Factors contributing to emergency department utilization in a rural Indian Health Service hospital
by Cheryl Magee

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

Abstract:
The purpose of the study was to identify factors that contribute to the use of the emergency department (ED) for nonurgent health problems in a Indian Health Service (IHS) facility. In addition, factors which contributed to missed appointments in this same facility were identified. High rates of ED use for non-urgent conditions and missed appointments contribute to such problems as poor follow-up, time limitations for health maintenance and wasted appointment time. The study addressed three categories of factors that were thought to contribute to this pattern of use. Categories were 1) accessibility to health services, 2) motivations for using the ED, and 3) perceptions regarding the roles and purposes the ED serves in a selected population. A semi-structured ethnographic, interview approach was coupled with a demographic questionnaire to collect data. Results indicated that more than one half of the patients lived within five miles of the ED and access in terms of ownership of a car and a phone were not important. Most patients perceived their health problem to be serious and becoming worse; a majority presented themselves to emergency room staff with problems of a nonurgent nature. Finally, confusion existed concerning the physical location of the ED: most patients perceived their visits to be to the hospital clinic.

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Cheryl Magee

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

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Abstract

The purpose of the study was to identify factors that contribute to the use of the emergency department (ED) for nonurgent health problems in a Indian Health Service (IHS) facility. In addition, factors which contributed to missed appointments in this same facility were identified. High rates of ED use for non-urgent conditions and missed appointments contribute to such problems as poor follow-up, time limitations for health maintenance and wasted appointment time. The study addressed three categories of factors that were thought to contribute to this pattern of use. Categories were 1) accessibility to health services, 2) motivations for using the ED, and 3) perceptions regarding the roles and purposes the ED serves in a selected population. A semi-structured ethnographic interview approach was coupled with a demographic questionnaire to collect data. Results indicated that more than one half of the patients lived within five miles of the ED and access in terms of ownership of a car and a phone were not important. Most patients perceived their health problem to be serious and becoming worse; a majority presented themselves to emergency room staff with problems of a nonurgent nature. Finally, confusion existed concerning the physical location of the ED: most patients perceived their visits to be to the hospital clinic.

Chapter 1

INTRODUCTION

Utilization of hospital outpatient (OP) services in the United States has more than doubled in the years since 1946. In community hospitals alone, a 51.5% increase in the use of these services is reported between 1970 and 1980. In 1981, 34.0% of total OP visits were to the emergency department (ED) (American Hospital Association, 1981: XIV, 4,20). It has been estimated that ED utilization has increased by an average of 10% per year nationally (Brook, 1973:333; Davidson, 1978:122; Pisarcik, 1980:16).

In Montana in 1980, there were a total of 269,760 ED visits which comprised 36.4% of all OP visits (AHA, 1981:92). For Montana nonmetropolitan areas in 1980 almost half, or 41%, of all OP visits were to the ED. In federal facilities in Montana in 1980, ED visits totaled 34.9 thousand or 16.7% of all OP visits (AHA, 1981:92).

It has been well documented that many of these ED visits are for nonurgent health problems. One estimate put the figure at between 70 and 85% of total ED visits (Powers, 1983:145). The trend toward ED use for nonurgent primary care is associated with increased ED patient census during evening, weekend and holiday periods (Vaughn & Gamester, 1966:59). The result of this pattern of ED use is that EDs seem to be supplanting private physician offices and clinics as a source of primary

health care and maintenance (Hassinger, 1976:186, Powers, 1983:145; Torrens & Yedvab, 1970:71).

In this researcher's two years of employment as a registered nurse in the ED of a federal Indian Health Service (IHS) hospital in rural Montana, it was observed that the majority of patients that presented themselves to the ED for care had health problems of a nonurgent nature including requests for over-the-counter medications, dressings and medication refills. It was also observed that many of these same patients had missed clinic appointments for care of the same problem. In another rural Montana IHS hospital, the rate of missed appointments is estimated at 50% (Werk, May 14, 1983). Observations by this researcher at a non-Indian hospital in Montana revealed the same pattern of ED utilization.

Statement of the Problem

Problems that arise from the above-described patterns of ED utilization are related to episodic acute care by practitioners unfamiliar with a patient's health history and life situation. Time is not available for complete health maintenance. Care in the ED is typically more expensive because of the necessity of full 24-hour staffing regardless of patient census and the wide range of specialized equipment and supplies that must be readily available at all times. Because patients are triaged or sorted according to the severity of their presenting condition, waiting times for those with nonurgent conditions can be excessive. It has been shown that evaluation of treatment given in the ED and of patient response to that treatment is

compromised because follow-up care is done by a different practitioner (Brook, 1973:337-38; Pisarcik, 1980:16; Powers, 1983:145).

In rural settings, these problems can be compounded by the distances patients must travel to obtain care and the expense of such travel. In addition, a frequent condition of rural hospitals is the absence of an in-house physician and an ED staffed by floor nurses that float to this department when necessary. ED use for nonurgent care in this situation is very expensive and inefficient (Rosenblatt & Moscovice, 1982:164). Problems specific to IHS facilities because of this pattern of use include wasted appointment time when waiting times for scheduling can exceed two weeks, and unavailability of physicians, nurses, and ancillary personnel for nonurgent patients that present to the ED. Despite these problems, ED use is still on the rise.

In reviewing the literature concerning patterns of ED utilization and user characteristics, it is apparent that information about rural populations in general and rural Indian populations in particular is lacking. Differences in values and attitudes about health care between urban and rural populations can affect health care utilizaton. In addition, accessibility to health care is a function of the time and distance it takes to procure care as well as the availability of health professionals. Finally, the socioeconomic conditions of a population determine the ability to use whatever health services might be available. The studies reviewed by the researchers that address ED utilization problems have all used urban or suburban populations in which values, attitudes, time, distance, personnel availability and

socioeconomic conditions differ from those of rural populations (Copp, 1976:26).

Therefore, the purpose of this study was to identify factors that contribute to the use of emergency services for nonurgent health problems in a rural IHS hospital. In addition, factors which contributed to missed appointments in this same facility were identified.

Chapter 2

REVIEW OF THE LITERATURE

A condition in rural ED's that can be expected to be affected by utilization patterns concerns the quality of care given in rural EDs. The hospital is the focal point and anchor of emergency care. With the advent of emergency medical technicians and the improved pre-hospital care of critically ill persons, the frequent inadequacy of rural hospital emergency care has come to the foreground. One study indicated that 23% of injured persons died of injuries that were probably survivable using resources available in a rural hospital. One half of these were attributed to the hospital phase of care (Rosenblatt & Moscovice, 1982; Chap. 6).

It becomes apparent that rural ED's have the onus of providing and maintaining quality emergency care. With the lack of professional personnel resources and subsequent inadequate staffing of rural ED's, it is not unusual for rural hospital nurses to be initial responders when a critically ill patient arrives at the ED. This requires a high level of preparation in emergency nursing for rural nurses as well as physicians and pre-hospital caregivers.

An ED staff that is overwhelmed with nonurgent patients is being diverted from the time necessary for education and training to prepare for providing quality ED care. A study by Ellis (1980) revealed that a majority of rural Montana ED nurses were not prepared to give advanced

Cardiac Life Support even though potentially they were expected to initiate this type of care. Nursing is also involved to some extent in community activities that concern ED care; these include Emergency Medical Technician training, accident prevention and consumer education. Time must be provided for these also.

A problem of quality of care specific to Montana rural Indian Reservations is the at risk population for trauma. The median age on Montana reservations is 19.6 (U.S. Department of Commerce, 1980). This means that for trauma, Montana Indians are at a greater risk than the general population whose median age is 30.1 according to statistics reported by Trunkey (1983). In his article he reports that trauma accounted for twice as many deaths in the 15-24 age group than it did in the next most at risk group, age 25 to 35.

Pisarcik (1980) notes that when ED staff people are called upon to care for nonurgent patients, frequently an attitude of anger and resentment develops. Negative attitudes affect nurse-patient interpersonal relationships and subsequently affect quality of care.

A review of the literature addressing the problem of increased ED use has revealed many different approaches in the attempt to identify contributing factors in use for nonurgent conditions. The factors identified as contributing to problems in ED use by various investigators so far fall into three categories:

1. Accessibility
2. Motivational
3. Perceptual

Accessibility

Access to health services can be viewed as a function of the time and distances involved in obtaining health care, as well as the availability of health professionals and the financial resources needed to pay for these services. Access can also be viewed in terms of the quality of care available to one seeking care.

Geographic proximity to EDs figured prominently in studies by Hilker (1978), Wabschall (1983) and Weinerman (1966). In these investigations of urban and suburban hospitals, the majority of users lived within 15 minutes of the hospital. In Primeaux's (1977) article on the care of American Indian patients, she cites lack of transportation and financial resources as reasons for missed appointments and ED use.

Copp (1976) describes the relative inaccessibility of rural people to professional health care and their greater exposure to socioeconomic conditions conducive to neglect of health problems. The distance and difficulty of travel necessary for obtaining health care for the rural patient is very apparent. A review of rural subpopulations shows that they share several characteristics including income and powerlessness. Many of these groups live in areas of such low population density that they are unable to support a conventional health care system. Recruitment and retention of physicians and nurses are long-standing problems in rural communities, especially in Indian populations where physician contracts are only two years in length (Cordes, 1976:56). The physician to population ratio in areas outside standard

metropolitan service areas is less than one-half that of standard metropolitan service areas (Rosenblatt & Moscovice, 1979:63).

In the urban populations studied, access in terms of times of physician availability was hard to measure because the majority of patients assumed that their physicians would not be available and did not attempt to contact them prior to ED use (Hilker 1978:11/5, Wabschall, 1983:39).

Access in terms of time was a factor in Pisarcik's study (1980). Many people used the ED because it did not interfere with work hours and was available all evenings, nights and weekends.

Access in terms of financial resources was addressed in an overview by Olson (1966). Insurance companies and Medicaid frequently pay for care in an ED when they do not pay for the same care in a regular clinic.

In all of these studies of ED use, data has been collected in urban or suburban EDs. In this era of overabundance of health resources, the American Indian population as a rural ethnic group tend to have the poorest health and are the most rural (Copp, 1976: Chap. 2). Even with the benefit of federal IHS facilities on each reservation, health care remains less than optimal due to the problem in utilization of available services.

Motivational Factors

A motive can be defined as something (as a need or desire) that causes a person to act (Merriam-Webster, 1971:325). The Health Belief Model (HBM) developed by Rosenstock and others (1966) lists four

variables that affect one's motivation to seek health care. These include beliefs concerning one's susceptibility to a disease; the perceived severity of one's condition; the ratio of benefits for seeking care to the barriers involved in the search; and the cues to action that trigger one to care-seeking behavior. Susceptibility involves one's belief in the possibility of contracting a given disease or condition. Severity of one's condition involves the emotional arousal created by the thought of contracting a given disease and the difficulty it would bring about in terms of mental and physical functioning. Benefits to seeking care involve beliefs concerning the effectiveness of alternative actions and barriers to seeking care involve the perceived inconvenience, discomfort and expense associated with alternative care-seeking action. All four of these variables fluctuate in level of importance and influence in one's life situation and health matters over time. It is their interaction that produces care-seeking behavior. Cues to action can be described as triggers that lead to overt care-seeking behavior. These cues can be internal as in the perception of one's bodily state or health risk, or external as in the interpersonal interaction with significant others that convinces one of the need for health care.

Stoeckle and others (1963) in a review of the literature concerning patients' decisions to seek health care conclude that the actual coming to the doctor may be initiated not only by the patient himself, but by his family or by institutions that may demand medical attention such as employment physicals or industrial accidents or illness. They go on to say that once the decision to seek care is made, a patient's actions

and choices are influenced by the structure and availability of health services as well as his knowledge of alternatives and his socioeconomic status.

A study by Kahn and others (1973) found that the perception of increasing severity of one's condition was the major factor in a patient's decision to seek care in the ED. Powers et al (1983) and Satin (1973) found that the level of stressful life events contributed to use of the ED as well as perceived locus of control. Patients scoring low on internal locus of control were more likely to use the ED.

Scherzer (1980) in a study of families frequently using an urban ED for care compared the stability of a family's relationship with a hospital or neighborhood clinic and found that the stability or instability of this relationship had little effect on ED use. In conclusion, they hypothesize that the major variables affecting a family's utilization pattern are satisfaction with a primary care facility and the perceived ability of different health care facilities to deal with a particular health situation.

Socioeconomic status and ED use have been the subject of many studies. In the classic Yale Studies in Ambulatory Care by Weinerman et al (1966), it was shown that the ED in an urban general hospital constituted a major health care resource for the inner city economically deprived minority population. For those in a higher socioeconomic bracket, the ED served as a back-up care resource for patients who perceived that private care was unavailable. Other factors which played a role in ED use were the stability of a relationship with

a private physician; with those not having a stable relationship tending to use the ED more; residential stability; geographic proximity to the hospital and lack of knowledge about other resources.

Other studies of central urban and suburban EDs support the findings of Weinerman, i.e., that EDs are used more for nonurgent problems and a major source of health care by those of the lower socioeconomic group (Budassi & Barber, 1981: Chapter 1; Kahn, 1973:159; Pisarcik, 1980:10; Scherzer, 1980:295; & Wabschall, 1983:38).

The decision to use the ED has been shown to depend on many other factors beside the perception of worsening condition. Gamester & Vaughn (1966) found that instructions from one's physician to go to the ED for care figured highly in a patient's decision to use this source of health care. Roth (1972) found that rates of physician referral to the ED or self-referral were related to the type and location of the facility. Self-referral was more frequent in big city EDs and physician referral was more frequent in smaller suburban EDs. Hilker (1978) found that the decision to go to the ED was made by a family member or friend two-thirds more often than it was made by a health professional in his investigation of use of pediatric EDs. Weinerman (1966) also found that most referrals to the ED made by lay people were rated as being for nonurgent conditions by professionals and those made by professionals themselves were rated as being for more urgent conditions.

Perceptual Factors

Perception is operationalized in this study to include one's beliefs concerning the purposes and functions of an emergency service as well as one's belief in the effectiveness of emergency service for their health care. In this study it was compared with one's belief concerning purposes, functions and effectiveness of clinic service.

Torrens & Yedvab (1970) describe three perceived roles that EDs fulfill in communities depending on the population they serve. These roles include one as that of EDs being trauma treatment centers that provide equal service to all socio-economic groups. In their second role they serve as substitutes for private physicians in the middle class group when private care is perceived as unavailable during evenings weekends and holidays. In their third role, EDs serve as a family physician for poor minority groups. In the latter two of these roles, the perceptions of the staff and clientele were at odds. Findings by other investigators support the existence of differing roles for different EDs (Budassi & Barber, 1981: Chap. 1; Jones, 1982:451; Olson, 1966:55 & Wingert, 1968:875).

Wabschall (1983) and Pisarcik (1980) found, in their studies of reasons why patients with nonurgent health problems preferred the ED, that expediency and immediacy rated high in importance. Expediency factors included not having to make and then wait to keep a clinic appointment, and the knowledge that all services for diagnosis and treatment were available at all times in the ED. A number of patients also perceived that the care in EDs was superior to that of clinics even though in

Pisarcik's study the same ED physicians rotated through the clinic. Immediacy was described in terms of having to wait longer at the clinic prior to being seen. Personal rapport and consistency in care with one physician or nurse were not rated as important. Alpert (1969) refutes this by his finding that more of the users in his study had no such consistency in care.

Gamester & Vaughn (1966) suggest, from their study in 22 hospitals of reasons why patients use EDs, that the consumer's belief that any illness however slight requires immediate attention and his unwillingness to postpone treatment until regular clinic hours contribute to increasing ED use. In comparison, in his study, insurance coverage, convenience and lack of a family physician did not contribute significantly to ED use.

Powers (1983) and Hilker (1978) found that overall convenience of ED care even for nonurgent problems was the major factor in ED use. Roth (1970) listed advantages that lay people attribute to ED care including 24-hour availability; no requirement for an appointment; diagnosis and treatment for all types of health problems always available; and often short waiting periods. This investigator wondered if the question should be why anyone would choose any other type of care.

Ullman and others (1975) in an analysis of the characteristics of ED users found that only a small number of patients were frequent users and tended to give a sense of falsely high ED census. The majority of patients in their study were infrequent users who believed that going to the ED seemed the best way to handle even a nonurgent health

problem. This finding agrees with the findings of Weinerman (1966). Ullman, et al, conclude from their study that patients will use the facility they believe will provide them with the greatest overall satisfaction.

Davidson (1978), in his review of the literature concerning patterns of ED use, concludes that people in different areas and situations use emergency services differently. He goes on to say that these differences occupy such a wide range that further research is needed to establish and account for them. He suggests that data need to be collected about reasons for and patterns of use in different communities and different size hospitals and that these need to be looked at over time. He also suggests that identification of factors in reasons for and patterns of use could lead to better planning and structuring of health resources to fit target populations.

Summary

In agreement with the findings in Davidson's (1978) literature review, i.e., differences in ED utilization in different areas and situations, the review of the literature by this researcher reveals the same wide range of differences.

The studies reviewed were all concerned with urban and suburban populations in which values, attitudes, relating to health care of these populations can be expected to differ from those of rural populations in general and rural Indian populations in general. Wabschall (1983:37), Powers (1983:145) and Pisarcik (1980:18) in attempting to identify patients' perceptions of ED purposes revealed

very specific factors contributing to ED use. Unfortunately each of these investigators used samples of less than 75 patients. Primeaux (1977) mentions possible contributing factors to ED use in an Indian population but offers no supporting data for her statements.

Rosenstock's (1974) Health Belief Model addresses motivations for seeking care in a large cross-section of the population of middle America. The HBM is therefore a model that may not apply to rural Indian populations because the close association between religion and medicine, and the differing world view and concept of illness may contribute to different motivations.

In the investigations concerning geographic access, Weinerman (1966), Hilker (1978), Wabscall (1983) and Pisarcik (1980) all addressed distance in terms of urban or suburban space and transportation. The perceptions of distance in terms of access and transportation in rural populations may be different than those of urban or suburban populations.

In summary, the researcher agrees with Davidson's (1978) conclusions that further research is needed to establish and account for differences in ED utilization. Further research is especially needed in rural areas.

Chapter 3

Methodology

The purpose of this study was to identify factors that contribute to the use of the ED for nonurgent health problems. In addition, factors which contributed to missed appointments in this same facility were identified. This chapter discusses the research design, method and data analysis procedures.

Definitions

Adult: Any male or female 18 years of age or older.

Indian: Any person one-quarter or more degree American Indian or Alaskan Native descent who is eligible for IHS care.

Mental Impairment: Any condition temporary or permanent that would prevent one from giving voluntary consent to participate in this study.

The following definitions are frequently used as an evaluation of urgency for patients presenting to the ED (Weinerman 1966:1040) and will be used in this study for the purpose of sample selection.

Emergent: Condition requires immediate medical attention; time delay is harmful to patient; disorder is acute and potentially threatening to life or function.

Urgent: Condition requires medical attention within the period of a few hours; there is possible danger to the patient if medically unattended; disorder is acute but not necessarily severe.

Nonurgent: Condition does not require the resources of an emergency service; referral for routine medical care may or may not be needed; disorder is nonacute or minor in severity.

Setting

The Fort Belknap Indian Health Service hospital is a 19-bed acute care facility located at the government agency on the Fort Belknap Indian Reservation in Northcentral Montana. It is one of three IHS hospitals located on Montana Reservations. Indian Health Service Hospitals provide health care to any person of American Indian or Alaska Native descent. These hospitals provide on-site care to all eligible persons regardless of place of residence. Contract medical care for services available only at a non-IHS facility or by a non-IHS provider are also provided. However, to be eligible for contract medical care, an eligible party must be a resident of the reservation on which the hospital is located. Exceptions are students attending school away from the reservation and those residing off the reservation for less than 120 days. In the event of approval for contract services, an eligible party's own health insurance is billed first and the IHS pays the remainder. If one does not possess health insurance

the IHS will pay the total of the cost of contract medical care. Proof of descent may be required. (Ground, Oct. 14, 1983).

Personnel of IHS hospitals may be civil service employees who hold permanent positions or commissioned officers of the Public Health Service whose appointments are usually two years in length. Most professional positions, i.e., physicians and some nurses, are commissioned officers and are non-Indians from outside the reservation communities.

In addition to acute primary inpatient care, Ft. Belknap Hospital offers outpatient clinic and ED service, pharmacy, laboratory, x-ray, dental, community health and environmental health services. With the exception of inpatient and ED services, these operate from 8 a.m. to 5 p.m. Monday through Friday. The major service unit of this facility is the eligible residents of the Reservation and the surrounding area which includes the communities of Harlem, Chinook, Malta and Havre as well as residents of the numerous farms and ranches in the area.

The Fort Belknap Reservation was established in 1886 for the Gros Ventre and Assiniboine Plains tribes. A joint tribal council administers the tribal business for both groups (Appendix I)(Barry, 1976:32,68A).

The main sources of employment on this reservation are the tribal government and the federal IHS and Bureau of Indian affairs (BIA) programs. In addition, farming and ranching contribute to the economic picture. The median family income is $8,011 (U. S. Department of Commerce, 1980).

This agency consists of the IHS facility including the hospital, its adjacent buildings and staff housing, the BIA and Tribal offices

and private housing. A grocery store, restaurant, craft shop, and community college are located at the edge of this complex.

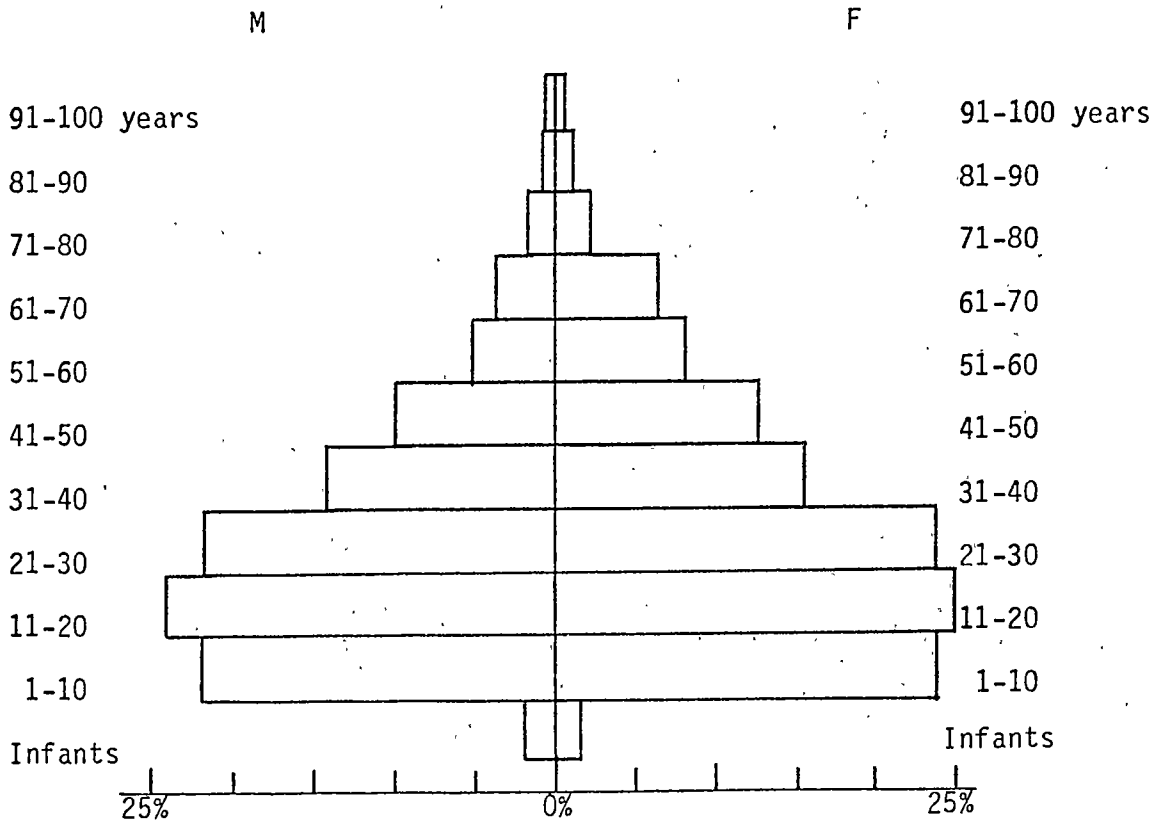
Three miles west of the agency and off the reservation is Harlem, a town which offers all services except a hospital. A pharmacy is located there also which has a contractual agreement with the IHS hospital for providing medications prescribed by hospital physicians but unavailable at the hospital. The Harlem hospital operates Monday through Saturday from 9 a.m. to 6 p.m. and Sunday 10 a.m. to 4 p.m. (Orlando, June 25, 1983). Many tribal members reside in this town.

The total on and adjacent reservation population is 2,151. The off reservation population is 2,126, bringing the total enrollment to 4,260 as of October 1982 (Fort Belknap Tribal Office, 1982). A population analysis of on and adjacent reservation age groups revealed a range of infant to 100 years for males and infant to 91 years for females. The modal age group for both males and females is 11 to 20 years. The mean for all age groups is 21.4 years with a median of 19.6 years. In the male population the mean age is 25.1 years with a median of 22.9 years. The mean age of females is 26.2 years with a median of 23.5 years (Fort Belknap Tribal office, October, 1982; U. S. Department of Commerce, 1980). Figure 1 below is a graphic representation of the Reservation age distribution.

A comparison of these data with state and national census figures reveals that this population is significantly younger than state and national populations. Median age for Montana in 1981 was 30.1 years and for Blaine and Phillips Counties on which this reservation is located is 27.4 years and 29.5 years respectively (Montana State

Department of Health and Environmental Sciences, 1981:6). The median age nationally according to the 1980 census is 30.0 years (Hansen, 1981:61).

Figure 1. POPULATION DISTRIBUTION: FORT BELKNAP RESERVATION AND ADJACENT AREA. 1982.



N = 2151
Mode = 15
Mean = 21.4
Median = 19.6

A comparison of economic data with state and national census figures also reveals significant differences. The median family income on this reservation as previously indicated was $8,011 per year in 1979. The mean income is unavailable. There were 802 persons for whom poverty status was determined. For the State of Montana for the same

time period the median family income was $18,413 per year with a mean of $20,659 (U. S. Department of Commerce, 1980). The median family incomes for Blaine and Phillips counties in 1979 were $14,832 and $13,724 respectively (U.S.D.C., 1980).

The outpatient department of this hospital processed a total of 21,286 patients in fiscal year 1982 with a high of 2,128 in October 1981 and a low of 1,550 in January 1982. The average monthly census was 1774 patients. These outpatient figures exclude those patients seen in a satellite clinic on the reservation at Hayes which is approximately 20 miles south of the agency. OP visits increased by 0.7% between fiscal year 1982 and 1983 to date (IHS, 1983).

The Hayes clinic operates two days a week on Tuesdays and Thursdays and offers general outpatient services. Minimal emergency service is available. In fiscal year 1982 this clinic processed a total of 3,854 patients with a high of 459 in March 1982 and a low of 248 in January 1982. The average monthly census was 321 (IHS, 1983).

The OP and ED at this hospital are physically in the same place, including six exam rooms and a cardiac-trauma room with emergency equipment. Emergency department visits are separated from OP visits primarily by the time of patient arrival at the hospital. Any patients arriving at the hospital between 9 a.m and 5 p.m. are counted and recorded as OP regardless of whether or not they have a scheduled appointment. Patients without appointments are classified as walk-ins by the staff and worked into the clinic flow without too much difficulty unless the patient's request is for a physical exam or Pap smear, in which case she or he is instructed to make an appointment for a

later date. During this time, any patient presenting with an emergent condition is counted as an ED patient. After the OP clinic closes at 5 p.m. and until 9 a.m. all patients coming to the ED are counted as ED patients (Doney, June 17, 1983; McGuire, June 27, 1983).

Design

The research was an exploratory descriptive study (Polit & Hungler, 1978) using a semi-structured ethnographic interview format (Spradley, 1979) and background information questionnaire to collect data. The target population was all patients that presented to the ED of the Fort Belknap hospital during pre-selected time periods on June 24 through June 27th, 1983 and July 8th through July 10th, 1983. All interviews were conducted by this researcher. A total of 30 interviews were planned and 24 were completed.

The dates and times for data collection were decided upon after a preliminary site visit and interview with an ED staff nurse at the facility indicated that these would likely be busy times (Werk, May 14, 1983). The busiest times were chosen for efficiency in data collection.

The design tools are discussed in detail later in this chapter, but basically consisted of an open-ended interview schedule coupled with a demographic questionnaire. Both sets of questions were designed to elicit information concerning the three previously described categories of factors: access to the facility, motivation for coming to the ED and perception of the role of the ED in providing care. A consent form was also designed to insure voluntary informed consent of all subjects.

Permission for the study was given in writing by the Service Unit Director at this hospital (Appendix II).

Sample Selection

The sample subjects consisted of all adult patients who met the following criteria: 1) those who presented to the ED during the data collection periods, 2) those whose chief complaint on arrival was nonurgent according to Weinerman's (1966) definitions and 3) those who were without mental impairment and able to speak English. Adult patients were chosen for ease of interviewing and to insure informed consent and privacy. It was also thought that the parental motivation for seeking care for children would confound the data, therefore patients under 18 years of age were omitted. Subjects with nonurgent health problems were selected in keeping with the purposes of the study.

Controls

It was anticipated that some subjects may not have been able to read the consent form; therefore each consent form was read in its entirety prior to the subject's signing. Each subject was able to sign the consent in English and each indicated verbally that he or she understood the benefits, risks and voluntary nature of the interview.

Initial plans were to interview each patient in privacy in the x-ray room away from the main ED area prior to evaluation by the ED staff to prevent identification of the subject by the staff and to control for response bias following the ED encounter. Removal from the ED area

was not possible because after 5 p.m. a metal gate was lowered in front of the ED area and each ambulatory patient presenting walked upstairs to get the nurse or after midnight rang a doorbell at the entrance. Consequently, each patient saw a nurse immediately upon arrival and an initial assessment, history and vital signs were taken.

Instrument

As apparent in the literature review, each ED is different and serves a different population. The selected population for this study was rural Montana Indians. No instrument was available that would address factors in ED use unique to this population. Therefore a two-part instrument was designed to elicit information concerning motivational, perceptual and accessibility factors in ED utilization. A consent form was also developed to explain the purpose of the study risks, and benefits to each participant (Appendix III).

The Background Information questionnaire is a tool that was designed to gather information concerning accessibility in terms of available transportation, distances travelled to the ED, road conditions as well as demographic information and cultural background (Appendix IV). It consisted of 30 items with 17 forced choice and 13 open-ended responses. Some items were taken from Weinert's (1982) Tool for Theory Development questions and were designed with an awareness of reservation life based on the first-hand knowledge of this researcher accrued during many years of residence on a Montana reservation. Questions were also based on a preliminary visit to Fort Belknap to assess the geography, communities and ED function.

The ethnographic Interview Schedule (Appendix V) was designed to elicit information concerning the three previously described factors in ED use. It consisted of 19 open-ended questions. A pilot study using the initial set of questions was done with eight Indian people selected because they were familiar with IHS care as consumers. The purpose of this initial step was to establish internal validity and reliability and sequence of questions. In addition, two English instructors edited the interview schedule for organization and clarity of wording.

A semi-final form of both tools was administered to four patients at another IHS facility ED in a pilot study two weeks prior to data collection. The pilot study resulted in the addition of one question to the Background Information tool concerning the possession of health insurance. One question was added to the Interview Schedule dealing with who made the decision for the patient to use the ED.

The final demographic tool consisted of 31 questions, 18 of which were forced choice and 13 of which had open-ended responses. The final interview guide had 19 open-ended questions. Questions 1 through 9 elicited information on the motivation to use the ED in terms of health problem; its perceived severity; its change over time and duration; who made the decision to seek ED care; and the stability of a relationship with a physician. Questions 5 and 6 were designed to collect information about treatment that was sought prior to using the ED, such as treatment at the Hayes Clinic or from traditional caregivers in the community, i.e., medicine men, Indian medicine substances used or ceremonies.

Questions 10 through 14 dealt with patterns of clinic use and

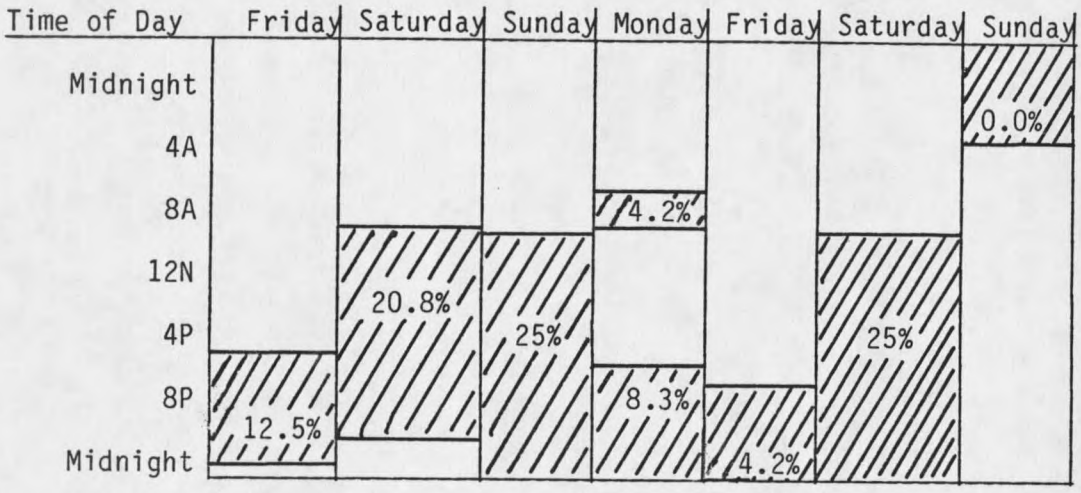
accessibility. These were designed to gather information about missed appointments and the reasons for missed appointments that may have been related to ability to keep an appointment.

The final five questions (15 through 19) were designed to elicit information concerning frequency of ED use, perception of ED purpose and preference for using the ED versus the Clinic. During the course of data collection it became apparent that an additional question was needed to determine if the subject perceived the visit as an ED or clinic visit. Since this final question was not added until part way through the collection procedure, eight responses are missing. The questions were also designed to assess the patient's knowledge of alternative sources of care. The date, day of the week and time of ED visit was also recorded for each interview.

Data Collection

The data collection was done in blocks of time of varying amounts. It was not known until the researcher's arrival that the OP clinic was not considered the ED by administration and staff until after 5 p.m. and on weekends. In keeping with hospital policy, data collection was done only during the evenings, nights and weekends. Below is a graphic representation of data collection items.

Figure 2. Sampling schedule with percent interviewed (N=24)



One trip to Fort Belknap was planned for data collection, but an additional trip was necessary to interview a total of 24 subjects. Seventeen were interviewed in the first four days and the final seven were interviewed two weeks later in the last three days.

Plans were to interview each subject prior to full assessment by the ED staff, but as indicated previously, the waiting time to see the nurse was almost nonexistent and that prior to seeing the doctor was less than 15 minutes in most cases. A result of the unexpected rapid access to the nurse and physician was that all patients were interviewed after seeing the nurse and almost all after seeing the physician.

Patients were approached when it was convenient for them and the staff; at which time the study was explained. If preliminary verbal consent was given, patients were asked to come to the interviewing room when they had been seen. The interviewing room was an unused examination room at the end of the hall away from the main triage area. In a few

instances, especially for those patients requesting medications and supplies, patients were approached as they were leaving.

In an effort to establish rapport prior to interview, the researcher explained that she was Blackfeet. A Montana State University nametag was worn at all times inscribed with the investigator's name and title. None of those approached refused to be interviewed.

Data Analysis

Content analysis was the method used to analyze the information gathered by the open-ended questions on the Interview Schedule. Variables were identified and frequencies counted for each. The demographic information was analyzed by counting frequencies, ranges, and measures of central tendency.

Independent variables such as age, sex, education, income, degree Indian and condition were measured against dependent variables such as ED preference, severity, condition change and distance travelled to the ED. Following is a list of variables that were cross-tabulated for each category.

Motivation

1. condition by degree Indian
2. condition by age
3. condition by sex
4. condition by distance
5. condition by income
6. condition by time of arrival

7. severity by education
8. severity by distance
9. severity by degree Indian
10. condition change by distance
11. decision by severity
12. number of doctors seen by desire to see same doctor
13. number of doctors seen by frequency of ED use

Perception

1. preference of service by desire to see same doctor
2. income by frequency of ED use
3. degree Indian by preference of service
4. degree Indian by frequency of ED use

Accessibility

1. time of arrival by possession of car
2. time of arrival by distance
3. sex by income
4. degree Indian by income
5. sex by education
6. degree Indian by having insurance
7. education by income

Because of the small number of subjects (N=24) the data were collapsed when possible into bivariate contingency tables and tested for significance using the Chi-square. In a few cases the data could not be collapsed into two variables; therefore, six-celled tables were used and tested for significance using the same method. The following chapter reports the findings.

Additionally, the clinic appointment schedules were reviewed and compared with the OP log to determine the number of missed appointments for two days and the number of walk-in patients during OP clinic hours for the period.

Chapter 4

FINDINGS

This research was an exploratory descriptive study using an ethnographic interview approach. Factors that contributed to ED use were identified using information revealed by content analysis of the interview responses and tabulation of information from the demographic tool. Frequencies were calculated for each variable identified. Cross-tabulations were done on variables that were expected to have some relationship. Because of the small number of subjects (N=24) in this study, all data were collapsed when possible into four-celled contingency tables. In some instances, the nature of the variables was such that they could not to be collapsed without losing information. The Chi-square was used to test for significance of relationships between variables.

The reader is referred to Appendix VI and V for an example of the actual tools used. In reporting the findings, the percentages were reported to the nearest tenth.

Description of the Sample

Twenty-four (N=24) interviews were conducted for this study. This number represented 43.6% of the total 55 patients that used this ED for care during the data collection periods. Forty-two patients (76.4%) of the total were screened by this interviewer and 18 (42.8%), were

omitted from the sample because they did not fit the selection criteria. Most of these 18 were omitted because of age. One patient was missed because an interview was being conducted and 12 came to the ED when the interviewer was not present. Twenty-seven patients (49.1%) presented to the ED on the two Saturdays included in the data collection period, 12 (21.8%) on Sunday, 10 (18.2%) on Friday and six (10.9%) presented on Monday.

Forty-seven (85.5%) of the total 55 patients had health problems of a nonurgent nature. The remaining eight (14.5%) were classified as having urgent or emergent health problems. These results are greater than those estimated by Werk (May 14th, 1983), but consistent with those reported by Powers (1983:145).

Information concerning clinic utilization at this facility was available for only two days of the data collection period because the appointment schedule was erased each day before the clinic closed. On Friday there were 43 scheduled appointments of which 18 (41.9%) were kept indicating that 58.1% were missed. There were 23 walk-in patients that day or 56.0% of the total recorded clinic visits. On Monday, there were 30 scheduled appointments of which 21 (70.0%) were kept and 30% were missed. Twenty-six patients (55.0%) of the total 47 recorded OP visits were walk-ins. These figures are in keeping with estimates by Werk (May 14, 1983) and the researcher.

Of the 24 patients interviewed, 11 (45.8%) presented on the two Saturdays, six (25.0%) on Sunday, four (16.7%) on Friday and three (12.5%) on Monday. Most of these patients, nine (37.5%), came to the ED between 12 noon and 4 p.m. Six (25.0%) came between 8 a.m. and 12

noon, and five (20.8%) came between 4 p.m. and 8 p.m. Only four (16.7%) came after 8 p.m. No patients presented to the ED in the three hours of one collection period between the hours of 12 p.m. and 3 a.m. Most of the patients that came to the ED when the researcher was not present came between 6 a.m. and 8 a.m. These figures indicate a trend toward weekend day use in this ED.

Demographics

Age and Sex

Males represented nine (37.5%) of those interviewed and females represented 15 (62.5%). Age range for the entire sample was from 19-46 years with a mean of 32.5 years and a median of 32.5 years. There was no definite mode.

The age range for females was 19-45 years with a mean of 32.0 years and a median of 29 years. There was a trimodal distribution of 24, 25 and 32 years. The age range for males was 19-46 years with a mean of 32.5 years and a median age of 31.0. There was no mode in this group.

Collectively, the modal age group was 19-29 in which there were 12 patients (50.0%) of the total. The next most frequent age group was 40-46 years in which there were seven patients (29.2%). It is apparent that this sample was much older than the general reservation population in which the mean age was 21.4 and the mode 15 years.

Degree Indian

The degree Indian of this sample ranged from one-quarter to full. This variable was initially tabulated using four categories: 1) full;

2) 3/4 - 7/8 degree; 3) 1/2 degree; and 4) 1/4 - 3/8 degree. Using these categories, most of the sample, nine (37.5%) were full Indian. Both the 1/4 - 3/8 degree group and the 1/2 degree group contained six (25.0%) each. Only three patients (12.5%) were in the 3/4 to 7/8 degree group. Because the full degree group and the 3/4 to 7/8 degree group have many commonalities observed by the researcher in terms of cultural backgrounds and behavior patterns such as traditional ceremonialism, speech patterns and level of sophistication concerning health matters; these two groups were collapsed into one. The researcher recognizes that while these attributes were not measured, they have important implications concerning the ability to express oneself and decision-making. When collapsed, each of the two groups comprised 50% of the total. Odd degrees such as 11/32 were converted to percentages and placed in the appropriate category.

Education

The level of education showed a great range; from eight years of school completed by four (16.7%) to 16 years completed by one patient (4.2%). The mean years of school completed was 12.0 years as were the median and mode. In addition, seven (29.2%) had completed nine to 12 years of school and eight patients (33.3%) had completed more than 12 years. One person (4.2%) held a baccalaureate degree; ten (41.7%) held high school diplomas; six (25%) held a Graduate Equivalency Diploma; and three (12.5%) had vocational training certificates. Only four (16.7%) had no formal training or education.

Employment Status

This sample consisted of ten patients (41.7%) who were working full time; nine (37.5%) were unemployed but looking for work and five patients (20.8%) were unemployed but not looking for work. The total of unemployed was 14 patients (58.3%). A greater rate of unemployment was reflected in the data for this sample than that of the whole reservation in which the unemployment rate was 8.9% in 1979 (U.S.D.C., 1980).

Three people (12.5%) had professional or semi-professional occupations; nine (37.5%) had vocational-technical occupations; eight (33.3%) had unskilled occupations; two (8.3%) were full-time students and two (8.3%) had no regular occupation. Twelve (50.0%) reported they were full-time homemakers and 12 (50.0%) were not.

Range of yearly income was from less than $3,000 to $39,900 per year with a mean of $11,063. Median income was $9,000 and the modal category was $6,000 to $8,900. The median income for the sample was similar to that of the reservation and below the state median of $18,413. The mean family income was much less than the state mean family income of $20,659 and also below those of Blaine and Phillips Counties at $14,800 and $13,700, respectively. Sixteen (66.7%) of the sample had no health insurance and eight (33.3%) did.

Residence

Nineteen (79.2%) of this sample were from the Fort Belknap Reservation. No data concerning tribal affiliation were collected.

Three (12.5%) were from other reservations and two subjects (8.3%) were Chippewa-Cree with no reservation affiliation.

Eleven (45.8%) of these subjects lived at the Fort Belknap agency or in Newtown, a housing project one-half mile from the hospital; five (20.8%) lived in Harlem, three miles away; five (20.8%) lived in Hayes, 20 Miles away; and one (4.2%) lived in the country. Three subjects (12.5%) lived in the other off-reservation communities of Havre, Dodson or Malta. A total of 17 (70.8%) resided on the reservation and seven (29.2%) resided off.

Distance from the hospital varied from less than one mile to more than five miles. True distances for the more than five-mile category were not determined. Eleven (45.8%) patients lived within one mile of the agency, and four (16.7%) lived one to five miles from the hospital. Only nine (37.5%) lived more than five miles away. A total of 15 patients (62.5%) lived five miles or less from the hospital. These findings support those reported by Weinerman (1966) that geographic proximity was related to ED use.

More than one-half (13 or 54.2%) of the subjects lived at or came to the agency everyday; six (25.0%) came one or more times each week and five (20.8%) came less often. All of those living more than five miles away came to the agency during the day.

Commerce

Most of this sample (15 or 52.5%) did the major part of their shopping and business at the agency or in Harlem. Nine persons (37.5%) did most of their business in Havre which is 45 miles from the agency,

or in Chinook or Malta, which are approximately 20 miles away. One person (4.2%) did most of his business and shopping in Great Falls which is 200 miles distant. One person lived in Lodgepole, a reservation community which is closer to Havre than is the agency.

Transportation

Sixteen (66.7%) patients owned cars and eight (33.3%) did not. Twenty-one (87.5%) reported they were able to drive. Of the nine patients who did not drive and/or did not own a car, three reported that they walked to the hospital, four were driven by family members or friends and two reported they rode with friends. Fifteen (71.4%) of the 21 patients who owned cars reported that their cars were always functioning; five (23.8%) reported that their cars were usually functioning and only one (4.8%) reported his car usually not functioning. No data were available for three patients. Sixteen (66.7%) reported that the roads they travelled to the hospital were paved, two (8.3%) reported gravel roads. Seven (29.2%) reported good road conditions in bad weather, seven (29.2%) reported bad roads, i.e. drifted in, snow packed or icy and two (8.3%) reported fair road conditions in bad weather. The data were missing from eight questionnaires.

Phone

Sixteen (66.7%) subjects indicated they had a phone and eight (33.3%) had none. Of the eight subjects without residential phones, six were able to use the phones of family members or friends anytime. Two people used public phones which were available during the day only.

Five of those without phones had access to one within one mile of their home (most were within one block) and three were more than a mile away with a maximum of two miles.

Motivation Findings

Question 1. What is the health problem/condition you are here for today?

Content analysis of the responses to this question revealed three major reasons for ED use. Twelve (50.0%) subjects reported symptoms of minor illness; eight (33.3%) came to the ED for over-the-counter medications, to pick up medication left in the pharmacy or to get supplies such as bandages. Four (16.7%) came for laboratory tests or x-rays including one request for an OP electrocardiogram.

Question 2. How serious do you think your health problem is?

The range of severity in the responses was from not very serious to very serious. Nine (37.5%) subjects indicated they thought their health problem was not very serious. Ten (41.7%) indicated they thought their health problem was serious and three (12.5%) thought it was very serious. Two (8.3%) responded they did not know how serious their health problem was. One of these two subjects had come to the ED to pick up over-the-counter medication for a family member.

Question 3. How long have you had this problem?

The range of duration in the responses was from 24 hours or less to

more than one month. Six (25%) indicated a duration for their health problem of 24 hours or less; eleven (45.8%) indicated a duration of two to three days; three (12.5%) indicated a duration of four to seven days, and two (8.3%) a duration of more than one week. Two (8.3%) subjects indicated a duration of their health problems for more than one month.

Question 4. Has it changed recently? Better? Worse?

Six (25%) subjects indicated that their health problem had become better recently. Fourteen (58.3%) indicated it had become worse and four (16.7%) indicated it was the same.

Question 5 and 6. Have you been treated for your health problem/condition by anyone other than a doctor, nurse or dentist? If so, what treatment did you receive?

Twenty-two (91.7%) indicated they had received no treatment by anyone other than a doctor, nurse or dentist. One subject (4.2%) had a throat culture by a community health representative and one (4.2%) person who was picking up medication for a family member did not know if the family member had received any other treatment.

Question 7. Who decided or advised you to come to the emergency room for this problem?

Thirteen (54.2%) subjects reported that the decision to come to the ED was made by themselves; six (25%) reported they were instructed by an

ED staff member and five (20.8%) reported they were advised by a family member or friend. Of the six subjects who were instructed by an ED staff member, four were instructed by the physician, one by a nurse and one by a dentist.

Question 8. How many different doctors have you seen in the last year?

The responses ranged from no doctors seen in the last year to six with a mean of 3.6 and a median of 4.0. The mode was five. Nine (39.1%) patients had seen five or six different physicians in the last year; seven (30.4%) had seen three or four physicians, and seven (30.4%) had seen zero to two. Data were missing from one questionnaire.

Question 9. If you could see the same doctor for all your health care and treatment, would you do so? Why? Why not?

Positive responses were given by 16 (66.7%) subjects and negative responses were given by four (16.7%) subjects. Three (12.5%) responded ambivalently by giving no definite yes or no to this question.

Positive responders gave 36 reasons why they would see the same doctor. Content analysis of the given reasons revealed factors related to four concepts: 1) continuity of care 2) getting to know, trust and like one physician 3) qualifications of the physician and 4) expediency. Responses relating to continuity were given 18 times (50.0%). Responses included reasons such as "the doctors would know my health history" or "I wouldn't have to keep repeating what my problem is".

Responses relating to getting to know, trust and like a physician were given 13 times (36.1%). These responses included such reasons as "I could depend on one doctor", "I'd trust one doctor more" or "I'd get to one doctor and feel more comfortable". Responses relating to the qualifications of the physician were given four (11.1%) times including such reasons as "this doctor is female", or "this doctor is very good". One response relating to expediency was given (2.8%) and had to do with the subject not having to wait to get pain medication.

Content analysis of eight reasons given by negative responders revealed factors related to three concepts: 1) qualifications of the physician, 2) access in terms of availability of permanent physicians at this facility, and 3) the desire to get more than one opinion regarding a diagnosis. Responses relating to qualifications of physicians were given four (50%) times. These responses included such reasons as "these doctors are interns", "they are not real doctors" and "the patients are guinea pigs". Responses relating to access in terms of the availability of permanent physicians were given twice (25%) including such responses as "you can't see the same doctor all the time here" and "they (the doctors) turn over so fast you can't depend on them". Responses relating to the desire to get more than one opinion were also given twice (25%) including "it's better to get two opinions" and "I'd rather see a doctor who specializes in my health problem".

Access and Clinic Use Findings

Question 10. Have you had an appointment for this health problem/condition in the last two weeks? At this clinic?

Eighteen (75%) subjects had not had an appointment for their health problem in the last two weeks. Six (25%) had had an appointment; one of the six was seen by a dentist four days before; one had an appointment at the Hayes Clinic and one had an appointment for an x-ray five hours prior to his ED visit. One subject was keeping an appointment in the ED at the time of interview.

Question 11. Did you keep your clinic appointment? If not what are the reasons?

Of the six subjects who had had appointments, three (50%) had not kept them. Reasons reported included being out of town at the time of appointment and not being able to get off work, one of the subjects had an appointment the morning of the interview when the x-ray technician would be working, but missed it and had to return again the next day.

Question 12. Did you attempt to cancel your appointment?

Of the three subjects who had missed their appointments two (66.7%) had attempted to cancel and one (33.3%) had not.

Question 13. Did you attempt to contact your doctor or nurse before coming here today?

Eleven (45.8%) reported they had called and talked to the ED nurse or doctor. Thirteen (54.2%) reported they had not attempted to contact the nurse or physician prior to coming to the ED. One of the 13 had an appointment at the ED.