency room utilization for the medically indigent in Douglas County, KS? Emergency Department (ED) reports from LMH were reviewed for dates before and after funding from HB 2019. Data were available only on microfilm for 1988 and 1990 and the number of visits for those years had to be manually tabulated. Computer reports were available for 1993 and 1995. Because of the limited availability of data in computer format, demographic information was collected only for the years 1993 and 1995.

Type of provider, geographic location of patient and patient diagnosis were not consistently available on those visiting the ED. Type of provider would have only yielded individual physician names because during the dates data were collected other providers, such as nurse practitioners or physician assistants, did not have admitting privileges and were not included as primary care providers on the ED admission forms. Geographic location was not collected because it was not accessible in the

computer report. A 1994 report noted that 51-75% of Douglas County, KS citizens remain in the County when they seek hospital care (KHA, 1995), suggesting that most but not all county residents sought care at LMH. The hospital did not maintain aggregate records of patient diagnosis on outpatient visits, including those to the emergency department. This information was available only through a private vendor whose data base did not include insurance status. Thus, patient diagnosis was not accessible for this study.

Data were collected on the total population of individuals that visited the ED at LMH by insurance status. Information was collected on how many ED visits were charged to the self-pay or uninsured category. Those with insurance included individuals with private insurance and governmental insurance such as Medicaid, Medicare or Champus. The results of those with and without insurance are shown in Table 7. The Chi-square test of association was calculated to determine the relationship between insurance status and visits to the LMH ED in the years before and after state funding to HCA. The stronger the calculated relationship, the less likely that the findings are a result of chance.

Chi-square showed a strong overall relationship between insurance status and ED visits by year and would rarely have occurred by chance. Because the data revealed a dramatic decrease in ED use by the uninsured between 1993 and 1995, the total number of visits by Medicaid insurance status was also analyzed to see whether that subgroup proportionally increased. As noted in Table 8, there was a strong association with ED visits of those with Medicaid insurance and those with other insurance, between 1988 and 1990 and between 1990 and 1993. The association between Medicaid insurance type and those with other insurance for the period between 1993 and 1995 was practically nonexistent. In those years in which there was a strong association, Medicaid recipients visited the ED proportionately more frequently than individuals with other types of insurance.

The relationship between the uninsured and Medicaid insured were also analyzed using the Chi-square test of association. The results show that between 1988 and 1990, there was a weak relationship between the uninsured and Medicaid insured visits to the ED. In the years between 1990 to

Table 7
Insurance Status by LMH ED Visits for Years: 1988, 1990, 1993, & 1995

Insurance Status	Financial Class		1988 (No HCA)	1990 ^a (HCA Limited Services)	1993 ^b (HCA with KDHE funding)	1995 ^c (HCA with KDHE funding)
Uninsured	Self Pay	N (%)	2,807 (22.0%)	4,098 (25.7%)	4,378 (25.6%)	2,678 (14.2%)
	Insured Medicaid	N (%)	855 (6.7%)	1,241 (7.8%)	1,900 (11.1%)	2,560 (13.6%)
	Other Insured	N (%)	9,071 (71.2%)	10,623 (66.6%)	10,826 (63.3%)	13,608 (72.2%)
Insured		N (%)	9,926 (78%)	11,864 (74.3%)	12,726 (74.4%)	16,168 (85.8%)
Total		N (%)	12,733 (99.9%)	15,962 (100%)	17,104 (100%)	18,846 (100%)

Uninsured and Insured ED visits in:

^a 1988 to 1990.: $\chi^2 = 80.59$; $p < .001$

^b 1990 to 1993.: $\chi^2 = 00.08$; $p > .99$

^c 1993 to 1995.: $\chi^2 = 743.50$; $p < .001$

Uninsured and Medicaid ED visits in::

^a 1988 to 1990.: $\chi^2 = 0.03$; $p > .99$

^b 1990 to 1993.: $\chi^2 = 123.91$; $p < .001$

^c 1993 to 1995.: $\chi^2 = 381.45$; $p < .001$

Other Insured and Medicaid ED visits in::

^a 1988 to 1990.: $\chi^2 = 22.47$; $p < .001$

^b 1990 to 1993.: $\chi^2 = 69.37$; $p < .001$

^c 1993 to 1995.: $\chi^2 = 4.41$; $p = .225$

1993 and 1993 to 1995, there were strong relationships between uninsured ED visits and Medicaid visits. During both of these periods, proportionate use of the ED by the uninsured decreased and visits by Medicaid recipients increased proportionately.

The information that uninsured visits to the ED decreased both absolutely and proportionally in 1995 and that Medicaid visits had not risen much from 1993 to 1995 was shared with an experienced nurse at LMH ED who had also been LMH's nurse manager. The nurse stated that she had not noticed a change in visits in either the uninsured or Medicaid patients (Rockhold, K. personal communication, July 31, 1996). When asked why she thought those changes had occurred, she wondered if the new urgent center (PromptCare) may have made a difference. The other suggestion was that Health Care Access may have influenced a decrease in ED visits from the uninsured. Due to changes in Medicaid regulations after 1993 all Medicaid patients now have to get prior authorization from their primary care physician for a referral to the ED and the nurse thought this may have influenced Medicaid ED visits. The nurse made it very clear that there were no hospital policy changes in the last couple of years that would have influenced visits by the uninsured or Medicaid recipients.

To evaluate the possible influence the new urgent care centers had on ED utilization, the centers were contacted to determine the amount of care they had provided to the uninsured in Douglas County, KS. The manager at FirstMed, one of the urgent centers started in 1993, stated that their center saw very few uninsured patients (Bartels, July, 12, 1996, personal communication). The nurse manager of PromptCare was able to provide very specific information about the uninsured patient visits compared to insured patient visits at PromptCare in 1995 and 1996. The results are noted in Table 8.

Table 8
Total PromptCare Total Visits and the Uninsured Visits for 1995 and 1996

	1995 (full year)	1996 (6 months)
Total uninsured (self-pay)	1159	575
Total visits	4678	2728

D. Guinn, July 24, 1996, personal communication

Since PromptCare was not in existence in 1993, it would not have influenced LMH ED utilization that year. To see if PromptCare visits might have affected ED utilization rates in 1995, data from LMH were re-analyzed in two ways. First, a hypothetical assumption was made that all patients at PromptCare, regardless of insurance status, would have used LMH ED in 1995 if PromptCare had not been in existence. Based on this assumption total visits at PromptCare were added to the appropriate insured and uninsured categories for LMH ED visits in 1995. With these new totals for 1995 a chi-square test of association between insurance status and adjusted number of visits in 1993 and 1995 was still stronger: $\chi^2 = 528.71$; $p < .001$. Secondly, a hypothetical assumption was made that only the uninsured patients at PromptCare would have used LMH ED in 1995 if PromptCare had not been in existence and insured patients would have used local physicians. Based on this assumption only the uninsured were added to 1995 LMH ED visits. Comparisons between 1993 and 1995 visits still showed a strong association between ED visits and insurance status ($\chi^2 = 219.33$; $p < .001$). Based on either of the above two hypothetical situations between 1993 and 1995, the insured were still more likely to proportionately visit the ED than the uninsured.

Summary

In 1988, before HCA was established, the uninsured visited the ED proportionately more frequently than the insured. The data show that within three years after HCA received state funding, uninsured visits to the ED decreased by 63% while insured visits continued to increase. Prior to HCA's establishment, visits by the uninsured to the ED had risen proportionately faster than insured visits. After the establishment of HCA and before receiving state funding, the proportionate rises in ED visits by the uninsured and insured were similar (7% and 7%). This was during the time period that HCA provided limited services. In 1995 PromptCare saw a large number of uninsured patients but not enough to completely account for the large drop of uninsured visits to LMH ED from 1993 to 1995.

Demographic Data and ED Use

Data were collected to assess the relationship between emergency room use by year and demographic characteristics. Information on age, gender, race, marital status, insurance status and ED use is provided in Tables 9-12. Due to missing data in each table, not all categories equal the total in the

insured or uninsured category. In both 1993 and 1995, proportionately more uninsured males visited the ED than uninsured females and proportionately more insured females visited the ED than insured males (Table 9).

Table 9
ED Visits by Insurance Status and Gender, 1993 and 1995

Gender	Insurance Status	Male Number (percent)	Female Number (percent)
1993	Insured	6247 (49.1%)	6479 (50.9%)
	Uninsured	2351 (53.7%)	2027 (46.3%)
1995	Insured	8509 (52.7%)	7643 (47.3%)
	Uninsured	1504 (56.2%)	1174 (43.8%)
1990 Census ^a		50.2%	49.8%

^a Douglas County, KS, KS, U.S. Census 1990

The data show that a higher percent of uninsured Blacks, Asian/Oriental, and Hispanics visited the ED in both 1993 and 1995 than insured in those racial/ethnic categories (Table 10). In both 1993 and 1995 the percent of insured and uninsured Blacks who visited the ED was greater than the percent of Blacks in the general population. This was not true for any other racial category except for insured Native Americans in 1993 and 1995.

The uninsured between the ages of 15 and 44 used the ED proportionately more frequently than the insured and general population within that age group (Table 11). The insured elderly over the age of 64 years used the ED proportionally more frequently than the total population over the age of 64 years. There were fewer ED visits by the uninsured elderly than insured elderly. The largest percent of ED visits was made by individuals who were uninsured and single. Insured, married individuals visited the ED more frequently than uninsured married individuals (Table 12).

Table 10
ED Visits by Insurance Status and Race, 1993 and 1995

Year		White	Black	Indian	Asian/ Oriental	Hispanic	Others
1993	Insured	11280 (88.7%)	853 (6.7%)	391 (3.1%)	91 (0.7%)	74 (0.6%)	30 (0.2%)
	Uninsured	3672 (83.9%)	442 (10.1%)	81 (1.9%)	98 (2.2%)	45 (1.0%)	40 (0.9%)
1995	Insured	14169 (87.7%)	1109 (6.9%)	558 (3.5%)	159 (1.0%)	126 (0.8%)	44 (0.3%)
	Uninsured	2273 (84.9%)	254 (9.5%)	45 (1.7%)	58 (2.2%)	34 (1.3%)	13 (0.5%)
1990 Census ^a		89.1%	4.1%	2.6%	3.2%	2.6%	1.0%

^a Douglas County, KS, KS, U.S. Census 1990

Table 11
ED Visits by Insurance Status and Age, 1993 and 1995

Year		Under 1 yr.	1 to 5	6 to 14	15 to 24	25 to 44	45 to 64	65 to 74	75 & over
1993	Insured	293 (2.3%)	1202 (9.4%)	1102 (8.7%)	2499 (19.6%)	3321 (26.1%)	1684 (13.2%)	991 (7.8%)	1634 (12.8%)
	Uninsured	70 (1.6%)	254 (5.8%)	332 (7.6%)	1825 (41.7%)	1439 (32.9%)	403 (9.2%)	26 (0.6%)	29 (0.7%)
1995	Insured	452 (2.8%)	1366 (8.5%)	1275 (7.9%)	3529 (21.8%)	4322 (26.8%)	2145 (13.3%)	1531 (9.5%)	1534 (9.5%)
	Uninsured	45 (1.7%)	126 (4.7%)	122 (4.6%)	1063 (39.7%)	1064 (39.7%)	403 (9.2%)	15 (0.6%)	11 (0.4%)
1990 Census ^a		1.1%	6.4%	10.1%	30.9%	30.6%	12.8%	4.4%	3.7%

^a Douglas County, KS, KS, U.S. Census 1990

Table 12
ED Use by Insurance Status and Marital Status, 1993 and 1995

Marital Status		Married	Single	Divorced	Widow
1993	Insured	4554 (35.9%)	6431 (50.7%)	495 (3.9%)	1192 (9.4%)
	Uninsured	961 (22.2%)	3145 (72.7%)	737 (4.6%)	36 (0.8%)
1995	Insured	5155 (32.0%)	6431 (50.7%)	737 (4.6%)	1478 (9.2%)
	Uninsured	562 (21.1%)	1959 (73.4%)	128 (4.8%)	20 (0.7%)

Summary

Lawrence Memorial Hospital ED data for 1993 and 1995 suggest that single, Caucasian, male patients between the ages of 15 and 44 made proportionately more of uninsured ED visits than individuals in other demographic categories. Uninsured minorities visited the ED proportionately more frequently than the general population of minorities except for Native Americans. Insured Native Americans visited the ED proportionately more frequently than the general population of Native Americans.

Consumer Satisfaction: Realized Access

Patient Satisfaction with Health Care Provider Scale - Subjective Indicator

The Subjective Indicator of consumer satisfaction refers to an individual's attitudes toward the health system utilized. This outcome measurement provides a subjective evaluation of the individual's experience with the health system used. For this study, an adaptation of the Patient Satisfaction with Health Care Provider Scale (PSHCPS) (Marsh, 1996) was used to answer the research question: What was the level of client satisfaction with HCA's services? The adapted PSHCPS had 23 questions with subscales in the areas of Access, Humaneness, Quality and General Satisfaction. One hundred-fifty-nine subjects completed the survey. One was discarded because the individual did not live in Douglas County, KS.

Inter-item reliability for the questions was found to be adequate with a Cronbach's alpha of .91 for the total scale. Internal consistency for the subscales was adequate for Humaneness (.85), Quality (.78), General Satisfaction (.88) and low for Access (.67).

Sample Characteristics

Demographic characteristics of HCA survey respondents are outlined in Table 13. Comparison data for HCA clients and the 1990 Douglas County, KS census are included where available. During the data collection period--April 22 to July 22, 1996--there were 406 unduplicated visits by adults 18 years of age or older and 159 subjects completed the survey for a response rate of 39%.

During the data collection period an attempt was made to collect demographic data on HCA clients who did not complete the survey. Due to changes in the administrative staff at HCA, only gender and race data were obtained for non-respondents for the dates between April 22 and June 26, 1996. Survey data collection continued until July 22, 1996. Demographic data for gender, race and age were obtained for HCA clients during 1995. In comparing survey respondents and HCA clients, data revealed that proportionally fewer males completed the survey than visited HCA either during the data collection period or in all of 1995. The percent of survey respondents in the 35 to 44 year age range (26%) was proportionately the same as for that age group in the population. There were only slight proportional differences for those 18 to 34 years of age (50% compared to 44%) and 45 years of age and older (24% compared to 30%). The proportional percent in all racial categories for HCA survey respondents and all HCA clients in 1995 were similar except for the classification of Hispanic and Other. Hispanic was listed as a separate question from race in the PSHCPS but in HCA reports it is included as one of the discrete categories for race, thus it was difficult to compare the survey group and HCA 1995 clients on Hispanic characteristics. Given the available information, those completing the survey were reasonably similar to clients that visited HCA.

Table 13
Demographic Characteristics: HCA Survey Respondents and HCA clients. 1990 Census

Characteristics	Survey Respondents Percent (n)	HCA Patients ^a 4/26 to 6/26 1996 Percent (n)	HCA Patients 1995 Percent (n)	Douglas County 1990 census
Gender	Valid n=153			
Male	22.9% (35)	35% (118)	42% (566)	49.8%
Female	77.1% (118)	65% (215)	58% (776)	50.2%
Race^b	Valid n=153			
Asian/Oriental	0.0% (0)	2.1% (7)	3% (45)	3.2%
Black	9.2% (14)	9.7% (32)	9% (123)	4.2%
Native Amer.	0.7% (1)	0.6% (2)	0.4% (6)	2.6%
White	81.0% (124)	81.8% (270)	79% (1062)	89.1%
Other	9.2% (14)	2.1% (7)	2% (48)	1.0%
Hispanic ^c	8.2% (12)	3.6% (12)	3.6% (48)	2.6%
Age^d	Valid n=146			
18-34 yrs.	50.0% (73)		44% (1458)	
35-44 yrs.	26.0% (38)		26% (844)	
45+ yrs.	24.0% (35)		30% (985)	
Marital Status	Valid n=153			
Married	20.3% (31)			
Widowed	3.3% (5)			
Separated	7.8% (12)			
Divorced	27.5% (42)			
Never Married	40.5% (62)			
Education	Valid n=157			
Some high school or less	22.89% (36)			11.1%
H.S. grad. to some college	58.6% (92)			50.2%
College graduate or more	18.5% (29)			38.4%
Income	Valid n=154			
< \$9,999	66.9% (103)			
\$10,000-\$19,999	30.5% (47)			
\$20,000-\$39,999	2.6% (4)			
Employment	Valid n=156			
Full-time	26.9% (42)			
Part-time	29.5% (46)			
Unemployed	34.6% (54)			
Retired	1.9% (3)			
Other	7.0% (11)			
Zip Code	Valid n=153			
66006 (Baldwin City)	2.6% (4)			
66025 (Eudora)	4.6% (7)			
66044 (NE Lawrence)	58.8% (90)			
66046 (SE Lawrence)	22.2% (34)			
66047 (SW Lawrence)	6.5% (10)			
66049 (NW Lawrence)	5.2% (8)			

Total of 158 respondents

^a HCA data from patients NOT completing the survey during the data collection phase (April 22 - June 26), based on non-duplicated visits of clients 18 years and older.

^b Not discrete categories. "Hispanic" is a separate question from Race on survey instrument, but discrete in HCA report: "Other" includes mixed racial background.

^c Hispanic origin is a separate question from race on the survey (Valid n=147. 91.8%, n=135 as non-Hispanic)

^d Age data from all HCA clients 18 yrs. of age and older in 1995- include duplicate visits. HCA clients under 18 yrs. of age were not included in the data. Gender and race 1995 data are based on unduplicated visits not total number of appointments.

The nurse practitioner was the primary provider for the majority (74.7%, n=118) of those completing the survey at the time of their visit to HCA. Other providers included physicians (13.3%, n=21), physician assistants (8.2%, n=13) and registered nurses (3.8%, n=6). Visits by type of provider were similar to 1995 HCA data: nurse practitioner/physician assistant, 74% (n=2916); physician, 15% (n=573); and other-registered nurse, 11% (n=442). The data from HCA 1995 are based on total number of visits, not unduplicated visits, and separate data for visits to the nurse practitioner and physician assistant were not available from HCA.

Of the survey respondents, the greatest percent was White and female. Proportionately more Blacks visited HCA than the percent of Blacks in the general population. Most of the research participants were young 18 to 34 years of age and single, either divorced or never married. Proportionately more individuals using HCA did not have a high school education than in the general population. Over 95% (n=150) of survey respondents had an annual income of less than \$20,000 and over 55% (n=88) worked either full-time or part-time. To meet the research requirements, all the survey respondents lived in Douglas County, KS but 81% (n=124) lived in the east section of the city of Lawrence (zip codes 66044 and 66046). From Census data it was noted that residents in the east section of town account for 55.8% of Douglas County, KS residents over 18 years of age who are at or below the Federal poverty level (U.S. Census, 1990).

Satisfaction Scores

The total mean score of 4.2 reveals that HCA clients who completed the Patient Satisfaction with Health Care Provider Scale (PSHCPS) (Marsh, 1996) were satisfied with the services provided at HCA (Table 14). Item scores ranged from five to one to indicate the respondents agreement with satisfaction. Strong agreement with satisfaction was rated five and strong disagreement was rated one. The higher the mean the higher the level of satisfaction. The subscale means were consistent with the total score, with the access subscale having the lowest score or lowest level of satisfaction. The subscale scores were: Humaneness - 4.6, General Satisfaction - 4.2, Quality - 4.2, and Access - 3.9 (Table 14). Only six questions had a mean score under four, four of the questions were in the Access

Table 14
Descriptive Statistics of Total and Subscales for HCA PSHCPS Respondents

Subscale and Total Scale	Mean	Std Deviation	Valid n	Variance	Sum	Skewness	Range Min./Max
Access	3.9	0.60	155	0.36	609.3	-.288	2.2/5
Humaneness	4.6	0.49	157	0.24	717.3	-.961	3.0/5
Quality	4.2	0.62	154	0.38	640.8	-.373	2.5/5
Gen. Satisfaction	4.2	0.72	154	0.52	652.4	-.883	2.0/5
Total Score	4.2	0.51	155	0.26	652.7	-.552	2.6/5

subscale. Of these six questions only one had a mean less than 3.5. Those that were dissatisfied (19.3%, n=30) thought the clinic should be open for more hours. The other Access subscale questions that had means less than 4.0 related to (a) the difficulty of getting an immediate appointment (14.0% [n=22] were dissatisfied), (b) feeling that they had to pay for more health care than they could afford (14.9% [n=23] were dissatisfied) and (c) feeling that they did not live a convenient distance from the clinic (21.3% [n=33] were dissatisfied). The one quality item with a mean less than 4.0 related to health promotion. Dissatisfied respondents (20.6%, n=32) did not think their health care provider asked about the foods they ate or explained what foods would be best for them. The general satisfaction question that asked if the care that they received from their provider could be better, had a mean of 3.9 but a low percent of dissatisfaction (8.5%, n=13). Just over 17% (n=26) of respondents answered "not sure" to this question. Although the mean was 4.0, 13.6% (n=21) of respondents stated that finding transportation was a problem. All the remaining questions had a dissatisfaction rate of less than six percent. The item means of the satisfaction scores are illustrated in Table 15. The specific questions can be found in Appendix B.

Table 15
Descriptive Statistics of PSHCPS Items for HCA Respondents

Item number	Item Mean	Std Deviation	Valid n	Variance
Access item 1	4.4	0.78	158	0.61
Access item 2	3.9	1.11	157	1.24
Access item 19	4.0	1.07	155	1.14
Access item 20	4.1	0.96	155	0.92
Access item 21	3.8	1.16	155	1.36
Access item 22	3.9	1.13	154	1.29
Access item 23	3.4	1.05	155	1.11
Humaneness item 3	4.5	0.58	158	0.34
Humaneness item 4	4.7	0.51	158	0.26
Humaneness item 5	4.5	0.73	157	0.53
Humaneness item 6	4.6	0.75	156	0.57
Humaneness item 7	4.6	0.62	156	0.39
Humaneness item 8	4.5	0.71	157	0.51
Quality item 9	4.4	0.80	156	0.63
Quality item 10	4.1	0.95	155	0.90
Quality item 11	4.3	0.72	148	0.51
Quality item 12	3.7	1.14	155	1.29
Quality item 13	4.3	0.85	155	0.72
Quality item 14	4.2	0.87	155	0.75
Gen. Satisfaction item 15	4.6	0.67	154	0.45
Gen. Satisfaction item 16	4.3	0.84	154	0.70
Gen. Satisfaction item 17	4.1	0.86	155	0.73
Gen. Satisfaction item 18	3.9	0.96	152	0.91

The responses to the open-ended question were varied for dissatisfied respondents. Of the thirteen subjects who checked that they were dissatisfied in question 18 (things from their provider could be better), six made no specific comment, two mentioned the good services they received. (“HCA is a real good clinic, they are very caring and do a lot for people in need” and “the services are good and the people are very friendly”) and the remaining five talked about the good but limited services available. A few examples included: “I think the services are great as they exist but would like to see it expand to allergist...”; “it would be nice to see an MD [who is] a little more available”; “...they are doing the best possible job they can considering the limitations they probably have...”; and “they are

limited on the treatment and tests they can give you because of limited funds, so sometimes your problems don't get checked out as thoroughly as they should."

Almost 15% were dissatisfied with the cost of their care at HCA even though HCA does not turn clients away if they are unable to pay. When looking at the open-ended responses from these subjects the comments were generally positive toward HCA. Some talked about cost, but as it related to the health care system as a whole, not to HCA specifically. For example: "Health care for myself wasn't affordable until Health Care Access came to town. Now I can be treated without worrying about where I will come up with the money"; "I am unemployed, have no insurance and no other place will have anything to do with me because their only concern is money, not my health..."; and " I couldn't afford to (go anywhere else) I think they could help more people out by enlarging."

In responding to the open-ended questions in the survey over 60 subjects stated they either were unsure or didn't know where they would go for care if HCA were to close. Almost a quarter (n=36) stated that they would go nowhere if HCA closed. These individuals commented that they could not afford to go anywhere else. Of those who said they would go nowhere for care, eight of them stated they would go nowhere except for an emergency. An additional eight individuals responded to this question by stating they would use the emergency room or hospital if HCA closed. A few individuals stated they would go to a physician (n = 6), health department (n = 6), or urgent health center (n = 4).

The written remarks to the open-ended question: Do you have any additional comments about the services provided at the clinic, were consistent with the high level of satisfaction scores on the PSHCPS. Sample comments included:

- Everyone was very nice. I appreciated the fact that they took the time to listen to my problem, without my feeling that I was wasting their time.
- I believe it [HCA] has been a blessing for the community
- The practitioner nurse is wonderful. It's a surprise to be treated with respect here - because normally when you go to some public health facilities they have the tendency to treat you like dirt.

- We have always gotten great, friendly service and care here. I just regret we don't have more money to give the clinic at this time.
- They provide excellent care and treat me with respect.
- I feel comfortable here. More so than any other doctor's office.
- Very good examination considering my difficult history and multiple problems.

The comments support the total mean of high satisfaction from survey respondents. HCA respondents stated that they were treated with respect, friendless, received good care and competent services. There were very few comments related to dissatisfaction with cost as noted above. Most comments related to the need for expanded services. Many respondents stated they did not know where they would get care other than HCA because they could not afford other services.

Summary

The PSHCPS scores revealed HCA clients surveyed had a high level of overall satisfaction. Only six questions had dissatisfaction rates over 10% and all but one of these were questions related to access. The non-access question related to the provider asking about the types of food the client ate. Dissatisfaction on items related to access included: convenient distance (21.3%, n=33), number of hours open (19.3%, n=30), affordability (14.9%, n=23), difficulty in getting an appointment (14.0%, n=22), and transportation (13.6%, n=21). Responses to the open-ended questions suggest problems with affordability related to the general health care system (not just HCA) and the need for expanded services. Responses to the open-ended questions also noted that most of the clients would go nowhere or did not know where they would go for health care services should HCA close. The responses to the open-ended questions also verified subjects were very satisfied with the services they received at HCA.

CHAPTER VI

SUMMARY AND DISCUSSION

Introduction

Access to health care is a significant problem for the 40 to 53 million Americans who lack health insurance (Davis, et al., 1995; Shearer, 1996; United Way Strategic Institute, 1992). The uninsured poor are less likely to have a regular source of care; moreover, their health perception and health status are poorer than those of higher economic status (Cornelius, et al., 1991; Pappas, et al., 1993; Robert Wood Johnson Foundation, 1991).

Many states have begun to initiate programs to increase access to health care to assist their medically indigent citizens. In 1991, the state of Kansas enacted a law to establish primary care services for the medically indigent (State of Kansas, 1991) and in 1992, Health Care Access, Inc. (HCA), a voluntary, non-profit organization established to meet the needs of the medically indigent in Douglas County, KS received funding provided by this law. The purpose of this research study was to determine whether the law establishing primary care services for the medically indigent influenced access to health care for the medically indigent in Douglas County, KS. This study is significant for several reasons. First, little research has been conducted on clinics such as HCA and their influence on access to health care. Second, in the era of accountability and downsizing of government services, state funding initiatives ought to be evaluated to assess their effectiveness. Finally, this study will be able to assist legislators in evaluating the influence of state policy and the need to maintain or change current statutes or regulations.

Aday's et al. (1980) framework on access guided this quantitative descriptive study. Different methodological sub-components were used to answer the research questions. A descriptive design was used to gather information on the characteristics of the health care system and the medically indigent in Douglas County, KS. A retrospective design was used to assess utilization of ED visits by the medically indigent at LMH and a descriptive cross sectional survey design was used to explore client satisfaction with HCA clients. A summary of the major findings will be discussed in relation to the original research questions.

Research Question #1

The first research question in this study asked: What influence did Kansas health policy HB 2019 have on the characteristics of the health care system in Douglas County, KS? The descriptive findings from this study clearly show that HB 2019 did influence the characteristics of the health care system in Douglas County, KS. An organization to meet the needs of the medically indigent, Health Care Access (HCA), had been established before HB 2019 funding; however, the services of HCA were intermittent and limited. After Douglas County, KS, through HCA, received funding from HB 2019 there was a dramatic change in the services offered. State funding from HB 2019 allowed HCA to hire a full-time nurse practitioner. This enabled the clinic to expand its hours of service and provide continuity of care to clients through a stable health care provider. This funding policy influenced the health care system through HCA, the only primary health care organization in the county that served the medically indigent, by providing over 60% of HCA's income, thus allowing expansion of services.

It is important to note that from the descriptive data of the health care system that State funding to HCA was necessary to render a major impact on the HCA, but not sufficient. State funding was necessary in that without state funding HCA would not have been able to provide consistent, full-time primary health care services. It was not sufficient in that other funding sources, organizations and individuals were also required for HCA to exist and function. For example the City Commission and Housing Authority provided space for HCA to provide services. Additional funding provided by individuals, local organizations and volunteers, especially physicians, nurses and dentists, was an integral part of the services of HCA.

In the Access Framework (Aday et al., 1980) entry is an important component of organization (what a system does with its resources) within the health care system. Descriptive data showed that availability of services through HCA increased entry into the health care system for the medically indigent. Medically indigent was narrowly defined in this study as individuals who were not covered by private or governmental health insurance. For individuals who were poor and uninsured, HCA provided an entry into the health care system that did not exist before its establishment.

The descriptive data provide a picture of a changed health care system after state funding from HB 2019 was received by HCA. Increased numbers of uninsured individuals received primary care health care services provided by a stable, consistent health care provider who was financially supported by state funding.

Research Question #2

Secondary data sources were used to answer the research question: What are the characteristics of the medically indigent in Douglas County, KS? In this study, limited data were found on the actual numbers of uninsured in Douglas County, KS. Data from the Kansas Department of Health and Environment (KDHE) suggested that 15% of Douglas County, KS residents were uninsured. Based on state and national data the number of uninsured for the state of Kansas ranged from 10% to 15% (KDHE, 1995; Posey, 1995, Bennefield, 1996).

Previous research suggests that less educated, poor or near poor, young adults, minorities and those who work for businesses with fewer than 25 employees are more likely to be uninsured (Aday et al., 1980; Bennefield, 1996; Center for Health Economic Research, 1993; Millman, 1993; Posey, 1995; President's Commission, 1983a). In Douglas County, KS young adults between the ages of 15 and 24 made up over 30% of the population, compared to 14.2% for Kansas. Racial data for Douglas County, KS were similar to that of the state of Kansas; 89.1% of the population were White and less than five percent were either Black or Native American. Over 10% of Douglas County, KS residents were not high school graduates. Although the county had a low unemployment rate (3.2%), the majority of non-governmental businesses in the county employed fewer than 20 employees (1,885 out of 2,154) (KDHE, 1995; KS State, 1996). Not only are employees who work for small business more likely to be uninsured but they also are more likely to have a lower income. The high number of small employers may explain why the county had a low unemployment rate but a high poverty rate, 37.0% at 200 % of the Federal poverty level (KDHE, 1994).

The need for services by the medically indigent was demonstrated by the increasing number of visits to Health Care Access (HCA). The number of visits rose from 324 in 1989, the first year the clinic was open, to 4,237 in 1995. The need for services was also supported by survey respondents who

used HCA. Over 60% (n=96) of HCA clients surveyed stated in an open-ended question that they either were not sure where they would go for health care services if HCA did not exist or they would go nowhere for care. Several of those who stated they would go nowhere said it was because they could not afford health care services other than HCA. The need for services to the medically indigent was also demonstrated with the official designation of Douglas County, KS as a primary medical care health professional shortage area (HPSA) and the city of Lawrence designation as a medically underserved population (MUP). Both of these designations were based on the lack of providers caring for low-income clients and the number of low-income individuals in the community.

In summary, the aggregate data suggest that Douglas County, KS had a high rate of poverty, a large number of young adults, and a large number of businesses with fewer than 25 employees. Each of these are indicators that have been found in previous research studies to increase the frequency of individuals without health insurance.

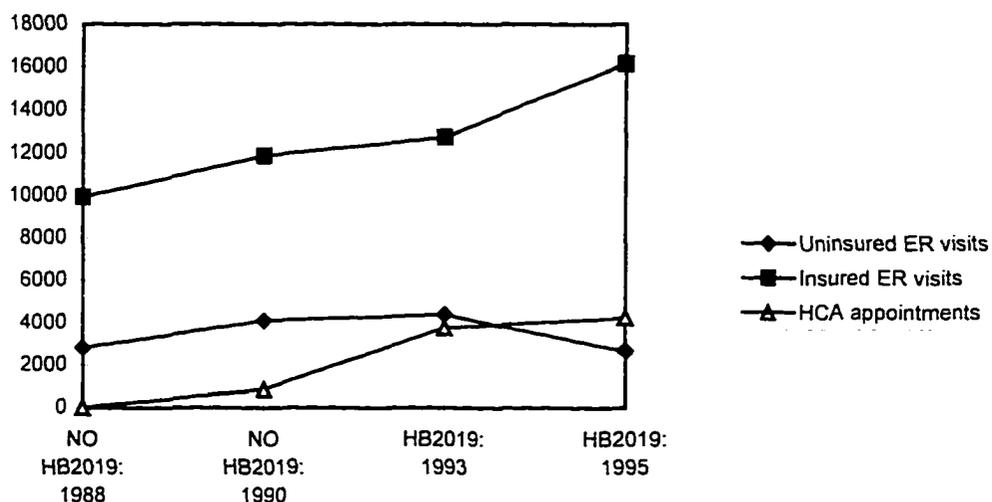
Research Question #3

A retrospective research design was used to answer the question: After HCA received State funding for primary health care services for the medically indigent, did emergency room visits by the uninsured decrease in Douglas County, KS? The data from LMH ED revealed that between 1988 and 1990, before HCA began receiving state funding, the uninsured were proportionately more likely than the insured to visit the ED ($\chi^2 = 80.59, p < .001$). This is consistent with previous research that indicates the uninsured used the ED more frequently than the insured (Haddy et al., 1987; Grumbach et al., 1993; Pane et al., 1991; Wood et al., 1990). Before April 1992, HCA was providing intermittent services by volunteer providers. State funding was received in April 1992 and a full-time nurse practitioner was hired providing a stable health care provider. Thus, 1993 was the first full year that state funding was available to HCA. Between 1990 and 1993 there was only a weak association between those with and those without insurance and ED visits ($\chi^2 = 0.08, p > .99$). HCA continued to receive state funding in 1993 and 1995 and offered the services of a stable health care provider. Between 1993 and 1995 there was a dramatic drop (4,378 to 2,678) in ED visits by the uninsured. A chi-square test of association revealed a strong relationship between ED visits by insurance status, with

the insured having a proportionately higher visit rate ($\chi^2 = 743.50, p < .001$). The data revealed no association by insurance status and ED visits between 1990 and 1993. The finding that the insured used the ED proportionately more frequently than the uninsured between 1993 and 1995 conflicts with previous research that suggested that the uninsured utilized the ED more frequently than the insured.

Based on the population of ED visit data for 1988, 1990, 1993 and 1995, ED visits by the uninsured did decrease after state funding from HB 2019 was received in Douglas County, KS. Although findings cannot specify that the state funding was the sole cause of this decrease, the descriptive data do suggest that funding had an influence. This is obvious in Figure 2, which shows client appointments at HCA increased every year since its establishment, and ER/ED visits by the uninsured decreased. Instead of using the ED for their care the uninsured now had primary care services available

Figure 2
Total LMH ER Visits and HCA Appointments, by year: Before & After HB 2019



through HCA. Thus, the decrease in ED use appears to have been influenced by the establishment of HCA and therefore influenced by state funding. Other factors that may have influenced the number of ED visits are: a) a decrease in the number of uninsured, b) the uninsured visited a health provider/institution other than the ED for services, or c) there were policy changes that influenced the

number of visits made to the ED by the uninsured. Each of these factor's influence on ED visits by the uninsured will be explored in the following paragraphs.

There were no data to suggest that the numbers of uninsured decreased between 1990 and 1995 when ED visits by the uninsured stabilized and then decreased at LMH. State and national data show that the number of uninsured has been steadily rising since 1987 (M. Galbraith, personal communication, September 3, 1996; Posey, 1995; Shearer, 1996, Bennefield, 1996). Even with a low unemployment rate in the county, national data reveal that fewer employers are providing health insurance to their employees (Sheils & Alecxih, 1996). A recent report from the American Hospital Association found that in 1989 61.4% of persons had employer health coverage and by 1995 that number had dropped to 56.6% (Sheils & Alecxih, 1996). During the same time period that uninsured visits to the ED dropped, 1993 to 1995, the county was designated a HPSA and the city of Lawrence a MUP, indicating a need for health care services for low-income individuals. During the time period that ED visits by the uninsured were decreasing, visits to HCA were increasing. Data from LMH ED show that, although well below national rates, visit rates to LMH ED were fairly constant from 1990 to 1995 (Table 16). The increased numbers of ED visits rose consistently with the growing population in the county between 1990 and 1995, indicating the need for ED visits remained the same. Between 1993 and 1995 uninsured ED visits decreased but insured visits to the ED increased suggesting more individuals may have obtained health insurance. This is possible but as stated earlier the rates of uninsured have not been decreasing. A more likely explanation maybe found in a recent national study conducted on ambulatory ED patients (Young, Wagner, Kellermann, Elis & Bouley, 1996). This cross-sectional survey found that 65% of the patients interviewed cited barriers to care elsewhere as a factor in their decision to seek care in the ED. Examples of barriers included they were not able to get to a doctor's appointment when they needed to and they were not able to get off work. Over 75% of the patients interviewed reported having health insurance. It is unlikely that the decrease in LMH ED visits by the uninsured was caused by a drop in uninsured individuals.

Table 16
ED Visits per 100 Population in Douglas County, KS & United States: 1988-1995

Year	Population ^a (N)	Total ED Visits ^a (N)	ED Visits per 100 persons	
			Douglas County, KS	United States
1988	78,779	12,733	16	N/A
1990	81,789	15,962	20	38
1993	86,067	17,104	20	39
1995	88,206	18,846	21	40

Note: National ED rate: American Hospital Association (personal communication, September 23, 1996)

^aDouglas County, KS

A second factor that may have influenced the drop in uninsured ED visits may have been that the uninsured visited a health provider or agency other than the ED for health care services. In 1994, a new urgent center was established, raising the question whether the drop in uninsured ED visits may have been influenced by this new center. Analysis of the data did not support this possibility. If all of the urgent center's uninsured clients in 1995 were added to the ED numbers, there was still a sizable drop (4,378 to 3,837) in ED visits by the uninsured ($\chi^2 = 219.33$; $p < .01$). Another possible influence on the drop in uninsured ED visits may have been the uninsured utilized other health providers, either in the community or in another county. Although this is a possibility it does not seem to be a likely explanation. Previous research suggests that the uninsured have difficulty affording traditional health providers and transportation to a facility outside the county could have been a problem.

During the time period in which ED visits by the uninsured decreased, no local, state or national policies were noted that would have decreased the number of uninsured. Further, no changes in LMH policies were noted to influence the number of ED visits by the uninsured. Given the descriptive data provided, the mostly likely influence on decreased ED visits of the uninsured at LMH appears to have been the increased services provided by HCA, which were funded through Kansas state policy HB 2019. Making conservative cost estimates, using the drop in uninsured visits to the ED minus the number of uninsured who visited the urgent center ($n=541$) and an estimated minimum ED visit rate of \$100 the possible savings to LMH may have been \$54,100. If a quarter of this number were provided

primary care at HCA that prevented hospitalizations, based on KHA (1995) financial data of an average hospital stay of 7.4 days at a cost of \$690/day, it would have been a cost savings of more than \$600,000.

Research Question #4

Data from the LMH ED population were collected in 1993 and 1995 to assess what relationship age, gender, marital status and race had on emergency room utilization for the medically indigent in Douglas County, KS. Although the overall relationships were weak, interesting trends emerged. According to these data, uninsured males visited the ED proportionately more frequently than uninsured females. Demographic information revealed that the majority of those who visited the ED, both the insured and uninsured, were White, which is consistent with county demographics. Uninsured minorities, with the exception of Native Americans, visited the ED proportionately more frequently than insured minorities. The percent of Blacks, both insured (6.9%, N=1109) and uninsured (9.5%, N=254), who visited the ED was higher than the percent of Blacks in the general population (4.1%). This finding is consistent with previous research that found that Blacks and other non-White racial groups have higher ED utilization rates than Whites (Fleming & Andersen, 1986; McCaig, 1994; Stussman, 1996; Wood et al., 1990). The finding that the percent of uninsured Native Americans (1.7%, N=45) who visited the ED was less than the percent of Native Americans in the general population (2.6%) may be related to the availability of a Public Health Service clinic in the county that serves only Native Americans.

Consistent with previous research, uninsured young adults between the ages of 15 and 44 in this study used the ED proportionately more frequently than the insured within that age group. There were fewer ED visits by the uninsured elderly than insured elderly. This would be expected since in the United States only 1.2% of the elderly are without health insurance compared to 17.4% of the non-elderly population (Posey, 1995; Shearer, 1996). With regard to marital status, the largest percent of ED visits were made by individuals who were uninsured and single. One possible explanation for this may be that many young individuals if employed often work for small businesses and small businesses are less likely to provide health insurance to their employees.

The results from this study suggest that a greater percent of uninsured ED visits were made by individuals that were White, male, between 15 and 44, and single. Uninsured minorities visited the ED more frequently than the general population of minorities except for Native Americans. A higher percentage of uninsured individuals between the ages of 25 and 44 visited the ED compared to insured individuals within that age group. However, there were only weak relationships between these variables and ED visits.

Research Question #5

The final research question was: What was the level of client satisfaction with HCA's services? An adaptation of the Patient Satisfaction with Health Care Provider Scale (PSHCPS) (Marsh, 1996) was used as an outcome measure to provide a subjective evaluation of HCA client's level of satisfaction. One hundred and fifty-eight eligible HCA clients completed the survey which represented over 10% of HCA's total annual unduplicated visits. This represents a 39% response rate. Inter-item reliability for the satisfaction instrument was found to be adequate with a Cronbach's alpha of .91 for the total scale. Demographic characteristics of survey respondents and HCA clients were similar on racial and age attributes. A greater percent of males (23%, n=35) than females (77%, n=118) completed the survey than visited HCA in 1995 (males: 42%, n=566; females: 58%, n=766). The majority of the research participants were White, young, between 18 and 34 years of age, and single. Proportionately more individuals using HCA did not have a high school education than in the general population. Over 95% (n=150) of survey respondents had an annual income of less than \$20,000 and the majority worked either full-time or part-time. All participants lived in Douglas County, KS and 56% lived in the east section of the county. The nurse practitioner (NP) was the health care provider for the majority (74.7%, n=118) of survey respondents. This result was not unexpected since the NP was the full-time, primary health provider for HCA clients. All other health providers were volunteers or worked part-time.

HCA client scores on the adapted PSCHCPS (Marsh, 1996) revealed a high level of overall satisfaction. The total scale mean score of 4.2, with five being very satisfied, demonstrated that HCA clients who completed the questionnaire were satisfied with the services provided at HCA. This finding is similar to clients surveyed recently at a University-based managed care clinic that served the

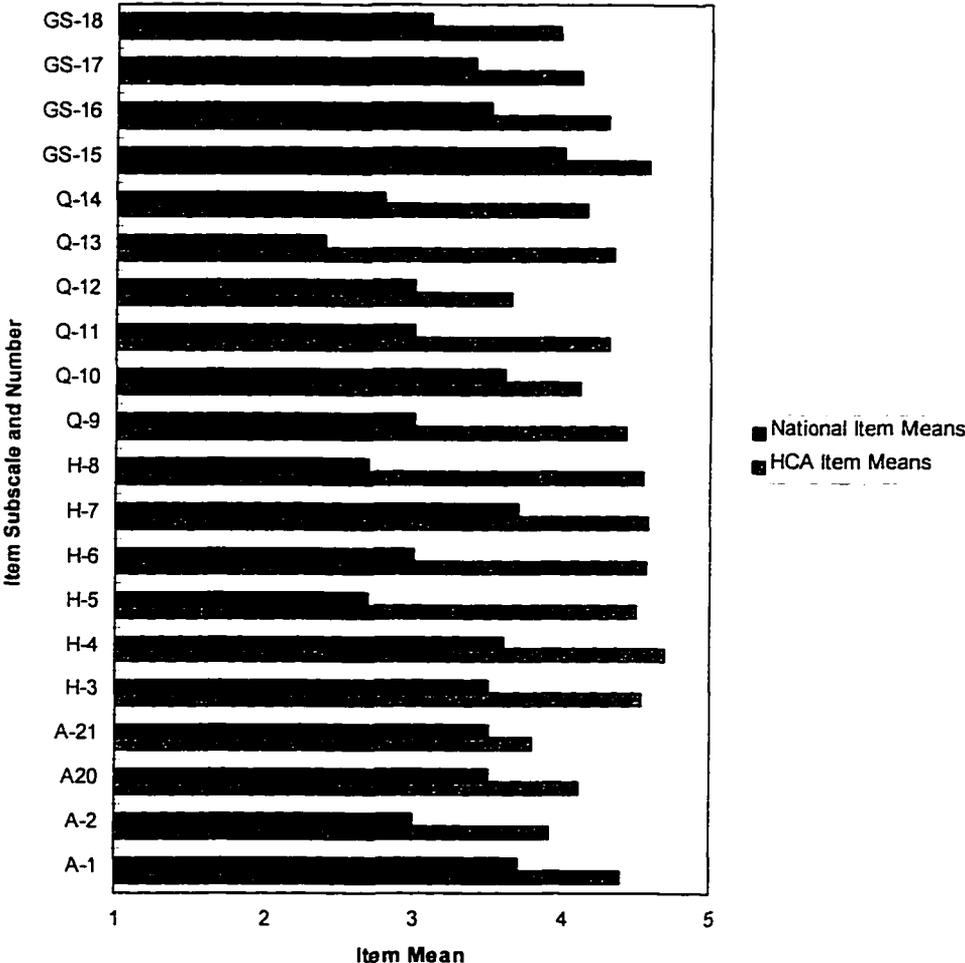
medically indigent. The managed care clinic participants completing the original PSHCPS (Marsh, 1996) were satisfied with their health care services with a total scale mean score of 4.0. Satisfaction with the services of Nurse Practitioners is also consistent with previous research (Day, Egli, & Silver, 1970; Rhee & Dermeyer, 1995)

The adapted PSHCPS (Marsh, 1996) was a modification of the Patient Satisfaction Questionnaire (PSQ) (Aday et al., 1980; Ware et al., 1983; Wilkin et al., 1991). In 1976, the PSQ was administered to a sample that represented the total number of adults in the United States that provided normed data for the PSQ instrument (Aday et al., 1980; Wilkin et al., 1991). The response items from HCA subjects on the adapted PSHCPS were compared to the 1976 PSQ items shown in Figure 3. Both HCA respondents and the population sample in general were satisfied with their health care services. It should be noted that in each item HCA respondents rated their satisfaction higher than the population sample. The population survey only asked about the respondents medical care from a physician, not health care that may have been provided by an NP. The majority of HCA respondents received their health care services from an NP or other health care providers. Although data were collected from HCA clients who received care from a physician, the sample was very small (13%, n=21), making it difficult to make any comparisons in levels of satisfaction from respondents.

HCA subscale satisfaction scores were consistent with the overall satisfaction score. Subscale means for Humaneness, General Satisfaction and Quality each were over 4.0. Only the Access subscale was lower with a mean of 3.9. It should be noted that the most recent evidence suggests that the subscales may not represent multiple dimensions but the unidimensional concept of patient satisfaction. The subscale data do provide a useful description of a summary of item responses within each subscale.

Comparing Cherkin's et al. (1988) study on client satisfaction with family physicians and general internists and HCA survey respondents, it was noted HCA clients were less dissatisfied on questions related to quality and general satisfaction. Responses were similar on access questions. The percent of respondents expressing dissatisfaction on Humaneness scale questions was lower for HCA clients than for family physicians but not internists.

Figure 3
Patient Satisfaction Comparison of Item Means: HCA and US Population Survey



Note: National population survey 1976, PSQ: Aday et al., 1980
Specific item questions can be found in Appendix B

In their discussion of Realized Access, Aday et al. (1980) stated that those individuals who state they are satisfied with their care encourage the acceptance of the status quo and it is those that are dissatisfied who signal the need for action. Only six items had a dissatisfaction response over 10%: five of these were in the Access subscale. Dissatisfaction on items related to access included: convenient distance (21%, n=33), number of hours the clinic was open (19%, n=30), affordability (15%, n=23), difficulty in getting an appointment (14%, n=22), and transportation (14%, n=21). Responses to the open-ended questions suggest problems with affordability related to the general health care system, not just HCA, and the need for expanded services. In the non-Access subscale question that had a dissatisfaction level over 10%, respondents did not think their health care provider asked about the foods they ate or explained what foods would be best for them (21%, n=32).

To provide additional information and to serve as a qualitative data check to the quantitative analysis two open-ended questions were added to the survey instrument. The written comments to the open-ended question: "Do you have any additional comments about the services provided at the clinic." were consistent with the high level of satisfaction scores on the PSHCPS. Sample comments included: "They provide excellent care and treat me with respect" and "We have always gotten great, friendly service and care here." More than 90 respondents stated that they were unsure where they would go for services if HCA were to close and of these individuals, cost was noted to be a factor in seeking health care elsewhere. The overall outcome from the PSHCPS scores and qualitative data responses revealed that the HCA clients surveyed had a high level of overall satisfaction with the services of HCA.

Conclusion

Health Policy - Influence on Access

The purpose of a descriptive study is to provide a picture of situations as they naturally happen and to obtain an overall picture of the phenomenon being studied. Guided by the Aday et al. (1980) Access Framework, the purpose of this research study was to determine whether a law to establish primary care services for the medically indigent (State of Kansas, 1991) influenced access to health care for the medically indigent in Douglas County, KS. The descriptive picture from this study suggests that the state policy, HB 2019, did influence access to health care for the medically indigent in Douglas

County, KS. Funding from this policy increased the availability of services to the medically indigent through HCA. Because of these changes, more medically indigent were able to obtain primary care services through HCA. The data suggest that the uninsured were using the emergency room less frequently after the initiation of funding from HB 2019. A survey of 10% of HCA clients, during a two-month period found that survey respondents were satisfied with the services provided by HCA, especially in the areas of Quality, General Satisfaction and Humaneness. Based on the Access Framework, access was realized through utilization of services at HCA and through documentation of consumer satisfaction with HCA services. Although this descriptive study provided a picture of the effect that HB 2019 had on the health care system and medically indigent in Douglas County, KS it cannot verify this relationship or establish causality.

There are a few limitations of the study that should be noted. First, the description of the community was fairly thorough but no primary data were obtained from the community. Nor were data collected from individuals about their perceived health beliefs, characteristics and/or needs. The descriptive, retrospective design provided useful information on emergency room utilization by insurance status but precluded drawing causal relationships. Threats to internal validity include, history, secular and/or maturational changes, since no attempt was made to control for such changes. In addition, unknown confounding factors may have influenced the changes noted in ED use and insurance factors. The survey provided an adequate outcome measure for patient satisfaction but the response rate was only fair, and the sample was slightly biased in gender. Other demographic characteristics were similar for both HCA clients and HCA survey respondents, but it cannot be verified that HCA survey respondents were representative of all HCA clients.

Recommendations

The results and limitations of this study suggest several areas for further investigation related to research, health policy and practice. Recommendations for action in each of these areas follow.

Recommendations for Research

- Conduct a prospective study that evaluates specific insured and non-insured individuals over time, in areas of ED utilization, diagnosis, health outcomes and utilization of different types of health care organizations and providers.
- Develop a prospective study of ED patients comparing the insured and uninsured. Compare individuals' medical records on urgent need status based on patient perceived need and medical diagnosis, and interview patients on their perception of access. i.e. awareness of availability of HCA for the uninsured.
- Initiate a community survey using a probability sample similar to Urrutia-Rojas and Aday's survey (1991) to identify characteristics of the health delivery system and characteristics of the population by the residents of the community.
- Conduct a methodological study on the influence of gender in completing patient satisfaction surveys and how gender may influence satisfaction. It was noted in this and other studies that females completed satisfaction surveys at a higher rate than males (Marsh, 1996; Cherkin et al., 1988; Ware & Hays, 1988) and that the relationship between gender and patient satisfaction has demonstrated mixed results (Bader, 1988; DiStefano, Pryer, & Garrison, 1980; Lin, 1996; Pandiani, Kessler, Gordon, & Domkot, 1982).

Recommendations for Health Policy

- Assuming data could be made available, gather aggregated data from all hospitals across the state and compare ED visits of the insured and uninsured by geographic area and funding from HB 2019, before and after passage of HB 2019.
- Implement a comparison study of different counties in Kansas that did or did not obtain state funding from HB 2019. Compare each communities' ED utilization rates before and after procurement of funding.
- Conduct a yearly probability sample survey by counties in Kansas to measure health insurance status, health behaviors and perceived health status.

- Work with existing governmental agencies to develop a state system to monitor and evaluate the use of primary health care services.
- Identify cost data to estimate health care dollars saved through patients using the clinic rather than visiting the ED.

Recommendations for Practice

- Compare different community health clinics that receive state and federal funds on level of patient satisfaction with private health providers. It was noted in Stevens' (1993a) study that women who used the public sector for health care found constraints, but no advantages to the system and described the environment as oppressive and abusive. This is in direct conflict with satisfaction levels noted at HCA. It would be useful to be able to describe those elements in a health system that cause patients to feel satisfied or dissatisfied with the services provided.
- Compare patient satisfaction and health care outcomes, such as hospital admission rates, health function, physical variables, i.e. blood pressure, cholesterol, for different types of health care providers, i.e. physician and nurse practitioner.

Recommendations for Theory

The Aday et. al (1980) Framework on Access gives a clear process on how to study access to health care. This framework provides an explicit hypothesis on health policy and its effects on the indicators for access: health care system characteristics, population characteristics, health care utilization and client satisfaction. One of the strengths of the Aday et. al framework is that it incorporates many of the key concepts of access found in the literature and is the only framework that specifically looks at the influence health policy has on access. One of the limitations encountered in this study was the terminology used. If one was not totally enmeshed in the framework the terms, enabling, mutable, immutable, process indicators and structural indicators were not easily understandable. Changing the Process Indicators to just personal indicators of the population at risk would help simplify the language. Personal indicators could include: acceptability, cultural, Language, attitudes and education and income (Millman, 1993). Another realized access indicator that could be added to

utilization of services and client satisfaction would be health outcomes. Outcomes would provide a quality measure to the realized access indicator.

In summary, the Framework on Access (Aday, et. al, 1980) provided a clear guide to study the influence of health policy on access to health care in one community. Recommendations would be to further develop the theory to incorporate more understandable language and expand the realized Access indicator to include health outcomes.

Implications

As Milio (1975) has stated, in the every day world people in communities go on living and dying unaware of the systems that shape their options for health care services. Often nurses, too, have failed to recognize the influence of political, social, economic and cultural factors that impact the services they provide and the care their clients are able to receive. Nursing has come late to the discussion on access and “by ignoring access as a focal element of nursing theory, research and practice, we effectively give up our power to impact the structures and policies that determine availability of health care” (Stevens, 1993b, p. 11). The state of monitoring access is still at an elementary stage (Millman, 1993), and nursing has the opportunity to influence access in the areas of research, practice and policy.

Access to health care has been identified a major objective in several reports: Healthy Kansans 2000 (1996), Healthy People 2000 (1990) and Healthy Communities 2000 (1991). Access involves multiple concepts including accessibility, availability, affordability, utilization of services, outcomes or quality of care, personal issues such as: acceptability and environmental responses and situations of social, cultural, political and economic structures. (Aday & Andersen, 1975; Aday et al., 1980; Aday et al, 1985; Center, 1993; Chopoorian, 1986; Milio, 1975; Millman, 1993; President’s Commission, 1983a; 1983b; 1983c; Stevens, 1993b). Studies like this one in Douglas County, KS, can begin to develop strategies to influence access to health care. In this study, it was noted that clients were satisfied with the services at HCA that were provided primarily by a nurse practitioner. These findings can begin to support nursing theory in the area of satisfaction and nursing care that have been found to be limited in previous research studies (Murdaugh, 1992). Findings from the retrospective ED

utilization design can be shared with hospital administrators and state policy makers to encourage their continued support of programs like HCA, especially if cost-effectiveness can be demonstrated.

If nursing is to have an impact on access to care for all citizens, including vulnerable populations such as the medically indigent, then we must be involved in the political process. Research studies, such as this, have the potential to influence policies that affect availability and affordability of health care services and the removal of barriers to non-physician providers such as nurse practitioners. If we value what we do as nurses, the care we provide, then we must expand our care beyond the bedside to research those systems that influence access to health care and nursing care.

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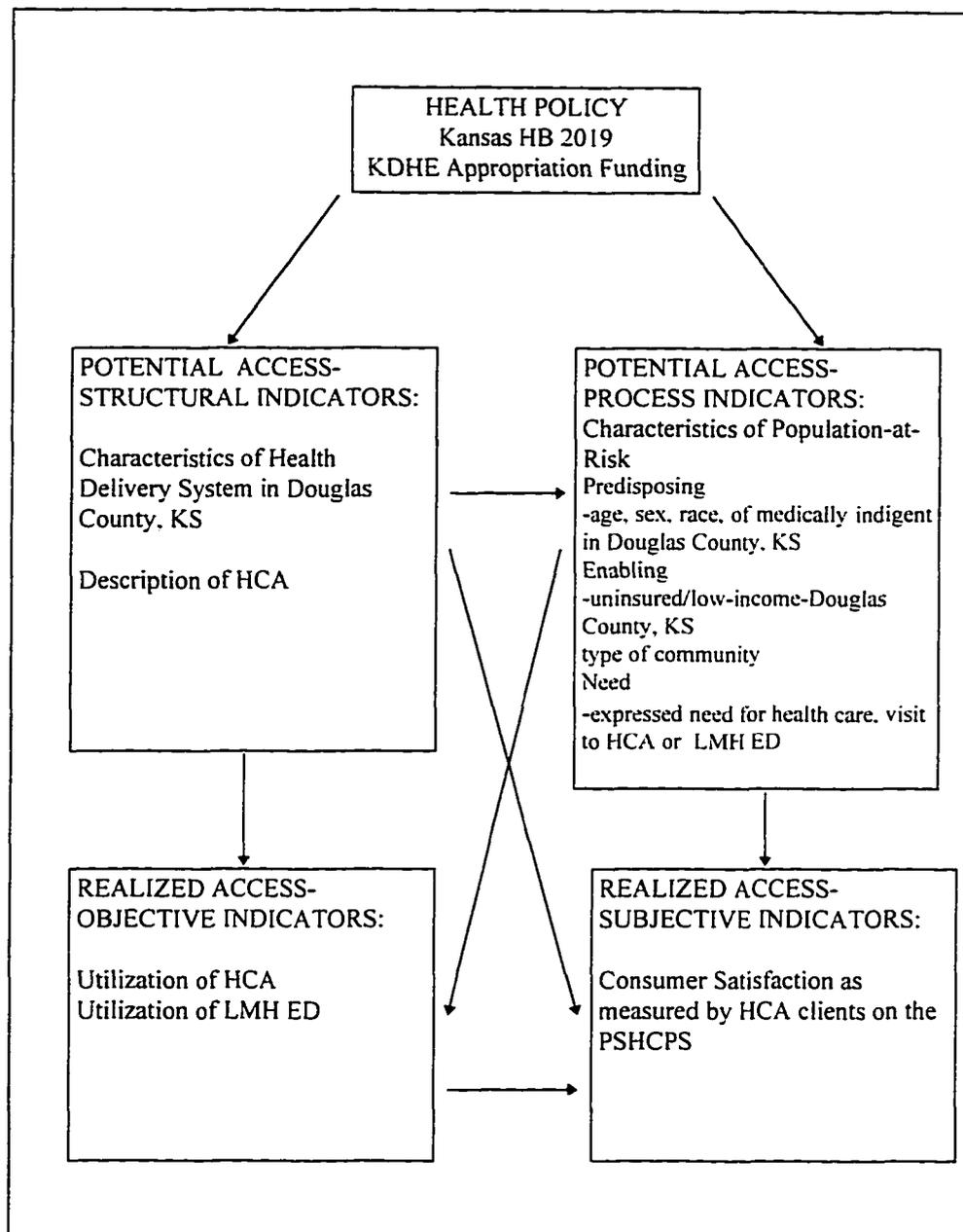
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APPENDIX A

Framework to Study Access to Health Care in Douglas County, KS

Framework to Study Access to Health Care in Douglas County, KS



Adapted from Aday, L. A. Andersen, R. & Fleming G. V. (1980). Health care in the U.S.: Equitable for whom? Beverly Hills: Sage.

APPENDIX B

Adapted Patient Satisfaction with Health Care Provider Scale

Satisfaction With Care Provider

INSTRUCTIONS: Circle the letters to the right of each question that best indicate how you feel about your ability to get the health care you need.

Strongly Agree	=	SA
Agree	=	A
Not Sure	=	NS
Disagree	=	D
Strongly Disagree	=	SD

Instructions: Following are some statements about your health care. Please read each one carefully, keeping in mind the care you have received from your health care provider, even if you have seen him or her only once. On the line next to each statement, circle the letters for the opinion that is closest to your own view.

Item	Rating				
1. If I have a health care question I can reach my health care provider for help without any problem.	SA	A	NS	D	SD
2. It's hard to get an appointment with my health care provider right away.	SA	A	NS	D	SD
3. My health care provider always does his or her best to keep me from worrying.	SA	A	NS	D	SD
4. My health care provider always treats me with respect.	SA	A	NS	D	SD
5. Sometimes my health care provider makes me feel foolish.	SA	A	NS	D	SD
6. My health care provider causes me to worry a lot because he or she doesn't explain medical problems to me.	SA	A	NS	D	SD
7. My health care provider respects my feelings.	SA	A	NS	D	SD
8. My health care provider hardly ever explains my medical problems to me.	SA	A	NS	D	SD
9. My health care provider is not as thorough as he or she should be.	SA	A	NS	D	SD
10. My health care provider encourages me to get a yearly exam.	SA	A	NS	D	SD
11. My health care provider is very careful to check everything when examining me.	SA	A	NS	D	SD

- | | | | | | |
|--|----|---|----|---|----|
| 12. My health care provider asks what foods I eat and explains why certain foods are best. | SA | A | NS | D | SD |
| 13. My health care provider ignores medical problems I've had in the past when I seek care for new problems. | SA | A | NS | D | SD |
| 14. My health care provider doesn't explain about ways to avoid illness or injury. | SA | A | NS | D | SD |
| 15. I'm very satisfied with the care I receive from my health care provider. | SA | A | NS | D | SD |
| 16. The care I receive from my health care provider is just about perfect. | SA | A | NS | D | SD |
| 17. My health care provider could give better care. | SA | A | NS | D | SD |
| 18. There are things about the care I receive from my health care provider which could be better. | SA | A | NS | D | SD |
| 19. Finding transportation to my health care provider or facility is a problem for me. | SA | A | NS | D | SD |
| 20. The type of health care I need is available from my health care provider. | SA | A | NS | D | SD |
| 21. I live a convenient distance from my health care provider. | SA | A | NS | D | SD |
| 22. I have to pay for more of my health care than I can afford. | SA | A | NS | D | SD |
| 23. The office where I get health care should be open for more hours than it is. | SA | A | NS | D | SD |

22. If the clinic were to close, where would you go for health care?

23. Do you have any additional comments about the services provided at the clinic?

6. What is the highest grade you completed in school?

(Check the appropriate box)

- 8th grade or less
- Some high school
- High school graduate
- Some college
- College graduate
- Any post-graduate work

7. Which of the following categories best describes your household's total income before taxes last year? *(Check the appropriate box)*

- Less than \$9,000
- \$10,000 to \$19,000
- \$20,000-\$39,000
- \$40,000-\$59,000
- Over \$60,000

8. Which of the following best describes your current employment status?

(Check the appropriate box)

- Employed full-time
- Employed part-time
- Unemployed
- Retired
- Other

9. What is your zip code?

□□□□□□-□□□

Thank-you for completing the survey!

APPENDIX C

Consent Form, Review Board Approval and Agency Approval Letters

CONSENT FORM

Consent for Approval

Adam A. Rosenberg, MD
Victor Spitzer, PhD
Chairpersons, COMIRB

Date

COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD (COMIRB)

Project Title: Access: Effects of a State Funded Primary Care Organization

Date: March 29, 1996

Project Description

You are being asked to take part in a study on a State funded health program. The purpose of this study is to get your input on the of services of Health Care Access which has received the State funding being studied. Information from the study will help health care providers and policy makers understand the effect the health clinic has on patients like yourself. The study is being conducted by a PhD nursing student enrolled at the University of Colorado but lives in Lawrence, KS.

Procedures Involved

If you agree to participate in the study, you will be asked to complete a written questionnaire that will take approximately (20) minutes of your time.

Discomforts, Risks, Benefits, Injury and Compensation

You should not experience any discomfort or risk from being in this study. Your care at Health Care Access will not be changed. There is no known risk in participating in this study. There is no benefit to you for being in this study.

Source of Funding, Cost to Subject

There are no costs to you to participate in the study and you will not receive any payment for completing the questionnaire. The source of funding for this study is the principle investigator.

Study Withdrawal

You may stop being in the study, without affecting the care you receive at any time, by not completing the questionnaire.

Invitation for Questions

Please ask questions about any aspect of this research or this consent either now or in the future. You can direct your questions to Betty Smith-Campbell in Lawrence at [REDACTED] you have questions regarding your rights as a research subject, please call Desiree Fernandez, secretary of the COMIRB at [REDACTED]

Confidentiality

The investigator will treat your identity with professional standards of confidentiality. However, the U. S. Department of Health and Human Services has the right to inspect the completed questionnaire related to this research for the purpose of verifying data. The information obtained in this study may be published in professional journals, but your identity will not be revealed.

Authorization

I have read this paper about the study or it was read to me. I know what will happen, both the possible good and bad (benefits and risks). I choose to participate in this study. I know I can stop being in the study at any time. I will get a copy of this consent form.

Signature: _____
subject signature print name

Date: _____

Consent form explained by: _____
signature print name

Date: _____

Investigator: _____

Date: _____

COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD
Office of the COMIRB Participating Institutions

Room 1803J
Campus Box C-290
4200 East Ninth Avenue
Denver, Colorado 80262
(303) 270-3081
FAX (303) 270-8540

The Children's Hospital
Colorado Prevention Center
Denver Health & Hospitals
University of Colorado Health
Sciences Center
Department of Veteran Affairs
Medical Center, Denver
University Hospital

TO: BETTY SMITH CAMPBELL, RN, PHD-C BOX C288 DATE 4-8-96

FROM: COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD

YOUR APPLICATION ENTITLED: "ACCESS: EFFECTS OF A STATE FUNDED PRIMARY CARE

ORGANIZATION"

PROTOCOL NUMBER # 96-907

has been unanimously approved by the COMIRB 4-5-96 which includes your protocol and consent form/revised consent form. The COMIRB will require a follow-up on the status of this project within a 12 month period from the date of approval unless a restricted approval applies. If you have a restricted or high risk protocol, specific details will be spelled out with a special set of instructions. We shall send you a form to be completed to define the status of your project.

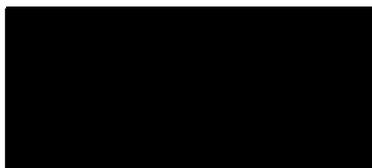
The investigator bears the responsibility for obtaining from all patients and subjects "Informed Consent" as approved by the COMIRB.

It is also your responsibility to inform the COMIRB immediately of any deaths, serious complications or other untoward effects of this research.

Please notify the COMIRB if you intend to change the experimental design in any way.

As of July 1, 1983, the COMIRB REQUIRES that the subject be given a copy of the consent form which includes the name and telephone number of the investigator.

Any questions about the COMIRB'S action on this project should be referred to the Secretary Desiree Fernandez (Ext. 3081 or Mail Container C-290).



Adam Rosenberg, M.D.
Victor Spitzer, Ph.D.
Chairperson
Colorado Multiple Institutional Review Board



March 13, 1996

Betty Smith-Campbell, RN, MN

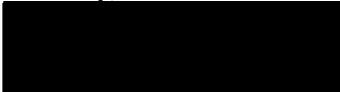


Dear Betty:

Your request for assistance from Health Care Access in regards to your research project, was approved by the Board of Directors at their regular meeting on March 8, 1996. It was felt that the information would be beneficial to the organization, and therefore are pleased to lend our support.

I'm looking forward to working with you.

Sincerely,



Judy Eyerly
Executive Director

1920 Moodie Road P.O. Box 531 Lawrence, KS 66044 913-841-5760





325 MAIZE
 LAWRENCE, KS 66044
 913/749/6100

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January 31, 1996

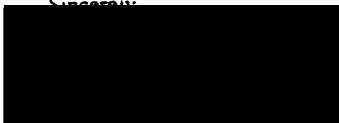
Betty Smith Campbell



Dear Mrs. Campbell:

In response to your letter of January 13, 1996, please except this letter as our support for your research project in assessing the effectiveness of Health Care Access, Incorporated. Dr. David Fortin, Chief of Staff, has assigned himself as your physician liaison with our organization. Our only request is if you need to review medical records of individual patients we will request that a signed release be obtained from each individual. However, if your data gathering is in the aggregate form through our computer center please disregard the need for individual consent forms being signed. I have previously given you names of the representatives in our organization you will need to work with. If you should have any further questions or need assistance in completing your data gathering, please feel free to contact me at any time. If this letter does not meet the needs the research or ethics committee of the university please contact me and I will provide whatever information is necessary to fulfill their requirements.

Sincerely,



Robert B. Ohlen
 President and CEO

cc: Dr. David Fortin

