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ABSTRACT

This explanatory study examined the relationship between physician-patient communication and the patients' subsequent understanding of how to use medication, evaluation of the prescribed medication, and behavioral compliance with the physicians' advice regarding medication. The study was conducted in a neighborhood health center located in an urban ghetto and included systematic observation of physician-patient encounters, review of medical records and pharmacy data, follow-up interviews with patients, and independent validation of the patients' reports by means of a "bottle check." It is concluded that the physicians observed used different strategies of instructing and motivating their patients and that these differences were associated with the patients' subsequent attitudes and behavior. It is also concluded that other factors facilitate or inhibit the process by which physicians and patients reach a mutual understanding and agreement concerning appropriate therapy.

cc: Svarstad

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THE DOCTOR-PATIENT ENCOUNTER: AN OBSERVATIONAL STUDY OF COMMUNICATION AND OUTCOME

BY

BONNIE LOUISE SVARSTAD

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

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Several physicians were especially helpful in answering my endless questions and by sharing their perceptions of the daily routines which are faced by a clinician. They must remain anonymous, but they should know that I left the health center with a high respect for their desire to communicate and for their dedication to providing high quality medical care to the people who are most in need and least apt to receive it in our society.

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CHAPTER ONE

PATIENT COMPLIANCE WITH MEDICAL ADVICE: THE NEED FOR THEORY AND RESEARCH

INTRODUCTION

During the past twenty years, sociologists have become increasingly interested in the prediction and explanation of variations in behavior during illness. Parsons' (1951) formulation of the sick role concept stimulated considerable work in the area by suggesting various societal norms which are applied to the sick. Among other things, he posited that the sick person is obligated to " . . . seek technically competent help . . . and to cooperate with him in the process of getting well."[1]

It is well known, however, that people do not always seek technically competent help when they experience symptoms of illness, nor do they always cooperate or conform with medical advice after they have sought help. In fact, most studies show that at least 33 per cent of the patients failed to comply with the physicians' definition of their role.

Although a considerable amount of theoretical and empirical work has been done in an effort to understand the sources of variation in the person's willingness to go to the doctors; there has been less intensive work in the area of patient

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[1] T. Parsons, The Social System (Glencoe: The Free Press), 1951.

cooperation, non-compliance or deviation from medical expectations. The sociological literature which does exist is limited in perspective and, in many respects, cannot be distinguished from the various efforts of physicians, psychiatrists, pharmacists and other medical professionals who have begun to conduct research on the problem. The review will suggest that there is considerable unexplained variation in patient behavior, many inconsistent findings and a general lack of theory which would account for these data. The major limitations of previous research can be traced to the ways in which the problem has been conceptualized and to the basic assumptions which have not been seriously questioned.

First, it is often assumed that the cooperative patient can be distinguished from the uncooperative patient. Like the individualistic approaches used by early criminologists, many students of patient non-compliance have assumed that lack of cooperation is a characteristic attribute of certain patients and that the problem is one of developing an inventory of variables which could be used to characterize the type of person who is most likely to deviate from the physician's expectations. For example, there have been attempts to predict and explain patient behavior by means of intelligence tests, the California F scale (authoritarianism), projective tests, personality inventories, tests of suggestibility and/or other measures of "maladjustment." The

implication is that non-compliance is pathological, irrational or, at minimum, an indication of the person's inability to adjust to social demands for conformity.

Although the personality trait approach seems to have declined in recent years, the basic assumption -- that the non-complier is characteristically different and behaves consistently across situations -- has not been seriously challenged. Rather than utilizing personality inventories, more recent investigations have focused upon isolating the non-compliant patient by means of socio-cultural inventories which include race, occupation, education, age, sex, marital status, ethnicity, religion or level of family disorganization. While these socio-cultural approaches have at least recognized that behavior is a product of more than childhood experiences and that non-conformity need not be pathological, it is clear that the study of compliance must go beyond the isolation of such crude variables as social class, age, sex, ethnicity and other sociological variables. There is considerable variation within these categories of patients, and few of these factors have produced consistent predictions.

As will be argued in the following review of available research, the attempts to characterize the non-compliant patient by personality, social and cultural characteristics have been remarkably unsuccessful in large part because the approaches to the problem place undue emphasis upon the person rather than the

process by which non-compliance is defined, prevented or reduced.

A second major limitation of most previous work is that it is based upon the implicit assumption that the factors which produce patient non-compliance are external to the health institution. With some exceptions, social scientists have tended to accept the somewhat biased view which is often held by health professionals, namely, that non-compliance constitutes what is often referred to as patient failure to follow advice or, at minimum, is a behavior which results from unique attitudes or knowledge about illness, how the body functions, different modes of treatment or medical authority and that other social agents and institutions failed to develop the attitudes and levels of knowledge which facilitate compliance. Rather than investigate how the health professional attempts to develop or modify the patients' level of knowledge and motivation, previous investigators have generally focused upon other institutions and other social agents.

For heuristic purposes, the general problem might be conceptualized differently: why do medical institutions fail to achieve patient understanding and motivation or, stated more positively, why do some health professionals (and not others) succeed in achieving the understanding, agreement and compliance of their patients? These questions suggest new perspectives for the

investigator and the need to consider all the elements of the health institution: professionals, patients, and the system which interrelates to them.[2] Rather than searching for the characteristics of the uncooperative patient or the outside forces which encourage a rejection of medical advice, there is the need to analyze the process by which the health professionals transmit their expectations to the patient and attempt to prevent or reduce patient non-compliance. If people come to the health institution with attitudes, knowledge or behavioral patterns which conflict with the professional point of view, then it is imperative that the social scientists begin to examine how physicians attempt to manage that situation. Review of the few studies which have recently examined doctor-patient interaction, as it relates to patient compliance, will suggest that much remains to be learned about this process. These and other conceptual issues are reviewed in the first section of this chapter in an effort to determine what is already known about the correlates of patient non-compliance. In the latter section, the methodological issues are presented. The reliance upon the medical record as a source of data for determining what the physician expects of the patient is seriously questioned,

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[2]For a similar argument, consider A.C. Higgins, "Two Thirds of a Medical Equation: Pathology and Patients," in Irwin Deutcher and Elizabeth J. Thompson (eds), Among The People (New York: Basic Books, 1968, 279-293.

and the previous use of patient and physician report as sources of data on patient compliance is also subjected to critical review, among other issues in studying the nature and outcome of physician-patient communication.

DETERMINANTS OF PATIENT NON-COMPLIANCE: A REVIEW

Given the wide range of research settings, populations, methods, and definitions of compliance, it is difficult to compare findings and draw conclusions about the relative merits and limitations of the various hypotheses which have been advanced regarding patient compliance with medical advice. The available literature does not include testable or coherent theories. Nor have there been many attempts to develop a theorectically meaningful typology of patient behaviors which might contribute to the formulation and refinement of general theory. This review, then, is limited to a critical examination of the extent to which commonly selected variables predict non-compliance and whether available data support the interpretations which have been proposed. Four types of independent variables are considered: 1) patient characteristics, 2) nature of medical regimens, 3) patient perception of illness and treatment and 4) the physician-patient relationship.

PATIENT CHARACTERISTICS AND COMPLIANCE WITH MEDICAL ADVICE: A SEARCH FOR THE CHARACTERISTICS OF THE UNCOOPERATIVE PATIENT

Personality and Intelligence

One of the earliest approaches to the study of patient non-compliance has been an attempt to compare the intelligence and personality traits of the so-called uncooperative and co-operative patient. Most of this work has been done by clinical psychologists and psychiatrically oriented researchers whose major interest has been in why some patients and not others leave psychotherapy, terminate hospital treatment for tuberculosis and do not take psychotropic medication.[3] Generally speaking, these investigations have utilized a wide variety of intelligence tests, projective examinations and personality inventories (Rhorschach, California F scale of authoritarianism, Minnesota Multiphasic Personality Inventory, and others) and have reached a wide variety of conclusions which are not always consistent from study to study. For example, the non-compliant patient has been variously described as: less intelligent, more authoritarian, less suggestible, psychopathic, more anti-social, more hostile and aggressive, unfavorable toward authority

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[3] For more elaborate reviews and bibliographies of these studies, see B. Blackwell, "Patient Compliance," New England Journal of Medicine, 289 (August 2, 1973), 249-252; J. Kasl and S. Cobb, "Health Behavior, Illness Behavior and Sick Role Behavior," Archives of Environmental Health, 12 (February, 1966), 246-266; J. Kasl and S. Cobb, "Health Behavior, Illness Behavior and Sick Role Behavior," Archives of Environmental Health, 12 (April, 1966), 531-541.

figures, immature, ambivalent, irresponsible, impulsive, paranoid, hypochondriacal, obsessed with various fears, having low need for approval, more anxious, among other characteristics. In addition, a common underlying assumption is that non-compliance is irrational, pathological or, at minimum, another indicator of the person's general tendency to ignore social demands. Although it is not the purpose of this review to conduct an elaboration of this rather voluminous literature, a number of issues should be noted.[4] First, this type of approach to the problem has led to many inconsistent results and has been remarkably unsuccessful in predicting and explaining what is already known about the nature and extent of patient compliance. For,example, some investigators report that the patients' intelligence makes a difference; whereas, others have concluded that patient behavior does not vary by the patients' intelligence.[5] It has been concluded that high authoritarianism in conducive to patient non-compliance, but others suggest that low authoritarianism leads to some types of non-compliance.[6] As Blackwell (1973) has recently concluded after reviewing over 50 studies of patient non-compliance:

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[4]For an excellent critique of the individualistic approaches to the study of deviant behavior, see M. Clinard, Sociology of Deviant Behavior (4th ed.; New York: Holt, Rinehart & Winston, Inc.), 1973.

[5]E.H. Rubinstein and M. Lorr, "A Comparison of Terminators and Remainers in Outpatient Psychotherapy," Journal of Clinical Psychology, 12 (1965), 345-349.

[6]For a review of studies pertaining to authoritarianism and other personality traits see, Kasl and Cobb,(April, 1966), op.cit.

> The drug defaulter, just like the placebo reactor, is not a consistent or readily identifiable person. Whether or not a particular patient complies with the physician's instructions depends on a variety of factors that may change with time. Those who are unreliable in one situation may not be in another.[7]

As will be discussed more fully below, it is well known that patient behavior varies by the number, complexity and type of instruction as well as other situational variables such as the type of medical setting. If non-compliance was simply a manifestation of the patients' personality or intelligence, one would expect to find consistency across these situations. In addition, the individualistic approaches have limited predictive power when considering what is known about the content and direction of patient non-conformity. Specifically, these approaches cannot account for the rather consistent finding that patients often do less than expected and at other times do more than expected (e.g. taking a larger amount of medicine than is prescribed).

Second, it is not usually evident from the data presented in these published works why patients report hostility, aggression, anxiety, and low opinion of authority figures. One explanation may be that this type of attitude is a personality trait.[8] An alternative explanation is that these negative opinions are simply a reflection of the patients' actual experience with the medical authority in question. Unfortunately, most investigators

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[7] Blackwell, op.cit., p.249.

[8] Ibid.

of patient personality traits and compliance have measured the patients' opinions after the patient has seen the health professional and without obtaining pre-clinic measures. Thus, it is difficult to establish whether the patients' reported hostility actually existed before being advised by the professional. Essentially, these investigators make the implicit assumption that the patients' experience at the clinic does not vary, an assumption which will be challenged in the following discussion. Finally, the assumption that patient non-compliance is inherently abnormal, irrational or pathological seems to neglect what many students of other types of non-conformity have long recognized, namely, that what constitutes non-compliance is not inherently abnormal. Rather, non-conformity is simply a deviation from social expectations, norms, rules or laws which are, of course, known to vary considerably by the society and social group to which a person belongs.[9] Indeed, it may be more fruitful to regard patient non-compliance as a special case in the study of conformity and non-conformity in the sense that patient non-compliance is simply a deviation from the expectations and norms established by the medical profession and transmitted by the medical professional to his or her patients. This alternative perspective on patient behavior is especially worth considering in

[9]For several good discussions of these issues see Albert Cohen, Deviance and Control (Englewood Cliffs: Prentice-Hall, Inc.), 1966. Edwin Lemert, Social Pathology: A Systematic Approach to the Theory of Sociopathic Behavior (New York: McGraw-Hill, Inc.), 1951.

light of a) the obvious fact that the medical profession's definition of what constitutes proper patient behavior is continually changing as a result of scientific advances and b) the scattered evidence which suggests that medical professionals sometimes change their expectations of the patients during the course of interacting with the patient.[10] Thus, it seems important to re-consider the notion that the non-compliant patient is necessarily "maladjusted" or engaging in pathological actions.

Social Class: The Uncooperative Lower Class Patient

One of the most frequently selected independent variables which has been used in the study of compliance behavior is that of social class or one of the separate components (education, occupation, and income). Although there are many negative findings, it is apparent that there are gross differences by social class. The lower socio-economic class patient is more likely to deviate from the physician's advice regarding

[10] It has been suggested that physicians sometimes prescribe drugs which are known to be ineffective but which are popular among lay people. These data would suggest that the definition of so-called compliant behavior varies considerably and is perhaps subject to negotiation between the physician and patient. Consider, for example, E. Freidson, "Client Control and Medical Practice," American Journal of Sociology, 65 (1960), 374-382.

medication, return appointments, diets, and restriction of activity.[11] Psychiatric patient studies suggest similar conclusions: the lower class patient is more apt to leave treatment against medical advice.[12] Reviews of the past research on irregular discharge from tuberculosis treatment programs corroberates the picture of the lower class patient as "uncooperative." [13]

On the other hand, some observers have reported inconsistent findings. Two recent investigations of patient compliance resulted in the conclusion that there were no significant differences by social class and its separate components.[14]

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[11] A. Donabedian and L. Rosenfeld, "Follow-up of Chronically Ill Patients Discharged from Hospital," Journal of Chronic Disease, 17(1964), 847; M. Hardy, "Follow-up of Medical Recommendations," Journal of the American Medical Association, 136(1948), 20; G. Hellmuth et al, "Psychological Factors in Cardiac Patients," Archives of Environmental Health, 12(June, 1966), 771-780; W. Johannsen et al, "On Accepting Medical Recommendations," Archives of Environmental Health, 12(1966), 63-69; M. MacDonald et al, "Social Factors in Relations to Participating in Follow-up Care of Rheumatic Fever," Journal of Pediatrics, 62(1963), 503-513; W. Mather, "Social and Economic Factors Related to Correction of School Discovered Medical and Dental Defects," Pennsylvania Medical Journal, 62(1954), 983-989; H. Pragoff, "Adjustment of Tuberculosis Patients One Year after Hospital Discharge," Public Health Reports, 77(1962), 671-679; D. Watts, "Factors Related to the Acceptance of Modern Medicine," American Journal of Public Health, 56(1966), 1205-1212.

[12] A review of these studies can be found in Kasl and Cobb (February, 1966), op.cit.

[13] Kasl and Cobb (April, 1966), op.cit.

[14] M. Davis, "Variation in Patients' Compliance with Doctors' Advice: An Empirical Analysis of Patterns of Communication," American Journal of Public Health, 58(February, 1968), 274-288 and B. Korsch et al., "Gaps in Doctor-Patient Communication," Pediatrics, 42(1968), 855-871.

In a study of compliance among patients in a general medical clinic, Davis (1968) found that there were no differences by occupation or education. Similarly, Korsch and associates (1968) concluded that neither social class nor its components had a significant effect upon compliance among patients bringing their children for acute care.

Indeed, a more critical examination of the data presented by Koos (1954), in the classic study of the relationship between social class and illness behavior, leads one to reconsider the generalizations which are often based upon these data. First, the data did not consistently support the hypothesis that utilization of medical care was positively related to social ills: class was significantly related to behavior during "disabling" illness, but it was not significantly related to behavior during "non-disabling" illness.[15] This is particularly serious since almost one-half of all reported illnesses were "non-disabling." Second, and more importantly for this analysis, the completion of medical treatment -- once it was begun by the patient -- did not significantly vary by social class.[16] In other words, lower class patients were not more likely to terminate medical treatment.

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[15] E. Koos, The Health of Regionville: What People Thought and Did About It (New York: Columbia University Press), 1954, p.49.

[16] Ibid., p.44 and p.69.

Because there have been few efforts to empirically investigate the intervening variables and the process of non-compliance, the explanation of the inconsistent and inconclusive findings can be little more than speculative at this point. A brief review of the various explanations for the social class-compliance relationship is in order.

First, some observers suggest that social class differences are explained in purely economic terms: the poorer patient must incur greater financial burdens to follow advice regarding expensive medication[17] and the need to keep regular appointments with the clinician.[18] Since most of the investigators who have reported class differences do seem to have focused upon patient compliance with longer term treatment (e.g. psychotherapy and follow-up care of rheumatic fever, tuberculosis, cardiac disease) and upon the more expensive types of advice (e.g. psychotherapy and correction of dental defects), it does seem plausible that the reported inconsistencies are simply a reflection of the different study populations which have been used. For example, it should be noted that the exceptions to the general relationship between social class and compliance (Davis, 1968; Korsch and associates, 1968) were studies which were done among general medical patients in the early stage of their treatment and

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[17] C. Latiolais and C. Berry, "Misuse of Prescription Medications by Outpatients," Drug Intelligence and Clinical Pharmacy, 3 (October, 1969), 270-277.

[18] H. Wallace et al., "Study of Follow-up of Children Recommended for Rheumatic Fever Prophylaxis," American Journal of Psychological Health, 46(1956), 1563-1570.

among mothers who had brought their children for acute, pediatric ambulatory care, respectively.

Given the finding that class differences seem to persist even when services are free of charge, it cannot be concluded, however, that the patient's need to economize is the critical variable which might account for the general finding that compliance is inversely related to social class.[19]

A second and more common interpretation of the general relationship is that lower class patients can be characterized as having a distinctive subculture of attitudes, values and orientations toward the world in general and modern medical procedures, professionals and illness, in particular.[20] Essentially, this view assumes that the lower class patient perfers other things more than health and intentionally rejects or resists medical advice. Although the content of the subculture and the process by which it develops and persists have not been elaborated or thoroughly

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[19] L. Gordis et al., "Studies in the Epidemiology and Preventability of Rheumatic Fever," Pediatrics, 43 (February, 1969), 173-182.

[20] For an elaboration of this general perspective, see: H. Osofsky, "The Walls Are Within: An Explanation of Barriers Between Middle-Class Physicians and Poor Patients," and L. Rainwater, "The Lower Class: Health, Illness, and Medical Institutions" in I. Deutscher and E. Thompson (eds.), op.cit., Chapters 13 & 14; Koos, op.cit.; Watts, op.cit.; E. Suchman, "Social Factors in Medical Deprivation," American Journal of Public Health, 55 (November, 1965), 1725-1731 and D. Rosenblatt and E. Suchman, "The Underutilization of Medical Care Services by Blue Collarites," in Blue Collar World (Englewood: Prentice Hall, Inc.), 1964, 341-349.

investigated, it is a major theme in sociological and anthropological literature on illness behavior.

Some observers have, for example, posited that the poor are unable to defer gratification, cannot follow highly bound time schedules due to an absence of future time orientation, and are less rational in the planning and allocation of resources.[21] A "folk orientation" to medical care, "irrational" ideas about disease and illness and an inability to differentiate body parts and functions further contribute to the behavior of the poor, according to this cultural perspective.[22]

Another characterization of the lower class patient refers to his ability to interact with the physician. There is considerable agreement that the poor are more likely to distrust and fear medical personnel, more apt to experience discomfort and embarrassment in medical settings, have more difficulty adjusting to the doctor-patient relationship and communicating with higher status physicians and more often prefer to withdraw from the physicians' treatments and return to a non-medical

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[21] Rainwater, op.cit. and E. Suchman, "Public Health," in P. Lazarsfeld et al.,(eds.), The Uses of Sociology (New York: Basic Books), 1967, 578.

[22] Koos, op.cit.; Rosenblatt and Suchman, op.cit.; Rainwater, op.cit.; L. Lewis and J. Lopreato, "Arationality, Ignorance and Perceived Danger in Medical Practice," American Sociological Review, 27(August, 1962, 508-514; J. Samora et al., "Knowledge about Specific Diseases, in Four Selected Samples," Journal of Health and Human Behavior, 3(1962), 176; A. Seligmann et al., "Level of Medical Information Among Clinic Patients," Journal of Chronic Diseases, 6(November, 1957), 497-509; L. Pratt et al., "Physicians' Views on the Level of Medical Information Among Patients," in Scott and Volkart (eds.), Medical Care: Readings in the Sociology of Medical Institutions (New York: J. Wiley and Sons) 1966, 302-311.

practitioner.[23]

Although these perspectives on the illness behavior of the lower class patients have contributed significantly to a more adequate understanding of how the patients' knowledge, attitudes and values might interfere with the doctor-patient relationship and the patients' subsequent non-compliance, a number of issues remain.

First, as noted previously, there is considerable within class variation which needs to be explained and which points to the need for more intensive investigation of additional variables which might account for why some lower class patients comply with medical advice and other patients do not comply. To be sure, there have been reports which conclude that the lower class patient seeks less information from the physician[24] and that medical professionals are more prone to discuss illness and treatment with patients of higher status,[25] but there have been no systematic empirical studies to determine whether those lower class patients who do receive more

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[23] H. Gans, The Urban Villagers (New York: Free Press), 1962; Osofsky, op.cit.; Rainwater, op.cit.; Koos, op.cit.; and Kasl and Cobb (April, 1966), op.cit.

[24] y. Francis et al., "Gaps in Doctor Patient Communication: Patients' Response to Medical Advice," New England Journal of Medicine, 280 (March 6, 1969), 535-540 and J.H. Kennell et al., "What Parents of Rheumatic Fever Patients Don't Understand About the Disease and its Prophylactic Management," Pediatrics, 43(1969), 160.

[25] Pratt, op.cit., and R. Duff and A. Hollingshead, Sickness and Society (New York: Harper and Row), 1968.

information are more likely to comply with medical advice.[26]

Second, there is a need for greater understanding of how the patients' knowledge and beliefs about disease, its treatment and medical professionals affect the patients' behavior. The literature is replete with anecdotal material, subjective observations and unsubstantiated generalizations about the nature of these attitudes and how they might affect behavior by empirical evidence is scanty. A review of the literature also suggests that some writers have simply imputed motives from behavior. In other words, it is observed that lower class patients are less apt to follow dietary advice, keep appointments and follow preventative advice, then it is inferred - without independent measurement - that this behavior was a consequence of an "inability to defer gratification,: a "lack of future time orientation," and/or other "needs" which are presumably unique to the lower class.[27]

Third, a number of social scientists have suggested that noncompliance among lower class patients might be related to difficulties in communicating with higher status physicians, but these difficulties are as yet unspecified. Unfortunately, there has been more speculation than scientific research on this question, and

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[26] The literature which pertains to the physicians' communication as an independent variable in predicting and explaining the patients' later behavior is reviewed in a later section.

[27] H. Osofsky, op.cit.

there are almost no systematic data on the nature and outcome of possible variations in the relationship between doctors and lower class patients. Whether the nature of doctor-patient communication might account for some of the within class variation is an empirical issue which remains unanswered.

Ethnicity, Sex, Age and Family Background

In the continued effort to identify the characteristics of the compliant patient, researchers have examined a number of factors such as ethnicity, sex, age and family background. As with social class, the findings are not consistent. With a few exceptions,[28] more recent empirical studies have lent support to the hypothesis that ethnicity is related to compliance.[29] Whether these differences were due to value differences is not known since the dynamics of these relationships were not explored in a rigorous fashion. Interestingly, Fink and associates (1969) show that even though compliance was significantly higher among minority group patients, these differences disappeared when the clinic made an effort to improve compliance rates. Since values are usually assumed to be relatively impervious to such short-term efforts, it leads one to question

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[28] See, for example, D. Mohler et al., "Studies in the Home Treatment of Streptoccocal Disease," New England Journal of Medicine, 252 (1955), 1116-1118.

[29] D. Fink et al., "Effective Patient Care in the Pediatric Ambulatory Setting: A Study of the Acute Care Clinic," Journal of Pediatrics, 43 (June, 1969), 927-935.

whether the original differences could be explained by value differences.

Although some investigators report no significant differences, female patients are usually more non-compliant than males.[30] Older patients are also thought to be less compliant but the relationship between age and compliance does not appear to be a simple or direct one, and there have been inconsistent results.[31] Similarly, there have been some reports that "family stability" is associated with higher compliance, but another report indicates that there was no differences. An elimination of this factor might be premature in the sense that the definition and measurement of "family stability" or "cohesion" have varied considerably. Like the research on the effect of the work group, it may also be that "cohesion" facilitates compliance only when the norms of that group support the physician's advice. In other words, a stable and cohesive family may be quite powerful in affecting the patient towards compliance or non-compliance, depending upon the nature of the family's opinion.

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[30] For different results see, W.M. Dixon et al., "Outpatient P.A.S. Therapy" Lancet 2(1957), 871; and M. Davis, "Variation in Patients' Compliance with Doctors' Advice: An Empirical Analysis of Patterns of Communication," American Journal of Public Health, 58(February, 1968), 274-288.

[31] For a review of these studies, see M. Davis, "Variation in Patients' Compliance with Doctors' Orders: Analysis of Congruence Between Survey Responses and Results of Empirical Investigations," Journal of Medical Education, 41(November, 1966), 1037-1048.

NATURE OF REGIMENS

Another factor which has been examined in the literature on patient compliance is the nature of regimens. Although researchers have selected this factor on an ad hoc basis and have not attached theoretical significance to the results, these data are consistent and provocative. First, it has been found that compliance is inversely related to the number and the complexity of the physicians' instructions.[32] While the investigators acknowledge that some non-compliance may be a partial function of patient misunderstanding and confusion about what the physician expects them to do or a partial function of the patients' inability to recall the physicians' communications, several basic issues remain. Specifically, the unanswered questions are: a) why do physicians and patients sometimes fail to reach a mutual understanding and at other times succeed in reaching a congruent perception of the instructions and/or b) why do some patients (and not others) comply with a high number of instructions. Is it possible, as suggested in the work of Ley and Spelman (1967) that the nature of physician communication affects the patient's ability to understand and recall what the physician expects and, consequently, the patient's

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[32]Consider, for example, C. Latiolais and C. Berry, op.cit. and V. Francis et al., op.cit.

conformity with the physician's expectations.[33] As will be discussed in a later section, there has been almost no previous work on these issues. However, the above mentioned findings do suggest that it is important to analytically distinguish various dimensions of the patient's belief system: a) recall and comprehension of physician expectations and b) acceptance of the patient role. Too often ,it has been assumed that patients know how to perform their role and that the major issue is only one: why do patients fail to accept medical advice?

A second consistency in the literature is that compliance varies by the type of medical advice: patients are more apt to keep return appointments and advice to take disgnostic tests than they are to take medications, restrict activity or follow diets.[34] For the most part, the researchers have explained these findings by simply inferring that it is "easier" to keep return appointments and advice to take diagnostic tests, and such an assumption seems plausible on the face of it. On the other hand, these findings may have a broader, theoretical significance in the sense that the instructions which are most

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[33] It has been found that patients often fail to recall the physicians' communications and that failure to recall is associated with the nature of physician communication. Unfortunately, this work has been limited to only a few dimensions of physician communication and does not include an assessment of how physician communication affects the patients' behavior. See, P. Ley and M.S. Spelman, Communicating With The Patient (London: Trinity Press), 1967.

[34] M. Davis and R. Eichorn, "Compliance With Medical Regimens: A Panel Study," Journal of Health and Human Behavior, 4 (1963), 240-249; Fink et al., op.cit.

frequently followed (appointments and diagnostic procedures) are also the instructions for which the patient's behavior is most visible to the physician. Since it has been suggested that a) the physicians' "tool" for gaining compliance is their authority or control over the patients' access to services[35] and that b) this type of compliance-gaining strategy depends upon social agent's surveillance of the person being influenced,[36] then there might be an alternative explanation for the findings mentioned above. In other words, physicians may be most successful in gaining compliance under those conditions in which they have surveillance of the patients' behavior or where the patients' actions are visible. This alternative explanation would also be consistent with what might otherwise appear to be an unrelated observation in the literature on patient compliance, namely, that patient compliance with medication advice is very high (89 per cent) when the medication is directly administered in the hospital setting -- even when the particular medication is psychotropic in nature.[37]

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[35]For a somewhat premature and dogmatic statement about this "tool" for gaining patient acceptance, see E. Freidson, Profession of Medicine (New York: Dodd, Mead and Co.), 1970, 319.

[36]For discussions of the various types of strategies which people can use in influencing another person and the possible limitations of these various strategies, consider, J.P.R. French, Jr. and B. Raven, "The Bases of Social Power," in D. Cartright (ed.), Studies of Social Power (Ann Arbor: Institute for Social Research), 1959, 150-167; H.C. Kelman, "Compliance, Identification and Internalization: Three Processes of Change," Journal of Conflict Resolution, 2 (1958), 51-60.

[37]H.K. Neve, "Demonstration of Largactil in the Urine," Journal of Medical Science, 104 (1958), 488-491.

A third trend in this literature pertaining to the nature of medical regimens is that patients are often selective about the kinds of appointments and medications: compliance appears to be lower in the area of psychotherapy and use of psychotropic drugs.[38] While these findings are consistent with what is known about the lay person's attitudes toward mental illness and its treatment,[39] it should be noted that they might also be consistent with the views of the physicians who give the advice to the patient. As Reynolds and associates (1965) have suggested, physicians have different attitudes about giving psychotropic drugs to their patients and there is limited evidence that the patient's use of these medications is directly related to the attitude of the prescribing physician.[40] Unfortunately, these investigators did not directly examine how the physicians might have affected their patients' varying attitudes and behaviors; nevertheless, the findings raise yet another important issue: do physicians vary their efforts to gain the patients' acceptance of and compliance with advice? Too often, it has been assumed that all physicians think and act alike or that physicians expect rigorous compliance with all "advice."

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[38]Latalois and Berry, op.cit.

[39]Kasl and Cobb (February, 1966), op.cit.

[40]E. Reynolds et al., "Psychological and Clinical Investigation of the Treatment of Anxious Out-patients with Three Barbiturates and A Placebo," British Journal of Psychiatry, 111 (1965), 84-95.

PATIENT PERCEPTION OF ILLNESS AND TREATMENT

Although sociologists have contributed significantly to the understanding of the doctor-patient relationship by advancing such concepts as the "sick role," it is increasingly clear that much remains to be learned about why people depart from the expectations which are presumably attached to this role.[41] In particular, this model does not allow one to predict and explain the conditions under which the sick person does not fulfill the normative obligation to " . . . seek technically competent help . . . and to cooperate with him in the process of getting well."[42] Although there have been efforts to address this broader issue as it relates to the person's "help seeking" behavior,[43] there have been few comparable analytic efforts as the issue relates to the patient's willingness to "cooperate" with the medical professional. The major exception is the work by Kasl and Cobb (1966: 246-266). They have attempted to synthesize the literature at it pertains

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[41] For a thoughtful discussion and critique of role and theory and the sick role concept, see D. Mechanic, Medical Sociology (New York: Free Press), 1968.

[42] Parsons, op.cit.

[43] See, for example, D. Mechanic, op.cit. and I. Rosenstock, "What Research in Motivation Suggests for Public Health," American Journal of Public Health, 50 (1960), 295-302.

to illness behavior by presenting a "theoretical framework" which essentially postulates that sick role behavior is a function of a) amount of threat perceived by the patient and b) the patient's perception of the attractiveness or value of the behavior. While they did elaborate upon this "theoretical framework: and present a vast amount of support for the view that the patients' attitudes toward their illness and treatment are associated with compliance,[44] their framework is very limited in scope. As the authors readily acknowledge, their framework does not predict why some patients (and not others) hold the attitudes which they do, and the student of this problem is essentially told to return to a continued search for the environmental, interpersonal and personality determinants of these particular patient attitudes.

> This model of action is clearly a skeleton at best. It directs attention to a certain broad class of variables and suggests how these variables interact, but not the possible determinants of the variables themselves. For example, 'importance of health' may be influenced by age, sex, occupation, subcultural values, fluctuations in mood and so on ... (p.249).

Although the authors were clearly attempting to go beyond the limitations of role theory, it is concluded that they did not resolve the most basic difficulty with role theory and the symbolic interactist approach. This basic difficulty has been most clearly stated by Flavell (1968) and this writer will not attempt to go beyond his concise conclusion which was reached after

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[44] Kasl and Cobb (February, 1966), op.cit.

reviewing George H. Mead's theory of symbolic interaction.

Although the theory is, as we have shown, vitally concerned with role taking and communication, it curiously enough does not provide - qua theory - for role-taking and communication difficulties or errors in the individual performing of these acts, and hence does not really deal with the developmental process by which the difficulties are gradually surmounted and the errors gradually diminished. (Emphasis in original.)[45]

Physician-Patient Relationship

As evident in the previous discussion, students of the problem have examined a host of variables which might be related to the patient's compliance with medical advice: personality, social class, ethnicity, sex, age, family, nature of regimens and attitudes toward the illness and treatment given. Although many social scientists and an increasing number of medical professionals have claimed that the results of these many studies point to the need to more closely examine the content, process and outcome of physician-patient interaction, it is noteworthy that there have been only two published studies of physician-patient communication as it relates to patient compliance. Since these efforts represent

[45] J.H. Flavell, Role-Taking and Communication Skills In Children (New York: J. Wiley and Sons, Inc.), 1968, p.15. These authors were primarily concerned with communication among children, but their conclusion also pertains to the adult situation, as they pointed out.

an important advance in the study of patient compliance, special attention should be paid to them.

First, it should be noted that both studies were initially addressed to what might be called the "reciprocity hypothesis" or the hypothesis that compliance is related to the extent to which the physician meets the patient's expectations. In the first study which was conducted in a general medical clinic for adults, Davis (1968) attempted to test the hypothesis that "deviant communication patterns" would be correlated with the patients' subsequent compliance with various types of recommendations.[46] Although the theoretical bases were vague, the implication was that the patient expects the physician to act in a certain way and becomes dissatisfied when the physician departs from this presumed ideal pattern. Having become dissatisfied with this departure from the "normative doctor-patient relationship," it is claimed that the patient then reciprocates by refusing to cooperate with the doctor. Utilizing the Bales' Interaction Process Analysis and factor analytic techniques, he isolated ten (10) factors or dimensions of the taped communications which were then correlated with the patient's compliance which, it should be emphasized, was based upon the combined report of the physician and patient.

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[46] Davis (1968), op.cit.

Generally speaking, the results of this effort were not very successful and can be seriously questioned on a number of points. First, the predictive power of the general hypothesis was not very high. None of the ten factors were significantly correlated with compliance after the first doctor-patient visit, and only five of the 10 factors were significantly associated after the second visit. In addition, the correlations were relatively small. Second, Davis (1968) assumed rather than tested the explanation that certain communication patterns deviated from the "normative" pattern and that non-compliance was a simply function of reciprocal deviation. Interestingly, the content of the five factors which were correlated with patient behavior would suggest an alternative explanation. Specifically, two of the five factors were commonly defined by the fact that the physician did <u>not</u> give orientation, information, repetition, clarification and confirmation. While it is possible that patients become dissatisfied when they do not receive these types of communications, it is likewise possible that patients are confused and apathetic after such visits. Unfortunately, the data are codified and presented in a way which does not allow one to question the interpretation offered.

Third, the content of two other factors were similar in that the patient had disagreed with the physician, showed little

acceptance of what the physician said, or was antagonistic. According to the investigator's reasoning, patients do not expect such "deviant communication patterns" and reciprocate. In many respects, this type of reasoning is tantological and begs the question. To say that the patient who fails to accept the doctor's point of view at the clinic will also fail to accept the doctor's point of view at home does not shed much light on a) the sources of physician-patient conflict, b) the nature of physician-patient conflict, and c) whether and how some physicians were able to manage the conflict when it occurred. Indeed, the findings are contrary to what social psychologists might hypothesize about conflict resolution, namely, that the expression of conflict facilitates the resolution of differences between people. The most critical problem, however, is that Davis' conclusions were based upon physician and patient report of the patient's compliance. Since there is sufficient accumulated evidence that patients under-report their non-compliance and that medical professionals are very unsuccessful in predicting or identifying the non-compliant patient[47] it is surprising that Davis did not make any

[47]Blackwell, op.cit.; Dixon, op.cit.; E. Charney, "How Well Do Patients Take Oral Penicillin?" Journal of Pediatrics, 40 (August, 1967), 188-195; A.D. Chaves, "Results of the P.A.S. Urine Test (Phenistex) Study Done in May and June," American Review of Respiratory Diseases, 81 (1960), 111; T. Moulding et al., "Supervision of Outpatient Drug Therapy with the Medication Monitor," Annals of Internal Medicine, 73 (1970), 559-564; N. Berkowitz et al., "Patient Follow-Through in the Out-Patient Department," Nursing Research, 12 (1963), 16-22.

apparent efforts to validate these data. This omission is especially critical, since it is possible that those patients who under report their non-compliance to an interviewer might be the same patients who withhold their disagreement while in the doctor's office. More specifically, it will be recalled that this study was one of several negative cases in the vast amount of research which shows a negative relationship between social class and non-compliance. Since it is also known that lower class patients are less apt to initiate requests of the doctor and probably are more apt to distrust and/or fear the doctor,[48] one wonders whether Davis actually identified the full extent of non-compliance in his sample and whether this possible bias was systematically related to the patient's social class.

In a similarly designed study, Korsch and her associates[49] attempted to test whether pediatric patient compliance was related to parental expectations of the doctor and satisfaction with the visit. Their findings cast further doubt on Davis' inferences. As the authors noted, the hypothesis that unmet expectations lead to dissatisfaction and non-compliance was only partially supported. Like Davis, they found that compliance significantly decreased when parents did not receive certain information and explanation. On the other hand, unmet expecta-

[48] See previous discussion in section on social class and non-compliance.

[49] Francis et al.; Korsch et al.; Freeman et al., "Gaps in Doctor-Patient Interaction Analysis," Pediatric Research, 5 (1971) 298-311.

tions in other areas did not significantly reduce compliance.[50] For example, appointment keeping was unrelated to expectations or satisfaction. Further, descriptive data seemed to support an alternative hypothesis to the one advanced. In particular, these investigators reported that a common theme among the non-compliant patients was their difficulty in interpreting the doctors' regimen. In other cases, non-compliance seemed to result from the mother's evaluation of the effect, lack of effect, or adverse reaction which occurred when she tried to follow the advice. In no case, did the authors present descriptive or other data which would suggest that the mothers did not comply because their expectations of the physician were unmet. More recently, Freemon and associates (1971) reported upon their effort to analyze the data by means of the Bales' Interaction Process Analysis.[51] As in the earlier report, it is clear that their analysis was guided more by the Bales' technique than by any theoretical perspective or effort to develop a theory which would integrate what they found with what is already known about compliance. As a result, many issues remain unexplored and unresolved.

First, these investigators did not follow-through on the impressionistic findings of their earlier report, namely, that

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[50]Francis et al., op.cit.

[51]Freemon et al., op.cit.

the pediatricians in their sample often used medical jargon and gave instructions in a manner which was not clear to the researcher (or parent). Although they mention that they tested the physicians' instruction-giving without significant results, they neither presented these data nor did they define the measures used. Since the Bales' technique does not allow one to measure the kinds of information or instructions which are given and sought, it is doubtful that these investigators pursued these issues in the depth that may be necessary to understand how physicians instruct and influence their patients.

Second, their major finding was that "positive affect" was directly related to parent compliance, a conclusion which was completely contrary to the conclusion of Davis (1968) who suggested that positive affect actually undermines the physicians' influence efforts.[52] Their lack of discussion about this inconsistency is especially interesting, given that Milton Davis was one of the authors on this more recent report on the Korsch data. Unfortunately, it is difficult to interpret the inconsistency as it is not clear how "positive affect" was measured. If this concept included parent expression of agreement during the clinic visit, as their brief elaboration seems to indicate, then they would seem to have the same problem as Davis. Specifically, the basic issue remains: why do some parents (and not others) achieve

[52]Their conclusion that friendliness is directly related to compliance is also contradictory to the survey findings of Davis and Eichorn, op.cit.

a mutual agreement with the physician? A similar criticism might be made about their conclusion that disagreement in the clinic was associated with non-compliance at home.

Finally, it should be emphasized that, like Davis (1968), their source of data on compliance was largely the mother's report. To be sure, they apparently attempted to validate these reports by means of a bottle check and found a low rate of parent deception. But a close examination of their report shows that they were able to check the bottles in only 39 per cent of the cases where this validation was attempted. One wonders why these efforts were unsuccessful and whether this methodological problem contaminated their findings in the same way as that suggested for the Davis study.[53]

In overview, there are many unresolved issues after reviewing the available literature on the direct study of doctor-patient communication. Nevertheless, these investigators have made an important contribution by going beyond survey and speculation about what occurs during the doctor-patient encounter. It would appear that the major limitations of their work are a) the reliance upon Bales' technique of analyzing interaction, b) the reliance upon the lay person's report of compliance, and c) the lack of attention to a theoretical integration of findings.

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[53] As noted earlier in this chapter, the Korsch study and Davis study constitute the two major exceptions to the trend that lower class patients are more apt to be non-compliant.

In addition to the observational studies of interaction, it is also relevant to consider a number of provocative reports which suggest that when physicians make an effort to educate and/or emphasize the need or importance of the treatment, there is greater success in changing patient behavior. Essentially, these efforts represent natural experiments by medical professionals to deal with their perceived problem of managing patient behavior. Although control groups are not always utilized, and the variables are rarely specified and controlled to a degree which would meet requirements of a scientific study, the findings indicate the need to explore the various dimensions of physician communication.

In an effort to increase the effectiveness of care given to a pediatric population, a San Francisco clinic added the services of a "family health management specialist" (FHMS) who reportedly gave health education, counseling, nursing services and coordination of family care. Families were randomly assigned to study and control groups; the latter did not receive FHMS contact. According to Fink et al., (1969), this added effort led to statistically significant changes in the patient's use of medication, compliance with advised procedures, appointment keeping and understanding. Unfortunately, they were unable to isolate the specific elements of the FHMS services which produced such changes. Similarly, Wilber and Barrow (1969), in an effort to increase patient use of

drugs for hypertension, showed that when the public health nurses began to stress the importance of taking these drugs non-compliance was reduced considerably.[54] Traditionally, pediatricians have had extensive failures in gaining the compliance of patients given anti-biotics and many studies have been done in an attempt to predict what types of patients will fail to conform, as referred to earlier. Interestingly, the highest reported compliance rate was reported by two private pediatricians who conducted a quasi-communication experiment by giving printed instructions as to how to take penicillin correctly and the rationale for taking it in this manner: 89 per cent of the parents complied.[55] They also made the rather interesting speculation that much of what is known about parental non-compliance with antibiotic instruction is a function of the setting in which previous studies have been done (public clinics) and do not reflect what might occur with more trained and motivated pediatricians.

In spite of the rather consistent finding that a clinic or health professional can alter compliance rates, the conclusions should be treated cautiously. As mentioned, the interventions have not been specified or controlled. What kind or degree of

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[54]J.A. Wilber and J. Gordon Barrow, "Reducing Elevated Blood Pressure: Experience Found in a Community," Minnesota Medicine, 52 (August, 1969), 1303-1305.

[55]J. Leistyna and J. Macaulay, "Therapy of Streptococal Infections: Do Pediatric Patients Receive Prescribed Oral Medication?" American Journal Diseases of Children, 111 (January, 1966), 22-26/

communication, "emphasis," "education" or "Instruction" is necessary or sufficient for conformity is unknown. To date, there have been no social psychological studies of how the physician actually teaches or motivates the patient and with what consequences.

CONCEPTUALIZATION AND MEASUREMENT OF COMPLIANCE: ADDITIONAL METHODOLOGICAL ISSUES

Although it is clear that there is a considerable need for more effort in the direction of developing a theory of patient non-compliance, it is imperative that students of the problem consider a number of issues related to the conceptualization and measurement of compliance, the dependent variable with which this project is concerned.

First, as mentioned above, compliance behavior is more complex and variant than reflected in the frequently used dichotomy between the "complier" and "non-complier." In other words, it is relevant to begin to predict and explain the conformity to specific "sick roles." Usually investigators have looked only at the length of time or number of days that a patient was supposed to perform certain actions. The dependent variable is not this simplistic. When a physician prescribes a medication, for example, he usually expects the patient to follow advice regarding: a) the length of time that the drug should be taken, b) a certain dosage schedule

per day and c) a specified amount per administration. Too often, the following type of survey question is asked, "Did you take your medicine all of the time, some of the time, or none of the time?" With such broad measures, it may indeed be difficult to isolate the variables which consistently predict and explain patient behavior.

A second problem in the previous measurement of compliance is that researchers have developed composite measures and scales of compliance without a careful exploration of the distribution of the behaviors being combined or reduced to equality. There have been attempts to weight various items, but this weighting is on an arbitrary basis and may not reflect reality. For example, Davis (1968) combined the patients' response to all kinds of advice into one index of compliance. Compliance with some advice was weighted as more "important" than compliance with other advice, but the basis for weighting scores as he did was rather vague. It is clear, however, that he did not utilize the tape recordings of the physician-patient communication to determine which advice was deemed most important by the doctor. Since physicians reportedly communicate different attitudes about various treatments, arbitrary systems of weighting communication are unwarrented. Creating quantifiable scales without developing them from a thorough, first-hand understanding the the phenomena. seems to be a serious problem which may limit previous researcher's

capacity to develop theory.

A third problem is that not enough emphasis has been placed on the validity of the data used in deriving the indices of compliance. Since non-compliance might be defined as the discrepancy between the physician's expectations and the actual patient behavior, it is critical that the researcher knows exactly what the physician advised the patient to do. Unfortunately, many observers have utilized the medical chart which really constitutes the physicians' written report of advice. The possibility that the physician's recorded expectations are not an accurate reflection of what was told the patient to do has not been raised by other observers. Preliminary observations of physicians as they treat and advise patients as well as a validity study of the physicians' recorded regimen (medical record) leads us to conclude that the latter is definitely not congruent with the verbal advice which the physician actually gave the patient and cannot, therefore, be utilized as the criteria for what the physician expected. Interestingly, it has been noted by Davis (1968) that some patients don't recall certain advice. Rather than question the validity of the medical record, Davis assumed that the patient was non-compliant.

Another methodological error made by the above investigator and others is to dismiss certain regimens as regimens which the physician "didn't really mean." Medical advice which was given

CONCLUSIONS:

THE NEED FOR THEORY AND RESEARCH

1. It cannot be assumed that non-compliance is irrational pathological or abnormal. The attempt to characterize the "uncooperative" type of patient has been unsuccessful. This approach cannot account for behavior variation across situations.

2. There has been undue emphasis upon patient failure and the facilitating or inhibiting roles played by social agents outside of the health institution (e.g. subculture, ethnic group, family). There has been a neglect of the interaction between the medical professional and the patient.

3. It cannot be assumed that a) all physicians think and act alike or that b) physicians expect rigorous compliance with all advice. There is the need to more closely examine how the physicians define, transmit or modify their expectations when interacting with patients.

4. It cannot be assumed that patients know how to perform their role and/or understand medical advice. There is the need to distinguish between various dimensions of the patient's beliefs (knowledge vs. acceptance).

5. There is the need to develop complementary dimensions of the physician's communications: a) effort to develop or modify patient knowledge and b) effort to develop or modify the patient's motivation. Since the nature and scope of these behaviors are not currently known, there is the need for exploratory research which would isolate such dimensions of the physician's communication behavior.

6. There is the need to identify the nature, sources, and outcome of physician-patient differences and conflict.

7. Valid measurement of physician expectations is essential to the development of theory about patient compliance. Medical record data are not valid assessments of those expectations.

8. Valid measurement of the patient's actual behavior is also essential since it cannot be assumed that the patient will report his actual behavior in a truthful manner.

9. Theory development will depend upon precise and specific definitions of what the physician expects.

CHAPTER TWO

RESEARCH PROBLEM AND METHODOLOGY

BACKGROUND

Although the study of patient compliance might involve a wide variety of social agents (doctor, nurse, family), settings, types of clinic, types of health organizations, types of communities, and types of medical advice, a number of considerations led the investigator to first limit the general problem to the study of doctor-patient communication as it relates to patient compliance with physician advice in a neighborhood health center. This decision was, in large part, a practical one which resulted from our decision, in 1968, to join the research staff of a large neighborhood health center located in an urban ghetto. At the time, the center director and the director of the research department were interested in the application of social science to the evaluation and improvement of health services for the poor. Since the interest was a mutual one, the author was offered and accepted a full-time position as a research sociologist. The researcher essentially was told that she would have all the freedoms which were necessary to conduct sound research: freedom to define a reasonable problem,

design the project and, essentially, conduct an independent study while employed at the health center.

After about eight months of conducting other work and familiarizing ourselves with the community, the health center, and the city hospital which also served the particular community, the process of selecting a research problem began. After a few preliminary observations of physician-patient interaction and some interviews with patients, it was realized that a study of the patient's response to all types of medical advice (medications, diet, restriction of activity, referral to specialists, return appointments and requested diagnostic procedures) would involve considerably more staff, resources and time than was available -- if the task was to be done adequately. It was decided at that point to limit the general problem to the study of the patients' use of medication in order to maximize the depth, precision, and validity of the methods which would be used to study the problem. Similar considerations led to the decision to limit the problem to adult patients (16 years or more). Another consideration was that the research literature had indicated that previous investigators of the problem had approached the problem of medication use in what seemed to be a particularly superficial manner.

RESEARCH PROBLEM

On the basis of the above considerations, the literature review and some preliminary observations it was decided to conduct a pilot

study of the nature and outcome of physician-patient communication. Since there was only one published study of doctor-patient interaction at that time, the investigator had very few working hypotheses about how physician-patient communication (independent variable) might be related to the outcome of the interaction.

Indeed, the outcome of interaction (the dependent variable)was simply defined as the patients' behavioral compliance with the physicians' medication instructions. After some pilot observations and patient interviews, it became clear that the pilot study had begun with some questionable assumptions about the extent to which patients understood the physicians' medication advice. As the author wrote in a later report on the pilot study,

> Although we had no idea of what actually transpired between the physician and the poor patient at the beginning of our research, our social psychological perspective did give us the preconception that the physician could be viewed as a socializing agent whose task often included that of defining a specific role for the patient. The social class literature also led to the rather crude deduction that somehow physicians might have to make special efforts to persuade the patients that they were sick and should follow certain treatment plans. It was the implicit assumption that patients knew how to perform the sick role because the physician had defined it for them by giving prescriptions. In other words, patients know what the physician wants them to do, but, for some reason, do not agree that they should do that. It was not until we had done some observations of physicians treating and advising patients that we realized that the above was an implicit assumption in most research and, indeed, a questionable assumption, to say the least! (January, 1970)

Among other things, this early and somewhat naive view did not seem to include a serious consideration of the patient as a contributing participant in the physician's effort to communicate.

Since it was not known how the findings would emerge, the question was intentionally left rather vague. On the other hand, the eventual goal was to utilize what has been referred to as the method of "enumerative induction" (described in a later section). Consequently, it was decided to formalize and systematize the various procedures which would be used to collect objective data for use in the later process of enumerative induction. These procedures were selected and developed in order to obtain the pertinent data which could be used to answer three major and more specific series of research questions.[11]

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[1] It should be added here that the author continued to believe that it might be possible to expand the research problem at a later date. Consequently, the procedures which were developed in 1969 included a limited effort to obtain data on other types of medical advice in order to prevent the loss of potentially useful data. As it turned out, there was a change in the health center's directorship and, subsequently, the organization's goals which, in effect, ended organizational support for research of this nature. In the interest of brevity, the discussion of data collection procedures will not include reference to this effort to collect other types of data. For the interested reader, all questions which were included in the patient interview schedule are included in Appendix I.

Major Research Questions

1. What are the various methods by which physicians instruct (or teach) their patients regarding medication use? Which of these methods are more effective in terms of achieving a) the patient's understanding of how to use the medication(s) and b) the patient's behavioral compliance with the physician's expectations regarding medication.

2. What are the various methods by which physicians attempt to motivate their patients regarding medication use? Which of these methods are more effective in terms of a) the patient's evaluation of the medication(s) and b) the patient's behavioral compliance with the physician's expectations regarding medication use?

3. What are the factors which facilitate or inhibit the process of instructing or motivating the patient?

As will be noted throughout the report which follows, the general working hypothesis was that the physicians' efforts to teach and motivate their patients would be positively associated with the patients' subsequent understanding of advice, evaluation of the medication(s), and behavioral compliance with the physicians' expectations regarding medication use. Given the scope of the analysis which follows, it would be extremely difficult to delineate how this general working hypothesis was gradually modified and refined as a result of data analysis. Hopefully, these refinements and modifications will become more clear as the report is considered.

RESEARCH DESIGN

As Becker notes, exploratory research and, in particular, exploratory research which involves observational techniques can be more than a process of gaining insights. According to Becker, the combination can consist of:

> . . . something more than merely immersing oneself in data and having 'insights' . . . formalization and systematization of the various operations (may result in this effort becoming) more a 'scientific' and less an 'artistic' kind of endeavor.[2]

In agreement with this point of view, the following research design was developed to answer the major research questions. Unfortunately, it would take a lengthy discussion to elaborate upon why this particular design was developed. Suffice it to say, the author was highly attentive to the scientific requirements of reliability and validity, the latter which has often been ignored in compliance research. As a result, considerable time was spent during the preliminary and pilot stages in an effort to identify a design which would be scientifically acceptable and manageable under the circumstances (see later section for a more elaborate discussion of the procedures and issues of reliability and validity).

Systematic Observation of the Doctor-Patient Encounter

Although there are many reasons why one might want to study

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[2]H. Becker, "Problems of Inference and Proof in Participant Observation," American Sociological Review, 23 (December, 1958), 652-660.

the communication between the physician and the patient over a long period of time, it did not seem feasible for a number of reasons, above and beyond the difficulties of managing a longitudinal design which would include as many components as the design which was finally selected.

First, an essential consideration was the need to minimize observer effect as much as possible. As will be discussed more fully in a later section, preliminary observations had suggested that the observer effect could be best minimized by observing the physician during an entire clinic session rather than during one or two visits of that session. Since a longitudinal design would entail returning to a particular doctor-patient encounter within a longer clinic session, it was concluded that this design was not appropriate under the circumstances. Second, the state of our knowledge regarding the possible relationship between physician-patient communication and the outcome was not great enough at the time to suggest particular hypotheses which could only be tested with a longitudinal design.

With these considerations in mind, the investigator opted to observe all physician-patient encounters which occurred within a selected clinic session.[3] There was no attempt to

[3]As will become more clear in Chapter Seven, it was possible to partially overcome the disadvantages of this more limited design because we had fortunately defined the universe to include all patients who attended the clinic session even though some of them may have seen the physician at a previous time. Second, our continued access to the pharmacy files and medical records provided data, the need for which we had not anticipated.

return for the patient's next appointment with the physician. While observing the clinic session, the investigator accompanied the physician as he or she went from one room to another taking medical histories, conducting examinations, and advising the patients. While in the room, the observer took verbatim notes of all verbal communication between the physician and the patient. After the session, the observer returned to her office and immediately dictated an account of each doctor-patient encounter in order to obtain a more readable and type-written transcription. It was this transcript which was used in obtaining data for the major independent variables under study.

As will be discussed in the section of measurement, this transcript was also used as a partial criterion in defining the nature and extent of patient compliance with the physician's expectations, In other words, the transcripts partially indicated the nature of the physicians' expectations regarding medication use.[4]

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[4]The reference to "partially" is deliberate. One of the major findings of the pilot study was that no single source of data seemed more valid than the observational in terms of identifying what the physician expected of the patient. In other words, the physicians' record of the visit often omitted mention of drugs that had, in fact, been dispensed or mentioned to the patient. On the other hand, it was interesting to find that not all dispensed or recorded drugs were mentioned during the physicians' visit with the patient. While these findings created numerous methodological difficulties and were baffling at the time, they eventually took on theoretical significance. In other words, it became clear that physicians did not always make their expectations explicit when communicating with the patient.

Systematic Observation in the Reception and Waiting Area

While this investigator was observing the physician, a project assistant was seated in the reception area so that she could obtain the names, medical record numbers, the length of waiting time and the length of the doctor visit for each patient being seen that session. Although the original intent was to simply ease the recording task of the investigator and to obtain data for what might become necessary control variables, other uses emerged after data analysis proceeded (see Chapter Five).

Review of Medical Records and Pharmacy Documents

Under a prior arrangement with the central pharmacy located in the health center, pre-marked prescription request forms were given to the physicians for use during the observed client session. Since these forms were still in general clinic use at the time of the project and included an attached carbon for which the clinic had found no use, it was decided that the pharmacists would retain all carbon copies for the investigator's pick-up at the end of each day. It was also agreed that the pharmacist dispensing the medication would mark on the copy the exact supply of medication which was dispensed to the patient.[5] These data

[5]This arrangement grew out of another critical finding during the pilot phase, namely, pharmacists did not always dispense the supply which was requested by the physician. Due to packaging policies, patients sometimes received less than the number of tablets requested by the physician on the prescription request form. Subsequent conversations with physicians who use private pharmacies suggest that this may not be atypical, though the pharmacists' motives may be different in a private setting.

were later compared to data collected by the interviewer in order to determine how much medication the patient had taken between the date of receiving it and the date of interview. These data were also used to partially determine the physicians' expectations regarding medication use when there was no mention of the drug during the observed encounter.

The medical record of the patient was also reviewed to obtain the following data which were collected for control purposes, though this check was also done to determine whether there were any additional drugs which the patients was supposed to be currently taking but which were not mentioned during the observed encounter.

1. Demographic Characteristics

Age, sex, ethnicity, number and position in household, number of years of formal education completed, income, occupation, and marital status.

2. Utilization and Drug History:

The number and type of visits the patient had made to the medical center before observation and with whom; and a complete drug history.

3. Physician's Record of the Observed Visit:

Diagnosis(es) and treatment plan.

Follow-Up Interview with the Patient

Within a week of the observed encounter, an attempt was made to conduct a standardized interview with the patient at his or

her home. The length of lapsed time was based upon two considerations: a) the interview had to be soon enough so that the patient was able to recall the particular encounter and b) some time had to be allowed for patterns of drug use to develop.

The primary purpose of this home interview was to collect data for the intervening and dependent variables. Among other things, the patients were asked to identify which medication(s) the physicians expected them to be taking and their perception of how the physician had wanted them to take the medication(s). Likewise, they were asked for their perception of the purpose for which the medication had been given and for their evaluation of the medication (perceived efficacy, inportance, "costs" of taking, and "costs" of not taking the medication). Finally, they were asked to elaborate upon whether and how they had been taking the medications. (The questions which were included in the interview schedule are listed in Appendix I and will be stated more precisely throughout the report).

Bottle Check

While at the patient's home for the follow-up interview, the interviewer was also instructed to conduct a bottle check and to write down the information which was contained on the labels of all medication containers which were included in the patient's total treatment plan as well as any additional medications which

the patient identified as being in the treatment plan. The bottle check consisted of making an actual count of the remaining tablets or capsules. Containers for liquids or creams were visually examined in order to detect gross non-compliance, but it was not possible to be as precise under these circumstances.

THE RESEARCH SETTING

The setting which was selected for this project was a neighborhood health center (NHC) funded by the Office of Economic Opportunity and designed to provide comprehensive, continuous and team oriented health care. At the time of the study, the facility served a 55 square block area in a large, northeastern city. The area could be characterized as having high unemployment rates, poor housing, poor public services, high rates of health and social problems. Before the center was developed in the mid-sixties there were few private physicians practicing in the area and almost no alternatives to the nearest city hospital which was also fairly typical of many public hospitals in low income areas in that the services were impersonal, fragmented and inconvenient.

The health center itself was fairly typical of those which were planned and developed during the mid-1960's as part of the War on Poverty. Indeed, it was considered by many independent

observers to be one of the largest and more successful demonstration projects. The stated organizational goals were to provide comprehensive continuous and family-oriented care in a manner which was accessible and acceptable to the members of the community in which it was located. An emphasis was placed upon community participation in the se se that members of the community were employed and trained to work in th NHC, and there was a community advisory board.

Of the 45,000 people who were living in the area at the time, 20,000 were registered for care at the health center. Since there was no eligibility requirement other than residence in the geographical area, the patient population was quite representative of the particular area and others like it. The entire population of registered patients was 45 per cent Puerto Rican, 45 per cent Black and 10 per cent White, percentages which were similar to census figures for the entire geographical area.

It should also be emphasized that the services were accessible in several respects: 1) all ambulatory services (including medication) were free of charge and 2) the center was located within walking distance of the population it served. Consequently, it is possible that the patient population may actually have been more representative of low income, urban residents than in those studies carried out in city hospitals where cost and distance frequently affect the person's choice to see the doctor. Further, the health center

was accessible in terms of time; it was open from 9 a.m. to 9 p.m. and occasionally on Saturdays.

As in most other neighborhood health centers, the physicians were salaried and considered to be part of a health team which included: one internist, one pediatrician, several public health nurses and about six para-professional family health workers. Each of the eight teams was assigned to a geographical area within the larger area being served. Thus, when patients registered at the clinic they were assigned to the health care team which was assigned to their residential area. The patients could request change from one team to another, but, generally speaking, such changes did not occur.

It should also be noted that general medical services were provided in a number of places: a) the so-called health care unit, an area which two teams shared and which was primarily intended for individual appointments; b) the "screening area," a clinical unit which was primarily for "walk-in" or non-appointed patients; and c) a satellite clinic which was located in one of the eight areas within the larger area. The latter clinic was regularly staffed by the team assigned to that area and was in most respects comparable to the health care units described above. As will be noted later, observation was conducted in all three areas.

Finally, it should be added that the main health center and satellite each had a central pharmacy. Patients did not receive any medications in the clinic areas. This feature of the health center made the research task considerably easier than if the patients had been receiving their medications from outside sources.

POPULATION AND SAMPLE

As in many exploratory studies, the population was defined in such a way so as to maximize diversity. The only exception was that the study was limited to adult patients and their physicians. Since there were eight full-time physicians who were responsible for giving medical care to the adults in the various geographical sub-divisions, it was decided that observations should include an approximately even number of clinic sessions for each of these physicians. Given the need to minimize the salience of observation, these clinic sessions were selected in a manner which allowed the observer to complete observations of one physician before proceeding to the next physician. In attempt to prevent any possible bias in the patient sample, the observer selected sessions at different times, on different days and at different locations. While the majority of the sessions were in the health units, each physician was observed at least once during a session in the "screening area". As a result, the population included patients who had made appointments and patients who had not. Unlike some of the published studies on non-compliance, patients

were included even though they not have been able to speak English. Since the health center allowed non-registered patients to come to the "screening area" on a one visit basis, the population also included non-registered patients. Likewise, patients were included even though they had a variety of conditions and previous utilizations histories.

In total, 221 patients were observed during the stage at which systematic data were being collected. Of these patients, follow-up interviews were obtained in 153 cases (69 per cent). The various reasons for this loss of cases were: a) the interviewer was unable to find what the health center referred to as "out of the area" patients or those persons who apparently gave false addresses in order to obtain the center's services; b) patient moved before follow-up could be conducted; c) patient unable to be interviewed due to illness or hospitalization; d) patient refused to open the door or refused to be interviewed; e) interviewer error. An examination of the patients who were interviewed as opposed to those who were not did not reveal any systematic bias;consequently, it was concluded that the proportion of obtained interviews was fairly adequate given the circumstances under which the study was conducted. Since not all 153 patients were expected to take medication, the number of cases was futher reduced to 131 patients. This sample size was regarded as sufficient to obtain variation and small enough to conduct the many indepth cases studies. (See Appendices II and III for characteristics of the 131 patients and their physicians).

SOURCES OF DATA AND PROCEDURES

Before the exploratory study began the exploratory study was discussed with a number of people. First, it should be noted that the investigator and the director of the research department notifed the community advisory board that we would appreciate a meeting with them to discuss the purposes, procedures and plans of a study which the author was proposing to conduct at the health center. It was the policy of the research department that all major projects should be discussed with this board which was comprised of elected people from the community in which the health center was located, even if the research was going to be done by an employee of the health center. As a result, the community board set a date for a meeting at which this study and all procedures were presented for the board's consideration. It was the conclusion of this board that the study could proceed.

Second, the author met met with the medical director of the project for similar reasons and to request a meeting with all internists at the main center and satellite. The medical director also considered the project acceptable and, after making several suggestions, arranged a meeting which would be held between the author and the internists. At that meeting the project and procedures were presented in practical and general terms. In other words, the author stressed the utility of an increased understanding of how patients respond to medical advice and the need to conduct such work in an objective manner which would be sensitive to their

positions as clinicians. Generally speaking, they responded favorably and no one indicated any objections to the design which had been developed. A special effort was made to emphasize the exploratory features of the project and to reiterate the fact that the investigator was not conducting an evaluation of them as physicians. It was suggested that the investigator could best understand the dynamics of physician - patient relationships if they could remain as natural as possible. In that regard, the author noted that she was aware of some of the pressure under which they had to work and that it was important for physicians to allow a social scientist to observe them under these conditions. Strong emphasis was placed upon the investigator's commitment to confidentiality both as it related to people outside of the health center and as it related to people within the health center. It was promised that no one would be identified when discussing the findings with anyone, including the medical director and the director of the health center. Finally, it was added that the author hoped to use some of the data to complete her doctoral degree at the University of Wisconsin. It is the author's belief that this rather carefully planned discussion was essential in gaining the continued cooperation of the physicians being observed and in minimizing the effect of an observer being present. During the project it was evident that physicians probably had different views about what was being done. Some came to define the investigator as "the doctor's psychotherapist," implying that the author was a non-judgmental person who sympathetically listened to their

frustrations. Others seemed to regard our presence as just another feature of working in the health center. In other words, it was something that they could tolerate as they tolerated forms and administrative meetings or tasks. Still others told us that they simply forgot that we were there.

Observing the Doctor - Patient Encounter

Before beginning to observe each physician, another effort was made to discuss the project briefly and to elicit their cooperation in informing and obtaining the approval of their patients. It was suggested that they inform the patient about who the author was, why the observations were being done, and that the observer was interested in being with the doctor and all his or her patients for the session. It was emphasized that they should obtain the patients' permission and allow them the opportunity to refuse if they seemed hesitant about cooperating. The introduction or explanation was approximately as follows:

> I would like you to meet Miss Svarstad who works here at the center and is interested in finding out more about doctor-patient relationships so that the center can be improved. She is sitting in with my patients and me today. Would you mind if she is here while I see you?

Although the physicians varied in their efforts, it was no surprize that patients rarely indicated a reluctance to to cooperate after the physician made such a positive statement. In addition, it should be added that the observer had been

advised by the medical director that she should wear a white jacket or coat while being in the clinical areas; consequently, all patients and physicians cooperated with the observation procedure.

During the doctor - patient encounter, the observer remained as unobtrusive as possible. No questions were asked while the patient was present, and no comments were made unless requested to do so. If requested to make a comment--which was rare as it had been explained that our role would be as a non-participant--the response was as neutral and natural as possible. Further, the observer was seated slightly off to the side yet close enough to hear and not raise the perception that she was an unnatural feature of the situation.

As noted previously, the observer engaged in manual note-taking during the encounter and it was the observer's impression that this action was probably more distracting to the physician than to the patient who was quite familiar with having to sit quietly while the physician takes notes. However, it was also the conclusion that this possible distraction was minimal and became considerably reduced after a number of patient visits had been observed. Since most visits were relatively brief (15 minutes or less) and since the author had spent considerable time working out ways of taking notes in a quick and effective manner, the task of recording the verbal communication verbatim was not as difficult as it might seem. The pilot study and preliminary observations had led to

a greater familiarity with the terms which were used by the physician and with the meaning behind various questions and instructions. This increased familiarity undoubtedly affected the ability to take accuate notes while observing the encounter. It should also be added that the observer made maximum use of the lulls in doctor - patient conversation. For example, the physician and patient were usually silent while the physician was examining certain parts of the body, while the physician was recording the results of his or her physical examination, and while writing out a multitude of forms for further diagnostic procedures, return appointments and medication. Since there was no effort to codify or classify the communication elements while observing, there was no need to think about what was being said at the time it was being said;therefore, it was easier to record verbal remarks as well as to observe what was occurring. As noted previously, the notes which were taken were then used after the clinic session when the observer returned to her office to dictate the material for each transcript which was then used later.

Observation of the Waiting and Reception Area

The project assistant, a woman who lived in the community and was an employee of the health center, sat in the reception area in order to obtain the data previously described. Although it was sometimes necessary for her to ask the receptionists about the patients she was, generally speaking, able to maintain an accurate record of which patients came at various times, saw the doctor and so forth. Both the project assistant and the investigator had developed

the techniques for a different study which was conducted at a city hospital nearby.[6]

Review of Medical Records and Pharmacy Documents

The review of medical records was facilitated by the means of a review form which was developed by the investigator and organized in such a way that it corresponded to the way in which the medical record data were organized. The persons who had been hired to conduct the home interviews with the patients were also trained and supervised to conduct a partial review of the medical record. They reviewed the "census" section which contained all demographic information, the "disposition sheet" for the observed visit(this sheet contained the physician's diagnosis, requested procedures, requested return appointment) and the medical notes to determine the dates of the patient's past visits, the physicians whom the patient had seen at those visits, and the drugs which were prescribed at past visits. The project assistant and/or the investigator checked each chart after this part of the review had been conducted. Then, the medical record for the observed visit was closely examined to determine which drugs were included in the patient's total treatment plan, which drugs had been discontinued from previous visits, and the precise dosage schedule which the physician had recorded for each drug. These data were entered on the same form which had been used in the above mentioned part of

[6]B. Svarstad, "Observations at a City Clinic," (Mimeo, February, 1969).

the review.

The collection of data then proceeded to a review of the pre-marked carbon copies of the prescription request forms which had been filled out by the physicians at the observed visit and which had been retained by the pharmacist after dispensing the medication to the patient. Again, the names of the drugs, the amount dispensed, and the exact instruction which had been requested by the physician were recorded on the review form which had been devised. At this point, the investigator also reviewed the observational transcripts to isolate the parts which were related to medication use. The physician's final advise regarding each drug was recorded on the review form. In other words, if the physician was inconsistent about how much should be taken only the latter instruction was included as it represented the final advise. The investigator and/or project assistant also checked the prescise dosage schedules which had been recorded for the patient's most recent visit to the clinic prior to observation. This check was done to determine whether the current advised dosage represented a change from the previous advise which had presumably been given. After the review of medical records, pharmacy documents and the observational data was completed it was then possible to conduct an overview in an attempt to define what the physician had actually expected the patient to be doing in terms of medication use. This final assessment was used in preparing the interview schedules which were used by the interviewers in the follow-up interview which is

described below. Although the format of the interview schedule made it difficult to include it in this report, it should be noted that the investigator entered the names of each drug and the dosage schedule on the interview schedule form. This information, then, enabled the interviewer to not only prepare for the upcoming interview, but it aided the interviewer in conducting a more focused interview with the patient. Essentially, it prevented the interviewer from becoming confused by the patient's confusion.

Follow-up Interview with the Patient

Although the investigator would have preferred to conduct the patient interviewing, given that this was an exploratory study and such interviewing is often critical to follow-up on unanticipated remarks, many considerations led to the decision to have this interview conducted by a trained interviewer from the community. First, it was evident that the home interview should remain as separated as possible from the observation so that the patient could feel free to admit his or her non-compliance and to share more frank opinions about the nature of that visit. Second, the task of locating patients within a short period of time and gaining their cooperation seemed more adequately done by people who knew the area and who knew how to quickly establish rapport with others who lived in the area. Third, a considerable number of the patients was not bilingual. As a result, it was decided to hire and train some interviewers from the project. Fortunately, the director of the research department had considerable skills in this area and

was able to assist in the hiring and the training process.

The interviewers who were Black and Puerto Rican and members of the community were trained in the areas of general interviewing skills(remaining neutral, probing, following up inconsistent responses and so forth), the particular skills which would be necessary with the schedule which had been developed, and how to identify and record information about medications which the patient might have. Through the use of role-playing, tape recorders and samples of medication, they were taught how to manage a variety of situations which might occur. Fortunately, some of the interviewers had just finished working with an anthropologist who had conducted an ethnographical study in the same area;consequently, they came to the study with many additional skills in recording and observing social interaction.

During the study the interviewers were matched with the patient by ethnicity. After being assigned to a group of patients, it was the interviewers' responsibility to contact the patients, arrange an interview with them at their home, and conduct the interview as soon as possible within the preferred time period. If the patient could not be contacted by telephone, the interviewer was asked to make at least three attempts to locate the patient at the patient's home. If that failed, a letter was sent to the patient in an effort to elicit cooperation. Upon first contact with a member of the interviewing staff, the patient received a more lengthy explanation about the purposes of the survey component and the

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fact that they(the interviewers) were members of the research department at the health center and that it was their job to talk to patients as a way of evaluating and, hopefully, improving the health center. Every effort was made to reiterate that they were not part of the patient's health team and that the interview would be confidential. In many cases, the task of explaining the project was made easier by the fact that the project assistant had been able to make contact with the patient while the patient was at the clinic on the day of the observed doctor - patient encounter. If that was possible, the project assistant gave an initial introduction, a letter which explained the purposes of the project and the fact that someone would be contacting the patient for an interview, and in some cases was able to make the interview arrangements. It should be emphasized, however, that the patients received no forewarning that the interview would contain questions about their use of medication. Rather, they were given a more general explanation that many questions would be asked and that the interview would take about an hour.

Before proceeding, it is perhaps important to clarify certain components of the follow-up interview, particularly the section in which the patient was presented with what the interviewing team called the "drug calendar"(a legal-sized form upon which was written the dates of the previous week or the number of days since the observed visit). This form was used as aid in obtaining the patient's report about how he or she had been using the medication since the date of observation. The interviewers were encouraged to ask questions

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about a) what day the patient began, continued or discontinued 68
the medicine, b) the days on which no medicine had been taken,
c) the frequency and amount of medicine which had been taken
on the days, d) how the medicine was taken (e.g. "How do you
usually take that one? With water or something else?") and
e) when the patient usually took the medicine during the day.
Although there was no way to standardize these questions,
given the various patient regimens, the interviewers received
much training and practice on how to conduct a focused interview
during this section of the home visit. Interestingly, they
became quite adept at asking the appropriate questions and asking
probing questions which would give them subtle cues about the
truthfulness of the patients' reports. In many cases they would
add to their notes that they doubted the patients' report. When
the patients' reports were later compared to the bottle check
and pharmacy data, these predictions were often accurate.

Bottle Check

Since the procedures used for the bottle check have already
been described, a repetition will not be made. It should be added,
however, that the data obtained from this later segment of the home
visit were essential in the sense that patients, on the average,
over-reported their use of at least one medication in 24 per cent
of the cases. Although a discussion of these data will not be included
in this report, it might be added that this finding is similar to
that which has been reported in the literature by those investigators
who have made intensive efforts to obtain data of this nature(see
Chapter One, p. 30). The bottle check data were regarded as more

more valid under these circumstances.

MEASUREMENT

Since an elaboration of the many measurements which were eventually made would require an extremely lengthy discussion, this author has made a special effort to describe the techniques in each of the following chapters in order that the reader can assess all types of data as they become relevant to the particular discussion. The exception is that special emphasis should be placed on the method of measuring patient compliance with the physician's prescribed treatment plan. In this case, compliance was defined as a situation in which the patient had taken at least 75 per cent of the prescribed medication. If the patient had received a "proscription" (i.e. an instruction to discontinue the drug), compliance was defined as having taken none of the medication after that advise. These figures were arrived at by calculating the difference between the amount which would have been expected if the patient had followed the physician's treatment plan and the amount which was reported by the patient. If the bottle check conflicted with the report of the patient, the former data were used to calculate the extent to which the patient had complied with the treatment plan. Calculations were made for each individual medication.

METHOD OF ANALYSIS

Since the major purpose of this project was to generate, not test, hypotheses and theory, no statistical tests will be

given throughout this report. Instead, the discussion will reveal how the general working hypothesis was gradually modified to fit the facts which were collected and how the study of negative cases led to new explorations and qualifications of the various hypotheses which emerged during the exploratory study. The reader will note that this method is similar but not completely the same as the method of analytic induction or enumerative induction, the latter being a method which implies that the investigator is satisfed with less than the universal requirement of analytic induction.[6] While this method of analyzing the data is not in line with many of the sophisticated techniques which have been developed by sociologists in recent years, especially with the added technology of the computer, this author would agree with the following statement by Pitirim Sorokin, in his Fads and Foibles of Modern Sociology.[7] Indeed, it is an appropriate conclusion.

> ...they(Stouffer and others) do not apply the most elementary rule of the scientist--not to accept any dogmatic statement without testing its accuracy... they simply swallow estimates made by largely unknown persons and arrived at by ways largely unknown to the authors.
> ...In their naked reality their 'operational rites' are but the operations of collecting untested opinions ...instead of directly studying the phenomena, and in lieu of making their own analysis and definition to somebody else. The substitution of somebody else's opinions for a real study of the phenomena goes so far that many operationalists seldom come in direct touch with facts pertinent to the inquiry. (pp. 38-39)

[6] For a discussion of analytic induction and enumerative induction, see, W.S. Robinson, "The Logical Structure of Analytic Induction," American Sociological Review, 16(December, 1951), 812-818.

[7] P. Sorokin, Fads and Foibles in Modern Sociology(Chicago: Henry Regnery Co.), 1956.

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CHAPTER THREE

LEARNING HOW TO TAKE MEDICATION: THE NATURE AND OUTCOME OF PHYSICIAN INSTRUCTION

INTRODUCTION

This project began with many of the same implicit assumptions which have characterized previous research in the area of patient non-compliance. Specifically, it was assumed that the patient knows how to perform the patient role but for various reasons does not agree that he should perform as the physician expects. The problem, then, was focused upon isolating the correlates of patient acceptance or motiviation rather than patient recall and comprehension or understanding of the doctor's orders. Non-compliance was assumed to be a product of conflicting values, attitudes or norms about what should be done. Related to this basic assumption, the patient role was assumed to be fairly simple and unambiguous. The review of the compliance literature had suggested that the identification of the "medical norms" for patient behavior would not be problematic.

Observations during the initial phases led to the recognition and questioning of these implicit assumptions. First, the content of the doctor-patient encounters indicated that when the patient returned to the clinic the doctor sometimes had to clarify earlier instructions. The following observations illustrate the clarification process.

EXAMPLE A

Dr. Have you been taking the medicine for the gout?

Mr.A. No, I stopped that when the pains went away.

Dr. You shouldn't have done that. I wanted you to continue taking it as that medicine prevents gout attacks.

Mr.A. (note of surprise) Oh, I didn't know that! You didn't tell me that last time.

EXAMPLE B

Dr. Now, I want you to take the Indocin twice a day.

Ms.B. Do I have to keep taking the medicine I got from Dr. Black last month?

Dr. (looking in chart): You mean the medicine for the gas?

Ms.B. Yes.

Dr. Are you still taking that?

Ms.B. Well yes, I thought I was supposed to.

Dr. No, you can stop that. You only have to take that when you have gas.

In both examples, non-compliance had apparently occurred: patient A had under-estimated the length of time that he was suppose to take the drug and patient B had over-estimated the expected length of time. Neither patient seemed to have rejected the original advice.

A second observation suggested that these situations were not simply examples of "selective recall" or attempts to "hide" intentional

non-compliance. In an attempt to define what the physicians had expected of the patient so that a rigorous measure of non compliance (the discrepancy between "expected behavior" and "actual behavior") could be obtained, the researcher was similarly confused and uncertain as to what the physician actually meant by various instructions at the time these orders were given. After the patients had left the doctors' offices, it was often necessary to ask a number of questions: how long did you want the patient to take medicine A, did you want the patient to take medicine B every day or just when needed, how many times per day is medicine C supposed to be taken, or did you want the patient to discontinue medicine D? Essentially, the researcher had difficulty ascertaining which medicines were to be continued and discontinued, which were supposed to be taken for what length of time and so on. Further, it was found that the observations, the medical record and the written prescription requests were not always consistent. At other times, the patient reported to the interviewer that they had other drugs at home which they were supposed to be continuing.

The observational experience was provocative, especially when the differences between the researcher and typical patient in this clinic were considered. Unlike many patients, the observer was English-speaking, college educated, and not in a state of pain, fear or confusion which might be related to illness or the experience of being in a busy doctor's office. Even more disconcerting was the fact that the observer was able to take notes of the verbal instructions given by the physician and had continued and easy access to

the medical record of the visit, the pharmacy files, and various reference materials.

These observations suggested that the issue of patient recall and shared understanding of the instructions must be separated from the issues of patient acceptance and motivation to perform according to medical advice. The need to investigate the content and process of the doctor's attempt to socialize the patient was clear. Since patient assumptions regarding the physician's expectations were not always congruent with the physician's explicit and implicit expectations and since this lack of congruent interpretation seemed to occur in those instances where the physician had not made his expectations explicit, the following questions were raised for more systematic analysis:

1. To what extent does the physician explicitly define or communicate what he expects the patient to do?

    a. Does the doctor tell the patient when to stop the medicine or for how long it must be continued?

    b. Does the doctor tell the patient how much to take, how many times per day, when to take the drug and the circumstances under which these orders may vary?

    c. Does the doctor communicate the regularity with which the drug should be taken, whether every day or as needed?

2. Does explicit communication (an independent variable) increase the probability that the physician and the patient will have a congruent understanding of the scope and the meaning of the instruction?

3. Does explicit communication increase the probability that the patient will comply with the physician's orders in the specific or general sense?

The primary objective of this chapter is to answer these questions regarding the relationship between physician communication and patient understanding and subsequent compliance. The doctor-patient encounter is viewed as a social situation in which the physician, through communication and language, attempts to transmit certain information, expectations and guidelines for patient behavior. Utilizing observational and interview data, it is shown that the physician does not usually give explicit instructions and that the lack of same is associated with patient misunderstanding and non-compliance in specific directions and in a general sense. It is further concluded that written communication and consistent communication are associated with greater patient understanding of what the physician expects. It would appear that a certain proportion of non-compliance is "unintentional," in other words, some non-compliance occurs without any intention on the part of the patient to reject medical advice.

THE FORMS AND FUNCTION OF COMMUNICATION: PRELIMINARY NOTE ON THE PHYSICIAN - PATIENT ENCOUNTER

Like other humans engaged in interaction, the physician uses language and various forms of communication to transmit expectations, information and norms for patient behavior: verbal statements, written statements (the container label), and other non-verbal forms such as facial and bodily gestures as well as the speed and tone of the voice and inflection. In this project, the focus is upon the written and explicit verbal statements.

Given the exigencies of the clinic situation -- the physician's need to take a history, do a physical examination, review past records, record results and decisions, and arrange for further diagnostic and treatment procedures in a relatively brief period of time, it is not surprising that physician communication about how and why certain drugs should be used is often limited to brief, hurried statements and that many of the physician's expectations are not made explicit or written down for the patient. Certain things are taken for granted when instructing the patient just as things are taken for granted when examining or questioning the patient. Indeed, social activity of any kind could not go on smoothly if each person had to make explicit all that he really meant by a verbal or non-verbal message. Interaction would be time-consuming inefficient and perhaps offensive in that repeating that which "everybody knows" implies an assumed need for information or ignorance on the part of the other person. Communication, then, is often attempted by means of cues, symbols or more short-cut methods of classifying people, events, objects or ideas. There is often no need to engage in elaborate discourse in order to achieve a common understanding of messages or intentions simply because persons already share a consensus on terms and share an experience which enables then to know that the other person already knows what he needs to know for the message to be interpreted as intended, and perhaps even how he will accept the statement. Two persons with a similar experience (e,g, husband and wife, members of the same profession) can perhaps communicate more quickly and effectively with each other simply because <u>meanings</u> do not have to be made

explicit and spelled out in detail for mutual understanding to occur.

On the other hand, the medical and pharmaceutical sciences have advanced to a point that the layman cannot possibly know the appropriate uses or indications of the many drugs which are now available.

Although the average physician may be able to take it for granted that the average patient in this society already knows that pills should be swallowed, that suppositories and ointments should not be taken by mouth, and that aspirin can usually be taken as needed for pain or fever, there are many things which cannot be taken for granted, given the layman's lack of experience with medical technology and its use.

The medical encounter, then, becomes a situation in which the patient must <u>learn</u> how to use drugs in order to maintain a healthy status or return to maximum health. In sociological terms, the patient must learn a specific patient role: a) which drugs the physician wants continued, discontinued and started; b) the length of time that each drug should be taken; c) the dosage schedule of each drug and d) the regularity of the expected usage. For the purposes of the analysis below, the patient has a "congruent role perception" if the patient can identify the physician's expectations on each of these dimensions. As indicated earlier, this means that the patient simply understood what the doctor expected of him and

does not yet imply acceptance or agreement that this advice should be followed.

The physicians' expectations were determined by observation of the doctor-patient encounter, the physician's recorded notes in the medical chart, the written prescription requests sent to the pharmacy and non-systematic interviewing of the physician, as described earlier. The patient's perception of what the physician had expected was measured by means of open-ended questions in a semi-structured home interview which was conducted about 5-7 days after the observed visit.

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[1]The interview questions which pertained to the patient's perception of physician advice were as follows:

Did Dr.____give you any medicine last____?
What kind of medicine did Dr.____give you? (if yes to above)

If the patient did not report all those that had been advised, the interviewer was instructed to probe whether the patient knew he was supposed to be taking any other medicines. The interviewer was instructed to probe whether the patient was currently taking any other medicines which might not be included on the list of those advised at the last visit.

The patient's perception of the physician's expectations for each drug was assessed by the following:

> "There are so many medicines nowadays that it is sometimes hard to know just how a person should take each one. If possible, I would like you to think back to your visit with Dr.____last)____ (day) ..."

a) Did Dr.____want you totake the____(each drug) <u>every</u> day?
b) Did (he/she) want you to take it even when you feel better?
c) Did (he/she) want you to take it at any certain time of the day?
d) How long did Dr.____want you to keep taking the____?

Interviews also probed the patient's understanding of his dosage schedule.

WHICH DRUGS SHOULD BE TAKEN?

Before a patient can conform as expected he must at least recall which drugs the physician expected him to take. Of the 347 drugs which were prescribed or proscribed, patients did not recall six per cent (n=21). In other words, the patient did not remember that the doctor had wanted him to take a certain drug. Although it is possible that patients selectively recalled those drugs which fit their conception of what should be taken, it did not appear to be this simple. As shown in Table 3:1, recall was associated with whether the patients had had experience with the drug and whether they received a supply at this visit.[2]

TABLE 3 : 1

PATIENT RECALL OF PRESCRIPTIONS BY
DRUG HISTORY AND WHETHER SUPPLY WAS DISPENSED

DRUG HISTORY AND SUPPLY DISPENSED	RECALLED PRESCRIPTION	DID NOT RECALL PRESCRIPTION	TOTAL (n)
NEW PRESCRIPTION			
No Supply Given	31% (4)	69% (9)	100% (13)
Supply Given	93% (124)	7% (9)	100% (133)
HAD HAD A PREVIOUS PRESCRIPTION			
No Supply Given	97% (92)	3% (3)	100% (95)
Supply Given	100% (106)	- -	100% (106)
TOTAL	94% (326)	6% (21)	100% (347)

[2]Whether the patient has ever received the drug prior to the observed encounter was determined by reviewing the medical charts. Whether the physician gave a supply was known by reviewing the pharmacy files.

In some cases, the physician had given a new prescription but seemed to have forgotten to write out a prescription for that drug. The medical record showed that the doctor wanted the patient to be taking that drug, but observation indicated that no request had been written for a supply to be dispensed. In other cases, the physician had verbally instructed the patient to take certain agents which are available without prescription (e.g. aspirin or lotions). These orders were not recalled as well as when the physician had actually supplied these agents through the clinic pharmacy, however. The fact that most of the unreported drugs were new prescriptions and drugs for which no supply had been given suggests that patients were not selectively reporting their perception of the doctor's advice as implied by at least one investigator who also found that patients did not report all of their drugs.[3]

FOR HOW LONG SHOULD THE DRUG BE TAKEN?

Although many patients were receiving new prescriptions (n=146), the physicians did not as a rule make an explicit verbal statement about how long the patient was expected to take the drug. Content analysis of the observation notes showed that the physician was explicit (e.g. "Take it until the next time you come"; Finish the bottle"; "Take it for 10 days"; "Take it until the ear clears up") in only ten (10) percent of the cases. In those cases where the physician did make an explicit statement regarding length of time (n=35), the patient was more able to identify what the physician expected on this dimension (see Table 3:2).

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[3]Davis, op.cit., 1968

TABLE 3 : 2

PATIENT PERCEPTION OF MEDICAL ADVICE (LENGTH OF TIME) *
BY PHYSICIAN COMMUNICATION

PHYSICIAN COMMUNICATION	CONGRUENT ROLE PERCEPTION	UNCERTAINTY OR ROLE ERROR	N.A.	TOTAL(n)
Expected Length Made Explicit	74% (23)	26% (8)	(4)	100% (35)
Expected Length Not Made Explicit	48% (126)	52% (135)	(47)	100% (308)
Not Ascertained	-	(3)	(1)	(4)
TOTAL	50% (149)	50% (146)	(52)	100% (347)

* In this table and the following ones, the patient's perception of medical advice was not ascertained for various reasons: a) the patient did not recall the drug being prescribed (n=21); interviewer error (these were usually drugs which the patient mentioned as part of his regimen but which were not mentioned at visit or noted in medical chart) and c) interview terminated due to patient fatigue or limited time.

As Table 3:2 indicates, patients knew what the physician expected in 74 percent of the cases when they had received explicit communication; whereas, only 48 percent of the drugs in the less informed group were similarly understood. While most of the patients simply reported that they did not know what the doctor expected in this respect, at least 25 of the cases represented definite errors in over-estimation or under-estimation of the expected length of time, as illustrated in the following:

Physician's Interpretation of How Long to Take Drugs		Patient's Perception of Physician's Orders
Dr. 000:		Ms. 001:
1) Discontinue antihistamine #1.	*	1) Continue pills "for sinus"
2) Begin taking antihistamine #2.		2) Begin medicine "for itch"
Dr. 000:		Mr. 004:
1) Refill and continue taking antidiabetic	*	1) Discontinue pills "for sugar"
2) Continue hypotensive drug		2) Continue pills "for high blood"
3) Begin taking a diuretic		3) Begin "new sugar pills"
Dr. 000:		Ms. 027:
1) Continue sedative	*	1) Continue "nerve pills" until feel better
2) Continue diuretic	*	2) Continue "pressure pills" untill better
3) Begin hypotensive drug and continue until next visit.	*	3) Begin "asthma pills" and discontinue when asthma attack is over
4) Begin suppositories and discontinue when asthma attack subsides.		4) Begin suppositories and discontinue when asthma attack is over.

In the above illustrations, the physician's interpretation of what the patient should be doing is noted along with the respective patient perception. In each of the cases in which the patient had incorrectly inferred what the physician expected (noted by asterisk), observational data showed that the physician had not made this expectation explicit (the actual communications are not given above). Ms. 001 did not realize that she had been given another antihistamine and that the first one should be discontinued. Mr. 004 did not realize that his new prescription (#3) was for the control of his hypertension. Rather, he assumed that the physician had changed his medicine for diabetes (#1) by giving a new drug (#3). Ms. 027,

a patient with hypertension and an acute asthma attack, assumed that her new medicines (#3 and #4) were both for relief of the asthma attack. She had not been told by the physician that the third medicine was a new prescription to control her hypertension and that it should be taken on a regular basis until the next appointment.

Although the data summerized in Table 3:2 provide support for the hypothesis that physician communication increases the probability that the doctor and the patient will share a common interpretation of the medical advice, it also shows that explicit instruction is not a necessary condition: 48 percent of the drug instructions were understood even though the patient was not told how long to take the drug. Likewise, it is obvious that being told how long to take the drug is not a sufficient condition for a congruent role perception in that 26 percent of those who were told still could not identify what the physician had expected. (The examination of these negative cases is the primary objective of Chapter Four.)

Written Communication (Container Labels)

Analysis of the container labels which were requested by the physicians showed that patients did not usually learn how long the drug should be used by reading their container labels. Of the 239 cases in which a supply had been dispensed, the physician noted the expected length of time in only ten (10) cases (e.g. "Take 1 capsule four times a day for 10 days"). In each of the ten

cases, the patients were able to identify the doctor's expectations regarding the length of time that the drug should be taken, indicating a high rate of effectiveness for written communication. Apparently, the physicians assumed that the patient would be able to infer which drugs should be taken until the next appointment, which drugs should be taken until the condition subsides and which drugs should be taken for a limited but specific length of time. For example, it is noteworthy that physicians often failed to communicate the expected length of time (verbally or by means of the label) for anti-infective drugs, drugs which are usually prescribed for a specific and limited period of time. Of 26 cases in which the labels and observation were available, it was found that only 7 were given a verbal or labelled instruction about the length of time that the anti-infective should be used.

Compliance: Length of Time

It is now appropriate to ask: does the patient's knowledge of the physician's expectation regarding length of time increase the extent to which the patient will actually use the drug as long as expected? Utilizing patient report of their behavior and independent validation by means of a bottle check by the interviewer, it was possible to relate patient understanding of a specific element of his role to a specific type of non-compliance (taking the drug longer than expected or shorter than advised). The results are shown in Table 3:3. In general, most patients took their drugs as long as the physician expected: 80 percent of the drugs were

taken as long as expected by the physician.

TABLE 3 : 3

LENGTH OF TIME PATIENT USED DRUG BY PATIENT PERCEPTION OF ROLE (LENGTH OF TIME)

PATIENT ROLE PERCEPTION	TAKE AS LONG AS PRESCRIBED	DID NOT TAKE AS LONG AS PRESCRIBED*	N.A.	TOTAL(n)
Role Congruent	91% (115)	10% (12)	(22)	100% (149)
Role Uncertain	81% (92)	19% (21)	(8)	100% (121)
Role Error	21% (5)	79% (19)	(1)	100% (25)
TOTAL	80% (212)	20% (52)	(31)	100% (295)

* Non-compliance regarding length of time includes those who took the drug longer than the physician expected and for a a shorter length of time than expected.

If the patient could correctly identify the physician's expectation (role congruent), then there was a higher probability of compliance: 91 percent of the drugs in this group were taken as prescribed. In comparison, there was less compliance among patients who were uncertain or in error, 81 percent and 21 percent, respectively. Case studies further suggested that the compliance rate might be affected by the point at which the patients' behavior was measured. Many of the patients who had an erroneous conception of what was expected may have been compliant simply because the time at which they thought the drug use was supposed to end had not yet arrived by the time of the interview (usually within 5-7 days of the visit). In other words, they were still taking the drug because

their symptoms had not subsided. Since many felt that the doctor wanted them to stop when the sympton cleared up, it is plausible that non-compliance would occur at a future time.

DOSAGE SCHEDULE

Although one might think that explicit verbal communication regarding dosage schedule is not necessary because physicians usually dispense containers which are labelled to that effect, it was found that patients were not always able to identify the most recent dosage expected by their doctor, the meaning of the prescribed schedule and so on. Of the 313 cases for which the patients' interpretation of the dosage schedule were known, the patients' interpretation was incorrect in 33 cases (11 percent). Since there were so many different types of dosage schedules, a general correlation between physician communication and patient perception of that communication was difficult. Instead, it was decided to isolate the different types of scheduling errors and attempt to compare effectiveness of the various communications which had been given in these cases.

Ambiguous Instructions: The Antibiotics

One type of error seemed to be associated with ambiguity of the order, namely, the instruction to take "x capsules every x hours." It was ambiguous because it did not specify or make explicit the number of times per day, whether the drug should be taken every x hours or merely every x hours during the waking

hours. While most patients correctly assumed that this statement meant as many as or no more than x capsules every x hours, in the case of medications for symptomatic relief, this interpretation was usually not congruent with the physicians' interpretations when antibiotics were prescribed. In the latter case, the physicians usually meant to define certain maximum as well as minimum limits for patient behavior. Since the physicians' communication and prescribing behavior regarding the dosage schedule for antibiotics varied, it was possible to examine the effects of more explicit instructions which specify the number of times per day that these drugs should be used.

Drs. 000 and 200 consistently prescribed antibiotics in hourly terms (x every x hours); whereas, the other six physicians consistently specified the number of times per day. In none of the cases did Dr. 000 or 200 explain what they meant by their hourly direction. The apparent result was that their patients were more likely to under-estimate the expected dosage for the entire day. Most assumed that they had been given the maximum limit only. In one exception, Mrs. 008 described her difficulty in interpreting what the physician had meant by the instruction "two capsules every 6 hours":

> I knew I was supposed to take the medicine for 10 days so I counted the pills when I got home...found that I had 40 and then figured that that would be 4 pills a day -- 2 in the morning and 2 in the afternoon, 6 hours apart.

Although the patient's arithmetic was correct, her calculations did not lead to a meaning which was congruent with the physician's implicit assumptions. Unfortunately, the patient was not aware that the pharmacist had given her a lower number of tablets than had been requested by the physician.

It was further found that ambiguous instructions for antibiotics were associated with greater non-compliance. Patients who received specific instructions (n=9) took, on the average, over two times as much of the expected amount as did those patients who received less explicit instructions (n=5).[4]

Dosage Change: Written Versus Verbal Communication

Another type of error was found among patients who were told to change the dosage schedule of the drugs which they had received at previous visits, about one-fourth of this group was unable to report the physician's current dosage expectation (see Table 3:4).

The case studies of these errors suggested that such errors were also associated with varying communication practices among the physicians. One physician in particular (Dr. 700) had the tendency to change the patient's dosage schedule by verbal instruction only.[5] This practice was in contrast to the practices of other physicians who were more apt to a) encourage the patients

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[4] In other words, a patient who was told to take 2 capsules every 6 hours took, on the average, less medicine per day than did a patient who was told to take 2 capsules four times a day.

[5] Dr. 700's reliance upon verbal orders might be related to the fact that he tended to prescribe a higher number of drugs, especially in the cases of hypertension. Rather than writing new prescriptions for maintenance drugs, Dr. 700 usually told the patient to refill the medication as the patient saw necessary.

to write down the current dosage, or c) write completely new prescriptions which would more accurately reflect the recent dosage which should be taken (the latter was more common).

TABLE 3 : 4

PATIENT PERCEPTION OF MEDICAL ADVICE (DOSAGE CHANGE) BY PHYSICIAN COMMUNICATION

PHYSICIAN COMMUNICATION	CONGRUENT ROLE PERCEPTION	ROLE ERROR	N.A.	TOTAL
Written Instruction (Physician Altered Old Container)*	100% (7)	-	-	100% (7)
Written Instruction (Physician Gave New Container)	80% (16)	20% (4)	-	100% (20)
Verbal Instruction Only	56% (9)	44% (7)	(2)	100% (18)
TOTAL	74% (32)	26% (11)	(2)	100% (45)

* In several cases, the physician wrote the new schedule on a piece of paper, gave it to the patient and encouraged him to make the change at home.

The latter methods (high use of written communication) seemed to prevent low recall and promote higher rates of compliance on this specific dimension. As shown in Table 3:4, 26 percent of those who had been told to change their dosage could not report what the physician now expected. For the most part, these patients were relying upon outdated containers. There was no error among those who had had their old container altered or who had been given a

list of the changes. In those cases where the patient had received a new container, there was error in 20 percent of the cases. The highest rate of patient error was among those who had received only verbal instructions (44 percent). Again, written communication appears to be more effective in achieving patient recall and understanding.

As in the case of antibiotics, the different labelling practices were associated with varying degrees of compliance. Table 3:5 shows that receiving an altered label was related to compliance. Receiving a new container is associated with higher rates of dosage compliance than receiving only verbal advice to change, 63 percent versus 28 percent.

TABLE 3 : 5

PATIENT COMPLIANCE WITH CHANGED DOSAGE SCHEDULE BY PHYSICIAN COMMUNICATION

PHYSICIAN COMMUNICATION	TOOK PRESCRIBED DOSAGE	DID NOT TAKE PRESCRIBED DOSAGE	N.A.	TOTAL(n)
Altered Old Container	100% (7)	-	-	100% (7)
Dispensed New Container	63% (12)	37% (7)	(1)	100% (20)
Verbal Only	28% (5)	72% (13)	-	100% (18)
TOTAL	55% (24)	45% (20)	(1)	100% (45)

The Pharmacy:Fit Between Doctors' Orders and Bottle Labels

A third type of error was associated with receiving labels

which were not consistent with verbal instructions made by the physician. Of the drugs which were dispensed at the clinic pharmacy (n=239), it was possible to compare the doctor's written request and labels which were actually attached by the pharmacy in 179 cases.[6] It was found that 20 percent (n=35) did not "fit" or were not consistent with the physician's prescription form (see Table 3:6). To some extent, receiving an inconsistent label increased the patient's inability to correctly identify the physician's desired dosage schedule. In some cases, the pharmacist had omitted or incorrectly specified the physician's statement regarding the purpose of the drug with the apparent result that the patient incorrectly inferred which symptom indicated drug use. In other cases, the pharmacist had not translated the instructions into Spanish as requested. Finally, some containers were dispensed without individualized labels which would have instructed them to take considerably larger amounts on a more frequent basis than indicated on commercial labels (e.g. antacids). The relationship between prescription/label "fit" and patient conception of dosage schedule is shown in the Table 3:6.

These data suggest another dimension of the socialization process, namely, that other medical professionals and staff may also play a role in facilitating or inhibiting the patient's knowledge of how to use drugs. It cannot be assumed that medical professionals coordinate and reinforce the effort to educate or motivate the patient.

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[6] In addition to counting the remaining medication, the interviewer was instructed to copy the container labels and to describe the appearance of whatever was in the container. These data were later compared with the physicians' written requests.

TABLE 3 : 6

PATIENT PERCEPTION OF MEDICAL ADVICE (DOSAGE SCHEDULE) BY FIT BETWEEN PRESCRIPTION AND LABEL

FIT BETWEEN PRESCRIPTION AND LABEL	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL(n)
Fit	94% (136)	6% (8)	100% (144)
Not Fit	77% (27)	23% (8)	100% (35)
TOTAL	91% (163)	9% (16)	100% (179)

REGULAR VS. SYMPTOMATIC USE

A content analysis of observation notes also showed that physicians did not usually make explicit statements regarding the regularity with which they expected the patient to take the drugs: 17 percent of the drugs (n=57) were given with explicit verbal instruction on this dimension. Likewise, many drugs given for symptomatic use were not labelled in an explicit manner. Of the 97 prescription requests made for drugs to be taken for symptomatic relief, only 42 prescriptions included a statement "as needed" or "as necessary." For example, one-third of the analgesics given for relief of pain or fever were dispensed with labels which did not mention that the medicine was for pain or fever or that it should be taken "as needed." In these cases, the labels simply stated "Take x tablets x times a day" (or every x hours). On the other hand, the physician did not expect the patient to take these pain relievers on a regular basis unless pain was perceived.

Several physicians recognized that their labelling was at times incomplete. As one stated to the researcher, "I don't always write that (as necessary), but that's what I mean."

When the physician's communication behavior was related to the patient's understanding on this dimension, the feelings were not as clear as in the other areas, however. As shown in Table 3:7, explicit verbal instruction regarding regularity (e.g. "Take this every day" or "Take this as needed for dizziness") reduced patient uncertainty and error but the difference was not very large (90 percent versus 82 percent).

TABLE 3 : 7

PATIENT PERCEPTION OF MEDICAL ADVICE (REGULARITY) BY PHYSICIAN COMMUNICATION

PHYSICIAN COMMUNICATION*	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	N.A.	TOTAL (n)
Regularity Made Explicit	90% (44)	10% (5)	(8)	100% (57)
Regularity Not Made Explicit	82% (202)	18% (45)	(39)	100% (286)
N.A.	(2)	(2)	-	(4)
TOTAL	83% (248)	17% (52)	(47)	100% (347)

* Verbal

Clearly, other factors are operating to influence patient understanding of what the physician expects. When the labelled communi-

cation is examined, a similar result is obtained; explicit instruction reduces patient error but not to any great extent (see Table 3:8). Among patients who had received supplies of drugs for symptomatic use, explicit labelling was associated with 10 percent misunderstanding on the part of the patient. In contrast, 20 percent of the cases in the group with less explicit labelling were cases in which the patient did not know that the drug was for symptomatic use.

TABLE 3 : 8

PATIENT PERCEPTION OF ADVICE (REGULARITY) BY PHYSICIAN LABELING BEHAVIOR AMONG PATIENTS RECEIVING DRUGS FOR SYMPTOMATIC USE*

LABELLING BEHAVIOR	KNEW DRUG WAS FOR SYMPTOMATIC USE	DID NOT KNOW DRUG WAS FOR SYMPTOMATIC USE	N.A.	TOTAL (n)
Symptomatic Use Explicit	90% (35)	10% (4)	(3)	100% (42)
Symptomatic Use Not Explicit	80% (39)	20% (10)	(6)	100% (55)
TOTAL	84% (74)	16% (14)	(9)	100% (97)

* Includes only those cases for which physicians wrote prescription requests for supplies to be dispensed on observation day.

As in most exploratory investigations, the negative cases gain considerable importance since they indicate the need to refine concepts and partial models. These data indicated that there may be

other ways in which the physician teaches the patients what is expected or that other factors interfere with the patients' ability to utilize physician communication as it was intended. In the last section, other physician cues for behavior are discussed. Before approaching that issue, however, it is appropriate to look at the more general picture: the patients' overall understanding and subsequent behavior.

PERCEPTION OF MEDICAL ADVICE: THE ROLE ELEMENTS COMBINED

Of the 347 drugs which had been proscribed or prescribed, patients made at least one error in identifying what the physician expected in 101 cases. (These errors do not include the cases in which patients were uncertain of what the doctor expected). As shown in Table 3:9, the patients' combined perception of medical advice was related to subsequent behavior.

TABLE 3 : 9

PATIENT COMPLIANCE WITH MEDICAL ADVICE
BY PATIENT PERCEPTION OF MEDICAL ADVICE

PATIENT ROLE PERCEPTION	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL (n)
Congruent Role Perception	73% (180)	20% (66)	-	100% (246)
Incongruent Role Perception	16% (13)	84% (69)	(19)	100% (101)
TOTAL	59% (193)	41% (135)	(19)	100% (347)

A high understanding of the role as defined by the physician was associated with 73 per cent compliance; whereas, patients who made at least one or more errors in interpreting what the doctor wanted were compliant on all dimensions in 16 per cent of the cases. As implied earlier, patient knowledge of what the physician expects is not sufficient for compliance, but it appears that this variable approaches the power of a necessary condition.

IMPLICIT CUES FOR BEHAVIOR: THE LANGUAGE OF DRUGS

Just as the researcher's initial confusion during the pilot study led to the analysis of the effects of explicit communication and teaching by the doctor, so did later experiences suggest additional ways in which the physician's expectations can be communicated. Specifically, the observer's unfamiliarity with names and types of drugs, the types of illness and rationale for various common medical treatments was markedly reduced as the investigator began to learn new symbols, concepts and referents for patient behavior. Learning the special language or vocabulary of the medical professionals, especially as it pertained to drugs, reduced the need for explicit, detailed statements and quest for clarification.

Knowing the therapeutic class of the drug (e.g. analgesic, antibiotic, antidiabetic, etc.) often implied knowing the usual medical guidelines or norms for patient use: whether the drug was for symptomatic or regular use, whether the drug should be continued indefinitely, whether the advised dosage should be followed exactly

or was merely a maximum limit and so on. If the physician mentioned the brand or generic name of the drug (e.g. Ampicillin, Orinase, Darvon), it was also possible to infer with some accuracy what the physician implicitly expected of the patient. By "naming" the drugs, the physicians seemed to give cues or short-cut messages as to what they expected.

Observations indicated, however, that physician communication varied in this respect. In some cases, the physician omitted any reference to the drug by its therapeutic purpose and its brand or generic name. Rather, drugs were sometimes referred to by their form, color, size, and other more ambiguous referents, as illustrated below:

> Take the capsule -- one four times a day.
> *
> Take the white tablets every four hours.
> *
> Stop the little blue pills.
> *
> I'll give you something for that (that not made explicit).

The fact that there are many types of "capsules," "white tablets," and "little blue pills" raised the possibility that such referents would be confusing to the patient, especially if he had more than one which fit that description. The communication problem is analagous to telling someone to "meet me at the train station in New York City when there are many different train stations from which to choose. On the other hand, most native residents of New York City would not need a printed map if told to "meet me at the main en-

trance to Grand Central." In the case of giving medication instructions, one might expect that as the physician gives increased orientation as to the nature of the drug the patients' ability to infer the appropriate use is enhanced. These observations raised several additional questions for analysis:

a) Does the physician's verbal or written communication about the purpose of the drug or the name of the drug increase the patient's ability to identify the physician's purpose in giving the drug?

b) Does the patient's knowledge of the drug purpose increase his understanding of how to use the drug as prescribed and his subsequent compliance with medical advice?

In order to answer these questions, a content analysis of the physicians' language pertaining to drugs was done. For the purpose of this analysis, communication was categorized as follows:

1) Labeled purpose:

The label on the container included either general or specific reference to the purpose for which the medication was to be used. (e.g. 1 every 4 hours for pain; 1 tablet daily for pressure).[7]

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[7]Although it was clinic policy to label each container by the brand or generic name unless the physician specified otherwise, it was not until most of the data had been collected that we noted that these names had sometimes been abbreviated by the pharmacist. Since interviewers had been encouraged to use widely accepted abbreviations to ease their task, it was not possible to ascertain which labels had actually been abbreviated by the pharmacist and which had been typed in full. Consequently, it was not possible in the final analysis to ascertain the affects of varying labelling practices on this dimension.

It should be further noted that in many cases the containers were labeled by purpose simply because some of the agents were commercially prepared and included commercial labels with that information. These cases are included in this category even though the physician had not requested that this information be attached. (Commercial labels were defined as "inconsistent" only if the commercial dosage contradicted the individualized dosage which had been advised by the physician.)

2) Verbal Cue:

Physician mentioned the purpose of the drug or its name at some time during the encounter but did not label the drug by purpose.

3) None of the above.

The patients' knowledge of the name and purpose of the drugs was elicited by the following open-ended questions:

a) What kind of medicine did Dr.____give you?
b) Are there any other names for the medicine?
c) Why did Dr.____give you the medicine?
d) How are the____pills supposed to help?

The patients' responses were then compared with the physicians' intended purpose in order to isolate any misconceptions or complete lack of knowledge as to why the drug had been given. Even though patient understanding in this area was usually vague, superficial, and incomplete, such responses were categorized as being congruent with the physician's intentions if misconceptions were not evident and the patient had at least some understanding of why he had been given the drug (e.g. "for the stomach," "for the throat").

The content analysis of observation notes and bottle label information showed that physicians usually gave either verbal or labelled information about the purpose or name of the drug (n=246). This includes those cases in which the commercial labels specify the purpose of the drug. When patients did not receive any verbal or written communication about the purpose of the drug (n=101), there was a greater probability that the patient incorrectly identified the physician's rationale in giving the drug: 40 per cent

of the drugs in this group were not identified correctly (see Table 3:10). Consistent with other findings, label information about the purpose of the drug was most effective in achieving patient understanding of the purpose of the drug: 88 per cent of the drugs in this group were identified correctly or as intended by the physician.

TABLE 3 : 10

PATIENT KNOWLEDGE OF DRUG PURPOSE BY PHYSICIAN COMMUNICATION

PHYSICIAN COMMUNICATION	IDENTIFIED DRUG PURPOSE	DID NOT IDENTIFY DRUG PURPOSE	N.A.	TOTAL (n)
Purpose Stated On Label *	88% (79)	12% (11)	(4)	100% (94)
Purpose or Name Given Verbally	78% (109)	22% (31)	(12)	100% (152)
None of Above	60% (64)	40% (32)	(5)	100% (101)
TOTAL	77% (252)	23% (74)	(21)	100% (347)

* Includes some cases in which the purpose was stated on the label and given verbally.

Proceeding a step further in the analysis, it was found that when the patient was able to identify the drug purpose the probability that he knew how to use the drug also increased. The data as summarized in Table 3:11 show that a congruent role perception is higher when the patient could identify the purpose of the drug than when that identification could not be made, 80 as opposed to 59 per cent.

TABLE 3 : 11

PATIENT PERCEPTION OF MEDICAL ADVICE
BY KNOWLEDGE OF DRUG PURPOSE*

KNOWLEDGE OF DRUG PURPOSE	CONGRUENT ROLE PERCEPTION	AT LEAST 1 ROLE ERROR	TOTAL (n)
Identified Drug Purpose	80% (201)	20% (51)	100% (252)
Did Not Identify Drug Purpose	59% (44)	41% (30)	100% (74)
TOTAL	75% (245)	25% (81)	100% (326)

* Excluding the 21 cases in which patient identification of drug was not obtained due to patient non-report of drug.

Finally, the patient's ability to identify the drug purpose was associated with higher rates of compliance. As shown in Table 3:12, the higher rate of compliance was among those patients who were able to identify the physician's purpose in prescribing the drug: 65 per cent compliance as opposed to 45 per cent compliance among those who had not identified the purpose of the drug.

These data in combination suggest that physician communication about the purpose of the drug indirectly increases compliance by providing the patient with additional cues as to what the physician expects. Knowing that a medicine is for the relief of cold symptoms implies knowing that it should be taken until the symptoms subside, for example. Knowing that a medicine is a "pain pill" implies knowing that it should be taken "as needed" until pain subsides.

TABLE 3 : 12

PATIENT COMPLIANCE WITH MEDICAL ADVICE
BY KNOWLEDGE OF DRUG PURPOSE

KNOWLEDGE OF DRUG PURPOSE	COMPLETE COMPLIANCE	NON-COMPLIANT ON AT LEAST 1 DIMENSION	N.A.	TOTAL (n)
Identified Drug Purpose	65% (161)	35% (87)	(4)	100% (252)
Did Not Identify Drug Purpose	45% (33)	55% (40)	(1)	100% (74)
Drug Not Reported	- -	100% (7)	(14)	100% (21)
TOTAL	59% (193)	41% (135)	(19)	100% (347)

Knowing that a tablet is for diabetes suggests the need to take medicine until advised otherwise by the physician who will monitor the varying need for this drug.

Throughout this chapter, it has been noted that the physician's socialization efforts were neither completely sufficient nor necessary in achieving patient understanding. For this reason, it is imperative that other factors which might inhibit or facilitate a shared understanding between the doctor and the patient be examined. In order to investigate the role played by other factors, it was necessary to develop a combined index of the various verbal and written communications transmitted by the physician, a summary score which would represent the total amount of instruction which each patient had received. This would permit further analyses with

the patient as the unit of analysis.

On the basis of the findings which suggested that explicit, written and consistent instructions increased patient understanding of how to use individual drugs, a combined index of physician instruction was developed and defined as follows:

PHYSICIAN INSTRUCTION:

AN INDEX BASED UPON OBSERVATION

PHYSICIAN COMMUNICATION	WEIGHT *
VERBAL COMMUNICATION:	
Expected Length of Time - Explicit	+ 1
Expected Dosage - Explicit	+ 1
Expected Regularity - Explicit	+ 1
Purpose or Name of Drug Stated	+ 1
WRITTEN COMMUNICATION:	
Expected Length on Label	+ 2
Expected Dosage on Label	+ 2
Expected Regularity on Label	+ 2
Purpose of Drug on Label	+ 2
Label Does Not "Fit" Prescription	- 2
MAXIMUM SCORE FOR EACH DRUG	+12
MINIMUM SCORE FOR EACH DRUG	- 2

* Higher weights were attached to written communications on the basis of findings which showed that these instructions were more effective in promoting patient understanding and recall.

As noted, the amount of instruction for each drug could range from a score of + 12 to a score of - 2. Since the number of drugs given to each patient varied, the patient's total instruction

scores were divided by the number of drugs which had been proscribed or prescribed by his physician to give a mean physician instruction score.

When physician communication was codified in this manner, it was found that the majority of the interviewed patients in this clinic sample received mean instruction scores of less than + 4.0. Only 5 patients received scores of + 8.0 or more. Considering the distribution and the sample size, physician communication was categorized dichotomously: a) high instruction (a mean score of + 4.0 or more) and b) low instruction (a mean score of less than + 4.0). Given these operational definitions, there were 83 patients who had received "low physician instruction" on drug use and 48 patients who had received "high physician instruction."

Consistent with earlier analyses using the drug as the unit of analysis, it was found that the amount of physician instruction was positively associated with the patients' understanding as well as the patients' subsequent behavior. The majority of the patients who had received high physician instruction had a complete understanding of how their drug(s) was supposed to be used: 62 per cent had a congruent role perception (see Table 3:13). In contrast, the majority of those receiving "low physician instruction" made at least one error in defining what the physician expected: 60 per cent had an incongruent role perception.

TABLE 3 : 13

PATIENT PERCEPTION OF MEDICAL ADVICE BY COMBINED PHYSICIAN INSTRUCTION

COMBINED PHYSICIAN INSTRUCTION	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL (n)
High Physician Instruction	62% (30)	38% (18)	100% (48)
Low Physician Instruction	40% (33)	60% (50)	100% (83)
TOTAL	48% (63)	52% (68)	100% (131)

The relationship between the mean instruction score and the patients' subsequent compliance is shown in Table 3:14. The mean instruction was inversely associated with non-compliance, with 71 per cent of those receiving low physician instruction being non-compliant. Patients who had received high instruction were non-compliant in 46 per cent of the cases.

TABLE 3 : 14

PATIENT COMPLIANCE WITH MEDICAL ADVICE BY COMBINED PHYSICIAN INSTRUCTION

PHYSICIAN INSTRUCTION	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL (n)
High Physician Instruction	54% (26)	46% (22)	-	100% (48)
Low Physician Instruction	29% (24)	71% (58)	(1)	100% (83)
TOTAL	38% (50)	62% (80)	(1)	100% (131)

Usually it has been assumed that the patient knows what the doctor wants him to do and that non-compliance is an intentional act in which the patient resists, refuses or ignores medical advice. The patient is assumed to be "uncooperative." The above findings do not support these assumptions in the sense that at least some patient deviation from physician expectations is a function of the fact that patients are often uncertain and in error about what their physician wanted them to do. Of course, it is possible that the patients merely reported the "socially desirable" response, namely, a response which would "fit" or justify their behavior which was not always in accord with what the physician advised. Qualitative data suggest that this was not the case.

First, patients who over-estimated the amount of medicine that they were supposed to take were often critical of the physician for asking them to take so many drugs or to take such large doses. In their opinion, these drugs and dosage schedules created uncomfortable side effects which could have been ameliorated by reducing the prescription. If these reports were valid, it is doubtful that patients would have continued to "over-dose" themselves as some complaining patients did.

Second, patients who under-estimated the amount of medicine that they were supposed to be taking were often very concerned about their

particular condition and that it be treated properly and effectively. If these patients had been told that they were taking insufficient amounts of medicine, it is plausible that they would have become even more concerned that they had erred. A case in point was Ms. 008, a patient who showed great concern that her venereal disease be cured in order to prevent further damage.

Since the interviewers were not medically trained or authorized to intervene when patient misinterpretations of doctors' orders were found, it was not possible to fully probe the extent to which the patient was fully aware of his errors in interpreting medical advice. Ideally, the research design would include a patient interview immediately after the clinic visit so that patient perception of medical advice could be measured before the patient began taking the medicine. Limited resources made this design impossible. It was also felt that an interview of this type would perhaps alter the patients' attitudes or behavior by either raising the notion that he might need further clarification or by suggesting that these medicines were important enough to warrant a post-visit encounter with someone in the clinic, a most unusual event. It was not clinic procedure for a pharmacist, nurse or medical assistant to assess whether the patient had further questions or confusion after seeing the physician.

The design which was used did contribute to our further understanding of how physician-communication is related to patient attitude and behavior. First, it is evident that socialization or

social influence attempts can be quantified in their natural setting and without relying upon physician or patient report of what occurred. Too often, the study of attitudes and behavioral conformity is limited to the university laboratory where college students are persuaded to engage in actions which have little relevance or importance in their daily lives. Being able to quantify social influence attempts in the field enables one to not only investigate the sources of differential socialization practices but the consequences of those efforts.

Second, it is shown that patient non-compliance is not necessarily a uni-dimensional phenomenon: specific types of non-compliance can be isolated and related to physician communication (taking a drug for a period longer or shorter than prescribed, taking a drug at different dosage levels, taking a drug regularly when it should be taken as needed or visa versa). Usually, patient non-compliance has been conceptualized and measured in a categorical or dichotomous manner (compliant or non-compliant). A refinement of this dependent variable enables one to investigate the factors which predict and explain the quantity as well as the content of patient behavior. The focus of the problem becomes less narrow than the one which asks: who will comply and who will not comply?

A third issue raised by these findings is that the measurement of physician expectations, the "patient role" or the "sick role" is not as simple or unambigous as has been assumed in the literature.

As with many informal norms, there is much room for interpretation and it is often difficult for the researcher or the patient to know precisely what the doctor expected. Persistent and systematic inquiry after each visit would have perhaps given more valid data as to what the physician expected, but pilot observations also suggested that other dilemmas would be raised. Pilot observations of several physicians who were not included in the final study suggested that interviewing the physician after each patient encounter was not only disruptive to clinic routine but may have influenced the physician to become more explicit with following patients. The need to minimize observer effect was deemed crucial; therefore, certain compromises had to be made in other respects. Interestingly, the general finding that the physicians did not engage in extensive discussion about how to use drugs or the rationale for using the particular drugs suggests that the presence of the researcher did not really alter physician behavior along the lines which were being investigated. If the observer's presence did increase the physician's role-teaching efforts, then one can only assume that there is very minimum communication when an outsider is absent.

SUMMARY

It has been shown that in this clinic setting physicians did not, as a rule, explicitly define or communicate what they expected the patient to do with the prescribed drugs. Verbal statements and con-

tainer labels were not detailed or specific as to the precise meaning of the instruction. Further, pharmacists did not always comply with the physician's request to label drugs in a certain manner with the result that the patient sometimes received inconsistent communication.

It was found that the variation in communication was associated with variations in the patients' perception of his role as defined by the physician and the variations in patients' subsequent behavior. On the other hand, it was noted that high physician instruction was neither necessary nor sufficient to produce patient understanding: consequently, the need to examine the negative cases and refine the conceptual model is clear. In addition, it is obvious that knowing what the physician expects is not enough to produce conformity. In chapter 7, the more "intentional" aspects of patient non-compliance will be discussed.

CHAPTER FOUR

DECODING THE DOCTOR'S MESSAGE: DIFFERENTIAL RESPONSE TO SOCIALIZATION

INTRODUCTION

Although the physicians' socialization efforts generally increase the extent to which the patient and the doctor develop a shared understanding, it is clear that other variables are operating in such a way so as to neutralize these messages or to reduce the need for explicit instruction from the physician. This chapter represents an effort to examine the negative cases and to isolate some of the conditions which qualify the general hypothesis that instruction from the physician is positively associated with patient understanding of his or her role.

Systematic analysis suggests that there are a number of factors which affect the patient's ability to decode or comprehend what the physician expects: a) the patient's ability to speak the doctor's languages (medical terminology and English), b) the extent to which the patient has had previous experience with the prescribed drugs, c) the complexity of the message or instruction, and d) the extent to which the patient experiences dissatisfaction during his visit with the doctor. It is concluded that the learning of the patient role is facilitated when the patient has had some high school education and speaks English, has had prior experience with the drugs, is asked to perform a simple role, and does not become dissatisfied

during the visit with the doctor.

THE LANGUAGES OF THE DOCTOR'S OFFICE: BARRIERS TO PATIENT UNDERSTANDING OF THE DOCTOR'S MESSAGE

As many social psychologists have noted, a prerequisite of effective socialization is the human's ability to engage in symbolic communication.[1] Language is the means by which values, knowledge and norms for behavior are transmitted. As a child builds a repertoire of symbols in common with adults, he becomes more capable of receiving and retaining complex information about the world around him. As Roger Brown notes, it may not be any different for the adult entering a new situation:

> It is not only children who are engaged in reference games, but any new inductee to a linguistic community...If you go to live with the Hanunoo or among rice growers in this country, they will begin by teaching you their ninety-two names (for rice). If you undertake to study zoology, your teachers will start out by showing you pictures of protozoa, coelenterates, hydra, and the like. It is as if every linguistic community, parents at home or nationals of another country or teachers of a science, adopts the same policy toward neophytes. "Let us begin by defining our terms."[2]

In essence, the neophyte must be prepared to comprehend the language of those who are instructing him as to how to behave or perform in his new role. The student who has learned the ele-

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[1]George H. Mead, Mind, Self and Society, (Chicago: University of Chicago Press), 1934.

[2]Roger Brown, Social Psychology, (New York: Free Press), 1965, 339.

mentary terminology of zoology is more able to utilize a lecture given in an advanced course. Without this training, new information would have little meaning or a meaning which varies from that of his instructor.

In many respects, the patient is also someone who is entering a new "linguistic community," namely, the language of the medical profession. There is some evidence that the layman and the medical professional do not attach the same meanings to various terms which refer to parts of the body, medical procedures and disease entities in spite of the fact that the doctor and the patient often share the same national language and/or other special vocabularies.[3]

Although these studies have provided evidence that the layman does not share the doctors' language and that medical knowledge varies with the lay population, this literature has been limited. First, the terminology selected for study has not been based upon the terms which the doctor actually uses in the course of communicating with the particular patient. Rather, these questions and lists of terms have been arbitrarily selected by the researchers. It is necessary to separate lack of medical knowledge and lack of understanding of what transpires in the actual encounter, since a patient with a low knowledge of medical matters may still be able to understand what the physician has said. Second, there has been almost no effort to investigate the implications of consequences

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[3]See, for example, Lois Pratt et al., "Physicians' View of the Level of Medical Information Among Patients," (October, 1957), 1277-1283.

of the language barrier.[4] The analysis which follow suggests that many patients do not understand the actual language of the doctor and that this barrier interferes with the patients' ability to decode the physicians' instructions and utilize information which would provide more accurate guidelines as to how drugs should be used. In other words, the doctor and the patient do not always share the same meanings for certain categories, cues and symbols which have been used in the message given by the doctor.

During the pilot phase of this study, it was found that even though some patients received explicit instruction about how to use the drugs and were told what type of drug was being given, some simply did not recall or comprehend the meaning of these communications. From the patients' perspective, it was as if they had received a message in a foreign language or a message comprised of nonsense syllables.[5]

For obvious reasons, it was not feasible to ascertain whether and how the patient understood all that had transpired in a natural

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[4]B. Korsch et al., "Gaps in Doctor Patient Communication," Pediatrics 42(November, 1968), 855-871.

[5]The findings in this chapter suggest that patients may fail to recall elements of medical advice because certain concepts are unfamiliar to them. These findings are consistent with the literature on social factors affecting recall. For an early example, of the effort, see F.C. Bartlett, Remembering, (Cambridge: University of Cambridge Press), 1932.

way (at the time of the clinic visit and in context): consequently, it was decided to select a sample of the terms from the observational transcript and to ask the patient for his definition of these particular terms at the home interview. An attempt was made to select those terms which a) the patient might not understand and b) might be key concepts in the patient's understanding of how to use his drugs (e.g. "I'll give you some medicine for the bronchitis," or "Take the potassium every day"). The selection was made by the investigator with additional suggestions being made by the project assistant who was a community resident.

This rather subjective selection was supplemented by a standardized list compiled from pilot observations in this clinic and included, for example, commonly used terms such as high blood pressure, diabetes, antibiotic, and tranquilizer. If the patient had some understanding of each selected term and/or the terms from the standard list which were mentioned by his doctor, then this patient was categorized as having "high understanding" of the terms used by the physician. These responses were categorized very liberally, in other words, any response which indicated a slight understanding was coded as some understanding. In order to maximize the conditions under which the terms had been used, the term was presented in the language which had been used by the doctor or medical assistant (English versus Spanish).

Utilizing this combination of data sources, it was found that about 60 per cent of the patients did not recognize or incorrectly

defined at least one term which had been selected from the observed encounter. These findings are summarized below:

TABLE 4 : 1

PATIENT UNDERSTANDING OF TERMS USED BY THE DOCTOR

UNDERSTANDING	%	(n)
High Understanding	25.2%	(32)
Low Understanding	61.4%	(78)
No Terms Selected	13.4%	(17)
Not Ascertained		(4)
TOTAL		(131)

As noted in Table 4:1, there were 17 cases in which it was the observer's judgment that the physician had not used any terminology. For the most part, these visits were comparatively brief and simple. Later interview material confirmed the observer's judgment in the sense that most of these patients denied that the doctor had used "medical words" during their visit.

In order to give the reader an idea of the variety of terms which were selected and misunderstood by the patients, the following list of examples is presented:

TERMS WHICH WERE NOT UNDERSTOOD BY AT LEAST ONE PATIENT:
SOME EXAMPLES

Virus Infection	Artery	Antibiotic
Fungus Infection	Kidney	Antiseptic
Monilia	Uterus	Tranquilizer
Dermatitis	Vagina	Decongestant
Contact Dermatitis	Rectum	Potassium
Osteomyelitis	Liver	Estrogen
Laryngitis	Intestine	Hormone
Bronchitis	Gallbladder	Minerals
Enteritis	Pancreas	Sodium
Pneumonia	Adrenal	Long Acting Tablet
Hyperventilation Syndrome	Sternum	Tylenol
	Groin	PhisoHex
Gout	Joint	Librium
Hypertension	Cartilage	
High Blood Pressure		
Tachycardia		
Peptic Ulcer		
Diabetes		
Rheumatic Fever		
Nausea		

In general, the content of the patients' responses indicated that many were unable to differentiate parts of the body, bodily conditions and/or substances or agents which are used by the doctor to treat those conditions.[6] The patients did not always share the physicians' system of classifying and referring to organs, illness, drugs and so on. In spite of the fact that it was not possible to systematically investigate the patients' systems of organizing such matters, several trends emerged from the data.

First, a limited knowledge of the medical profession's criteria for classifying and naming diseases was closely related to a limited

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[6]The fact that lower class patients are less able to differentiate bodily organs and functions has been noted by Rainwater who suggests that lower class women have a limited understanding of the reproductive system, for example. L. Rainwater, "The Lower Class: Health, Illness and Medical Institutions," in I. Deutscher and E.J. Thompson (eds), Among the People (New York: Basic Books), 1968, 262-263.

knowledge of drug classification and, consequently, a shared understanding of how to use those drugs. Rather than distinguishing between various viral and bacterial respiratory infections , for example, some patients simply referred to "colds" or "bad colds" depending upon the perceived severity and duration of the symptoms. Related to this more simplified classification of "colds" was a similar inability to differentiate among various kinds of medicine usually given for different kinds of respiratory conditions. Antibiotics and decongestants were both referred to as "cold pills" and were often thought to serve similar purposes, the relief of cold symptoms. If any difference was attributed, it was likely to be that the former (especially penicillin or "the needle") was "stronger" or more potent and could relieve the symptoms more quickly and effectively. It was quite logical, then, that these patients either made incorrect inferences when no instruction was given or could not appreciate the physician's perspective when instruction was given.

This is not to say that these patients lacked a general awareness of bacteria and its relationship to other diseases. To the contrary, most patients showed at least some awareness of "germ theory." It is plausible that if the physician had used the patients' language in prescribing antibiotics, more effective communication might have resulted. For example, one might say, "I'm going to give you a special kind of 'cold pill' which will 'kill' the 'germs.'" It is interesting that in no case did the physician define what was meant

by an antibiotic.

Another common theme was a limited understanding and differentiation of the cardiovascular system (the heart and blood vessels). Although essential hypertension was a common disease in this clinic population (50 patients in the sample had been diagnosed as having hypertension), there was a profound lack of understanding between the doctors and the patients in this area. When patients with this condition were asked to define "high blood pressure," the concept usually used by their physician during the interaction, the responses indicated a variety of conceptions about the nature of the cardiovascular system and hypertension; for example:

> The blood is high...too much blood. You have to diet or take it (blood) out often. (Ms. 603)
>
> The blood goes to my head fast. (Ms. 521)
>
> ...too much blood in the head. (Ms. 320)
>
> ...the blood goes up. (Ms. 721)
>
> ...when the blood rises and it could get in contact with the heart. (Ms. 009)
>
> ...the blood feels warm and travels through the body fast. (Ms. 027)
>
> ...heavy blood. (Mr. 601)

It was evident that in the early stages of the disease, the patient often assumed that the medicine should be taken "as needed" for headaches and dizziness, symptoms of "high blood" to the patients. Interestingly, the observations did not include even one

case in which the doctor explained why this medicine should be taken regularly and what "high blood pressure" actually means.

As a result, the physicians' instruction to "take the medicine for high blood pressure" did not always have the same meaning for the patient as it did for the doctor.

In spite of the finding that the majority of patients in this largely lower and working class sample failed to understand certain terms used by the physicians, it is noteworthy that one-fourth did have some understanding of the language used in the doctor's office and that others did not apparently receive communications encumbered by medical jargon (see Table 4:1). This variation made it possible to analyze the extent to which language barriers alter the extent to which the patient can effectively learn his role when given instruction.

Understanding of Terms and Role Perception

In Table 4:2, it is shown that patient understanding of his or her role is higher if the patient has some understanding of the terms which had been used during his visit with the physician. Of those with a high understanding, 66 per cent were able to correctly report what the physician expected of them. In contrast, patients who had a low understanding of the doctors' language were less likely to know how the doctor wanted them to use the drugs: 39 per cent had a congruent role perception. A high amount of physician instruction increased the probability of a mutual understanding in

both groups. Congruent role perception was especially high when the patient had received high instruction and when the patient had a high understanding of the terms used (79 per cent).

TABLE 4 : 2

PATIENT UNDERSTANDING OF ROLE BY KNOWLEDGE OF THE TERMS USED BY THE DOCTOR AND BY AMOUNT OF PHYSICIAN INSTRUCTION

KNOWLEDGE OF TERMS AND AMOUNT OF INSTRUCTION	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL (n)
HIGH UNDERSTANDING OF TERMS			
High Instruction	79% (11)	21% (3)	100% (14)
Low Instruction	56% (10)	44% (8)	100% (18)
TOTAL	66% (21)	34% (11)	100% (32)
LOW UNDERSTANDING OF TERMS			
High Instruction	54% (15)	46% (13)	100% (28)
Low Instruction	30% (15)	70% (35)	100% (50)
TOTAL	39% (30)	61% (48)	100% (78)
NO TERMS SELECTED FROM VISIT			
High Instruction	67% (4)	33% (2)	100% (6)
Low Instruction	64% (7)	36% (4)	100% (11)
TOTAL	65% (11)	35% (6)	100% (17)
NOT ASCERTAINED	25% (1)	75% (3)	100% (4)

Among the patients for whom no terms had been selected, the amount of physician instruction did not seem to modify the patients' role perception; the one majority understood the doctors' expectations whether or not they had received high instruction. As noted above, most of these patients had had brief encounters with the physician and, in addition, received very few drugs to take. As will be discussed more fully in a later section, a low number of drugs is associated with greater understanding of the patient role.

Since it is well known that medical knowledge varies by demographic characteristics, it was appropriate to ask: does the patient's education, ethnicity, sex or age alter the potential effect of the physician's socialization attempts?[7] These findings are presented below:

Patient Education and Role Perception

Generally speaking, patient education was positively associated with recall and comprehension of the physicians' instructions. Table 4:3 shows that patients with a higher education (nine (9) or more years of formal education) had a more congruent role perception than did those patients with a lower education, 77 per cent and 38

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[7]These variables are known correlates of the public's knowledge about health matters. Consider the review by J.J. Feldman, The Dissemination of Health Information: A Case Study of Adult Learning (Chicago: Aldine Publishing Company), 1965. Education, sex and age are among the stronger correlates, with education being the best predictor of the level of health information.

TABLE 4 : 3

PATIENT UNDERSTANDING OF ROLE BY PATIENT EDUCATION AND PHYSICIAN INSTRUCTION*

	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL
HIGH EDUCATION			
High Physician Instruction	77% (17)	23% (5)	100% (22)
Low Physician Instruction	46% (18)	54% (21)	100% (39)
TOTAL	57% (35)	43% (26)	100% (61)
LOW EDUCATION			
High Physician Instruction	45% (9)	55% (11)	100% (20)
Low Physician Instruction	33% (10)	67% (20)	100% (30)
TOTAL	38% (19)	62% (31)	100% (50)

* Patient education data were usually obtained from the clinic's registration files and family medical charts. Patient education was not recorded in 20 cases.

Ethnicity

When considering the patients' ethnicity, similar results were obtained. In general, Puerto Rican patients were less likely to have a congruent role perception though the differences among the groups did not exceed 11 per cent (see Table 4:4). As shown in Table 4:4, there was a considerable increase in the patients' understanding of their role among both Black and White patients who had received high instruction from the physician. Two-thirds

per cent respectively. Further, it is noted that high physician instruction is more effective if the patient has had nine or more years of education.[8] Under these conditions (high patient education and high instruction from the doctor), 77 per cent of the patients had a congruent role perception. The lowest rate of patient understanding was among patients who had lower education and who had received little or no instruction from the physician; only one-third of this group knew how to take all of their medicines. Higher instruction from the doctor increased patient understanding by only 12 per cent. Whether patients with less education would benefit from more instruction than was observed at this clinic is an issue which cannot be resolved in this project. It is clear, however, these patients are at a considerable disadvantage.

(See following page)

[8] Only one patient in the sample had had any college education. Alternative categorizations of the variable did not show that having completed high school raised patient understanding to a notable degree.

or more of these patients had a congruent definition of their role (77 per cent and 67 per cent, respectively). In comparison, high physician instruction did not appear to reduce patient error among the Puerto Rican patients. The majority of those receiving high instruction still made errors in defining what the physician had expected.

TABLE 4 : 4

PATIENT UNDERSTANDING OF ROLE BY PATIENT ETHNICITY AND PHYSICIAN INSTRUCTION

ETHNICITY AND PHYSICIAN INSTRUCTION	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL (n)
BLACK			
High Instruction	77% (17)	23% (5)	100% (22)
Low Instruction	40% (17)	60% (25)	100% (42)
TOTAL	53% (38)	47% (34)	100% (64)
WHITE			
High Instruction	67% (2)	33% (1)	100% (3)
Low Instruction	40% (2)	60% (3)	100% (5)
TOTAL	50% (4)	50% (4)	100% (8)
PUERTO RICAN			
High Instruction	48% (11)	52% (12)	100% (23)
Low Instruction	39% (14)	61% (22)	100% (36)
TOTAL	42% (25)	58% (34)	100% (59)

Obviously, there are many possible explanations for these findings. It may be that Puerto Ricans have less education and knowledge of medical terminology, have different values which interfere with learning new norms for behavior or, more simply, are less able to understand English instructions. The small sample size limits the extent to which each of these variables and others can be separated, but data from different sources suggest that these differences may be in large part a function of the fact that many of the Puerto Rican patients were not completely bilingual and had difficulty comprehending instructions which were often stated or written in English rather than Spanish.

For various reasons, patients who reported a need for interpretation had not always received assistance at the clinic. At the home interview, the Puerto Rican patients were asked: "Was there any time that you would have liked to have had someone interpret certain things into Spanish?" When the responses were compared to data obtained during the observation, it was found that patients who felt that they needed an interpreter had not always received full assistance in that respect. Of the 64 interviewed Puerto Rican patients from whom this information was obtained, 31 reported the need for Spanish interpretation (see Table 4:5).

(See following page)

TABLE 4 : 5

PRESENCE OF A MEDICAL ASSISTANT BY PATIENT NEED FOR SPANISH INTERPRETATION*

NEED FOR SPANISH INTERPRETATION	MEDICAL ASSISTANT PRESENCE			
	ENTIRE VISIT	PART-TIME	NO PRESENCE	TOTAL (n)
Yes	64% (20)	13% (4)	23% (7)	100% (31)
No	16% (5)	16% (5)	69% (22)	100% (32)
Do Not Know	100% (1)	- -	- -	100% (1)
Not Ascertained	17% (1)	33% (2)	50% (3)	100% (6)
TOTAL	39% (27)	16% (11)	47% (32)	100% (70)

* These data are based upon patient report of need for interpretation and include 11 patients who did not receive drugs. In some cases, it was the licensed practical nurse who provided assistance during the doctor-patient encounter. These cases are also classified as medical assistance present.

The data summarized in Table 4:5 indicate that the patients who felt that they had needed an interpreter were more likely to receive medical assistance (64 per cent as opposed to 16 per cent), but it is also evident that 23 per cent of these patients did not have a medical assistant present at any time during the observed encounter. Observation further indicated that the presence of a medical assistant did not necessarily imply complete and unabbreviated translation. In some cases, the assistant was not Spanish-speaking and in other cases, the doctor gave English instructions while the Spanish-speaking assistant was out

of the office. It was also observed that the Spanish-speaking assistants did not always translate all that was included in the doctor's communication. Limited translation sometimes occurred in spite of the fact that the patient gave verbal and non-verbal cues that he did not speak or understand English very well.[9] Rather than calling a Spanish-speaking assistant, some physicians assumed that the patient would understand what to do by reading the labels of the containers. The case of Mr. 507 is illustrative.

Although Mr. 507 had indicated that he might not understand English very well (pointed to his ear while saying "eye"), Dr. 500 proceeded to give the medication instructions in English and at a very fast pace:

> You have a little infection in the throat. I'll give you an antibiotic that will take care of the throat. The cough medicine you can take one teaspoon every four hours. The tablet for the nose -- one twice a day, and it's a long-acting tablet. And the antibiotic -- take one four times a day.

---

[9]Although the investigator's ability to understand Spanish was somewhat limited, a special effort had been made to learn some of the commonly used medical terms, questions used by the physician during the history taking process and phrases used during the instructional phase. As a result, it was possible to at least detect gross omissions. It should be emphasized here that when omission did occur, it was not necessarily due to the medical assistants' incompetence. Rather, it appeared that the physician often did not provide adequate opportunity for the assistant. It is beyond the purposes of this report to discuss some of the many issues which are involved in adequate translation for non-English speaking patients.

The observer's notes of the patient's response during the communication were:

> (Patient looks confused and definitely shows it on his face. Leans over as if he didn't hear or didn't get it straight the first time around.)

The physician also observed the patient's apparent confusion and concluded the interaction as follows:

Doctor 500	Mr. 507
Did I confuse you?	(Shrugs shoulders and indicates in non-verbal manner that he is confused.)
Do you read English?	Yes.
Well, it will be on the bottle then.	

(END OF ENCOUNTER)

The labels did specify the expected dosage per day, but there was no mention of which medication was "for the nose" and which was the antibiotic. Further, there was no mention about the expected length of time that each of these drugs should have been taken.

In another example, Dr. 500 ignored the patient's cues that she could not understand English. When the non-Spanish speaking assistant noted the language barrier,the physician responded, "we can make it":

> DOCTOR: Is there any diabetes in your family?
>
> PATIENT: (Facial cues indicate question was not understood.)

ASSISTANT: (To patient): Do you know what that is?

PATIENT: (Shrugs her shoulders.)

ASSISTANT: (To doctor): Do you want an interpreter Dr.____?

DOCTOR: Not just for a cold. I think we can make it.

Later as communication became more difficult, the physician did request an interpreter. The Spanish-speaking assistant left after the physician had obtained the history and physical findings, however. The encounter was concluded by a rather lengthy set of recommendations which were given in English only: 1) a return appointment for a complete physical; 2) a return appointment to have Tine Test checked (test for tuberculosis); 3) medication "for the nasal problem"; 4) advice to gargle throat; 5) return for X-rays and laboratory procedures. Observations indicated that the patient had a "blank look" during these recommendations.

The case of Ms. 517 is another example of the language barrier between Puerto Rican patients and English-speaking physicians. Although Mr. 517 reported that she would have liked a Spanish translation, she had not received any at her visit with the doctor. Excerpts of the doctor-patient encounter and home interviewer follow:

OBSERVATIONAL DATA

DOCTOR: Moist air will help. You can use a vaporizer or, if you can't do that, boil water on the stove,.. or in the shower. I'm going to give you a decongestant. It's a long-

acting tablet, so take one a day. And I'm also going to give you an antibiotic. Take one capsule four times a day.

PATIENT: (No verbal response.)

* * *

HOME INTERVIEW DATA

INTERVIEWER: What kinds of medicine did Dr. 500 give to you?

PATIENT: (Re: antibiotic.) The yellow and green ones, I think they are for the cold.

(Re: decongestant.) The blue ones, I think they are for the cold, too.

*

INTERVIEWER: How are the blue ones supposed to help the cold?

PATIENT: I don't know how. She didn't tell me, but I know that these medicines have been doing very good to me. My phelgm is loose and when I started blowing my nose, it started coming down...

INTERVIEWER: How are the yellow and green ones supposed to help the cold?

PATIENT: To ease my congested chest or maybe is for infection. I don't really know because the doctor didn't tell me what each of these medicines was for.

*

INTERVIEWER: Which one is the most important (of the three which had been given)?

PATIENT: The blue ones (decongestant)... because when I was getting the prescription, a Spanish lady told me that these pills are very good for sinus...

Apparently, Ms. 517 had not really learned the difference between the decongestant and the antibiotic. From her perspective,

both were "for the cold" and served to ease congestion. There was some doubt about the infection. It was her feeling that she had not been told what each of the medicines was for, even though the transcript shows otherwise.

These case studies and other data would suggest that Puerto Rican patients were less able to utilize information given by the physician, simply because they had less facility with the English language. Unlike other ethnic groups, the Puerto Rican patients had difficulty with both English and medical jargon.

Age, Sex and Role Perception

As previously noted, the literature would suggest that knowledge and compliance vary by age and sex. The results of this study show, however, that these variables do not seem to account for differential recall and understanding of medical instructions (see Tables 4:6 and 4:7). It was found that the general relationship between physician instruction and patient understanding of his role persisted, regardless of the patient's age or sex.[10]

(See following page)

[10]Alternate categorizations of age were attempted, but no apparent differences were found.

TABLE 4 ; 6

PATIENT UNDERSTANDING OF HIS ROLE BY AGE AND PHYSICIAN INSTRUCTION

PATIENT AGE AND PHYSICIAN INSTRUCTION	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL (n)
46 or more years old			
High Instruction	62% (10)	38% (6)	100% (16)
Low Instruction	37% (14)	63% (24)	100% (38)
TOTAL	44% (24)	56% (30)	100% (54)
Less than 46 years old			
High Instruction	62% (20)	38% (12)	100% (32)
Low Instruction	42% (19)	58% (26)	100% (45)
TOTAL	51% (39)	49% (38)	100% (77)

TABLE 4 : 7

PATIENT UNDERSTANDING OF HIS ROLE BY SEX AND PHYSICIAN INSTRUCTION

PATIENT AGE AND PHYSICIAN INSTRUCTION	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL (n)
MALES			
High Instruction	69% (9)	31% (4)	100% (13)
Low Instruction	32% (6)	68% (13)	100% (19)
TOTAL	47% (15)	53% (17)	100% (32)
FEMALES			
High Instruction	60% (21)	40% (14)	100% (35)
Low Instruction	42% (27)	58% (37)	100% (64)
TOTAL	48% (48)	52% (51)	100% (99)

Prior Experience With Medication and Role Perception

In-depth case study of the negative cases -- those cases in which the patient understood how to take his or her medication in spite of very little instruction by the physician -- suggested yet another variable which might explain differential response. Specifically, those patients who had received the drugs at previous visits to the doctor seemed to have less need for further instruction. Unfortunately, previous instruction could not be directly measured since the doctor-patient interaction was observed at only one point in time, but medical record data were available and utilized to obtain an indicator of the extent to which the patient had had previous experience with the drugs prescribed at the observed encounter. On the basis of these data, the patients' experience with drugs was classified as either "high prior experience" or "low prior experience." High prior experience was operationally defined to include all patients who had previously been given a prescription for one-half or more of the drugs which were given at the observed encounter. Those who were being given one-half or more of their drugs for the first time were categorized as having low prior experience with these drugs.

Although the general relationship between physician instruction and patient understanding persisted when the patients' prior experience with the drugs was controlled, several findings should be noted. First, of the 53 patients who had high experience with their drugs, only 7 received instruction from the doctor

at the observed encounter (see Table 4:8). This is in sharp contrast to the fact that the majority of the other 78 patients received more extensive communication about drug use. These differences suggest that physicians do not give equal amounts of information to all patients and perhaps make assumptions about the patients' needs for information and socialization. Physicians may assume that certain patients already know how to take their medicine and that there is no need to reiterate what is expected. (The implications of these findings will become more apparent when variations in physicians' communication behavior are discussed in the next chapter.)

A second finding, as shown in Table 4:8, is that the combination of the two variables -- physician instruction and patient experience -- appear to distinguish variations in patient understanding more than any other variables. In spite of the rather small cell size, it is noteworthy that each of the seven patients who had had previous experience with their drugs and who had received high amounts of instruction at the observed visit knew how to take their drugs. Of the group which had low experience and low instruction at the observed encounter, only 24 per cent had an accurate conception of what the physician had expected of them. Although patient understanding was considerably lower under the latter conditions, it is interesting that almost one-fourth of these patients knew what to do <u>without</u> past or present socialization from the physician. A number of factors could account for these negative cases.

TABLE 4 : 8

PATIENT UNDERSTANDING OF ROLE BY PREVIOUS EXPERIENCE AND PHYSICIAN INSTRUCTION

PHYSICIAN INSTRUCTION	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL (n)
HIGH EXPERIENCE WITH THE DRUGS RECEIVED			
High Physician Instruction	100% (7)	- (0)	100% (7)
Low Physician Instruction	52% (24)	48% (22)	100% (46)
TOTAL	58% (31)	42% (22)	100% (53)
LOW EXPERIENCE WITH THE DRUGS RECEIVED			
High Physician Instruction	56% (23)	44% (18)	100% (41)
Low Physician Instruction	24% (9)	76% (28)	100% (37)
TOTAL	41% (32)	59% (46)	100% (78)
TOTAL	48% (63)	52% (68)	100% (131)

First, it is possible that patients had at some time received prescriptions for these drugs but that that event was not recorded by the physician in the medical record. As noted in chapter 2, physicians do not always record the drugs which they prescribe for patients. Second, patients are sometimes able to correctly deduce what the physician expects even though the doctor does not give explicit instructions, especially if the patient comes to the doctor with a relatively simple problem and is given a relatively simple

treatment of one medication. Finally, it is important to note that the physician is not the only source of information regarding the use of drugs. The mass media advertises the merits and appropriate uses for a wide variety of agents, namely, vitamins, aspirin, antacids, laxatives, preparations for the relief of nasal congestion, insomnia, anxiety and other items which may be purchased "over-the-counter" without physician prescription. The commercialization of these agents no doubt exposes the lay person to information which enables him to not only identify these agents but informs him as to how these agents should be used to achieve certain desired objectives. Thus, the patient may have already learned the "rules" before coming to the doctor. The commercialization or popularization of these agents does not ensure patient understanding and compliance in the medical setting, however.

Although there has been no study of the extent to which the consumer utilizes "over-the-counter" drugs as advised on the labels, it is possible that certain types of patient error are greater when these drugs are prescribed by the doctor rather than purchased on the open market. In this study, it was found that patients misused a number of drugs which could have been purchased without prescription in large part because they had incorrectly identified the type of drug. Rather than receiving aspirin in a container with a commercial label which would identify the drug as aspirin, for example, patients often received bottles labelled as "A.S.A.", the

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pharmaceutical abbreviations for acetylsalicylic acid (or aspirin). When the patients received a container with this abbreviated label and the limited instruction to "take two tablets four times a day," it was not surprising to find that a few patients were taking aspirin under the assumption that these tablets were vitamins or anti-hypertensive tablets. Similarly, one patient reported that she was regularly taking a daily dose of eight tablets of another "over-the-counter" medication which is often used for symptomatic relief of pain. Her container did not have the commercial label on it, and a count of the remaining tablets validated her report.

Although the above problems might have been prevented by using the more instructive labels which appear on "over-the-counter" preparations, there was evidence to suggest that the commercialization of drugs is also dysfunctional in some instances. Specifically, the lay person's knowledge of the more popular uses for certain agents may interfere with the learning of more individualized instructions for his particular condition. Stated differently, the lay person may have learned the general "rules" for using antacids, vitamins, aspirin and other drugs but has not learned the exceptions to the rule. Unless the physician re-socializes the patient, it is likely that the patient will assume that the doctor wants him to take the medicine as usually advised in the more general case.

For example, all patients who had received an antacid easily identified their liquid as being for the "stomach," "gas" or "acid." Those who received this prescription for temporary relief of stomach

discomfort had no difficulty interpreting the doctors' orders even though they often received very little instruction. The doctors' expectations were similar to those usually stated on the containers which can be purchased without a prescription. In contrast, the patients who had received the antacid for a peptic ulcer often failed to recognize that the physician was actually making an exception to the general rule. Few of these patients knew the physicians' rationale for expecting regular as opposed to symptomatic usage and for prescribing it at larger doses. Rather, they interpreted the instructions (which were usually very limited) as meaning that they should take the medicine as needed or in the usual dose specified on the commercial label. In their cases, the general rule for using antacids did not apply.

Although there were no observed cases in which patients were advised to take high doses of aspirin on a regular, as opposed to symptomatic basis, it is speculated that a similar misunderstanding between the doctor and the patient would occur under these circumstances. Reports from several physicians at the clinic as well as the literature reviewed in chapter 1 suggest that patient compliance with the advice to use aspirin regularly as an anti-inflammatory agent for rheumatoid arthritis is similarly low. It is speculated that if patients are directed to take aspirin in a manner which varies from the general or popularly known rule (as needed for pain or fever), then it will be necessary for the physician to teach the patient about the exception to the general rule.

It is interesting that at least one physician reported success by paying attention to patients' previous knowledge and familiarity with drugs: "I start out by telling the patient, 'Forget everything you know about aspirin....'"

The need to consider patients' previous knowledge and accepted norms for drug use is also evident in areas other than commercially available drugs. The popularization of tranquilizers, for example, was evident in this sample even though the patient may not have had a prescription or a history of having taken this drug. Although the data were limited, it appeared that patients often assumed that tranquilizers and other "nerve medicines" should be taken "as necessary" for "nerves" or insomnia and that an occasional single dose is effective in achieving these results. As will be shown in chapter 8, this opinion is often reinforced by the fact that physicians often tolerate sporadic use. In the event that a physician does expect more regular use of psychotropic drugs, the need to re-socialize the patient again becomes apparent. For example, the physician may feel that it is desirable to use psychotropic drugs on a regular basis as adjunct therapy for hypertension or as treatment for severe emotional problems.

In the following example, the patient had assumed that his "nerve medicine" could be stopped because he was able to sleep without it. Indeed, the patient indicated surprise that the physician would even question why he had stopped the medicine.

Dr. 700: How are you feeling?

Mr. 709: O.K. I'm sleeping better and stopped the pills.

Dr. 700: Stopped?

Mr. 709: Well, not completely, but...

Dr. 700: Why?

Mr. 709: Why? I could see that I could sleep without them.

Dr. 700: If my analysis is correct, trifluproma-zine is a medicine you'll have to take for life. You inherited a nervous con-stitution. You may be able to get along without medicine now and then,but it will just give you trouble...They're not ordinary sleeping tablets. ... Like people with hypertension, diabetes, thyroid -- they take medicine regularly. You have a nervous constitution and should take medicine regularly, too.

In the above interaction, the physician emphasized that these tablets were not "ordinary sleeping tablets" and that the patient should, in his opinion, take the medicine on a regular basis. Like patients receiving an antacid for a peptic ulcer, this patient apparently did not know that the doctor had expected regular use of medication.

It is clear that patients come to the doctor's office with some knowledge and awareness of how certain medicines can be used for desired effects. Some have had previous prescriptions for their drugs and already know how the doctor wants them to use these drugs. Others have a familarity with certain drugs even though they have not had actual prescriptions for these drugs. In summary,

the data suggest that these experiences may either facilitate or inhibit doctor-patient understanding, depending upon the extent to which the patients' previous conception of how to use the drug is congruent with the doctors' current expectations.

The Complexity of the Instructions

Another variable which was found to be related to the differential response to physician instruction was the varying complexity of the doctors' expectations. Utilizing the number of drugs which the patient received as an indicator of the complexity of the patients' role, the case studies suggested that as the complexity of the physician's expectations increased, the probability of patient confusion and poor recall also increased, even though the doctor may have been fairly explicit about how he or she wanted the patient to use the drugs. Interestingly, the researcher sometimes had to spend several hours studying various sources of data and materials before being able to decode the interaction. When the patients' understanding and recall of these visits were measured in the subsequent home interview, it was apparent that the patient had been similarly confused in spite of the fact that some of the patients had had previous experience with the drugs, had some high school education, and could speak English fluently.

In sharp contrast, patients who received only one drug seemed to have less need for more explicit and written communication and also seemed to have greater recall when the doctor had transmitted

a high amount of information.

The following doctor-patient interaction is quoted at some length to illustrate the variety of communication difficulties which arise when patients are advised to take many drugs. Unlike the typical patient, Ms. 717 had had limited training in the health field, had completed high school, was English-speaking and was apparently confident enough to ask various questions of the doctor. These misunderstandings were deduced after the study of various data: observation, pharmacy files, medical record, the pictorial aids which are available in a well-known reference book for physicians and, finally, the data obtained by the interviewer who spoke with Ms. 717 at her home. Parenthetical notations have been added to aid the reader in identifying the drugs to which the physician and patient were referring. An asterisk indicates that they discussed subjects which did not directly pertain to medication use and which are not quoted here.

DR. 700	MS. 717
You started taking water pills* (hydrochlorothiazide) again?	No.
Why not?	You gave me a fresh pill (Flagyl) and I don't know what it was for.
The water pill, didn't it say water pills on it?	Didn't have anything on it!
Hydrochlorothiazide? (Looks in medical record) Last time I gave two medicines: vaginal suppositories and the other ---a big white tablet (Flagyl) to help vaginal itching.	I didn't know if you were changing my water pills or what.
	Oh , that big thing. It was nasty tasting!

But you took them?

Oh, yes.

What about the little blue* tablet; the kidney one (hydralazine)?

I took all of those before I came the last time (patient refers to this drug as "water pills for kidney").

And the artery pill (guanethidine)?

That big glue capsule? (Clofibrate.)

Blue?

Not blue, glue.

That's what you call it (hydralazine)?

One of the kids called it (clofibrate) that. It's like glue they have in school.

Are you taking the two kinds* of medicine for diabetes (phenformin and tolbutamide)?

Yeah, but I'm not taking the blue -- irrites the stomach.

Can you get away with taking one or so of them?

I tried one a day, but...

Just the tolbutamide?

Yes, the tolbutamide, three times a day.

Taking any medicine for the blood pressure (hydralazine and guanethidine)?

Yeah, is that what that (pauses) ah-h-h white pill?

Guanethidine.

(Repeats slowly) guanethidine.

That's the artery pill. How many do you take?

I have plenty. Take three, three to four.

And the blue ... glue one?

For ... (hesitates).

For diabetes. That doesn't taste bad, does it?

The only one with taste is the one you gave last time (Flagyl).

We'll go back to the kidney* pill, the bright blue one -- and discontinue the water pill for the time being.

Yeah, that always reminds me of ...

Suits me fine.

Taking the heart pill (diagoxin)?

One a day, but just about out of them.

DR. 700	MS. 717
How about the Phenformin?	What Phenformin?
The blue and white capsules for diabetes. When did you stop?	A couple weeks ago. What's the name of that blue -- I thought you meant Ind--(hesitates).
Indomethicin?	(Repeats after doctor) Indomethicin. Sometimes I wonder what good they are doing, but if I stop I suppose I'll find out.

(Encounter is interrupted by a medical assistant with an unrelated problem requiring doctor's attention.)

So, feeling better than a month ago?	Yes. But I got no strength whatever. I get up and feel drunk.

(Encounter is again interrupted by a medical assistant.)

I'll give you a cream to put on inside and little more Mycostatin for the outside.

See me in a month.

(END OF ENCOUNTER)

In total, Ms. 717 was advised to take or discontinue ten (10) different drugs for her multiple problems (some of these drugs were not mentioned in the above excerpts). Needless to say, the complexity of the communication almost defies any brief analysis as the interaction illustrates many of the barriers to effective communication and social influence. First, it is obvious that the physician and the patient did not share the same names for the respective drugs and that the number of drugs undoubtedly exacerbated this basic difference between the professional and the patient. For example, the doctor never did learn what Ms. 717 meant by the "glue capsule." Actually, she had been referring to

a previously prescribed drug for high cholesterol (Clofibrate), a drug which has a gelatin-like appearance. The doctor's communication behavior indicated, however, that he was aware that his message was not reaching the patient as he intended. Indeed, his behavior indicated an almost frantic search for different "names" and terms which would have meaning for the patient: a) generic or trade names (hydrochlorothiazide, Phenformin, Indomethicin); b) the size and color of the medication (little blue tablets, bright blue ones, blue and white capsules); c) the form of the medicine (tablets, capsules, suppositories); and d) other terms which infer to the purpose or site of drug action (water pill, kidney pill, heart pill, artery pill).

Although the physician attempted to adjust his vocabulary after noting patient confusion, these efforts were often unsuccessful. As the patient's comments,near the end of the visit suggest, having more than one blue pill makes it difficult to know which blue one the doctor is referring to. The patient had at least four different drugs which contained some blue coloring.[11]

Likewise, "water pill" was associated with more than one drug in the patient's view. Prior to the observed interaction, the patient had incorrectly assumed that she had been given three different "water pills" over a period of time:

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[11]See Roger Brown, op. cit., for a discussion of the literature on codability of certain categories.

1) The "fresh pill" (Flagyl, an anti-infective drug);
2) The "water pill" (hydrochlorothiazide, a diuretic as assumed);
3) The "kidney pill to get rid of the water" (hydralazine, an hypotensive drug).

In the patient's view, it was perhaps quite logical to begin taking the "fresh pill," discontinue the second "water pill" and not to refill the "kidney pill" that, in her opinion, also served to "get rid of water." Whether Dr. 700 fully appreciated why the patient had deviated from advice is doubtful.

Perhaps the most important implication of the above encounter involving numerous drugs is that the physician and patient expended so much time and energy "defining the terms" that the physician had little time to devote to obtaining an accurate and complete report of the patient's perceived side effects and other attitudes which apparently contributed to her subsequent deviance. As shown in the transcript, the patient began telling the doctor how she felt about taking the medicine but was either cut off (for example, the diabetes medicine which "irritates the stomach") or interrupted (for example, indomethicine). There was no attempt to explore her perception of why she had "no strength whatever" or why she felt "drunk" upon getting up. As will be discussed in chapter eight, these remarks by the patient might provide important cues to the doctor in that they suggest that the patient may perceive side effects and, hence, be reluctant to follow advice.

More systematic analysis confirmed the impressions gained from case studies, such as the one reported above. First, the number

of drugs received by the patient was inversely related to the patients' ability to identify the purposes of his or her medicine. As shown in Table 4:9, patients who received less than three medications identified the purposes of their drug(s) in 78 per cent of the cases; whereas, only 38 per cent of the patients receiving three or more drugs could correctly identify all of their drugs.

TABLE 4 : 9

PATIENT IDENTIFICATION OF DRUG PURPOSE
BY NUMBER OF DRUGS RECEIVED

NUMBER OF DRUGS RECEIVED	IDENTIFIED ALL CORRECTLY	DID NOT IDENTIFIED ALL CORRECTLY	N.A.	TOTAL (n)
Less Than Three	78% (59)	22% (17)	(3)	100% (79)
Three or More	38% (20)	62% (32)	-	100% (52)
TOTAL	62% (79)	38% (49)	(3)	100% (131)

Second, the number of drugs received modified the general relationship between physician instruction and patient understanding of how to use his or her drugs. If the patients' total regimen was relatively simple (less than three drugs), a high amount of physician instruction was associated with greater physician-patient understanding. As shown in Table 4:10, receiving a high amount of instruction for a simple role was associated with a higher probability of congruent role perception than if the patient did not receive that instruction, 68 per cent and 46 per cent,

respectively.

In comparison, a high amount of instruction was less effective when the patients' instructions were complex (three or more drugs). In fact, it appears that the potential effect of physician instruction was almost neutralized when the patient received three or more drugs. Under the conditions of high instruction and a complex role, the patient is only slightly more able to identify what the physician actually expects of him, (40 per cent as opposed to 33 per cent for those receiving less instruction).

TABLE 4 : 10

PATIENT UNDERSTANDING OF ROLE BY NUMBER OF DRUGS RECEIVED AND PHYSICIAN INSTRUCTION

PHYSICIAN INSTRUCTION	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL (n)
LESS THAN THREE DRUGS			
High Physician Instruction	68% (26)	32% (12)	100% (38)
Low Physician Instruction	46% (19)	54% (22)	100% (41)
TOTAL	57% (45)	43% (34)	100% (79)
THREE OR MORE DRUGS			
High Physician Instruction	40% (4)	60% (6)	100% (10)
Low Physician Instruction	33% (14)	67% (28)	100% (42)
TOTAL	35% (18)	65% (34)	100% (52)
TOTAL	48% (63)	52% (68)	100% (131)

These data shed light on the possible relationship between previously unconnected findings reported in the literature. Specifically, Ley and Spelman (1967) have reported that patient recall of all types of medical statements is inversely associated with the number of statements which the patients received from his physician.[12] The extent to which patient recall is a factor in his or her understanding of how to use drugs or his actual behavior was not investigated by these authors, however. Several other reports suggest that as the number of drugs increases, compliance significantly decreases.[13] The results of this study would suggest that a high number of drugs indirectly influence patient behavior by reducing the patients' ability to recall and comprehend medical advice. Further, patients receiving more drugs may actually receive less instruction from their physician than do other patients. Examination of the row totals in Table 4:10 shows that patients receiving three or more drugs were less likely to receive high instruction: 19 per cent were given a high amount of instruction (n=10). This is in contrast to the patients with fewer drugs: 48 per cent had been given high instruction (n=38).

In summary, the patient who received more drugs may not only be less apt to receive instruction but he may also be less able to retain and comprehend that information when it is received.

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[12] P. Ley and M.S. Spelman, Communicating with the Patient (London: The Trinity Press), 1967.

[13] C. Latiolais and C. Berry, "Misuse of Prescription Medication by Outpatients," Drug Intelligence and Clinical Pharmacy, 3 (October, 1969), 270-277; V. Francis et al. "Gaps in Doctor-Patient Communication: Patients' Response to Medical Advice," New England Journal of Medicine, 280 (March 6, 1969), 353-540.

Although it was beyond the purpose of this project to measure the patients' socio-emotional status during the encounter with the physician, limited evidence suggested that this might be another fruitful avenue of inquiry in understanding the differential response to physician instruction. Specifically, patients, reported to the interviewer that the physician had angered them, frightened them or caused some other uncomfortable feeling during the visit. Although these patients were in the minority, it appeared that they were sometimes confused about what the physician had expected, in spite of instruction. Consistent with the report of Francis and associates,[14] the observational data indicated that dissatisfied patients sometimes "tuned-out" or gave up trying to communicate: they mumbled to themselves out of context, became silent or simply responded in a yes-no manner. In light of these data, it was suspected that patient dissatisfaction might actually affect the patients' attention during the part of the visit which is perhaps most crucial in terms of learning how to take medications, namely, the final stages when the physician states the diagnosis, writes the prescription and gives advice regarding the medication. Thus, the tentative hypothesis was that high physician instruction could be less effective among those patients who reported negative opinions about the physician and what had occurred at the clinic visit.

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[14]Francis et al., Ibid.

In order to explore this hypothesis in a systematic manner, each patient interview was coded in terms of the patient's opinion about the physician. In addition to utilizing their response to the question "What do you think of Dr.___?" the measure of patient opinion included voluntary remarks which were made at other points during the home interview. The patients' statements were first classified and scored as being positive, neutral or negative. Finally, these scores were summed to determine whether the patient held a primarily positive, neutral or negative opinion about the physician.

As indicated in Table 4:11, most patients had a positive opinion of the prescribing physician (n=80). Given the relatively small number of dissatisfied patients, it is obviously difficult to draw any conclusions after cross tabulation. Nevertheless, it is interesting that a) the general relationship between physician instruction and patient understanding of his role persists among patients with either a positive or neutral opinion of the physician and that b) the trend is reversed among dissatisfied patients.

(See following page.)

TABLE 4 : 11

PATIENT UNDERSTANDING OF ROLE BY ATTITUDE TOWARDS THE PHYSICIAN AND PHYSICIAN INSTRUCTION*

PATIENT ATTITUDE TOWARDS PHYSICIAN AND INSTRUCTION	CONGRUENT ROLE PERCEPTION	INCONGRUENT ROLE PERCEPTION	TOTAL (n)
POSITIVE OPINION			
High Physician Instruction	65% (20)	35% (11)	100% (31)
Low Physician Instruction	41% (20)	59% (29)	100% (49)
TOTAL	50% (40)	50% (40)	100% (80)
NEUTRAL OPINION			
High Physician Instruction	70% (7)	30% (3)	100% (10)
Low Physician Instruction	30% (3)	70% (7)	100% (10)
TOTAL	50% (10)	50% (10)	100% (20)
NEGATIVE OPINION			
High Physician Instruction	33% (2)	67% (4)	100% (6)
Low Physician Instruction	44% (7)	56% (9)	100% (16)
TOTAL	41% (9)	59% (13)	100% (22)
TOTAL	48% (59)	52% (63)	100% (122)

* The patients' attitude towards the physician was not ascertained in nine cases.

Speculation about the dynamics of this reversal is not warranted with such limited data, but it is noteworthy that the patients with a negative opinion of the doctor did not simply reject medical advice or refuse to take the prescribed medicine. The case of Ms. 018 is illustrative.

When the interviewer began the interview by telling the patient that she had tried to meet her immediately after the recent visit to the doctor, the patient stated:

> No. I went home. If you'd come up to me then, I'd probably have slapped you. I was so angry...came to the doctor with a headache and left with a headache that was worse.

The patient went on to explain that she had been angered because the doctor did not examine her, did not take a more complete history, did not take her blood pressure, did not tell her what her temperature was and, finally, had asked her whether she wanted a tranquilizer. She was also dissatisfied with the way in which the doctor had talked to her:

> Dr. 000 had the wrong attitude. I have never seen a doctor talk to you in the way she did to me. Do doctors do this because of this being in a poor neighborhood?

When asked what kind of medicine the doctor had given her, the patient responded:

> PATIENT: I don't know the name...can't pronounce it. I think it's on the basis of a tranquilizer because she asked me did I want a tranquilizer.

INTERVIEWER: Why do you think Dr. 000 gave you the medicine?

PATIENT: To get me off her hands!

In fact, the patient had not been given a tranquilizer. Although she may have been correct in her final assessment of the doctor's motives, she did not remember that the physician had mentioned that the medicine was for reported dizziness. As she noted in another section of the interview which probed the patient's assessment of the encounter: "I don't remember...I was so angry."

ISSUES AND IMPLICATIONS

Although social scientists have more than adequately documented the differences in values, knowledge and behavior among different cultural and social groups, there is less known about the social processes which occur when two persons from different groups interact, especially when one tries to influence the other. The fact that social influence is difficult under these circumstances is well known, but the dynamics are not that clear. Too often, the situation is explained by begging the question: there is a conflict of values and attitudes which creates resistance on the part of either person to change. In the case of the relationship between lower class patients and middle class physicians, the problem is often reduced to a difference in <u>values</u>:

> (Among patients with low social status, there is ... less importance given to symptoms, less stress upon extreme cleanliness, less ability to defer gratification in the interest of long-range goals, and less individual responsibility. All of these are contrary to middle class norms. Of more importance, all of these actions and attitudes tend to interfere with ideal patient care, especially if the doctor is not extremely flexible and accepting. (p.255).[15]

Our findings would suggest that there has been undue emphasis upon such explanations in the literature, especially in the absence of empirical evidence which would document what actually occurs when a lower status patient visits the physician. The overall picture, which emerges from the above data regarding the patients' perception of medical advice, would suggest that the lower class patient is not simply refusing to defer gratification or take on responsibility for regaining his health. Rather, he is more like a freshman zoology student who mistakenly attends a lecture intended for someone else. The less educated patients and Spanish-speaking patient are similarly "out of place" in the doctor's office, a place where the spoken languages are foreign and difficult to comprehend. Quite simply, it is difficult to internalize the doctor's values if one has not understood what the doctor said in the same manner that it was intended.

Interestingly, this "communication gap" existed in spite of the fact that these patients and physicians were observed in a model health center which was, in part, developed to reduce such

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[15] H. Osofsky, "The Walls are Within: An Exploration of Barriers Between Middle Class Physicians and Poor Patients" In L. Deutecher and E. Thompson (eds), Among The People (New York: Basic Books), 1968, 239-256

gaps between the lower class patient and the middle class professional. Although there were innovations which altered the medical division of labor and no doubt enhanced the acceptability of this clinic to the patients, the traditional division of labor as it applies to patient education prevailed. Medical assistants were community residents, but they served the traditional role of assisting the physician when that assistance was requested. There was little evidence that they had been trained or encouraged to detect and/or correct patient misconceptions. In many respects, the pharmacists also performed the traditional roles of packaging, labelling and dispensing drugs without any apparent innovation which would effectively teach patients how to use the contents of the neatly packaged containers. In spite of the innovation of collecting "census" information -- data which might have been useful in developing educational priorities for patients more apt to have limited knowledge of health matters -- patients with almost no formal education continued to receive as little instruction as patients who had had high school educations. In spite of the availability of bilingual assistants, some physicians tried to "make it" without translation and ignore the patient's cues that he did not understand. In practice, the philosophy and methods by which the organization taught its patients were rather traditional.

This is not to say that the medical professionals and paraprofessionals were not "accepting" of the patients seen in this

clinic. With several exceptions, the physicians held positive opinions about their patients and acted accordingly. Many had elected to work in this type of setting and viewed themselves as the personal physician for "their" patients. It was not uncommon that these physicians served as the patient's advocate within and outside of this clinic. In short, the "communication gap" continued in spite of the positive intentions or motives on the part of most physicians.[16]

The general finding that communication barriers existed in spite of these conditions suggests that the task of effectively communicating is not simple. At minimum, the results indicate that it is possible to isolate "high risk" factors which interfere with the patient's ability to learn from the physician (less than high school education, Spanish-speaking, new prescriptions, cases in which three or more drugs have been prescribed).

A final implication of the results is that physicians do not give equal information or instruction to each patient, suggesting that the factors affecting information-giving need more investigation if we are to understand the content and process of the doctor-patient relationship. It was suggested in chapter 3 that communication

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[16] Others have reported that the communication gap between middle-class physicians and the poor persists even though the physician is "idealistic" and devoted to egalitarian medicine. See, M. Heagarty and L.S. Robertson, "Slave Doctors and Free Doctors -- A Participant Observer Study of the Physician-Patient Relation in a Low-Income Comprehensive-Care Program", New England Journal of Medicine, (March 25, 1971), 636-641.

practices varied by the prescribing physician. In this chapter, it was shown that physicians generally gave more instruction to patients with new prescriptions and patients receiving fewer drugs. These findings will be explored in chapter five.

SUMMARY

In this chapter, it was shown that other variables influence the extent to which the patient understands the physician's instructions. It was found that in spite of high instruction some patients did not recall or comprehend those messages apparently because elements of the communication were unfamiliar to them. They did not share the meaning of cues, symbols and categories used by the physician. These data suggest that a basic gap between certain patients and their physicians is that they do not share the same languages.

Another finding was that having prior experience with the prescribed drugs reduced the need for explicit instruction, especially if the patients' knowledge of how to use the drug was consistent with the current prescription. If the patient was given a low number of drugs, communication was also facilitated. Finally, the patient's attitude toward the physician was found to have some relationship to the extent to which the patient was able to utilize physician instruction: dissatisfied patients were more apt to have poor recall and understanding of what had transpired when they visited the doctor.

CHAPTER FIVE

GIVING INSTRUCTION: SOME CORRELATES OF PHYSICIAN BEHAVIOR

INTRODUCTION

Many investigators have reported that medical professionals do not give a considerable amount of information to their patients, and there has been some discussion about why this phenomenon exists.[1] Although the explanations have varied, the general emphasis has been on the professionals' reluctance to give more information. The prevalent view is that patients seek information but that professionals, who are in control of that information, withhold it for a variety of reasons: 1) the physician is faced with uncertainty and does not want to give unreliable information,[2] 2) practitioners work under considerable pressure and do not have enough time or resources to engage in patient education.[3] 3) the physician avoids giving

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[1]For several reviews of these issues see: E. Freidson, Profession of Medicine (New York: Dodd, Mead and Co.), 1970 and E. Freidson, Professional Dominance: The Social Structure of Medical Care (New York: Atherton Press, Inc.), 1970.

[2]F. Davis, Passage Through Crisis (Indianapolis: Bobbs-Merrill Co., Inc.), 1963; F. Davis, "Uncertainty in Medical Prognosis, Clinical and Functional," American Journal of Sociology, 66 (1960), 41-47. These works suggest that clinical uncertainty does not account for physician behavior in many instances.

[3]Although this is a common explanation offered by clinicians to researchers, it is interesting that there has been almost no effort to systematically evaluate the hypothesis.

information because he perceives the patient as being unable to comprehend and emotionally cope with it without creating additional management problems,[4] and/or 4) the professional views a more informed patient as a threat to his professional status or control over the situation.[5]

In spite of the fact that there has been very little systematic investigation of information-giving, sociologists have tended to conclude that the first and second explanations are probably rationalizations on the part of the medical profession. As stated by Freidson in Professional Dominance (1970), "...the reasons of uncertainty and time-pressure are rather too superficial to dwell on."[6] According to Freidson, the problem actually stems from the professionals' view of the patient as incompetent and from the professionals' desire to retain status and control. It is suggested that the patients' efforts to obtain information and the physicians' efforts to withhold information illustrate a basic feature of their interaction, namely, conflict.

> ...The patient is likely to want more information than the doctor is willing to give him -- more precise prognoses, for example, and more precise instructions. As Roth's study indicated, just as the doctor struggles to find ways of withholding some kinds of information, so will the patient be struggling to find ways of gaining assess to, or

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[4]L. Pratt et al.,"Physicians' Views on the Level of Medical Information Among Patients," American Journal of Public Health, 47 (1957), 1277-1283; F. Davis Ibid., 1963.

[5]E. Freidson, Professional Dominance, op.cit.

[6]Ibid., p.142.

inferring such information.[7]

Although patients may struggle to obtain more information and more precise instruction under various circumstances and physicians may generally view patients as unable to deal with more information or be threatened by having to give more information, our observations raise some questions about these generalizations. First, previous work has tended to neglect the possibility that physicians over-estimate the patients' ability to comprehend communciation, especially instructions. Second, there has not been enough attention paid to the patients' role in facilitating effective communication. Whether patients "struggle" to obtain precise instructions and information is an empirical question. Third, intensive observations of the same physicians at different times suggest that physician communication might be related to the amount of pressure under which the physician works and that this explanation could not be dismissed as superficial without systematic empirical investigation.

The primary objective of this chapter is to explore some of these issues and to isolate some of the factors which are associated with the amount of instruction which the physicians gave to patients regarding medication use.

The major research questions which will be asked are:

1. Do physicians give higher instruction to patients who have had less experience with

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[7] E. Freidson, Profession of Medicine, op.cit., p.322.

their drugs?

2. To what extent do patients indicate that they might need more instruction, clarification or information?

   a. Do patients admit that they are unfamiliar with the physicians' terminology?

   b. Do patients who feel that they need an interpreter communicate that need to the physician?

   c. To what extent do patients ask questions during their visit with the physician?

3. Do physicians provide more instruction to those patients who do indicate a need for more instructions, clarification or information?

4. Are the patients' characteristics (education, ethnicity, age or sex) related to the amount of instruction which was given?

5. Do physicians give less instruction when the situational demands of their work increase? Is it possible to measure the amount of pressure under which the physician works?

6. Does the amount of instruction vary among the individual physicians?

PATIENT EXPERIENCE AND PHYSICIAN INSTRUCTION

Like other humans in interaction, physicians were apparently making some effort to take the patients' point of view and level of knowledge into consideration while communicating with the patient. As noted in chapter 4, more instruction was given to patients whose medical record showed that they had had limited previous experience with the drugs being prescribed. Of all the variables explored, this variable most clearly differentiated

patients who received a high amount or a low amount of instruction. As shown in Table 5:1, 53 per cent of the patients with limited previous experience received a high amount of instruction from their physicians. In comparison, only 13 per cent of the more experienced patients received similar amounts of instruction.

TABLE 5 : 1

VOLUME OF PHYSICIAN INSTRUCTION BY PATIENT'S PREVIOUS EXPERIENCE WITH THE DRUGS BEING PRESCRIBED

PATIENT'S PREVIOUS EXPERIENCE WITH DRUGS BEING PRESCRIBED*	HIGH INSTRUCTION	LOW INSTRUCTION	TOTAL (n)
High Experience	13% (7)	87% (46)	100% (53)
Low Experience	53% (41)	47% (37)	100% (78)
TOTAL	37% (48)	63% (83)	100% (131)

* As defined in chapter 4.

Although it was not possible to systematically determine why physicians gave lower instruction to the more experienced patients, there was anecdotal evidence that they may have assumed that the patient knew how to take their drugs. In other words, they seemed to indicate some surprise when the experienced patient sought clarification of medical advice. In the following case, for example, the physician had prescribed a new medication for the patient's cold and appeared to be concluding the visit when the patient asked:

Ms. 105: Do I still take the pressure pills?

EBLING LIBRARY

Dr. 100: Oh, yes! Keep taking the blood pressure pills. If you run out, go to the pharmacy to get a refill and bring them the bottle.

Ms. 105: Oh, I see.

Dr. 100: This is for your cold (referring to new prescription). Take 1 three times a day. If you don't have it anymore, you don't have to take it. But continue taking the blood pressure pills.

The nature of the physician's response to the patient suggested that he had perhaps taken it for granted that the patient would know enough to continue taking the blood pressure pills, medication which had been prescribed at an earlier visit. Rather than resist the patient's request for precise instruction, the physician seemed to adapt his advice to this feedback.

Other data also indicated that the physicians attempted to anticipate and/or adapt to the patients' lack of experience in taking medications. It is recalled, for example, that the practitioners often used less technical terms for identifying commonly prescribed drugs. It was as if they had developed another language for communicating. Some of these substitute terms and their more technical equivalents were:

Term Used With Patients	More Technical Term
Heart Pills	Cardiovascular Drugs
Water Pills	Diuretics
Nerve Pills	Tranquilizers
Pain Pills	Analgesics
Pressure Pills	Anti-hypertensive Drugs

In short, there was some indication that physicians were attempting to anticipate their patients' needs, that their assumptions were sometimes inaccurate and that these assumptions were sometimes corrected in the course of interacting with the patient. Undoubtedly, some of these difficulties were a function of the fact that the physicians and patients did not share a common background and similar experiences. When the physician and patient share similar backgrounds, language and experiences, the physician presumably would begin the encounter by already knowing what his patient generally does and does not know. One might expect that the physician would be more able to accurately anticipate what type of message is necessary in order to at least achieve mutual understanding. In symbolic interactionist terms, the physician-patient similarity would perhaps enable the physician to "take the role" of the patient.

On the other hand, when the physician is not aware of the patient's language, knowledge and experiences, it is probable that the physician must discover more about the patient in order to anticipate what successful communication would entail. Like a diplomat going to another country, the practitioner might engage in preparatory training in the language and culture of the people with whom he is expected to interact and influence. The increasing popular notion that medical students should learn new languages and study the social sciences reflects this type of reasoning. Another somewhat popular solution is for the practitioner to utilize the

assistance of someone who knows the patient, for example, an indigenous or paraprofessional health worker.

Given the fact that most physicians do not obtain the type of preparatory training which might be necessary and that highly trained assistance is not usually available to the degree that it might be necessary, the practitioners are probably left with the choice of having to engage in a trial and error process whereby they attempt to communicate, learn where they have failed, modify their message effort and essentially develop a mutual understanding in the course of face-to-face interaction with the patient. In the latter case, effective and meaningful communication may depend upon the extent to which the physician obtains accurate feedback from the patient, unless the first trial was successful. The point is that through additional cues, the physician can revise and correct his assumptions about what the patient knows and does not know.

Following this line of reasoning, the working hypothesis was that instruction-giving might be a partial function of the amount of negative feedback which the physicians received from the patients.[8]

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[8]For a review of experimental evidence which supports this hypothesis under other circumstances, see J. Flavell, The Development of Role-Taking and Communication Skills in Children (New York: J. Wiley and Sons, Inc.), 1968, 36-39. Flavell's work stimulated much of the work in this chapter that relates to the concept of feedback and communication process.

PATIENT FEEDBACK AND PHYSICIAN INSTRUCTION

Clearly, there are many different ways in which a person can indicate that he is confused or has a need for more information and clarification. He can make an intentional and explicit request for clarification or information. Less intentional and explicit expressions might also be observed by observing facial expressions, bodily cues, and/or the speed and tone of a person's vocal response. It is also possible for a speaker to evaluate understanding by the appropriateness of another person's response to his original message. Ideally, the study of communication and feedback in a doctor's office would include all of these types of feedback which might be observed and utilized by the physician. In this project, however, it was not possible to explore each of these types due to the methodological limitations of the study, namely, it would be necessary to obtain an audio-visual recording of the interaction. Nevertheless, it is of theoretical interest to determine the extent to which patients initiate and explicitly request information or clarification. Consequently, the discussion which follows will be for the most part, limited to the more obvious forms of patient feedback, verbal statements and questions. Three areas will be explored: a) the extent to which patients admitted to the doctor that certain terms were unfamiliar to them, b) the extent to which Spanish-speaking patients admitted that they had difficulty understanding English, and c) the extent

to which all patients asked for information, clarification or repetition.

Patient Admission That Terms Are Unknown

As noted in previous chapters, physicians sometimes used terminology which was unfamiliar to or misunderstood by the patient. Interestingly, this lack of mutual understanding was not always apparent during the observation at the clinic. Physicians usually spoke as if they thought the patients would understand, and the patients usually acted as if they had understood. On the surface at least, it often appeared that mutual understanding had been achieved. One explanation for this phenomenon is that neither suspected any misunderstanding. In other words, the physician and the patient over-estimated the patients' level of knowledge. If the patient was unaware of his confusion, it would not be unusual for him to refrain from seeking more information and clarification. On the other hand, there was evidence to suggest that the lack of patient feedback was not simply due to the lack of awareness on the part of the patient. It is recalled that during the home interview, patients sometimes responded that they did not even recognize certain terms or did not know what they might mean. Assuming that these patients were also aware of that during their visit to the doctor, it is appropriate to examine whether they communicated their confusion or lack of knowledge to the doctor.

Having isolated 52 cases in which the patient reported to the interviewer that he/she did not recognize or know the meaning of at least one term, a systematic analysis of observational data was done to determine whether any patient feedback had occurred. A very broad definition of feedback was used: any statement or question which might suggest that the patient had not understood the unfamiliar term. The results of this analysis are shown in Table 5:2. As shown, the typical patient response after hearing an unfamiliar term was to remain silent: 44 per cent remained silent.

TABLE 5 : 2

PATIENT RESPONSE AFTER PHYSICIAN USED TERMINOLOGY WHICH PATIENT DID NOT RECOGNIZE*

PATIENT RESPONSE	%	(n)
Silence	44%	(23)
Spoke Without Admitting That Term Was Unknown	33%	(17)
Both of Above at Different Times During Visit **	8%	(4)
Admitted That Did Not Recognize or Understand the Term at Least Once During Encounter	15%	(8)
TOTAL	100%	(52)

* A total of 52 patients did not recognize one or more of the terms selected from observational transcripts. This does not include patients who misunderstood the term(s) or thought that they knew the meaning.

** Since some patients failed to recognized more than one selected term, it was possible to respond differently. If the patient responded by being silent each time, for example, then his response was categorized as being silent.

Although silence might suggest limited understanding, it is important to note that silence also seemed to prevail when the patient had understood. In about one-third of the cases, the patient answered the doctor's question or spoke without indicating that the doctor's previous statement had been in some way confusing. In a few cases, the response varied: the patient was silent after some words and spoke without admitting confusion after other words. Only 15 percent of the patients admitted that they had not understood the doctor, as shown in Table 5:2.

These data suggest that the lack of explicit patient feedback is not simply due to lack of awareness on the patient's part. On the contrary, it is possible that patients withhold certain information from the physician. (Some of the reasons for this type of response will be discussed in chapter 6.)

Patient Admission of The Need For An Interpreter

A similar problem was apparent in the case of Spanish-speaking patients. As noted in chapter 4, some of the patients who later told interviewers that they needed interpreters had not, in fact, received full-time assistance in that respect: 13 of the 28 patients who felt a need for an interpreter had not received that help. Utilizing the same approach as above, it was asked: had these particular patients communicated their perceived need for interpretation to the physician?

Generally speaking, the review of observational data indicated that these patients had not explicitly expressed a desire for an interpreter during the early phase of their encounter with the physician. Rather than request assistance or say that they were not understanding very well, they tended to remain rather silent and to answer the physician without elaboration.

Although it is quite plausible that these patients knew more English than those who did receive an interpreter and perhaps thought that they could manage at the time, it was also evident that at least 7 of the 13 patients were having difficulty during the encounter. In these cases, the observer had noted at the time that the patient had limited fluency or in some other way seemed to be confused (for example, shrugging the shoulders to simple questions, "a blank look," pointing to one part of the body and calling it by another name in English). Some of these patients finally stated that they had not understood or could not express themselves in English, but it was found that this more explicit feedback to the physician usually did not come about until after the physician asked an open-ended question, a question which could not be answered in a "yes" or "no" fashion. It is noteworthy that in the remaining cases (six of the thirteen), there was no indication, verbal or non-verbal, that the patient had needed or desired an interpreter when interacting with the doctor.

It is, of course, possible that some of these patients simply preferred having an interpreter with them. However, the finding

that they failed to understand or recognize some of the terms at the home interview seemed to validate their perceived need. Indeed, the interview data suggested that patients had sometimes responded to the physician's questions even though they had not understood the key word in the question. It was not unusual for a Spanish-speaking patient to respond to the physician's history-taking in a negative direction even though he did not know what was asked. For example, one patient answered "no" to the physician's question "have you ever had heart trouble" even though she did not know what "heart" meant when that term was presented in the language used by the physician (English). The Spanish equivalent was recognized.

Asking Questions: Another Form of Feedback

Unfortunately, it was not possible to fully ascertain how many questions the patients might have wanted to ask at the time of their encounter with the physician. When the observational data on patient inquiry in the physician's office were compared with interview data, it is, nevertheless, apparent that patients did not always seek as much information or clarification as they felt necessary or desirable.

In spite of a very broad definition of patient inquiry (any request for information, clarification or repetition on any topic), it was found that 43 per cent of the patients did not ask any questions. The average number of questions per encounter was 1.7, a finding

which is consistent with that reported in a study conducted over ten years ago.[10] The median number of patient questions was 1.0, and the mode was for the patient to ask no questions while interacting with the physician.

Further, it should be noted that only 23 patients asked at least one question about the medication which was being prescribed. These questions are included in the data summarized in Table 5:3.

TABLE 5 : 3

THE FREQUENCY OF PATIENT INQUIRY DURING THE CLINIC ENCOUNTER

NUMBER OF QUESTIONS ASKED BY THE PATIENT*	%	(n)
None	43%	(56)
One	22%	(29)
Two	11%	(15)
Three	8%	(11)
Four	4%	(5)
Five	3%	(4)
Six	2%	(2)
Seven	1%	(1)
Eight	1%	(1)
Nine	2%	(3)
Ten	3%	(4)
TOTAL	100%	(131)

* This number pertains to all questions, except some requests for certain diagnostic procedures or treatments.

Although these data show that patients did not engage in very much information seeking while they were in the physicians' offices, this does not mean that they did not have questions. Other data

[10] Pratt et al, op.cit.

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collected after these encounters suggested that patients might have been unwilling to present these requests to the physicians. First, it was learned that patients occasionally asked other clinic staff (medical assistants,receptionists, pharmacy staff, and family health workers) about prescriptions, among other things. Second, the interview materials indicated that patients had some questions which had not been presented to the doctor. Indeed, one of the problems in training and supervising interviewers was the issue of how to handle questions which were presented to the interviewer. There were many reasons why the interviewer could do no more than "pass the buck," the common response which advises the patient to "Go ask your doctor."[11] On the other hand, the interviewers were uncomfortable with having to refer the patient back to the doctor, because it was their impression that the patient would merely wait until his next scheduled appointment or perhaps never ask the questions which they had. In addition, more systematic data showed that the majority of all patients had at least one question about the illness or condition being treated. When asked "Is there anything about the _____(condition) that you would like to know, even little things?", fifty-nine (59) per cent of the patients responded in the affirmative.

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[11] As discussed previously, interviewers were not fully informed about the details of the physicians' verbal instructions. Second, it was important to maintain the interviewer's role as being independent of the patient's team at the clinic so that the patient could feel free to admit confusion, non-compliance and dissatisfaction. Finally, every effort had to be made to retain the cooperation of the physicians, as well as other staff. Unauthorized and incorrect advice might have jeopardized that cooperation.

In summary, the general picture obtained was that the patients in this sample were, to some extent, withholding feedback while they were with the physician. At minimum, there was a very low demand for clarification or information which might have resolved the previously discussed lack of understanding between the physician and the patients.

Patient Inquiry and Physician Instruction

Whether physicians gave more instruction to the patients who did seek clarification, information or repetition is the remaining question. First, it was clear that the physicians did respond to patients' inquiries when they asked about the medications which were being prescribed. Of the 23 cases in which this occurred, the physicians answered the patient in every case except one.

It is possible, of course, that patient questioning on any topic would lead the physician to give more explicit instructions on medication. For this reason, the relationship between the amount of instruction and the general level of patient inquiry was also examined, and the results are shown in Table 5:4. If the patients' prior experience with their drugs is held constant, the findings reveal that patient inquiry does tend to be positively associated with the amount of instruction received. The highest amount of instruction was given to patients who had had a limited experience with the drugs and who had asked more questions during the clinic visit: 64 per cent of these patients received a high amount of instruction from the physicians. At the other extreme,

it is shown that only 6 per cent of the more experienced and more reserved patients received communications which were classified as being highly instructive.

Although the relationship between patient inquiry and high instruction is more evident among patients who had previous experience with their drugs, the findings are in the predicted direction.

Given the finding that physicians usually responded to the patients' questions about medication and the finding that physician instruction tends to be higher among patients who ask many types of questions, it is clearly impossible to ignore the possibility that professional-lay misunderstanding persisted, in part, because the patients in this clinic revealed little about themselves and/or demanded very little from their physicians.

(See following page)

TABLE 5 : 4

VOLUME OF PHYSICIAN INSTRUCTION BY PATIENT'S PREVIOUS EXPERIENCE AND BY NUMBER OF QUESTIONS ASKED BY PATIENT

PREVIOUS EXPERIENCE AND NUMBER OF QUESTIONS	HIGH INSTRUCTION	LOW INSTRUCTION	TOTAL (n)
LOW PREVIOUS EXPERIENCE WITH DRUGS			
Three or more Questions	64% (9)	36% (5)	100% (14)
Less Than Three Questions	50% (32)	50% (32)	100% (64)
TOTAL	53% (41)	47% (37)	100% (78)
HIGH PREVIOUS EXPERIENCE WITH DRUGS			
Three or More Questions	29% (5)	71% (12)	100% (17)
Less Than Three Questions	6% (2)	94% (34)	100% (36)
TOTAL	13% (7)	87% (46)	100% (53)

PATIENT CHARACTERISTICS AND PHYSICIAN INSTRUCTION

Another way in which the physician might assess the patient's potential need for more explicit instruction is to consider certain attributes of the patient: education, ethnicity, age and sex. It is possible that physicians give more explicit instructions to people who are often thought to have less knowledge about health matters. One might expect, then, that the less educated patients,

older patients and male patients receive more instruction. Since the presence of language barriers might also be associated with less exposure to other matters and perhaps less ability to understand verbal instructions, one might also expect greater explicit and written instruction to Puerto Rican patients.

Whether or not physicians actually made such assumptions is a question which is beyond the design of this research. The observational data suggest, however, that the patient's attributes generally were not related to the physician's behavior.

Patient Education and Physician Instruction

Contrary to the hypothesis that physicians will give more instruction to patients who have less formal education, it was found that the differences among patients were quite small on this variable. Controlling for the patient's previous experience, it was found that patients with eight or less years of formal education (low education) did receive more instruction, but the range of differences between the patient groups was only two to seven per cent (see Table 5:5). These conclusions should, of course, be regarded with considerable caution, because, as noted previously, this sample included only one patient with some college education.

TABLE 5 : 5

VOLUME OF PHYSICIAN INSTRUCTION BY PATIENT'S PREVIOUS EXPERIENCE WITH THE DRUGS AND BY EDUCATION

PREVIOUS EXPERIENCE AND EDUCATION	HIGH INSTRUCTION	LOW INSTRUCTION	TOTAL (n)
LOW PREVIOUS EXPERIENCE WITH THE DRUGS			
High Education	53% (20)	47% (18)	100% (38)
Low Education	55% (17)	45% (14)	100% (31)
Not Ascertained	44% (4)	56% (5)	100% (9)
TOTAL	53% (41)	47% (37)	100% (78)
HIGH PREVIOUS EXPERIENCE WITH THE DRUGS			
High Education	9% (2)	91% (21)	100% (23)
Low Education	16% (3)	84% (16)	100% (19)
Not Ascertained	18% (2)	82% (9)	100% (11)
TOTAL	13% (7)	87% (46)	100% (53)

Patient Ethnicity and Physician Instruction

Although it seems plausible that Spanish-speaking patients would need more explicit and written communication about how to take medications, it was found that physicians were generally not more instructive with these patients. As shown in Table 5:6, there was almost no difference in the amount of instruction which was received by the Spanish and non-Spanish speaking patients

who had high experience with their drugs. Contrary to what was originally expected, the Spanish speaking patients who had low experience with their drugs were less apt to receive high instruction than other patients with a similar amount of previous experience, 47 per cent and 61 per cent, respectively.

TABLE 5 : 6

VOLUME OF PHYSICIAN INSTRUCTION BY PATIENT'S PREVIOUS EXPERIENCE WITH DRUGS AND BY ETHNICITY OF PATIENT

PREVIOUS EXPERIENCE AND ETHNICITY	HIGH INSTRUCTION	LOW INSTRUCTION	TOTAL (n)
LOW PREVIOUS EXPERIENCE WITH THE DRUGS			
Spanish Speaking	47% (21)	53% (24)	100% (45)
Non-Spanish* Speaking	61% (20)	39% (13)	100% (33)
TOTAL	53% (41)	47% (37)	100% (78)
HIGH PREVIOUS EXPERIENCE WITH THE DRUGS			
Spanish Speaking	14% (2)	86% (12)	100% (14)
Non-Spanish Speaking	13% (5)	87% (34)	100% (39)
TOTAL	13% (7)	87% (46)	100% (53)

* Non-Spanish speaking patients primarily refer to Black patients, since the number of White, non-Spanish-speaking patients was small, these patients were included here.

Patient Age, Sex and Physician Instruction

When the amount of physician instruction was related to the patients' age and sex, the differences among patients were negligible (see Tables 5:7 and 5:8). The difference between patients who were less than 46 years old and patients who were 46 years old or older ranged from three to seven per cent, when controlling for the patients' previous experience with their drugs (see Table 5:7). Alternative categorizations of the variable of age did not seem to affect the relationship or lack of it.

TABLE 5 : 7

VOLUME OF PHYSICIAN INSTRUCTION BY PATIENTS PREVIOUS EXPERIENCE WITH THE DRUGS AND BY AGE OF PATIENT

PREVIOUS EXPERIENCE AND AGE	HIGH INSTRUCTION	LOW INSTRUCTION	TOTAL (n)
LOW PREVIOUS EXPERIENCE WITH THE DRUGS			
14-45 years old	51% (30)	49% (29)	100% (59)
46 years or more	58% (11)	42% (8)	100% (19)
TOTAL	53% (41)	47% (37)	100% (78)
HIGH PREVIOUS EXPERIENCE WITH THE DRUGS			
14-45 years old	11% (2)	89% (16)	100% (18)
46 years or more	14% (5)	86% (30)	100% (35)
TOTAL	13% (7)	87% (46)	100% (53)

In Table 5:8, it can be noted that similar results were obtained when the relationship between the patients' sex and the amount of instruction was explored. Male patients who had a low previous experience with their drugs were more likely to receive high instruction, but the difference was only 11 per cent.

TABLE 5 : 8

VOLUME OF PHYSICIAN INSTRUCTION BY PATIENT'S PREVIOUS EXPERIENCE WITH THE DRUGS AND BY SEX OF PATIENT

PREVIOUS EXPERIENCE AND SEX	HIGH INSTRUCTION	LOW INSTRUCTION	TOTAL (n)
LOW PREVIOUS EXPERIENCE WITH THE DRUGS			
Male	61% (11)	39% (7)	100% (18)
Female	50% (30)	50% (30)	100% (60)
TOTAL	53% (41)	47% (37)	100% (78)
HIGH PREVIOUS EXPERIENCE WITH THE DRUGS			
Male	14% (2)	86% (12)	100% (14)
Female	13% (5)	87% (34)	100% (39)
TOTAL	13% (7)	87% (46)	100% (53)

THE PRESSURE OF TIME: DOES THE BUSY DOCTOR GIVE LESS INSTRUCTION?

A frequent statement made by physicians is that they often lack the time to devote to patient education. Observing the same physicians under different working conditions led to the impression that there might, in fact, be some evidence to support that claim. On some days, the atmosphere in the clinic seemed to be relaxed and not at all busy. The work proceeded smoothly and, as in other work settings, there seemed to be enough time for coffee breaks and informal conversations among staff members. On other days, a distinctly different atmosphere prevailed. During these clinic sessions, which were often characterized by the staff as busy, hectic, or frustrating, staff appeared to be working under considerably more pressure. Physicians and medical assistants appeared harrassed or in a hurry. Tempers flared, voices were raised, and the pace of walking and talking was notably increased. Afterwards, the physicians sometimes volunteered that they were tired, and it was not difficult to emphathize as the observer also felt fatigue.

Several questions were raised as a result of these experiences. First, is it possible to quantify the amount of pressure under which the physician was working during a given clinic session? And, second, is there a relationship between the amount of pressure upon the physician and the amount of instruction which is given to the patient?

The initial and somewhat simplistic assumption was that the amount of pressure upon the physician was merely a function of the number of patients who were seen by the physician during the clinic session attended by the patient. The hypothesis at this early stage of exploratory study was that the amount of physician instruction would be negatively related to the number of patients seen during the session which was usually scheduled to last for three hours.

As shown in Table 5:9, the data did not provide much support for this hypothesis. Patients who were seen during the busier sessions (a session in which the physician saw 12 or more patients) did receive less instruction regarding medication use, but when controlling for the patients' previous experience these differences were minimal and ranged from two to eight per cent. This negative finding led to the recognition that a more sensitive measure of pressure upon the physician needed to be developed.

(See following page)

TABLE 5 : 9

VOLUME OF PHYSICIAN INSTRUCTION BY PATIENT'S PREVIOUS EXPERIENCE WITH THE DRUGS AND NUMBER OF PATIENTS SEEN DURING THE CLINIC SESSION

PATIENT EXPERIENCE AND NUMBER OF PATIENTS SEEN BY PHYSICIAN	HIGH INSTRUCTION	LOW INSTRUCTION	TOTAL (n)
LOW PREVIOUS EXPERIENCE WITH THE DRUGS			
12 or More Patients	51% (18)	49% (17)	100% (35)
Less than 12 Patients	53% (23)	47% (20)	100% (43)
TOTAL	53% (41)	47% (37)	100% (78)
HIGH PREVIOUS EXPERIENCE WITH THE DRUGS			
12 or More Patients	7% (1)	93% (13)	100% (14)
Less than 12 Patients	15% (6)	85% (33)	100% (39)
TOTAL	13% (7)	87% (46)	100% (53)

A review of the field notes , especially those which pertained to physician complaints, suggested that the number of patients was simply one condition of many which might make the work situation a demanding one from their point of view. First, it was necessary to consider the flow of work and whether it was evenly dispersed over the time period which was available. Apparently, the ideal situation was one in which patients arrived for treatment at fairly equal

intervals so that patients could be seen "on time." In other words, physicians seemed to be under greater pressure if there was a "back-log" of waiting patients. Similarly, the physician seemed to be under greater pressure if the work was not finished at the end of the scheduled session. Essentially, the physician seemed concerned with the amount of work (number of patients) as well as when that work could be accomplished.

In order to understand these pressures, one needs to understand the physician role and what others expected of the physician. In addition to making a sound diagnosis and prescribing an appropriate treatment, the physician was expected to adhere to a time schedule which had been determined, for the most part, by the administrators of the clinic. With the exception of the screening unit which functioned as a "walk-in" clinic, patients were usually scheduled to see the physician at 15 minute intervals during clinic sessions which were scheduled for the hours of 9 a.m.-12 p.m., 2 p.m.-5 p.m. 6 p.m.-9 p.m.

Whenever the physicians did not adhere to this schedule, social pressure was evident. Patients complained if they had to wait too long beyond their appointment time, and the physicians were aware of the fact that patients occasionally left the clinic without seeing the doctor under these circumstances. Medical assistants and receptionists let it be known that they did not appreciate working during their lunch hour and would sometimes ask if they could leave at the end of their day even though some patients

were still waiting to be seen by the doctor. Physicians were also aware that other staff needed the space which they were using and that it was necessary to "clear out" before the next scheduled session. Physicians were also subject to social pressure if they did not arrive on time for scheduled meetings, conferences and other activities which had been scheduled at other times. And, at the conclusion of the evening session, they were sometimes subject to subtle pressure from the pharmacists who would call the doctor's office to determine whether any more medications were needed before they left to go home.

A second set of constraints under which the physicians sometimes worked, related to the accessibility and adequacy of resources which enabled them to give quality medical care within the time limits. One common complaint, for example, was that the patient's medical record was missing or that the laboratory, x-ray and consultation reports had not yet been filed in the patient's chart. At other times, they noted that the reports were inadequate or incomplete. Not having these data meant that the physician had to exert additional effort to search for the information, duplicate previous procedures or examinations, delay making a diagnosis or evaluation of the patient's progress, and/or act without this information. Whatever was decided, the physician faced an additional loss of time or the risk of making an inappropriate decision.

Searching for the data required making time-consuming phone calls or releasing the medical assistant so that she could go to the

respective departments where these data might be located. Needless to say, the absence of the assistant further complicated the situation in the sense that the physician, if further time was not to be lost, had to continue history-taking without an interpreter or continue the examination process without someone to assist in preparing the patient. If the practitioner decided to repeat the laboratory and x-ray procedures, more time had to be taken to fill out new forms and to alleviate the patient's fear and annoyance at having to repeat something which they had already done.[12] Delaying action or acting without information was probably less time-consuming in the short-run, but these decisions also implied pressure upon the physician. Among other things, the physicians complained that they were forced to compromise the quality of care which they could give. It was beyond the purpose of this research to assess why physicians decided as they did when faced with these conditions, but it was clear that not having easy access to adequate information created a variety of pressures for them.

Another resource which was sometimes problematic was assistance from colleagues or co-workers. Sometimes, a colleague who had been scheduled to "take over" some of the "patient load," as the physi-

[12]It was not uncommon for patients to express some hesitancy about cooperating with these requests. Their reasons varied: inconvenience, pain, fear of losing more blood, fear of excessive exposure to radiation and so on. Patients did not complain to the physicians as vehemently as they did to the interviewers, but physicians seemed to be aware of these attitudes and occasionally had to deal with patient reluctance to cooperate with these requests.

cians expressed it, failed to appear. As suggested above, other co-workers were not always available or able to perform their roles as expected by the physician who expected assistance in order to finish seeing patients by the end of the session. From the physician's perspective, errors made by others were a "waste of time" and "frustrating." As an illustration, the following scene is summarized from field notes.

> I (observer) heard Dr. 200 speaking rather loudly from another room in the unit. She sounded very angry. Being curious as to what had happened and why she was swearing, I went across the hall to where she was angrily confronting a family health worker. Apparently, a mix-up had occurred. A set of related diagnostic procedures had been improperly coordinated for an elderly patient suspected of having a serious condition. As a result, the chest x-ray had to be repeated and it was necessary to fill out another set of forms for this and the lung scan which was to be done at _____ Hospital. After trying to determine why the chest x-ray had been done at an improper time and why the request form for the lung scan had been lost and after reiterating the rationale for coordinating the procedures, the physician tried to apologize to the family health worker, "I'm not angry at you, but it is frustrating. It takes 15 minutes of my valuable time to do these things all over again."

Another frustration for the physicians was not being able to locate appropriate or functioning equipment and supplies. For example, physicians and medical assistants were sometimes observed searching throughout the unit for appropriate needles, instruments for examination, and forms for requesting further diagnostic procedures. Not having immediate access to these resources also implied loss of time and frustration.

A third set of conditions which apparently created more pressure for the physician was additional demands and interruptions from colleagues and other staff members who wanted to confer with the doctor during the clinic session and, at times, while the physician was examining or talking with a patient. Finally, there were the special demands of having to manage a patient with an apparently urgent condition which required immediate, careful and lengthy attention. In some of these cases, the physician also had to engage in extensive and frustrating efforts to obtain admission to the hospital.

Having identified some of the pressures under which the physician worked, an effort was then made to develop a more composite index of the amount of pressure which was operating during each of the 25 sessions which were observed. Eight items were defined and included in the index, as outlined below. The score for each session was based upon a content analysis of all field notes and observations which had been made by the project assistant sitting in the waiting area and by the investigator who was observing the physician. Each item was counted only once for the session. The weights which were attached to each item and the frequency of observing each item are shown below:

PRESSURE ON THE PHYSICIAN:*
AN INDEX BASED ON OBSERVATIONS IN THE CLINIC

	ITEM	OBSERVED FREQUENCY*	WEIGHT
I	12 or more patients seen per session.	6	+2
II	3 or more patients at any time during session.	13	+2
III	"Emergency" case	5	+2
IV	Medical Chart or data not available or adequate.	21	+2
V	Equipment or supply not available or adequate.	13	+1
VI	Co-worker absent or not performing as expected.	18	+1
VII	Telephone or person interrupts during examination or consultation with patient.	18	+1
VIII	Physician still seeing patient(s) at 12 p.m., 5 p.m., or 9 p.m.(end of session).	13	+1
	TOTAL POSSIBLE	25	+12

* The frequencies pertain to the number of clinic sessions during which the events were observed. Twenty-five sessions were observed, excluding the pilot phase.

Defining "high pressure" as a score of +6 or more, it was found that physicians were working under high pressure during 13 of the 25 clinic sessions which were observed. With the

exception of Dr. 700, each physician was observed under varying degrees of pressure. Table 5:10 shows the distribution of pressure by physician.

TABLE 5 : 10

OBSERVED PRESSURE ON THE PHYSICIAN
BY PHYSICIAN

PHYSICIAN	HIGH PRESSURE	LOW PRESSURE	TOTAL NUMBER OF SESSIONS
000	1	2	3
100	1	2	3
200	2	2	4
300	2	2	4
400	2	1	3
500	1	2	3
600	1	1	2
700	3	0	3
TOTAL NUMBER SESSIONS	13	12	25

Acknowledging that this index is limited to the over-all pressure under which the physician was working during the session rather than the specific amount of pressure which existed at the time of a particular patient encounter, an effort was made to determine whether this variable was associated with the amount of instruction given by the physician. The results shown in Table 5:11 are somewhat inconsistent with the hypothesis that instruction and pressure are positively associated.

TABLE 5 : 11

VOLUME OF PHYSICIAN INSTRUCTION BY PATIENT'S PREVIOUS EXPERIENCE AND BY AMOUNT OF PRESSURE UPON THE PHYSICIAN

PREVIOUS EXPERIENCE AND PRESSURE ON THE PHYSICIAN	HIGH INSTRUCTION	LOW INSTRUCTION	TOTAL (n)
LOW PREVIOUS EXPERIENCE WITH THE DRUGS			
High Pressure Upon the Physician	56% (31)	44% (25)	100% (56)
Low Pressure Upon the Physician	45% (10)	55% (12)	100% (22)
TOTAL	53% (41)	47% (37)	100% (78)
HIGH PREVIOUS EXPERIENCE WITH THE DRUGS			
High Pressure Upon the Physician	9% (3)	91% (32)	100% (35)
Low Pressure Upon the Physician	22% (4)	78% (14)	100% (18)
TOTAL	13% (7)	87% (46)	100% (53)

Of the patients' who had had a low degree of prior experience with their drugs, more instruction was given when the physician was under greater pressure. When the patient had had high previous experience, the findings are reversed: physicians gave more explicit instruction during sessions in which they were under less pressure, 22 per cent as opposed to 9 per cent received a high

amount of instruction.

Although these findings do not indicate much support for the notion that increased pressure limits the physicians' volume of instruction, the exploration of this issue led to additional hypotheses which, as will be discussed in chapter 6, focused upon other ways in which the pressure upon the physician might affect interaction with the patient (see chapter 6 for a discussion of the relationship between pressure upon the physician and the extent to which he or she relates to the patient in an approachable manner).

PHYSICIAN DIFFERENCES IN GIVING INSTRUCTION

As noted in chapter 4, initial case studies suggested various differences among the eight physicians in terms of instruction behavior. A more systematic analysis provides further support. First, certain physicians were more apt to utilize the methods of labelling which were found to be effective in chapter 3. Table 5:12 shows whether or not each physician usually utilized the selected methods of labelling containers. As shown, Drs. 300 and 400 typically used more of the selected methods than the other physicians. At the other extreme were Drs. 000 and 600, who typically used only one of the five methods of labelling.

TABLE 5 : 12

TYPICAL METHODS OF LABELLING MEDICATION CONTAINERS BY PHYSICIAN*

TYPICAL METHOD OF LABELLING	000	100	200	300	400	500	600	700	TOTAL
A. Dosage Change Gives New Container, Alters Old Label Or Gives Written Record of The Change.	+	+	+	+	+	+	+	-	(7)
B. Symptom Relief Writes That Drug Should Be Taken "As Needed." **	-	+	+	+	+	+	-	+	(6)
C. Dosage Schedule Of Anti-biotics States Dosage In Explicit Terms.	-	+	-	+	+	+	N.A.	+	(5)
D. Length of Use Specified How Long Anti-Infective Drugs Should Be Used.	-	-	-	+	+	-	-	-	(2)
E. Purpose of Drug States Condition For Which Drug Should Be Used.	-	-	-	-	+	-	-	+	(2)
TOTAL NUMBER OF METHODS USUALLY UTILIZED BY PHYSICIAN.	(1)	(3)	(2)	(4)	(5)	(3)	(1)	(3)	

* The typical method of labelling refers to the most frequently observed for each physician, except in Item E, Dr. 400 specified purpose in 55 per cent of cases and Dr. 700 specified purpose in 39 per cent of cases. All others were less than 20 per cent.

** To avoid possible variation in types of problems being treated, the physicians were compared only on their labelling of medication given for symptomatic relief of pain.

The physicians were also compared by computing the mean and median amount of instruction which they gave to their patients. Utilizing the index of instruction which was more fully described in chapter 3 and which includes the physicians' written as well as verbal instruction, it was found that the mean and median instruction scores varied from +4.5 (high instruction) to +2.6 (low instruction). As indicated in Table 5:13, the patients of Dr. 100 and Dr. 400 received more instruction than did patients who visited the other doctors. Patients of Drs. 000 and 700 tended to receive the least instruction. Although the remaining physicians (200, 300, 500, 600) gave more instruction than did Drs. 000 and 700, their mean and median scores would be classified as "low instruction" (as defined in chapter 3).

It is not known why these differences existed. Comparing the characteristics of Drs. 100 and 400 with other physicians in the study did not suggest any unique characteristics in terms of specialty training or qualification, sex, age or ethnicity. Similarly, both physicians seemed to have a positive orientation towards the type of patient population which they were serving and the type of clinic in which they were working, but some of the other physicians had similar orientations. Unfortunately, it was not feasible to collect systematic data about the physicians' attitudes toward their ideal role as a physician and toward their conception of the ideal patient role among other subjects.

TABLE 5 : 13

AMOUNT OF PHYSICIAN INSTRUCTION BY PHYSICIAN*

PHYSICIAN	MEAN INSTRUCTION SCORE	MEDIAN INSTRUCTION SCORE	NUMBER OF PATIENTS
000	3.0	2.5	(22)
100	4.5	4.0	(11)
200	3.5	3.5	(13)
300	3.4	3.0	(17)
400	4.5	4.5	(22)
500	3.3	3.5	(15)
600	3.4	3.0	(13)
700	2.6	2.6	(18)
TOTAL	3.4	3.0	(131)

* The mean and median instruction scores refer to the patients' scores on the index of physician instruction which was described in chapter 3. It will be recalled that the range of this index was from + 12 to -2, and that a score of + 4 or higher was classified as high instruction.

ISSUES AND IMPLICATIONS

As mentioned earlier, a general theme in the literature on the doctor-patient relationship has been that professionals control information and fail to respond to patient efforts to obtain more precise instructions and information. It is interesting that these discussions have focused primarily on the professional and his motives for evading the patient. The findings reported here suggest that this is a somewhat narrow perspective in that it

neglects the extent to which the lay person also fails to be explicit when communicating with the physician. Certainly, the patients in this study did not make considerable demands upon the physician to give more information and instruction. Indeed, it would appear that patients may have been withholding certain information. At minimum, these data suggest that the misunderstandings between the physicians and the patients in this clinic might have been partially due to the fact that their communication was not a "two-way" process. Rather, communication tended to flow in one direction -- from physician to patient, with minimal feedback from the patient.

Clearly, these findings point to the need for additional research in the area of role-taking and communication in medical settings. There is the need to determine how physicians assess the needs of individual patients, not patients in general. Ideally, this type of investigation would entail a direct assessment of the physician's perception of the particular patient and the physician's assessment of the communication which had been given. The fact that the patients' previous experience with the drugs was associated with the amount of instruction received, underscores the importance of exploring the ways in which the physician assesses the patient and his need for explicit instruction.

There are also unanswered questions about the relationship between pressure upon the physician and the amount of instruction which is

given to the patient. Obviously, there are several limitations to the approach which was discussed above. First, it is possible that a more inclusive index, which would also measure the degree of pressure at various points throughout the session, might be necessary in order to test the hypothesis that increased pressure leads to reduced amounts of instruction. Also, it might be important to improve the methods by which one determines the various items. It is possible that the observer was not always aware of such matters as missing data or physician dissatisfaction with his co-workers, for example. The dilemma, of course, is that more valid measures would probably require interviewing the physician during the treatment process and, in effect, adding one more pressure upon the physician. Finally, it should be made clear that the data which were collected do not allow one to draw any conclusions about the extent to which pressure upon the physician might affect the physicians' tendency to give information other than instruction regarding medication use. Whether or not the physician transmits more information about the diagnosis, prognosis and so on when he or she is working under less pressure is a question which was not addressed in this study.

Why a few of the eight physicians were more explicit and instructive with their patients is also an unanswered question which was raised by this investigation.

SUMMARY

In an effort to isolate some of the factors which are associated

with the amount of instruction given by the physician, it was found that instruction was greater for patients who were receiving their drugs for the first time and, to a limited extent, for patients who asked more questions while they were interacting with the physician. A major finding was that the patients offered very little feedback to the physician while they were in the physician's office. There was minimal expression of confusion and lack of understanding, in spite of various data which imply that patients were confused and had questions to ask. Some of the reasons for the lack of patient feedback and inquiry will be discussed in chapter 6.

Contrary to what might be expected, the amount of instruction did not vary by the patients' characteristics. Under certain conditions, Spanish-speaking patients received less instruction, but this was not a general relationship. Likewise, the data did not provide support for the hypothesis that pressure upon the physician reduced the volume of instruction.

Finally, the amount of instruction did vary among the physicians.

CHAPTER SIX

PATIENT PASSIVITY: SOME CORRELATES OF PATIENT BEHAVIOR

INTRODUCTION

In Chapter Five, it was reported that only 24 per cent of the patients asked three or more questions while they were in the doctor's office. Given what is known about the typical doctor-patient interaction pattern, this finding is not very surprising. Indeed, the nature of the distribution (a-J curve) would suggest that there is a normative constraint operating in the doctor's office, namely, that the patient should defer to medical authority. Although comparative data are not available, this finding also fits with the well-known assumption that patient passivity is especially evident among the lower socio-economic classes and in a clinic setting.

Some important questions remain, however: why do some patients deviate from the presumed norm? What factors would explain variation in patient behavior within the same type of setting and within a lower socio-economic group of patients? Is it true that patients are subject to social pressure which leads them to refrain from expressing themselves and initiating requests for information?

The primary objective of this chapter is to explore the dynamics of patient participation, especially as it pertains to the patients' willingness to ask questions during the clinic visit.

Four general questions will be asked:

1) Are patients unwilling to expose ignorance?

2) Is the level of patient inquiry associated with the way in which the physician behaved during the encounter?

3) Does the level of patient inquiry vary by the patients' education, ethnicity, sex and/or age?

4) Is patient level of inquiry related to the amount of previous contact with the physician?

PATIENT UNWILLINGNESS TO APPEAR IGNORANT

Consistent with the findings of Duff and Hollingshead (1968), there was qualitative evidence that low patient inquiry might be related, in part, to the patients' reluctance to give the impression that they were uneducated, confused or of limited intelligence. The patients' responses to the interviewer's questions on medical terminology and other terms were illustrative. In spite of efforts to construct and administer this section of the interview in such a way as to avoid giving the patient the idea that his intelligence was being tested, some patients, nevertheless, became very uncomfortable when asked what certain words meant to them. Some tried to avoid answering by saying that they never had had the mentioned

disease, prodedure or whatever. In some cases, the patients tried to rationalize their lack of understanding rather than simply say that they did not know what a word meant:

> I knew all those when I was young.
>
> My mind isn't so good with the high blood pressure. Things go out of my mind.
>
> I've had plenty of education. I just don't read much anymore.

A few patients refused to answer the questions and angrily confronted the interviewer by asking, "What do you think I am? Stupid?" A few became "tired" during this particular phase of the interview.

It was necessary to train the interviewers in standard ways of dealing with patient embarrassment and of reassuring the patient when such situations came up. Despite these reassurances, a few patients even sought the interviewer's help in giving a false impression. According to the interviewer reports, these patients tried to gain their cooperation in writing down "the right answer" so that no one, including the doctor, would know what they actually thought. The reluctance to appear "dumb" is evident in the following interviewer-patient conversation:

> MS. 721: Is Dr. 700 going to see this you are doing?
>
> INTERVIEWER : (Reassured that he would not.)

MS 721: Oh, because I don't want the doctor to think that I don't know anything... Put down the right answer for me. I don't want them to think I'm dumb...

Another patient confided that when the physician used words that were unfamiliar she would rather say nothing than be made to feel as if she did not know anything. She explained her silence after hearing unfamiliar terms in the following way:

> Because the doctors look at you and make you feel like you are so dumb and that you don't know anything about anything. So I don't say anything most of the time. (Ms. 305)

It was also the impression of the bilingual interviewers that some Spanish-speaking patients had exaggerated their ability to understand English in order to avoid giving the impression that they were uneducated or unintelligent. In several cases, they noted that the patient had claimed that he had definitely not needed an interpreter at the clinic even though it was the interviewer's experience that the patient could not fully respond to questions which were stated in English. The bilingual interviewers offered the explanation that perhaps these patients were "covering up" because they were too embarrassed to admit their need for help in this area. Whether this was true, could not be validated since the research instrument had not been designed to explore such issues, but it is plausible when one considers the fact that the inability to speak English is often stereotypically associated with a lack of education or intelligence. Such stereotypes were evident at the

clinic in subtle and sometimes not so subtle ways. An example is given below:

(To a Puerto Rican woman who began speaking English in the doctor's office.)

DR. 200: Oh, you speak English! O.k. I can tell, you're a smart girl. Let's go. We can get something done.

MS. 208: (Smiles.)

PATIENT INQUIRY AND PHYSICIAN BEHAVIOR

Another theme which emerged from the case studies was that the patients' willingness to make requests and to express themselves seemed to depend upon their perception of the physicians' receptivity to their participation. Although it was difficult to pinpoint what the patients actually meant by their various characterizations of the physicians ("friendly," "interested," "willing to listen," "nice,") etc., several consistencies were detected.

First, patients often spoke about the giving and taking of time. Interestingly, the nature of their remarks implied that they had more or less accepted the fact that the physician has the authority to control time in the clinic. They spoke about time as if it was the physician's possession: "He gave me the time to talk," "she takes her time," for example. It was the doctor's time, not the patient's time. Sometimes, this concern with time was evident during the clinic visits when patients

bothering the physician.

The following remarks illustrate how the patients felt about their physicians who took time with them or gave time to them.

> ...(Dr. 600) will sit down and listen to whatever you have to say...always takes time with you...never makes you feel that he doesn't have enough time for you. (Ms. 613)

> Dr. 100 is a very good relating doctor. He gave me time to talk, and I think this is what they need in a neighborhood like this... A lot of doctors never give you a chance to express yourself. (Ms. 104)

> She is a very nice person...takes her time and is not in a hurry. Some of them are anxious to get rid of you...is the first time I had a doctor so interested in me. I have been to other doctors that just sit down with a bunch of papers and charge you so much money. (Ms. 417)

The second dimension which was consistently mentioned was whether or not the physician was "friendly," "nice," or "interested" as opposed to "snappy," "hostile," "too serious," "moody," "sarcastic" and "not friendly." As mentioned previously, it was difficult to determine what the patient actually meant, but generally it would appear that they felt easier about expressing themselves if the doctor appeared to be someone who would respond in a positive and/or supportive manner. If the physician was not perceived as "friendly," the patient seemed more fearful of taking the time to ask questions, as shown in the following patient comment.

> I would like to have a good friend in the doctor so I wouldn't be afraid to ask about the medicine...afraid to ask questions

because doctors have a lot on their mind
and don't have time to answer. (Ms. 014)

The patients seemed to be saying that their willingness to ask questions depended upon the extent to which the physician appeared approachable, in other words, friendly and receptive towards the patient.

The next step in the analysis was to isolate and quantify various physician behavior which might be utilized as more objective indicators of physician approachability. Various questions were asked. How do physicians indicate to the patient that they are receptive to patient inquiry, that there is not enough time, or that time is a valuable resource which is not free for the taking? What does the physician do to suggest friendliness and a possible orientation towards the patient? How can the patient tell whether or not the physician is willing to listen? In more sociological terms, do physicians utilize certain strategies for controlling the extent to which the patient takes time? Or, is the patient's concern with time merely a rationalization for not participating more fully during the encounter?

On the basis of case studies of patients whose level of inquiry varied and data obtained during occasional conversation with physicians, an index of physician approachability was developed. The *items of this index are given below.*

1) Soliciting Patient Inquiry:

Obviously, the most direct and explicit way of communicating ones receptivity to patient inquiry is to solicit that inquiry. The physician solicited inquiry in only 19 cases. As might be expected, the physicians never explicitly told the patient that he should not ask any questions or that they did not want to listen to questions. This does not mean that physicians did not intentionally attempt to control patient inquiry and expression in more subtle ways. One strategy might be called "turning the patient off."

2) Turning The Patient Off:

One of the less common actions was for the physician to intentionally use medical terminology or "all kinds of technical stuff" in order to discourage patient activity. As one physician frankly stated,

> ... (I) sometimes use mumbo-jumbo to turn a patient off. Then, they don't know where to begin. You know, like a student won't ask questions if he doesn't know where to begin. You confuse him so much by your 'intellectual talk' that you shut him up. You know it's wrong and that there is a better way. You try to get the patient to do what you want. You know, for example, that you should educate the patient and tell him details, but sometimes you just don't have the time.

Although this strategy might have been quite effective in "shutting up" the patient, measuring this concept proved to be very difficult; consequently, it was not included in the final index.

The impression was that this rarely occurred while observing the physicians.

3) Clock-Watching (Or, Watching The Waiting List):

Another physician described a strategy which entailed an effort to impress upon the patient that the clinic was very busy. As he explained.

> I consciously do that (namely, walk out to the reception area to ask about the number of waiting patients or about remaining time) so that the patients can hear it. It's like an act. (Emphasis not in original.)

A review of the observational data showed that in 20 cases, the physicians had asked the receptionist or medical assistant about the amount of time remaining or the number of patients who were left to be seen that day. Sometimes, this was done while the physician was examining or consulting with the patient.

4) The Mumble (Filling The Gaps):

This physician also reported another strategy to "let the patient know" that he was too involved in thinking about a problem to pay close attention to the patient's concerns. The rationale for the mumble was given as follows:

> You have to find out what they (patients) think is wrong ... often very hard to do because the physician gets wrapped up in his own thoughts and the patient doesn't

> know what the doctor is thinking ... doctor might be very concerned about working through one thing while a patient is concerned about something else ... I often mumble things very fast -- just to let the patient know.

This type of strategy was eventually combined with a very similar method of limiting patient expression, the cut-off.

5) The Cut-Off

One of the more simple ways of discouraging patient participation was to "cut-off" whatever question or statement the patient was making. As one physician explained after a patient left the office.

> ... this patient can talk on forever, but many times you just have to cut him off.

At other times, the physician would interrupt and imply that it would be preferable if the patient spoke later.

> Let me read the chart. It's better this way.
>
> *
>
> Let me review this and we'll come back to that.
>
> *
>
> Wait. I'm just going to make a note.

It was noted that in most cases where the patient had been "cut-off," the physician did not return to the patient's original concern. In at least 20 cases, the observational data showed that the physician had used the "mumble" or had "cut-off" patient expression.

6) Tuning Out:

Another way of possibly discouraging further questions is to "tune-out" or ignore the patient when he does ask a question. When the doctors' responses to the patients' first questions were analyzed, it was found that they ignored or did not answer 13 per cent of the cases.

In addition to the more intentional efforts to control patient behavior, it is appropriate to consider some of the ways in which patients might learn that the physician is not receptive to patient inquiry even though these actions may or may not have been intended as such by the physician. It might be fruitful, for example, to analyze the way in which the physician greets the patient.

7) Greeting The Person Versus Greeting The Disease:

How a physician greets the patient might indicate how much time is available or how interested the doctor is in the patient. There were at least two different styles of greeting the patient. The first form of greeting, a more personal approach, was to address the patient by his name and perhaps inquire, "How are you?" This interest in the patient's being was not intended as part of the medical history; rather, it appeared to be a matter of courtesy. This type of greeting was recorded in 49 per cent of the cases for which information is available.

The second style was for the physician to, in effect, "greet the disease," the "chief complaint," or the treatment which had been previously given. Rather than asking the patient about himself, the physician immediately began the medical history by asking, for example, "What's the problem?", "What's bothering you?", "How are the headaches?", and other similar questions. This form of greeting was not only less personal, but it might have implied a more narrow interest on the physician's part. The more impersonal approach was observed in 52 per cent of the cases.

8) The Farewell Versus The Quick Getaway

Similarly, there were differences in the ways of terminating the encounter. One way was to extend a farewell or at least indicate some interest in a future contact. This more personal approach signaled the conclusion of the visit, but it also allowed at least a few minutes for the patient to make inquires. A second, and more impersonal type of ending, was for the physician to stand or in some other way indicate that the visit was to be finished. There was no farewell or indication of future interest. A third type was what might be termed the quick getaway: the physician walked out of the room so quickly that the patient did not even have the chance to stand and leave with the doctor. The typical course of events in these cases was for the physician to rapidly state the diagnosis, write the prescription, and walk out

so abruptly that the observer and the patient were left staring at each other in bewilderment. Clearly this type of conclusion does not facilitate further patient inquiry of the physician. The first type of termination was observed in 45 per cent of the cases, and in 42 per cent of the cases the second was observed. The "quick-getaway" was observed in only 13 per cent of the cases.

9) Other Signs of Approachability

Acknowledging the difficulty of recording facial gestures and tones of voice without audio visual recording devices, it was nevertheless, possible to isolate some cases in which the physician had appeared very receptive or very unreceptive towards the patient. In the positive direction, it was sometimes noted that the physician smiled or laughed. Presumably, these gestures might indicate that the physician was "friendly," easy going and receptive to patient activity. The physician was observed to be smiling or laughing in 34 cases.

In sharp contrast, a frown, scowl or tone of sarcasm might imply the opposite feeling on the part of the physician. Facial gestures or tones which suggested a negative attitude towards the patient were observed in 15 cases.

In 82 cases, there was no notation in either the positive or the negative direction.

To be sure, there are many other observable or audible indicators which might have been measured if other recording devices had been used. The speed of speaking, the degree of eye contact, body position, and amount of physical contact might all suggest to the patient that the physician is or is not willing to be approached by the patient.

Having isolated at least 8 indicators of approachability which would be measured on the basis of observational data, a combined index was developed. This index, the scores which were attached and the possible range are given below:

PHYSICIAN APPROACHABILITY:
AN INDEX BASED ON OBSERVATION

1.	Solicits Patient Questions	+1
2.	Did Not Engage in Clock-watching	+1
3.	Did Not Mumble or Cut-Off Patient	+1
4.	Responded to Patient's First Question	+1
5.	Greeted The Person	+1
6.	Bid Farewell To The Patient	+1
7.	Made a Quick Get-Away	-1
8.	Smiled or Laughed	+1

Maximum Score = +7 Minimum Score = -1

When each physician-patient encounter was scored, it was found that in 42 per cent of the cases, the physician had been highly approachable (a score of +4 or more). Low approachability (less

Having established that physicians did seem to relate to their patients differently, it was thus possible to determine whether this variable was associated with the extent to which the patient participated in the encounter. In Table 6:1, the relationship between physician approachability and level of patient inquiry is shown. The data support the hypothesis that the physician's behavior is related to patient initiative. Under the condition of high physician approachability, about 46 per cent of the patients asked three or more questions. On the other hand, only seven per cent of the other patients asked a similar number of questions.

TABLE 6 : 1

PATIENT INQUIRY BY OBSERVED PHYSICIAN APPROACHABILITY

PHYSICIAN APPROACHABILITY	THREE OR MORE QUESTIONS	LESS THAN THREE QUESTIONS	TOTAL (n)
High Approachability	46% (23)	54% (27)	100% (50)
Low Approachability	7% (5)	93% (63)	100% (68)
Not Ascertained	23% (3)	77% (10)	100% (13)
TOTAL	24% (31)	75% (100)	100% (131)

Although it is plausible that patient passivity is a response to the physicians' efforts to control the situation, it is possible that the order of events is the reverse. In other words, it could be that the physician's receptivity and friendliness are in response to greater patient participation. Given the sequential nature

of communication, it is difficult to establish the precise order of these events, but it is perhaps important to examine other materials in an effort to sort out the sequence of events which apparently culminates in the lack of patient initiative.

The first clue regarding the sequence is that physicians rarely, if ever, complained about the fact that their patients did not ask questions. Instead, physicians tended to justify their behavior in terms of the circumstances under which they were working. These remarks suggested that the order of events might be as follows: as the amount of pressure and demands upon the physician increase, the physician adapts by exerting greater control over the patient whose questions and lengthy remarks are viewed as too time-consuming under the circumstances. In sociological terms, the physician becomes more task-oriented and perhaps less tolerant of anyone who acts in such a way as to further frustrate his effort to complete his work on schedule. The response of the patient is to withdraw and refrain from making any additional demands upon the physician.

The data shown in Table 6:2 support the notion that the amount of pressure upon the physician is associated with the physician's behavior towards the patient. Under the condition of low pressure, the physician was highly approachable in 61 per cent of the cases. In comparison, physicians under a high amount of pressure were highly approachable in only 35 per cent of the cases.

TABLE 6 : 2

PHYSICIAN APPROACHABILITY BY AMOUNT OF PRESSURE UPON THE PHYSICIAN

PHYSICIAN	APPROACHABILITY	APPROACHABILITY	N.A.	TOTAL (n)
Low	61% (20)	39% (13)	(7)	100% (40)
High	35% (30)	65% (55)	(6)	100% (91)
TOTAL	42% (50)	58% (68)	(13)	100% (131)

To illustrate what is meant by pressure upon the physician, low physician approachability, low patient inquiry and the possible interrelationship among these variables, the transcript of one encounter is presented in its entirety.

In this case, the patient was a middle aged Puerto Rican woman who was having her first appointment with Dr. 200. The session was a busy and frustrating one for the physician, some of which is apparent in the transcript. Indentifying data have been altered to protect the anonymity of the participants.

	DR. 200	MS. 218
1	Anything bothering you?	Yeah.
	What?	My heart. Something that goes fast. (Motions)
5	Palpitations?	(Nods)
	When? When walking, sitting or what?	Yeah. The stomach, last year I have--
10	Is it relieved by eating or made worse by eating?	Yeah, by eating.
	Do you ever wake early in the morning and wish that you could eat?	(Puzzled look) No.

DR. 200	MS. 218
How do you sleep at night?	Good. (Sometimes it goes-- (motions and mumbles something which is inaudible).
Sour?	Yeah.
How long?	Long time.
Ever had x-rays of the stomach?	No.
Never?	No.
How are your bowels?	(Response not recorded.)

(Identificatory Remarks Omitted)

Ever had any illnesses?	I had rheumatic fever a long time ago.
Yes? Do you remember if you had swollen joints?	(Puzzled look and shakes head negative.)
Here. (Points to knee.) Swollen?	(Hestitates.)
(Leaves and returns with interpreter.)	
(To medical assistant, hereafter noted as m.a.)	
Ask her when she had the rheumatic fever and if she had swollen joints.	(m.a.) Yes, all swollen.
When?	(m.a.) In 1955. She has pain in her joints. Since she's gained she says she doesn't feel so good.
How much has she gained?	(m.a.) 10 years ago she was 105 pounds. Now, she weighs 160.
How many children?	(Patient begins speaking for herself.) Four.
How old is the youngest?	Ten.
Any problem with periods?	No problems.
Ankles swell?	Yeah.

DR, 200

How many pillows do you sleep on?

Do you get out of breath if you ...

(In negative tone while facing wall.) Maybe that's because she's too heavy. Did that ever occur to her?

(Begins examining patient. who is now on examining table. Conversation continues during examination.)

You've never had electrocardiogram here?

(To m.a.) How many patients do we have? So I know how much time I have.

(M.a. leaves and returns to report that there are two patients waiting. Also hands doctor a note which apparently requests her attendance at a meeting.)

Dr.___ must think I'm triplets. Team conference is from 12 to 2, too.

(To M.a.) Do you know if they (of the patients) are new?

(M.a. reports the name of a waiting employee. Face indicates that she knows doctor won't like it.)

I told her I wouldn't be able to see her. She drops by here every other day. I just can't do that. She should go to screening like everybody else.

All the other non-appointments are supposed to.

(M.a. leaves and returns to report, "No, she's the only one.")

MS. 218

Two

(Positive response.)

No, not here. Other hospital.

	DR. 200	MS. 218
100	Well, o.k. I'll see her. We'll get a pap smear.	
	(To m.a.) Tell her (Ms. 218 to spread her knees.	
105	Tell her to relax and not make it hard for me!	
	(To patient in tone of frustration) Oh, PLEASE. Come on, come on.	
110	(Finishes pelvic examination, begins writing in chart. M.a. motions to patient that it is alright to get down from table.)	
	(Facing wall.) How old are you?	(Inaudible)
115	How old are you?	(Again inaudible.)
	(Frowns and looks at observer with disgust on her face. Turns to face patient.) How old are you?	Forty.
120	(To no one in particular.) Where are the chest x-rays consults?	
	How many pregnancies?	Cinco. (Patients responds in Spanish.
	(To m.a.) What does she use not to get pregnant?	(M.a.) Uses nothing.
125	We'll give her some Librium for nerves, chest x-rays, and electrocardiogram. (M.a. does not translate this.)	
	Gotta start dieting! (Harshly)	
130	(Dr. 300 interrups without knocking or apology.)	
	Just a minute.	
135	(Finishes writing and walks out of the room. No further word to patient.)	

END OF VISIT

Needless to say, the physician in the above encounter did very little to facilitate patient participation of any kind. The greeting was impersonal (line 1); the patient was cut-off (line 8); negative and harsh tones were used (lines 64, 124); the physician engaged in "clock-watching" (lines 70ff) and the final stage was marked by the physician's abrupt departure without further comment to the patient. This is not to mention the impatience shown during the examination process (105ff).

Not surprisingly, the patient's behavior suggests that she had been effectively intimidated and was probably experiencing some tension. It is doubtful that her inability to relax during the pelvic examination was coincidental, for example. The fact that her answers to a simple question, "How old are you?", were inaudible is also notewothy (line 113). Similarly, it is noted that she returned to her native language (line 122), in spite of an apparent knowledge of English words for other numbers.

Although the physician was evidently preoccupied with the amount of time remaining, the number of waiting patients, and the necessity of attending several meetings after the clinic session, the sequence of events seems somewhat more complex. Specifically, it is possible that a vicious cycle was taking place in this interaction. The patient's inability to relax and increasing reticence, possible reactions to the physician's behavior, may actually have exacerbated the situation by further

contributing to the physician's frustrations. Indeed, a more inclusive index of pressure upon the physician would probably include the ease with which the physician is able to obtain the patient's cooperation during the examination and history-taking process.

The data presented above raise another issue which has not been previously discussed: does the patient's characteristics or the nature of the patient's complaints influence the ways in which the physician will respond to pressure in the work situation? Is it possible that Dr. 200's behavior was merely a negative reaction to have to deal with problems such as palpitations, stomach discomfort and obesity? Other observations suggested that Dr. 200 did not generally respond in this manner to patients with similar characteristics and problems. Indeed, she seemed to be one of the few physicians who exerted any effort in assisting patients to lose weight and who also offered support to patients who were experiencing anxiety. The following case illustrates a completely different approach towards a patient with some of the same characteristics as Ms. 218. In this case, the same physician was working under a low amount of pressure. The approachability score for the encounter was high, and patient participation was also high. Like Ms. 218, Ms. 201 was a middle aged Puerto Rican woman who was diagnosed as being obese and "nervous." Unlike the former patient, Ms. 201 was also a diabetic and had had some prior contact with the physician. The transcript is not given in its entirety due to its length.

DR. 200	MS. 201
(Visit began with some joking between doctor and patient.)	
Hello, Mrs.____. You just have a seat here on the table.	
(Interruption by nurse.)	
Have you got your appointment at City Hospital yet?	Yes. I got it yesterday.
Are you looking forward to it?	(Nods.)
At least, you'll get a little vacation.	
Reviewing chart.) Let's see about your weight.	Nothing. I can tell you. I even gained a pound. Don't know how, but I didn't lose anything.
Have you been trying to cut down?	I try, but it's hard. I got such a big appetite. I eat things I shouldn't.
I know. I do, too. Like last Saturday night, we had a party but I told everyone to take home all the sweet things. There were 3 boxes of raisins last night. I just looked at them and looked at them, but I didn't eat them.	Are raisins fattening?
Oh, yes. They have sugar in them.	The hardest time is in between meals and night.
When do you eat?	When I'm hungry, maybe 6:30 or 7, whenever I'm hungry.
Better if you eat at regular time. You'll do much better than if you eat when you're hungry.	I've been getting a lot of headaches. Is it the sugar?
No, I think it is the nervousness and the overweight.	
. . . . .	
Your headaches, are they one-sided?	(Response not recorded.)
Are you nervous?	Well, with 4 kids, guess I'm a little, but not usually nervous.
I mean, are you the nervous <u>type</u>: more than your neighbors?	I'm a little nervous, I guess.
Well, it's normal to be nervous... How are your children built? Plump?	(Laughs) Yes!
Do you <u>love</u> them?	Yes! I adore them.

DR. 200

Well, you know, you have to start with the children now. (Interruption.) Now, let's get back to the children. Do you love them?

Well, you have to keep sweets out of the house. Don't cook potatoes. I don't even fix them anymore. You could make jello, the clear kind. Add coloring and a little flavor. Naw, that's too much work. It's not really worth it. I know, I'll give you a recipe for a milk shake that you can put in the refrigerator and give them.

(Begins writing on prescription request form.)

Take one quart of milk. Add 1 teaspoon of Sanka--

No. It's my own recipe.

Add two teaspoons of unsweetened cocoa and add Saccaryn to taste.

Take that and shake it in a cocktail shaker.

That's even better!

No. It has skim milk. Has calcium and vitamins.

When you get the tubal ligation, you won't have to worry anymore.

Absolutely!

Tell you what, I'm going to give you some Librium, too. Take it three times a day for a week. Watch to see if the headaches go away. If so, then we will know they are from tension. Watch how you react to them.

MS. 201

Yes, very much.
I know they eat so much. We'll sit down and drink 2 or 3 glasses of milk with cake, and in between meals.

Oh, is that from Weight Watchers? (Laughs)

Oh, cocoa.

What about a blender?

Is it fattening?

In other words, you approve of it?

O.K.

DR. 200	MS. 201
Tension is no good for a diabetic. Are you worried about the operation?	Well, no, but the kids...
It's nothing you know. Think your headaches might be from that and weight. You know, 99 out of 100 times, headaches are from tension.	Yeah.
	Is that operation painful ?
No. All they do...(explains) is open up here (motions to herself), lift a muscle and tie the tubes. It's not a major operation. No one ever dies from it.	I would hope not. (Laughs.)
Now, if you lost weight, I'd be happy.	Yes, my problem is weight. (Laughs)
No. Your problem is <u>you</u>.	

If the transcripts of Ms. 218 and Ms. 201 are compared, a number of differences can be noted. In the latter encounter, the physician "sets the stage" by engaging in some joking with the patient as well as by extending a more personal greeting. The patient was allowed to finish her remarks. There was no "clock-watching," and no negative or harsh tones were used by the physician. A reading of the transcript gives one the impression that both participants were relatively relaxed and that the physician was more receptive towards the patient. Rather than harshly order the patient to diet, the physician indicated her own difficulties in this area and gave a few hints about dieting. Rather than simply give a tranquilizer for the patient's "nerves" and walk out the door, the physician

explored, to some extent, the patient's fears and concerns and also offered some reassurance. It is also noteworthy that the physician told Ms. 201 to call her in a week to see how everything was progressing. (The conclusion of Mrs. 201's visit was not included above.) In short, it seemed that in this case, the physician facilitated patient expression, among other things. These qualitative data suggest, then, that the relationship between patient feedback and physician approachability is a complex one but that the sequence of events probably begins with the way in which the physician "sets the stage" and continues to relate towards the patient.

It is clear, however, that receptivity on the part of the physician is not a sufficient condition for greater patient participation: only 46 per cent of the patients asked a high number of questions when their physician acted in a highly approachable manner. In light of this finding, it is necessary to consider other factors which might account for variablilty in the patients' level of inquiry.

PATIENT CHARACTERISTICS AND LEVEL OF PATIENT INQUIRY

In light of known evidence that demographic variables are associated with the amount of health information which people have and seek from sources other than their physician, it is of interest to determine whether these factors also predict patient

inquiry in a clinic setting. Although little is known about ethnic differences, especially among the Spanish speaking, one might expect lower patient inquiry among the less educated, male patients and older patients.

Controlling for physician approachability, it was found that patient differences persisted only under the condition of high physician approachability. In other words, when the physician gives the impression that he is not approachable, almost all patients, regardless of their background, refrain from asking questions. However, when the physician does appear approachable there do appear to be differences among the patients.

Patient Education and Level of Inquiry

It is shown that patients with more education were more active when the physician was highly approachable, as hypothesized. Specifically, 70 per cent of these patients asked three or more questions; whereas, only 20 per cent of the patients with low education asked three or more questions. Given a less receptive physician, there was almost no difference between these groups, 9 per cent and 7 per cent respectively.

(See following page)

TABLE 6 ; 3

PATIENT INQUIRY BY PHYSICIAN APPROACHABILITY AND PATIENT EDUCATION*

PHYSICIAN BEHAVIOR AND PATIENT EDUCATION	THREE OR MORE QUESTIONS	THAN THREE QUESTIONS	TOTAL (n)
HIGH PHYSICIAN APPROACHABILITY			
High Education	71% (15)	29% (6)	100% (21)
Low Education	20% (4)	80% (16)	100% (20)
Not Ascertained	44% (4)	56% (5)	100% (9)
TOTAL	46% (23)	54% (27)	100% (50)
LOW PHYSICIAN APPROACHABILITY			
High Education	9% (3)	91% (29)	100% (32)
Low Education	7% (2)	93% (25)	100% (27)
Not Ascertained	- -	100% (9)	100% (9)
TOTAL	7% (5)	93% (63)	100% (68)

* In 13 cases, physician approachability was not ascertained. These cases are not included in this and the following tables.

Patient Ethnicity and Level of Patient Inquiry

Although the difference among ethnic groups was not as large as among the patients of different educational backgrounds, similar findings were obtained. Under the condition of high physician approachability, 35 per cent of the Spanish-speaking patients asked a high number of questions. In comparison, 52 per cent of the Black and White patients asked three or more

questions. The trend of Spanish speaking patients being less active was also evident when the physician was less approachable, but the difference is only 10 per cent.

TABLE 6 : 4

PATIENT INQUIRY BY PHYSICIAN APPROACHABILITY AND PATIENT ETHNICITY

PHYSICIAN BEHAVIOR * AND PATIENT ETHNICITY	THREE OR MORE QUESTIONS	LESS THAN THREE QUESTIONS	TOTAL (n)
HIGH PHYSICIAN APPROACHABILITY			
Spanish-speaking	35% (6)	65% (11)	100% (17)
Non-Spanish Speaking	52% (17)	48% (16)	100% (33)
TOTAL	46% (23)	54% (27)	100% (50)
LOW PHYSICIAN APPROACHABILITY			
Spanish-speaking	3% (1)	97% (36)	100% (37)
Non-Spanish Speaking	13% (4)	87% (27)	100% (31)
TOTAL	7% (5)	93% (63)	100% (68)

* Non-Spanish speaking pertains primarily to Black patients, eight White non-Spanish speaking are included since their behavior was similar to that of Black patients.

Patient Sex and Level of Patient Inquiry

Consistent with the widely held view that females are more apt to seek health information, it was found that female patients in this clinic asked more questions than male patients when the

physician was highly approachable (see Table 6:5). Under these circumstances, 57 per cent of the female patients asked a high number of questions. In contrast, 20 per cent of the males asked a high number of questions. As shown in the table, behavioral differences were not as large when the physician was less approachable; 10 per cent of the women asked a high number of questions and none of the men asked a high number of questions. In short, the effect of patients' characteristics again fail to persist under the condition of low physician approachability.

TABLE 6 : 5

PATIENT INQUIRY BY PHYSICIAN APPROACHABILITY AND SEX OF PATIENT

PHYSICIAN BEHAVIOR AND SEX OF PATIENT	THREE OR MORE QUESTIONS	LESS THAN QUESTIONS	TOTAL (n)
HIGH PHYSICIAN APPROACHABILITY			
Female	57% (20)	43% (15)	100% (35)
Male	20% (3)	80% (12)	100% (15)
TOTAL	46% (23)	54% (27)	100% (50)
LOW PHYSICIAN APPROACHABILITY			
Female	10% (5)	90% (47)	100% (52)
Male	- -	100% (16)	100% (16)
TOTAL	7% (5)	93% (63)	100% (68)

Patient Age and Level of Inquiry

Contrary to what might be expected on the basis of previous work which suggests that younger adults seek more health information from the mass media,[1] the younger patients in this sample did not ask more questions of the physician. Under the condition of high physician approachability, the younger patients asked a high number of questions in 35 per cent of the cases, and the older patients asked a higher number of questions in 56 per cent of the cases (see Table 6:6). Consistent with the earlier discussion, the size of this difference did not persist when the physician was less friendly and receptive toward the patients.

(See following page)

[1] See, for example, Jacob J. Feldman, The Dissemination of Health Information: A Case of Adult Learning (Chicago: Aldine Press, 1966), 131-132.

TABLE 6 ; 6

PATIENT INQUIRY BY PHYSICIAN APPROACHABILITY AND PATIENT EDUCATION

PHYSICIAN BEHAVIOR AND PATIENT EDUCATION	THREE OR MORE QUESTIONS	LESS THAN THREE QUESTIONS	TOTAL (n)
HIGH PHYSICIAN APPROACHABILITY			
46 Years or More	56% (15)	44% (12)	100% (27)
14-45 Years	35% (8)	65% (15)	100% (23)
TOTAL	46% (23)	54% (27)	100% (50)
LOW PHYSICIAN APPROACHABILITY			
46 Years or More	5% (1)	95% (19)	100% (20)
14-45 Years	8% (4)	92% (44)	100% (48)
TOTAL	7% (5)	93% (63)	100% (68)

In summary, it would appear that the variable of high physician approachability is almost a necessary, though not sufficient, condition for patient inquiry to occur. Nevertheless, it is evident that the patients' level of inquiry does seem to vary by the characteristics of the patients when the physician behaves in a manner which has been referred to as highly approachable. Whether these differences were due to different levels of concern or interest in their condition and its treatment, different levels of perceived ability to comprehend what the physician might tell them, different attitudes toward medical authority, and/or different levels of self-confidence or self esteem cannot be answered in this study.

The unexpected finding that older patients ask more questions might also have a variety of explanations. One plausible explanation is that older patients might have more multiple problems and problems of a more chronic and severe nature. Under these conditions, there might be a greater perceived need for information, clarification of the physicians' requests for diagnostic procedures (laboratory tests, electrocardiograms, x-rays), clarification of when follow-up visits can be arranged and clarification of more complicated medication regimens. In addition, it is possible that they had had more previous contact with the physicians. Greater familiarity with the physician may have reduced their reluctance to ask questions. The findings of the following section suggest, however, that this explanation is less plausible.

PREVIOUS CONTACT WITH PHYSICIAN AND PATIENT LEVEL OF INQUIRY

Since a few patients had suggested to the interviewer that they were reluctant to ask questions until they got to "know" the physician, a systematic analysis was done to determine whether the amount of previous contact with the physician was positively related to the level of patient inquiry. Utilizing the patients' medical record as a source of data to determine the number of previous visits with the observed physician, it was found that the level of patient inquiry was not directly related to previous contact with the physician. As indicated in Table 6:7, the level of inquiry increases after the patient has had 3-4 contacts with the physician,

but the probability of high inquiry is lower among patients who had had five or more contacts with the observed physician.

TABLE 6 : 7

PATIENT INQUIRY BY AMOUNT OF PREVIOUS CONTACT WITH THE PHYSICIAN

NUMBER OF PREVIOUS CONTACTS WITH PHYSICIAN	THREE OR MORE QUESTIONS	LESS THAN THREE QUESTIONS	TOTAL (n)
NONE	20% (10)	80% (40)	100% (50)
1 - 2	21% (8)	79% (30)	100% (38)
3 - 4	42% (5)	58% (7)	100% (12)
5 or More	27% (7)	73% (19)	100% (26)
Not Ascertained	20% (1)	80% (4)	100% (5)
TOTAL	24% (31)	76%(100)	100%(131)

Although these findings do not support the hypothesis that more frequent previous contact facilitates greater patient inquiry, they should be regarded with considerable caution. It is plausible, for example, that the nature of the previous contact is a critical intervening variable. If the physician had previously shown low approachability, then it is possible that the patient might continue to be less active under the assumption that this particular physician is the type of physician who is not friendly and receptive to the patient. Indeed, "knowing" the doctor may mean "knowing" whether he or she is the type of physician who is typically friendly and receptive to the patient. Unfortunately, data on the nature of the physicians' previous

behavior with the patient were not available to test this speculation. However, it is interesting that the physicians did seem to vary on the dimension of approachability. As shown in Table 6:8, the mean approachability scores did differ by the observed physician. The data reveal that Drs. 000 and 500 were, on the average, the least approachable of the eight physicians.

TABLE 6 : 8

MEAN APPROACHABILITY SCORES BY PHYSICIAN*

PHYSICIAN	MEAN APPROACHABILITY	(n)
000	+2.4	(22)
100	+3.6	(11)
200	+3.3	(10)
300	+3.6	(14)
400	+4.2	(20)
500	+2.9	(15)
600	+3.7	(9)
700	+3.6	(17)
TOTAL	+3.4	(118)

* Approachability was not ascertained in 13 cases. These cases are omitted in this table. Higher scores indicate higher approachability.

ISSUES AND IMPLICATIONS

In recent years, there has been interest in the factors which affect the lay person's knowledge about health. Unfor-

tunately, most effort has focused upon sources of information which are external to the health institution (for example, the effect of newspaper and magazine readership or the effect of listening to radio or television) or upon the interests, motives and characteristics of the lay person.

The results of this study suggests that seeking information about health matters is not simply due to the characteristics of the lay person, although these factors clearly play a role under certain circumstances. Rather, it appears that it might be fruitful to more seriously consider the role played by the medical profession in the facilitation of information-seeking where it is perhaps most relevant, that is, the setting where the patient obtains his or her health care. The findings reported here suggest that clinicians sometimes attempt to inhibit the patient and limit the extent to which he will make efforts to learn more from the professional. In effect, the physicians controlled that communication process in such a way that it often became a unidirectional process -- communication from the physician to the patient but not from the patient to the physician, except in areas such as history-taking.

While students of the doctor-patient relationship have long suggested that the physician controls the events which occur in the medical settings and patient surveys have consistently shown that patients are dissatisfied with not being able to obtain more time from their physicians, the unique contribution of this study

is that is was possible to quantify some selected aspects of the ways in which the physicians actually influence the patients' behavior.

Since professional behavior towards the patient seems to vary with the amount of pressure upon the professional, another issue might be raised. Specifically, to what extent do organizational variables affect the nature and outcome of the physician-patient encounter. Is it possible that patient compliance varies by the type of organization in which the patient and the doctor interact? It might be fruitful, for example, to consider whether variation in the efficiency of the medical record system, the quality and amount of medical assistance and the number and flow of patients affect the physician and the ways in which he or she relates to the patient. At minimum, the results of this study have some implications for understanding the relationship between doctors and patients in settings such as the emergency room of large city hospitals, a setting where many lower class patients have had to obtain their medical care. It is frequently suggested that patients delay coming for medical care because they do not like to wait for long periods. An alternative speculation is that the problem is not simply the long waiting period but that when the wait is over the patient may encounter an impatient, harrassed and task-oriented physician who is under considerable pressure to take care of large numbers of patients in a notoriously inefficient place.

SUMMARY

In this chapter, it was found that several factors were related to the varying levels of patient inquiry while interacting with the physician. First, there were qualitative data suggest that patients sometimes withheld their questions due to their unwillingness to appear less intelligent and uneducated. Second, patients asked more questions if their physician appeared approachable when they were in the doctor's office. Regardless of patient background, there was a tendency to remain rather passive if the physician did not act friendly or receptive. Third, it was found that the patients' characteristics did make a difference under the condition of high approachability. Patients who had lower education, were Spanish-speaking, were of the male sex and were under 46 years of age were less likely to ask a high number of questions while they were interacting with the physician. The explanation of these findings is not fully understood at this time, however. Finally, it was found that the number of previous contacts with the physician were not directly related to the level of patient inquiry. It is speculated that this negative finding might be due to the fact that it was not possible to control the nature of previous contacts with the physician.

CHAPTER SEVEN

MOTIVATING THE PATIENT: THE NATURE AND OUTCOME OF THE PHYSICIANS' INFLUENCE STRATEGIES

INTRODUCTION

Although students of the doctor-patient relationship generally acknowledge that the physician and the patient frequently have conflicting opinions about the appropriate goal and plan of treatment and that they often attempt to control each other, much remains to be learned about the nature of their disagreements, the types of strategies which they use in an effort to influence each other and the outcomes of these efforts. This chapter represents a modest effort to explore these questions, especially as they relate to the physicians' efforts to motivate the patient and to maintain social control.

In the first part of the chapter, an effort will be made to identify the general compliance-gaining strategies which were utilized by the physician in an effort to motivate the patient or to gain the patients' acceptance of their role. The questions which will be address in this part are:

1. Do physicians attempt to gain compliance by being friendly and receptive towards their patients and are the efforts related to the patients' subsequent compliance?

2. Do physicians attempt to provide justification for medication use and are these efforts related to the patients' compliance?

3. Do physicians attempt to gain compliance by emphasizing what they expect and are these efforts related to patient compliance?

4. Do physicians exert their medical authority or appeal to the patients' moral responsibility to follow medical advice and are these efforts related to the patients' compliance?

During the exploratory study, it became evident that the physician also utilized what might be considered yet another strategy of gaining patient compliance, namely, an effort to monitor (or follow-up) the ways in which the patient had used the medications which were prescribed at previous visits. Given the lack of knowledge about how physicians attempt to identify and manage patient disagreement and non-compliance with previous advice, special attention will then be given to the dynamics and outcome of what will be referred to as physician monitoring. The second part of this chapter pertains to this sub-study.

The third objective of this chapter will be to determine whether the physicians' efforts to influence the patient were related to the patients' later evaluation of the medications which were advised by the physician. In other words, an effort

will be made to determine whether the physicians' efforts to influence the patient were related to the patients' acceptance of their role. The third part of this chapter elaborates upon this phase of the analysis. It will be tentatively concluded that the patients' evaluation of and compliance with medical advice were positively related to the physicians' influence efforts. Since it is possible that the physicians' efforts to instruct and motivate their patients are correlated, a final question will be asked: is the physicians' effort to motivate the patient positively related to the later compliance when the amount of instruction is held constant? It will be argued that the physicians' efforts to influence the patient are related to the patients' subsequent behavior even when the amount of instruction is held constant.

Although the three parts of the chapter represent a lengthy series of analyses, they are retained in this chapter in the interest of maintaining continuity. Second, it is the author's conviction that this type of presentation is more helpful in illustrating the utility of what has been referred to as the method of "enumerative induction" (see Chapter Two).

PART I

THE PHYSICIAN'S USE OF SELECTED TYPES OF COMPLIANCE-GAINING STRATEGIES

As discussed in Chapter One, social scientists have suggested that the physician has at least three types of power which could be exerted in an effort to gain the patients' motivation and compliance: a) interpersonal power, b) expert power, and/or c) legitimate power or the power of medical authority.

More specifically, it has been suggested that the physician might attempt to influence the patient by a) expressing friendliness and personal interest in the patient, b) providing information which indicates expert knowledge,and/or c) appealing to the patients' sense of moral responsibility that patients should or ought to comply with medical authorities. Finally, it has been suggested that physicians do not always expect rigorous compliance with all advice; consequently, they might choose to emphasize certain advice in an effort to gain the patients' willingness to conform with their expectations.

Although several investigators have attempted to empirically examine the extent to which physician friendliness and the volume of information-giving are associated with patient compliance, there

have been no published efforts to examine the nature and outcome of physician effort to gain influence by exerting their expertise or legitimate authority, as discussed previously. Consequently, one of the major tasks which faced this investigator was to develop quantitative indicators of the physicians' communication along these dimensions.[1] In the discussion below, an attempt will be made to show how these dimensions were eventually measured and toshow the results which were obtained when the following working hypotheses were tested:

1) If the physician expresses a high amount of friendliness and receptivity towards the patient, then the probability of patient compliance will be higher.

2) If the physician provides a high amount of justification for using the medications, then the probability of patient compliance will be higher.

3) If the physician places a high emphasis upon using the medication, then the probability of patient compliance will be higher.

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[1]Since the inception of this project, there has been a more recent report by Korsch and her associates on the California study that does shed some light on these issues. They reported that a high amount of information-giving on the subject of the diagnosis was significantly related to compliance but that increased use of authority did not make a difference. Unfortunately, they do not define or indicate how they measured these aspects of physician communication, and the data upon which these conclusions were reached were not presented in the report. We would maintain that the physicians' discussion of the diagnosis is one way in which the physician indicates expertise and, as such, can be regarded as a compliance-gaining strategy. On the issue of authority, we will argue that our findings might shed some light on the negative results which were reportedly found in their study. How these issues were resolved will become clear in the second part of this chapter. For the most recent report on the study conducted by Korsch and her associates, see B. Freemon, V.F. Negrete, M. Davis and B. Korsch, "Gaps in Doctor-Patient Communication: Doctor-Patient Interaction Analysis," Pediatric Research. 5(1971), 298-311.

4) If the physician engages in a high exertion of medical authority or appeal to the patients' moral responsibility, then the probability of patient compliance will be higher.

Physician Approachability and Patient Compliance

It will be recalled that physicians in this clinic did differ in the extent to which they expressed what has been referred to as "high physician approachability." Specifically, it was shown in Chapter Six that some physicians were more apt to express friendliness and receptivity towards some patients by indicating a personal interest in them and by indicating an interest in their questions and comments. Although it was of interest to determine whether these communications would affect the patients' willingness to ask questions during the clinic encounter, it was also of interest to determine whether communications might actually operate as a means of gaining the patients' subsequent compliance with advice. Consequently, an effort was made to test the hypothesis that patients' compliance would be positively associated to the extent to which the physician had been approachable, as defined and measured in Chapter Six.

As shown in Table 7:1, the results of this examination would suggest that physician approachability does tend to be associated with higher patient compliance, but the difference is

only 9 per cent.

TABLE 7 : 1

PATIENT'S SUBSEQUENT COMPLIANCE
BY PHYSICIAN APPROACHABILITY

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL(n)
High Approachability*	46% (23)	54% (27)	-	100% (50)
Low Approachability	37% (25)	63% (42)	(1)	100% (68)
Not Ascertained	15% (2)	85% (11)	-	100% (13)
TOTAL	38% (50)	62% (80)	(1)	100% (131)

* Physician scored +4 or more on the index of approachability, as defined in Chapter Six.

While these findings tend to support the findings of Davis (1968) who suggested that friendliness did not have a considerable influence on patient compliance, it is too early in the analysis to conclude, as he did, that friendliness undermines the physicians' authority and, hence, their ability to influence the patient. At this point of the analysis, it can only be tentatively concluded that physician approachability is neither necessary nor sufficient for patient compliance.

Providing Justifications for Drug Use

During the earlier phases of this research, one of the working hypotheseswas that patient compliance would be higher among those patients who had received a high amount of information about the

nature of their condition and the rationale for its treatment. It was expected that at least some physicians would attempt to anticipate patient doubt about the value of taking medicine by giving the patient enough information so that he or she might have an appreciation of the potential values of taking medication on a regular basis and/or an awareness of the possible risk involved in not following a selected plan of treatment. For example, if the patient was diagnosed as having hypertension, a thorough explanation might have included discussion of the fact that one can have the condition without being aware of it or without having any symptoms; discussion of what "high blood pressure" actually means and does not mean, and of the long term benefits of keeping this chronic condition under control (reduced risk of stroke, heart damage, kidney failure and other complications). Similarly, one might expect explanation to occur in those cases where the patient was expected to begin treatment for peptic ulcer, rheumatoid arthritis, tuberculosis, epilepsy, diabetes, congestive heart failure and other conditions in which the patient might not be aware of the rationale for regular treatment.

Interestingly, it was not possible to test this hypothesis because most patients received the same amount of explanation about their condition -- almost none. To illustrate what physicians did <u>not</u> tell their patients, let us again consider the example of hypertension. Despite the fact that the patients taking drugs for

hypertension (n=43) sometimes believed that one could "feel" the pressure go up or down and that there was no need to take medicine when they did not "feel" the pressure, there was not one encounter at which the physician explained that one could have the condition without being able to "feel" it or without having any of the symptoms which are often attributed to this condition. Even though many patients were in the early stages of treatment for this condition and had a variety of misconceptions about the meaning of high blood pressure, no one received an explanation about what high blood pressure means or does not mean. With three exceptions, patients were not told about any of the long term benefits of taking medication on a regular basis. In two of these three instances, the information came after the fact, in other words, after the patients had already developed complications of this disease. The lack of explanation was also evident when the analysis was confined to the patients who were being told for the first time that they had hypertension and that it would be necessary to take medication. The excerpts which follow include the <u>entire</u> discussion about hypertension and its treatment in two new cases.

<u>DR. 600 TO MR. 601</u>

> ... blood pressure is a little elevated today. Nothing to worry about. Take one pill a day.

<u>DR. 300 TO MS. 310</u>

> ... the other (problem) is that you have very mild high blood pressure and we can treat that a little ... The blood pressure pills, take once a day ...

Although these and other patients did not tend to receive an explanation about the nature of their condition or the long-term benefits which might be gained, this is not to say that patients were told to take medication without any stated reason or justification. Indeed, many patients received what might be referred to as justification -- a diagnostic statement or a report on the current status of the condition being treated. For example, a patient might be told "Your second blood pressure (measurement) is still high so I would like to change the blood pressure medicine." In addition, a limited number of patients received communications that the medicine was "important."

In light of these observations, the working hypothesis was revised into a more testable form, namely, the patients' compliance with advice will be positively related to physician justification. Physician justification was operationally defined to include a diagnostic statement, a statement that the drug was "important," any statement indicating some value or benefit to be gained in using the drug or any other stated reason for taking the drug.

PHYSICIAN JUSTIFICATION FOR DRUG USE:
A SCORE BASED UPON OBSERVATION

WEIGHT	PHYSICIAN COMMUNICATION
+1	Before ordering the patient to take the drug, the physician mentioned the condition for which the drug was being given.
+1	Mentioned that drug was important.

WEIGHT	PHYSICIAN COMMUNICATION
+1	Mentioned that drug had preventive, diagnostic or curative value.
+1	Before instructing the patient, the physician mentioned some other reason for taking/not taking drug.

Range: 0 to 4 for each drug in the treatment plan.

Sum to obtain a score for each drug. Calculate the mean score by adding the scores for all drugs in the patient's treatment plan.

Since it was found that only four (4) patients received mean justification scores higher than +1, it was decided to classify the cases into two groups: patients who received high justification (mean of +1 or more) and patients who received low justification (mean of less than +1).

TABLE 7 : 2

PATIENT'S SUBSEQUENT COMPLIANCE BY AMOUNT OF PHYSICIAN JUSTIFICATION FOR MEDICATION USE

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL(n)
High Justification	55% (29)	45% (24)	-	100% (53)
Low Justification	27% (21)	73% (56)	(1)	100% (78)
TOTAL	38% (50)	62% (80)	(1)	100% (131)

In Table, 7;2, it is shown that 40 per cent of the patients (n=53) received high justification from their physician. Of those patients who did receive high justification, 55 per cent were compliant

after the clinic visit: whereas, only 27 per cent of the other patients were compliant. Thus, it would appear that the physician's efforts to justify medication use do facilitate the outcome of the doctor-patient encounter. Whether more extensive efforts to persuade the patient about the value of treatment would further increase the rate of compliance is an issue which cannot be resolved in this study.

Physician Emphasis and Patient Compliance

A third compliance-gaining strategy which was occasionally used by some clinicians was to clarify and emphasize the extent to which they expected the patient to engage in certain actions, particularly the need to refill and continue taking any medication for a chronic condition. This communication usually occurred when a drug was being given for the first time or when the patients admitted that they had finished the supply but had not refilled it as expected. Since it was expected that the amount of emphasis would be positively related to subsequent patient compliance, each transcript was content analyzed to determine the number of statements made about refilling the prescribed medications. It was found that the physicians made two (2) or more statements about refilling medication in 17 cases (Table 7:3). Consistent with the hypothesis, the physicians who emphasized the need to refill medication were more successful in obtaining the compliance of their patients: 65 per cent of their patients were compliant after

the clinic visit as compared with only 34 per cent of the remaining patients.

TABLE 7 : 3

PATIENT'S SUBSEQUENT COMPLIANCE BY AMOUNT OF PHYSICIAN EMPHASIS UPON REFILLING OF THE MEDICATIONS

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL
High Emphasis*	65% (11)	35% (6)	-	100% (17)
Low Emphasis	34% (39)	65% (74)	(1)	99% (114)
TOTAL	38% (50)	62% (80)	(1)	100% (131)

* Physician made two or more statements about refilling the medication.

Exertion of Medical Authority

Although it is widely believed that physicians usually control their visit with the patient, the extent to which they actually exert their medical authority or emphasize the patients' moral responsibility to comply with instructions remains an empirical question. In order to determine whether the observed physicians utilized this compliance-gaining strategy and whether this approach was related to the patients' subsequent behavior, language of the physicians' instructions was content analyzed. Any medication instruction which a) included reference to the patients' moral responsibility, b) was stated in the form of a command or c) indicated that compliance was mandatory was regarded as an exertion of medical authority. Communications which indicated that

the patient was being included in the treatment decisions were given the lowest score on the index below. The following shows how the physicians' exertion of medical authority was codified:

PHYSICIAN EXERTION OF MEDICAL AUTHORITY:
A SCORE BASED UPON OBSERVATION

WEIGHT	PHYSICIAN COMMUNICATION
+1	"Take the red pills ..." "You have to take ..." "You should take ..."
-1	"I will give you red pills ..." "Try taking the red pills."
-2	"I can give you red pills ..." "You can take the red pills." "We can try the red pills."
-3	"Do you want the red pills?" "Can you take the red pills?"
0	No instruction given

Add the weights for each instruction related to medications (including the repetitions) and divide by the number of drugs in treatment plan.

Defining high exertion of medical authority as any score greater than zero, it was found that the physicians had exerted their authority to a high degree with 18 per cent of the patients. Further, the analysis revealed that patient compliance tended to be higher under the condition of high authority (see Table 7:4).

TABLE 7 : 4

PATIENT'S SUBSEQUENT COMPLIANCE BY WHETHER OR NOT PHYSICIAN EXERTED MEDICAL AUTHORITY

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL
High Exertion of * Medical Authority	50% (12)	50% (12)	-	100% (24)
Low Exertion of Medical Authority	36% (38)	64% (68)	(1)	100% (107)
TOTAL	38% (50)	62% (80)	(1)	100% (131)

* A mean score of more than zero on the exertion of medical authority index.

While one might have concluded at this point of the analysis by arguing that the physicians' interpersonal appeals and appeals to the presumed societal norm that the patient should or ought to comply with medical authority seem to be less effective than other compliance-gaining strategies, a more careful examination of negative cases suggested that it might be important to proceed further before making this tentative generalization. Indeed, it is of potential theoretical interest to note that the physicians did not make equal use of the four strategies mentioned above. A review of the data presented above indicated that the physicians communicated "high approachability" when interacting with 42 per cent of the patients, "high justification" with 40 per cent of the patients, "high emphasis" with 12 per cent of the patients, and "high authority" with 18 per cent of the patients. Case studies

further revealed that they used more than one of the above strategies when interacting with some patients. These findings stimulated the explorations which are reported in the second and following part of this chapter.

PART II

MONITORING THE PATIENTS' PAST BEHAVIOR

One of the most notable differences among the physicians was that some physicians seemed to engage in more extensive follow-up of how their patients had taken the medications which had been prescribed at the previous clinic visit. For example, these physicians asked the patients whether they had taken each particular drug, how many tablets they were taking per day, how much medication was remaining in the bottle and other probing questions about the extent to which the patient had followed previous advice. In contrast, other physicians merely asked a global question such as, "Are you taking your medicines?", and did not pursue any of the details of how the patient had used the medication or whether the patient was taking it according to the prescribed dosage. In some instances, these physicians did not ask any questions about patients' previous use of prescribed medication and seemed to assume the patient had been following their advice.

Although the physician may have had various goals in mind when conducting an extensive follow-up of the patients' past behavior, this type of interviewing seemed to be important in several respects. First, interview materials had suggested that the patients may have placed some meaning on the fact that the physician did or did not ask them many questions about their drugs. If the physician did not ask them many questions, they seemed to

infer that the physician did not attach much importance to the drug or their use of it. As one patient explained:

> Sometimes he asks me if I'm taking it, but that's all there is to it. He doesn't care how I take it.

This type of response suggested that the volume or style of physician interviewing may actually be a less direct or implicit way of communicating the salience or importance of the physicians' expectations. As such, the physicians' style of interviewing may then affect the patients' evaluation of the drug or drugs which are prescribed by the physician.

Second, this type of interviewing seemed to constitute a form of surveillance or monitoring of the patients' behavior and, as such, a means by which the physician could maintain more effective social control. Specifically, it appeared to be a means by which the physician might obtain more accurate feedback about which patient, if any, had not been following <u>previous</u> advice. Case study indicated that this type of patient feedback might then alert the physician to make greater efforts to gain the patients' subsequent compliance. In short, case study suggested that more extensive follow-up or monitoring of the patients' past behavior might <u>facilitate</u> the physicians' efforts to prevent or reduce non-compliance with the prescribed patient role. Since the sample included 81 patients who had received 202 prescriptions or proscriptions which had been given in the past, it was decided to conduct a substudy of these cases in an effort to explore the dynamics and outcomes of varying levels of physician monitoring.

The first step in this analysis was to review the observational transcripts to determine the nature and scope of physician monitoring. The following index was then developed and used in the content analysis of the observational data. As can be noted below, higher scores were given to questions which probed for more specific feedback regarding previous behavior. If the physician failed to pursue an unanswered question by repetition or by asking a related question, then no score was attached to the unanswered question. Likewise, no scores were given to questions which did not require the patient to report upon his or her actual use of the drug (for example, "Do you need any more medicine?").

PHYSICIAN MONITORING OF PREVIOUSLY PRESCRIBED MEDICATIONS:
A SCORE BASED UPON OBSERVATION

WEIGHT	PHYSICIAN COMMUNICATION
0	No question was asked about the patient's actual use of the medicine.
+1	General questionsabout whether the patient was taking medication(s) or about what kind of medications were being taken. Physician did not specify the particular medication(s) to which he/she was referring (e.g. "Are you taking your medicines?", or "What kind of medicine are you taking?").
+2	Question about whether patient had taken a particular drug(s), or had finished the medicine (e.g. "Are you taking the Orinase?", "Did you finish the bottle I gave you last time?").

WEIGHT	PHYSICIAN COMMUNICATION
+3	Question about how the medication was taken, how much medicine was remaining in the container, or when it was finished (e.g. "How many Orinase do you usually take every day?").

a) If the question might have referred to more than one drug, then the weight is divided by the number of drugs to which the question might have referred.

b) Multiply the number of questions (and repeated questions) by their respective weights and sum to obtain a score for each drug which was prescribed and which is included in the patients' total treatment plan. Finally, obtain a mean score for each patient.

c) Range is from 0 to an indefinite maximum.

The analysis which follows will be divided into two general sections: 1) monitoring and the patients' evaluation of their drugs and 2) monitoring and the patients' compliance with advice. This latter section will be especially concerned with the dynamics and outcome of physician effort to identify and manage patient non-compliance with previous advice.

MONITORING AND THE PATIENTS' EVALUATION OF THEIR MEDICATION

In earlier chapters, the focus was upon the relationship between patient understanding of medical advice and compliance. Since it is clear that knowledge of how to take the medicine is not sufficient for compliance to occur, it is now appropriate to examine the patients' acceptance of their role. The following questions were designed to measure the patients' perception of

the benefits of taking the drugs and the cost of not taking these drugs. The questions were asked about each drug which the patient identified as being in the physician's treatment plan.

1. Do you feel that the____help(s) you in any way?
2. Does this medicine bother you in any way?
3. How important do you think the_____is: very important, somewhat important, or not at all important?
4. What do you think would happen if you stopped the_____?

In an effort to obtain a composite measure of the patients' evaluation of each medication, the patients' responses to these questions were scored as follows:

PATIENT EVALUATION OF THE DRUG:
A SCORE BASED UPON PATIENT REPORT

WEIGHT	PATIENT ATTITUDE
+2	Drug is helpful or effective.
0	Drug is not helpful or effective.
+2	Drug is very important.
+1	Drug is somewhat important.
0	Drug is not at all important.
+2	Mentioned a major and/or long term benefit.*
+1	Mentioned a minor and/or short term benefit.**
+3	Mentioned both of the above.
0	Mentioned none of the above.
+2	Drug does not cause side effects, harm or fear.
0	Drug does cause side effects, harm or fear.
+1	(For each of the above aspects, attach +1 if patient responds "don't know".)

(Continued on next page)

* Mentions that stopping the drug could cause: heart attack/damage, stroke, nervous breakdown, unwanted pregnancy, kidney failure, coma, amputation, or similar consequences.

** Mentioned that stopping the drug could cause no relief from symptoms, an increase in blood pressure, an increase in blood sugar level, and similar consequences which are not as permanent or as life-threatening as those mentioned above.

Maximum = +9; Minimum = 0

Utilizing this method of scoring the interview data, the patients' evaluation of their drugs were categorized as follows: a) high evaluation (a score of +7 to +9), b) moderate evaluation (a score of +4 to +6) and c) a low evaluation (a score of 0 to +3). Since this section of the chapter pertains only to the relationship between monitoring and the patients' evaluation of their previously prescribed drugs, the following discussion will pertain only to the patients' evaluation of those drugs. The patients' evaluation of all drugs will be considered in the final section of this chapter.

Monitoring and The Patients' Evaluation of Medication

When the patients' evaluation of their previously prescribed drugs was examined, it was found that the majority of the drugs did not receive a high evaluation, as defined above. Of the drugs which had been previously prescribed, which were again prescribed at the observed clinic visit, and for which data were available (n=165), 42 per cent received a high evaluation from the patients.

A moderate evaluation was evident in 48 per cent of the cases, and 10 per cent received a low evaluation (see Table 7:5).

TABLE 7 : 5

PATIENT EVALUATION OF PREVIOUSLY PRESCRIBED MEDICATION BY AMOUNT OF PHYSICIAN MONITORING

PHYSICIAN MONITORING	PATIENT EVALUATION OF DRUG HIGH	MODERATE	LOW	N.A.	TOTAL (n)
High Monitoring	54% (35)	40% (26)	6% (4)	(10)	100% (75)
Low Monitoring	34% (34)	53% (53)	13% (13)	(27)	100% (137)
TOTAL *	42% (69)	48% (79)	10% (13)	(37)	100% (202)

* The patients' evaluation was not obtained in 37 cases for a number of reasons. See footnote in Table 3:5, Chapter Three.

Although it is beyond the purpose of this analysis to elaborate upon the nature of the patients' evaluation, it should be noted that the patients reported a variety of reasons for evaluating their drugs negatively. They reported a variety of side effects (blurring of vision, drowsiness, nausea, dizziness, headaches, palpitations and other unpleasant effects of the drug) and a variety of fears about taking medication in large doses or amounts, taking medication so often that it might become habit-forming, and taking different types of medication at the same time (or, as the medical profession would refer to it, drug interactions). Likewise, the patients often doubted the efficacy or importance of the drug which had been prescribed. Finally, some patients reported

that they thought their drug could be stopped without any risk. Although many patients were taking drugs which were preventative in nature, they often failed to report the short-term or long-term benefits of taking the drug.

As shown in Table 7:5, the results of this investigation indicated that physician monitoring was positively related to the patients' subsequent evaluation of the previously prescribed drug. It is noted that the physician engaged in high monitoring (a score of +1 or more on the previously described index) in 75 of the 201 cases. Under this condition, the patients' reported a high evaluation of the drug in 54 per cent of the cases. In comparison, patients attached a high evaluation to their drug in 34 per cent of the cases where the physician engaged in a low amount of monitoring.

These findings suggest that the nature of physician follow-up may have influenced the patients' attitudes about their drugs; nevertheless, it is possible that the relationship is spurious or due to other factors which may have been correlated with the tendency of all physicians to engage in high monitoring under certain conditions. Although the vast number of different types of medications and conditions for which the medications were given precludes a definitive elimination of this possiblity, a close inspection of the data indicated no reason to believe that any physician was treating different types of conditions or giving any

different types of medications than the other physicians. Second, it will be recalled that patients in this clinic were not assigned to the physician on any other basis than the geographical location of their home. Finally, there was considerable evidence to indicate that whether or not the patient was exposed to high monitoring was probably a function of their physician's style of conducting follow-up.

Monitoring of Patients' Past Behavior: Physician Differences

Systematic analysis supported the impression that there were considerable differences among the physicians on the dimension of monitoring the patients' past behavior. As shown in Table 7:6, the mean monitoring scores for each of the eight observed physicians ranged from a high score of +2.9 (Dr. 400) to a low score of 0.01 (Dr. 300). On the average, four physicians engaged in high monitoring (Drs. 100, 400, 600 and 700). The remaining four physicians, on the average, engaged in low monitoring of their patients' past behavior.

(See following page)

TABLE 7 : 6

MEAN PHYSICIAN MONITORING SCORES BY PHYSICIAN

PHYSICIAN	MEAN MONITORING SCORE	NUMBER OF DRUGS	NUMBER OF PATIENTS
000	0.4	(25)	(13)
100	1.9	(11)	(6)
200	0.02	(22)	(8)
300	0.01	(25)	(10)
400	2.9	(27)	(16)
500	0.8	(16)	(10)
600	2.3	(24)	(8)
700	1.6	(52)	(10)
TOTAL	1.3	(202)	(81)

MONITORING AND PATIENT COMPLIANCE

As previously mentioned, one of the major questions which emerged in this study was whether a high degree of physician monitoring or follow-up of the patients' past behavior would increase the probability that the patient would be compliant after the observed clinic visit. The results of this general examination are presented below. As shown in Table 7:7, 36 per cent of the 81 patients in this sub-study were subsequently compliant, as defined in Chapter Three. The findings summarized in this table indicate that high physician monitoring was positively related to the patients' compliance after the observed visit.[2] Specifically, it was found that under the condition of high physician monitoring 52 per cent of the patients complied with medication advice. In those cases where the physician engaged in a low amount of monitoring, patients were not as likely to be compliant: 26 per cent had complied with the physicians' expectations.

[2]The findings presented in this and following tables will refer to the patient as the unit of analysis. Examinations using the drug as the unit of analysis were also done and found to be consistent. In the interest of brevity, the latter findings will not be presented here.

TABLE 7 : 7

PATIENT'S SUBSEQUENT COMPLIANCE BY AMOUNT OF PHYSICIAN MONITORING DURING THE CLINIC ENCOUNTER

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLAINT	TOTAL
High Monitoring *	52% (16)	48% (15)	100% (31)
Low Monitoring	26% (13)	74% (37)	100% (50)
TOTAL	36% (29)	64% (52)	100% (81)

* The mean monitoring score for the patient visit was +1.0 or more. A mean score of less than +1.0 is defined as low monitoring.

As previously implied, it is possible that more extensive physician follow-up may lead the patient to assume that the physician regards the medication as helpful, important, beneficial and/or safe enough for use and, hence, have a direct influence upon the patient's evaluation and performance of his or her role. Although the design of this study precludes being able to adequately test this and other explanations which might account for the relationship between physician monitoring and the patients' later compliance, several additional explanations emerged during the course of study. One additional explanation which might account for some of the findings, is that monitoring also had an indirect effect in the sense that it increased the probability that the physician would be able to identify and more effectively socialize those patients who were, for various reasons, not satisfied or non-compliant with previous advice.

Monitoring and the Discovery of Patient Complaint or Past Non-Compliance

One of the apparent consequences of more intensive monitoring or follow-up was that the patient was more apt to provide negative feedback about their evaluation of the previous advice. More specifically, these patients complained that the medication(s) had caused discomfort, did not seem to help or did not seem necessary. Physicians who engaged in high monitoring of the patients' previous use of the medication(s) discovered at least one patient complaint in 42 per cent of the cases (see Table 7:8). In comparison, patients who received less monitoring while in the doctor's office admitted complaints in only 10% per cent of the cases.

TABLE 7 : 8

PATIENT COMPLAINT TO THE PHYSICIAN ABOUT PREVIOUSLY PRESCRIBED MEDICATION BY AMOUNT OF PHYSICIAN MONITORING

PHYSICIAN BEHAVIOR	PATIENT COMPLAINED TO PHYSICIAN ABOUT MEDICINE*	PATIENT DID NOT COMPLAIN TO PHYSICIAN	TOTAL (n)
High Monitoring	42% (13)	61% (18)	100% (31)
Low Monitoring	10% (5)	90% (45)	100% (50)
TOTAL	22% (18)	78% (63)	100% (81)

* Patient told physician that the previously prescribed medicine was not necessary, did not help, and/or caused discomfort or fear.

A second apparent consequence of higher monitoring was that it provided the patients with an opportunity to admit that they had not been following previous advice. At least, it required them to give a more specific report of their previous behavior. Although the measurement of the patient's behavior before the observed encounter was not included in the original objectives of this project, it became evident to the investigator that at least 40 of the 81 patients had been non-compliant before coming for the observed visit.[3] In some cases, for example, the various data (interview, bottle check, pharmacy files) indicated that the patient's non-compliant behavior pattern may have existed for as long as six months prior to our observation.

Interestingly, the transcripts of the doctor patient encounters revealed that the patient had admitted some previous non-compliance in only 45 per cent of these cases (see Table 7:9). It was noted, however, that the patients were more likely to admit that they had not followed previous advice if their physician asked them probing questions (high monitoring). Under these circumstances, 67 per cent of the non-compliant cases became visible in the sense

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[3] Whether or not the patient had been non-compliant was determined by coordinating various sources of data: the patient's report, bottle check, and the pharmacy files which allowed one to determine whether the patient had ever refilled the medication, the dates which refills had been given, and the amount dispensed on that date. Medical records were checked to determine what the most recent advice had been, among other data which were necessary to assess how the patient had been taking the medicine prior to the observed visit.

that the patient admitted past non-compliance. In those cases, where the physician had not engaged in a high amount of monitoring, the patient admitted prior non-compliance in only 21 per cent of the cases.

TABLE 7 : 9

PATIENT ADMISSION OF PREVIOUS NON-COMPLIANCE
BY AMOUNT OF PHYSICIAN MONITORING

PHYSICIAN BEHAVIOR	ADMITTED PREVIOUS NON-COMPLIANCE	CONCEALED PREVIOUS NON-COMPLIANCE	TOTAL (n)
High Monitoring	67% (14)	33% (7)	100% (21)
Low Monitoring	21% (4)	79% (15)	100% (19)
TOTAL	45% (18)	55% (22)	100% (40)

Although 18 patients admitted some departure from advice, it was evident that one-third of these patients under-reported the full extent of their previous non-compliance. Among the patients who did not admit any non-compliance, a few also misled the doctor. The more typical pattern, however, was that the patient simply did not volunteer anything unless he or she was asked which may, of course, be regarded as a form of patient concealment.[4]

Visibility of Patient Complaint or Past Non-Compliance: The Nature and Outcome of Physician Management

Perhaps the most obvious implication of discovering that the

[4]These findings suggest that the patients may have attempted to report only that which was within the physicians' tolerance limits. These findings will be discussed in more depth at a later point.

patient had not been satisfied or compliant with previous advice was that these types of negative feedback may have alerted the physician to the need to exert even greater pressure upon these particular patients. In other words, these communications from the patient may have led them to alter their usual style in communicating with the patient.

Although it was not possible to systematically interview the physicians on this issue, several physicians later concurred with this speculation. Second, there was systematic evidence to suggest that the visibility of patient complaints and previous non-compliance may have affected the number of compliance-gaining strategies which were used with the patients (see Table 7:10).[5]

The findings summarized in Table 7:10 suggest that the physicians did seem to make a greater effort to gain the patients' compliance in those encounters where the patients' complaints about the medication or the patients' non-compliance was visible or, in other words, admitted by the patient. Utilizing the previously discussed methods for quantifying the physicians' compliance-gaining strategies, it was found that the mean number of compliance-gaining strategies which were used by the physicians

[5]The working hypothesis that the number of strategies would be greater among those cases in which the patients' complaints and non-compliance were visible was suggested by the classic expermental study by Schachter. As will be noted, the findings of this field study support his conclusion that deviance leads to greater social pressure upon the deviant see S. Schachter, "Deviation, Rejection, and Communication," Journal of Abnormal Social Psychology, 46(1951), 190-207.

was higher in the 18 cases where the patient had complained about the previously prescribed medication(s) (mean = 1.3) and in the 18 cases where the patients' previous non-compliance was admitted (mean = 1.6). The physicians used fewer compliance-gaining strategies in those cases where the patient had concealed past non-compliance (mean = 0.9). Furthermore, it is interesting that the mean number of strategies which was utilized with non-complaining and previously compliant patients was the same as the number of strategies used when the patients' past non-compliance was concealed (mean = 0.9).

TABLE 7 : 10

MEAN NUMBER OF COMPLIANCE-GAINING STRATEGIES USED BY PHYSICIAN BY VISIBILITY OF COMPLAINT AND PAST NON-COMPLIANCE*

		MEAN NUMBER OF STRATEGIES USED BY PHYSICIAN	(n)
I	Patient Complained About Past Medication	1.3	(18)
II	Patient Was Non-Compliant Before Visit		
	A. Admitted	1.6	(18)
	B. Concealed	0.9	(22)
III	Patient Was Compliant Before Visit and Did Not Complain About Medications	0.9	(36)

* The number of cases in this table does not equal 81 since it was possible for the patients to complain about medication as well as admit or conceal past non-compliance. It will be recalled that the maximum number of strategies was four.

In some respects, these findings are similar to those reported in earlier analyses which pertain to patient feedback regarding confusion or a need for clarification of how to perform their role. Of course, the remaining issue is whether negative feedback and the physicians' increased efforts to influence the patient have any influence on the patients' subsequent behavior.

To be sure, one should remain very cautious in drawing any conclusions about the outcomes of the physicians' increased

efforts with such a small number of cases. Nevertheless, it it important to at least advance some tentative conclusions on this issue. Let us first consider the outcome of the physicians' efforts to influence the patients who complained about their medication.

Although it is clear that a higher number of strategies was not sufficient to gain the compliance of patients who had expressed their complaints to the doctor, it is noted that the rate of later compliance was somewhat higher than in those cases where the physician used a higher number of compliance-gaining strategies: 43 per cent as opposed to 18 per cent, respectively (see Table 7:11).

TABLE 7 : 11

PATIENT COMPLIANCE BY NUMBER OF PHYSICIAN COMPLIANCE-GAINING STRATEGIES AMONG PATIENTS WHO HAD COMPLAINED ABOUT MEDICATION

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLIANT	TOTAL
Used Two or More Strategies	43% (3)	57% (4)	100% (7)
Used Less Than Two Strategies	18% (2)	82% (9)	100% (11)
TOTAL	28% (5)	72% (13)	100% (18)

* The number of strategies refers to the four general compliance-gaining strategies discussed in the first part of this chapter.

Since it is possible that the physician used a higher number of compliance-gaining strategies without offering a more specific response to the patients' particular complaints, a closer exami-

nation was done to determine whether the physicians' specific response to the complaint might be related to the outcome. This analysis resulted in the rather interesting finding that some physicians more than others had seemed to ignore at least one of the patients' complaints in 8 of the 18 cases where the patient had complained about medication. In other words, the physician had not questioned the patient about the nature or severity of the complaint, made no effort to suggest alternative modes of treatment or methods of coping with the complaint, made no offer of reassurance, and there was no discussion of how the negative aspects might be outweighed by the more positive aspects of the medication. Essentially, these physicians (Drs.000, 300, and 700) usually seemed to ignore the patients' complaints.

Further, it was evident that none of the 8 patients had complied after the visit. In comparison, when the physician made at least some response to the complaint (n=10), one-half of the patients were compliant.

In summary, it can be tentatively concluded that the physicians' efforts to respond to patients' complaint increase the probability that the patients will be compliant after the clinic visit.[6]

Turning to the cases in which the patient had admitted past non-compliance, it was found that most of the patients who had been non-compliant before the observed visit continued their pattern of non-compliance after the observed visits: 80 per cent of the

[6]Responses include any of the techniques mentioned above and several cases in which the physician expressed anger or laughed at the complaints.

40 patients were found to be non-compliant after the clinic observation (see Table 7:12). The continuation of a non-compliant behavior pattern was especially evident in those cases where the patients' past behavior was concealed during the doctor-patient encounter, however. Only one of these patients became compliant after the observed visit with the doctor, and it will be noted that this patient was one of the few patients in this group who was exposed to a high physician effort to gain compliance.[7] Consistent with the earlier discussion on compliance-gaining strategies, it is noted that the probability of reversing the patients' pattern of non-compliance was considerably higher under the condition in which a) the patients' past behavior was visible and b) the physician exerted a greater

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[7]The fact that the physicians sometimes used two or more strategies in cases where the patients' past non-compliance was concealed might suggest to the reader that the physician may actually have suspected past non-compliance and was, thus, being on the safe side by exerting greater effort to gain the patients' compliance even though the patient failed to admit it. Interestingly, in-depth case studies revealed an alternative reason for occasional use of a high number of strategies in these cases, namely, the physician seemed more likely to assume that previously prescribed treatment had failed or was not sufficient in those cases where the patients' past non-compliance was concealed. Thus, the increased effort to gain compliance seemed to be in the interest of gaining the patients' compliance to the new demands which were placed upon them. It was found, for example, that the physicians increased the amount of anti-hypertensive medication in 57 per cent of the cases where the patient had concealed their past non-compliance (n=14). There was a similar increase in medication in only 19 per cent of the cases where the patient had admitted non-compliance(n=9) or where the patient had been compliant before the visit (n=17). These data tend to support what some physicians have suspected: communication from the patient may affect medical judgment.

effort to gain compliance: 7 of the 9 patients became compliant after the observed encounter. None of the patients reversed their behavior when the physician utilized less than two compliance-gaining strategies.

TABLE 7 : 12

REVERSAL OF PATIENT NON-COMPLIANCE BY VISIBILITY OF PAST BEHAVIOR AND BY NUMBER OF COMPLIANCE-GAINING STRATEGIES USED BY PHYSICIAN

VISIBILITY AND STRATEGIES	BECAME COMPLIANT	DID NOT BECOME COMPLIANT	TOTAL
Past Non-Compliance Was Concealed			
Physicians Used Two or More Strategies	25% (1)	75% (4)	100% (5)
Physician Used Less Than Two Strategies	- (0)	100% (17)	100% (17)
TOTAL	5% (1)	95% (21)	100% (22)
Past Non-Compliance Was Visible			
Physician Used Two or More Strategies*	78% (7)	22% (2)	100% (9)
Physician Used Less Than Two Strategies	- (0)	100% (9)	100% (9)
TOTAL	39% (7)	61% (11)	100% (18)
TOTAL	20% (8)	80% (32)	100% (40)

* Compliance-gaining strategies include justification, clarification and emphasis upon what is expected, exerting medical authority or approachability.

Although the findings presented in Table 7:12,lend tentative support to the exploratory hypothesis that patient feedback regarding past non-compliance might facilitate the physicians' ability to modify that behavior, the fact that the physicians did not always exert a greater effort to reduce the patients' non-compliance should not be over-looked. In fact, a review of the individual cases revealed that in 5 of the 9 cases, the physicians seemed to ignore or tolerate at least some aspect of the patients' past non-compliance. More specifically, the physician did not indicate explicit approval or disapproval of the patients' behavior even though the medical records and written prescription forms continued to reflect the originally advised dosage, a higher dosage than the dosage which the physician was apparently willing to tolerate.

In light of these observations, it is perhaps not surprising that the patients did not modify their behavior since they may have inferred that the physician did not really expect rigorous compliance or was at least willing to tolerate some departure from advice. One patient who told her doctor about not taking one of her anti-diabetic medications on a regular basis volunteered to the interviewer:

> I told her (doctor) that I don't take that one every day. She didn't say anything, so I guess it's all right. (Ms. 407)

In addition to these cases in which the physician apparently tolerated the patients' behavior, it should be noted that the physicians actually changed their prescriptions so that they would become more acceptable to the patient in 4 of the 18 cases where the patients' past non-compliance was admitted.[7] In other words, the physicians lowered the expected dosage of the medication or prescribed an alternative medication after the patient admitted non-compliance with previously prescribed medication. Of the 22 cases in which the patient did not admit past non-compliance, there were no substitutions or reductions in the patients' treatment.

There are, of course, various reasons why the physicians might choose to lower their expectations, prescribe alternative medications or tolerate some non-compliance. One of the more obvious reasons is that the physician may not regard the medication as important or necessary; consequently, there is very little effort to gain compliance if the patient admits that he or she has not been taking the maximum amount specified on the label. Since some of the cases of physician tolerance included patients with tranquilizers, this explanation seems plausible, especially in light of the view which some physicians had about the advisibility of taking tranquilizers on a regular basis for milder forms of anxiety.

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[7] Two of these patients became compliant after clinic visit.

> I rarely start a patient on a tranquilizer. If someone else has given it to them and they request it again, I am more likely to give it. But I feel funny starting it myself, and I refill it only if the patient brings it up again. Otherwise, I just wait until they mention it. . . . I don't care if they take it. (Dr. 400)

Apparently, this physician's view -- that it was not advisable to encourage regular use of tranquilizers unless the patient perceived a need for them -- was not atypical. An examination of the extent to which the physicians monitored the patients' previous use of tranquilizers showed that the mean monitoring score was +0.4 in the 17 cases where the patients' treatment plan included a previously prescribed tranquilizer. It will be recalled that the average monitoring score for all drugs was +1.3.

A second explanation which might also account for some physician tolerance and occasional alteration of expectations, especially in those instances where the patient is under long-term treatment for a chronic disease, is that some physicians might simply be more apt to view the patients' complaints as justified. Or, they may at least weigh the benefits and costs of demanding that the patient follow the "ideal" treatment plan to the letter. Occasionally, tolerance may be regarded as a strategy for maintaining the patients' commitment to the doctor-patient relationship and the patients' commitment to at least some degree of long-term treatment.[8]

[8]For an excellent discussion of tolerance as a compliance-gaining strategy used by other types of authorities, see P. Blau, Exchange and Power in Social Life (New York: John Wiley and Sons, Inc.), 1967.

Some Notes on the Unlimited Use of Medical Authority

Although it was beyond the original design of this project to explore some of the many issues which can now be raised about the factors which lead physicians to use the strategies which they do and when they do, there was evidence to at least suggest that some physicians were more apt to rely upon their medical authority than instructing patients and to ignore the patients' complaints about previous advice (Drs. 000 and 700). Interestingly, the patients of these physicians were also more apt to be among those patients who seemed to mislead the physician when responding to the physicians' efforts to monitor their previous behavior. Interview materials further suggested that they faced a real dilemma, especially if they still felt that they needed follow-up care for their chronic condition. On the one hand, they were afraid of taking the medicine as prescribed. On the other hand, they seemed to perceive the physician as someone who would not be responsive to their continued complaints. Essentially, this type of situation left them with very few options. Rather than risk the possibility of incurring the physicians' disapproval or greater pressure to modify their non-compliant behavior, it was apparent that at least some patients simply began concealing their private opinions and actual behavior.

Although one must remain extremely cautious about drawing any conclusions about how often this type of situation occurs and the

potential consequences of this type of situation, it is this writer's conviction that one case of the following type is provocative. With this qualification in mind, let us present an excerpt of an interview which this writer had with a woman who had been seeing Dr. 700 for long-term care of her hypertension. An introductory statement is added to orient the reader.

Introductory Remarks Based Upon Field Notes

Ms.745 reported that she had previously discontinued her anti-hypertensive medication (a potent medication which will remain unnamed here) due to perceived side-effects which were felt to be intolerable. Although she had reportedly told the physician about these side-effects in the past, the physician apparently expected her to continue the medication. Rather than modify her behavior, she reportedly began to conceal her non-use of the medication. Nevertheless, she wanted to keep informed about the status of her blood pressure so she continued to come for follow-up visits. After a number of months had passed, she suddenly became more concerned when the physician told her that the status of her blood pressure had changed and that it would be necessary to increase the amount of prescribed medication. The patient's interpretation of the events which followed are given below:

MS. 745: The doctor said, 'Well, the 25 milligram pills must not be enough so we'll try the 50 milligram.' I couldn't tell him at that point that I wasn't taking it regularly before. I was worried though,so I began by taking those 50 milligram pills.

I got so sick that I couldn't even walk to the bathroom ... was in bed and after a short while the whole bed seemed to be moving around. My heart felt like it was going to come out, pounding. I had to crawl to the bathroom to vomit ... thought I was going to die. I flushed them down the toilet.

INVESTIGATOR: Does the doctor know that you're not taking them now?

MS. 745: No. He thinks I'm taking them.

INVESTIGATOR: Did you tell him what happened when you took the 50 milligram pills after not taking any medicine at all?

MS. 745: No. I couldn't tell him that. I told him that they gave me headaches.

INVESTIGATOR: Why couldn't you tell him the truth?

MS. 745: He would fuss and fuss. I don't want to go through all those "changes."

Although the above case raises many issues, not the least of which is the potential risk which might occur when the physician and patient are not engaging in open communication,[9] it is of interest that the patient could not admit her mistake to the physician in spite of the fact that she was apparently concerned about her hypertension. Whether this type of situation occurs in other types of clinics or communities is, of course, unknown. However, it is our tentative conclusion that this type of event was at least partially related to the physician's

[9]Although the protection of Ms. 745's anonymity precluded an interview with the physician on this case, several medical opinions were sought in order to determine the possible validity of this report. The opinions were that the particular drug was a potent anti-hypertensive medication that should be started in small doses (10 mg) and increased gradually. It was their opinion that if the patient had taken it as she reported, then she may indeed have been exposed to some risk and that her reported symptoms indicated possible severe postural hypotension, sudden and marked decrease in blood pressure upon standing.

typical strategies of using authority to gain patient compliance and to ignore at least one of the patients' complaints. For lack of a better term, this combination of strategies might be called the exertion of "unlimited medical authority."

Although the various data have suggested many potential consequences of the utilization of unlimited authority (as opposed to more limited and occasional reliance upon medical authority), a final note should be added to complete the picture which emerged from this exploratory study. Specifically, it was apparent that under certain circumstances (e.g. the long-term treatment of hypertension or diabetes), the physicians who made use of unlimited authority occasionally made what logicians would refer to as "the fallacy of affirming the consequent," the assumption that "x" (improvement of the patient's condition or the stabilization of the condition) was the consequence of "y" (the previously prescribed medication) even though "y" could not have possibly brought about "x" in light of the fact that the patient had not been taking the medication before the visit. This type of situation was observed in a least two cases where the patient had had hyper-

tension or diabetes, and there were other data to suggest that three additional patients had had this type of experience in the past. Quite predictably, these experiences did not add to the patients' lack of faith in the physicians' claim that it was necessary to take the medication at the prescribed dosage levels. After telling the interviewer that the medicine did not help, one patient explained why she felt as she did:

> . . . sometimes I don't take the medicine and the pressure goes down by itself. And when I go back to the doctor, he would say 'Yeah, it has come down good.' And I haven't even taken any medicine for quite awhile.

Being able to conceal non-compliance over a number of months might also lead the patient to challenge the credibility or authority of the physician if and when he or she eventually discovers non-compliance and reiterates the original advice. Although only one patient was observed to openly challenge the physician under

these circumstances, an excerpt of that case is presented as it illustrates yet another aspect of the complexities involved in gaining the compliance of patients, especially those with a chronic disease. After some discussion of the patient's recent weight loss, the patient initiated the discussion of her hypertension.

DR. 700	MS. 721
. . . .	. . . .
	Why did my pressure go up?
I don't know.	
We'll check it again.	Maybe she (medical assistant) didn't take it right?
(Laugh) Yes. You've done very well. The least it could do is go down. You taking the water pills?	Yes.
How many?	Morning and evening.
That's two a day?	Yes.
The artery pill?	Which one is it?
For the blood vessels.	The blue one?
No, that's the kidney pill. Are you taking the kidney pill?	Yes.
How many?	(Responds very slowly) Twice a day ... or four times a day.
Maybe it (blood pressure) is up because you're not taking enough. You should take it at least 3 times a day, sometimes 4.	I take 2 instead of 4. It never went up <u>before</u> when I didn't take it 4 times! (Said very assertively)

DR. 700	MS. 721
(Laughs) Caught you now!	(Patient does not laugh)
(Reading chart) 150 over 98. It's up a little.	Maybe I'm nervous. Comin' to clinic and waiting makes me nervous.
Take them a little more. Right on the nose, the kidney pills. At least 3 a day, preferably 4 a day. Do you need any more?	No. It was like I was drunk. I stopped taking so many.
Oh, that was it, huh.	
. . . .	. . . .

The physician dropped the subject and proceeded to other matters. There was no further discussion of the patient's hypertension or the medicine prescribed for that condition.

Somewhat contrary to her report to the physician, this patient had actually been taking a daily average of two (2) "water pills," one (1) "kidney pill," and no (0) "artery pills" for an estimated six months before the observed visit. She had kept all appointments and the medical record did not indicate that the physician was aware of any non-compliance during that period. From the patient's point of view, then, it was probably quite logical to challenge the physician's claim that she should take the medicine as prescribed. Essentially, her experience may have seemed to <u>invalidate</u> his conclusion about what was necessary to achieve control of the condition. It is interesting that the clinician did

not ask for any further details about the patient's previous non-compliance before reiterating the original advice and indicating that the patient should follow that advice. Indeed, he indicated an occasional need to take more medication than originally advised. (The medical record showed that the most current advice was to take it three times a day.) These physician responses may have had some influence on the patient's apparent annoyance.

In light of the findings that Drs. 000 and 700 seemed to make more frequent use of medical authority and to ignore their patients' complaints, it was decided to systematically examine whether or not their efforts to exert medical authority were as effective as the efforts of physicians who did not fit this description. As shown in Table 7:13, systematic analysis tends to support the tentative conclusion drawn from qualitative materials in the sense that Drs. 000 and 700 were less successful than other physicians when they exerted high medical authority, 36 per cent of the patients were subsequently compliant under these conditions. On the other hand, it is interesting to note that when the other physicians exerted high authority, they gained compliance in 70 per cent of the cases.

Although this issue might be more adequately examined with a longitudinal research design, the limited data are at least consistent with the working hypothesis that the unlimited use of medical authority might actually lead to an erosion of

legitimate authority.

TABLE 7 : 13

PATIENT COMPLIANCE BY EXERTION OF AUTHORITY AND BY INDIVIDUAL PHYSICIANS

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL (n)
HIGH EXERTION OF AUTHORITY				
By Drs. 000 and 007	36% (5)	64% (9)	-	100% (14)
By Other Physicians	70% (7)	30% (3)	-	100% (10)
TOTAL	50% (12)	50% (12)	-	100% (24)
LOW EXERTION OF AUTHORITY				
By Drs. 000 and 007	24% (6)	76% (19)	(1)	100% (26)
By Other Physicians	40% (32)	60% (49)	-	100% (81)
TOTAL	36% (38)	64% (68)	(1)	100% (107)

PART III

PHYSICIAN EFFORT TO INFLUENCE THE PATIENT

Having discussed the strategies by which the physicians apparently attempted to influence their patients, it is now appropriate to return to the remaining questions: to what extent was the physician's <u>total</u> effort to influence the patients associated with a) the patient's subsequent <u>evaluation</u> of his or her medication(s) and b) behavioral compliance with the prescribed patient role. Towards this end, an effort was made to develop a combined index of the physicians' effort to influence the patient. As will be noted in the following index, the weights which are attached correspond to the findings throughout Parts I and II.

PHYSICIAN EFFORT TO INFLUENCE THE PATIENT: A COMBINED INDEX BASED UPON OBSERVATION

WEIGHT	PHYSICIAN BEHAVIOR
+1	High Approachability
+1	High Justification
+1	High Emphasis Upon Expectation
+1	High Exertion of Medical Authority By a Physician Who Makes Limited Use of Medical Authority
+1	High Monitoring
-2	Ignored At Least One Patient Complaint
-2	Ignored At Least One Admission of Past Non-Compliance
	Sum to obtain a score for each patient. Range: +5 to 4

Utilizing this method of combining the data, it was found that one might categorize the physicians' effort to influence each of their patients as follows: a) high effort to influence the patient (a score of +3 or more for the encounter), b) a moderate effort to influence the patient (a score of +1 or +2), and c) a low effort to influence the patient (a score of zero or less).

As shown in Table 7:14, the patients' evaluation of their medication(s) did appear to be positively related to the amount of influence which the physician had exerted during the interaction with the patient. Of those patients who had received a high amount of influence effort from the physician (n+16), 56 per cent had a high evaluation of their medication(s). In contrast, patients who received a moderate and low amount of physician effort to influence them were somewhat less likaly to have a high evaluation of their medication(s),21 per cent and 10 per cent, respectively.

(See following page)

TABLE 7 : 14

PATIENT'S SUBSEQUENT EVALUATION OF MEDICATION(S) BY AMOUNT OF PHYSICIAN EFFORT TO INFLUENCE PATIENT*

PHYSICIAN BEHAVIOR \	HIGH EVALUATION OF MEDICATION(S)	MODERATE/LOW EVALUATION OF MEDICATION(S)	N.A.	TOTAL(n)
High Effort To Influence	56% (9)	44% (7)	-	100% (16)
Moderate Effort To Influence	21% (14)	79% (52)	(2)	100% (68)
Low Effort To Influence	10% (4)	90% (37)	(6)	100% (47)
TOTAL	22% (27)	78% (96)	(8)	100% (131)

* Patient's subsequent evaluation refers to the mean evaluation score for all prescribed drugs in patient's treatment plan. High score is defined as +7 to +9. The remaining categories have been collapsed in this table.

When examining the relationship between the amount of physician effort to influence their patient and subsequent compliance behavior, the findings are even more evident than when examining the patients' attitudes. As shown in Table 7:15, the amount of physician effort to influence the patient was directly related to the patient's behavior after the observed visit. Of the 16 patients who received a high amount of physician effort to influence them, 81 per cent were subsequently compliant with medical advice. In those cases where the physician made a moderate effort to influence the patient, compliance occurred 44 per cent of the time. Finally, it is

noteworthy that the physicians made a low effort to influence the patients in 47 of the 131 patient visits. Under this condition, only 15 per cent of the patients were subsequently compliant with the medication advice.

TABLE 7 : 15

PATIENT'S COMPLIANCE BY AMOUNT OF PHYSICIAN EFFORT TO INFLUENCE PATIENT*

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL (n)
High Influence Effort	81% (13)	19% (3)	-	100% (16)
Moderate Influence Effort	44% (30)	56% (38)	-	100% (68)
Low Influence Effort	15% (7)	85% (39)	(1)	100% (47)
TOTAL	38% (50)	62% (80)	(1)	100% (131)

Since it is quite possible that physician instruction (as defined in Chapter Three) and physician effort to influence the patient are correlated with each other, it is imperative that an effort be made to separate the possible effects of these major variables. In other words, it is appropriate to consider a recapitulation.

Recapitulation

It will be recalled from data presented in Chapter Three (see pp. 104-106) that when one combines the physician's total effort to instruct the patient(defined as being explicit,

providing written communications and providing consistent communications) that the finding was that compliance tended to be higher. Of the 48 patients who had received "high physician instruction" (a score of +4 or more on the index of instruction), 54 per cent were compliant after the observed visit. In comparison, the 83 patients who had received "low physician instruction" (a score of less than +4), 38 per cent were compliant. It is now relevant to consider whether the findings of this chapter would alter the conclusions which were earlier reached. As shown in Table 7:16, there was some tendency for patients who received high instruction to also receive somewhat higher influence attempts from their physician. On the other hand, it is evident that the relationship between instruction and compliance tends to persist. Likewise, it is evident that the relationship between physician influence efforts and patient compliance persists even when the amount of physician instruction is held constant.

Under the condition of high physician instruction, the range of compliance is from 100 per cent to a low of 11 per cent compliance, with the lowest compliance being among those patients who received less influence efforts from the physician (see Table 7:16). Under the condition of low physician instruction, a similar trend can be noted. When the physician made a high effort to influence the patient, there was compliance in 57 per cent of the cases. On the other hand, when the physician made a low effort to gain compliance (as previously defined),

TABLE 7 : 16

PATIENT'S SUBSEQUENT COMPLIANCE BY AMOUNT OF PHYSICIAN INSTRUCTION AND BY AMOUNT OF PHYSICIAN EFFORT TO INFLUENCE

PHYSICIAN BEHAVIOR	COMPLIANT	NON-COMPLIANT	N.A.	TOTAL
HIGH INSTRUCTION*				
High Influence Effort	100% (9)	- (0)	-	100% (9)
Moderate Influence Effort	53% (16)	47% (14)	-	100% (30)
Low Influence Effort	11% (1)	89% (8)	-	100% (9)
TOTAL	54% (26)	46% (22)	-	100% (48)
LOW INSTRUCTION				
High Influence Effort	57% (4)	43% (3)	-	100% (7)
Moderate Influence Effort	37% (14)	63% (24)	-	100% (38)
Low Influence Effort	16% (6)	84% (31)	(1)	100% (38)
TOTAL	29% (24)	71% (58)	(1)	100% (83)
TOTAL	38% (50)	62% (80)	(1)	100% (131)

* High instruction refers to a mean instruction score of +4 or more, as defined in Chapter Three.

there was subsequent compliance in only 16 per cent of the cases. In short, the findings of this exploratory study suggest that the physicians' efforts to influence or motivate their patients tended to increase the probability that the patients would comply even when the amount of instruction was controlled.

Although the limited sample size makes it difficult to assess whether or not patient compliance varied by the physician with whom they interacted, it is of interest to ask whether some physicians were, in the final analysis, more successful than other physicians in gaining the compliance of their patients. Towards this end the investigator returned to the data and began considering how one might conduct such a comparison. For various reasons, it was of especial interest to compare the compliance rates for patients with essential hypertension. First, this is one of the most common chronic diseases which afflict Blacks and, since this study began with an interest in the application of social science to medicine, it was of practical interest to determine whether any of the physicians were more successful in gaining the compliance of patients with essential hypertension. Second, it was of theoretical interest since the findings discussed in this chapter had suggested that it might be especially difficult to gain the compliance of patients with this disease. It will be recalled that qualitative findings had suggested that the patients in this community had a very low understanding of hypertension. Further, the chronic nature of the disease might limit the extent to which the physician can

rely on medical authority each time her or she sees the patient and essentially advises the patient to continue taking medication for the rest of his or her life. Still further, it is well known among clinicians treating this common disease that available treatments often cause side effects and, subsequently, patient complaint. This is especially difficult in light of the fact that patients can have the disease without having any symptoms. In short, there seemed to be many factors which might limit the physicians' ability to gain compliance: the patients, the nature of the disease, the nature of the treatment and perhaps even the nature of the medical profession in the sense that being in this profession might limit the types of strategies which can be used.[10]

Another reason for considering the physicians' success in gaining compliance with anti-hypertensive medication is that at least 8 of the 347 drugs were for this condition. Consequently, it would be possible to conduct a somewhat reasonable comparison by the physician who gave the drug. Although this number is also somewhat small, these data will be considered with the acknowledged difficulties involved in such a comparison.

As shown in Table 7:17, the proportion of anti-hypertensive medication which was being used by the patients of the different doctors ranged from a high of 1.00(all medication being taking as advised) to a low of .25(see bottom row of Table 7:17). Although one should treat these data with caution, given the small number

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[10] T. Parsons, The Social System(New York: Free Press), 1951.

TABLE 7:17

PROPORTION OF ANTI-HYPERTENSIVE MEDICATION ***
WHICH WAS TAKEN AS ADVISED
BY PATIENT'S PHYSICIAN

TYPICAL PHYSICIAN BEHAVIOR WITH ALL PATIENTS	PATIENT'S PHYSICIAN							
	100	600	400	200	500	000	700	300
I Approachable	+	+	+	+	0	0	+	+
II Justification	+	+	+	+	+	0	+	+
III Emphasis	+	0	+	+	0	0	0	0
IV Exert Authority	+	0	0	0	0	+	+	0
V High Monitoring	+	+	+	0	0	0	+	0
VI Responded to Drug Complaint	+	+	+	+	+	0	0	0
VII Responded to Admission of Non-compliance	+	+	+	+	+	+	+	0
VIII Lowered Expectation	0	+	+	+	0	0	0	0
IX High Instruction	+	0	+	0	0	0	0	0
TOTAL NO. OF ABOVE	8	6	8	6	3	2	5	2
*** Mean Proportion of Anti-hypertensive Medication Which Was Taken As Advised	1.00	.86	.80	.67	.63	.40	.39	.25
(No. Drugs for Hypertension)	(7)	(14)	(13)	(3)	(7)	(10)	(20)	(11)
(No. Patients/ Hypertensive on Drugs)	(5)	(7)	(8)	(2)	(3)	(6)	(6)	(6)

(SEE NEXT PAGE FOR DEFINITIONS USED)

DEFINITIONS TO ACCOMPANY 7:17

1. Approachable: Regarded as typically approachable if scored +4 or more on this index in at least 40 per cent of all observed visits.

2. Jusitifcation: Regarded as typically providing justification if scored +1 or more on this index in at least 40 per cent of all observed visits.

3. Emphasis: Regarded as typically using emphasis if scored high on this index in at least 20 per cent of all observed visits.

4. Exert Authority: Regarded as typically exerting authority if scored +1 or more on this index in at least 20 per cent of all observed visits.

5. Responded to Drug Complaint: Regarded as typically responding to drug complaint if that was mode behavior when confronted with complaints.

6. Responded to Admission of Non-compliance: Regarded as typically responding to admission of non-compliance if that was mode behavior.

7. Lowered Expectation: Regarded as typically using this strategy if lowered expectation at least once during all visits and without qualification.

8. High Instruction: Regarded as typically using high instruction if mean score on instruction index was +4 or more with all observed patients.

*

9. Mean proportion of anti-hypertensive medication which was taken as advised was determined by adding the proportion of each of these drugs and dividing by the number of drugs.

of cases, these differences are noteworthy. In an effort to understand why these differences may have occurred, this table also includes a typification of the physicians' behavior along the various dimensions which have been discussed throughout this report. (While this method of comparing the physicians is more crude than one would perhaps like, it is presented in this manner to facilitate reading and discussion.)

First, it is noted that two of the eight physicians typically used eight of what might be called the strategies for instructing and motivating the patient(see row totals for Drs. 100 and 400). It is also noted that their advice was more apt to be taken by their patients in the sense that the proportion of medication which was being taken as advised ranged from 1.00 to .80, respectively. In sharp contrast, it is shown that two of the eight physicians used only two of the nine strategies and achieved very low rates of compliance with their advise. Specifically, Drs. 000 and 300 made the least effort to teach and motivate their patients. Their respective rates of compliance with anti-hypertensive medication were .40 and .25, respectively. Thus, there seems to be a general trend of higher compliance when the physician makes a greater effort to instruct and motivate his or her patient. Consistent with the earlier discussion, however, the extent of physician effort to gain compliance is not always associated with higher compliance. Rather, the nature of the strategies which are used seem to play some part.

As shown in Table 7:17, Dr. 700 typically used five of the nine strategies,but the rate of compliance with advice was only 39 per cent or a proportion of .39. While this physician did tend to make more use of medical authority as a technique, this physician was not unique in that respect,as one might note by scanning Row IV in the table. Indeed, it is interesting to compare Dr. 700 with Dr. 100, both of whom made typical use of medical authority. Unlike Dr. 100, Dr. 700 did not typically respond to the patients' complaints about the medications or give high instruction (explicit communication, written instructions and consistent communications). While one might easily conclude that Dr. 100 was successful because he did utilize the latter strategies, a word of caution should be added. Specifically, it is shown that Dr. 100's patients were being asked to take a considerably smaller number of drugs. Of the five hypertensive patients who saw Dr. 100, there were seven(7) drugs prescribed for the condition. In other words, the patients were asked to take an average of 1.4 drugs. On the other hand, Dr. 700's patients were advised to take, on the average, 3.3 drugs per patient(excluding drugs which were not for hypertension). These data point to the complexities of the issues which might be involved in gaining patient compliance in that there are different explanations for the apparent success of Dr. 100 and the apparent failure of Dr. 700 to achieve their patients' compliance.

One interpretation might be that Dr. 100 was treating less

severe cases of hypertension. Since medication at the milder stages may be inherently more acceptable to the patient who uses the medication, it could be that Dr. 100's regimens were simply less apt to cause side effects and patient complaints. A second possibility is that Dr. 100's regimens may have been taken as advised simply because the regimens were more simple and less apt to create patient confusion. A third possible explanation, however, is that Dr. 100 was able to keep the number of medications at a low number because of the ways in which he communicated and encouraged communication from the patient. As noted earlier, it is possible that the frequent use of medical authority without listening or responding to patients' complaints may lead to an erosion of legitimate authority, patient concealment and patient doubt about the credibility of the physicians' claims. Essentially, a critical issue might be the question of which comes first--a high number of prescribed drugs or the erosion of the doctor - patient relationship. As alluded to earlier (p. 276, fn. 7), there was observational evidence to suggest that this issue is worth pursuing in future research. Specifically, it was found that when the patient concealed past non-compliance with anti-hypertensive medication, there was a greater probability that the physician increased the number of drugs or the amount of prescribed medication at the observed visit. If the patient admitted non-compliance, the physicians were--as might be expected--less apt to increase the prescribed medication.

A fourth possibility is that Dr. 700's regimens were simply reflective of a different philosophy about treating disease

or hypertension in particular. As the medical profession would refer to it, this physician may have been less "conservative" in giving higher doses and in giving the more potent drugs for routine use among the patients. The physician's regimens (or goals of treatment) may have been more unacceptable for a variety of reasons. Certainly,there are data to suggest that this physician may have had differing views about treatment in the sense that his patients were asked to take an average of 3.3 drugs for control of hypertension;whereas, none of the other physicians exceeded an average of 2.0 drugs per patient with this condition. On the other hand, it cannot be assumed that three or more drugs for this condition or the use of the more potent medications is a sufficient condition for patient non-compliance because other physicians were successful in giving this number of drugs and in giving the more potent drugs. For example, one of Dr. 100's patients was complying with a treatment plan which included three drugs for the control of hypertension or one of the complications of hypertension and at least one of the medications is usually considered to be among the more potent medications for controlling hypertension.

As should be obvious at this point, the above issues cannot be resolved with an exploratory study such as this one was. The diversity of the sample allowed for the identification of issues which have, heretofore, been ignored in the literature on patient non-compliance, but this diversity makes it difficult to resolve the issues which are raised by the findings. In the final analysis, it would appear important to consider the complex interaction

of the variables which have now been tentatively isolated and quantified in a manner which makes it conducive to conduct further research of a more focused and refined nature and at the same time in a manner which is potentially meaningful to the social scientist interested in theoretical refinement of the many hypotheses which were generated by the research. To be sure, this author does not pretend to have developed a "theory" in the rigorous sense of the word. Rather, it is suggested that we have arrived at a means by which the doctor - patient relationship can be more meaningfully conceptualized. It has been possible to identify dimensions of the physicians' effort to a) teach patients and b) motivate patients. Similarly, it has been possible to identify dimensions of the patients' attitudes and behavior: a) knowledge about how to use medication, b) evaluation of medication, and c) behavioral compliance with medication advice. Likewise, it would appear that certain processual dimensions have been identified as being relevant to both the physician - patient effort to understand each other and also the physician - patient effort to agree with each other. Specifically, the dynamics of patient feedback has been discussed in terms of the patients' willingness to seek information as well as to admit complaints and non-compliance to the physician so that the physician can more effectively adapt his or her behavior in a more effective effort to reach a mutual understanding and agreement about what needs to be done to maintain the patient's health.

One might continue to elaborate upon and discuss the contents of Table 7:17, asking a variety of questions about the possible

reasons as to why this or that combination of events took place, but it would seem to end at the same conclusion that the above discussion did---this design and these data cannot really answer the many questions which could be raised. However, they do raise serious doubt about one major theme in the sociological literature and that is the extent to which the lower classes are unable to adopt the "orientations" of the middle-class physician. While these physicians obviously had to make a great deal of effort and while it is obvious that not all patients complied to a high degree, it is,nevertheless, evident that it is possible to penetrate whatever subculture exists within the lower classes. The finding of such considerable differences among the eight physicians working under the same conditions raises serious doubt about the usual assumptions regarding the medical profession and their relationship with the lower class patient. Clearly, there is a need to begin an effort to understand why these physicians behaved so differently with their patients. Indeed, one might note that there seem to have been at least three general constellations: a) the physicians who made a considerable effort and,for some reason unknown at this point, selected strategies which were more effective than others, b) the physician who made a considerable effort and, for some reason, selected ineffective strategies, and c) the physicians who apparently made little effort to use <u>any</u> strategies (Dr. 000 and Dr. 300). While these distinctions are crude, they do highlight the need to consider further study of the professional as opposed to continued research of the lower class.

SUMMARY

The major objective of this chapter was to discuss the nature and outcome of the physicians' efforts to motivate or influence their patients to use medication. It was found that physicians did tend to utilize what sociologists have referred to as three bases of power: interpersonal power (being friendly and receptive), expert power (providing justification for using medication) and c) exerting medical authority and, finally, they were also found to use what might be called "emphasis" upon taking the medication. While it was clear that each of the above were used to some extent, it is important to note that some of the above strategies were found to be used more than others. Specifically, it was found that the exertion of medical authority and the use of "emphasis" were less common among this group of physicians. While each of these strategies tended to increase the probability of patient compliance, the findings suggested that providing justification and "emphasis" were among the more effective techniques in terms of the patients' subsequent behavior.

In the second part of this chapter, the dynamics and outcome of physician monitoring were examined. It was suggested that physician monitoring of the patients' previous behavior might be considered a physician strategy to prevent or reduce patient non-compliance. The findings of this sub-study led to a variety of new insights about the doctor - patient relationship and the limitations of various previously discussed strategies.

First, it was found that physician monitoring was positively related to the patients' subsequent evaluation of their medications on the attitudinal dimension. Second, it was observed that this type of physician behavior was also related to the patients' later compliance with advice: high monitoring was associated with higher rates of compliance. Although it was difficult to isolate why these differences were found, it was suggested that the dynamics might be as follows: a) monitoring might give certain cues to the patient about the salience of the physicians' expectations, and b) monitoring might increase the probability that the physician will obtain negative feedback from the patient regarding his or her previous use of the drug. Although it was found that high monitoring was associated with greater visibility of patient complaints and previous non-compliance, it was clear that the visibility of negative feedback did not necessarily lead the physician to exert even greater pressure upon the patient, as originally believed. To be sure, there did tend to be some increase of pressure upon the patient, but it was interesting to find that some physicians also responded to this negative feedback by withdrawing or lowering their expectations or merely ignoring the patients' admission of non-compliance. It was suggested that physician tolerance might be an effective long-term strategy in maintaining the patients' commitment to some form of treatment or to the doctor - patient relationship. It was pointed out that some physicians chose to ignore patient complaints about their medication and that this type of behavior by the physician

might be the first in a series of events which culminate in the erosion of the physician's base of power. Although this study was not designed to adequately explore the various issues which are involved, it was speculated that lack of response from the physician regarding patient complaint about medication may lead the patient to begin concealing his or her actual opinion and behavior while in the doctor's office and that this inaccurate feedback may affect the physician's judgment about the need for further medication or increased amounts of medication. Assuming that the patient is able to keep non-compliance concealed over a period of time without the physician's noting a change in the person's condition, the patient then learns through personal experience that the physician's claims might be unwarrented. In other words, the patient's experience may seen to invalidate the physician's claim to legitimate authority or the physician's claim to expert knowledge. In effect, the physician's bases of influence have eroded. It was noted that the implications of such difficulties between the doctor and patient should not be ignored in light of limited evidence that this type of situation might expose the concerned patient to some health risk. It is imperative that there be longitudinal and inter-disciplinary research on this type of problem.

In the third part of this chapter, it was found that a combination of the various strategies found to be effective in earlier sections does help to account for differences in the

in the patients' subsequent evaluation and use of their medication, even when the variable of physician instruction is held constant.

Finally, in recapitulation, it is concluded that this study was productive in that it allowed for the identification of various physician strategies for teaching and motivating the patient. It was shown that an increased effort to teach and motivate the patient was directly related to the extent to which patients utilized physician advice regarding medication for hypertension, a common disease in the community which was studied. It was noted, however, that the nature of physician effort is also important to consider as a high amount of effort is not necessarily related to the patients' later compliance. It is concluded that there is considerable research and theoretical refinement to be done and that the results of this study might facilitate the work which still needs to be done. A major area of needed research is a greater understanding of the differences which were found among the medical professionals.

CHAPTER EIGHT

SUMMARY AND CONCLUSIONS

Although there have been literally hundreds of studies on the determinants of patient non-compliance, there have been many inconsistent findings, unexplained variation and a general lack of theoretical and conceptual refinement which would integrate what is known and isolate the issues which need to be resolved. A major reason for the state of knowledge is that there have been many unwarrented assumptions which are rarely subjected to empirical examination and which are often completely ignored in spite of growing evidence that these assumptions are dubious.

Examining the Assumptions: The Need for Theory and Research

One of the most apparent assumptions is that non-compliance is an attribute of the patient, and many studies have been conducted in search of the factor or trait which distinguishes the non-compliant person from the compliant person. Some have searched for the personality or intellectual characteristics. Some have searched for the social and cultural characteristics. Still others have search for the characteristic attitude which would allow one to predict and explain why compliance does not occur. Rather than examine the process by which non-compliance is defined, prevented, reduced or re-defined, there has been undue emphasis upon the person and his or her characteristics. These efforts have, in large part, been unsuccessful.

A second and somewhat related assumption has been that the sources of non-compliance are outside of the health institution and that the source lies somewhere in the person's affiliation with a wide variety of social agents (family members, ethnic group members, work group members and so forth). The lack of research on the doctor - patient relationship is especially interesting in light of the frequent observation among social scientists and consumers alike that the medical profession holds considerable power and authority on the matter of health. On the other hand, there have been only two major efforts to examine the relationship between physician - patient communication and the patients' subsequent attitudes or behavior. Unfortunately, both studies are limited in a number of ways. The use of the Bales' Interaction Process Analysis technique has perhaps hampered both studies in the sense that the categorical schema has very little meaning for anyone interested in the kinds of information, statements, questions and clarifications that occur. It allows the investigator to identify the volume of interaction between the doctor and the patient but not very much about the nature of that interaction. Similarly, the techniques focus heavily on affect and very little on the various types of influence strategies which occur when the physician attempts to influence the patient. On the other hand, the technique has allowed the previous investigators to identify the existence of overt conflict and disagreement between the professional and lay person. Unfortunately, the investigators have not explored the nature of these expressions of conflict, nor have there been any efforts to examine how it is that the physician attempts to manage that conflict. Indeed, it is implicitly assumed that the overt

conflict is dysfunctional and conducive to non-compliance. This is a questionable assumption, especially since both studies fail to validate the lay person's report of compliance and since both studies do not deal with the issue of long-term relationships between the physician and the lay person.

A third assumption which underlies much of the previous work is that physicians conduct their role in instructing and motivating the patient in similar ways. Related to this assumption is the frequent assumption that the patient has been told what the physician expects and that the patient already knows the meaning of those expectations.

Finally, there have been serious methodological assumptions about the validity of various types of data used in the study of patient non-compliance. One assumption is that the medical record is an accurate reflection of the nature, intensity and scope of the physician's expectations of the individual patient. The other assumption is that the patient is willing to report non-compliance to the interviewer.

Given the practical, theoretical and methodological issues which were evident, an exploratory study of the nature and outcome of physician communication was begun in 1969. This study, which was conducted in a neighborhood health center serving a low income urban community, began with many of the same assumptions which can be found in the literature on patient compliance. It was not until preliminary studies and a pilot study had been done that the investigator became fully aware of the many implicit assumptions which had perhaps hampered the development of theory and

and research in this area. The findings of this field work led to a refinement of the problem and a refinement of the methods which would be used to study the nature and outcome of physician - patient communication. Since the field work had suggested that considerable attention needed to be paid to a carefully planned series of data collections, it was decided to limit the research problem to the study of physicians and adult patients and to the study of patient compliance with medical advice regarding medication use. Since very few schemas were available for the study of physician - patient communication, it was further decided to conduct an exploratory study rather than a study which would test and verify the various hypotheses which had not seemed very successful in the previous work. The questions which were finally raised for research were:

1. What are the various methods by which physicians instruct their patients regarding medication use? Which of these methods are more effective in terms of the patients' understanding of how to use the medication and the patients' behavioral compliance with that advice?

2. What are the various methods by which physicians attempt to motivate their patients regarding medication use? Which of these methods are more effective in terms of the patients' evaluation of the medication and the patients' behavioral compliance with that advice?

3. What are the factors which facilitate or inhibit the process of instructing or motivating the patient?

The research design which was developed to answer these questions included non-participant observation of eight physicians in the neighborhood health center. While in the physicians' offices the investigator-observer manually recorded all verbal communication between the physician and the patient. These materials were used in dictating a more complete transcript which was later content analyzed in an effort to isolate the various dimensions of the physician communication which might be related to the patients' later attitudes and behaviors. At the same time as the investigator was observing the physicians a project assistant was seated in the reception area so that she could obtain necessary information about the names of the patients who were seeing the physician for that clinic session, the numbers of their medical records, and the times at which they arrived to wait for the physician and the time they spent with the physician. After the observed clinic session, several additional types of data were collected.

First, there was a systematic review of the medical record to determine the patients' demographic characteristics, utilization history and the physician's diagnosis and plan of treatment for the observed visit. Second, the research team visited the central pharmacy which was located in the health center to pick up carbon copies of each prescription which had been dispensed to the patients who had earlier been observed with the physicians. These data were used in a variety of ways but most importantly to determine how much medication the patient had used between the time of observation and the time of the subsequent bottle check which was conducted by the research team when they later visited

the patients' homes. Third, community residents who had been trained and supervised by the investigator interviewed the observed patients at their homes within about a week of the observation. The purpose of this interview was to determine the patients' perception of the physicians' expectations and to determine the extent to which the patient had complied with medical advice. In total, it was possible to obtain a complete series of data on 153 patients, most of whom were Black and Puerto Rican. Of this number 131 had been advised to take medications after their visit with the eight different physicians who were observed over the period of a year. These data constitute the basis of the report.

The Physician - Patient Encounter: A Summary of Findings

Although it is often assumed that physicians tell their patients what they expect of them, a major finding of this research was that it is not always clear what the physician expects regarding medication use. It was found that physicians often did not specify which drugs should be continued, discontinued or begun, for how long the medication should be taken, the regularity with which it should be taken and the precise dosage schedule which was expected. Likewise, it was found that communications to the patient are not always consistent in the sense that the pharmacy did not always label the medication as the physician had requested. Finally, it was noted that physicians often gave verbal communication without giving the patient a written record of the instruction. In other words, the physician may have changed the dosage schedule without giving another container of that medicine which would be

labelled in such a way as to reflect the alteration of advice.

Although physicians often seemed to assume that the patient would be able to understand their advice, it was found that some patients did receive more explicit communications, more written communications and more consistent communications. When systematic analysis was conducted on these dimensions of the doctor - patient communication it was found that a high amount of explicit, written and consistent communication was positively associated with a) the patients' understanding of how to take the medication and b) the patients' behavioral compliance with advice. The results of this analysis revealed, however, that this general hypothesis had to be qualified somewhat since it was apparent that a high amount of these types of instruction was neither necessary nor sufficient in achieving the patients' understanding

In an effort to understand the negative cases, the analysis proceeded to the exploration of the intervening variables which might modify the potential effectiveness of physician instruction or which might faciliate patient understanding of their role in spite of receiving a low amount of instruction. Five variables were identified as a result of this exploratory analysis: a) the extent to which the patient had understood the languages of the physician (medical terminology and English), b) the extent to which the patient had formal education and his or her ethnic affiliation, c) the extent to which the patient had had previous experience with the medications, d) the complexity of the patient's treatment plan, and e)whether or not the patient

had been dissatisfied with the physician.

Since the earlier analyses had suggested that patients were receiving different amounts of instruction, it was of interest to learn some of the factors which might contribute to variation in physician instruction - giving. In this respect, the data showed that of all variables examined the extent to which the patient had had experience with the medication seemed most able to account for differential instruction. On the other hand, it was evident that one possible reason for low physician instruction was that the patients in the clinic did not provide what might be called "feedback" to the physicians.Even though the post-observational interview data showed that patients did not recognize some of the terms which were used by the physician, had difficulty understanding English and had questions to ask, the observational data revealed that the patients generally did not communicate their confusion, desire for an interpreter or desire for additional information. Thus, it was suggested that one factor which might inhibit the physicians' process of instruction is that the patient gave very little feedback which would alert the physician to the need to provide clarification, more explicit instruction and so on. Contrary to what might be expected, the physicians did not seem to give more or less instruction to certain categories of patients, with the possible exception of Puerto Rican patients who seemed to receive less instruction,as defined and quantified in this study. Although physicians often suggest that the pressure of their work inhibits the process of giving information and instruction, there was almost no support for this working hypothesis regarding variation

in physician instruction. The data indicated, however, that the individual physicians varied in their effort to instruct their patients. This finding was the first in a series of findings suggesting the physicians communicated in different ways with their respective patients.

Although this study was not adequately designed to explore the issue of patient passivity in the doctors' offices, there were some differences among the patients on this dimension of doctor - patient communication;consequently an effort was made to isolate the variables which might account for this type of patient behavior. Interestingly, it was found that patient characteristics (education, ethnicity, sex and age) did vary with the level of patient inquiry, but these relationships held under only one condition---when the physician was observed to be "approachable" or friendly and receptive towards the patient. All patients, regardless of their social background, refrained from asking a high number of questions if the physician did not appear to be "approachable", a dimension of the physicians' behavior which was obtained by content analyzing the transcripts. Thus, it was tentatively concluded that physician approachability might facilitate the instructional process to the extent that it encourages the patient to give feedback to the physician.

It was found, furthermore, that physician approachability seemed to be a function of the extent to which the physician was working under pressure at the observed clinic session. In other words, as the amount of work pressure increased, the physician became less approachable with his or her patients in an apparent effort to control the extent to which the patient interfered with the

work which had to be done. It was suggested at this point that the organization and situation in which doctor - patient interaction occurs might actually affect the nature of that interaction.

In a final series of analyses, the nature and outcome of physician efforts to motivate their patients were explored in a systematic manner. First, it was shown that the physicians did tend to utilize various strategies for compliance-gaining: being friendly and receptive towards the patient, providing justification for drug use, exertion of medical authority and emphasis upon the need to continue taking the medication. Of the four general strategies, it was of interest to note that the physicians did not make equal use of the strategies. In other words, they were more apt to use friendliness and justification as opposed to exertion of medical authority and emphasis upon what was expected. It was also found that some of the strategies appeared to more effective than others in gaining the patients' compliance. Providing justification and emphasis were among the more effective in terms of the patients' later behavior.

A second major finding of this exploration was that physicians also used what might be called "monitoring", an effort to follow-up on previous advice or to interview the patient about how he or she had used the previously prescribed medication. Since there is a paucity of research on the nature and management of disagreement between the physician and the patient, a sub-study of the physicians' efforts to identify and manage the patients' complaints and previous non-compliance was conducted. It was shown that

physicians also differed on this dimension of communication. Further, it was shown that high monitoring by the physician was associated with the patients' subsequent evaluation of and compliance with the role prescribed by the physician. When the dynamics of these relationships were explored a number of interesting points emerged. First, it was apparent that high monitoring facilitated the physicians' ability to discover patient complaints and previous non-compliance. In other words, these types of negative feedback became more overt and visible when the physician engaged in this type of communication with the patient. Second, it appeared that the visibility of negative feedback had various implications for the physicians' ability to retain control and power. These implications are discussed more fully in Chapter Seven.

The third major finding of this final series of analyses was that the physicians' effort to influence the patient does seem to be positively associated with the patients' evaluation of their medication(s) and their subsequent compliance even when the variable of physician instruction is held constant, suggesting that this exploratory study was productive in identifying at least two major ways in which the physician can more effectively gain the patients' compliance: a) by utilizing various methods of teaching the patient and b) by utilizing various strategies of motivating the patient. In the final analysis, it is suggested that the eight physicians were not equally successful in gaining their patients' compliance in part because they utilized a varying number and type of strategies to instruct and motivate their patients. It is concluded that these physician differences constitute a major issue which needs to be explored in future

research.

Some Issues for Theory and Research

Although it might be possible to delineate a wide variety of issues and implications which can be raised as a result of this study, the following discussion will be somewhat selective and primarily concerned with the nature and outcome of physician - patient communication.

First, there is a clear need to examine the factors which might predict and explain the variation in physician communication behavior. It is necessary to explain why some physicians (and not others) utilize a greater number and different types of strategies in their efforts to instruct and motivate the patient as well as why individual physicians do not behave consistently across various situations. Although these findings were not anticipated and could not be adequately explained with the limited data which were available, it is important to advance several speculative hypotheses which might be fruitful in future theoretical and empirical work. One hypothesis is that physicians make a greater effort to achieve patient compliance when they perceive the patient as having a serious (or potentially serious) condition and when they perceive the available treatments as being highly valuable in preventing or controlling the patient's condition. Since it is plausible that physicians generally regard certain conditions as more serious than others (e.g. hypertension as opposed to mild emotional problems) and certain treatments as more valuable (e.g. antibiotics as opposed to drugs for the symptomatic relief

of respiratory complaints), one might expect to find that physician communication varies by the physician's diagnosis and the type of prescribed treatment. On the other hand, the results of this study suggest that it might be fruitful to go beyond these variables to consider the possibility that there is a lack of consensus within the medical profession regarding the need to vigorously treat certain conditions and the desirability of prescribing certain treatments. In other words, there is a need to conduct research on the nature and sources of physician attitudes toward certain conditions and therapies and to determine whether these attitudes affect the physician's communication behavior.

A second hypothesis regarding physician communication behavior is that physicians make a greater effort to instruct and motivate the patient when they perceive the patient as having a need for instruction and as having low motivation to follow advice. While the results of this study indicate that verbal "feedback" from the patient might affect the physician's behavior, much remains to be learned about how physicians actually assess their patients' level of understanding and motivation. It is doubtful that the physicians' perceptions of the patient are based solely upon verbal feedback from the patient; consequently, there is the need to consider other variables: a) non-verbal feedback from the patient, b) the physician's previous experience with the particular treatment being advised, c) the physician's previous experience with the particular patient, d) other information which may lead the physician to suspect patient confusion and non-compliance (e.g. objective data pertaining to the patient's condition) and other variables

which might be isolated in further exploratory work along these lines.

A third hypothesis regarding physician communication is that the physician's use of various communication strategies also depends upon the physician's perception of the extent to which various strategies are available and effective under the circumstances. Although it is perhaps obvious that physicians will not utilize certain strategies for various reasons (e.g. professional ethics, societal norms), there has been almost no effort to isolate the factors which lead physicians to reject or accept certain modes of influencing their patients. Why physicians apparently select certain strategies more frequently than others is a question which is virtually unexplored. Likewise, there is very little known about the extent to which some communication strategies are perceived as more or less effective under various circumstances.

Since it is of theoretical and practical importance to understand why physicians select the strategies which they do and when they do, it is concluded that the above hypotheses are worthy of careful attention in future work.

A second major issue which emerges from this study is the need to examine the factors which might more adequately predict and explain the variation in patient communication behavior. Interestingly, it is possible that the variables affecting patient communication are quite similar to those which might be operating in terms of the physician's behavior. One might speculate, for example, that patient willingness to express confusion and dis-

agreement might be positively related to the extent to which the patient perceives his or her condition as being serious or potentially serious. If the patient perceives a high need for some amount or type of therapy but has a low evaluation of the physician's prescriptions, then it is speculated that the patient will be more willing to express disagreement. A second hypothesis which deserves more systematic attention is that patients are more willing to provide communication feedback if they perceive their efforts as potentially effective in terms of achieving a better understanding or in terms of achieving some influence over the physician. Although limited data suggest that patients are probably more unwilling to provide feedback when they expect physician disapproval, very little is known about how patients perceive their capacity to provide meaningful and productive communication while in the physicians' offices. Clearly, there is a need to broaden the scope of future research so that more careful attention is paid to the patient's role in achieving effective communication.

A third major issue which can be raised is: how do other health workers and the health organization affect the nature and outcome of physician - patient communication. The results of this study would suggest that it is important to integrate these variables into any conceptual schema regarding patient compliance. For example, it might be fruitful to conduct more intensive examinations of how pharmacists and their labelling/dispensing policies facilitate and inhibit the physicians' efforts to gain

patient compliance. Indeed, the conceptual framework and the methodological tools which were developed in this study might be very useful in assessing the nature and outcome of patient interaction with other types of health workers such as the pharmacist, nurse, paraprofessional and other agents who come into face to face contact with the patient. Since there is an increasing trend towards the delivery of all types of health services by teams of health workers rather than by a solo practitioner, it seems especially relevant to expand the scope of future research and theory development accordingly. In addition, it is of theoretical interest to determine whether other types of health practitioners use the same communication strategies as the physician, whether their efforts are more or less effective than the physician's efforts, and whether patients communicate similarly with other types of practitioners.

Fourth, the results of this study indicate a clear need for research of a longitudinal nature. This type of design is needed for a number of reasons. First, it is important to determine the extent to which the physician (or other agents) actually changes the patient's level of understanding, motivation or behavioral compliance. The measurement of patient attitudes and behavior before and after seeing the physician would partially resolve a major limitation with the study reported here. Second, longitudinal research is needed in order to adequately assess whether certain communication strategies are more necessary and/or more effective in achieving short-term as opposed to long-term

patient compliance. Third, it is of theoretical importance to learn how physicians develop, maintain and/or lose their apparent ability to influence the patient in various ways. In other words, how do physicians attempt to develop and maintain their "friendship" with patients, their credibility as an expert, and their legitimacy as a medical authority? Fourth, it is also of interest to learn whether and how the patient defines and re-defines the physician along these dimensions over a period of interaction with the physician. There is much that remains unknown about the process by which patients become committed to the doctor - patient relationship, the factors which lead them to doubt the physician, and the factors which may eventually lead some patients to discontinue the relationship and terminate medical treatment.

Conclusion

While this exploratory study contributed to our understanding of the nature and outcome of physician - patient communication in a low income community, it is clear that many issues remain and that there is a considerable need for further theoretical refinement and empirical research. Hopefully, the conceptual framework and the methodological tools which were developed in this study will enable other social scientists to pursue the issues which are unresolved. Finally, it is hoped that the results of this effort will sensitize health professionals to the importance of effective communication, the utility of a social psychological

perspective, and the feasibility of conducting a systematic and objective evaluation of the various ways in which physicians relate to their patients.

APPENDIX I

QUESTIONS USED IN THE HOME INTERVIEW OF THE PATIENT

(A Spanish Version Was Available)

1. Did Dr._____give you any medicine last_____?

   a) What kinds of medicine did he/she give to you?
   (Record exact words used)

   b) Probes

   What kind of medicine is that?

   What kind of ____is that?

   Are there any other names for the_____?

   (If patient did not report all drugs in treatment plan, the following probes were encouraged.)

   --Did the doctor tell you to take any (other) medicines?

   - Does the doctor want you to take any (other) medicine?

   - Are you taking any (other) medicines?

2. Why do you think Dr._____gave you the____?(use term which is used by patient in referring to drug).

3. Is it for a certain illness or problem?

   a) (If yes): What is it for?

4. How is the_____supposed to help the_____(condition mentioned by patient)?

   (Probe for specifics)

5. What do you think causes the_____ (condition mentioned by patient)?

   Alternatives: What brought it on?
   How did you get it?

6. Do you happen to know any signs or symptoms of_____ (condition mentioned by patient)?

   a) (If yes) What are they?

7. How did Dr._____know that you have/might have_____?

8. Sometimes patients have questions or things that they would like to know about their illness or condition.

   Is there anything about the_____that you would like to know, even little things?

   a) (If yes) And what is that?

9. Is there anything that worries you or causes you some concern?

   a) (If yes) Can you tell me more about that?

10. How serious do you think the_____ is?

    Would you say?

    a) Very serious?
    b) Somewhat serious?
    c) Not at all serious?

    Why do you say that?

Now, I would like to know what you think about the medicine(s) -- whether they helped and so on.

11. Do you think the_____helps you in any way?

    a) If yes) Can you describe how it helps you?
    b) (If not yes) Why do you say that?

12. Does it make you feel any different?

    a) (If yes) How does it make you feel?

13. Does it help you in some way that you can't feel?

    a) (If yes) How does it help?

14. Does the_____bother you in any way?

    a) (If yes) - How did it bother you?

    b) When did you first notice this?

15. Is there anything about the____that you don't like, even little things?

    a) (If yes) Can you tell me more about it?

16 What would happen if you stopped taking _____?

17. How important do you think the_____is?

    Would you say:

    1) Very important
    2) Somewhat Important
    3) Not at all important

18. (If more than one drug) Which one is the most important? Which one is the next most important?

    a) Why did you pick this one as the most important?

19. Sometimes doctors use medical words without saying what they mean. Did this happen when you saw Dr._____last_____?

20. (If Spanish speaking) Was there any time that you would have liked someone to interpret certain things into Spanish?

21. I have here a few words that doctors sometimes use, and I would like to know what they mean to you. Don't worry if you are not sure. Many patients feel that way. I would like to have everyone try anyway.

(Record exact response of patient:

a) X-ray
b) Tine test
c) G.Y.N.
d) Internist
e) Tranquilizer
f) Infection
g) Antibiotic
h) Diabetes
i) Hypertension
j) Penicillin
k) E.J.G.
l) Anemia
m) Gynecologist
n) High blood pressure
o) Librium
p) Cardiogram
q) Side effects
r) Habit-forming
s) Allergic to Penicillin
t) Asthma

(NOTE: Terms selected from observed visit were added to list and interspersed.)

There are so many medicines nowadays that it is sometimes hard to know just how a person should take each one. If possible, I would like you to think back to your visit with Dr._____last_____.

22. Did Dr._____want you to take the_____every day?

23. Did he/she want you to take it even when you feel better?

24. Did he/she want you to take it at any certain time of the day?

25. How long did Dr._____want you to keep taking the_____?

26. What are you supposed to do if the_____bothers you in any way?

27. Did Dr._____want you to do anything else?

a) (If yes) What did he/she want you to do? (Probe)

b) Why did he/she want to_____?

c) Have you been able to_____?

(Probe: When, How, Why)

28. Did Dr._____ask you to take any lab tests, x-rays or other tests?

(If yes, ask a,b,c) (If no, ask d)

a) Which ones?
b) Why did he/she want you to take the _____?
c) Do you think the _____was necessary?

(Probe why/why not)

d) Do you think the doctor should have asked for any (other) lab tests, x-rays, and so on. (If yes, probe which ones and why)

29. Did Dr._____give you a physical examination when you saw him/her last?

a) (If yes) Do you think it was a complete physical examination?

b) (If no) Do you think that he/she should have given you a physical examination last_____?

30. a) Did Dr._____give you appointment?
b) Did he/she want you to go to any other doctors? (Probe who/when/where)
c) Why did he/she want you to_____?
d) Do you think it is necessary? (Probe why/why not)
e) Is the appointment convenient for you?

31. What do you think of Dr. _____?

(Interviewer instructed to close interview schedule, discontinue recording the patient's answers, and probe patient's evaluation of the observed physician. Was encouraged to seek specific examples or illustrations.)

APPENDIX II

CHARACTERISTICS OF PATIENTS

	(n)
A. RACE/ETHNICITY	
Black	64
Puerto Rican	59
White	8
Total	131
B. EDUCATION	
Less Than 9 Years of Formal Education	50
Nine or More Years of Formal Education*	61
Not Ascertained	20
Total	131
C. AGE	
46 or More Years Old	77
16 Years-45 Years Old	54
Total	131
D. SEX	
Female	99
Male	32
Total	131
E. OCCUPATIONAL STATUS (Head of Household)	
Clerical, Sales, Mechanical, Non-Manual Trade	34
Manual Laborer	20
Welfare	38
Social Security or Pension	29
Not Ascertained	10
Total	131

F. ANNUAL FAMILY INCOME	(n)
Less Than $2,400	29
$2,400-$3,599	14
$3,600-$4,799	30
$4,800-$5,999	18
$6,000 or more	10
Not Ascertained	30
Total	131

PER CAPITA MONTHLY INCOME	
0-60	27
61-99	45
100-199	28
200-299	1
Not Ascertained	30
Total	131

		(n)
G. DIAGNOSES		
Essential Hypertension		48
With Cardian Complications	(10)	
Heart Disease (Excluding HCVD)		5
Diabetes		15
Gastro-Intestinal		22
Peptic Ulcer	(9)	
Other	(13)	
Arthritis[1]		17
Respiratory System		34
Upper[2]	(23)	
Lower[3]	(11)	
Skin		10
Emotional[4]		43
Obesity		15
Genitourinary System		18
Urinary Tract Infection	(4)	
Gonorrhea	(2)	
Vaginitis[5]	(9)	
Other[6]	(3)	
Anemia (Any Type)		6
Other[7]		22

EXAMPLES

1. Gouty Arthritis, Asko Arthritis, Rheumatoid Arthritis, Arthritis of Unspecified Type

2. Common Cold, Hayfever, Sinusitis

3. Tuberculosis of Lung, Pneumonia, Bronchitis

4. Anxiety, Depression, "Nerves," Hysteria, Hyperventilation; 39 cases. in which patient received at least one sedative/ hynpotic, tranquilizer or anti-depressant drug.

5. Moniliasis, Trichomonas

6. Menopausal Problems Requiring Hormonal Treatment

7. Mylagia, Headaches, Low Back Pain, Contraceptive, Bursitis, Underweight, Injury, Diagnosis Deferred, Glaucoma, Dizziness, Seizure Disorder,

APPENDIX III

CHARACTERISTICS OF PHYSICIANS

		(n)
I.	AGE	
	28 - 35 Years	5
	36 - 45 Years	1
	46 - 55 Years	1
	56 - 65 Years	0
	66 - 75 Years	1
	Total	8
II.	SEX	
	Female	4
	Male	4
	Total	8
III.	PROFESSIONAL CERTIFICATION	
	Certified -- Board of Internal Medicine	2
	Eligible -- Board of Internal Medicine	4
	None of the Above (General Practitioner)	2
	Total	8

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