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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE VARIABLES AFFECTING PATIENT DELAY IN A

MEDICAID POPULATION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PUBLIC HEALTH

ΒY

WILLIAM HARRISON UTT

Oklahoma City, Oklahoma

THE VARIABLES AFFECTING PATIENT DELAY IN A

MEDICAID POPULATION

APPROVED BY

1 D Ø

DISSERTATION COMMITTEE

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> John "K" Utt Inez M. Utt Wauettia Utt Mary Ann Utt

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THE VARIABLES AFFECTING PATIENT DELAY IN A

MEDICAID POPULATION

CHAPTER I

INTRODUCTION

Statement of the Problem

The variables which cause ill persons to delay before going to a physician for medical care are part of a complex help seeking process (1). An ill person proceeds through the "Symptom Experience Stage" and the "Assumption of the Sick Role Stage" before making a decision to seek professional medical care. In the "Symptom Experience Stage" the ill person feels pain, interprets the meaning of symptoms, and experiences anxiety about his condition. In the "Assumption of the Sick Role Stage" the ill person seeks relief from painful symptoms, acceptance of illness from family and friends, and proper guidance from associates in the best methods of obtaining treatment.

Many of the variables affecting patient delay have been identified by research investigators, but the complex interaction of these variables within the help seeking process

has not been fully clarified. Until recently explanatory research models were primarily utilized to determine how the interaction of demographic variables influenced patients to delay. Models utilized in recent studies have been more predictive in nature, emphasizing the interaction of socialpsychological and demographic variables in an independentdependent causal chain leading to patient delay.

Although the results from recent research studies have been encouraging, additional research is needed to elucidate the interaction among the demographic linked social structure, the situational intervening, and the medical orientation variables in causing delay. In addition to several well known demographic variables, such as age and sex, social structure and situational intervening variables significantly influence a patient either positively or negatively in seeking medical treatment. What he has done in the past, what his friends and neighbors expect him to do, what he wants to do, and what rewards he expects if he seeks medical care are of paramount influence in his subsequent behavior (2). The intention of this study is to further investigate the interactional influences among the demographic linked social structure, the situational intervening, and the medical orientation variables in order to better predict patient delay and to suggest intervention strategies which may decrease patient delay and subsequent disability.

Definition of Patient Delay

Patient delay has been characterized in the research literature as "unavoidable" and "avoidable" (3). Unavoidable delay is defined as the silent period between the biological onset of a disease and the first conscious recognition of symptoms. The length of this period depends on the number, type, and severity of symptoms. Some diseases, such as cancer, are in an advanced stage before the appearance of the first symptoms.

Avoidable delay is defined as that period of time between the first awareness of symptoms by the patient and his first visit to a physician for a definitive diagnosis and treatment. Some investigators such as Titchener and his associates qualified the first symptom as having to be an "outstanding discernible sign," signifying in the patient's culture a deleterious somatic change (4). Most investigators, however, do not qualify the severity of symptoms but rather the patient's initial awareness of these manifestations as signs of illness.

Pack and Gallo defined patient delay in their early model study in 1938 as a three month or longer period of time after the patient first recognized illness symptoms before he went to a physician (5). Harms <u>et al</u>. used a one month or longer period in their study (6). Suchman (1) indicated in one of his studies that the period of delay for hospitalized

patients was about one month.

In this study, patient delay is defined as a two month period of time before a patient goes to a physician after first noticing illness symptoms. A shorter period was selected because the patients were eventually hospitalized, whereas a three month period of delay would have placed several delaying patients into a non-delaying group.

The Approach

The model of this study incorporates components from several older research models which were used in related but different focal areas of investigation. The focus of this study is to investigate the variables which influence a person to delay after the first appearance of symptoms. An effort will be made to include all the "strictly patient delay studies" which use a defined period of patient delay for an ill population. However, only selected utilization and preventive health studies will be reviewed which provide further clarification of the patient delay process and useful model components for this study.

CHAPTER II

LITERATURE REVIEW

Frequency of Patient Delay Studies

Because of the high mortality among cancer patients, early efforts were made by research investigators to document the existence of patient delay. Wainwright wrote in 1911 about patient delay and physician failure to recognize cancer symptoms (7). The frequency of delay was reported in 1912 by the Pennsylvania Commission on Cancer, in 1915 by Gibson, in 1919 by Farr and in 1920 and 1924 by Simmons and Deland (8-11).

Patient and physician culpability were evaluated in early studies. Pack and Gallo carried out an early study (5) in 1938 on 1000 hospital cases randomly selected from the admission population. In this study patient delay was defined as a three months or longer period before a patient went to his physician after he first recognized his illness symptoms. Physician delay was characterized as the passage of one month or more from the time the patient was seen until a diagnosis was made. Results showed patient delay in 44.3

per cent of the study population, physician delay in 17 per cent, and a combination of patient and physician delay in 18 per cent.

The model developed by Pack and Gallo with minor variations was used by several investigators to document the frequency of patient delay. Frequency of patient delay varied from 31.2 per cent to 44.3 per cent of the total number in each study population (12-17).

Table 1 shows the results of another frequency study which identified the culpability of patients and physicians (6). In this study, Harms <u>et al</u>. defined patient delay as one month or more of procrastination by the patient after the first appearance of his symptoms. Utilizing the one month criteria they found patient delay frequency in 49 per cent of the total study population. This percentage was considerably higher than the percentages obtained in several studies by the investigators who used the three month delay criteria.

While it was the primary objective of most later studies of patient delay to understand the causes of patient delay, many times frequency was also documented. Henderson <u>et al</u>. in 1958 found the frequency of patient delay to be 69 per cent while Ludwig and Gibson in 1969 found it to be 35 per cent among welfare patients (18-19).

TABLE	1
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PATIENT AND PHYSICIAN RESPONSIBILITY IN DELAY (Harms, Plaut, and Oughterson)

	Cases (१)
Patient delay (1 month)	49
Physician delay (3 months)	15
Mutual delay	25
No delay	11
Number of Cases - 158	100

Duration of Patient Delay Studies

Several early studies were carried out to document the duration of patient delay. One of the earliest studies was carried out by Miller in 1929 (20). He reported an average delay of 25.5 months after the onset of symptoms by cancer patients with corpus carcinoma. In 1940, he reported an average delay of 11.1 months on a series of cancer cases seen between 1931 and 1940 (21). In 1946, Miller and Henderson reported an average patient delay of 12.5 months (22). Collins, however reported a similar average patient delay of 12.7 months in 1934 (23). The duration of average cancer patient delay varied between approximately 1 and 2 years over a 17 year period.

Several other investigators broke down the average duration of cancer patient delay, by percentage of cases, into periods of less than 3 months, 3 to 6 months, 6 to 12 months, and more than 12 months. In 1939, Shedden reported that only 27 per cent of the cases had an average duration of delay under 3 months and 18 per cent had an average duration of 6 to 12 months (24). Table 2 illustrates some of the results reported by other investigators (25-29).

Note that the duration of cancer patient delay was documented as late as 1955 by Aitken and others who reported that 17 per cent of the cancer patients delayed over 12 months before seeing a physician.

	Duratio	on of Delay
Investigators	3 months-	12 months+
Stearns (1950)	40%	24%
Taylor (1951)	43	20
Goldsen (1952)	68	15
Gray <u>et al</u> . (1952)	44	22
Aitken <u>et</u> <u>al</u> . (1955)	55	17

TABLE 2

PERCENTAGE OF CANCER PATIENTS WHO DELAYED LESS THAN THREE MONTHS AND OVER TWELVE MONTHS Still other investigators, who used different sizes of study populations and types of cancer lesions, further documented this problem. Brindley, Rosser and Kerr, Braund and Binkley and Diddle found a period of delay from over 3 to 18.9 months (30-33). The severity of this perplexing problem was documented by these investigators who pointed out that the percentage and duration of patient delay dropped very little over an extended period of time.

Causes of Patient Delay Studies

Two of the earliest studies about the causes of delay were carried out by MacDonald in 1938 and in 1946 (34). In each study, he made a comparison of the reasons given for patient delay by 1,000 cancer patients. Table 3 shows a comparison between the behavior rationales of non-delay and delay patients. Within eight years, the non-delay group had increased in size by 27 per cent. Negligence or ignorance was still the largest stated reason for delay in 1946 while fear appeared insignificant.

The following year a related study was done by Bates and Ariel on 168 cancer patients at the Hines Veterans Hospital to determine the reasons among the veteran population for patient delay in seeking medical care (35). Table 4 shows the three main sources of delay. According to this study, one important cause of patient delay was the patient's ignorance of the seriousness of his condition. It is

TABLE 3

CAUSES OF PATIENT DELAY IN TWO EARLY STUDIES BY MACDONALD

The No-delay Category and	Percentage			
Reasons for Patient Delay	1938	1946		
No-delay Category	10.6	38.2		
Fear	2.0	1.7		
Economics	1.5	0.0		
Inadequate Medical Advice	12.1	2.9		
Cults	0.2	0.5		
Negligence or Ignorance	33.8	26.5		
Not Stated	39.8	30.2		
Totals	100.0	100.0		

T.	AE	3I	Έ	4
		-		

SOURCES OF PATIENT DELAY IN AN EARLY STUDY BY BATES AND ARIEL

Sources of Delay	Percentage (1947)
Procedural	32
Inadequate Initial Medical Care	31
Failure to see a Physician	25

interesting to note that MacDonald had found the same primary cause of delay in his earlier studies.

Ignorance was again determined to be the primary cause of patient delay in a study done at the New Haven Hospital (6). Over 56 per cent of the 158 cancer patients indicated that ignorance was the main cause of delay. Other reasons stated were personal negligence (10 per cent), cost of medical care (10 per cent), fear of cancer (2 per cent), and fear of physicians (2 per cent). Fear appeared to be an insignificant cause of delay in these early studies.

Psychological factors were used as the basis of an early patient delay study in 1947 (36). In this small uncontrolled study population of 50 patients, delayers were categorized as over-cheerful, apathetic, worried, elderly or senile, depressed, mentally abnormal, or subnormal in intelligence. Even though these characteristics were not the only traits of delaying types, they did point toward the influence of personality makeup in causing patient delay.

A somewhat similar, though more intensive inquiry, was carried out at the Massachusetts General Hospital where defense mechanisms were studied as reasons for patient delay (37). Four types of defense mechanisms were identified as contributing to delay:

 Avoidance, subconscious awareness of cancer symptoms which was not permitted to become conscious.

- 2) Suppression, noticing cancer symptoms which were dismissed as trivial.
- 3) Denial, refusing to accept suspected cancer.
- Destiny neurosis, admitting being the victim of cancer but refusing treatment because it is willed by fate.

Even though this study primarily focused on the patient delay which was related to the control of fear arousal, it reemphasized the disastrous results which occurred when the seriousness of cancer was not consciously recognized by its victims.

Another similar study was carried out in 1946 with 250 cancer patients at the New York Memorial Hospital (38). In this study, the causes of patient delay were divided into three categories, socio-economic, emotional, and medically knowledgeable. Eighty-nine per cent of the 142 delaying patients stated they delayed because the symptoms did not seem serious. Almost half of the non-delay group had suspected cancer even though they were not familiar with its symptoms. This study seemed to indicate that the fear of unusual symptoms rather than the fear of suspected symptoms may influence patients to seek medical care. In addition, it identified old age as an influential demographic variable.

The number of categories which included variables influencing patient delay was increased in another study done at New York Memorial Hospital (39). In this study, a questionnaire was used to obtain information from 329 cancer patients in the following areas: social status, economic standing, emotional condition, knowledge, and physical characteristics. The most influential variables affecting delay were economic deprivation, denial of anxiety over illness, negligence or ignorance, and aging. Fearful young patients who had severe symptoms obtained immediate medical care, but older patients procrastinated. Because no control group was used, correlation of the factors was not possible. However, the multi-causations of delay such as social structure, demographic positions, and emotional state were again emphasized.

The above patterns of delay behavior were identified in a more recent study done in 1954 at the Christie Hospital in Manchester by Cobb, Clark, McGuire, and Howe (40). In this study cancer patients were divided into a delaying older group and a non-delaying younger group. Delaying older cancer patients were poor, under educated, skeptical toward physicians, and prone to believe in divine healing. Non-delaying younger cancer patients were affluent, well educated, positive toward physicians, and believers in medical care. These younger patients recognized the threat of cancer, felt susceptible, and took advantage of medical care; but the older patients denied even the possibility of cancer. This study provided a workable model for evaluating patient delay variables by contrasting their behavior patterns.

A related study (29), which included interviews with 314 patients and their relatives, further emphasized the dichotomy between delaying and non-delaying cancer patients. In this study the investigators determined that patients were influenced whether or not to delay by the extent of their medical knowledge. Whether a patient did or did not recognize the meaning of his manifested symptoms determined to a great degree his subsequent illness behavior. The lack of knowledge of disease symptoms did not contribute as much to patient delay as the recognition and implications of serious disease symptoms. Knowledge of malevolent symptoms aroused fear which resulted in positive and negative reactions toward seeking medical care. Patients who reacted positively after feeling threatened or susceptible immediately obtained medical care. This study pointed out the importance of prior cultural conditioning on the behavior of patients faced with the evidence of having a dread disease.

The influence of cultural conditioning on a positive or negative orientation toward medical care was studied by King and Leach in 1951 (41). In this study a strong relationship was demonstrated between what a patient had always done about seeking medical care and what he was doing for present illnesses. It was determined that patients seeking medical care without delay could be said to have good health habits, while those who delayed obtaining treatment could be

considered to have bad health habits. Low educational attainment and aging were thought to be related to poor health habits. However, in this study the patient's cultural conditioning concerning the seeking or avoiding of medical care was found to be more important in determining behavior than chronological age.

The part that fear plays in the complex process of seeking medical care was further described in a study done by Titchener in 1956 (4). Using a population of 200, surgical patients delayed because they had a fear of punishment by surgery, fear of death, or other psychological reactions. These reactions occurred before, during, or after the appearance of symptoms. Variables such as age and intelligence were not correlated with patient delay in this study. Psychological variables which operated during the cultural conditioning of these patients toward seeking medical care probably continued to operate after the appearance of their symptoms.

A psychological study which primarily evaluated attitudes and behavior reactions toward the seeking of medical care was done by Henderson, Wittkower, and Longheed (18) at two English-speaking hospitals in Montreal in 1958. The study population was described as a non-selected group of 100 men and women of varying ethnic origins, educational standards, and intelligence levels who were suffering from cancer of the breast, cervix, or large bowel. It was

hypothesized that:

- 1) Early or late presentation for medical treatment was related to the personality of the patient.
- The site of the lesion and the initial symptomatology were somewhat influential when the patient presented himself for medical care.
- 3) Cancer education in some instances may have been highly effective, while in others it may have fostered delay, depending on the personality factors involved in individual cases and also on the nature of the educational materials.

In order to test these hypotheses, a factorial analysis was done on the information obtained from the hospitalized patients in non-directive and directive interviews.

Table 5 shows the reasons stated by these patients for delaying in seeking medical care. These reasons included: the failure of patients to recognize serious symptoms, misidentification of cancer with their previous illnesses, lack of pain, expense of treatment, and fear of physicians, hospitals, or operations. Most of these patients who delayed were characterized as having prior emotional disturbances, coming from faulty family environments or broken homes, failing to develop a satisfactory interpersonal relationship with their physicians, and using defense mechanisms to deny the existence of cancer. This psychological study further emphasized the significant influence which the interactional affects of cultural conditioning, medical ignorance, economic deprivation and fear arousal have on

TABLE 5

STATED REASONS FOR DELAY BY PATIENTS IN THE DELAY AND NON-DELAY GROUPS

Reasons Stated by Patients			y Y	Non-Delay		
Medical Care		(09 Ca	ses)	(31 Cases)		
		Self	8	Self	8	
1)	Symptoms not considered					
-	serious enough	30	43.5	4	12.9	
2)	Misidentification with					
	previous illness	3	11.6	1	3.2	
3)	No pain	12	17.4	4	12.9	
4)	No previous history of illness	4	5.8	1	3.2	
5)	The belief that nothing can					
	be done for them	2	2.9	-		
6)	Symptoms regarded as normal	3	4.3	-		
7)	Previously frightening ex-					
	periences with patients who					
	died of cancer	4	*5.8	-		
8)	Age (i.e., "too old to bother	_		_		
• •	seeking treatment")	4	4.8	T	3.2	
9)	Could not leave their work	4	5.8	-		
10)	Expense of treatment	19	27.5			
11)	Notime	3	4.3	-		
12)	Embarrassed at being examined	-		-	2 2	
	by physician	/	10.1	T	3.2	
T3)	Fear of:	1 9	0.4 C	•	2 0	
	a) physicians	1/	24.6	1	3.2	
	b) nospitals	2	2.9	1	3.2	
7 4 1	c) operations	9	13.0	T	3.2	
14)	Fear of dying	2	2.9	-		
тэ)	rear of what they will be	0	11 6	1	2 2	
261	told Thinking of others before	8	11.0	Ŧ	3.2	
τ 0)	themselves	7	101	2	6 1	
171	Miscellaneous	י כ	70.T	-		
	HISCETTUREORS	2	2.0	—		

*Analysis of the clinical interviews showed that in fact a much higher percentage of the delay group had previous experience of cancer. The apparent discrepancy is due to the fact that many patients did not explicitly state that their delay was due to previous contact with cancer. patient delay.

Goldsen participated in a study from 1951 to 1962 which evaluated the interaction of a large number of variables (43). In this study, 727 cancer patients were divided into delayers and non-delayers according to their past utilization of medical care. Their subsequent behavior in seeking or failing to seek medical care was then compared. Table 6 shows the organization of variables which were selected for investigation in this study.

Selected categories of variables were arranged into a causal type chain of independent, intervening, and dependent variables. The independent variables were the symptoms and the diagnostic situation, the patient's medical history, his conception of cancer, and his personal makeup. The intervening variables were the social structure variations. The dependent variables were the empirical lapse of time between the onset of symptoms and first attempt to get a medical diagnosis in conjunction with the patient's selfdeceptions in having delayed or responded to these symptoms.

In this study, Goldsen decided that the delay was related more to a cluster of long-standing socio-medical habits built up over a life time than to the appearance of a specific cancer symptom. Goldsen first identified the above reason for delay in a 1957 study (43). Using one of the first multivariate causal chain models to predict patient delay, Goldsen found that age, sex, social status, and

TABLE 6

SCHEMATIC PRESENTATION OF STUDY DESIGN (Cornell-New York State Department of Health Research)

Central Concept for Analysis (Dependent Variables)		Causal Factors Sub-populations Investigated Investigated (Independent Variables) (Intervening Variables)			o-populations Investigated ervening Variables)
Delay or alacrity in seeking diagnosis for this symptom.		1.	The symptom and the diagnostic situation	5.	Position in social struc- ture
a)	Empirical lapse of time between onset of symptom and first attempt to get diagnosis (S-Dx interval).	a) b) c)	Nature of the symptom Malignancy of the symptom Noticeability or hiddenness of	a) b) c) d) e)	Age* Sex Rural or urban residence* Religious Socio-economic
b)	Patient's self- perception as having delayed	d) e) f)	Home diagnosis of possible meaning of symp- tom Past suspicion of cancer* Consideration of money and cost*	f)	Labor-force status*
		2.	Patient's medical behavior history		
		a) b)	Chronic delay in general* History of chroni delay*	с	
			Factors relate to patient's concep- tion of cancer		
		a) b) c) d)	Level of anxiety about cancer* Knowledge of cancer Exposure to can- cer publicity Image of cancer		

TABLE 6--Continued

.

Central Concept for Analysis (Dependent Variables)	Causal Factors Investigated (Independent Variables)	Sub-populations Investigated (Intervening Variables)		
	4. Factors related to patient's personal make-up			
	a) Personal reti- cence* b) Wishful thinking			

* Variables which were found to be unconditionally related to delay. general illness behavior correlated with promptness in seeking or failing to seek medical care. This study, sponsored by the New York State Health Department, was one of the earliest studies to use a multivariate causal chain model to predict delay.

Sweet and Twaddle carried out a patient delay study in 1969 without a control group in order to identify components of delay, causal and predisposing factors, and some consequences. The findings indicated that 11 per cent of the study population delayed over two months because they did not recognize ambiguous illness symptoms. Surprisingly, lay consultation advice influenced the patients to visit their physicians sooner instead of later as in some earlier studies.

Utilization Studies

One of the earliest noted utilization studies was carried out in 1963 by Suchman who used a predictive causal chain model on a randomly selected general study population of 5,340 persons in New York City (45). He demonstrated that social group forces influenced individual illness behavior. In this study, persons seeking medical care and the providers of medical care were viewed as two components of an interacting social system. Conflict occurred when patients and physicians differed not only in their perceptions of symptoms and illness but also in the relative reliance each
placed upon the scientific or formal approach to medical care versus popular or folk means of treating illness.

Suchman divided his study populations into two categories according to the variations in their socio-cultural backgrounds. These categories were:

- 1) Parochial social groups, characterized as traditional shared, affectual, and closed.
- Cosmopolitan social groups, characterized as progressive, individualistic, instrumental, and open.

It was Suchman's hypothesis that those individuals belonging to relatively more homogeneous and cohesive "parochial" social groups were more likely to react to illness and medical care in terms of the social group's definition and interpretation of appropriate medical behavior rather than to the more formal and impersonalized prescriptions of the official medical care system.

Suchman tested this hypothesis by determining the interrelationships between the following sets of indices of social group organization and individual medical orientation:

Social Group Orientation + + Individual Medical Orientation

- 1. Ethnic exclusivity
- 2. Friendship solidarity
- 1. Knowledge about disease
- 2. Skepticism of medical care
- 3. Family tradition and authority
- 3. Dependency in illness

It was expected and statistically confirmed in this study that those individuals belonging to the community

social groups, which were ethnically exclusive to closely knit friendship groups, and to traditional and authoritarian family groups had a lower level of knowledge about disease, a larger skepticism of medical care, and a greater dependency in illness. In other words, individuals in the parochial social groups defined, interpreted, and treated their illnesses according to the medical behavior norms of their community, friends, and family.

Suchman also examined the relationship between social groups structure and individual medical orientation in regard to three other categories of variables: demographic characteristics, health status, and medical care. It was his hypotheses that:

- Socio-economic classes would differ in social group structure, the lower social class tending toward a "parochial" social structure and a popular orientation toward medical care.
- 2) Health status could be reflected in the underlying social class, age, and sex differences but would be little affected by the social group structure, the source of medical care being reflected or varied according to the nature of the social group structure.

The analytical framework of the above hypotheses were diagrammed in the following causal chain of independent, intervening, and dependent variables:

Social Social		Individual	Source of		
Status + +	Group → →	Medical $\rightarrow \rightarrow$	Medical Care		
	Structure	Orientation			

Results showed that parochialism was related to a popular or non-scientific medical orientation in all classes and could not be explained solely by a lower class status of a "parochial" group. Age and sex represented role variations within social groups rather than health status. No strong or consistent relationship exists between the social structure and source of medical care, and no strong relationship exists between social group structure and health status.

General findings in Suchman's study indicated that the old, lower class males were very likely to maintain a "parochial" medical care orientation and that the old, lower class women might be more "parochial" than men, but these women were less committed to a negative medical orientation because they were more familiar with scientific medical care. The persons who are more "parochial" have more mental disability or psychological mal-adjustment to everyday problems. By carrying out one of the first studies to systematically collect data on two sets of social factors, Suchman was able to demonstrate the causal chain type of interaction between independent, intervening, and dependent variables in the process of seeking medical care.

Suchman (1) did a follow-up study in 1965 using a sub-sample of 137 patients from the original study of 5,340 persons in order to analyze the patterns of behavior which accompanied the seeking of medical care. All of these patients had suffered from illnesses which required three

or more physician visits, incapacitated the person for five or more days, and required hospitalization for one or more days. The cases tended to be somewhat older and of lower socio-economic status than the original sample, but the study had the same sex distribution.

The principle elements distinguished in these behavioral patterns were the content, sequence, spacing, and variability of behavior during the different phases of medical care. The phases of medical care were:

- 1) The Symptom Experience Stage.
- 2) The Assumption of the Sick Role Stage.
- 3) The Medical Care Contact Stage.
- 4) The Dependent-Patient Role Stage.
- 5) The Recovery or Rehabilitation Stage.

There were three aspects in the decision that something was wrong in the Symptom Experience Stage: the physical experience or pain, discomfort, change of appearance, or debility actually felt; the cognitive or interpretation and derived meaning for the ill person; and the emotional response of fear or anxiety that accompanied both the physical experience and cognitive interpretation. Symptoms were defined by the ill persons in terms of interference with normal social functioning and not in terms of medically diagnostic categories. Particularly relevant to medical care in the decision-making process in this stage was the decision to seek medical care or to deny the existence of an illness.

Results indicated that pain (66 per cent) was by far the most important initial warning followed by fever or chills (17 per cent), shortness of breath (10 per cent) and various other symptoms (5 per cent). Symptoms which were continuously painful and incapacitating resulted in 75 per cent thinking about contacting a physician immediately. About one-third (31 per cent) tried to disregard their painful symptoms, but only 14 per cent managed to convince themselves that the symptoms did not indicate an illness. Most of the ill persons explained their symptoms in terms of increasing exposure or lowered resistance to the weather, nervous tensions, or other causes.

The Assumption of the Sick Role Stage was characterized by the patient seeking relief from his symptoms and information, advice, and temporary acceptance of his condition from his family members and friends. It was hypothesized that most ill persons discussed their symptoms with important people in their lives. Results showed that 74 per cent discussed their symptoms with other people and 48 per cent with only one person. Ninety-one per cent discussed their symptoms with another person as soon as the symptoms appeared and 84 per cent discussed their symptoms with a relative, usually a spouse. Fifty-four per cent of the discussants recommended that a physician be seen and

87 per cent of the ill persons followed this advice. Only a few ill persons were confident enough to make their own judgment about their illness and most of them appeared to need guidance and assurance from family members before accepting the illness.

The Medical Care Contact Stage was characterized by the ill person seeking a medical diagnosis and prescribed course of treatment from a physician rather than a lay source. It was hypothesized that the selection of the source of care reflected not only the patient's knowledge of medical symptoms and the availability of medical care, but also the social group influences upon him. Most of the ill persons (65 per cent) contacted a physician at once. The physician was usually a general practitioner known to them or recommended by a friend. Those who delayed (48 per cent) believed that their symptoms were not serious. Twentyfour per cent did not want to give up their responsibilities and only a few gave economic problems (8 per cent) or fear (2 per cent) as reasons for delay. Socio-economic status did not affect the initial seeking of medical care.

Several general conclusions were made about the patterns of responses by ill persons in this study population. Women and old people were more concerned about their illness symptoms with only minor differences occurring due to socio-economic status. Women were more likely than men to have discussed their symptoms with several other

individuals. Young persons turned to others more quickly for help than did the old persons. Men, old persons, and those in the upper socio-economic classes were more prone to interpret their symptoms as indicative of a serious disease. Men and young persons were more inclined to seek early professional medical care regardless of their socio-economic status. The upper income persons were more likely to see more than one physician in seeking medical care. Most of the ill persons turned to their own family physician for medical care.

Several other investigators carried out studies similar to Suchman's in an attempt to link personal and subcultural variables to the likelihood of an individual perceiving an event as a symptom or to his pattern of responding to a symptom (46-49). Freidson, for example, discussed the influence on the ill person of forces operating in the social structure or lay referral system, such as medical advice, guidance, and support from friends or family members (46). Miller in 1973 investigated the sources of lay conferrals by cancer patients in relation to their social class (50). Stoeckle, Zola and Davidson studied the effects of ethnic values upon the individual's interpretation of symptoms and decisions regarding medical care (51). Zborowski found that Italian patients sought relief from pain, but Jewish patients were more concerned about the meaning of pain (52). Kadushin showed that a patient chose a

physician who had the same ethnic background in order to reduce the social distance between them (53). Mechanic found that several subjective factors or "good qualities" influenced the selection of a physician by 350 mothers primarily from the middle and lower classes (54).

Other sub-cultural variables identified in the research literature as affecting the perception and response of an individual toward an illness symptom were health knowledge, personal needs, and past illness experience. Koos found that health needs were evaluated in relation to a constellation of personal needs (55). The high social classes, however, were more knowledgeable about diseases and prone to seek medical care earlier. Levine determined that patients who feared certain diseases knew more about them (56). Because of different experiences, training, and biological sensitivities, some ill persons shrugged off symptoms, while others sought medical care immediately. For example, one person in three who reported symptoms in a household interview went to a doctor and only nine of 750 persons were hospitalized (57).

According to Mechanic, ten rather specific factors affected the response of patients to symptoms (58). Zola in his study identified only five factors or timing "triggers" affecting an ill person's perception and decision to seek medical care:

- The interpersonal crisis where the situation called attention to the symptoms and caused the patients to dwell on them.
- 2) The social interference where the symptoms threatened a valued social activity.
- 3) The presence of sanctioning where others told the ill person to seek care.
- 4) The perceived threat of symptoms.
- 5) The nature and quality of the repeated symptoms. (59)

Preventive Studies

Several preventive health studies have been carried out during the last decade which attempted to link the current subjective states of the healthy individual with his current health behavior. Hochbaum did one of the earlier noted preventive studies in 1958 on 1,000 adults in three cities to identify factors underlying the decision to obtain a chest x-ray for the detection of tuberculosis (60). Two beliefs were identified: the belief of patients in their susceptibility to tuberculosis and the belief in the benefits of early detection. Susceptibility feelings included the person's beliefs about whether tuberculosis was a real possibility in his case and the extent to which he accepted the possibility that one might have tuberculosis in the absence of all symptoms. In the group of persons who believed in both their susceptibility to tuberculosis and the benefits of early detection, 82 per cent had taken at

least one voluntary x-ray during an indicated period prior to the interview. Of the group who did not hold either belief, only 21 per cent had taken a voluntary x-ray in the designated period. It appeared that taking a preventive type health action in this study was a function of the interaction between perceived susceptibility and perceived benefits. Susceptibility was the more powerful variable in this study.

Kegeles did a similar study on 430 individuals who had a pre-paid dental plan to measure their perceived susceptibility to soveral dental conditions, their perceived seriousness of these conditions, and their beliefs about the benefits of preventive actions and barriers to those actions (61). Although his crucial analysis only included 77 of the original study population of 430, he demonstrated that the number of preventive dental checkups taken by the respondents increased according to their successive increase in the number of the above beliefs from none to three. Similar results were demonstrated in two other studies concerning prophylaxis behavior for rheumatic fever and case finding for cervical cancer. A prospective followup study was done on dental patients by Kegeles to confirm the results obtained in his earlier study (62).

Leventhal <u>et al</u>. evaluated the threat of influenza on 200 randomly selected families in two medium sized cities using a prospective study design (63). Two interviews were

given to the families. One was given before most people had the opportunity to take any preventive action such as taking a vaccination and the other after the epidemic had subsided. Because vaccination programs moved rapidly, only 86 respondents could be used. Analysis of the data indicated that prior beliefs were instrumental in determining subsequent action because 5 of the 12 who indicated beliefs in their susceptibility to the disease and its severity took vaccinations, but only eight took vaccinations out of the 74 persons who did not feel susceptible or did not believe the disease to be serious during the initial interview.

Kirscht, Rosenstock <u>et al</u>. did a National Study of Health Beliefs in 1963 on 1,493 cancer, tuberculosis, and dental disease patients throughout the country (64). In this study, these persons were asked, regarding themselves and others, if they believed these diseases to be serious, if they felt susceptible, and if preventive action would be beneficial. Following are the questions asked about these beliefs:

- 1) Do you believe the disease is serious?
- 2) Do you believe the disease is likely to occur?
- 3) Do you believe the disease is a source of worry?
- 4) Do you believe early treatment of a diagnosed disease is more beneficial than delayed treatment?
- 5) Do you believe tests or checkups are necessary to diagnose the disease?

6) Do you believe tests or checkups would detect the disease before the appearance of symptoms?

The results of this national health belief survey indicated that many persons, when faced with a threatening situation, would engage in a type of defensive behavior by projecting greater vulnerability to others. It was shown that everyone believed in early treatment. Few of the patients, however, would rely on tests or checkups. These patients believed that symptoms would appear before tests could detect the presence of a disease. In general, the results did not demonstrate a general preventive medical orientation but did suggest that patients who regarded early medical checkups valuable for one disease would regard it valuable for another disease. This study pointed out the need for further study regarding the true role of beliefs on the patient's behavior in seeking medical care.

McKinlay did an overview of the approaches and problems in the utilization studies carried out prior to 1972. This analysis somewhat described the present sophistication of medical care studies including the traditional patient delay group (65). According to him, research articles about empirical results appeared to be more substantial than the actual findings because of factors such as varying methodologies, medical care systems, time periods and interpretation rhetorics. Problems related to past studies included limited access to data sources, limited

data about specific populations affecting inference, quantity content instead of quality, retrospective study problems such as the ability of patients to recall data, neglect to study the decision making process, emphasis on individual determinants to the neglect of social determinants, and limitation to one type of service being utilized.

According to McKinlay, studies were generally included under six approaches and each approach had its advantages and disadvantages. Only the main disadvantages or limitations which affected the focus of this current study were listed:

- The researchers who used the economic approach focused on the importance of family income to utilization but did not consider that financial resources may only indirectly affect utilization.
- 2) The researchers who used the socio-demographic approach focused on age, sex, education, and other variables in determining utilization but sometimes failed to explain variations between the behavior effects of these variables or to explain why some members did utilize services and others did not in the same study population.
- 3) The researchers who used the geographic approach focused on proximity to serve as a positive determinant of utilization but sometimes failed to explain why some sub-groups near services did not use them.
- 4) The researchers who used the organization delivery system approach focused on the attitudes of the providers toward the clients but sometimes failed to give adequate attention to discover what was really going on between patients and providers.
- 5) The researchers who used the socio-cultural approach focused on the utilization of services

by classes and used the middle class as a positive attitudinal model but sometimes failed to completely explain under utilization.

6) The researchers who used the social psychological approach focused on selected individual psychological factors in a causal chain affecting utilization but sometimes failed to be concerned about the influence of kin and friendship networks.

After indicating the limitations of the various study approaches, McKinlay suggested several areas which needed further research study:

- A small scale, inductive approach should be used to repeat several earlier studies rather than an artificial, sophisticated one.
- 2) Several prospective utilization studies should be carried out.
- Studies should be carried out to further clarify the influence on utilization of variables in the social network.
- Studies should be carried out to collect more baseline socio-demographic information instead of depending on routinely collected official statistics.
- Studies should be carried out to further explore the various processes, stages, and patient decisions in the utilization process.
- 6) Studies should be carried out about the viewpoints of ill persons regarding the organizational impediments to patient care.

Summary of Literature Survey

The causes of patient delay have been the subject of extensive research during this century. For example, Wainwright (7) and many other investigators carried out several earlier studies about the causes, frequency, and duration of patient delay in cancer patients. The frequency of patient delay was found to be 44.3 per cent in one study (5) and the average duration of delay as high as 25.5 months in another study (20).

The causes given by patients for delaying in these earlier studies were stated as single or categories of variables. Table 7 illustrates the difference between categories of variables used by MacDonald (34) in 1939 and 1946 and Goldsen (43) in 1957. Even though these categories were somewhat similar, Goldsen's categories were more comprehensive and inclusive of combination and single variables effecting delay. Table 6 illustrates the large number of small variables in Goldsen's categories. Generally most of the earlier studies done by investigators about patient delay focused on a few or all of these categories or altered versions of them. The lack of knowledge or ignorance was documented as a major cause of delay in both MacDonald's study (34) in 1938 and 1946 and in Goldsen's study (43) in 1957.

Kutner, Makover, and Oppenheim (3) published a critical analysis of the earlier patient delay studies in

TABLE 7

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CATEGORIES OF VARIABLES AS DETERMINED BY MACDONALD AND GOLDSEN TO AFFECT DELAY

MacDonald (1938, 1946)	Goldsen (1962)				
Fear	The Symptom and Diagnostic Situation				
Economics	Patient's Medical History				
Inadequate Medical Advise	Patient's Conception of Cancer Patient's Personal Make-up				
Negligence of ignorance					
NUL BLALEU	Social Structure Position				

1958 in order to recommend further research. These investigators pointed out two basic weaknesses of previous studies: limited recall about illness symptoms in fearful cancer victims and the failure to distinguish among delaying patients who had chronic, moderate, and severe symptoms. According to Kutner <u>et al</u>., additional research was needed which would include all types of patients to provide for individual differences in the basic reasons for promptness or delay, for individual differences regarding the site, symptomatology, and severity of disease and symptomatic onset, and for a determination of the attitudinal foundations and behavior expressions of reaction to illnesses at every stage.

Research investigators such as Goldsden (43) and Suchman (45) turned to a more predictive utilization model after recognizing that the traditional model used by Pack and Gallo (5) was limited to explaining only the demographic delaying influences. Both Goldsen and Suchman demonstrated the affect on delay of long-standing sociomedical habits. Suchman clarified the interactional influences between social group structure and medical orientation by showing that patients from a parochial social group were influenced toward denial of illness, selfdiagnosis, and delay by social group practices specifically ethnic exclusivity, friendship solidarity, and family tradition-authority. Within this interactional process,

Suchman and several other investigators identified the stages and the perceptual influences within each stage that an ill person experienced in the seeking of medical care.

Still other investigators believed that the traditional delay and utilization studies only allowed certain summary generalizations about the association of personal characteristics and the use of services. In their opinion, the preventive type studies which used a newer model were more predictive of health related behavior. According to these investigators, such as Kirscht et al. (64), health behavior developed out of a psychological state of readiness created within an individual by feelings of being vulnerable or susceptible to a perceived serious disease and to the extent to which a particular preventive course of action is believed to be beneficial in reducing the threat. The results of several research studies indicated that the healthy persons who considered preventive health measures as protection against one serious disease would consider them valuable against other serious diseases, but these investigators indicated the need for further testing of this preventive model. Rosenstock (66), in fact, mentioned the possibility of adapting this model to an ill population.

Rationale

It appears that the large number of demographic, utilization, and preventive health studies carried out

during this century to determine why patients delay in seeking medical care have not been entirely conclusive. The early patient delay studies patterned after the model of Pack and Gallo (5) were more explanatory than predictive in nature. However, these studies did identify single and categorical variables such as age, sex, education, social class, income, race and defense mechanisms which influenced patients toward delay (see Tables 5, 6, and 7).

After recognizing the explanatory limitations of the traditional, demographic study model, several investigators developed more predictive utilization models. Goldsen (43) in 1957 and Suchman (1) in 1963 carried out two of the early studies which used a causal chain of independent and dependent variables to identify the patient's attitudinal foundations and behavior expressions of reactions to illness. These studies provided additional clarification about the affect of social structure, medical orientation and other variables on the patient's reactions to illness symptoms, but several investigators criticized these studies for not including the influence of preventive health variables.

One of the better known preventive health studies was done by Kirscht, Rosenstock <u>et al</u>. (64) who used a model on a healthy population in 1963 to determine if persons who considered a disease to be serious and felt susceptible to it would take preventive health measures. Several other investigators carried out similar studies to determine if

healthy persons took preventive measures such as screening tests, physical check-ups, and immunizations to protect their health. Results indicated that persons who took preventive health measures to protect themselves from one threatening disease would take them for protection from other serious diseases.

Rosenstock stated that this model needed further experimentation and could possibly be used in the future to explain illness behavior. (66).

According to Rosenstock (66), McKinlay (65), Kutner (3), and several other investigators, additional research is needed to further clarify the causes of patient delay. These studies should be inductive, collect more baseline sociodemographic information, further explore all phases of the utilization process, clarify the influences of variables in the social network, evaluate the viewpoints of patients about the barriers to medical care, and use a model which includes the influence of preventive health variables on patient utilization. Obviously, extensive research efforts are still needed to clarify the causes of patient delay so that intervention strategies can be developed as necessary to prevent suffering, disability, and death.

CHAPTER III

RESEARCII METHODOLOGY

It was the intention of this study to investigate the effect on patient delay of the interactional influences between the demographic linked social structure, situational intervening, and medical orientation variables. This investigation was done in order to collect baseline data, to better predict patient delay, to suggest intervention strategies which would decrease patient delay, and to stimulate further research in this area. In this study an innovative causal chain model was used which incorporated components of the traditional patient delay model used by Pack and Gallo (5), of the utilization model used by Suchman (1), and of the preventive health model used by Kirsch, Rosenstock et al. (64).

Based upon the above and other past research studies, it appeared that the low income patients were more influenced toward delay by several inter-related social structure variables which existed prior to and at the onset of illness, such as ethnic exclusivity, friendship solidarity, family tradition-authority, denial of illness, and selfdiagnosis and treatment. When illness symptoms appeared,

several intervening situational variables became more operational and interacted with the existing sub-strata of social structure variables to influence the patient toward a negative medical orientation and subsequent delay. In other words, the situational intervening variables would not have been strong enough to influence a patient to delay if they were acting independently of any prior existing base of social structure variables. (Table 8 schematically illustrates the proposed location and influence of these variables within the suggested innovative causal chain model.)

Hypothesis

Low income Medicaid patients are influenced more toward patient delay by several inter-related social structure variables, which existed prior to and at the onset of illness, than by the operational situational intervening variables in a causal chain of independent, intervening, and dependent variables.

Definitions

The following terms and definitions are delineated to clarify their usage in this study:

Medicaid patient.--A patient who was included in this study because he received Medicaid hospitalization benefits during the first quarter and the first part of the second quarter of fiscal year 1973-74.

TABLE 8

THE SCHEMATIC LOCATION OF THE SOCIAL STRUCTURE, SITUATIONAL INTERVENING, AND DEPENDENT MEDICAL ORIENTATION VARIABLES IN A CAUSAL CHAIN ACCORDING TO THEIR INFLUENCE ON PATIENT DELAY

.

Independent Social , Situational Inter- Dependent Medical Structure Variables vening Variables + Orientation Variables								
(3)	1.	Ethnic Exclusivity	(6)	1.	Perceived Sus- ceptibility & Seriousness of	(8,9)	1.	Positive Medical Orienta-
(3)	2.	Friendship Solidarity			Major Disease			tion
(3)	3.	Family Tradition- Authority	(10)	2.	Knowledge about Major Disease Symptoms	(8,9)	2.	Negative Medical Orienta- tion
			(7)	3.	Beliefs in Pre- ventive Health Actions			
			(2)	4.	Availability & Accessibility of Services			

*The number of the Scale used to measure each single variable is placed in parentheses beside its numerical number. Delay patients.--A Medicaid patient who delayed two months or more after first noticing the symptoms of illness before going to a physician as described in the Definition of Patient Delay in the INTRODUCTION.

<u>Non-delay patient</u>.--A Medicaid patient who did not wait two months before going to a physician after first noticing symptoms.

<u>Demographic sub-groups</u>.--The Medicaid patients included in the sub-groups in the RESEARCH INSTRUMENTATION section according to the particular demographic characteristic.

Initial questionnaire.--The first research instrument designed and mailed to all the Medicaid patients to obtain information about the attitudinal related demographic, social, and situational intervening variables which affect the patient's utilization of medical services.

<u>Followup questionnaire</u>.--The second research instrument designed and mailed to all the Medicaid patients over two months later to obtain identical information to that collected on the Initial Questionnaire and additional utilization data in order to confirm the results found in the Initial Questionnaire.

Utilization data.--The additional information collected in Sections 11 and 12 about the actual utilization

of medical care by the Medicaid patient and his family over a three-year period in order to confirm the attitudinal related findings from Sections 2 through 10 found on the Initial Questionnaire.

<u>Parochial social structure</u>.--A group composed of members who were influenced by ethnic exclusivity, friendship solidarity, and family tradition to distrust scientific medicine and to deny illness and diagnose and treat themselves.

Social exclusiveness.--One of the social structure variables which influenced a patient to be ethnically exclusive toward other groups and to follow his own group's illness behavior.

<u>Friendship solidarity</u>.--One of the social structure variables which influenced a patient to be exclusive in friendship patterns and illness behavior.

Family tradition-authority.--One of the social structure variables which influenced a patient to follow traditional family authority and practice in illness behavior.

Denial of illness.--One of the social structure variables which appeared to be primarily a byproduct of the interaction among the ethnic exclusivity, friendship solidarity, and family tradition-authority variables and which influenced a patient to ignore the presence of illness symptoms.

<u>Self-diagnosis</u>.--One of the social structure variables which appeared to be primarily a byproduct of the interaction among the ethnic exclusivity, friendship solidarity, and family tradition-authority variables and which influenced a patient toward self-diagnosis and treatment.

Inter-related social structure variables.--The previously defined social structure variables as they interacted or related to influence the patient's illness behavior.

<u>Situational intervening variable</u>.--A variable which influenced a person in a somewhat situational, individualistic, and objective way to engage in preventive medical behavior prior to and at the onset of a serious illness.

Knowledge about major disease symptoms.--A variable which influenced an ill patient, according to his ability, to recognize the symptoms and implications of major diseases, and to engage in or refrain from taking preventive medical action.

Beliefs in preventive health actions.--A variable which influenced an ill person, according to his beliefs concerning preventive health measures, to engage in or refrain from taking preventive medical action.

Availability and accessibility of services.--Variables which influenced an ill person, according to his

beliefs or disbelief in the availability and accessibility of medical services, to engage in or refrain from taking preventive medical action.

Independent variables.--A variable or group of independent social structure variables which influenced an ill patient initially or independently toward delay in going to a physician for medical care.

Intervening variables.--A variable or group of variables which interacted with a preceding independent or group of independent variables to influence an ill person to delay or not delay in going to a physician.

Dependent medical orientation variables.--A phrase which described the positive or negative feelings, that an ill patient has toward the personality and competence of physicians, which are end products of the interaction between the independent and situational intervening variables.

<u>Causal chain model</u>.--A schematic design which illustrated the strength and direction of the interaction between variables as they influenced an ill patient to delay or not delay in going to a physician.

Sections or scales.--Several lists of question items included in the Initial and Followup Questionnaires which measured the patient's attitudes or responses to the variables influencing medical care behavior.

<u>Initial comparisons</u>.--The set of comparisons between the total number of delay and non-delay patients on the results from the scales in the Initial Questionnaire.

<u>Matched followup comparisons</u>.--The set of comparisons between the 24 matched delay and 24 non-delay patients on the results from the scales in the Followup Questionnaire.

Matched delay comparisons. -- The set of comparisons between the 24 matched delay patients on the results from the scales in the Initial and Followup Questionnaire.

<u>Matched non-delay comparisons</u>.--The set of comparisons between the 24 matched non-delay patients on the results from the Initial and Followup Questionnaire.

<u>Significance</u>.--A difference in the direction of patient delay between the delay and non-delay patients on a sub-group comparison at the 0.10 level of probability or under.

<u>Non-significance level of some magnitude</u>.--A difference in the direction of patient delay between the delay and non-delay patients on a sub-group comparison which indicated a marked difference between them.

Traditional patient delay studies.--Patient delay studies carried out to determine the difference between the delay and non-delay ill patients where delay was defined as a specified period of time after the first appearance of illness symptoms.

<u>Utilization studies</u>.--Studies carried out to predict the influence of demographic linked social variables, in a causal chain of independent and dependent variables, on an ill person's reactions to illness symptoms in the utilization of medical care.

<u>Preventive health studies</u>.--Studies carried out to determine if healthy persons would take preventive health measures to protect themselves against diseases that they considered as serious threats and felt susceptible to the indicated implications.

Limitations

There are several limitations in this study but the more important ones are as follows:

- Patient recall in retrospective studies of even recent events is difficult.
- 2) The inference is limited to the low income Medicaid population in rural states with demographic characteristics similar to Tennessee.
- 3) The population sample is small and not completely identical to the populations used in the previous traditional patient delay, utilization, and preventive health studies which provided components for the innovative model design used in this study.
- The approach is somewhat inductive because the innovative model design was composed of components from several previous studies.

- There are biases associated with mailed questionnaires.
- 6) The division of Medicaid patients, based on available research, into several sub-groups to compare the differences between the delay and non-delay patients is arbitrary.

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Sample

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The setting of this research study was located in the thirty-six Middle Tennessee and bordering counties with a general population of one and a third million and an eligible Medicaid population of approximately 95,000. The largest number of eligible Medicaid persons lived in Metropolitan Nashville and the remaining number was scattered somewhat evenly throughout the study area in small cities, towns, and hamlets. Access to the fairly even distribution, by population density, of family physicians and hospitals in each county primarily depended on the geographical distance traveled by each patient to obtain medical care.

Only a few general characteristics of the total Statewide Medicaid population were available. Sixty-two per cent were non-white and 38 per cent white. Seventy-three per cent were female and 27 per cent male. In the general population, 16 per cent were non-white and 84 per cent white. Fifty-two per cent were female and 48 per cent male.

One hundred and eighteen of the 153 hospitalized Medicaid patients in the study population returned Initial Questionnaires within 20 days. Followup procedures were used to obtain the other 35 Initial Questionnaires. Details about the response of Medicaid patients toward participating in this study can be found in the Testing and Collection of the data section. Generally the patients who returned questionnaires early might be considered as willing to help but the remaining patients appeared reticent to participate in the study.

Research Instrumentation

After considering the research instruments used by prior investigators and the factors affecting the implementation of this study, it was decided to use two mailed questionnaires to solicit information from Medicaid patients about their utilization of medical care. Because the research model for this study was somewhat inductive, it would have been desirable to use a structured personal interview questionnaire in the followup phase, but the time, expense, and difficulty involved in using this approach in a widely scattered sample made it impractical.

Both the Initial and Followup Questionnaire were divided into identical sections to collect and compare identical information about the attitudinal related demographic, social, and situational variables which affect patient delay in seeking medical care. The Followup Questionnaire solicited confirmation and additional information for comparative purposes about the utilization of medical

care by the patient and his family over a three year period. This questionnaire solicited adequate data to compare the following demographic sub-groups of delay and non-delay Medicaid patients:

- 1) Patients who were black or white.
- Patients who were under 40 years of age or 40 years of age and over.
- 3) Patients who were male or female.
- 4) Patients who were married or not married.
- 5) Patients who had less than an eighth grade education or who had an eighth grade education or higher.
- 6) Patients who worked in a health related occupation or a non-health related occupation.
- Patients who knew the name of their physician or those who did not.

In addition to the sections for the collection of general demographic information and separation of patients into delay and non-delay groups, there were nine sections or scales in both the Initial and Followup Questionnaire to collect attitudinal related data. With some slight variation in the number and arrangement of question items, these sections were identical in both sets of questionnaires. In this study these sections or scales are listed chronologically from 2 to 10.

Each one of these scales contained question items to measure the influence of one or more variables on patient delay in Medicaid patients. Question items were answered by a positive or negative response. Non-responses or writein responses which did not answer the question were considered to be neutral and "eliminated" from the study by giving a value of one to a negative response, a value of two to a neutral response and a value of three to a positive response. Negative responses were considered to be patient delay responses and positive responses to be nonpatient delay responses. By using this approach, only the specific scores were measured for their influence. If most of the answers on a scale were negative, the patient was considered to be influenced toward delay by that variable. The variable was considered to influence the patient toward non-delay if the majority of the answers on the scales were positive.

In order to evaluate the influence of the one or more variables measured by each scale on the delay and nondelay Medicaid patients in this study, they were added up and put in Chi Sq Tables. Four sets of comparisons were made about each sub-group. A probability level of <.10 or a Chi Square value of 2.71 or higher was considered as a significant difference between the two groups of patients on any comparison in order to avoid overlooking any possible influential variables in this somewhat inductive or exploratory type study. The Yates correction for continuity was used when any cell in a Chi Sq Table had one or more scores

less than five.

A causal chain model was adopted for this study. Each variable or combination of variables measured by each scale was included according to the quality of their delaying influences on Medicaid patients. The delaying influence of each variable was labeled as independent, situational intervening, or dependent. The independent variables were considered as the primary cause of patient delay. The addition of the influence of one or more situational intervening variables to the existing influence of one or more independent variables was considered as a necessary booster to the development of a negative medical orientation and patient delay. Table 8 illustrates the location of each variable in the causal chain model according to the quality of its influence on patient delay. The number of the scale which measured its influence on Medicaid patients is enclosed in parentheses beside the variable.

Scale 2 in Appendix A included eight question items to obtain attitudinal reactions and basic demographic data about the patient. These eight question items measured the knowledge and attitudes of the patient toward the availability and accessibility of services. These items were developed using data from general research data.

Scale 3 included nine question items to obtain attitudinal and demographic data about the patient. These nine items determined if the patient was a member of a

socially exclusive ethnic group, if he had an exclusive set of friends, and if his family members followed traditional family authority patterns of behavior which resulted in denial of illness or self-diagnosis and treatment. These question items were used by Suchman (45) and several other investigators who attempted to duplicate his reseasch study.

Scale 4 included six question items to obtain attitudinal information about the patients. These six items measured the influence of self-diagnosis variables on the patient. Stamps used the items in this scale in a dissertation study (67).

Scale 5 included four items to obtain attitudinal information about the patient. These four items measured the influence of denial of illness variables or restraint in accepting the sick role on the patient. Kassebaum developed the items for this scale and they were later used by Grubb in a dissertation study (68, 69).

Scale 6 included nine items to obtain attitudinal information about the patient. These nine items measured the influence of variables associated with feelings about the threat or seriousness of a disease and of being susceptible to it. In other words, a patient who recognized the seriousness of the disease and his susceptibility to it would probably be inclined toward seeking medical care at an early date. Kirscht <u>et al</u>. (64) developed the items for this scale.

Scale 7 included nine items to obtain attitudinal information about the patient. These nine items measured the influences of three variables on the patient: the beliefs in the value of early tests or check-ups to detect the disease before the appearance of symptoms, in tests and check-ups to diagnose a disease, and in early treatment of a diagnosed disease. Kirscht <u>et al</u>. (64) developed the items for this scale.

Scales 8 and 9 included seven question items to obtain attitudinal information about the patient. The seven items in each scale measured the influence of two variables on the patient: the positive or negative feelings of a patient toward the competence and personality of his physician. Cahal developed the items about the image of a physician (70). Stamps (67) used the items about the competence and image of a physician in a dissertation study. These items were mixed to develop Scales 8 and 9. In the Followup Questionnaire, seven more items from the original sources were added to each scale.

Scale 10 included ten question items to obtain demographic information. These ten items measured the influence of the knowledge about major disease symptoms on the patient. Stamps (67) developed this scale from the one used by Grubb (69) in her dissertation research.

Sections 11 and 12 were added to the Followup Questionnaire to obtain additional information about the
utilization of medical care over a three year period by the patients and their families. This data was used to determine if the delay and non-delay patients were different in their utilization of medical care. It was also used to determine if the patients were consistent in what they had expressed in the nine scales and what they actually practiced in real life. The question items were a modification of question items used by Grubb (69) to collect utilization data.

Testing and Collection of Data

The Initial Questionnaire with a cover letter signed by the Director of Medicaid was mailed to all the qualifying Medicaid patients in the Middle Tennessee area who were hospitalized during the first quarter and first part of the second quarter of fiscal year 1973-74. Initial Questionnaires were mailed to 285 patients after 15 were eliminated because they were under 21 years of age or had a disease which did not require a decision to seek medical care.

Three followup procedures were used in order to encourage the return of the Initial Questionnaire. When the return of questionnaires slowed considerably, followup letters were sent to all the non-responding patients urging them to return the questionnaires. When the return of questionnaires slowed a second time, 20 patients were randomly selected from the remaining non-responding patients to

receive telephone calls and personal visits to encourage them to return the questionnaire.

One hundred and fifty-eight Medicaid patients returned questionnaires and it was possible to use 153 completed questionnaires in this study. One hundred and eighteen patients returned questionnaires within the first 20 days. Twenty-eight additional patients sent in questionnaires after receiving a followup letter. Twelve patients sent in questionnaires after receiving telephone calls and personal home visits. Medicaid patients who returned Initial Questionnaires were somewhat equally distributed over the Middle Tennessee area according to the population density.

After the Initial Questionnaires were separated into a delay and non-delay group, 26 of the 27 delay patients were matched with non-delay patients according to the following sub-group criteria: 40 years of age and over or under 40, eighth grade education and over or under eighth grade, health related occupation or non-health related, married or not married, white or black, and male or female. It took practically all of the Initial Questionnaires of non-delay patients to make this match. One delay patient could not be matched because she was seriously ill at the time. The matched population was equally distributed over the study area.

In order to evaluate the influences of the variables on delay and non-delay patients, and to confirm the

results from the Initial Questionnaire, the Followup Questionnaire with a letter from the Director of Medicaid was mailed over two months after the Initial Questionnaire to the 52 patients in the matched sub-sample (four patients or two matched pairs were eliminated from the sub-sample because of matching error). Thirty Followup Questionnaires were returned within a short period of time along with a few letters or notes; but it took several phone calls and/or personal visits over an extended period of time to obtain all the remaining Followup Questionnaires. Chi Square comparisons were made after the data was sorted, tabulated and classified: the scores of the matched delay patients were compared to the non-delay using the Chi Square statistic; the scores of the matched delay patients were compared to their scores on the Initial Questionnaire; and the scores of the matched non-delay patients were compared to their scores on the Initial Questionnaire.

CHAPTER IV

RESULTS

Description of the Study Samples

After analyzing the demographic characteristics of those who returned questionnaires, the pertinent descriptive characteristics became evident. Sixty-nine per cent of the study population were over 40 years of age. Thirty-two per cent of the patients were black; this was about twice the normal ratio of black citizens in Tennessee. Seventy-six per cent were female. Forty-two per cent were married and 53 per cent had an educational level under the eighth grade. (The not married category included divorced and widowed patients.)

A breakdown of the demographic statistics obtained from the Initial Questionnaires for the 27 (17 per cent) delay and 126 (83 percent) non-delay Medicaid patients is illustrated in Table 9. In the non-delay group, 75 per cent were females, 31 per cent were black, 54 per cent had under an eighth grade education, and 51 per cent were married. In the delay group, 78 per cent were females, 37

THE NUMBER AND PERCENTAGE OF DELAY AND NON-DELAY PATIENTS WHO RETURNED INITIAL QUESTIONNAIRES BY SEX, AGE, RACE, MARITAL STATUS AND EDUCATION

· · · ·		Do	elay	Non	-Delay
Variab.	Les	Number	Percentage	Number	Percentage
Sex	Male	6	(22)	31	(25)
bex	Female	21	(78)	95	(75)
Ace	<40 Years	11	(41)	36	(29)
nye	>40 Years	16	(59)	90	(71)
Pace	Black	10	(37)	39	(31)
Nace	White	17	(63)	86	(69)
Marital	Married	13	(48)	61	(51)
Status	Not Married	14	(52)	58	(49)
Education	<8th Grade	13	(48)	68	(54)
	>8th Grade	14	(52)	58	(46)

Note: The Health Related and Non-Health Related Sub-Groups were not compared because all the respondents had Non-Health Related occupations. per cent were black, 48 per cent had under an eighth grade education, and 48 per cent were married. The ratio of patients under 40 years of age to over 40 years of age was radically different in the delay and non-delay group. There were over one and one half times as many patients over 40 years of age in the non-delay group than in the delay group.

A breakdown of the demographic statistics obtained from the Followup Questionnaire submitted by the 24 delay and 24 non-delay patients in the matched sub-sample is illustrated in Table 10. After analyzing this data, several facts became evident. Eighty-three per cent of this matched sub-group population was female. Slightly over 54 per cent were over 40 years of age. Thirty-seven and a half per cent were black patients which was over twice the average ratio of black citizens to white citizens in Tennessee and in the study population. Fifty-four per cent were not married and 54 per cent had over an eighth grade education. Two delay and two non-delay Followup Questionnaires were discarded because of an error in matching. When compared to the 153 patients in the total study population, several facts became evident. Fifteen per cent fewer patients were over 40 years of age. Five and one-half per cent more black patients were in the population. Seven per cent more of the patients were females. About the same percentage of patients were married and had an eighth grade educational level.

THE NUMBER AND PERCENTAGE OF DELAY AND NON-DELAY PATIENTS IN THE MATCHED SUB-SAMPLE WHO RETURNED FOLLOWUP QUESTIONNAIRES BY SEX, AGE, RACE, MARITAL STATUS, AND EDUCATION

Va	ariables	Matc	hed Sub-Sample
	·	Number	Percentage
Sex	Male	8	17
	Female	40	83
Age	<40 Years	22	46
50	>40 Years	26	54
Race	Black	18	37.5
	White	30	62.5
Marital	Married	22	46
Status	Not Married	26	54
Education	<8th Grade	22	46
	>8th Grade	26	54
Tota	ls	26	100

Note: Two delay and two non-delay patients who had been matched were eliminated because a mistake was discovered in their matching process.

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Social Structure Variables

According to the findings of some prior research studies, delay patients tended to be members of a parochial social group. Members of such a group were characterized by several social practices such as being ethnically exclusive in their social relationships, exclusive in their friendship patterns, and prome to follow their family traditions in practices of everyday life. These practices initially or independently predisposed the members toward other specific practices upon becoming ill such as denying illness, diagnosing themselves, and treating themselves. To measure the predisposing influence of ethnic exclusivity, friendship solidarity, and family traditions, four sets of comparisons were made between the delay and non-delay patients using the scores in Scales 3, 4, and 5 from the Initial and Followup Questionnaire.

These four sets of comparisons were defined in the RESEARCH METHODOLOGY, and the defined terms such as "initial comparisons," "matched followup comparisons," "matched delay comparisons" and "matched non-delay comparisons" will be used in the remaining part of this study to discuss the results. Table 8 was included in this study design to schematically illustrate the location of the social structure variables in the suggested causal chain.

Ethnic Exclusivity, Friendship Solidarity, and Family Tradition (Scale 3)

It was theoretically expected that the results from the initial comparisons between all the delay and non-delay patients would indicate more belief by the delay patients in the social practices of a parochial social group. The results, however, indicated that the non-delay patients in five sub-groups were more prone to believe in ethnic exclusivity, friendship solidarity, and family tradition. According to these results, there were significant differences between the two groups only for the under 40 years of age, for those who were married, and for the white population. In addition, there were non-significant differences of some magnitude only for the females and those with under eighth grade education. The results from this set of initial comparisons did not support the findings of some prior research studies which indicated that the delay patients were influenced toward delay because they believed in the social practices of a parochial social group. (Table 11 illustrates these Chi Square results.)

In the matched followup comparisons between the 24 delay and non-delay patients, it was anticipated that the results would be consistent with those from the initial comparisons. The results, however, indicated that there were no longer any significant or non-significant differences as found in the initial comparisons. According to these

INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN ETHNIC EXCLUSIVITY, FRIENDSHIP SOLIDARITY AND FAMILY TRADITION-AUTHORITY (Scale 3)

Comparisons	Soc. Excl. Fam. Trad.	Res	sponse to	Seeking	Med:	ical C	Care	
Categories	Scores	Delay	Non-Delay	Totals	ç	N	x ²	P
Black	Negative Positive	5(5,44) 3(2,56)	25(24.48) 11(11.52)	30 14	68 32	44	.01	NS
Tota	als	8(8)	36 (36)	44	100			
White	Negative	6(10.50)	61(56.70)	67	70			
MUTCE	Positive	9(4.50)	20(24.30)	29	30	96	7.62	**
Tota	als	15(15)	81(81)	96	100			
Male	Negative	2(2.31)	21(20.79)	23	77			
Muic	Positive	1(.69)	6(6.21)	7	23	30	.24	NS
Tota	als	3(3)	27 (27)	30	100			
Fomalo	Negative	10(12.20)	49 (46.97)	59	61			
remare	Positive	10(7.80)	28 (30.08)	38	39	97	1.42	NS
Tot	als	20(20)	77 (77)	97	100			
CAD Veare	Negative	3(5.76)	24(21.12)	27	64			
40 Years	Positive	6(3.24)	9(11.88)	15	36	42	3.21	*
Tot	als	9(9)	33 (33)	42	100			
	Negative	9(8.64)	59(59.04)	68	72			
240 Years	Positive	3(3.36)	23 (22.96)	26	28	94	.21	NS
Tot	als	12(12)	82 (82)	94	100			
Namiad	Negative	5(7.20)	42 (39.60)	47	72			
Marrieu	Positive	5(2.80)	13(15.40)	18	28	65	2.92	*
Tot	als	10(10)	55 (55)	65	100			
Not Married	Negative	6(7.26)	37 (35.64)	43	66			
NOT Married	Positive	5(3.74)	17(18.36)	22	34	65	.80	NS
Tot	als	11(11)	54 (54)	65	100			
<8th Grade	Negative	6(8.03)	47 (45.36)	53	73			
Sch Grade	Positive	5(2.97)	15(16.74)	20	27	73	2.15	NS
Tot	als	11(11)	62(62)	73	100			
Seth Grade	Negative	6(7.48)	38(36.72)	44	68			
Foun Grade	Positive	5(3.52)	16(17.28)	21	32		1.05	NS
Tot	als	11(11)	54 (54)	65	100			
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TABLE 11 -- Continued

Note:

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* = P < .10 ** = P < .05 *** = P < .01 **** = P < .001 NA - Not Applicable (Zero in Chi Sq. Table) NS - Non-Significant

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results, the non-delay patients in the five sub-groups had increased their positive responses on the Followup Questionnaire. In addition, a non-significant difference of some magnitude was noted between the delay and non-delay for the black patients who now indicated a tendency to believe in the practices of a parochial social group. The results from this set of matched followup comparisons indicated that all the delay and non-delay patients now held similar beliefs except the delay black patients who believed in parochial social group practices at a non-significant level. (Table 12 illustrates these Chi Square results.)

Two additional sets of comparisons were made to support the results found in the initial and matched followup comparisons. In the matched non-delay comparisons, the results indicated that the non-delay patients in the under 40 years of age, married, white, female, and under eighth grade education sub-groups had increased their positive scores at a significant or non-significant level on the Followup Questionnaire. Other increases in positive scores of some magnitude were made by the non-delay patients in the over 40 years of age and over eighth grade education sub-groups; but, these changes had not affected any significant differences in the matched followup comparisons. In the matched delaying comparisons, the black delay patients had changed their scores at a non-significant level. These two sets of comparisons substantiated the direction of score

MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN ETHNIC EXCLUSIVITY, FRIENDSHIP SOLIDARITY AND FAMILY TRADITION-AUTHORITY (Scale 3)

Comparis	ons	Soc. Fam.	Excl. Trad.	Ţ	esponse to a	Seeking	Medio	cal	Care	
Categori	es	Scor	es	Delay	Non-Delay	Totals	đ	N	x ²	P
Black		Negat Posit	ive ive	7(5.4) 2(3.6)	2 (3.6) 4 (2.4)	9 6	60 40	15	1.74	NS
	Total	s		9(9)	6(6)	15	100			
White		Negat Posit	ive: ive:	7(6.75) 8(8.25)	6(6.3) 8(7.7)	13 16	45 55	29	.03	NS
	Total	s		15(15)	14(14)	29	100			
Male		Negat Posit	ive ive	3(2.52) 1(1.48)	2(2.52) 2(1.48)	5 3	63 37	8	.001	NS
	Total	S		4(4)	4(4)	8	100			
		Negat	ive	11(10.6)	9 (9.54)	20	53			
r.emaie		Posit	ive	9(9.4)	9 (8.46)	18	47	38	.002	NS
	Total	S		20(20)	18 (18)	38	100			
<40 Year	S	Negat Posit	ive ive	6(5.5) 5(5.5)	4(4.5) 5(4.5)	10 10	50 50	20	0	NS
	Total	s		11(11)	9(9)	20	100			-
>40 Year	s	Negat Posit	ive ive	9(7.28) 4(5.72)	5(6.72) 7(5.28)	14 11	56 44			
	Total	S		13(13)	12(12)	25	100	25	1.03	NS
		Negat	ive	7 (6.5)	8 (8,45)	15	65		**************************************	
Married		Posit	tive	3 (3.5)	5(4.55)	8	35	23	.0008	NS
	Total	.s		10(10)	9(9)	19	100			
Not Marr	ied	Negat Posit	ive tive	4(3.7) 6(6.3)	3(3.33) 6(5.67)	7 12	37 63	19	.03	NS
	Total	S		10(10)	9(9)	19	100		• • •	
<8th Gra	ıde	Nega Posi	tive tive	8(7.8) 4(4.2)	7(7.15) 4(3.85)	15 8	65 35		00	NC
	Total	s		12(12)	11(11)	23	100	23	•08	NS
. 0.4k C		Nega	tive	6(4.68)	2 (3.24)	8	36			
>8th Gra	ade	Posi	tive	7(8.32)	7 (5.76)	14	64	22	.49	NS
	Total	ls		13(13)	9(9)	22	100			

Note: For Key see Table 11.

changes noted in the matched followup comparisons. (Tables 13 and 14 illustrates these Chi Square results.)

Self Diagnosis (Scale 4)

In the initial comparisons between the delay and non-delay patients, it was theoretically expected that the results would indicate more belief by the delay patients in self diagnosis upon becoming ill. The results, however, indicated that there were no significant difference between the two groups. On the other hand, there was a possibility that the delay patients who were under 40 years of age were inclined toward self diagnosis at a significant level; but, a zero value in one cell of the Chi Square Table prevented a Chi Square calculation. This set of comparisons did not support the results from some prior research studies which indicated that parochial social group practices predisposed delay patients more toward self diagnosis upon becoming ill; neither group believed in it! (Table 15 illustrates these Chi Square results.)

Consistency was anticipated between the results from the initial and matched followup comparisons. In the matched followup comparisons between the 24 delay and 24 non-delay patients, there were no significant differences which was consistent with the findings in the initial comparisons. The results also indicated that the possibility of a significant difference in the under 40 years of age

MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN ETHNIC EXCLUSIVITY, FRIENDSHIP SOLIDARITY AND FAMILY TRADITION-AUTHORITY (Scale 3)

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Comparisons	Soc. Excl. Fam. Trad.		Response to	Seeking	Medic	cal C	are	
Categories	Scores	Initial Non-Delay	Followup Non-Delay	Totals	8	N	x ²	Р
Black	Negative	5(3.78)	2(3.24)	7	54			
	Positive	2(3.22)	4(2.76)	6	46	13	.67	NS
Tota	ls	7(7)	6 (6)	13	100			
White	Negative	12(8,96)	6(8.96)	18	64			
WIIT CE	Positive	2(5.04)	8(5.04)	10	36	28	3,87	**
Tota	ls	14(14)	14(14)	28	100	20		
	Negative	2(1.71	2 (2.28)	4	57			
Mare	Positive	1(1.29)	2(1.72)	3	43	7	.10	NS
Tota	ls	3(3)	4(4)	7	100	•	•==	
	Negative	13(10.98)	9(10,98)	22	61			
remate	Positive	5(7.02)	9(7.02)	14	39	36	1.05	NS
Tota	ls	18(18)	18(18)	36	100	•••		
	Negative	6(4.72)	4(5.31)	10	59			······
<40 Years	Positive	2(3.28)	5(3.69)	7	41	17	62	NC
Tota	als	8 (8)	9(9)	17	100	±,	.02	ND
	Negative	10(8.12)	5(6.96)	15	58			
>40 Years	Positive	4 (5.88)	7(5.04)	11	42	26	1.29	NS
Tota	ls	14(14)	12(12)	26	100	20	2122	
Manual - 2	Negative	9(7.4)	8(9.62)	17	74			
Married	Positive	1(2.6)	5(3.38)	6	26	23	1.88	NS
Tota	als	10(10)	13(13)	23	100			
Not Married	Negative	3(3.2)	3 (2.88)	6	32			
Not Married	Positive	7(6.8)	6(6.12)	13	68	19	.12	NS
Tota	als	10(10)	9(9)	19	100		•	
<8th Grade	Negative	8(7.1)	7(7.81)	15	71			
Cour Grade	Positive	2(2.9)	4(3.19)	6	29	21	.12	NS
Tota	als	10(10)	11(11)	21	100			
Neth Crade	Negative	7(4.95)	2(4.05)	9	45			
>8th Grade	Positive	4(6.05)	7(4.95)	11	55	20	1.96	NS
Tota	als	11(11)	9(9)	20	100			

MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN ETHNIC EXCLUSIVITY, FRIENDSHIP SOLIDARITY, AND FAMILY TRADITION AUTHORITY (Scale 3)

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Comparisons	Soc. Excl. Fam. Trad.	-Re	esponse to	Seeking	Medio	cal C	are	
Categories	Scores	Delay	Delay	Totals	8	N	x ²	P
Black	Negative Positive	5(5.6) 3(2.4)	7(6.3) 2(2.7)	12 5	70 30	17	.03	NS
Tota. White	Negative Positive	8 (8) 6 (6.45) 9 (8.55)	9(9) 7(6.45) 8(8.55)	17 13 17	43 57	30	.001	NS
Total	ls	15 (15)	15(15)	30	100			·····
Male	Negative Positive	2(2.13) 1(.87)	3(2.84) ?(1.16)	5	71 29	7	.36	NS
Tota	S	$\frac{3(3)}{10(10-6)}$	$\frac{4(4)}{11(10(6))}$	7	100			
Female	Positive	10(10.6)	9(9.4)	21 19	53 47	40	.004	NS
Total	ls	20 (20)	20 (20)	40	100	.		
<40 Years	Negative Positive	3(4.05) 6(4.95)	6(4.95) 5(6.05)	9 11	45 55	20	.25	NS
Tota	ls	9 (9)	11(11)	20	100			
>40 Years	Negative Positive	9(8.64) 3(3.36)	9 (9 .3 6) 4 (3.64)	18 7	72 28	25	.02	NS
Tota	ls	12(12)	13(13)	25	100			
Married	Negative Positive	5(6) 5(4)	7 (6) 3 (4)	12 8	60	20	.21	NS
Tota	ls	10(10)	10(10)	20	100			
Not Married	Negative Positi v e	6(5.28) 5(5.72)	4(4.8) 6(5.2)	10 11	48 52	21	.05	NS
Tota	ls	11(11)	10(10)	21	100		-	
<8th Grade	Negative Positive	6(6.6) 5(4.4)	8(7.2) 4(4.8)	14 9	60 40	23	.04	NS
Tota	ls	11(11)	12(12)	23	100			
>8th Grade	Negative Positive	6(5.5) 5(5.5)	6(6.5) 7(6.5)	12 12	50 50	24	.17	NS
Tota	ls	11(11)	13(13)	24	100			_

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INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN SELF-DIAGNOSIS (Scale 4)

Comparison	s Self S Diagnosis	Res	sponse tò s	Seeking	Medio	cal Ca	re	
Categories	Scores	Delay [.]	Non-Delay	Totals	8	N	x ²	P
Black	Negative Positive	1(.80) 9(9.20)	3(3.12) 36(35.88)	4 45	8 92	49	.17	NS
Тс	tals	10(10)	39 (39)	49	100			
White	Negative Positive	1 14	0 82					NA
То	tals	15(15)	82 (82)					
Male	Negative Positi v e	0 4	0 28					NA
Тс	tals	4(4)	28 (28)					
Female	Negative Positive	1(.84) 20(20.16)	3 (3.68) 89 (88.32)	4 109	4 96	113	. 32	NS
Тс	tals	21 (21)	92 (92)	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		••-		
Initiality 21(21) 92(92) 113 10 <40 Years	26							
<40 Years	Positive	2(8.14)	35 (25.90)	34	74	46		NA
Тс	tals		35 (34)	46	100			
>40 Years	Positive	13	89					NA
Тс	tals	13(13)	90 (90)					
Married	Negative Positive	1(.44) 10(10.56)	2(2.28) 55(54.72	3 65	4 96	68	.03	NS
Тс	otals	11(11)	57 (57)	68	100		•••	
Not Marrie	Negative	1(,42)	1(1.71)	2	3			
NOC MAIIIE	Positive	13(13.58)	56 (55.29)	69	97	71	.04	NS
Tc	Negativo	14(14)	3(3 20)					
<8th Grade	Positive	11 (11.40)	61 (60.80)	72	95	76	.20	NS
Tc	otals	12(12)	64 (64)	76	100			
>8th Grade	Negative	1	0					
	Positive	12	58					NA
Tc	otals	13(13)	58 (58)	·				

sub-group no longer existed because the delay patients had increased their positive scores in the Followup Questionnaire. The results from this set of matched followup comparisons indicated that the delay and non-delay patients held similar beliefs about self diagnosis. (Table 16 illustrates these Chi Square results.)

In order to support the results from the initial and matched followup comparisons, two additional sets of comparisons were carried out. The results from the matched delay comparisons indicated that the delay patients who were under 40 years of age had changed all their negative responses to positive scores on the Followup Questionnaire. (Table 17 illustrates these Chi Square results.) In the matched non-delay comparisons, there were no significant or non-significant differences of any magnitude in the responses of non-delay patients. (Table 18 illustrates these Chi Square results.) The direction of changes noted in the matched followup comparisons were substantiated by these two sets of comparisons.

Denial of Illness (Scale 5)

Results from the initial comparisons between all the delay and non-delay patients were expected theoretically to indicate that the delay patients believed in the denial of illness upon becoming ill. The results, however, indicated that there were no significant differences between the two

MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN SELF-DIAGNOSIS (Scale 4)

Comparisons	, Self Diagnosis	x	Response to Seeking	Medio	cal Ca	re	
Categories	Scores	Delay	Non-Delay Totals	8	N	x ²	P
Black	Negative	0	0				
	Positive	9	8				NA
Total	ls	9 (9)	8 (8)				
White	Negative	1	0				
	Positive	12	12				NA
Tota	ls	13(13)	12(12)				
Male	Negative	0	0				
	Positive	3	4				NA
Tota	ls	3(3)	4(4)				
Fomale	Negative	0	0				
remare	Positive	19	17				NΔ
Tota	ls	19(19)	17(17)				1111
<10 No. 10	Negative	0	0				
N40 Years	Positive	10	7				NΔ
Tota	ls	10(10)	7(7)				MA
>40	Negative	0	0				
240 Years	Positive	12	14				N7.7
Tota	ls	12(12)	14(14)				ИЛ
Manuai a d	Negative	0	0				
Married	Positive	8	9				NΛ
Tota	ls	8 (8)	9(9)				MA
Net Manui od	Negative	0	0				
NOL Married	Positive	10	11				NA
Tota	ls	10(10)	11(11)				
četh Crado	Negative	0	0			******	
Soun Grade	Positive	10	9				MA
Tota	ls	10(10)	9 (9)				11A
	Negative	0	0				
-stn Grade	Positive	13	11				۸IA
Totals		13(13)	11(11)				АИ
			·				

MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN SELF-DIAGNOSIS (Scale 4)

and the second se	_								
Compariso	ns	Self - Diagnosis	Re	sponse to	Seeking	Medic	al C	are	
Categorie	s	Scores	Delay	Delay	Totals	z	N	x ²	Р
Black		Negative Positive	1 9	0 9					NA
T	otal	5	10(10)	9(9)					
White		Negative Positive	1(1.05) 14(13.95)	1(.91) 12(12.09)	2 26	7 33	28	.41	NS
T	otal	S	15 (15)	13(13)					
Male		Negative Positive	0 4	0 3					NA
T	otal	5	4(4)	3(3)					
Female		Negative Positive	1 20	0 19					NA
Т	Totals		21(21)	19 (19)					
<40 Years		Negative Positive	9 2	0 10		<u> </u>			NΔ
Т	otal	5	11(11)	10(10)					1411
>40 Years		Negative Positive	0 13	0 12					NA
T	otal	S	13(13)	12(12)					
Married		Negati v e Positi v e	1 10	0 8					NA
T	otal	5	11(11)	8 (8)					
Not Marri	ed	Negative Positive	1 13	0 10					NA
Т	otal	S	14(14)	10(10)					
<8th Grad	e	Negative Positive	1 11	0 10					NA
T	otal	S	12(12)	10(10)					
>8th Grad	e	Negative Positive	1 12	0 13					NA
Т	otal	S	13(13)	13(13)					

MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN SELF-DIAGNOSIS (Scale 4)

Comparisons	Self Diagnosis]	Response to S	eeking Ma	edica	al Ca	re	
Categories	Scores	Initial Non-Delay	Followup Non-Delay	Totals	£	N	x ²	P
Black	Negative Positive	0 8	0 8					NA
Tota	ls	8(8)	8(8)					
White	Negative Positive	0 13	0 12					NA
Tota	ls	13(13)	12(12)					
Male	Negative Positive	0 4	0 4					NA
Tota	ls	4 (4)	4 (4)					
Female	Negative Positive	0 18	0 17					NA
Totals		18(18)	17(17)					1111
<40 Years	Negative Positive	0 9	0 7					NA
Tota	ls	9(9)	7(7)					INF1
>40 Years	Negative Positive	0 14	0 14					NA
Tota	ls	14 (14)	14(14)					
Married	Negative Positive	0 10	0 9					NA
Tota	ls	10(10)	9 (9)					
Not Married	Negative Positive	0 11	0 11					NA
Tota	ls	11(11)	11(11)					
<8th Grade	Negative Positive	0 9	0 9					NA
Tota	ls	9 (9)	9(9)					
>8th Grade	Negative Positive	0 12	0 11					NA
Tota	ls	12(12)	11(11)					-162

groups; but, there were non-significant differences of some magnitude only in three sub-groups. According to these findings, the delay patients in the over 40 years of age and under eighth grade sub-groups and the non-delay patients in the under 40 years of age sub-group were inclined toward denying illness upon becoming ill. (Table 19 illustrates these Chi Square results.) The results from this set of comparisons did not support findings from some prior research studies which indicated that parochial social group practices significantly predisposed the patients toward denying illness upon becoming ill.

Consistency was anticipated between the results from the initial and matched followup comparisons. In the matched followup comparisons between the 24 delay and 24 non-delay patients, there were no significant differences which was consistent with the findings in the initial comparisons. In addition, there were no longer any nonsignificant differences as noted in the initial comparisons because the delay and non-delay patients in the three subgroups had increased their positive scores on the Followup Questionnaire. In the set of initial and matched followup comparisons, the delay and non-delay patients indicated a somewhat equal tendency toward denying illness according to the predominance of their negative scores. (Table 20 illustrates the Chi Square results for the matched followup comparisons.)

INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN THE DENIAL OF ILLNESS (Scale 5)

Comparis	ons	. Denial of Illness	R	esponse to	Seeking	Medio	cal (Care	
Categori	.es	Scores	Delay '	Non-Delay	onse to Seeking Medical Care $n-Delay Totals & N x^2$ (23.87) 31 77 (7.13) 9 23 40 .14 (31) 40 100 (46.86) 56 71 (19.14) 23 29 79 .36 (66) 79 100 (46.86) 61 69 (22.32) 27 31 88 .49 (272) 88 100 (6.16) 8 22 37 1.41 (28) 37 100 (6.16) 8 71 (20.59) 24 29 82 2.20 (71) 82 100 (33.32) 39 68 (15.68) 18 37 57 .07 (44) 58 100 (31.24) 41 71 (12.76) 17 29 58 .17 (444) 58 100 7(37.95) 45 69 8(17.05) 20 31 65 1.14 (11.28) 14 24 58 .02 7(47) 58 100	P			
Black		Negative Positive	7(6.93) 2(2.07)	24(23.87)	31 9	77			
	Total		<u> </u>	21 (21)	40	100	40	.14	NS
	TULA	Nezetino	10(0, 22)						
White		Negative	10(9.23)	46 (46.86)	50	/1			
		Positive	3(3.//)	20(19.14)	23	29	79	.36	NS
	Totals		13(13)	66 (66)	79	100			
Male		Negative	4	21					
Male		Positive	0	5					NA
	Tota:	ls	4(4)	26 (26)					
		Negative	12(11.04)	49 (49.68)	61	69			
Female		Positive	4(4.96)	23 (22.32)	27	31	88	.49	NS
	Tota	ls	16(16)	72(72)	88	100			
		Negative	6(7.02)	23(21.84)	29	78			
<40 Year	cs	Positive	3(1.98)	5(6.16)	8	22	37	1.41	NS
	Tota	ls	9 (9)	28 (28)	37	100			
NO No		Negative	9(7.81)	49(50.41)	58	71			
240 Yea	rs	Positive	2(3.19)	22 (20.59)	24	29	82	2.20	NS
	Tota	ls	11(11)	71 (71)	82	100			
Mammind		Negative	6 (5.44)	33 (33.32)	39	68			
Married		Positive	2(2.56)	16(15.68)	18	37	57	.07	NS
	Tota	ls	8(8)	49 (49)	57	100			
Not Mar	riad	Negative	11(9.94)	30(31.24)	41	71			
NUC Mar	LIEU	Positive	3(4.06)	14(12.76)	17	29	58	.17	NS
	Tota	ls	14(14)	44(44)	58	100			
<8th Cm	ade	Negative	8(6.90)	37(37.95)	45	69			
SCH GH	aue	Positive	2(3.10)	18(17,05)	20	31	65	1.14	NS
	Tota	ls	10(10)	55 (55)	65	100			
28+h C-	200	Negative	8 (8.36)	36 (35,70)	44	76			
zoun Gr	aue	Positive	3(2.64)	11(11.28)	14	24	58	.02	NS
Tota		ls	11(11)	47 (47)	58	100			

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MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN THE DENIAL OF ILLNESS (Scale 5)

Comparisons	, Denial of. Illness	× R	esponse tò s	Seeking	Medi	cal	Care	
Categories	Scores	Delay '	Non-Delay	Totals	8	N	x ²	P
Black	Negative Positive	8(7.83) 1(1.17)	5(5.22) 1(.78)	13 2	87 13	15	.22	NS
Tota	ls	9(9)	6 (6)	15	100			
White	Negative Positive	11 3	12 0					NA
Tota	ls	14(14)	12(12)					
Male	Negative Positive	3 0	3 0					NA
Tota	ls	3 (3)	3(3)					
Female	Negative Positive	16(16.6) 4(3.4)	14(13.28) 2(2.72)	30 6	83 17	36	.02	NS
Tota	ls	20 (20)	16 (16)	36	100			
<40 Years	Negative Positive	10 1	9 0					NA
Tota	ls	11(11)	9 (9)					
>40 Years	Negative Positive	9(9.84) 3(2.16)	9(8.2) 1(1.8)	18 4	82 18	22	.13	NS
Tota	ls	12(12)	10(10)	22	100		•	
Married	Negative Positive	9 0	10 0					NA
Tota	ls	9(9)	10(10)					
Not Married	Negative Positive	8(8.3) 2(1.7)	7(6.64) 1(1.36)	15 3	83 17	18	.05	NS
Tota	ls	10(10)	8 (8)	18	100			
<8th Grade	Negative Positive	7 4	9 0					NA
Tota	ls	11(11)	9 (9)					
>8th Grade	Negative Positive	11(10.8) 1(1.2)	8(8.1) 1(.9)	19 2	90 10	21	- 28	NS
Tota	ls	12(12)	9 (9)	21	100	~-	.29	

Note: For Key see Table 11.

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Two additional sets of comparisons were done to support the results found in the initial and matched followup comparisons. In the matched delaying comparisons, the results indicated that the delay patients in the over 40 years of age and under eighth grade education sub-groups had increased their Positive scores on the Followup Questionnaire at a non-significant level. (Table 21 illustrates these Chi Square results.) In the matched non-delaying comparisons, the results indicated that the non-delay patients in the under 40 years of age had changed their positive scores at a non-significant level on the Followup Questionnaire. (Table 22 illustrates the Chi Square results of the matched non-delay comparisons.) These two sets of comparisons substantiated the direction of changes noted in the matched followup comparisons.

Situational Intervening Variables

According to the findings of some prior research studies, several variables became more operational and appeared to interact with the existing sub-strata of social structure variables at the onset of illness to influence ill persons toward a negative medical orientation and subsequent delay. To determine if these situational intervening variables influenced low income Medicaid patients toward delay, four sets of comparisons were made between the delay and non-delay patients using the scores in

MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN THE DENIAL OF ILLNESS (Scale 5)

Comparisons	Denial of Illness	Re	esponse to	Seeking	Medic	al C	are	
Categories	Scores	Delay	Delay	Totals	8	N	x ²	P
Black	Negative Positive	7(7. 47) 2(1.53)	8(7.47) 1(1.53)	15 3	83 17	18	.001	NS
Tot	als	9(9)	9 (9)	18	100			
White	Negative Positive	10(10.14) 3(2.86)	11(10.92) 3(3.08)	21 6	78 22	27	.13	NS
Tot	als	13(13)	14(14)	27	100		•	
M- 7 -	Negative	4	3					
Male	Positive	0	0					NA
Tot	als	4(4)	3(3)			·····		
Female	Negative Positive	12(12.48) 4(3.52)	16(15.6) 4(4.4)	28 8	78 22	36	.003	NS
Totals		16(16)	20(20)	36	100			
<40 Years	Negative	6(7.2)	10(8.8)	16	80	20	.62	
	Positive	3(1.8)	1(2.2)	4	20			NS
Tot	als	9(9)	11(11)	20	100			
>40 Years	Negative Positive	9(8.58) 2(2.42)	9(9.36) 3(2.64)	18 5	78 22	23	.01	NS
Tot	als	11(11)	12(12)	23	100			
Married	Negative Positive	6 2	9 0	15 2	89 11			
Tot	tals	8(8)	9(9)	17	1.00			NA
	Negative	11(11,2)	8(8)	19	80			
Not Married	Positive	3(2.8)	2(2)	5	20	24	.04	NS
To	tals	14(14)	10(10)	24	100			
<8th Grade	Negative Positive	8(7.1) 2(2.9)	7(7.81) 4(3.19)	15 6	71 29	21	.12	NS
То	tals	10(10)	11(11)	21	100		-	
>8th Grade	Negative Positive	8(9.02) 3(1.98)	11(9.84) 1(2.16)	19 4	82 18	 	47	
То	tals	11(11)	12(12)	23	100	23	.41	NS

Note: For Key see Table 11.

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MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN THE DENIAL OF ILLNESS (Scale 5)

						_		-
Comparisor	Denial of Illness		Response to	Seeking	Medic	al Ca	are	
Categories	s Scores	Initial Non-Delay	Followup Non-Delay	Totals	8	N	x ²	Р
Black	Negative Positive	6(5.95) 1(1.05)	5(5.1) 1(.9)	11 2	85 15	13	.44	NS
White -	Negative Positive	11 3	12 0		100			NA
T	Negative Positive	4 (14)	<u> 12 (12) </u>					NA
Female	Negative Positive	$\frac{4(4)}{14(14.76)}$ 4(3.24)	14(13.12) 2(2.88)	28 6 24	82 18	34	.09	NS
<40 Years	Negative Positive	10 0	9	34	100			NA
>40 Years	Negative Positive	9 (10.14) 4 (2.86)	9(9) 9(7.8) 1(2.2)	18 5 23	78 22	23	.47	NS
Married	Negative Positive otals	$\frac{13(13)}{11}$ 0 11(11)	10(10) 10(10)		100			NA
Not Marri	ed Negative Positive otals	6(7.2) 4(2.8) 10(10)	7 (5.76) 1 (2.24) 8 (8)	13 5 18	72 28 100	18	.58	NS
<8th Grad	Negative Positive otals	8 2 10(10)	9 0 9 (9)	*				NA
>8th Grad T	e Negative Positive otals	10(10.32) 2(1.68) 12(12)	8(7.74) 1(1.26) 9(9)	18 3 21	86 14 100	21	.08	NS
			- (-)					

Scales 10, 2, 6, and 7 obtained from the Initial and Followup Questionnaire. Included in the situational intervening category were the following single or combinations of variables: knowledge of major disease sysmptoms, availability and accessibility of services, seriousness and susceptibility, and beliefs in preventive health actions. Table 8 was included in this study design to schematically illustrate the location of the situational intervening variables in the suggested causal chain.

Knowledge of Major Disease Symptoms (Scale 10)

It was expected theoretically that the results from the initial comparisons would indicate that the delay patients were more inclined to delay because they had less knowledge about the symptoms and consequences of major diseases or they did not understand when they should go to a physician. According to these results, there were significant differences between the scores of delay and non-delay patients only for the white and over 40 years of age sub-groups. In addition, there were non-significant differences, of some magnitude, only in the not married and under eighth grade education sub-groups. The delay patients in all four subgroups indicated that they had less knowledge about major disease symptoms than the non-delay patients. The results from this set of initial comparisons supports the findings from some prior research studies which indicated that some

delay patients tend to have less knowledge about major disease symptoms, which in turn, may influence them toward delay in seeking medical care. (Table 23 illustrates these Chi Square results.)

In the matched followup comparisons between the 24 delay and 24 non-delay patients, it was anticipated that the results would be consistent with the findings from the initial comparisons. The results, however, indicated that there were no longer any significant or non-significant differences in the four sub-groups as found in the initial comparisons. All four sub-groups had increased their positive scores on the Followup Questionnaire. In fact, the non-delay white patients and those with over eighth grade education now indicated a lack of knowledge at a non-significant level of some magnitude. The results from this set of matched followup comparisons indicated that all the delay and non-delay patients now had equal knowledge about the symptoms of major diseases except the non-delay white patients and those with over eighth grade education who may have less at a non-significant level. (Table 24 illustrates these Chi Square results.)

Two additional sets of comparisons were made to support the results found in the initial and matched followup comparisons. According to the results from the matched delaying comparisons, the delay patients in the white, not married, over eighth grade education, over 40 years of age,

INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR KNOWLEDGE ABOUT THE SYMPTOMS OF SEVERAL MAJOR DISEASES OR CONDITIONS (Scale 10)

Comparisons _D	Knowledge of Dis. Symptoms	Res	sponse to	Seeking	Medi	cal	Care	
Categories	Scores	Delay [·]	Non-Delay	Totals	8	N	x ²	P
Black	Negative Positive	5 (5.22) 4 (3.78)	20(19.72) 14(14.28)	25 18	58 42	43	.04	NS
Total	.s	9 (9)	34 (34)	43	100			
White	Negative Positive	10(7.32) 2(4.68)	35(37.82) 27(24.18)	45 29	61 39	74	2.03	*
Total	s	12(12)	62 (62)	74	100			
Male	Negative Positive	3 0	16 8					NA
Total	ls	3(3)	24 (24)					
Female	Negative Positive	12(10.26) 6(7.74)	40 (42,18) 34 (31,82)	52 40	57 43	92	.95	NS
Totals		18(18)	74 (74)	92	100			
<40 Years	Negative Positive	5(5.22) 4(3.78)	17(16.82) 12(12.18)	22 16	58 42	38	.05	NS
Totals		9 (9)	29 (29)	33	100	•	•	
>40 Years	Negative Positive	10(7.08) 2(4.92)	38(40.71) 31(28.29)	48 33	59 41	81	2.31	*
Total	Ls	12(12)	69 (69)	81	100			
Married	Negative Positive	6(5.4) 3(3.6)	29(29.4) 20(19.6)	35 23	60 40	58	.01	NS
Total	ls	9(9)	49 (49)	58	100			
Not Married	Negative Positive	9(6.96) 3(5.04)	25(27.26) 22(19.74)	34 25	58 42	59	1.08	NS
Totals		12(12)	47 (47)	59	100			
<8th Grade	Negative Positive	9(6.6) 2(4.4)	29 (31.2) 23 (20.8)	38 25	60 40	63	1.6	NS
Totals		11(11)	52 (52)	63	100			
>8th Grade	Negative Positive	6(5.7) 4(4.3)	27(27.36) 21(20.62)	33 25	57 43	58	.02	NS
Tota	ls	10(10)	48 (48)	58	100			

Yates correction tends to overcorrect so the >40 years and white sub-groups are probably significant at the <.10 level. Note: For Key see Table 11.

MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR KNOWLEDGE ABOUT THE SYMPTOMS OF SEVERAL MAJOR DISEASES OR CONDITIONS (Scale 10)

Comparisons Knowledge of Response to Seeking Medical Care										
Categorie	s	Sco	res	Delay	Non-Delay	Totals	9	Ν	x ²	Р
Black		Nega Posi	tive tive	5(4.2) 2(2.8)	4(4.8) 4(3.2)	9 6	60 40	15	.27	NS
T	otals	3		7(7)	8(8)	15	100			
White		Posi	tive	5(7.28) 8(5.72)	4(6.16)	15 12	56 44	27	1.79	NS
T	otals	5		13(13)	14(14)	27	100			
Male		Nega Posi	tive tive	2(2.52) 2(1.48)	3(2.52) 1(1.48)	5 3	63 37	8	.001	NS
T	otals	;		4(4)	4(4)	8	100			
Female		Nega Posi	tive tive	8(8.16) 8(7.84)	10(9.69) 9(9.31)	18 17	51 49	35	.04	NS
Totals			16(16)	19(19)	35	100		-		
<40 Years		Nega Posi	tive tive	4 (5.3) 6 (4.7)	6(4.77) 3(4.23)	10 9	53 47	19	.49	NS
Totals			10(10)	9 (9)	19	100				
>40 Years		Nega Posi	tive tive	6 (5.8) 4 (4.2)	8(8.12) 6(5.88)	14 10	58 42	24	.08	NS
T	otals	<u>.</u>		10(10)	14(14)	24	100			
Married		Nega Posi	tive tive	5(5.04) 3(2.96)	7(6.83) 4(4.07)	12 7	63 37	19	.19	NS
Te	otals	5		8(8)	11(11)	19	100			
Not Marri	ed	Nega Posi	tive tive	3(3.52) 5(4.48)	6(4.34) 5(6.16)	8 10	44 56	18	.16	NS
T	otals	3		8(8)	11(11)	18	100			
<8th Grad	е	Nega Posi	tive tive	7(6.7) 3(3.3)	7(7.37) 4(3.63)	14 7	67 33	21	.03	NS
T	otals	5		10(10)	11(11)	21	100			
>8th Grad	e	Nega Posi	tive tive	3(4.95) 8(6.05)	7(4.85) 4(6.03)	10 12	45 55	22	1.65	NS
Totals			11(11)	11(11)	22	100	44 I.03			

and under eighth grade education sub-groups had increased their positive scores on the Followup Questionnaire at a significant or non-significant level. (Table 25 illustrates these Chi Square results.) According to the matched nondelay comparisons, the non-delay female patients had increased their positive scores on the Followup Questionnaire at a significant level; but, this increase in positive scores had not affected any significant Chi Square results in the matched followup comparisons. (Table 26 illustrates these Chi Square results.) These two sets of comparisons substantiated the direction of changes noted in the matched followup comparisons.

Availability and Accessibility of Services (Scale 2)

According to the results from some prior research studies, it was theoretically expected that the initial comparisons would indicate that the delay patients were more inclined toward delay because they believed that medical services were not available or accessible to them. Significant differences, in fact, were found between the delay and non-delay patients only for the female and over eighth grade education sub-groups. Delay patients in these two sub-groups indicated that they were more inclined than the non-delay patients to believe that medical care was not available or accessible to them. The results in this initial set of comparisons supports the findings from

MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR KNOWLEDGE ABOUT THE SYMPTOMS OF SEVERAL MAJOR DISEASES OR CONDITIONS (Scale 10)

	· · · · · ·		<u> </u>					
Comparisons	Knowledge of Dis. Symptoms	Re	esponse to	Seeking	Medic	al C	are	
Categories	Scores	Delay	Delay	Totals	8	N	x ²	P
Black	Negative Positive	5 (5.67) 4 (2.33)	5(4.41) 2(2,59)	10 6	63 37	16	.02	NS
Tota	ls	9(9)	7 <u>(7)</u>	16	100			
White	Negative Positive	10(7.2) 2(4.8)	5(7.8) 8(5.2)	15 10	60 40	25	3.53	*
Tota	ls	12(12)	13(13)	25	100			
Male	Negative Positive	3 0	2 2					NA
Tota	ls	3 (3)	4(4)					
Female	Negative Positive	12(10.62) 6(7.38)	8(9,4) 8(6,56)	20 14	59 41	34	.41	NS
Totals		18(18)	16(16)	34	100		• • • •	
<40 Years	Negative Positive	5(4.23) 4(4.77)	4(4.7) 6(5.3)	9 10	47 53	10	05	NG
Totals		9(9)	10(10)	19	100	17	.03	NO
>40 Years	Negative Positive	10 (8.78) 2 (3.24)	6(7.3) 4(2.7)	16 6	73 27	22	.56	NS
Tota	als	12(12)	10(10)	22	100			
Married	Negative Positive	6(5.85) 3(3.15)	5(5.2) 3(2.8)	11 6	65 35	17	.11	NS
Tota	als	9 (9)	8(8)	17	100			
Not Married	Negative Positive	9(7.2) 3(4.8)	3(4.8) 5(3.2)	12 8	60 40	20	1.47	NS
Totals		12(12)	8(8)	20	100			
<8th Grade	Negative Positive	9(8.36) 2(2.64)	7(7.6) 3(2.4)	16 5	76 24	21	.02	NS
Totals		11(11)	10(10)	21	100	_	-	-
>8th Grade	Negative Positive	6(4.3) 4(5.7)	3(4.73) 8(6.27)	9 12	43 57	2]	1.06	NS
Tot	als	10(10)	11(11)	21	100		2.00	

MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR KNOWLEDGE ABOUT THE SYMPTOMS OF SEVERAL MAJOR DISEASES OR CONDITIONS (Scale 10)

Comparisons E	Enowledge of Dis. Symptoms	_ R	esponse to	Seeking	Med.	ical	Care	
Categories	Scores	Initial Non-Delay	Followup Non-Delay	Totals	€	N	x ²	P
Black	Negative Positive	5(3.84) 1(2.16)	4(5.12) 4(2.88)	9 5	64 36	14	.52	NS
Total	.s	6(6)	8(8)	14	100			
White	Negative Positive	9(8.76) 3(3.24)	10(10.22) 4(3.78)	19 7	73 27	26	.06	NS
Total	s	12(12)	14(14)	26	100			
Male	Negative Positive	0 2	3 1					NA
Total	s	2(2)	4(4)					
Ecmalo	Negative	15(11.73)	10(13.11)	25	69			
remare	Positive	2(5.27)	9(5.89)	11	31	36	3.79	*
Totals		17(17)	19(19)	36	100	50		
<10 ¥0.000	Negative	8	6					
<40 Years	Positive	0	3					NA
Total	Ls	8 (8)	9(9)					
	Negative	8(7.44)	8(8.68)	16	62			
740 lears	Positive	4(4.56)	6(5.32)	10	38	26	. 01	NS
Total	Ls	12(12)	14(14)	26	100			
Married	Negative	7(6.7)	7(7.37)	14	67			
Married	Positive	3(3.3)	4(3.63)	7	33	21	. 03	NS
Tota	ls	10(10)	11(11)	21	100		•	
Not Married	Negative	8(6.7)	6(7.37)	14	67			
NOC Matiled	Positive	2(3.3)	5(3.63)	7	33	21	.6	NS
Tota	ls	10(10)	11(11)	21	100		• -	
<8th Grade	Negative	5(5.04)	7(6,93)	12	63			
Cui Giade	Positive	3(2.96)	4(4.07)	7	37	19	.19	NS
Tota	ls	8(8)	11(11)	19	100		•	
Sath Grado	Negative	9(7.6)	7(8.36)	16	76			
>our Graue	Positive	1(2.4)	4(2.64)	5	24	21	, 81	NS
Tota	ls	10(10)	11(11)	21	100	<u>د</u> ب	.01	110

some prior research studies which indicated that some delay patients were inclined toward delay because they believed that medical care was not available or acceptible to them. (Table 27 illustrates these Chi Square results.)

It was anticipated that the results from the set of matched followup comparisons would be consistent with the results from the initial set of comparisons; but the significant differences noted for the two sub-groups in the initial comparisons were no longer evident because the delaying patients had increased their positive scores on the Followup Questionnaire. The results from this set of matched followup comparisons indicated that both the 24 delay patients and the 24 non-delay patients now held similar beliefs about the accessibility and availability of medical care. (Table 28 illustrates these Chi Square results.)

Two additional sets of comparisons were done to support the results found in the initial and matched delaycomparisons. The results indicated that the delay patients in the female and over eighth grade education sub-groups had increased their positive scores on the Followup Questionnaire at a significant and non-significant level. (Table 29 illustrates these Chi Square results.) The results from the matched non-delay comparisons indicated that there were no significant differences between the delay and non-delay patients in any sub-groups. (Table 30 illustrates these Chi Square results.) In these two sets of comparisons,

INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN THE AVAILABILITY AND ACCESSIBILITY OF MEDICAL CARE (Scale 2)

Comparisons	Availability Accessibility	Re	sponse to s	Seeking	g Med	ical	Care	
Categories	Scores	Delay	Non-Delay	Totals	5 %	N	x ²	P
Black	Negative Positive	1(.4) 9(9.6)	1(1.8) 36(35.92)	2 45	4 96	47	.03	NS
Tot	als	10(10)	37(37)	47	100			
White	Negative	3(1.68)	9(10.08)	12	12			
MILL CC	Positive	11(12.32)	75(73.92)	86	88	98	. 49	NS
Tot	als	14(14)	84 (84)	98	100			
Mala	Negative	1(.45)	4(4.65)	5	15			
Mare	Positive	2(2.55)	27(26.35)	29	85	34	01	NG
Tot	als	3(3)	31(31)	34	100	5.	.01	
	Negative	18(4.83)	8(21.39)	26	23			
remate	Positive	3(16.17)	85(71.61)	88	77	114	>10.83	****
Tot	als	21(21)	93 (93)	114	100	T # 4		
<40 Years	Negative	1(.9)	3(3,15)	4	9			
	Positive	9(9.1)	32(31.85)	41	91	45	.24	NC
Tot	als	10(10)	35 (35)	45	100	45		ND
	Negative	1(6.17)	8(7.92)	9	9		.12	
>40 Years	Positive	12(11.83)	80(80.03)	92	91	101		NC
Tot	als	13(13)	88 (88)	101	100	101		NS
	Negative	1(1.54)	9(8.26)	10	14			
Married	Positive	10(9.46)	50 (50,74)	60	86	70	10	NC
Tot	als	11(11)	59 (59)	70	10	70	• 12	MD
	Negative	2(.78)	2(3.42)	4	6			
Not Married	Positive	11(12.22)	55 (53,58)	66	94	70	07	No
Tot	als	13(13)	57(57)	70	100	70	.97	NS
	Negative	1(1.68)	10(9.35)	11	14			
<8th Grade	Positive	11(10.32)	57(57.62)	68	86	70		
Tot	als	12(12)	67 (67)	79	100	79	.09	NS
	Negative	2(.48)	1(2.24)	3	4			
>8th Grade	Positive	10(11.52)	55 (53.76)	65	96		• • -	
Tot	als	12(12)	56 (56)	68	100	68	2.95	*
					· · · · · · · · · · · · · · · · · · ·			
MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN THE AVAILABILITY AND ACCESSIBILITY OF MEDICAL CARE (Scale 2)

							·	
Comparisons	Availability Accessibility	Re	sponse to	Seeking	Medi	cal Ca	ire	
Categories	Scores	Delay	Non-Delay	Totals	g.	N	x ²	₽
	Negative	0	0					
Black	Positive	9	8					NΔ
Tota	als	9(9)	8 (8)					NA
	Negative	2	0					
wnite	Positive	13	14					NΔ
Tota	als	15(15)	14(14)					
Male	Negative	0	1					
nare	Positive	4	3					NA
Tota	als	4(4)	4(4)					
Ecmalo	Negative	2(2)	2(2)	4	10			
remare	Positive	18 (18)	18(18)	36	90	40	0	NS
Tota	als	20 (20)	20 (20)	40	100		•	
<40 Years	Negative	1(1.1)	1(1)	2	10			
	Positive	10(9.9)	9 (9)	19	90	21	.16	NS
Tota	als	11(11)	10(10)	21	100		_	
AN Vears	Negative	1(1.04)	1(1.04)	2	8			
240 ICars	Positive	12(11,96)	12(11.96)	24	92	26	_44	NS
Tota	als	13(13)	13(13)	26	100		••••	
Married	Negative	2(1.8)	2(2.16)	4	18			
Married	Positive	8(8.2)	10(9.84)	18	82	22	.13	NS
Tot	als	10(10)	12(12)	22	100			
Not Married	Negative	9	0					
NOC MAIIICA	Positive	10	11					NA
Tot	als	10	11					
<8th Grade	Negative	0	0					
John Grude	Positive	12	10					NA
Tot	als	12(12)	10(10)					
>8th Grade	Negative	1(1.04)	1(.96)	2	8			
	Positive	12(11.96) 11(11.04)) 23	92	25	.46	NS
Tot	als	13(13)	12(12)	25	100			

MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN THE AVAILABILITY AND ACCESSIBILITY OF MEDICAL CARE (Scale 2)

Comparisons	Availability Accessibility	Ŕes	sponse to	Seeking	Medi	cal	Care	
Categories	Scores	Delay	Delay	Totals	95	N	x ²	Р
Black	Negative Positive	1 9	0 9	1 18	6 94			NA
Tota	ls	10(10)	9(9)	19	100			
	Negative	3 (2.38)	2(2.55)	5	17			
wiitce	Positive	11(11.62)	13(12.45)	24	83	29	.01	NS
Tota	ls	14(14)	15(15)	29	100			
Male	Negative	1	0	1	14			
Maie	Positive	2	4	6	86			NA
Tota	ls	3 (3)	4(4)	7	100			
Female	Negative	18(10.29)	2(9.8)	20	49			
remare	Positive	3(10.71)	18(10.2)	21	51	41	>10.83	****
Tota	ls	21(21)	20 (20)	41	100			
<40 Years	Negative	1(1)	1(1.1)	2	10			
vio icurs	Positive	9(9)	10(9.9)	19	90	21	.16	NS
Tota	ls	10(10)	11(11)	21	100			
>40 Years	Negative	1(1.04)	1(1.04)	2	8			
	PUSILIVE	12(11.90)	12(11.90)	24	92	26	.44	NS
Tota	ls	13(13)	13(13)	26	100			
Married	Negative Positive	1(1.54) 10(9.46)	2(1.4) 8(8.6)	د 18	14 86			
Tota	ls	11(11)	10(10)	21	100	21	.01	NS
Note Manual ad	Negative	2	0	2				
Not Married	Positive	11	10	21				NA
Tota	ls	13(13)	10(10)	23				
<8th Grade	Negative	1	0	1				
Coch Grade	Positive	11	12	23				NA
Tota	ls	12(12)	12(12)	24				
Sath Grade	Negative	2(1.44)	1(1.56)	3	12			
>our Graue	Positive	10(10.56)	12(11.44)) 22	88	25	005	NS
Tota	ls	12 (12)	13(13)	25	100	2.7	.005	110

MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN THE AVAILABILITY AND ACCESSIBILITY OF MEDICAL CARE (Scale 2)

	· · · · · · · · · · · · · · · · · · ·	······································		·· • · · · · · · · · · ·				
Comparisons	Availability Accessibility	Res	sponse to	Seeking	Medi	cal C	are	
Categories	Scores	Initial Non-Delay	Followup Non-Delay	Totals	£	N	x ²	P
Black	Negative Positive	0 7	0 8					NA
Tota	ls	7 (7)	8(8)					
White Negative Positive		2 12	0 14					NA
Tota	ls	14(14)	14(14)					
Male	Negative Positive	1(1) 3(3)	1(1) 3(3)	2 6	25 75	8	.00	NS
Tota	ls	4(4)	4(4)	8	100			
Female	Negative Positive	1(1.44) 17(16.56)	2(1.6) 18(18.4)	3 35	8 92	38	01	NS
Tota	ls	18(18)	20(20)	38	100			
<40 Years	Negative Positive	1(.99) 8(8.01)	1(1.1) 9(8.9)	2 17	11 89	10		NC
Tot a	le	9(9)	10(10)	19	100	19	.44	NS
>40 Years	Negative Positive	2(1.65) 13(13.35)	1 (1.43) 12 (11.57)	3) 25	11 89	28	. 02	NS
Tota	ls	15(15)	13(13)	28	100		-	
Married	Negative Positive	1(1.4) 9(8.6)	2(1.68) 10(10.32)	3) 19	14 86	22	.03	NS
Tota	ls	10(10)	12(12)	22	100		-	
Not Married	Negative Positive	0 11	0 11					NA
Tota	als	11(11)	11(11)					
<pre><8th Grade Negative <8th Grade Positive</pre>		2 9	0 10			· · · · · · · · ·		NΔ
Tota	als	11(11)	10(10)					
>8th Grade	Negative Positive	0 10	1 11					N A
Tota	als	10(10)	12(12)					1412

the direction of score changes noted in the matched followup comparisons were substantiated.

Seriousness and Susceptibility (Scale 6)

According to the results of some prior research studies, it was expected theoretically that the findings from the initial comparisons would indicate that the delay patients were not inclined to take preventive medical measures because they tended to deny the seriousness of major diseases and not feel susceptible to their consequences. The results, however, indicated that there were no significant differences; but, the possibility of a significant difference did exist for the over 40 years of age sub-group. It was not possible to do a Chi Square test because one cell of the Chi Square Table contained a zero. According to these results, the non-delay patients who were over 40 years of age did not believe in the seriousness of major diseases or feel susceptible to them. The results from this initial set of comparisons did not significantly support the findings of some prior research studies which indicated that delay patients were inclined to delay because they denied the seriousness of major diseases and did not feel susceptible to them. (Table 31 illustrates these results.)

Consistency was expected between the results from the initial and matched followup comparisons; but a

INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN THE SERIOUSNESS OF MAJOR DISEASES AND THEIR SUSCEPTIBILITY TO THEM (Scale 6)

Compariso	ons	Śeriousness & Susceptibility	Re:	sponse to a	Seeking	Medi	cal Ca	are	
Categorie	es	Scores	Delay	Non-Delay	Totals	£	N	x ²	Р
Black		Negative Positive	3(1.70) 7(8.30)	5 (6.46) 33 (31.54)	8 40	17 83	48	.63	NS
	lota.	ls	10(10)	38 (38)	48	100		<u></u>	
White		Negative Positive	3(2.24) 11(11.76)	12(12.96) 69(68.04)	15 80	16 84	95	.56	NS
j	[ota]	ls	14(14)	81 (81)	95	100			
Male		Negative Positive	0 4	3 26					NA
	lota.	ls	4(4)	29 (29)					
Female		Negative Positive	5(3.60) 15(16.40)	15(16.33) 76(74.62)	20 91	18 82	111	.81	NS
]	[ota]	ls	20(20)	91 (91)	111	100			
<40 Years	5	Negative Positive	3(2.2) 8(8.8)	6 (7) 29 (28)	9 37	20 80	46	.10	NS
5	rota.	ls	11(11)	35 (35)	46	100			
>40 Years	5	Negative Positive	0 13	12 84					NA
ŗ	Fota:	ls	13(13)	96 (96)					
Married		Negative Positive	2(1.65) 9(9.35)	8(8.55) 49(48.45)	10 58	15 85	68	.02	NS
ŗ	Fota	ls	11(11)	57 (57)	68	100			
Not Marr:	ied	Negative Positive	3(2.21) 10(10.79)	9 (9.32) 47 (46.48)	12 57	17 83	69	. 05	NS
	Tota.	ls	13(13)	56 (56)	69	100		•	
<8th Gra	de	Negative Positive	2(1.21) 9(9.79)	6(7.15) 59(57.85)	8 58	11 89	76	.14	NS
	Tota	ls	11(11)	65 (65)	76	78		•=•	
>8th Gra	de	Negative Positive	3(2.86) 10(10.14)	12(12.32) 44(43.68)	15 54	22 78		06	NC
•	Tota	ls	13(13)	56 (56)	69	100	60	.00	140

significant difference was noted between the delay and nondelay patients in the black sub-group and a non-significant difference, of some magnitude, in the over 40 years of age sub-group. The non-delay patients who were black and those over 40 years of age now indicated that they did not believe major diseases to be serious or feel susceptible to them. According to these results, the non-delay black patients and those over 40 years of age had increased their negative scores on the Followup Questionnaire at a significant and non-significant level. The results from this set of matched followup comparisons indicated that all the delay and nondelay patients held similar beliefs about the seriousness and threat of major diseases except the non-delay black patients. (Table 32 illustrates these Chi Square results.)

Two additional sets of comparisons were carried out only to support the results found in the initial and matched followup comparisons. In the matched delay comparisons, there were no significant differences noted between the delay and non-delay patients. A non-significant difference of some magnitude was noted for the female sub-group; but, this positive increase in scores on the Followup Questionnaire had not affected any significant differences in the matched followup comparisons. (Table 33 illustrates these Chi Square results.) In the matched non-delay comparisons, the black and the over eighth grade education sub-groups had significantly changed their responses on the Followup

MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN THE SERIOUSNESS OF MAJOR DISEASES AND THEIR SUSCEPTIBILITY TO THEM (Scale 6)

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Compariso	ns	Seriousness & Susceptibility	Re	sponse to s	Seeking	Medic	al Ca	are	
Categorie	s	Scores	Delay	Non-Delay	Totals	Ł	N	x ²	Ρ
Black		Negative Positive	1(3.69) 8(5.31)	6(3.28) 2(4.72)	7 10	41 59	17 17	4.75	**
т	otal	.s	9 (9)	8(8)	17	100			
White		Negative Positive	4(3.92) 10(10.08)	4(4,2) 11(10.8)	8 21	28 72	29	.09	NS
T	otal	.s	14(14)	15(15)	29	100			
Male		Negative Positive	1 3	0 4					NA
T	otal	s	4(4)	4(4)					
Female		Negative Positive	10(10.6) 10(9.4)	11(10.6) 9(9.4)	21 19	53 47	40	.003	NS
Т	ota]	ls	20 (20)	20 (20)	40	100			
<40 Years		Negative Positive	3(4.18) 8(6.82)	5 (3.8) 5 (6.2)	8 13	38 62	21	.63	NS
Т	otal	ls	11 (11)	10(10)	21	100			
>40 Years		Negative Positive	2(3.72) 10(8.28)	6(4.34) 8(9.66)	8 18	31 69	26	1.03	NS
T	otal	ls	12(12)	14(14)	26	100		-	
Married		Negative Positive	0 10	4 8					NA
T	ota.	ls	10(10)	12(12)					
Not Marri	.ed	Negative Positive	3(3.5) 7(6.5)	4(3.5) 6(6.5)	7 13	35 65	20		NS
1	ota	ls	10(10)	10(10)	20	100			
<8th Grad	le	Negative Positive	3(3.12) 9(8.88)	3(2.86) 8(8.14)	6 17	26 74	23	.12	NS
7	ota	ls	12(12)	11(11)	23	100			
>8th Grad	le	Negative Positive	3(4.16) 10(8.84	3(1.92) 3(4.08)	6 13	32 68	19	. 41	NS
1	lota	ls	13(13)	6(6)	19	100			-112

Note: For Key see Table 11.

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MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN THE SERIOUSNESS OF MAJOR DISEASES AND THEIR SUSCEPTIBILITY TO THEM (Scale 6)

	••••••							
Comparisons	Seriousness & Susceptibility	. Res <u>r</u>	oonse to S	Seeking	Medic	al C	are	
Categories	Scores	Delay	Delay	Totals	£	N	x ²	P
Black	Negative Positive	3(2.1) 7(7.9)	1(1.59) 8(7.4)	4 15	21 79	19	.20	NS
Tota	als	10(10)	9(9)	19	100			
White	Negative Positive	3(3.5) 11(10.5)	4(3.5) 10(10.5)	7 21	25 75	28	0	NS
Tota	Totals		14(14)	28	100			
Male Negative Positive		0 4	1 3					NA
Totals		4(4)	4(4)					
Female	Negative Positive	5(7.6) 15(12.4)	10(7.6) 10(12.4)	15 25	38 62	40	2.66	NS
Tot	als	20 (20)	20 (20)	40	100			
<40 Years	Negative Positive	3(3.08) 8(7.92)	3(3.08) 8(7.92)	6 16	28 72	22	.16	NS
Tot	als	11(11)	11(11)	22	100		-	
>40 Years	Negative Positive	0 13	2 10					NA
Tot	als	13(13)	12(12)					
Married	Negative Positive	2 9	0 10					NA
Tot	als	11(11)	10(10)					
Not Married	Negative Positive	3(3.38) 10(9.62)	3(2.6) 7(7.4)	6 17	26 74	23	.01	NS
Tot	als	13(13)	10(10)	23	100	2.5		
<8th Grade	Negative Positive	2(2.31) 9(8.69)	3(2.52) 9(9.48)	5 18	21 79	23	.02	NS
Tot	als	11(11)	12(12)	23	100			•
>8th Grade	Negative Positive	3(2.99) 10(10.01)	3(2.99) 10(10.01	6) 20	23 77	26	. 21	NS
Tot	als	13(13)	13(13)	26	100	20		

Note: For Key see Table 11.

Questionnaire. In addition, the under 40 years of age and not married sub-groups had changed their responses at a non-significant level of some magnitude. With the exception of the black and over 40 years of age sub-groups, the score changes made by these sub-groups on the Followup Questionnaire did not affect any significant or non-significant differences in the matched followup comparisons. (Table 34 illustrates these Chi Square results.) The direction of changes noted in the matched followup comparisons were substantiated by these two sets of comparisons.

Preventive Medical Care (Scale 7)

It was theoretically expected that the results from the initial comparisons would indicate that the delay patients were not inclined to believe in the value of preventive medical measures such as screening tests, physical checkups, and early treatment. The results, however, indicated that there were no significant differences between the delay and nondelay patients; but, there were non-significant differences, of some magnitude noted only for the female and over 40 years of age sub-groups. According to these results, the delay patients who were female and those over 40 years of age indicated a tendency to deny the value of preventive medical practices. The results from this set of initial comparisons did not significantly support the findings of some prior research studies which indicated that persons who

MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN THE SERIOUSNESS OF MAJOR DISEASES AND THEIR SUSCEPTIBILITY TO THEM (Scale 6)

	· ·							
Comparisons	Seriousness & Susceptibility	Resp	onse to See	eking Me	edical	Car	e	
Categories	Scores	Initial Non-Delay	Followup Non-Delay	Totals	£	N	x ²	P
Black	Negative Positive	1(3.29) 6(3.71)	6 (3,76) 2 (4,24)	7 8	47 53	15	3.36	*
Tota	ls	7(7)	8(8)	15	100			
White	Negative Positive	3(3.45) 12(11.55)	4(3.45) 11(11.55)	7 23	23 77	23	.002	NS
Tota	ls	15(15)	15(15)	30	100			
Male	Negative Positive	1 3	0 4					NA
Tota	ls	4(4)	4(4)					
Female	Negative Positive	12(11.21) 7(7.79)	11(11.8) 9(8.2)	23 16	59 41	39	.04	NS
Tota	ls	19(19)	20(20)	39	100			
<40 Years	Negative Positive	1(2,88) 8(6.12)	5(3,2) 5(6.8)	6 13	32 68	19	1.75	NS
Tota	ls	9(9)	10(10)	19	100			
>40 Years	Negative Positive	1(3.6) 14(11.4)	6(3.36) 8(10.64)	7 22	24 76	29	1.63	NS
Tota	ls	15(15)	14(14)	29	100			
Married	Negative Positive	1(2.42) 10(8.58)	4(2.64) 8(9.36)	5 18	22 78	23	.81	NS
Tota	ls	11(11)	12(12)	23	100			
Not Married	Negative Positive	1(2.64) 10(8.36)	4(2.4) 6(7.6)	5 16	24 76	21	1.31	NS
Tota	ls	11(11)	10(10)	21	100			
<8th Grade	Negative Positive	1(1.98) 10(9.02)	3(1.98) 8(9.02)	4 18	18 82	22	.31	NS
Tota	ls	11(11)	11(11)	22	100			
>8th Grade	Negative Positive	1(4.73) 10(6.27)	9(5.16) 3(6.84)	10 13	42 57	23	7.67	***
Tota	115	11(11)	12(12)	23	100			

disbelieved in the value of preventive health practices would not be inclined to take preventive medical measures. (Table 35 illustrates these Chi Square results.)

In the matched followup comparisons the results were consistent with the findings from the initial comparisons because there were no significant differences between the 24 delay and 24 non-delay patients. In addition, there were no non-significant differences. According to these results, the delay patients in the two sub-groups with non-significant differences had increased their positive scores on the Followup Questionnaire. (Table 36 illustrates these Chi Square results.)

Two additional sets of comparisons were carried out to support the findings from the initial and matched delay comparisons, the delay patients who were over 40 years of age had increased their positive responses on the Followup Questionnaire. (Table 37 illustrates these Chi Square results.) There were no significant differences noted in the matched non-delay comparisons. (Table 38 illustrates these Chi Square results.) These two sets of comparisons substantiated the direction of score changes in the matched followup comparisons.

Dependent Medical Orientation Variables

Because of the influence of the social structure and situational intervening variables, patients tend to have

INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN THE VALUE OF PREVENTIVE HEALTH MEASURES (Scale 7)

Comparis	ons	Previous Health Measures	Res	sponse to S	Seeking	Medio	cal Ca	are	
Categori	es	Scores	Delay	Non-Delay	Totals	 %	Ň	x ²	P
Black		Negative Positive	0 10	2 _. 36					NA
	Totals		10(10)	38 (38)					
White		Negative Positive	1(.3) 14(14.7)	1(1.13) 83(82.32)	2 97	2 98	99	.16	NS
	Totals		15(15)	84 (84)	99	100			
Male		Negative Positive	0 4	0 29					NA
	Totals		4(4)	29 (29)					
Female		Negative Positive	2(.63) 19(20.37)	2(2.82) 92(91.18)	4 111	3 97	115	1.28	NS
	Totals		21(21)	94 (94)	115	100			
<40 Year	S	Negative Positive	0 10	0 35					NA
	Totals		10(10)	35 (35)					
>40 Year	:S	Negative Positive	2(.56) 12(13.44)	2 (3,52) 86 (84,48)	4 98	4 96	102	1.95	NS
	Totals		14(14)	88 (88)	102	100			
Married		Negative Positive	0 10	1 57					NA
	Totals		10(10)	58 (58)					
Not Marr	ied	Negative Positive	1 14	0 57					NA
	Totals		15(15)	57 (57)					
<8th Gra	ade	Negative Positive	1 10	0 68					NA
	Totals		11(11)	68 (68)				****	
>8th Gra	ade	Negative Positive	0 13	2 54					NA
	Totals		13(13)	56 (56)	,				

MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS IN THE VALUE OF PREVENTIVE HEALTH MEASURES (Scale 7)

Comparis	ons	Prev. Health Measures	Re	esponse to	Seeking	Medi	cal C	Care	
Categori	es	Scores	Delay	Non-Delay	Totals	ŝ	N	x ²	P
Black		Negative	0	2					
DIACK		Positive	9	6					NA
	Tota	ls	9(9)	8(8)					
White		Negative	0	0					
WIITCE		Positive	13	15					NΔ
	Tota	ls	13(13)	15(15)					
		Negative	0	0					
Male		Positive	4	4					
	Tota	15	4(4)	4(4)					NA
	1004	Negative	$\frac{-1(4)}{5(3-6)}$	$\frac{2(3)}{2(3-6)}$	7	18			
Female		Positive	15(16 4)	18(16 4)	33	82			
		LOSICIAC	13(10.4)	10(10.4)			40	.68	NS
	Tota	ls	20(20)	20(20)	40	100			
<40 Years	Negative	0	1						
	Positive	11	9					NA	
	Tota	ls	11(11)	10(10)					
> 10		Negative	0	1					
>40 Year	S	Positive	13	13					173
	Tota	ls	13(13)	14(14)					NA
		Negative							
Married		Positive	10	12					
									NA
	Tota	ls	10(10)	12(12)					
Not Marr	ied	Negative	0	2					
		Positive	10	9					NA
	Tota	ls	10(10)	11(11)					
<0+h C*-		Negative	0	0					
SOLI GIA	ue	Positive	12	11					NA
	Tota	ls	12(12)	11(11)					INA
		Negative	0	2					
≥8th Gra	>8th Grade	Positive	13	10					
	m ,		10(10)	10(10)					NA
	Tota	11S	13(13)	12(12)					
						··			

MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS IN THE VALUE OF PREVENTIVE HEALTH MEASURES (Scale 7)

Comparis	ons	Prev. Health Measures	I	Response to	Seeking	Medic	al Ca	are	
Categori	es	Scores	Delay	Delay	Totals	20	N	x ²	P
Black		Negative Positive	0 10	0 9					NA
	Tota	ls	10(10)	9(9)					
White		Negative Positive	1 14	0 13					NA
	Tota	ls	15(15)	13(13)					
Male		Negative Positive	0 4	0 4					NA
	Tota	<u>ls</u>	4(4)	4(4)					
Female		Negative Positive	2(3.57) 19(17.43)	5(3.4)) 15(16.6)	7 34	17 83	41	.81	NS
	Totals		21(21)	20(20)	41	100			
<40 Year	s	Negative Positive	0 10(10)	1 11(11)					NA
	Tota	ls	10(10)	12(12)					
>40 Year	s	Negative Positive	2 12	0 13					NA
	Tota	ls	14(14)	13(13)					
Married		Negative Positive	0 10	0 10					NA
	Tota	ls	10(10)	10(10)					
Not Mari	ried	Negative Positive	1 14	0 10					NA
	Tota	ls	15(15)	10(10)					
<8th Gra	ade	Negative Positive	1 10	0 12					NA
	Tota	ls	11(11)	12(12)		_			
>8th Gra	ade	Negative Positive	0 13	0 13					
	Tota	als	13(13)	13(13)					1423

Note: For Key see Table 11.

MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIKES CONCERNING THEIR BELIEFS IN THE VALUE OF PREVENTIVE HEALTH MEASURES (Scale 7)

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Comparisons	Prev. Health Measures	Re	sponse to S	eeking M	edio	cal C	are	
Categories	Scores	Initial Non-Delay	Followup Non-Delay	Totals	с ю	N	x ²	Р
Black	Negative Positive	0 8	2 6					NA
Tota	Totals		8 (8)					······
White	Negative Positive	0 15	0 15					NA
Tota	ls	15(15)	15(15)					
Male	Negative Positive	0 4	0 4					NA
Tota	ls	4(4)	4 (4)					
Female	Negative Positive	0 20	2 18					NA
Totals		20(20)	20(20)					
<40 Years	Negative Positive	0 10	1 9					NA
Tota	ls	10(10)	10(10)			_		
>40 Years	Negative Positive	0 15	1 13					NA
Tota	ls	15(15)	14(14)				.	
Married	Negative Positive	0 12	0 12					NA
Tota	ls	12(12)	12(12)					
Not Married	Negative Positive	0	2 9					NA
Tota	als	11(11)	11(11)					
<8th Grade	Negative Positive	0	0 11					NA
Tota	als	11(11)	11(11)					
>8th Grade	Negative Positive	0 12	2 10					NA
Tota	als	12(12)	12(12)					

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either a positive or negative attitude toward the seeking of medical care upon becoming ill. To determine the influence of their medical orientation on patient delay, four sets of comparisons were made between the delay and non-delay patients using the scores in Scales 8 and 9 from the Initial and Followup Questionnaire. The question items in these two Scales were of the same type but different in content or meaning. Table 8 was included in this study design to schematically illustrate the location of dependent medical orientation variables in the suggested causal chain.

Competence and Personality of Physicians (Scale 8)

It was theoretically expected that the results from the set of initial comparisons would indicate that the delay patients had a negative medical orientation, which, in turn, would influence them toward delaying in the seeking of medical care. The results, however, indicated that there were no significant differences between the delay and non-delay patients; but, a non-significant difference, of some magnitude, was noted for the female sub-group. According to these results, the delay female patients were inclined toward having a negative medical orientation. The results from this set of initial comparisons did not significantly support the findings of some prior research studies which indicated that delay patients have a negative medical orientation, which, in turn, influenced them toward delay in seeking medical care. (Table 39 illustrates these Chi Square results.)

In the matched followup comparisons between the 24 delay and 24 non-delay patients, the results were consistent with the findings from the initial set of comparisons. According to these results, there were no significant differences between the delay and non-delay patients. In addition, there were no longer any non-significant differences because the delay females had increased their positive scores on the Followup Questionnaire. In fact, both the delay and non-delay patients increased their positive scores. The results from this set of matched followup comparisons indicated that both the delay and non-delay patients have a positive medical orientation. (Table 40 illustrates these Chi Square results.)

Two additional sets of comparisons were carried out to support the findings from the initial and matched followup comparisons. In the matched delay comparisons, an increase in positive score was noted in nine sub-groups on the Followup Questionnaire, but the largest increase was in the female sub-groups. (Table 41 illustrates these Chi Square results.) The results from these two sets of comparisons substantiated the positive direction of changes in the matched followup comparisons. (Table 42 illustrates these Chi Square results.)

INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS ABOUT THE POSITIVE OR NEGATIVE CHARACTERISTICS OF THE PERSONALITY AND PROFESSIONAL COMPETENCE OF DOCTORS (Scale 8)

Comparis	ions	Medical Orientation	Re	esponse to	Seeking	g Med	ical (Care	
Categori	.es	Scores	Delay	Non-Delay	Totals	ક	N	x ²	P
Black		Negative Positive	3(2.3) 7(7.7)	8 (8.74) 30 (29.26)	11 37	23 77	48	.03	NS
	Total	s	10(10)	38 (38)	48	100			
White		Negative	3(2.25)	12(12.93)	15	15			
		Positive	12(12.75)	73(72.25)	85	85	100	.04	NS
	Total	S	15(15)	85 (85)	100	100		•••	
		Negative	0	7					
Male		Positive	4	23					NA
	Total	S	4(4)	30 (30)					
		Negative	6(3.57)	13(15.81)	19	17			
remate		Positive	15(17.43)	80(77.19)	95	82	114	2.59	NS
	Totals		21(21)	93 (93)	114	100			
<40 Vears	Negative	4(2.97)	9 (9.99)	13	27				
10 1841	5	Positive	7(8.03)	28(27.01)	35	73	48	.16	NS
	Total	S	11(11)	37(37)	48	100			
>10 Yes		Negative	2(2.1)	13(13.2)	15	15			
240 Ieal	.5	Positive	12(11.9)	75(74.8)	87	85	102	.10	NS
	Total	.S	14(14)	88 (88)	102	100			
Married		Negative	1(1.87)	11(12.3)	12	17			
Married		Positive	10(9.13)	48 (48.97)	58	83	70	.11	NS
	Total	.s	11(11)	59 (59)	70	100			
Not Mari	ried	Negative	4(2.52)	9(10.26)	13	18			
NOC MAIL	LICU	Positive	10(11.48)	48(46.74)	58	82	71	.53	NS
	Total	.s	14(14)	57 (57)	71	100			
cath Cr		Negative	3(2.4)	13(13.6)	16	20			
VOCH GI	aue	Positive	9(9.6)	55(54.4)	64	80	80	.006	NS
	Total	s	12(12)	68 (68)	80	100			
Sath Gr	ade	Negative	3(2.08)	8(9.12)	11	16			
FOCH GE	445	Positive	10(10,92)	49(47.88)) 59	84	70	.15	NS
	Total	s	13(13)	57(57)	70	100			

MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS ABOUT THE POSITIVE OR NEGATIVE CHARACTERISTICS OF THE PERSONALITY AND PROFESSIONAL COMPETENCE OF DOCTORS (Scale 8)

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Comparis	ons	Medical Orientation	. R	esponse to :	Seeking	Medi	cal C	are		
Categori	.es	Scores	Delay	Non-Delay	Totals	8	N	x ²	P	
Black		Negative Positive	0 9	0 8					NA	
	Tota	ls	9(9)	8 (8)						
		Negative	0	0						
White		Positive	13	12					NA	
	Tota	ls	13(13)	12(12)		~				
M-1-		Negative	0	0						
Male		Positive	3	3					NA	
	Tota	ls	3(3)	3(3)						
Female		Negative	0	0						
		Positive	20	18					NA	
Totals		ls	20 (20)	18 (18)						
<40 Year	Negative		0	0						
	s	Positive	11	8					NA	
	Tota	ls	11(11)	8(8)						
······································		Negative	0	3					·····	
>40 Year	rs	Dogitivo	12	9						
		TOPICIAC	46	,					NA	
	Tota	18	12(12)	12(12)						
Married		Negative	0	1						
		Positive	9	9					NA	
	Tota	1s	9 (9)	9) 10(10)						
Not More	ai ad	Negative	0	0						
NOU MAI	(Ted	Positive	10	11					N170	
	Tota	ls	10(10)	11(11)					INT:	
		Negative	0	0						
<8th Gra	ade	Positive	11	10						
									NA	
	Tota	lls		10(10)						
Q+b -	_	Negative	0	0						
>oun Gra	ade	Positive	13	11						
		1 001 01 40		<u> </u>					NA	
	Tota	ls	13(13)	11421)						

MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS ABOUT THE POSITIVE OR NEGATIVE CHARACTERISTICS OF THE PERSONALITY AND PROFESSIONAL COMPETENCE OF DOCTORS (Scale 8)

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Compariso	ons	Medical Orientation	R	esponse t	o Seeking	Media	cal	Care		
Categorie	es	Scores	Delay	Delay	Totals	₹	N	x ²	P	
Black		Negative Positive	3 7	0 9					NA	
Totals		10(10)	9(9)							
White		Negative Positive	3 12	0 13					NΔ	
1	[ota]	ls	15(15)	13(13)					hu	
Male		Negative Positive	0 4	0 3					N7	
q	Totale		4(4)	3(3)					NA	
Female		Negative Positive	6 15	0 20	*-***				N77	
g	rota	ls	21(21)	20(20)					MA	
<40 Years	5	Negative Positive		0 11					ND	
9	Fota	ls	11(11)	11(11)					INA	
>40 Years	5	Negative Positive	2 12	0 12						
ŗ	Totals		14(14)	12(12)					NA	
Married		Negative Positive	1 10	0 9					NI 7	
- r	Tota	19	11(11)	9(9)					NA	
Not Marr	ied	Negative Positive		0 10						
,	nota	16	14(14)	10(10)	•				NA	
KOth Ci		Negative	3	0						
<8th Grad	ae	Positive	9	11					NΔ	
,	Totals		12(12)	11(11)					14/1	
>8th Gra	de	Negative	3	0						
55. Gru		Positive	10	13					NA	
1	Tota	ls	13(13)	13(13)						

Note: For Key see Table 11.

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MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS ABOUT THE POSITIVE OR NEGATIVE CHARACTERISTICS OF THE PERSONALITY AND PROFESSIONAL COMPETENCE OF DOCTORS (Scale 8)

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Medical Orientation	Response to Seeking Medical Care							
Scores	Initial Non-Delay	Followup Non-Delay	Totals	сıр	N	x ²	P	
Negative Positive	1 7	0 8					NA	
ls	8(8)	8(8)						
Negative Positive	0 15	0 12					NA	
ls	15(15)	12(12)						
Negative Positive	0 4	0 3					NA	
ls	4(4)	3(3)						
Negative Positive	0 20	0 18					NA	
ls	20 (20)	18(18)						
Negative Positive	1 9	0 8					NA	
ls	10(10)	8(8)						
Negative Positive	0 15	3 9					NA	
ls	15(15)	12(12)					112	
Negative Positive	0 12	1 9					NZ	
ls	12(12)	10(10)						
Negative Positive	1 10	0 11					NZ	
Totals		11(11)						
Negative Positive	1 10	0 10					N7	
ls	11(11)	10(10)						
Negative Positive	0 12	0 11	<u>Uriquis</u> Bindinia B				 N1	
ls	12(12)	11(11)					1111	
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Note: For Key see Table 11.

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Competence and Personality of Physicians (Scale 9)

It was expected theoretically that the delay patients would express a negative medical orientation in the initial comparisons, but there were no significant differences between the delay and non-delay patients. According to the results, the non-delay female patients had a non-significant tendency, of some magnitude, toward a negative medical orientation. These results did not significantly support the findings of some prior research studies which indicated that delay patients have a negative medical orientation. (Table 43 illustrates these Chi Square results.)

As anticipated, the results from the set of matched followup comparisons were consistent with the findings from the initial set of comparisons. According to the results, there were still no significant differences between the delay and non-delay patients. In addition, there were no longer any non-significant differences because the non-delay females had increased their positive scores on the Followup Questionnaire. The results from this set of matched followup comparisons indicated that there were no significant differences between the medical orientation of delay and nondelay patients. In addition, all the delay and nondelay patients in all the sub-groups except in the male and over 40 years of age sub-groups have a strong positive medical orientation. (Table 44 illustrates these Chi Square results.)

INITIAL COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS ABOUT THE POSITIVE OR NEGATIVE CHARACTERISTICS OF THE PERSONALITY AND PROFESSIONAL COMPETENCE OF DOCTORS (Scale 9)

Comparisons Medical Response to Seeking Medical Care								
Categories	Scores	Delay	Non-Delay	Totals	શુ	N	x ²	Р
Black	Negative Positive	7 (5.7) 3 (4.3)	19(20.52) 17(15.48	25 20	57 43	46	.38	NS
Тот	tals	10(10)	36 (36)	46	100			
White	Negative Positive	9(10.05) 6(4.95)	53(52.26) 25(25.74)	62 31	67 33	93	.05	NS
То	tals	15(15)	78 (78)	93	100			
Male	Negative Positive	4 0	22 6					NA
То	tals	4(4)	28 (28)					
Female	Negative Positive	8(11.55) 13(9.45)	51(47.3) 35(38.7)	59 48	55 45	107	2.27	
Totals		21(21)	86 (86)	107	100		-	
<40 Years	Negative	7 (6.38)	18(18.56)	25	58			
	Positive	4(4.62)	14(13.41)	18	42	43	.006	NS
То	tals	11(11)	32 (32)	43	100			
>40 Years	Negative Positive	9(9.1) 5(4.9)	53(52.25) 28(28.33)	62 33	65 35	95	.06	NS
То	tals	14(14)	81(81)	95	100			
Married	Negative Positive	8(7.48) 3(3.52)	37(37.4) 18(17.6)	45 21	68 32	66	.001	NS
То	tals	11(11)	55 (55)	66	100			
Not Marrie	d Negative Positive	8(8.4) 6(5.6)	33(32.4) 21(21.6)	41 27	60 40	68	.003	NS
То	tals	14(14)	54(54)	68	100	00	.005	
40+1- Gr. 1	Negative	6(7.56)	41 (39.69)	47	63			
<stn grade<="" td=""><td>Positive</td><td>6(4.44)</td><td>22 (23.31)</td><td>28</td><td>37</td><td>75</td><td>.45</td><td>NS</td></stn>	Positive	6(4.44)	22 (23.31)	28	37	75	.45	NS
То	tals	12(12)	63 (63)	75	100			
>8th Grade	Negative Positive	10(8.71) 3(4.29)	33(34.17) 18(16.83)	43 21	67 33	64	.26	NS
Тс	tals	13(13)	51(51)	54	100			

Notc: For Key see Table 11.

MATCHED FOLLOWUP COMPARISONS BETWEEN THE DELAYING AND NON-DELAYING PATIENTS CONCERNING THEIR BELIEFS ABOUT THE POSITIVE OR NEGATIVE CHARACTERISTICS OF THE PERSONALITY AND PROFESSIONAL COMPETENCE OF DOCTORS (Scale 9)

	<u> </u>		· · · · ·					
Comparisons	Medical Orientation	Re	sponse to	Seeking	Medic	al Ca	ire	
Categories	Scores	Delay	Non-Delay	Totals	98	N	x ²	Р
Black	Negative Positive	0 8	0 8					NA
Tota	ls	8(8)	8(8)					
White	Negative Positive	1(1.44 11(10.56)	2(1.56 11(11.44)	3 22	12 88	28	.005	NS
Tota	als	12(12)	13(13)	25	100			
Male	Negative Positive	1(.99) 2(2.01	1(.99) 2(2.01)	2 4	33 67	6	.72	NS
Tota	als	3(3)	3(3)	6	100			
Female	Negative Positive	1 16	0 19					NA
Tota	als	17(17)	19(19)					
<40 Years	Negative Positive	1 10	0 10					ND
Tota	als	11(11)	10(10)					
>40 Years	Negative Positive	9(8.19) 4(4.81)	8(8.82) 6(5.18)	17 10	63 37	27	.06	NS
Tota	als	13(13)	14(14)	27	100	27 .00		
Married	Negative Positive	0 7	1 10					NA
Tota	als	7(7)	11(11)					
Not Married	Negative Positive	1(1) 9(9)	1(1.1) 10(9.9)	2 19	10 90	21	.16	NS
Tota	als	10(10)	11(11)	21	100			
<8th Grade	Negative Positive	1(.99) 8(8.01)	1(.99) 8(8.01)	2 16	11 89	18	.55	NS
Totals		9(9)	9(9)	18	100			
>8th Grade	Negative Positive	1(.96) 11(11.04)	1(.96) 11(11.04)	2) 22	8 92	24	_ 48	NS
Tot	als	12(12)	12(12)	24	100		24 .48	

Note: For Key see Table 11.

Two additional sets of comparisons were made to support the findings from the initial and matched followup comparisons. In the matched delaying comparisons, their results indicated that the delay patients had significantly increased their positive scores on the Followup Questionnaire in the white, female, under 40 years of age, not married, and over eighth grade education sub-groups. In addition, non-significant increases in positive scores on the Followup Questionnaire was noted for all the other sub-groups except the male and over 40 years of age sub-groups. (Table 45 illustrates these Chi Square results.) In the matched non-delaying comparisons, a significant increase in positive scores was made on the Followup Questionnaire by the non-delay patients in the married and under eighth grade education sub-groups. In addition, non-significant increases in positive scores on the Followup Questionnaire was noted in all the sub-groups except the over 40 years of age. These two sets of comparisons substantiated the direction of score changes noted in the matched followup comparisons. (Table 46 illustrates these Chi Square results.)

Utilization of Medical Care

In Sections 11 and 12 of the Followup Questionnaire, data was collected to determine if the 24 matched delay and non-delay patients used medical care in different ways and to determine if consistency existed between their

MATCHED DELAYING COMPARISONS BETWEEN THE SCORES OF THE DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRE CONCERNING THEIR BELIEFS ABOUT THE POSITIVE OR NEGATIVE CHARACTERISTICS OF THE PERSONALITY AND PROFESSIONAL COMPETENCE OF DOCTORS

(Scale 9)

Comparisons	Medical Orientation	Re	sponse to	Seeking	Medic	al C	are	
Categories	Scores	Delay	Delay	Totals	8	N	x ²	Р
Black	Negative Positive	7 3	0 8					
Tota	ls	10(10)	8(8)					NA
White	Negative Positive	9 (5.55) 6 (9.45)	1(4.44) 11(7.55)	10 17	37 63	27	5.58	**
Tota	ls	15(15)	12(12)	27	100		3.50	
Male	Negative Positive	4 0	1 2					NA
Tota	ls	4(4)	3 (3)					
Female	Negative Positive	8(5.04) 13(15.96)	1(4.08) 16(12.92)	9 29	24 76	38	3.73	*
Tota	ls	21(21)	17(17)	38	100			
<40 Years	Negative Positive	7(3.96) 4(7.04)	1(3.96) 10(7.04)	8 14	36 64	22	4 93	**
Tota	ls	11(11)	11(11)	22	100			
>40 Years	Negative Positive	9(9.38) 5(4.12)	9(8.71) 4(4.29)	18 9	67 33	27	.02	NS
Tota	ls	14(14)	13(13)	27	100			
Married	Negative Positive	8 3	0 7					NA
Tota	ls	11(11)	7(7)					
Not Married	Negative Positive	8(5.32) 6(8.68)	1(3.8) 9(6.2)	9 15	38 62	24	3.69	*
Tota	ls	14(14)	10(10)	24	100			
<8th Grade	Negative Positive	6(3.96) 6(8.04)	1(2,97) 8(6.03)	7 14	33 67	21	1.98	NS
Tota	ls	12(12)	9(9)	21	100			
>8th Grade	Negative Positive	10(5.72) 3(7.28)	1(5.28) 11(6.72)	11 14	44 56	25	9,29	**
Tota	als	13(13)	12(12)	25	100	2.5	7.47	

MATCHED NON-DELAYING COMPARISONS BETWEEN THE SCORES OF THE NON-DELAYING PATIENTS ON THE INITIAL AND FOLLOWUP QUESTIONNAIRES CONCERNING THEIR BELIEFS ABOUT THE POSITIVE OR NEGATIVE CHARACTERISTICS OF THE PERSONALITY AND PROFESSIONAL COMPETENCE OF DOCTORS (Scale 9)

Medical Response to Seeking Medical Care Comparisons Orientation x^2 Initial Followup Totals % N Ρ Categories Scores Non-Delay Non-Delay 0 3 Negative Black Positive 4 8 NA Totals 7(7) 8(8) 9 33 Negative 7(4.62) 2(4.29)White Positive 7(9.38) 11(8.71)18 67 27 2.26 NS 14(14) 13(13) 27 100 Totals 57 Negative 3(2.28) 1(1.71)4 Male Positive 1(1.72)2(1.29) 3 43 7 .11 NS 7 Totals 4(4)3(3) 100 Negative 8 0 Female 19 Positive 10 NA Totals 18(18) 19(19) Negative 0 4 <40 Years 5 10 Positive NA Totals 9(9) 10(10) 57 Negative 8(7.98) 8(7.98) 16 >40 Years Positive 6(6.02) 6(6.02) 12 43 28 .00 NS Totals 14(14) 14(14) 28 100 Negative 8(4.68) 1(4.29) 39 9 Married Positive 4(7.32) 10(6.71) 14 61 ** 23 5.76 11(11) Totals 12(12) 23 100 Negative 19 3(1.9)1(2.09) 4 Not Married Positive 7(8.1) 10(8.91) 17 81 21 .27 NS 10(10) 11(11) 21 100 Totals Negative 6(3.85) 7 35 1(3.15)<8th Grade Positive 5(7.15) 8(5.85) 13 65 20 3.87 ** Totals 11(11) 9(9) 20 100 Negative 5 23 4(2.3) 1(2.76)>8th Grade Positive 6(7.7) 11(9.24) 17 77 22 1.56 NS 10(10) 12(12) 22 100 Totals

Note: For Key see Table 11.

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responses in the nine Scales and in the utilization data. Section 11 consisted of nine question items and Section 12 of ten question items.

When asked if they had a family physician in Question Item One in Section 11, 95 per cent of the responding non-delay patients said yes compared to 63 per cent of the delay patients. Five of the delay patients indicated that they used a specialist as a family physician compared to seven non-delay patients. It appeared that the non-delay patients were more inclined to have a family physician.

When asked if they went to the same or a different physician for mild, moderate and severe conditions in Question Items Two, Three, and Four in Section 11, the delay patients were far more inclined than the non-delay patients to use a physician other than their family physician. Of the responding delay patients, 47 per cent changed physicians for a mild condition, 53 per cent for a moderate condition, and 60 per cent for a severe condition, but 23, 10, and 80 per cent of the non-delay patients changed for the same condition. (Table 47 illustrates these results).

When asked if they went to a dentist at least once a year and if they had a routine physical check-up every year in Question Items Five and Seven in Section 11, 44 per cent of the responding delay patients said that they went to a dentist at least once every year compared to 19 per cent of the non-delay patients; and 50 per cent of the responding

THE NUMBER OF DELAY AND NON-DELAY PATIENTS WHO USED THEIR FAMILY OR A DIFFERENT PHYSICIAN FOR MILD, MODERATE AND SEVERE CONDITIONS

	Selection of Family or Different Physician for Treating Mild, Moderate, and Severe Conditions							
Conditions	De	lay	Non-Delay					
	Family Physician	Different Physician	Family Physician	Different Physician				
Flu or Sore Throat	8	7	17	5				
HBP or Diabetes	7	8	20	2				
Open Heart or Brain Surgery	6	9	4	16				

delay patients said that they had a routine annual physical check-up compared to 50 per cent of the non-delay patients.

When asked if they ever went to a medical clinic for a check-up or examination when in good health in Questicn Item Six of Section 11, 21 per cent of the delay patients said yes compared to 50 per cent of the non-delay patients. It appeared that the non-delay patients were over twice as inclined to get physical check-ups when well than the non-delay patients. Surprisingly, the delay patients changed their minds before they answered Question Item Seven which was identical except it was stated a little differently.

When asked if they or anyone in their family had ever gone to a hospital in Question Item Eight of Section 11, the answers indicated some misunderstanding of the Question Item and they were discarded; but when asked if they were satisfied with the medical treatment when in the hospital in Question Item Nine of Section 11, 77 per cent of the delay patients said they were satisfied compared to 71 per cent of the non-delay patients. The delay patients evidently were not any more negative toward the use of medical care than the non-delay patients.

When asked what kinds of treatment practioners were used by the patient and his family during the past three years in Question Items 1 through 10 in Section 12, there were no essential differences between the delay and non-delay patients or between their families. It was

interesting to note that they primarily used medical physicians and osteopaths. More of the delay patients and their families used faith healers than the non-delay patients.

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CHAPTER V

DISCUSSION

The intent of this dissertation was to investigate the influences on patient delay of the interactional influences between the demographic-linked social structure, situational intervening, and dependent medical orientation variables. This investigation was done in order to collect more baseline data, to better predict patient delay, to suggest intervention strategies, to decrease patient delay, and to stimulate further research in this area. The investigation was done from the perspective of the patient.

Before entering into a discussion of the findings from this study, it is important to refer again to one of the stated limitations. As with most attitude studies, the instrumentation cannot be said to be definitive. This is especially true of this study which used a complex innovative type model composed of components from other models used in some prior studies. In order to avoid instrument type error, an effort was made to primarily adapt only attitude scales from prior research studies and to collect supportive utilization data.

A lot of research evidence suggested that the medical care practices of the delay patients were culturally determined and habitual in nature. This indicated that the medical care behavior patterns of the delay patients, that existed prior to and at the point of illness, were probably the essential causes of patient delay or more influential than the situational intervening variables, which came primarily into play at the onset of illness. This study attempted to document the greater influence of the culturally determined inter-related social structure variables on the patient's negative medical orientation and subsequent patient delay.

It was hypothesized that the low income Medicaid patients were influenced more toward patient delay by several inter-related social structure variables, which were operating prior to and at the onset of illness, than by the operational situational intervening variables in a chain of independent, intervening and dependent variables. After testing this hypothesis, it was rejected because the delaying patients were not influenced toward delay at a significant level by the inter-related social structure variables. The detailed results from testing this hypothesis were presented in Chapter IV. Even when the scores indicated that the delaying patients might indicate beliefs in denying illness and diagnosing themselves, it was not possible to demonstrate any significant .

differences between their scores and those of non-delay patients. Only two of the situational intervening variables, in fact, appeared to significantly influence some of the delaying patients toward a negative medical orientation and subsequent delay.

By relating the results of this study to the findings of some prior studies, it may be possible to point out some plausible reasons for not being able to prove the stated hypothesis and to set the results of this study into some reasonable framework of reference in relationship to prior study findings. After numerous studies had been carried out to primarily investigate the role of demographic characteristics in patient delay during the early part of this century, several investigators such as Henderson et al. (18), Goldsen (43), and Suchman (45) began to investigate the persistent but subtle role that habitual illness practices appeared to play in patient delay. Each investigator noted that patient delay might be the outcome of linkages between the demographic, social structure, and medical orientation variables. In order to demonstrate these linkages, Suchman developed the first causal chain model which related linked demographic and social structure variables to medical orientation variables. The causal chain model for this study included Suchman's social structure variables of ethic exclusivity, friendship solidarity, and family tradition which tended to predispose the group

members toward the denial of illness, self-diagnosis, and subsequent patient delay; but, the findings of this study were considerably different than those from Suchman's study.

In this study, the social structure variables were considered as the initial influences affecting an ill person toward patient delay or as the necessary substrata to which the influences of situational intervening variables must be added in order to precipitate a negative medical orientation and subsequent delay. See Table 8 which schematically illustrates the location of the variables in the causal chain model. The results obtained from the Initial Questionnaire, using Suchman's scales, were rather surprising. Instead of the delay patients expressing belief in the social structure variables; the non-delay patients, only for the white, for the married, and for those under 40 years of age, indicated their belief in these variables at a significant level. In addition the non-delay patients, only for the female and those with under eighth grade education, indicated a non-significant belief of some magnitude in these variables. In effect, some results which were opposite to Suchman's findings were found in this study.

Because the social structure variables predisposed the delay patients in Suchman's study toward the denial of illness and self-diagnosis, two additional scales were used in this study to measure the difference in belief between

the delay and non-delay patients about these practices. The results indicated that there were no significant differences between their beliefs in these practices but that both delay and non-delay patients probably believed in the denial of illness. However, there were non-significant differences of some magnitude between three sub-groups of delay and non-delay patients. Theoretically, only the five non-delay sub-groups who indicated their belief in the practices of ethnic exclusivity, friendship solidarity, and family tradition should have, in addition, indicated their belief in the value of denying illness and self-diagnosis; but, the results did not support such a relationship!

In effect, the results of this study indicated that the delay patients were not influenced by the predisposing influences of social structure variables toward selfdiagnosis and subsequent delay; but some of the differences between this study design and that of Suchman's may have been responsible for these contradictory findings or point toward some plausible reasons for them. Of course, the results from this study did not provide any conclusive evidence which would significantly substantiate any suggested reasons for these differences.

The differences between the two studies which might have been responsible were related to the sample, method of collecting data, and social conditions:
- A sample size of 5,340 persons from a study population of 270,000 persons was used in Suchman's study compared to a sample size of 285 persons from a population of 95,000 persons in this study.
- A participant response of 76.3 per cent was accomplished in Suchman's study compared to 53.6 per cent in this study.
- 3) A sample was used in Suchman's study which included both the chronic and acutely ill patients from a general population compared to the hospitalized Medicaid patients in this study.
- A trained team of interviewers collected the data in Suchman's study compared to mailed questionnaires in this study.
- 5) A set of different social conditions affected the behavior of patients in Suchman's sample population compared to the social conditions affecting the patients in this study.

It may be that Suchman's results were more reliable and valid than the findings in this study. In his study, the probability of more reliability and validity was greater because of the larger sample size, greater percentage of participant response, and data being collected by trained interviewers. If this study could have been carried out on such a large sample by trained interviewers, perhaps, the results might have been more similar to those found in Suchman's study.

On the other hand, the contradictory results may have been influenced by the difference in the degree of illness of patients in the two study populations. In Suchman's study, the chronically illness cases who had less painful and threatening symptoms were left in the study sample; but, in this study, the chronically ill low income Medicaid patients were eliminated and only the recently hospitalized Medicaid patients were left in the study sample. In effect, a large number of chronically ill patients were eliminated who may have been influenced toward delay by ethnic exclusivity, friendship solidarity, and family tradition; and their exclusion may be responsible for the different findings in the two studies.

It may be that the different social conditions within which each study was carried out contributed most to the finding of different results. According to Suchman's findings, the parochial patients in his study tended to deny illness, to diagnose and treat themselves, and to be alienated from seeking modern medical care. In addition, their tenacity to persist in these folk medicine practices involved them in a conflict with the practioners of scientific medicine. While they were clinging to their personalized folk medicine practices, the professional medical practioners were trying to forcefully introduce strange, impersonalized medical practices into their community. In describing this conflict, Suchman said, "A major problem of modern times is to reduce the gap between a rapidly advancing scientific technology looking forward and a hesitant, parochial public looking backward."

Even though some remnants of this old conflict may

still persist, the primary conflict during recent years, between the low income patients and modern medical practioners, has been over the need for more modern medical care. In Tennessee, this change toward a more positive attitude about the use of modern medicine was probably related to the rapid increase, over time, in medical services to the low income patients. For example, Federal funds were made available in 1963 to provide statewide nursing and restoration care to patients at home, and the Medicaid program was established in 1968 to provide additional medical services (72, 73). In effect, the quality and appeal of modern medical care may have gradually destroyed the appeal of folk medicine to the low income patients and the influence of parochial social structure variables on their illness behavior. If so, this may explain why the delay patients in this study were not influenced by the social structure variable toward delay.

Another different social condition which may have affected the results of this study was the change in the stability of neighborhood and community social practices and relationships. During the last decade, for example, there has been a mass migration of low income persons to the larger cities in search of jobs which has disrupted and possibly destroyed the parochial social structures in both rural and urban communities (74). Because of this disintegration of community social life by mass migration,

general population mobility, evolution of the nuclear family, and related forces, it may be that the parochial social structure variables did not affect the delay patients toward self-diagnosis and delay because they have become ineffectual or no longer exist.

Some of the demographic and utilization data collected in the Initial and Followup Questionnaire provided information related to the high mobility and family instability of the low income Medicaid patients. According to the results, 27 or 9.5 per cent of the 285 Medicaid patients, who had been mailed Initial Questionnaires, had moved within a few months after being hospitalized. For example, it took three days to locate just one delay patient who had moved several times within a short period of time. Interacting with this instability was the family instability as affected by a high percentage of divorced or widowed delay patients in the not married sub-group. Fifty per cent were divorced or widowed compared to 17 per cent of the non-delay patients. With such high mobility and unstable domestic conditions; ethnic, friendship, and family ties may have been broken up or weakened, which in turn, may have eroded or weakened the strength of the social structure variables to influence the Medicaid patients toward self-diagnosis and subsequent delay in seeking medical care.

If the social structure variables, because of

changed social conditions, no longer influenced the low income Medicaid patients to delay, then it appeared that this influence may have come from the situational intervening variables linked with demographic variables. Yet, the results from the Initial Questionnaire which indicated that some of the non-delay patients were significantly influenced by ethnic exclusivity, friendship solidarity, and family tradition were seemingly contradictory because these non-delay patients were not, in turn, affected by these variables toward self-diagnosis and delay. In addition, the results from the Followup Questionnaire appeared equally puzzling or contradictory because the non-delay patients had increased their positive scores and now indicated that they were no longer significantly affected, more than delay patients, by the social structure variables. In fact, two delay sub-groups now indicated, at a non-significant level of some magnitude, that they were influenced toward delay by the social structure variables. The direction of these score changes were substantiated by the matched non-delaying and matched delaying comparisons.

It was not possible, based on the data collected in this study, to explain, beyond doubt, why some of the delay and non-delay patients gave answers on the Followup Questionnaire which were different than their responses on the Initial Questionnaire about the social structure and other variables. According to the collected information, it may

have been due to a different emotional response toward filling out the Followup Questionnaire.

A certain amount of instrument and participant bias was expected as indicated in the limitations of this study. In addition, it was expected that the participants would react in a somewhat similar manner to filling out both questionnaires and that any bias in their initial responses would also be in their followup responses; but the reactions to the Followup Questionnaire appeared to be very different!

According to the tabulation of results, 141 patients returned their Initial Questionnaires after receiving one or two letters, but it did take a phone call, a personal visit, or both to get the last 12 participants to submit their Initial Questionnaires. Nine of the 12 were non-delay patients and only one patient appeared to be hostile or very reticent about submitting her Initial Questionnaire. In general, then, 152 out of the 153 participants seemingly were willing to participate in a cooperative manner because they signed legal releases and did not submit objecting notes or letters with their Initial Questionnaire. Eight patients, however, did submit helpful type letters or notes to explain their illnesses and/or efforts to fill out the Initial Questionnaire correctly.

On the second query, the level of patient cooperation dropped considerably because only 30 of the 48 patients

in the matched sub-sample submitted questionnaires after receiving one or two letters compared to 141 out of 153 patients in the first query. In addition, phone calls or personal visits were required to get the other 18 patients (nine delay and nine non-delay) from the 48 patient subsample to submit their questionnaires in the second query compared to 12 out of 153 patients in the first query. In effect, the response of the patients in this sub-sample to the letters, phone calls, or personal visits was very poor compared to their response when asked to submit the Initial Questionnaire. For example, it now took phone calls or a personal visit to get 15 patients to respond who had responded in the first query to only one or two letters.

In addition to the probable reticence and displeasure expressed by these 18 patients, eight other patients (five delay and three non-delay) from the sub-sample expressed their displeasure about filling out the Followup Questionnaire by also submitting objecting or non-cooperative type letters or notes with the questionnaire. For example one patient expressed her apparent resentment by saying that we did not believe anybody. Another by saying that it was a waste of time and did not help her. Still others wanted to know why they had to fill out another questionnaire or expressed concern by explaining their illness conditions. In effect, either worry, reticence, or resentment were expressed by over half of the sub-sample

because they were asked to fill out a second questionnaire and were not quite sure about why it was being requested. It may be that the responses of these 25 patients and perhaps some of the other 23 in the sub-sample were different on the Followup Questionnaire because they were now emotionally upset. Being angry, they may have answered the questions carelessly; or being overly concerned, they may have read a different meaning into the questions which altered their answers. Of course, the patients may have also been affected by other factors such as the difference in the mailing dates of the Initial and Followup Questionnaires.

Having an indication about why some of these patients in the sub-sample changed their responses on the Followup Questionnaire still did not answer why some of the non-delay patients indicated their belief in the social structure variables on the Initial Questionnaire; but they were still not influenced toward self-diagnosis and patient delay by their belief. Suchman (45) found a similar group of patients in his study. According to his findings, women tended to believe more in parochial social practices than men; and after having taken care of their family, they knew more about disease and were less skeptical toward scientific medical care. It could be that several or all of the nondelay patients in this study who expressed belief in the social group variables were women. In fact, the results '

indicated, at a non-significant level of some magnitude, that some or all of these patients might be females; but if some of these patients were men, the findings do not provide any logical explanation for these results.

To summarize, the social structure variables did not initially and significantly influence the Medicaid patients in this study toward delay in seeking medical care. Yet, both the delay and non-delay patients indicated a strong belief in the denial of illness, but the belief of the delay patients, toward delay, were apparently not influenced by the social structure variables. Perhaps the strong belief of the delay patients in the denial of illness was associated with the influence of the situational intervening variables.

In this study, the situational intervening variables were considered theoretically as booster influences to the initial or essential influences of the social structure variables in affecting the Medicaid patients toward a negative medical orientation and subsequent delay. The location of the situational intervening variables in this innovation causal chain model was based on findings from prior research studies. (See Table 8 which schematically illustrates the location of these variables in the model.)

From the findings of prior research studies, a progression of evolving patient delay models were evaluated to develop the model for this study. In many of the early

studies, the model of Pack and Gallo (5) was used primarily to make comparisons between the delay and non-delay patients in order to explain the role of demographic variables in delay. Later models such as the one used by Henderson <u>et al</u>. (18) took on more predictive characteristics and included an evaluation of both demographic and social-psychological variables. In a relatively recent study, Suchman developed a sophisticated causal chain model of independent and dependent variables as illustrated below:

Social Group $\rightarrow \rightarrow$ Orientation	Individual Medical Orientation		
1. Ethnic exclusivity	 Knowledge about disease 		
2. Friendship solidarity	2. Skepticism of medical care		
 Family tradition and authority 	 Dependency in illness (45) 		

Using this model, Suchman became the first investigator to link social group structure to individual medical orientation. Even though Suchman's model was a great leap forward in the research field, it did not provide for the influences of preventive health variables affecting the behavior of the individual prior to and at the onset of illness.

A preventive health model has been developed and used in several studies to evaluate the affect that preventive health variables have on healthy individuals when faced with the possibility of contracting a serious disease such as cancer. In 1963, Rosenstock (66) critiqued this model, as schematically illustrated below, and implied that it can be ultimately applied to illness behavior.

Psychological state of \rightarrow	Extent to which a particu-
readiness to take a	lar course of action is
specific action when	believed to be helpful in
threatened by a disease	reducing the threat

According to Rosenstock, "The state of readiness includes the degree to which an individual feels vulnerable or susceptible to a particular health condition and the extent to which he feels that contracting that condition would have serious consequences in his case; and, the direction that the action will take is influenced by beliefs regarding the relative effectiveness of known available alternatives in reducing the disease threat to which the individual feels subjected."

In the model for this study, Suchman's social group or social structure variables were used as independent variables; but, his individual medical orientation variables were replaced by situational intervening variables or the preventive health categories of psychological state of readiness and extent to which a particular course of action is helpful in reducing the threat or a preferred course of action. In addition, Suchman's dependent variables of skepticism of medical care was changed to dependent medical care orientation. The following diagram schematically illustrates the location of these variables and Table 8 can be reviewed for details.

Independent		Situational		Dependent
Social	→	Intervening	→	Medical
Structure		Variables		Care
Variables	·	or		Orientation

State or Readiness

Preferred Course of Action

In this study, the state of readiness included two situational intervening variables: perceived susceptibility and seriousness of major diseases and knowledge about major disease symptoms. The preferred course of action included: beliefs in preventive health actions and availability and accessibility of services.

Using the preventive health variables as situational intervening variables did not provide the expected results in this study. It was anticipated that the results from the Initial Questionnaire would include that the delay Medicaid patients were more influenced toward delay, than the non-delay patients, by the interactional or combined influence of the situational intervening variables. In effect, they would not be as prone to recognize the seriousness of their diseases; they would not feel as susceptible to the threat of their diseases; they would not believe as strongly in preventive health actions; and they would not

believe as strongly in the availability and accessibility of medical services. The results, however, indicated that only some of the delay patients were more inclined to delay.

According to the results, this included the delay patients who were white and those over 40 years of age who had significantly less knowledge. At a non-significant level of some magnitude, the not married and those with under an eighth grade education also had less knowledge. In addition, the delay patients who were females and those with over an eighth grade education had significantly less belief in the availability and accessibility of medical services.

There were no significant differences between the delay and non-delay patients about their beliefs in preventive health or medical practices and perceived susceptibility and seriousness of major diseases. However, on a non-significant level of some magnitude, the delay female and those over 40 years of age expressed their lack of belief in the value of preventive medical care practices. In total effect, the results from the Initial Questionnaire indicated that some delay patients were inclined to delay because of lack of knowledge, others because of little belief in the availability and accessibility of medical care, and perhaps others because they did not believe in the value of preventive medical care practices.

Surprisingly there were no significant differences

between the delay and non-delay patients in their belief about the competence and personality of physicians. It was interesting to note that both the delay and non-delay patients were somewhat positive toward physicians on Scale 8 but were more negative on Scale 9. The delay females were more negative, at a non-significant level of some magnitude, on Scale 8; but the non-delay females were more negative at a similar non-significant level on Scale 9. It was not possible to determine with the data from the Initial Questionnaire why both the delay and non-delay patients indicated first positive and then negative feelings toward physicians on two Scales which incorporated similar items about the competence and personality of physicians. On the other hand, this may be an expression of the growing ambivalent feelings of a large segment of the American public toward physicians as sometimes expressed in the communication media and professional journals.

It was not anticipated that the results from the Followup Questionnaire would indicate that there was no longer any differences between the delay and non-delay patients as found on the Initial Questionnaire. In addition, the non-delay black patients now expressed overtly at a very high level of significance that they did not consider major diseases as serious or feel susceptible to them. The non-delay patients also, who were over 40 years of age, expressed the same belief, at a non-significant level of some

magnitude. The matched non-delaying and matched delaying comparisons substantiated the direction in the score changes made by some of the patients on the Followup Questionnaire.

It was not possible with the data collected in the Initial and Followup Questionnaire to determine, beyond doubt, what influenced the changes made by some of these patients on the Followup Questionnaire. On the other hand, it may have been the apparent negative emotional response, expressed by some patients, toward filling out a second questionnaire that influenced these score changes. This subject was discussed in some detail in the first part of this chapter.

In total effect, the results from the Initial Questionnaire indicated that some delay patients were more prone to delay because they did not believe that medical care was accessible or available and did not have adequate knowledge to recognize or interpret the meaning of major disease symptoms. In addition, perhaps some delay patients did not believe in the value of preventive medical practices; and, there was no differences between the delay and non-delay patients concerning their belief about the personality and competence of physicians.

According to these results, the delay patients were not influenced more toward delay, than the non-delay patients, by the interactional or combined influence of the situational intervening variables or by a negative medical orientation.

In effect, it would explain why the interactional or combined influence of the situational intervening variables in this innovative study did not affect them toward delay.

If these variables did independently influence some of the Medicaid patients toward delay, it would explain why the interactional or combined influence of the situational or combined influence of the situational intervening variables did not affect them toward delay. The psychological state of readiness to take a specific action and subsequent evaluation of alternative courses of action to relieve the threat of disease began to function only after the patients recognized the symptoms of a disease or ceased to deny the existence of an illness. If the delay patients did not have adequate knowledge to recognize the symptoms of a disease or denied their existence because of disbelief in the accessible and availability of medical care services, the preventive health variables described by Rosenstock (66) and used as the situational invervening variables in this study would never be triggered into action. It may be that the model used in this study has considerable potential value in predicting the causes of patient delay for most patients; but, only after they have recognized the symptoms of their illness and/or stopped denying their illness.

Prior research investigators have repeatedly identified these single variables as primary causes of patient delay, when linked with demographic variables. For example, ignorance was identified by MacDonald (34) in 1938 and 1946 as causing most of the patient delay. Other investigators such as Goldsen (43) and Suchman (45) have also identified and documented the role of these variables in the patient delay process. Further documentation was perhaps provided by the utilization data collected in Sections 11 and 12 in the Followup Questionnaire. Even though of questionable value, this data indicated that the delay patients were less apt to have a family physician, less knowledgeable about the use of physicians for the care of various diseases, and less inclined to take an annual physical examination.

To briefly describe the influence that the social structure, situational intervening, and dependent medical orientation variables have on affecting the delay Medicaid patients toward delay, the results indicate that the social structure and dependent medical orientation variables did not significantly influence these patients toward delay and that only part of the situational intervening, variables significantly affected some patients toward delay.

Because of the limited number of significant Chi Sq values in this study and the number which can occur simply by chance alone, the results should be analyzed and interpreted with some caution. Implications based on a cautious

interpretation of the results from using this innovative model will be made in the conclusions.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Summary

A survey of the patient delay literature indicated that slow but constant progress has been made to understand the influence of variables which caused patient delay in the complex medical care seeking process. Included in the gradual progress were study models that increased in sophistication over several decades in their arrangement of variables. The models during the early part of this century were primarily explanatory but later became more predictive in their design or arrangement of the suspected delay variables. Although the results from recent research studies using sophisticated models have been encouraging, additional research was still needed to elucidate the causes of patient delay which resulted from an interaction among the demographic, intervening, and medical care orientation variables. This study was carried out using an innovative model which was composed by taking components from several earlier models in order to collect

more baseline data, to better predict patient delay, to suggest strategies for intervention in the patient delay process, and to stimulate further research in this area.

In order to utilize this innovative model to study patient delay, a hypothesis based on the results from prior research studies was stated as follows: low income Medicaid patients are influenced more toward patient delay by several inter-related social structure variables, which existed prior to and at the onset of illness, than by the operational situational intervening variables in a causal chain of independent, intervening, and dependent variables.

This hypothesis was tested on a low income Medicaid population, in the Middle Tennessee and bordering counties, who had been hospitalized during the first quarter and the first half of the second quarter of fiscal year 1973-74. In order to collect initial and followup data about the interactional influence of demographic linked, independent, intervening, and depending variables to cause patient delay, two questionnaire instruments (Initial and Followup) were designed and mailed to 285 Medicaid patients.

Data from the Initial Questionnaires, which were returned by 153 out of the 285 Medicaid patients in the study sample, was organized and tabulated for comparative Chi Square evaluations. In order to compare the patients, they were first divided into delay and non-delay groups. Then each group was divided into 10 demographic sub-groups

to make comparisons according to age, sex, race, marital and educational factors.

After an initial set of Chi Square comparisons were done using this data from the Initial Questionnaire, the twenty-six delay patients were matched with twentysix non-delay patients according to their demographic subgroup characteristics and all were mailed a Followup Questionnaire in order to collect data to confirm the results from the Initial Questionnaires. Four or two pairs of matched patients were taken from the study due to error. In order to confirm the results in the Initial Questionnaire, the results from the Followup Questionnaire were compared with the results from the Initial Questionnaire. In addition, the responses of the twenty-four delay patients on the Followup Questionnaire were compared with their responses on the Initial Questionnaire. This same set of comparisons was also made using the non-delay patient responses on the Followup and Initial Questionnaire. These two sets of comparisons substantiated the direction of change in the patient responses or scores on the Followup Questionnaire.

The results from these four sets of comparisons were analyzed and written up in detail in Chapter IV. In Chapter V, the implications of these results were discussed concerning their value in explaining the causes of patient delay in a low income Medicaid population. This

chapter includes the summary and conclusions of this study.

Conclusions

The conclusions in this chapter were made with an awareness of the initial limitations stated in the chapter on Research Methodology and those which occurred later in carrying out the study. Because of these limitations, the conclusions were cautiously stated as implications with the understanding that additional research is needed, using this innovative model or a modification thereof, to substantiate these findings.

According to the results, it was implicated that several changes over a decade of time had eroded or weakened the influence of the inter-related social structure variables on patient delay. Because of their growing desire over time for modern medical care and because of their unstable social environment as influenced by high death, divorce, and family mobility; the low income Medicaid patients were no longer influenced toward selfdiagnosis and delay by their belief in the social structure variables. In effect, the patients were no longer influenced toward the practice of folk medicine or selfdiagnosis and treatment as prescribed by the social beliefs or practices of a stable network of family members, neighbors, and close friends.

Because the results indicated that neither the

delay or non-delay patients were any longer influenced toward delay by the social structure variables, it was implicated that the primary or independent influences toward patient delay were now the situational intervening vari-This meant that illness behavior would no longer ables. be interpreted and influenced by a stable network of family members, neighbors, and friends, but, by the situational intervening variables either collectively or singularly. In this study, the independent influence of two situational intervening variables appeared to singularly affect the delay patients, who also had a strong tendency toward denying illness, in the direction of delay. These two variables were the inability to recognize the symptoms of major diseases and disbelief in the availability and accessibility of medical services.

Closely tied to the implication that single variables were able to independently influence the Medicaid patients toward delay was another implication: the implication that the situational intervening variables did not always act as an interacting or combined unit to influence patient delay as theoretically expected according to the innovative model designed for this study. According to this theoretically conceptualized model, the delay Medicaid patient delayed because he refused to believe that his disease was serious and because he did not feel susceptible to its consequences. In addition, he did not investigate

the medical services which were available and accessible to remove this threat of illness. All of the situational intervening variables were expected to interact as a combined unit to affect this chain-like behavior reaction in the patient; but, according to the results, the combined unit of variables did not interact because there was not an initial stimulus to trigger this behavior pattern. This initial stimulus was probably lacking because the delay Medicaid patients according, to the results, were not knowledgable enough to recognize their disease symptoms or denied their existence because they already believed that medical care was available or accessible to them. In effect, the conceptualization of this innovative model did not include the possibility that single situational intervening variables might independently, or in combination with a tendency to deny illness, influence patients toward delay. The results by uncovering this implication pointed out that this model should probably be modified to include this independent influence on delay by single variables.

Another implication in the results was the need for a larger sample size with a larger percentage of participant response. Even though the results pointed toward that the over 40 years of age, white, under eighth grade education, not married, female, and over eighth grade education sub-groups were inclined toward delay; more significant and reliable results would probably have been

obtained with a larger sample. This need was also indicated by the noted lack of an explanation for why the other sub-groups delayed which included the under 40 years of age, black, married, and male. It was not possible to even state a probable cause for their delay.

For those who had delayed, the results implicated a possible area of intervention in the patient delay process. Some of the delay patients appeared to be inclined toward delay because they were ignorant of disease symptoms or did not believe that adequate medical care was accessible or available. Because both of these causes were related to a lack of knowledge, the delay patients may not have delayed if they had received some selected health education training about the recognition of disease symptoms, about when to see a physician, and about the local availability and accessibility of free medical services. Either professional health educators or professionally supervised door-to-door neighborhood lay educators might have prevented this delay through adequate health education.

A final implication was that the patients who were in the under 40 years of age, white, female, married, under eighth grade education, and over eighth grade education sub-groups believed more in the social structure variables than the delay patients; but, they still did not delay seeking medical care even though theoretically predisposed toward delay. This may have indicated that some of the

remnants of the older "parochial folk medicine behavior" still persisted but that repeated exposure over time to improved, free medical care had finally split their negative social beliefs from their actual illness behavior. If this is true, the same process must have affected the delay patients at an earlier time because they did not express any belief in ethnic exclusivity, friendship solidarity, and family tradition. Because they were no longer, according to the results, predisposed by these social structure variables toward beliefs in self-diagnosis and treatment or a negative medical orientation, they might now be more receptive to health education training about the symptoms of diseases and the availability and accessibility of medical care services.

Significance

The results of this study may have some significance because:

- They pointed toward some social changes over time which may have affected the social structure of low income Medicaid patients and subsequently their negative beliefs about the value of modern medical care.
- They pointed toward some possible causes of patient delay by some of the low income Medicaid patients.
- 3. They pointed toward the possible use of health education as one method of future intervention in the patient delay process of some Medicaid patients.

- They pointed out some of the defects in the innovative model used in this study and indicated the need for additional research to modify and improve it.
- 5. They pointed out the need for additional research studies using a modified model with larger sample sizes and a larger percentage of participant responses in order to further clarify the causes of patient delay.

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Future Studies

Because this was probably the first time that this particular innovative model has been used in this manner, it is not possible to make any statements about the results with a high degree of certainty. Several additional studies need to be made in different rural states in order to confirm the findings and to modify and improve the research instrument. Future studies should be done on significantly larger sample populations of hospitalized Medicaid patients. In addition a significantly higher number of returned questionnaires is desirable in order to make more definitive statements about the findings.

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APPENDIX



WINFIELD DUNN GOVERNOR

Eugene W. Fowinkle, M.D., M.P.H. Commissioner STATE OF TENNESSEL DEPARTMENT OF PUBLIC HEALTH NASHVILLE 37219

August 9, 1973

Dear Patient:

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In order to evaluate and improve quality of services offered under our program, the Medicaid Division of the Tennessee Department of Public Health requests your help in completing a questionnaire regarding your recent hospitalization and your opinions about health care. Many other patients are being asked to provide health information in this project by completing questionnaires.

Your help will be entirely voluntary; and, of course, you may request the help of your Welfare worker in completing the form.

If you are willing to help us, please sign below and return this letter and the questionnaire in the envelope provided right away.

We will greatly appreciate your help.

Very truly yours,

Frank Jones, Director Division of Medical Assistance Medicaid

FJ/WHU/aj

I AM WILLING TO HELP BY COMPLETING THE FORM. I UNDERSTAND THAT MY REPLY WILL BE CONFIDENTIAL AND USED ONLY FOR EVALUATION PURPOSES

(Name)

(Street Address)

(City) (State) (Zip Code)



WINFIELD DUNN GOVERNOR

Eugene W. Fowinkle, M.D., M.P.H. Commissioner

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STATE OF TENNESSEN DEPARTMENT OF PUBLIC HEALTH NASHVILLE 37219

Thank you for returning the Questionnaire which provided valuable information about your opinions concerning medical care and your recent hospitalization. A large number of patients have been kind enough to return the Questionnaires.

A few patients have been selected for a visit from Mr. William H. Utt in order to get some additional information and discuss some of the valuable information you put in the first questionnaire. Mr. Utt will be visiting your home sometime during the next two or three weeks to talk to you.

It would be very much appreciated if you would talk with Mr. Utt and provide some additional information. Any information provided to us is confidential or private and will not be given to anyone else.

Thank you for your kindness.

Sincerely yours,

Frank Jones Director Division of Medicaid

FJ/WHU/gf
WINFIELD DUNN GOVERNOR

Eugene W. Fowinkle, M.D., M.P.H. Commissioner



STATE OF TENNESSEE DEPARTMENT OF PUBLIC HEALTH NASHVILLE 37219

October 16, 1973

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• • • •

Dear Patient:

Recently you received a letter from me saying that Mr. William H. Utt would be visiting you in two or three weeks to get some additional helpful information. Because of the difficulty in finding Medicaid patients' at home and long distances to some patients' home, I have decided to just mail a second Followup Questionnaire to be filled out instead of sending Mr. Utt.

Would you please fill out this Followup Questionnaire and return it as soon as possible? Many of the questions are the same as questions in the Initial Questionnaire but additional information is requested.

If you fill out the Followup Questionnaire and send it back soon, Mr. Utt will not have to make the costly trip to your home. Your kindness in filling out this Followup Questionnaire is greatly appreciated.

Sincerely yours,

Frank Jones Director Division of Medicaid

FJ/WHU/gf

INITIAL QUESTIONNAIRE

Name								Male		Female
	Last		Fi	.rst		Middle	e			
Addr	ess	<u> </u>							Race	2
				Numb	er and	Stree	t			
					•					
C	ity		Zip	Code	3	Coun	ty	-		Phone Number
Name	of Y	our D	octor	:						
		•								Marital Status
Your	Birt	h Dat	.e							Number of
_		•••	(- 1							Dependents
Can	You R	ead?	(Circ	cle A	(nswer)	Yes		No		Present Job
Can	You W	rite?	(Ciı	cle	Answer	:) Yes		No		
										Number of Years of School
Plea in t abou to u	se an he bl t you se me	swer ank w r opi dical	the c vith y nion care	quesi your of n e.	cions b answer nedical	by chec Man care	kir y c and	ng yo of th 1 how	ur a e qu You	answer or fillin uestions are u make decisions
(1)	1. H Y	low lo rou ca	ong wa illed lays	as it or v	t after vent to weeks	you b see a m	ega do iont	an to octor chs.	fe ?	el ill until How many?
	2.	What	cause	ed yo	ou to t	chink t	hat	: you	u we:	re ill?
	3.	When	did :	you :	first o	go to t	he	doct	or?	On what date?
(2)	Yes	No						·····		
			1.	Did was	you kı locate	now whe ed befo	re re	the you	doc bec	tor's office ame ill?
			2.	Did was	you ki locate	now whe ed befo	ere ore	the you	nea bec	rest hospital ame ill?

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Yes	No	
		3. Did you have any difficulty getting to the doctor?
		4. Is it easy to get an appointment to see a doctor?
		5. Do you have to wait long in the doctor's office before seeing him?
<u></u>		6. Is it difficult to get time off from your everyday work to go to the doctor?
		Have the above problems prevented you from going to a doctor?
		<pre>8. Are there other problems which prevented you from going to a doctor? If yes, please list! (1) (2) (3) (4)</pre>

- (3) Yes No
 - 1. The parents of most of my friends have known each other for many years and help each other and do business with each other--more than with people they have not known very long.
 - 2. I also prefer to do business and associate with friends of my parents.
 - 3. Almost all of my friends are people I grew up with.
 - 4. Most of my close friends are also friends with each other.
 - _____ 5. Most of my friends have the same religion as I do.
 - _____6. Most of my friends come from families who know each other well.
 - 7. Everybody in my family usually does what the head of the house says without question.

	Yes	No		
			8.	My family usually waits until the head of the house is present before we have dinner.
		 • ·	9.	In my family we think the old-time customs and traditions are important.
(4)	Agree	e Disa	agre	<u>2e</u>
			1.	People should not go see the doctor un- less they have a good idea as to what is wrong with them.
		·	2.	One of the best ways to decide what is wrong with you is to talk to a neighbour.
			3.	Doctors always tell you the right thing to do in order to get well.
			4.	You should always tell the doctor what is wrong with you.
			5.	If you are sick, the druggist can sell you something that will make you feel better.
			6.	It is necessary to follow the doctor's advice if you want to get well.
(5)	Agre	e <u>Dis</u>	agr	ee
			1.	How fast a sick person gets well is due more to his own efforts than to any particular medicine he is taking.
			2.	A person's health is his own respons- ibility just like any other part of his life.

- 3. Many people act sicker than they are just in order to get sympathy.
 - 4. Most sickness is due to carelessness and wrong living habits.

. _

- (6) Yes No
 - 1. Do you believe cancer is serious?
 - 2. Do you believe heart disease is serious?
 - 3. Do you believe diabetes is serious?
 - 4. Do you believe cancer is likely to occur to you?
 - 5. Do you believe heart disease is likely to occur to you?
 - 6. Do you believe diabetes is likely to occur to you?
 - _____ 7. Do you believe cancer is a source of constant worry?
 - 8. Do you believe heart disease is a source of constant worry?
 - 9. Do you believe diabetes is a source of constant worry?

Now I have several opinion statements that I would like for you to read about medical tests and treatments for HEART, CANCER, and DIABETES. I want you to tell me whether you agree or disagree. Please check the space for YES or NO.

- (7) <u>Yes</u> <u>No</u>
 - ____ 1. Do you believe early treatment of diagnosed cancer is better than late treatment?
 - 2. Do you believe early treatment of diagnosed heart disease is better than late treatment?
 - 3. Do you believe early treatment of diagnosed diabetes is better than late treatment?
 - _____ 4. Do you believe tests or checkups are necessary to diagnose cancer?
 - 5. Do you believe tests or checkups are necessary to diagnose heart disease?
 - 6. Do you believe tests or checkups are necessary to diagnose diabetes?

	Yes	No	
	******	<u></u>	7. Do you believe tests or checkups would detect cancer before the symptoms ap- peared?
		• •	8. Do you believe tests or checkups would detect heart disease before the symptoms appeared?
			9. Do you believe tests or checkups would detect diabetes before the symptoms ap- peared?
(8)	Yes	No	
			 Today's doctors are better trained than ever before.
		-	2. Doctors rely on drugs and pills too much.
	<u> </u>		 No two doctors will agree on what is wrong with a person.
			 Doctors should be a little more friendly than they are.
			 With so many patients to see, doctors cannot get to know them all.
			 Most doctors take a real interest in their patients.
			7. Most doctors let you talk out your problems.
(9)	Yes	<u>_No</u>	 You cannot expect any one doctor to be perfect.
	tente tiran		 Doctors spend more time trying to cure an illness you already have rather than pre- venting one from developing.
	<u></u>		3. Doctors are put in the position of needing to know more than they possibly could.
		·	 Doctors make you feel like everything will be all right.
			 A doctor's job is to make people feel better.

Yes	No	
		 Too many doctors think you cannot under- stand the medical explanation of your illness, so they do not bother explain- ing.
	,	 Doctors act like they are doing you a favor by treating you.

- (10) 1. Tuberculosis of the lungs is caused by:
 - A. Prolonged exposure to the cold.
 - B. Infection with a germ.
 - ____ C. Anemia and vitamin deficiency.
 - ____ D. Do not know.
 - 2. Arthritis is a condition in which:
 - A. The joints are painful, swollen or misshaped.
 - B. The joints always become completely stiff and useless.
 - C. Imaginary joint pains caused by nervousness.
 - D. Do not know.
 - 3. Diabetes is:
 - A. Contagious or catching.
 - B. Due to a poorly functioning liver.
 - C. More common in people who are overweight.
 - ____ D. Do not know.
 - 4. Asthma is a condition in which there is:
 - A. A severe chest cold.
 - ____ B. Wheezing and difficulty in breathing.

- ____ C. A form of pneumonia.
- ____ D. Do not know.
- 5. Persons with stomach ulcers often:
- A. Have severe cramps and diarrhea.
- B. Have pain in the abdomen right after eating.
- ____ C. Have pain in the abdomen that is relieved by eating.
- D. Do not know.
- 6. A stroke is:
- ____ A. A blood clot in the heart.
- B. Blood clot in the arms and legs causing paralysis.
- C. Hemorrhage or blood clot in the brain.
- ____ D. Do not know.
- 7. The most common symptom of a stroke is:
- A. Severe chest pain spreading to the arm.
- ____ B. Paralysis.
- C. Rapid and irregular heartbeat.
- ____ D. Do not know.
- 8. The most common symptom of a coronary thrombosis is:
- A. Rapid irregular heartbeat.
- ____ B. Paralysis.
- ____ C. Steady pressing pain in the chest.
- ____ D. Do not know.

- 9. Leukemia is:
- A. A cancer-like condition.
- B. A severe infection.
- ____ C. A condition resulting from iron deficiency.
- ____ D. Do not know.
- 10. Which of the following kinds of people would be most likely to get diabetes?
- A. People who are underweight.
- B. People who have relatives with diabetes.
- C. People who eat too much sugar.
- D. Do not know.

FOLLOWUP QUESTIONNAIRE

Name		Male	Female
Last	First Midd	lle	
Address	· · · · · · · · · · · · · · · · · · ·		Race
	Street and Numbe	er	
City	Zip Code	County	Phone Number
Name of Your	Doctor		
			Marital Status
Your Birth D	ate		
			Number of Dependents
Can You Read	(Circle Answer)	Yes No	
			Present Job
Can You Writ	e (Circle Answer)) Yes No	
			Number of Years of School

Please answer the questions by checking your answer or filling in the blank with your answer. Many of the questions are about your opinion of medical care and how you make decisions to use medical care.

- (1) 1. How long was it after you began to feel ill until you called or went to see a doctor? How many? _____days ____weeks _____months.
 - 2. What caused you to think that you were ill?
 - 3. When did you first go to the doctor? On what date?

- (2) Yes No
 - 1. Did you know where the doctor's office was located before you became ill?
 - _____ 2. Did you know where the nearest hospital was located before you became ill?
 - 3. Did you have any difficulty getting to the doctor?
 - _____ 4. Is it easy to get an appointment to see a doctor?
 - _____ 5. Do you have to wait long in the doctor's office before seeing him?
 - 6. Is it difficult to get time off from your everyday work to go to the doctor?
 - 7. Have the above problems prevented you from going to a doctor?
 - 8. Are there other problems which prevented you from going to a doctor? If yes, please list! (1) (2) (3) (4)
- (3) Yes No
 - 1. The parents of most of my friends have known each other for many years and help each other and do business with each other--more than with people they have not known very long.
 - 2. I also prefer to do business and associate with friends of my parents.
 - 3. Almost all of my friends are people I grew up with.
 - 4. Most of my close friends are also friends with each other.
 - 5. Most of my friends have the same religion as I do.

Yes	No	
	-	 Most of my friends come from families who know each other well.
		 Everybody in my family usually does what the head of the house says without ques- tion.
 .	, . 	 My family usually waits until the head of the house is present before we have dinner.
		9. In my family we think the old-time customs and traditions are important.

(4) Agree Disagree

- 1. People should not go see the doctor unless they have a good idea as to what is wrong with them.
- 2. One of the best ways to decide what is wrong with you is to talk to a neighbor.
- 3. Doctors always tell you the right thing to do in order to get well.
- 4. You should always tell the doctor what is wrong with you.
- 5. If you are sick, the druggist can sell you something that will make you feel better.
- 6. It is necessary to follow the doctor's advice if you want to get well.

(5) Agree Disagree

- 1. How fast a sick person gets well is due more to his own efforts than to any particular medicine he is taking.
- 2. A person's health is his own responsibility just like any other part of his life.
- 3. Many people act sicker than they are just in order to get sympathy.

Agree Disagree

- 4. Most sickness is due to carelessness and wrong living habits.
- (6) Yes No
 - 1. Do you believe cancer is serious?
 - 2. Do you believe heart disease is likely to occur to you?
 - 3. Do you believe diabetes is a source of constant worry?
 - 4. Do you believe heart disease is serious?
 - 5. Do you believe cancer is likely to occur to you?
 - 6. Do you believe cancer is a source of constant worry?
 - 7. Do you believe diabetes is serious?
 - 8. Do you believe diabetes is likely to occur to you?
 - 9. Do you believe heart disease is a source of constant worry?
- (7) <u>Yes</u> <u>No</u>

 - 2. Do you believe tests or checkups are necessary to diagnose heart disease?
 - 3. Do you believe tests or checkups would detect diabetes before the symptoms appeared?
 - 4. Do you believe late treatment of diagnosed heart disease is better than early treatment?
 - 5. Do you believe tests or checkups are necessary to diagnose cancer?

	Yes	No		
			6.	Do you believe tests or checkups would detect cancer before the symptoms ap- peared?
			7.	Do you believe late trewtment of diagnosed diabetes is better than early treatment?
	***		8.	Do you believe tests or checkups are neces- sary to diagnose diabetes?
			9.	Do you believe tests or checkups would detect heart disease before the symptoms appeared?
(8)	Yes	No		
			1.	People do not know how many mistakes doctors make.
			2.	Today's doctors are better trained than ever before.
			5.	Given a choice between using an old reliable drug and a new experimental one, many doctors will choose the new one.
			6.	Doctors will not admit it when they do not know what is wrong with a person.
			7.	When doctors do not cure mildly ill patients it is because the patients do not cooperate.
			8.	Doctors will do everything they can to keep from making a mistake.
			9.	Many doctors just do not know what they are doing.
			10.	Doctors spend more time trying to cure an illness you already have rather than pre-venting one from developing.
		<u></u>	11.	Doctors are put in the position of needing to know more than they possibly could.
			12.	Even if a doctor cannot cure you right away, he can make you more comfortable.

	Yes	No	
		13	. Doctors can help you both in health and sickness.
	·	14	. Doctors sometimes fail because patients do not call them in time.
(9)	Yes	No	
	<u> </u>	¹	. You cannot expect any one doctor to be perfect.
		2	 Doctors make you feel like everything will be allright.
		3	. A doctor's job is to make people feel better.
		4	. Too many doctors think you cannot under- stand the medical explanation of your illness, so they do not bother explaining.
		5	 Doctors act like they are doing you a favor by treating you.
		6	. A lot of doctors do not care whether or not they hurt you during the examination.
		7	 Many doctors treat the disease but have no feeling for the patients.
	-	8	. Doctors should be a little more friendly than they are.
		9	 Most doctors have no feelings for their patients.
		10	. Most doctors let you talk out your problems.
		11	. Doctors are devoted to their patients.
		12	 Doctors do their best to keep you from worrying.
		13	. With so many patients to see, doctors cannot get to know them all.
		14	 Most doctors take a real interest in their patients.

- (10) 1. Tuberculosis of the lungs is caused by:
 - A. Prolonged exposure to the cold.
 - B. Infection with a germ.
 - C. Anemia and vitamin deficiency.
 - D. Do not know.
 - 2. Arthritis is a condition in which:
 - A. The joints are painful, swollen or misshaped.

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- B. The joints always become completely stiff and useless.
- C. Imaginary joint pains caused by nervousness.
- 3. Diabetes is:
- ____ A. Contagious or catching.
- B. Due to a poorly functioning liver.
- ____ C. More common in people who are overweight.
- D. Do not know.
- 4. Asthma is a condition in which there is:
- A. A severe chest cold.
- ____ B. Wheezing and difficulty in breathing.
- C. A form of pneumonia.
- ____ D. Do not know.
- 5. Persons with stomach ulcers often:
- A. Have severe cramps and diarrhea.
- ____ B. Have pain in the abdomen right after eating.
- C. Do not know.

- 6. A stroke is:
- A. A blood clot in the heart.
- B. Blood clot in the arms and legs causing paralysis.
- C. Hemorrhage or blood clot in the brain.
- D. Do not know.
- 7. The most common symptom of a stroke is:
- A. Severe chest pain spreading to the arm.
- B. Paralysis.
- C. Rapid and irregular heartbeat.
- D. Do not know.
- 8. The most common symptom of a coronary thrombosis is:

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- A. Rapid irregular heartbeat.
- B. Paralysis.
- ____ C. Steady pressing pain in the chest.
- D. Do not know.
- 9. Leukemia is:
 - A. A cancer-like condition.
- ____ B. A severe infection.
- C. A condition resulting from iron deficiency.
- ____ D. Do not know.
- 10. Which of the following kinds of people would be most likely to get diabetes?
- A. People who are underweight.
- B. People who have relatives with diabetes.

		C. People who eat too much sugar.
		D. Do not know.
(11)	1.	Do you have a family doctor? Yes No Name Town Kind of Doctor When was last visit
	2.	Where would you go to see the doctor if you thought you might have something like a bad cold, the flu, or sore throat? LocationDistance
	3.	Where would you go to see the doctor if you thought you might have a condition such as high blood pressure or diabetes? LocationDistance
	4.	Where would you go to see a doctor for something such as open-heart or brain surgery? LocationDistance
	5.	Do you see a dentist at least once a year? yesno If yes, about how long ago?
	б.	We wonder if you have ever gone to a doctor or medical clinic for a "check-up" or examination even though you didn't think you have anything wrong with you? yes no If yes, how long ago?
	7.	Do you get a physical check-up every year on a regular routine basis? yes no
	8.	Have you or anyone in your family ever been ad- mitted to the hospital?
		You: yes no When was the last time? Where?
		What Reason? Times past 3 years
		Husband or Wife: yes no When was the last time? Where? What Reason? Times past 3 years

Children:	yes no
	When was the last time?
	Where?
	What Reason?
	Times Past 3 years

- 9. I would like to know how satisfied you have been with the treatment and the medical care received in the hospital?
- (12) 1. Have you been to see a medical doctor during the last three years? ____yes ____no. How many times?
 - 2. Has your spouse or children been to see a medical doctor during the last three years? _____yes ____no How many times?
 - 3. Have you been to see a Chiropractor during the last three years? yes no How many times?
 - 4. Has your spouse or children been to see a Chiropractor during the last three years? ____yes ____ no How many times? _____
 - 5. Have you been to see an Osteopath during the last three years? _____yes ____no How many times? _____
 - 6. Has your spouse or children been to see an Osteopath during the past three years? yes no How many times?
 - 7. Have you been to see a Dentist during the last three years? ____ yes ____ no How many times? _____
 - 8. Has your spouse or children been to see a Dentist during the last three years? _____yes ____no How many times?
 - 9. Have you been to see a Religious Healer during the last three years? _____yes ____ no How many times?
 - 10. Has your spouse or children been to see a Religious Healer during the last three years? _____ yes ____ no How Many times? ______